TOOLS

Healthcare at Home Bedroom Annotation

Design Elements, Related Outcomes, and Design Strategies

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Pathways	Accessibility; ease of use	Smooth, level floor surfaces with minimal variations that allow freedom of movement, especially when navigating with mobility assistance or medical equipment	U, A, H	Parsons et al., 2006b; World Health Organization, 2007
		Minimize thresholds (less than ¼ inch vertical, or up to ½ inch beveled)	U, A, H	ADAAG, 2010
		Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level which pose a potential trip hazard.	U, A, H	AIA New York Design for Aging Committee, 2017
		Provide wainscot trim that protrudes from the wall and is securely fastened to offer a frame of reference and a touchstone for balance for level surfaces.	U, A, H	AIA New York Design for Aging Committee, 2017
	Caregiver safety; minimize risk of physical injury	Smooth, level floor surfaces with minimal variations that allow freedom of movement, especially when navigating with mobility assistance or medical equipment	U, A, H	Parsons et al., 2006b; World Health Organization, 2007
	Safety; fall/injury prevention	Smooth, level floor surfaces with minimal variations that allow freedom of movement, especially when navigating with mobility assistance or medical equipment	U, A, H	Parsons et al., 2006b; World Health Organization, 2007

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Pathways	Safety; fall/injury prevention	Minimize thresholds (less than ¼ inch vertical, or up to ½ inch beveled)	U, A, H	ADAAG, 2010
		Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level which pose a potential trip hazard.	U, A, H	AIA New York Design for Aging Committee, 2017
		Provide wainscot trim that protrudes from the wall and is securely fastened to offer a frame of reference and a touchstone for balance for level surfaces.	U, A, H	AIA New York Design for Aging Committee, 2017
	Safety; minimize risk of injury	Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level which pose a potential trip hazard.	U, A, H	AIA New York Design for Aging Committee, 2017
		Provide wainscot trim that protrudes from the wall and is securely fastened to offer a frame of reference and a touchstone for balance for level surfaces.	U, A, H	AIA New York Design for Aging Committee, 2017
Layout (Overall)	Accessibility; ease of use	Bedroom on main level (street level) or independently accessible by ramp, stair lift, or elevator	U, A, H	Mitka, 2001; National Association of Home Builders, 2016
		Three-fixture bathroom adjacent to bedroom with 60-inch turning radius or acceptable T-turn space and 36-inch or 30-inch by 48-inch clear space (minimum dimensions for independent use; additional space needed for caregiver)	U, A, H	Mitka, 2001; National Association of Home Builders, 2016

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Layout (Overall)	Accessibility; ease of use	Adequate space for durable medical devices (e.g., hospital beds, wheelchairs, walkers) and medical equipment (e.g., oxygen tanks, home-dialysis units, infusion pumps, blood glucose meters, feeding tubes, catheters, commodes, ambulation aids, patient lifts/hoists and specialist equipment) near bed/chair/lounge/care areas to support changing levels of care	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014; Collins, Wolf, Bell, & Evanoff, 2004; Dellve, Lagerström, & Hagberg, 2003; Exley & Allen, 2007; Kim, Geiger-Brown, Trinkoff, & Muntaner, 2010; Parsons, Galinsky, & Waters, 2006b
		Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Caregiver safety; minimize risk of physical injury	Adequate space for two people to provide caregiving assistance if using hydraulic patient lift/hoist (e.g., toilet, bed, car)	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014
		Three-fixture bathroom adjacent to bedroom with 60-inch turning radius or acceptable T-turn space and 36-inch or 30-inch by 48-inch clear space (minimum dimensions for independent use; additional space needed for caregiver)	U, A, H	Mitka, 2001; National Association of Home Builders, 2016
		Adequate space for durable medical devices (e.g., hospital beds, wheelchairs, walkers) and medical equipment (e.g., oxygen tanks, home-dialysis units, infusion pumps, blood glucose meters, feeding tubes, catheters, commodes, ambulation aids, patient lifts/hoists and specialist equipment) near bed/chair/lounge/care areas to support changing levels of care	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014; Collins, Wolf, Bell, & Evanoff, 2004; Dellve, Lagerström, & Hagberg, 2003; Exley & Allen, 2007; Kim, Geiger-Brown, Trinkoff, & Muntaner, 2010; Parsons, Galinsky, & Waters, 2006b

