

Advocacy through professional journal : the interface between the occupational therapist and the home modification provider

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Advocacy through Professional Journal:
The Interface between the Occupational Therapist and the Home Modification Provider

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Note: This document describes a capstone dissemination project reflecting an individually planned experience conducted under faculty and site mentorship. The goal of the capstone experience is to provide the occupational therapy doctoral student with a unique experience whereby he/she can demonstrate leadership and autonomous decision-making in preparation for enhanced future practice as an occupational therapist.

Advocacy through a Professional Journal:

The Interface between the Occupational Therapist and the Home Modification Provider

Introduction

The purpose of this Capstone Experience is to advocate for the importance of the improvement of the interface between occupational therapy practitioners and home modification providers (HMP) in terms of the a) roles of occupational therapy practitioners, b) roles of home modification providers, and c) needs of consumers. The purpose is described in full in Appendix A., which is a paper formatted for submission for publication consideration in the “Issue is...” section of the *American Journal of Occupational Therapy*. The following is an excerpt from Appendix A:

“As inspired by the American Occupational Therapy Association 2017 Centennial Vision, we are called as professionals to become a globally connected and diverse workforce so that we will be better positioned to address society’s occupational needs (American Occupational Therapy Association, 2007, p. 614.). The continually changing occupational needs of our society depend in part on society’s changing demographics, including the increase in number of older adults and persons with disabling conditions. These demographics suggest the need for home modification services. According to a report published by the Joint Center for Housing Studies at Harvard University, at present only about half of the individuals with a disability over the age of 65 have the home modifications they believe they need (Schafer, 2000). Hence hundreds of thousands of older adults lack the handrails, grab bars, ramps, elevators or stair lifts, and other structural modifications that they need to function maximally at home. Without home modifications, many people are currently and will continue to experience obstacles in their homes that are inconvenient, limiting, and dangerous (Duncan, 1998). Because

occupational therapists seek to improve the overall quality of life of the *individual* and have special skills in matching up a person with a unique pattern of disabilities and interests to a complex home environment, they are able to play an important and unique role in the provision of appropriate home modification services.

The role of occupational therapists in home modification has recently become a topic of growing popularity. In an *OT Practice* article titled, “Top 10 Emerging Practice Areas to Watch in the New Millennium,” Cynthia Johansson outlined how current events, legislative changes, and professional advocacy have reshaped the face of OT practice (2000). Johansson (2000) pointed out that occupational therapists have successfully provided consultation to architects, designers, engineers, contractors, and public facility managers on accessibility provisions in accordance with the Americans with Disability Act (ADA) of 1990. This paper argues that occupational therapists have skills needed by residential home mod providers and should become essential team members in the residential home modification process. Home modification providers understand construction, but they do not have the training or skills to match the construction to the unique needs of the individual. Furthermore, given the fact that home modifications are not subject to ADA provisions, the provisions become a starting point rather than the final set of rules in a complex process of matching person to home. The involvement of occupational therapists in residential home modifications requires a complete understanding of the process and the key players involved. The occupational therapist must also use the core principles upon which our profession was founded, to ensure that the individual requesting the modification receives maximal benefit.”

Framework for Policy Analysis

The Human Activity Assistive Technology (HAAT) model, published by Cook & Polgar (2008), provides a conceptual model that can be applied throughout the home modification process. The following information is from Appendix A section titled, *Human Activity Assistive Technology Model*:

“The Human Activity Assistive Technology (HAAT) model (Cook & Polgar, 2008), provides a conceptual model that can be applied throughout the home modification process. Home modifications can be considered assistive technology (AT) as AT includes a broad range of devices, services, strategies, and practices that are conceived and applied to ameliorate the problems faced by individuals who have disabilities (Cook & Polgar, 2008). In this paper, the term ‘occupation’ will be used instead of ‘activity’ to accentuate the complexity and purposefulness of human doing. The HAAT model demonstrates how four essential components, the human, the activity (occupation), the AT, and the context are interwoven. Cook and Polgar explain that the *human* component includes physical, cognitive, and emotional elements, and *occupation* includes self-care, productivity, and leisure. The *AT* is the extrinsic enabler and requires specific intrinsic enablers (the general underlying abilities that individuals use to perform activities and tasks). The *context* includes physical, social, cultural, and institutional contexts (2008).”

