



# Healthcare at Home Kitchen Laundry 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
		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	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:
		touchstone for balance for level surfaces.		
Pathways	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	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
		Clear/turn space at least 5-foot by 5-foot	U, A, H	National Association of Home Builders, 2016
	Efficient delivery of care	Layout that allows for reorganization of space (e.g., easily movable furniture, modular elements) to accommodate changing needs	U, A, H	
	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
	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	
		Clear/turn space at least 5-foot by 5-foot	U, A, H	National Association of Home Builders, 2016
	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
		Clear/turn space at least 5-foot by 5-foot	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:
Layout (Overall)	Safety; fall/injury prevention	Layout that allows for reorganization of space (e.g., easily movable furniture, modular elements) to accommodate changing needs	U, A, H	
		Clear/turn space at least 5-foot by 5-foot	U, A, H	National Association of Home Builders, 2016
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
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
	Safety; infection control	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
		Large sharps containers with leak-proof covers	H	Brouillette et al., 2017; Markkanen et al., 2007; Quinn et al., 2009
	Safety; medication safety	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	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). Philips HeartStart Home Defibrillator: HeartStart Home Owner’s Manual, Edition 10. Bothell, WA: Philips Medical System. Downloaded on 9/25/2019 from: <a href="https://images-na.ssl-images-amazon.com/images/I/A1Kvv-Pz7jS.pdf">https://images-na.ssl-images-amazon.com/images/I/A1Kvv-Pz7jS.pdf</a>



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
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
		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
		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



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Flooring	Safety; fall/injury prevention	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
	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
		Wall support and provision for adjustable and/or varied height counters and removable base cabinets for wheelchair accessibility/roll-under counters	U, A, H	Gerring & Wozniak, 2016; National Association of Home Builders, 2016
		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	Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011
		Wall support and provision for adjustable and/or varied height counters and removable base cabinets for wheelchair accessibility/roll-under counters	U, A, H	Gerring & Wozniak, 2016; National Association of Home Builders, 2016
	Communication/ interaction with care provider/ emergency care	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-inches (max) above the floor when located above countertops] and in close proximity to locations where		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:
		telemedicine equipment will be used to ensure that cords will not obstruct walking paths		
Walls	Efficient delivery of care	Electric and internet outlets located at 24-inches (min) above floor [48-inches (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	Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011
		Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
	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-inches (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
		Wall support and provision for adjustable and/or varied height counters and removable base cabinets for wheelchair accessibility/roll-under counters	U, A, H	Gerring & Wozniak, 2016; National Association of Home Builders, 2016
	Patient satisfaction and comfort	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-inches (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



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
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-inches (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
		Wall support and provision for adjustable and/or varied height counters and removable base cabinets for wheelchair accessibility/roll-under counters	U, A, H	Gerring & Wozniak, 2016; National Association of Home Builders, 2016
		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). Philips HeartStart Home Defibrillator: HeartStart Home Owner's Manual, Edition 10. Bothell, WA: Philips Medical System. Downloaded on 9/25/2019 from: <a href="https://images-na.ssl-images-amazon.com/images/I/A1Kvv-Pz7jS.pdf">https://images-na.ssl-images-amazon.com/images/I/A1Kvv-Pz7jS.pdf</a>
		Small, easy-to-use ABC fire extinguishers mounted in easily accessible locations	U, A, H	"Meridian at Home," 2017
		Install smoke detectors throughout the occupied living areas	U, A, H	"Meridian at Home," 2017
		Carbon monoxide detectors	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	Electric and internet outlets located at 24-inches (min) above floor [48-inches (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	Safety; minimize risk of injury	Install smoke detectors throughout the occupied living areas	U, A, H	"Meridian at Home," 2017
		Carbon monoxide detectors	U, A, H	"Meridian at Home," 2017
Windows	Minimize patient stress/anxiety	View of outdoor nature/garden	U, A, H	
		Window treatments that allow natural light to be blocked/reduced during the day if needed	U, A, H	
	Patient satisfaction and comfort	View of outdoor nature/garden	U, A, H	
		Window treatments that allow natural light to be blocked/reduced during the day if needed	U, A, H	
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
	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





Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Doors	Minimize patient stress/anxiety	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	Efficient ventilation to minimize unpleasant smells	A, H	
	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	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-inches (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-inches (max) above the floor when located above countertops] and in close proximity to locations where	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:
Electrical		telemedicine equipment will be used to ensure that cords will not obstruct walking paths		
	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-inches (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
		Electric and internet outlets located at 24-inches (min) above floor [48-inches (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-inches (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	Electric and internet outlets located at 24-inches (min) above floor [48-inches (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
	Efficient delivery of care	Sufficient illumination level for medication dispensing to minimize errors (for any places where	U, A, H	Mitka, 2001