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Layout (Overall)	Caregiver safety; minimize risk of physical injury	Maximize open areas around bed, chairs, and primary path of circulation.	U, A, H	Parsons, Galinsky, & Waters, 2006a
		Layout that allows for reorganization of space (e.g., easily movable furniture, modular elements) to accommodate changing needs	U, A, H	
	Efficient delivery of care	Bedroom on main level (street level) or independently accessible by ramp, stair lift, or elevator	U, A, H	Mitka, 2001; National Association of Home Builders, 2016)
		Three-fixture bathroom adjacent to bedroom with 60-inch turning radius or acceptable T-turn space and 36-inch or 30-inch by 48-inch clear space (minimum dimensions for independent use; additional space needed for caregiver)	U, A, H	(Mitka, 2001; National Association of Home Builders, 2016
		Adequate space for durable medical devices (e.g., hospital beds, wheelchairs, walkers) and medical equipment (e.g., oxygen tanks, home-dialysis units, infusion pumps, blood glucose meters, feeding tubes, catheters, commodes, ambulation aids, patient lifts/hoists and specialist equipment) near bed/chair/lounge/care areas to support changing levels of care	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014; Collins, Wolf, Bell, & Evanoff, 2004; Dellve, Lagerström, & Hagberg, 2003; Exley & Allen, 2007; Kim, Geiger-Brown, Trinkoff, & Muntaner, 2010; Parsons, Galinsky, & Waters, 2006b
		Easy access to sink or alcohol gel dispenser in care areas.	A, H	
		Visual and auditory separation of care area from distractions (visitors, pets, children, etc.) when needed.	A, H	Leiss, 2012; Markkanen et al., 2007

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Layout (Overall)	Minimize patient stress/anxiety	Maximize open areas around bed, chairs, and primary path of circulation.	U, A, H	Parsons, Galinsky, & Waters, 2006a
		Access to positive/meaningful distractions (e.g., nature-themed artwork, window with views of nature, music, TV, Internet, reading materials)	U, A, H	
		Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Minimize undue strain during recovery	Bedroom on main level (street level) or independently accessible by ramp, stair lift, or elevator	U, A, H	Mitka, 2001; National Association of Home Builders, 2016
		Three-fixture bathroom adjacent to bedroom with 60-inch turning radius or acceptable T-turn space and 36-inch or 30-inch by 48-inch clear space (minimum dimensions for independent use; additional space needed for caregiver)	U, A, H	Mitka, 2001; National Association of Home Builders, 2016
		Adequate space for durable medical devices (e.g., hospital beds, wheelchairs, walkers) and medical equipment (e.g., oxygen tanks, home-dialysis units, infusion pumps, blood glucose meters, feeding tubes, catheters, commodes, ambulation aids, patient lifts/hoists and specialist equipment) near bed/chair/lounge/care areas to support changing levels of care	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014; Collins, Wolf, Bell, & Evanoff, 2004; Dellve, Lagerström, & Hagberg, 2003; Exley & Allen, 2007; Kim, Geiger-Brown, Trinkoff, & Muntaner, 2010; Parsons, Galinsky, & Waters, 2006b
		Maximize open areas around bed, chairs, and primary path of circulation.	U, A, H	Parsons, Galinsky, & Waters, 2006a

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Layout (Overall)	Minimize undue strain during recovery	Layout that allows for reorganization of space (e.g., easily movable furniture, modular elements) to accommodate changing needs	U, A, H	
	Patient satisfaction and comfort	Access to positive/meaningful distractions (e.g., nature-themed artwork, window with views of nature, music, TV, Internet, reading materials)	U, A, H	
	Psychosocial support	Space for people to sit with the individual receiving care without obstructing the provision of care	A, H	Exley & Allen, 2007
		Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Safety; fall/injury prevention	Adequate space for two people to provide caregiving assistance if using hydraulic patient lift/hoist (e.g., toilet, bed, car)	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014
		Bedroom on main level (street level) or independently accessible by ramp, stair lift, or elevator	U, A, H	Mitka, 2001; National Association of Home Builders, 2016
		Three-fixture bathroom adjacent to bedroom with 60-inch turning radius or acceptable T-turn space and 36-inch or 30-inch by 48-inch clear space (minimum dimensions for independent use; additional space needed for caregiver)	U, A, H	Mitka, 2001; National Association of Home Builders, 2016
		Adequate space for durable medical devices (e.g., hospital beds, wheelchairs, walkers) and medical equipment (e.g., oxygen tanks, home-dialysis units, infusion pumps, blood glucose	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014; Collins, Wolf, Bell, & Evanoff, 2004; Dellve, Lagerström, & Hagberg, 2003; Exley & Allen, 2007; Kim, Geiger-Brown, Trinkoff, &