The HAAT model, conceptualizes the home modification (AT) as a part of a system driven by the person. The model was developed to analyze the complexities of someone (a person with a disability) doing something (an occupation) somewhere (within a context), especially when the use of a home modification (AT) is part of that context (Cook & Polgar,

2008). Figure 1 demonstrates the inter-relationships between the four components. The *human* is seen as an intrinsic enabler who has sensors that provide information to a central processor which, in turn, produces an outcome via an effector. The *assistive technology* is seen as an extrinsic enabler that possesses both human/technology and environmental interfaces. The *assistive technology* obtains information mostly from the *human* that is sent to a central processor which then produces an outcome in the form of an *occupation*. Since the *human*, *occupation*, and *assistive technology* occur in a *context*, they are constrained by the *context* (Cook & Polgar, 2008).

The human-technology interface is the means of interaction between the person and the technology device. This information is relayed to the processor via a mechanical or electrical linkage that interprets or responds to create an activity output. The environmental interface adjusts the output of the device in response to input from the environment (Cook & Polgar, 2008). The HAAT model can also be applied to non-electronic AT (Cook & Polgar, 2008). Because this model so intimately describes the unique provision of AT and the relationship between context, human and activity, it is ideal to use in this advocacy project.

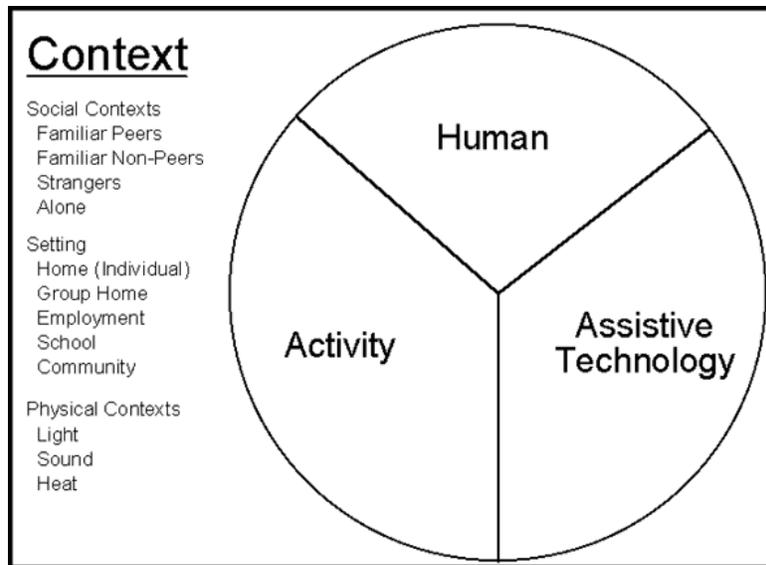


Figure 1. The Human Activity Assistive Technology Model (HAAT).

¹From “Cook & Hussey’s assistive technologies: Principles and practice (3rd ed.),” by A. M. Cook and J. M. Polgar, 2008 J. M. 2008, by Mosby Elsevier, St. Louis, MO.

In the past, the HAAT model has been used as a guiding framework for research concerning assessment, recommendation, and effectiveness of AT. The model is consistently mentioned as one that is all-inclusive with four components. Wissick and Gardner (2008) recently published an article which highlights aspects of technology assessments and progress monitoring that can be used for students with mild disabilities. The authors noted that this model was valuable because at the core of the HAAT model is the interaction between the student, the environment, the task to be completed, and then how the AT fits into that puzzle (Wissick & Gardner, 2008). Additionally, van der Woude, de Groot, & Janssen (2006) addressed these benefits when discussing the relationship between assistive technology for (wheeled) mobility and the biological system. When the AT and human do not optimally match and function, a debilitating cycle may start that can lead to other complications. The HAAT model, demonstrates the integrative ergonomics approach within the field of rehabilitation and assistive technology (van der Woude et al., 2006). Finally, in a separate article, Angelo (2000), with the

assistance of experienced occupational therapists, determined factors affecting the use of a single switch with assistive technology devices. She pointed out that identifying consumers' motor ability for consistent and reliable control can be a difficult yet essential part of a single switch assessment. Angelo stated that the HAAT model, widely used by assistive technology providers, emphasizes the importance of all access methods including single switch methods (2008). This model was used as a guide to determine factors including: reliability of motor movements, volitional nature of movement, safety, movements that are easily performed, endurance, activities and positions the client assumes throughout the day and evening, efficiency of movement, previous successful movements, ability to perform timed response, ability to activate the access device within a given time frame, and time between switch closures (Angelo, 2000).