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Lighting		medication dispensing is performed by caregiver or patient)		
	Patient control and independence	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
	Patient satisfaction and comfort	Light switches lowered to 44-inches off the floor	U, A, H	Mitka, 2001
	Safety; fall/injury prevention	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
		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
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	
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Accessibility; ease of use	Lever handles or pedal-controlled faucets with hand-held sprayer	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
		Low cook top with leg room  *The applicability of the design strategy to Aging-in-Place and/or Healthcare-at-Home depends upon the user's physical ability, stature, stamina, and preference to engage in the activity from a seated position (chair or mobility aid).	U	Gerring & Wozniak, 2016



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Accessibility; ease of use	Shallow sink with leg room  *The applicability of the design strategy to Aging-in-Place and/or Healthcare-at-Home depends upon the user's physical ability, stature, stamina, and preference to engage in the activity from a seated position (chair or mobility aid).	U	Gerring & Wozniak, 2016
		Oven with side-opening door  *The applicability of the design strategy to Aging-in-Place and/or Healthcare-at-Home depends upon the user's physical ability, stature, stamina, and preference to engage in the activity from a seated position (chair or mobility aid).	U	
		Raised dishwasher  *The applicability of the design strategy to Aging-in-Place and/or Healthcare-at-Home depends upon the user's physical ability, stature, stamina, and preference to engage in the activity from a seated position (chair or mobility aid).	U, A	
		Front-loading washing machine and dryer raised 12 to 15 inches off the floor	U, A, H	National Association of Home Builders, 2016
	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
	Minimize undue strain during recovery	Easy-to-clean materials to reduce surface contamination	U, A, H	National Association of Home Builders, 2016
	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; 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:
Fixtures/Furnishings/ Appliances/Equipment/ Accessories	Safety; minimize risk of injury	Install anti-scald water devices that limit the temperature to 120 degrees Fahrenheit maximum.	U, A, H	AIA New York Design for Aging Committee, 2017
Casework/ Storage	Accessibility; ease of use	Varied height counters and removable base cabinets for wheelchair accessibility/roll-under counters	U, A, H	Gerring & Wozniak, 2016; National Association of Home Builders, 2016
		Counters 25-inches deep (max) to maximize reachable distance for persons in wheelchairs, with clear knee space as deep as the reach distance	U, A, H	U.S. Department of Housing and Urban Development, 1998
		Upper wall cabinetry three inches lower than conventional height	U, A, H	National Association of Home Builders, 2016
		Open shelving for easy access to frequently used items	U, A, H	National Association of Home Builders, 2016
		Pull-down cabinet shelves	A	
		Pulls (rather than knobs) on cabinets and drawers	U, A, H	
		Maximize drawer space and pull-out shelves/drawers in base cabinets	U, A, H	Gerring & Wozniak, 2016
	Efficient delivery of care	Easy-to-access storage for first-aid supplies	U, A, H	
		Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H	Beer et al., 2014; Markkanen et al., 2007
		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
		Maximize space for medical supplies when needed	A, H	Centers for Disease Control and Prevention, 2017; Leiss, 2012; National Research Council, 2011
	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



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:	
Casework/ Storage	Safety; fall/injury prevention	Easy-to-access storage for first-aid supplies	U, A, H		
		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	
		Maximize space for medical supplies when needed	A, H	Centers for Disease Control and Prevention, 2017; Leiss, 2012; National Research Council, 2011	
	Safety; infection control	Safe, easily accessible storage for medications (refrigerated, if needed), supplies, and medical equipment	A, H		Beer et al., 2014; Markkanen et al., 2007
		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
		Large sharps containers with leak-proof covers	H		Brouillette et al., 2017; Markkanen et al., 2007; Quinn et al., 2009
	Safety; medication safety	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	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	
	Safety; fall/injury prevention	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	
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	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	



Design Element:	Desirable Outcome:	Design Strategies:	Universal Design (U) Aging in Place (A) Healthcare at Home (H)	Reference:
Technology/Monitoring Equipment/Internet	Patient control and independence	Timed medication dispensing system with built in reminders for patients and alerts (email/text) to physician and caregivers if a dose is missed	A, H	Reeder, Demiris, & Marek, 2013
	Safety; fall/injury prevention	Intercom system and/or voice-activated smartphone technology	U, A, H	Beer et al., 2014; National Research Council, 2011
	Safety; medication safety	Timed medication dispensing system with built in reminders for patients and alerts (email/text) to physician and caregivers if a dose is missed	A, H	Reeder, Demiris, & Marek, 2013

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