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
		meters, feeding tubes, catheters, commodes, ambulation aids, patient lifts/hoists and specialist equipment) near bed/chair/lounge/care areas to support changing levels of care		Muntaner, 2010; Parsons, Galinsky, & Waters, 2006b
Layout (Overall)	Safety; fall/injury prevention	Maximize open areas around bed, chairs, and primary path of circulation.	U, A, H	Parsons, Galinsky, & Waters, 2006a
		Layout that allows for reorganization of space (e.g., easily movable furniture, modular elements) to accommodate changing needs	U, A, H	
	Safety; infection control	Easy access to sink or alcohol gel dispenser in care areas.	A, H	
	Safety; medication safety	Easy access to sink or alcohol gel dispenser in care areas.	A, H	
		Visual and auditory separation of care area from distractions (visitors, pets, children, etc.) when needed.	A, H	Leiss, 2012; Markkanen et al., 2007
Caregiver/Clinical Staff Workspace	Caregiver respite/support	Space for telesupport systems (telephone support groups, teleconferencing, telepresence systems) for patients and providers to communicate with supervisors/other medical professionals	A, H	Beer et al., 2014
	Caregiver safety; minimize risk of physical injury	Designated location for medical device and patient handling equipment manuals for caregiver access	A, H	Beer et al., 2014
	Efficient delivery of care	Easily accessible storage and disposal for non-reusable supplies (e.g., medication, incontinence products, bandaging, etc.)	U, A, H	Beer et al., 2014

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Caregiver/Clinical Staff Workspace	Efficient delivery of care	Designated well-lit clean "workstation" (e.g., a desk) located in a quiet area away from distractions (e.g., pets, children, visitors) for procedures using sharps or medication preparation	A, H	Markkanen et al., 2007
		Designated location for medical device and patient handling equipment manuals for caregiver access	A, H	Beer et al., 2014
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
		Easily accessible storage for cleaning supplies when needed immediately (e.g., incontinence on self/seating/floor)	A, H	Beer et al., 2014
	Safety; infection control	Easily accessible storage and disposal for non-reusable supplies (e.g., medication, incontinence products, bandaging, etc.)	U, A, H	Beer et al., 2014
		Designated well-lit clean "workstation" (e.g., a desk) located in a quiet area away from distractions (e.g., pets, children, visitors) for procedures using sharps or medication preparation	A, H	Markkanen et al., 2007
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
		Easily accessible storage for cleaning supplies when needed immediately (e.g., incontinence on self/seating/floor)	A, H	Beer et al., 2014

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Caregiver/Clinical Staff Workspace	Safety; medication safety	Easily accessible storage and disposal for non-reusable supplies (e.g., medication, incontinence products, bandaging, etc.)	U, A, H	Beer et al., 2014
		Designated well-lit clean "workstation" (e.g., a desk) located in a quiet area away from distractions (e.g., pets, children, visitors) for procedures using sharps or medication preparation	A, H	Markkanen et al., 2007
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
	Safety; minimize risk of injury	Designated location for medical device and patient handling equipment manuals for caregiver access	A, H	Beer et al., 2014
		Keep defibrillator(s) close to a telephone in a convenient, central and temperature controlled area, where the visual or auditory "ready" indicators can be seen or heard.	A, H	Philips, 2015
Flooring	Accessibility; ease of use	Smooth, level floor surfaces with minimal variations that allow freedom of movement, especially when navigating with mobility assistance or medical equipment	U, A, H	Parsons et al., 2006b; World Health Organization, 2007
		Minimize thresholds (less than ¼ inch vertical, or up to ½ inch beveled)	U, A, H	ADAAG, 2010
	Caregiver safety; minimize risk of physical injury	Smooth, level floor surfaces with minimal variations that allow freedom of movement, especially when navigating with mobility assistance or medical equipment	U, A, H	Parsons et al., 2006b; World Health Organization, 2007