The HAAT model can be used by occupational therapists as we address all components of the model. This is explored throughout the entirety of Appendix A. Included in Appendix A section titled, *Human Activity Assistive Technology Model* is the following paragraph:

“As occupational therapists we can use the HAAT model to direct our involvement in the home modification process. Often, we inherently recognize the intricacy of both the human and occupation components of this model. This unique recognition is the basis for the very significant role of occupational therapy in the provision of modifications. Occupational therapists have mastered the ability to focus on an individual in terms of their abilities, affective elements, life roles, etc. We have been trained to use meaningful and purposeful occupations as a channel to increase functional abilities. In addition, occupational therapists understand the general concepts of home modification (AT) and context. However, all may not

understand the particular processes and complexities of the home modification service delivery system. To fully serve individuals in need of home modification, all components mentioned must be weighted equally.”

The Issue

The issue discussed involves advocacy for the improvement of the interface between occupational therapists and home modification providers. Prior to discussing this interface further, the history of home modifications should be addressed so that the issue can be completely understood. Home modifications allow for greater independence within the home. Two organized movements represented by the terms visitability and universal design have made special contributions to the provision of home modification.

Visitability.

The term visitability has evolved gradually and has now come to have great meaning for those seeking greater independence in their own and others' homes. This drive for independence within the home was first proposed by Eleanor Smith through her initiative “Concrete Change.” Smith (2003) described how this initiative was developed in her article titled, “Every New Home VISIBLE – Early History of the Visitability Movement.” Smith was living in Atlanta as a young person in the 1970's. During this time, she noticed that most homes were not accessible and acted as barriers for individuals with disabilities. At this time she too was unable to fully access homes as she uses a wheelchair. Smith decided a change must be made. She was first elated to see that in the early 1970-80's, ADAPT required that all new busses include a lift. In the 1980's Smith began her own group promoting zero-step entry through, “Basic Home Access.” This group then began their initiative and termed their movement, “Concrete Change.” This initiative was featured in magazines including, *The Disability Rag* and *The Mouth and Mainstream*. When

the group brought the ideas of Concrete Change to architects and builders, they stated, “This cannot be done and it will never happen” reported Smith (2003). In the late 1980’s Concrete Change finally received a grant from “The Fund for Southern Communities.” This is a regional foundation committed to funding small groups who have novel ideas and who typically would not receive funding otherwise. From this time, there were many victories to follow. In 1989, the Atlanta Habitat for Humanity agreed to experiment with building each new home with basic access. By 1990, more than 20 homes built through Habitat for Humanity included a zero-step entrance. By 2006 greater than 600 homes were considered to be accessible in Atlanta. The term “visitability” was introduced to Smith by a young Japanese architect who, in conversation, mentioned that in Europe homes are made to be visitable. Smith was pleased with this term as it applies to all homes universally. She felt it reduced the stigma that only those with a disability required an accessible home; it was a term that was attractive to all home owners.

Universal Design.

Universal design is a term often interchangeably with visitability. The Center for Universal Design through the College of Design at North Carolina State University has been a leading source regarding this topic. An online publication by The Center for Universal Design (2008) describes the history of universal design:

“Public acknowledgment of people with disabilities and progress toward universal design has developed in the last few decades along three parallel tracks of activities: legislation fueled by the disability rights movement, the barrier-free design to universal design movement, and advances in rehabilitation engineering and assistive technology.”

The first track mentioned involves the progress toward universal design in light of the Disability Rights Movement which followed the Civil Rights Movement of the 1960s. This

movement influenced legislation which prohibited discrimination against people with disabilities. Laws were also set in place which allowed access to education, places of public accommodation, telecommunications, and transportation (The Center for Universal Design, 2008).