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Flooring	Caregiver safety; minimize risk of physical injury	Avoid deep pile carpet or loose/worn carpet; tack down edges of carpets and rugs; remove loose rugs/mats	U, A, H	Clemson, Cumming, & Roland, 1996; "Meridian at Home," 2017; Mitka, 2001; Parsons et al., 2006a
	Minimize undue strain during recovery	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
	Safety; fall/injury prevention	Smooth, level floor surfaces with minimal variations that allow freedom of movement, especially when navigating with mobility assistance or medical equipment	U, A, H	Parsons et al., 2006b; World Health Organization, 2007
		Minimize thresholds (less than ¼ inch vertical, or up to ½ inch beveled)	U, A, H	ADAAG, 2010
		Smooth, non-glare, non-slip or slip-resistant flooring	U, A, H	National Association of Home Builders, 2016
		Avoid deep pile carpet or loose/worn carpet; tack down edges of carpets and rugs; remove loose rugs/mats	U, A, H	Clemson, Cumming, & Roland, 1996; "Meridian at Home," 2017; Mitka, 2001; Parsons et al., 2006a
		Avoid flooring materials with intricate high-contrast patterns (especially for patients with impaired vision)	U, A, H	Calkins, Biddle, & Biesan, 2012; Perritt, McCune, & McCune, 2005
		Install soft, resilient interior flooring materials (e.g., cork, rubber, or linoleum) that are gentler under foot than harder materials and can lessen the impact of falls.	U, A, H	AIA New York Design for Aging Committee, 2017
		Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level which pose a potential trip hazard.	U, A, H	AIA New York Design for Aging Committee, 2017
	Safety; infection control	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Flooring	Safety; minimize risk of injury	Install soft, resilient interior flooring materials (e.g., cork, rubber, or linoleum) that are gentler under foot than harder materials and can lessen the impact of falls.	U, A, H	AIA New York Design for Aging Committee, 2017
		Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level which pose a potential trip hazard.	U, A, H	AIA New York Design for Aging Committee, 2017
Walls	Accessibility; ease of use	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Preprogrammed and easy-to-adjust thermostat	U, A, H	National Association of Home Builders, 2016
		Easy-to-read and easy-to-reach operational (remote) controls for window treatments, lighting, temperature, and audiovisual components (e.g., TV, music) from bed/chair locations	U, A, H	
		Provide wainscot trim that protrudes from the wall and is securely fastened to offer a frame of reference and a touchstone for balance for level surfaces.	U, A, H	AIA New York Design for Aging Committee, 2017
	Caregiver safety; minimize risk of physical injury	Structural provisions for ceiling- and/or wall-mounted trapeze system(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries)	H	Parsons et al., 2006a
		Intercom system and/or voice-activated smartphone technology.	U, A, H	Beer et al., 2014; National Research Council, 2011

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Walls	Communication/ interaction with care provider/ emergency care	Neutral color (preferably a light blue or light green) background wall for video-conferencing to enhance visibility of patient and enhance flesh tones	A, H	Hume & Looney, 2016
		Intercom system and/or voice-activated smartphone technology.	U, A, H	Beer et al., 2014; National Research Council, 2011
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Efficient delivery of care	Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Minimize patient stress/anxiety	Easy-to-read and easy-to-reach operational (remote) controls for window treatments, lighting, temperature, and audiovisual components (e.g., TV, music) from bed/chair locations	U, A, H	
		Intercom system and/or voice-activated smartphone technology.	U, A, H	Beer et al., 2014; National Research Council, 2011
	Minimize undue strain during recovery	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Walls	Patient control and independence	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Preprogrammed and easy-to-adjust thermostat	U, A, H	National Association of Home Builders, 2016
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Patient satisfaction and comfort	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Preprogrammed and easy-to-adjust thermostat	U, A, H	National Association of Home Builders, 2016
		Easy-to-read and easy-to-reach operational (remote) controls for window treatments, lighting, temperature, and audiovisual components (e.g., TV, music) from bed/chair locations	U, A, H	
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Safety; fall/injury prevention	Structural provisions for ceiling- and/or wall-mounted trapeze system(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not	H	Parsons et al., 2006a

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
		recommended for patients with long-term injuries)		
Walls	Safety; fall/injury prevention	Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
		Provide wainscot trim that protrudes from the wall and is securely fastened to offer a frame of reference and a touchstone for balance for level surfaces.	U, A, H	AIA New York Design for Aging Committee, 2017
	Safety; infection control	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
		Multiple storage locations for gloves and other personal protective equipment throughout the occupied space, especially in care areas, to facilitate proper safety protocols (e.g. in the event of exposure to blood and other bodily fluids)	A, H	Leiss, 2012; Markkanen, Quinn, Galligan, & Bello, 2009
	Safety; minimize risk of injury	Keep defibrillator(s) close to a telephone in a convenient, central and temperature controlled area, where the visual or auditory "ready" indicators can be seen or heard.	A, H	Philips, 2015
		Small, easy-to-use ABC fire extinguishers mounted in easily accessible locations	U, A, H	"Meridian at Home," 2017

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Walls	Safety; minimize risk of injury	Install smoke detectors throughout the occupied living areas	U, A, H	"Meridian at Home," 2017
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
		Provide wainscot trim that protrudes from the wall and is securely fastened to offer a frame of reference and a touchstone for balance for level surfaces.	U, A, H	AIA New York Design for Aging Committee, 2017
Ceiling	Caregiver safety; minimize risk of physical injury	Structural provisions for ceiling- and/or wall-mounted trapeze system(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries)	H	Parsons et al., 2006a
		Permanently mounted tracking or semi-portable freestanding overhead frame or pressure-mounted hoist system from floor to ceiling in areas where transfers occur frequently	A, H	Parsons et al., 2006a
		Track-mounted hoists in areas where space is tight and transfers occur frequently (e.g., bed, toilet)	A, H	Parsons et al., 2006a
	Safety; fall/injury prevention	Structural provisions for ceiling- and/or wall-mounted trapeze system(s) (for patients with adequate upper body strength)	H	Parsons et al., 2006a

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Ceiling	Safety; fall/injury prevention	to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries)		
		Permanently mounted tracking or semi-portable freestanding overhead frame or pressure-mounted hoist system from floor to ceiling in areas where transfers occur frequently	A, H	Parsons et al., 2006b
		Track-mounted hoists in areas where space is tight and transfers occur frequently (e.g., bed, toilet)	A, H	Parsons et al., 2006b
	Safety; minimize risk of injury	Install smoke detectors throughout the occupied living areas	U, A, H	"Meridian at Home," 2017
Windows	Accessibility; ease of use	Easy-to-read and easy-to-reach operational (remote) controls for window treatments, lighting, temperature, and audiovisual components (e.g., TV, music) from bed/chair locations	U, A, H	
	Minimize patient stress/anxiety	Windows and/or skylight that provide high quality natural light	U, A, H	(National Association of Home Builders, 2016
		View of outdoor nature/garden	U, A, H	
		Easy-to-read and easy-to-reach operational (remote) controls for window treatments, lighting, temperature, and audiovisual components (e.g., TV, music) from bed/chair locations	U, A, H	
		Window treatments that allow natural light to be blocked/reduced during the day if needed	U, A, H	

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Windows	Patient satisfaction and comfort	Windows and/or skylight that provide high quality natural light	U, A, H	National Association of Home Builders, 2016
		View of outdoor nature/garden	U, A, H	
		Easy-to-read and easy-to-reach operational (remote) controls for window treatments, lighting, temperature, and audiovisual components (e.g., TV, music) from bed/chair locations	U, A, H	
		Window treatments that allow natural light to be blocked/reduced during the day if needed	U, A, H	
	Safety; air quality	Operable windows that can be opened for cross-ventilation, fresh air (limit openings to reduce risk of disoriented patients going through window)	A, H	National Association of Home Builders, 2016
	Support telemedicine exam quality	Teleconference exam area located away from windows or oriented so that windows will not create glare (avoid windows behind patient which may wash out video image or create extreme shadows)	A, H	Hume & Looney, 2016
Doors	Accessibility; ease of use	Easy-to-open doors (consider handle grip, mechanics, and weight of door)	U, A, H	
		Minimize thresholds (less than ¼ inch vertical, or up to ½ inch beveled)	U, A, H	ADAAG, 2010
		Minimum 36-inch doors	U, A, H	National Association of Home Builders, 2016
		Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Doors	Minimize patient stress/anxiety	Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
		Efficient ventilation to minimize unpleasant smells	A, H	
	Patient satisfaction and comfort	Efficient ventilation to minimize unpleasant smells	A, H	
	Psychosocial support	Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Safety; fall/injury prevention	Easy-to-open doors (consider handle grip, mechanics, and weight of door)	U, A, H	
		Minimize thresholds (less than ¼ inch vertical, or up to ½ inch beveled)	U, A, H	ADAAG, 2010
		Minimum 36-inch doors	U, A, H	National Association of Home Builders, 2016
	Safety; minimize risk of injury	Efficient ventilation to minimize unpleasant smells	A, H	
HVAC	Minimize patient stress/anxiety	Air temperature, relative humidity, and flow speed maintained at comfort level without dramatic difference between spaces	U, A, H	
		Reliable and fully functional heating and air conditioning to reduce risk of heatstroke or hypothermia	U, A, H	National Research Council, 2010
		Efficient ventilation to minimize unpleasant smells	A, H	

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
HVAC	Patient satisfaction and comfort	Efficient ventilation to minimize unpleasant smells	A, H	
	Safety; infection control	Ventilation system with features such as HEPA filters or 100% outside air to minimize air contamination	H	
	Safety; minimize risk of injury	Air temperature, relative humidity, and flow speed maintained at comfort level without dramatic difference between spaces	U, A, H	
		Reliable and fully functional heating and air conditioning to reduce risk of heatstroke or hypothermia	U, A, H	National Research Council, 2010
	Safety; minimize risk of injury	Efficient ventilation to minimize unpleasant smells	A, H	
Electrical	Accessibility; ease of use	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
	Communication/ interaction with care provider/ emergency care	Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Efficient delivery of care	Sufficient electrical system output to support all medical equipment without overloading outlets	U, A, H	"Meridian at Home," 2017
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
		used to ensure that cords will not obstruct walking paths		
Electrical	Patient control and independence	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Patient satisfaction and comfort	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
Electrical		Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Safety; fall/injury prevention	Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
	Safety; minimize risk of injury	Sufficient electrical system output to support all medical equipment without overloading outlets	U, A, H	"Meridian at Home," 2017