The barrier-free movement in the 1950s also began a process of change toward the development of universal design. The barrier-free movement primarily gained popularity as a response to demands by disabled veterans. As reported by The Center for Universal Design, the efforts of the Veterans Administration, The President's Committee on Employment of the Handicapped, and the National Easter Seals Society, among others, resulted in development of national standards for "barrier-free" buildings (2008). This development was a result of several acts which promoted barrier-free living including The Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973, The Education for Handicapped Children Act of 1975, The Fair Housing Amendments Act of 1988, The Americans with Disabilities Act of 1990, and The Telecommunications Act of 1996 (The Center for Universal Design, 2008). Upon initial implementation of barrier-free living design, many architects felt that design of this type was expensive and unattractive. It was not until this type of design proved to be beneficial for all people that architects began to believe that barrier-free design can be attractive, cost-effective, and even marketable.

The third contributor to the universal design movement involves rehabilitation engineering and assistive technology, which emerged in the middle of the 20th century. As reported by The Center for Universal Design (2008), efforts to improve prosthetics and orthotics intensified with the return of thousands of disabled veterans from World War II in the 1940s. During the 1950s, engineering research centers sponsored by the Veterans Administration and

other federal organizations were established to address technological problems of rehabilitation, including communication, mobility, and transportation. Rehabilitation engineering centers expanded during the 1960s and 1970s. Rehabilitation engineering became a specialty that applied scientific principles and engineering methodologies to these problems.

Individuals and Organizations Involved

Just as the development of terms visitability and universal design have an extensive history, the issue addressed in this advocacy project, the interface between occupational therapists and home modification providers, is also extensive. The history of the issue can be understood by addressing the individuals and organizations currently involved as discussed below.

There are many individuals who are involved in the home modification industry both past and present. Existing organizations both public and private, and individuals associated with these groups have affected this issue. As discussed, American Occupational Therapy Association (AOTA) has addressed this issue through the 2017 Centennial Vision with the call for OT practitioners to expand their involvement in the productive aging process. In a recent online publication, Yamkovenko, an AOTA staff writer, addressed the interface issue within the context of the Centennial Vision. She pointed out that OT practitioners work with an array of professionals, but they rarely have a contractor as a part of their multidisciplinary team. When a client needs home modifications, OT practitioners may need to recommend remodelers who create the appropriate physical environment (Yamkovenko, 2008).

In addition to AOTA's direct recognition of this issue, AOTA also currently collaborates with other important organizations. The National Association of Home Builders (NAHB) is a trade association that helps to promote the policies that make housing a national priority. Since

1942, NAHB has been serving its members, the housing industry, and the public at large (NAHB, 2009). The NAHB is the primary organization that offers the Certified Aging in Place Specialist (CAPS) program to those seeking to serve the growing number of consumers who will soon require home modifications. According to the NAHB, this program was developed to provide comprehensive, practical, market-specific information about working with older and maturing adults to remodel their homes for aging-in-place (2009). In a brochure titled, *What is CAPS?*, NAHB authors state that in a program of three classes, CAPS teaches the strategies and techniques for marketing, designing, and building aesthetically enriching, barrier-free living environments. Going beyond universal design, CAPS also addresses the communication and technical needs of the older adult market (National Association of Home Builders, n.d.). Currently OT practitioners are attending as well as teaching these programs in their local community. Occupational therapists have also been involved in the development of this program and have assisted in the recent revision of the CAPS courses. Currently 3% of CAPS designees are occupational therapy practitioners (AOTA, 2008), and the profession should strive to increase that percentage. AARP has also played a role in the development of the CAPS program and has used its wide reach to inform consumers about CAPS professionals (AOTA, 2008).

As the AOTA and the NAHB are involved, other large organizations are also important players. One such organization is the American Association for Retired Persons (AARP). In conjunction with NAHB and AOTA, members of the AARP have assisted in the development of the CAPS program. The AARP also provides resources which assist individuals in contacting those holding the CAPS certification. In addition, many resources involving this issue are available to older adults through this organization. These resources include those addressing home modification guidelines to promote health and safety. Several titles include *Home Fit*

Guide, Good-Bye Bingo - Hello Blue Books, Bathroom Checklist, Home is where the Smart is and *What is Universal Design?*

In addition to the AOTA, NAHB, and AARP course offerings and available resources, further information regarding this issue is available through Innovative Designs in Environments for an Aging Society (I.D.E.A.S.). This organization, through a grant received by the National Institute for Health, currently offers online courses regarding home modification for persons with sensory impairments, motor impairments, dementia, or those at risk for falls. The course website states that the information is valuable to individuals who provide any type of home evaluation, design, or construction service for seniors or people with disabilities, such as occupational therapists, physical therapists, home health care workers, case managers/social workers, builders/remodelers, architects and interior designers (I.D.E.A.S., n.d.).