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Electrical	Safety; minimize risk of injury	Electric and internet outlets located at 24-inches (min) above floor [48-inchs (max) above the floor when located above countertops] and in close proximity to locations where telemedicine equipment will be used to ensure that cords will not obstruct walking paths	U, A, H	"Meridian at Home," 2017; Mitka, 2001; National Research Council, 2011; U.S. Department of Housing and Urban Development, 1998
Lighting	Accessibility; ease of use	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Lighting (remote) controls accessible from bed or chair	A, H	
	Communication/ interaction with care provider/ emergency care	Diffuse light located in front of individual receiving care to provide even illumination without strong shadows	A, H	Hume & Looney, 2016
	Communication/ interaction with care provider/ emergency care	Moveable and adjustable exam quality lighting options in care areas to illuminate different parts of an individual's body as needed (e.g., when using telemedicine devices)	A, H	Hume & Looney, 2016; Leiss, 2012
	Efficient delivery of care	Sufficient illumination level for medication dispensing to minimize errors (for any places where medication dispensing is performed by caregiver or patient)	U, A, H	Mitka, 2001
		Moveable and adjustable exam quality lighting options in care areas to illuminate different parts of an individual's body as needed (e.g., when using telemedicine devices)	A, H	Hume & Looney, 2016; Leiss, 2012
	Patient control and independence	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Lighting (remote) controls accessible from bed or chair	A, H	

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Lighting	Patient satisfaction and comfort	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
		Lighting (remote) controls accessible from bed or chair	A, H	
	Safety; fall/injury prevention	Interior motion lighting/sensor-activated lighting without glare, and/or use nightlights	A, H	"Meridian at Home," 2017; National Research Council, 2011
		Smart home sensor technology to light path from bed to toilet	A, H	N2Care LLC, 2017
		Night lighting system that provides both horizontal and vertical cues (e.g., under bed and around doorways) to support postural control and stability	A, H	Figueiro, Gras, et al., 2008
	Safety; fall/injury prevention	Amber-colored LED lighting for night lighting so as not to disrupt circadian rhythms	U, A, H	Figueiro, Saldo, et al., 2008
		Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level which pose a potential trip hazard.	U, A, H	AIA New York Design for Aging Committee, 2017
	Safety; medication safety	Sufficient illumination level for medication dispensing to minimize errors (for any places where medication dispensing is performed by caregiver or patient)	U, A, H	Mitka, 2001
		Moveable and adjustable exam quality lighting options in care areas to illuminate different parts of an individual's body as needed (e.g., when using telemedicine devices)	A, H	Hume & Looney, 2016; Leiss, 2012
	Safety; minimize risk of injury	Avoid glare and excessive contrast and patterns on floors, which can be perceived as or conceal actual changes in level	U, A, H	AIA New York Design for Aging Committee, 2017

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
		which pose a potential trip hazard.		
Lighting	Support telemedicine exam quality	Diffuse light located in front of individual receiving care to provide even illumination without strong shadows	A, H	Hume & Looney, 2016
		Moveable and adjustable exam quality lighting options in care areas to illuminate different parts of an individual's body as needed (e.g., when using telemedicine devices)	A, H	Hume & Looney, 2016; Leiss, 2012
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Accessibility; ease of use	Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Caregiver safety; minimize risk of physical injury	Single electric or hydraulic adjustable bed to support care procedures	A, H	Parsons et al., 2006b; Taylor & Donnelly, 2006
		Appropriate bed height (low or adjustable height) to support safe transfers	A, H	
		Bed with clearance on both sides for caregiver(s) and transfer lift, if needed	A, H	Collins et al., 2004; Parsons et al., 2006a; Taylor & Donnelly, 2006
		Adjustable lounge chairs with the ability to elevate footrest, sit-to-stand chairs, or lift chairs containing built-in lift mechanisms, depending on an individual's need for rehabilitation or rest	A, H	Cox & Cox, 2000; Parsons et al., 2006a
		Avoid chairs that restrict the ability to stand without the need for lift mechanisms (e.g., too low, deep, lack arm rests, or don't enable a person to get their feet under the edge of the seat)	A, H	

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Caregiver safety; minimize risk of physical injury	Transfer lifts (portable or ceiling mounted) and other repositioning devices that support safe ergonomic conditions for patient handling and movement, if needed.	H	Collins et al., 2004; Dellve et al., 2003; Kim et al., 2010; Parsons et al., 2006a
	Efficient delivery of care	Appropriate bed height (low or adjustable height) to support safe transfers	A, H	
		Bed with clearance on both sides for caregiver(s) and transfer lift, if needed	A, H	Collins et al., 2004; Parsons et al., 2006a; Taylor & Donnelly, 2006
	Minimize patient stress/anxiety	Access to positive/meaningful distractions (e.g., nature-themed artwork, window with views of nature, music, TV, Internet, reading materials)	U, A, H	
		Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Minimize undue strain during recovery	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
		Appropriate level of firmness for mattress to provide support without contributing to pressure sores	A, H	
		Bed positioned for safe entry and exit	A, H	"Meridian at Home," 2017; National Association of Home Builders, 2016; Taylor & Donnelly, 2006
		For beds on wheels, lockable wheels	A, H	"Meridian at Home," 2017
		Adjustable lounge chairs with the ability to elevate footrest, sit-to-stand chairs, or lift chairs containing built-in lift mechanisms, depending on an	A, H	Cox & Cox, 2000; Parsons et al., 2006a