Funding Sources for Home Modification

The following is a section from the Appendix A section titled, *Funding Issues for Home Modification*.

“Home modifications are typically expensive and impossible without appropriate funding. In an electronic publication titled, *Funding for Home Modifications and Programs* through the NAHB, Fagan and Cabrera (2007) stated that approximately 80% of U. S. home modifications, renovations, and repairs are paid for by the primary occupants of the residence. Of these, the majority are funded by personal savings. However, many individuals in need are unable to afford these services. To supplement or substitute for the withdrawal of finances from personal accounts, alternate funding opportunities for home modification services are often available. It is imperative that all persons involved in the service delivery system be knowledgeable about possible funding

resources in their community. Although numerous funding sources for home modifications are often easily identified, these sources are not always available to every individual. To receive funding, the individual must often meet strict requirements. These requirements may include, for example, an individual's age, income, disability or diagnosis, and previous home modification funding. It is therefore important for those involved in the service delivery system to determine an ideal match on a case-by-case basis between the funding source and the client. According to Fagan and Cabrera (2007), possible funding sources include insurance, federal programs, state programs, health promotion/fall prevention grants, foundations and organizations, and tax deductions. Common funding sources are insurance (e. g., Medicare, Medicaid, automobile insurance, long-term care insurance) and federal programs (i.e. community block development grants, Veteran's Administration home loans). When working side by side with home modification providers, the occupational therapist must assist in making a match between current financial availability, current and future needs of the individual, and costs of the home modification.”

Additional Resources

There are many resources that currently exist which directly relate to this issue. The resources available are typically directed towards different audiences, but they may be utilized by all individuals involved in home modification. An annotated bibliography regarding such resources is included as Appendix B. This bibliography provides extensive reference information from many sources.

Evidence and the Advocated Issue

In a randomized controlled trial, Mann, Ottenbacher, Fraas, Tomita, & Granger (1999) conducted a study where older community-dwelling persons first underwent a comprehensive functional assessment and evaluation of their home environment. Participants in the treatment group received AT and environmental interventions based on the results of the evaluation. Participants in the control group received “usual care services.” The authors concluded that frail elderly persons in their trial experienced functional decline over time. However, the rate of decline was slowed. Institutional and some in-home personnel costs were reduced through a systematic approach to providing AT and environmental interventions (Mann et al., 1999). More recently, Fricke (2004) conducted another study to determine if occupational therapy home visits targeting environmental modifications benefit persons with dementia and their caregivers. In this randomized control trial, intervention involved five 90-min home visits by occupational therapists who provided education and developed strategies to modify the environment, such as the removal of excess clutter. The control group received education materials and a booklet describing home environment safety tips at the conclusion of the study. The program had a modest effect on instrumental occupations of daily living dependence for people with dementia, with a trend to fewer declines in occupations of daily living and behavior problems.

In addition to existing evidence which supports the benefit of occupational therapy involvement in home modification, a recent novel development involving the use of remote assessment to provide home modifications has surfaced. Sanford & Butterfield (2005), compared two new remote assessments, a “zero-tech” paper-and pencil protocol and a “high-tech” televideo protocol, to traditional in-home assessments to determine the equivalence of the remote and in-home assessments. They determined equivalence by comparing each of the

remote assessments to a traditional in-home assessment in the same home. In-home assessments were conducted by home-modification specialists in all homes. Data collection for the remote protocols was conducted by individuals inexperienced in home modification. Assessment data from the remote protocols were analyzed by specialists to diagnose problems and prescribe solutions. Sanford & Butterfield published findings that suggest that remote home assessment has the potential to provide underserved elders with access to home modification services that have heretofore eluded them (2005).