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
		individual's need for rehabilitation or rest		
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Minimize undue strain during recovery	Avoid chairs that restrict the ability to stand without the need for lift mechanisms (e.g., too low, deep, lack arm rests, or don't enable a person to get their feet under the edge of the seat)	A, H	
	Patient satisfaction and comfort	Access to positive/meaningful distractions (e.g., nature-themed artwork, window with views of nature, music, TV, Internet, reading materials)	U, A, H	
		Space for second bed/sleeping arrangements so couples can continue sleeping in same room, if desired	U, A, H	Exley & Allen, 2007
	Psychosocial support	Space for second bed/sleeping arrangements so couples can continue sleeping in same room, if desired	U, A, H	Exley & Allen, 2007
		Designated space and provisions for pets (bed, built-in feeding system, outdoor access, fenced in yard, self-cleaning litter box), if appropriate	U, A, H	National Association of Home Builders, 2016
	Safety; fall/injury prevention	Bed positioned for safe entry and exit	A, H	"Meridian at Home," 2017; National Association of Home Builders, 2016; Taylor & Donnelly, 2006
		For beds on wheels, lockable wheels	A, H	"Meridian at Home," 2017
		Single electric or hydraulic adjustable bed to support care procedures	A, H	Parsons et al., 2006b; Taylor & Donnelly, 2006
		Appropriate bed height (low or adjustable height) to support safe transfers	A, H	

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Safety; fall/injury prevention	Bed with clearance on both sides for caregiver(s) and transfer lift, if needed	A, H	Collins et al., 2004; Parsons et al., 2006a; Taylor & Donnelly, 2006
		Adjustable lounge chairs with the ability to elevate footrest, sit-to-stand chairs, or lift chairs containing built-in lift mechanisms, depending on an individual's need for rehabilitation or rest	A, H	Cox & Cox, 2000; Parsons et al., 2006a
		Avoid chairs that restrict the ability to stand without the need for lift mechanisms (e.g., too low, deep, lack arm rests, or don't enable a person to get their feet under the edge of the seat)	A, H	
	Safety; infection control	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
Casework/ Storage	Efficient delivery of care	Easily accessible storage and disposal for non-reusable supplies (e.g., medication, incontinence products, bandaging, etc.)	U, A, H	Beer et al., 2014
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
		Easily accessible storage for cleaning supplies when needed immediately (e.g., incontinence on self/seating/floor)	A, H	Beer et al., 2014
		Adequate storage space (e.g., cabinet that conceals medical equipment) to efficiently store items, reduce clutter, and maintain domestic aesthetic.	U, A, H	Exley & Allen, 2007; Sine, 2015; Leiss, 2012; National Research Council, 2011

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Casework/ Storage	Minimize patient stress/anxiety	Adequate storage space (e.g., cabinet that conceals medical equipment) to efficiently store items, reduce clutter, and maintain domestic aesthetic.	U, A, H	Exley & Allen, 2007; Sine, 2015; Leiss, 2012; National Research Council, 2011
	Minimize undue strain during recovery	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
	Safety; fall/injury prevention	Adequate storage space (e.g., cabinet that conceals medical equipment) to efficiently store items, reduce clutter, and maintain domestic aesthetic.	U, A, H	Exley & Allen, 2007; Sine, 2015; Leiss, 2012; National Research Council, 2011
	Safety; infection control	Easily accessible storage and disposal for non-reusable supplies (e.g., medication, incontinence products, bandaging, etc.)	U, A, H	Beer et al., 2014
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
		Easily accessible storage for cleaning supplies when needed immediately (e.g., incontinence on self/seating/floor)	A, H	Beer et al., 2014
		Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
		Multiple storage locations for gloves and other personal protective equipment throughout the occupied space, especially in care areas, to facilitate proper safety protocols (e.g. in the event of exposure to blood and other bodily fluids)	A, H	Leiss, 2012; Markkanen, Quinn, Galligan, & Bello, 2009

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Casework/ Storage	Safety; medication safety	Easily accessible storage and disposal for non-reusable supplies (e.g., medication, incontinence products, bandaging, etc.)	U, A, H	Beer et al., 2014
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
Patient Handling/Movement Equipment	Caregiver safety; minimize risk of physical injury	Adequate space for two people to provide caregiving assistance if using hydraulic patient lift/hoist (e.g., toilet, bed, car)	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014
		Designated location for medical device and patient handling equipment manuals for caregiver access	A, H	Beer et al., 2014
		Avoid deep pile carpet or loose/worn carpet; tack down edges of carpets and rugs; remove loose rugs/mats	U, A, H	Clemson, Cumming, & Roland, 1996; "Meridian at Home," 2017; Mitka, 2001; Parsons et al., 2006a
		Structural provisions for ceiling- and/or wall-mounted trapeze system(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries)	H	Parsons et al., 2006a
		Transfer lifts (portable or ceiling mounted) and other repositioning devices that support safe ergonomic conditions for patient handling and movement, if needed.	H	Collins et al., 2004; Dellve et al., 2003; Kim et al., 2010; Parsons et al., 2006a

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Patient Handling/Movement Equipment	Caregiver safety; minimize risk of physical injury	Ceiling-mounted trapeze hook(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries).	H	Parsons et al., 2006a
		Repositioning/transfer devices (e.g., rails, transfer bar, vertical poles bolted into floor or ceiling) located near bed, if needed (depending on an individual's condition; consider risks associated with bedrails).	A, H	Parsons et al., 2006a
	Efficient delivery of care	Designated location for medical device and patient handling equipment manuals for caregiver access	A, H	Beer et al., 2014
	Safety; fall/injury prevention	Adequate space for two people to provide caregiving assistance if using hydraulic patient lift/hoist (e.g., toilet, bed, car)	U, A, H	Beer, McBride, Mitzner, & Rogers, 2014
		Avoid deep pile carpet or loose/worn carpet; tack down edges of carpets and rugs; remove loose rugs/mats	U, A, H	Clemson, Cumming, & Roland, 1996; "Meridian at Home," 2017; Mitka, 2001; Parsons et al., 2006a
		Structural provisions for ceiling- and/or wall-mounted trapeze system(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries)	H	Parsons et al., 2006a
	Safety; fall/injury prevention	Transfer lifts (portable or ceiling mounted) and other repositioning devices that support safe ergonomic	H	Collins et al., 2004; Dellve et al., 2003; Kim et al., 2010; Parsons et al., 2006a

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Patient Handling/Movement Equipment	Safety; fall/injury prevention	conditions for patient handling and movement, if needed.		
		Ceiling-mounted trapeze hook(s) (for patients with adequate upper body strength) to hold on to for stability while walking and to assist when sitting up in bed (Note: not recommended for patients with long-term injuries).	H	Parsons et al., 2006a
	Safety; minimize risk of injury	Designated location for medical device and patient handling equipment manuals for caregiver access	A, H	Beer et al., 2014
Technology/Monitoring Equipment/Internet	Caregiver safety; minimize risk of physical injury	Intercom system and/or voice-activated smartphone technology.	U, A, H	Beer et al., 2014; National Research Council, 2011
	Communication/ interaction with care provider/ emergency care	Wireless or wired Internet connection to facilitate telehealth/telemedicine (video monitoring/conferencing with healthcare providers and support networks, and data transmission for electronic medical records, prescription ordering services, etc.).	U, A, H	McCullough, 2009; National Research Council, 2011; Weisfeld & Lustig, 2015
		Power, data, and conduit pathways to support telemedicine exam quality equipment.	U, A, H	Hume & Looney, 2016
		Comfortable setup for personal computer interfaced with a personal health portal.	A, H	McCullough, 2009
		Monitoring devices (sensors or wearables) to record daily living activities and transmit data to caregivers where data is measured against present targets.	A, H	McCullough, 2009

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Technology/Monitoring Equipment/Internet	Communication/ interaction with care provider/ emergency care	Telemedicine exam equipment such as a laptop with integrated medical devices (e.g., otoscopes, stethoscopes, dermascopes, and ultrasound probes, and vital signs monitors, spirometers, and ECG) allowing split screen viewing between the camera and medical devices.	A, H	Hume & Looney, 2016
		Teleconferencing screen and camera at eye level a few feet from the patient to mimic face-to-face encounters.	A, H	Hume & Looney, 2016
		Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011
	Minimize patient stress/anxiety	Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011
	Patient control and independence	Voice-activated connectivity to facilitate activities of daily living (e.g., turning lights on/off, changing television channels, making phone calls, playing music, opening/closing doors).	U, A, H	
		Conveniently located portable electronic devices (e.g., phones, tablets, mobile devices) and charging to support easy connection with family, photos, games, etc.	U, A, H	
		Robotic pets to provide companionship.	A, H	Mordoch, Osterreicher, Guse, Roger, & Thompson, 2013
		Opportunities for virtual and augmented reality to connect homebound patients to the outside world.	A, H	

Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Technology/Monitoring Equipment/Internet	Safety; fall/injury prevention	Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011

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