Analysis of the Issue and Advocacy Efforts

The main strategy used in this advocacy project concerning the interface between occupational therapy and home modification providers is to prepare a paper entitled, *The interface between the occupational therapist and the home modification provider*, which will be submitted to the American Journal of Occupational Therapy:

Sharon A. Gutman, PhD, OTR
6 Horizon Road, Apt. 1007
Fort Lee, NJ 07024

This paper is formatted in the style appropriate for the *Issue is...* section of this journal. In developing this document, on-going advocacy efforts were completed. This was achieved during and after the capstone experience semester. This experience afforded the opportunity for an occupational therapy student to collaborate directly with a local home modification provider:

Creative Housing, Inc,
2233 CityGate Dr.
Columbus, OH 43219

This collaboration included direct involvement in the service delivery system with individuals such as contractors, builders, architects, occupational therapists, university educators, service coordinators, social workers, and a large variety of consumers. Interaction with all individuals allowed the student to explain occupational therapy as a profession, the importance of

occupational therapy in home modification, and the advocacy effort at hand. Specific advocacy efforts are outlined below.

Funding organizations.

Individuals from organizations that provide funding for home modifications were interviewed. Collaboration between the home modification provider, occupational therapists, and the following sources was observed:

Franklin County Board of Mental Retardation and Developmental Disability
Service Coordinators and Staff members
Individual Options & Level 1 Waivers
2879 Johnstown Rd
Columbus, OH 43219

Central Ohio Area Agency on Aging (COAAA)
Passport Program for Seniors
Kathy Niper
174 East Long Street
Columbus, OH 43215

In addition, several private insurance companies were contacted to determine coverage options for home modification with long-term care insurance. Here, advocacy efforts were specifically directed towards insurance agents. As a result, a memo was produced for the home modification provider to outline this coverage. This memo is included as Appendix C.

Consumers.

To address consumers, a brochure regarding home modification was created and distributed, in-person to local senior centers. The brochure is included as Appendix D. The student was also able to complete an interview with educator and inspirational speaker, Rosemarie Rosetti. As an advocate herself, she is relevant because she has received occupational therapy services in the past after a bike riding accident causing a spinal cord injury. She is

currently a wheelchair user and is developing the Universal Design Living Laboratory, a modified live-in show home. Her contact and website information:

Rosemarie Rosetti
1008 Eastchester Drive
Columbus, OH 43230-6230
www.udll.com

In addition, interaction with many other consumers allowed the student to gain invaluable information regarding the service delivery system.

Occupational therapists.

Several occupational therapists were consulted through the capstone experience including Carla Chase and Susan McCabe. They were able to provide their unique perspectives regarding the home modification service delivery system. Many were enthusiastically willing to provide information to assist with this advocacy issue. A phone interview was completed with Carla Chase, OTR/L of Western Michigan University. In addition, the student was able to advocate and gain knowledge while accompanying an occupational therapist experienced in home modification assessment:

Susan McCabe, OTR/L
SMC Rehabilitation
SMCRehab@aol.com

Peers.

A summary of this capstone experience and the details in this dissemination will be presented on May 7, 2009 to current occupational therapy students, occupational therapists, faculty, and others at the University of Toledo Health Science Campus – Occupational therapy Doctorate Program.

It is possible that other advocacy efforts can be made to address this issue. These may include writing letters to lawmakers at the local state and national level to promote greater

funding for home modification and the requirement for inclusion of occupational therapists throughout the entirety of the service delivery system. Similar letters may be sent to individuals involved with our professional associations at the state and national levels. In addition, funding to direct many of these efforts must be provided through financial entities that drive the requirement of an occupational therapy assessment for home modification. They must be willing to fund continued assessment, follow-up, and follow-along services. In addition, occupational therapists must continue to conduct research which tests the effectiveness of occupational therapy involvement and collaboration in the home modification service delivery. Without this direct supportive evidence, in-place funding may not be continued and/or increased for occupational therapists. To complete this funding, researchers must apply for grants from organizations such as National Institute of Health and Housing and Urban Development.

Summary and Conclusions

The following is an excerpt from the Appendix A sections titled, *Summary* and *Conclusions*, which details clearly what changes must be made to support these advocacy efforts.

“In summary, I make the following recommendations to improve the interface between occupational therapists and home modification providers.

Occupational therapists.

As occupational therapists, we must:

- 1) Acknowledge differences between the occupational therapist and the home modification provider in terms of education, service delivery focus, language, and the knowledge of costs of home modifications.

- 2) Completely understand all components of the home modification service delivery system: *human, occupation, home modification (AT), and context.*
- 3) Further our own knowledge through education, by participating in online courses, reading other on-line resources, attending conferences and meetings, and seeking relevant resources such as books, brochures, and guides.
- 4) Work to increase the number and variety of experiences in the home modification service delivery system so that a complete picture can be gained. This includes collaboration with HMPs and with a large number of clients with different needs.
- 5) Promote collaboration with all individuals involved in the provision of home modification so that assessment, referral, and follow-up can be completed through team-work.
- 6) Explain and demonstrate the unique services occupational therapists can provide to the consumer, home modification provider, and to the public.

AOTA.

It is suggested that AOTA:

- 1) Continue to build positive relationships and collaborate with other relevant organizations such as AARP and NAHB.
- 2) Sponsor relevant continuing education courses so that occupational therapists are encouraged to attend these courses that specifically address structural issues in the home and costs of home modification.
- 3) Encourage research through the provision of pilot funding that promotes the involvement of occupational therapy in home modifications and the value of these unique services.

Conclusions

As occupational therapists, we must work to understand all aspects of the home modification service delivery system. Through the identification of barriers existing in the interface between ourselves and HMPs, we can move forward to erase these issues. As advocated in the AOTA Centennial Vision, we must become a globally connected and diverse workforce so that we will be better positioned to address society's occupational needs (AOTA, 2007, p. 614). As a team, and through a collaboration process, we can use our inherent skills to provide the most effective and comprehensive home modification service delivery system possible.”

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Appendix A

The Interface between the Occupational Therapist and the Home Modification Provider

Keywords: home modification, productive aging, centennial vision

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The University of Toledo Health Science Campus

The Interface between the Occupational Therapist and the Home Modification Provider

As inspired by the American Occupational Therapy Association 2017 Centennial Vision, we are called as professionals to become a globally connected and diverse workforce so that we will be better positioned to address society's occupational needs (American Occupational Therapy Association, 2007, p. 614.). The continually changing occupational needs of our society depend in part on society's changing demographics, including the increase in number of older adults and persons with disabling conditions. These demographics suggest the need for home modification services. According to a report published by the Joint Center for Housing Studies at Harvard University, at present only about half of the individuals with a disability over the age of 65 have the home modifications they believe they need (Schafer, 2000). Hence hundreds of thousands of older adults lack the handrails, grab bars, ramps, elevators or stair lifts, and other structural modifications that they need to function maximally at home. Without home modifications, many people are currently and will continue to experience obstacles in their homes that are inconvenient, limiting, and dangerous (Duncan, 1998). Because occupational therapists seek to improve the overall quality of life of the *individual* and have special skills in matching up a person with a unique pattern of disabilities and interests to a complex home environment, they are able to play an important and unique role in the provision of appropriate home modification services.

The role of occupational therapists in home modification has recently become a topic of growing popularity. In an *OT Practice* article titled, "Top 10 Emerging Practice Areas to Watch in the New Millennium," Cynthia Johansson outlined how current events, legislative changes, and professional advocacy have reshaped the face of OT practice (2000). Johansson (2000) pointed out that occupational therapists have successfully provided consultation to architects,

designers, engineers, contractors, and public facility managers on accessibility provisions in accordance with the Americans with Disability Act (ADA) of 1990. This paper argues that occupational therapists have skills needed by residential home mod providers and should become essential team members in the residential home modification process. Home modification providers understand construction, but they do not have the training or skills to match the construction to the unique needs of the individual. Furthermore, given the fact that home modifications are not subject to ADA provisions, the provisions become a starting point rather than the final set of rules in a complex process of matching person to home. The involvement of occupational therapists in residential home modifications requires a complete understanding of the process and the key players involved. The occupational therapist must also use the core principles upon which our profession was founded, to ensure that the individual requesting the modification receives maximal benefit.

Human Activity Assistive Technology Model

The Human Activity Assistive Technology (HAAT) model (Cook & Polgar, 2008), provides a conceptual model that can be applied throughout the home modification process. Home modifications can be considered assistive technology (AT) as AT includes a broad range of devices, services, strategies, and practices that are conceived and applied to ameliorate the problems faced by individuals who have disabilities (Cook & Polgar, 2008). In this paper, the term ‘occupation’ will be used instead of ‘activity’ to accentuate the complexity and purposefulness of human doing. The HAAT model demonstrates how four essential components, the human, the activity (occupation), the AT, and the context are interwoven. Cook and Polgar explain that the *human* component includes physical, cognitive, and emotional elements, and *occupation* includes self-care, productivity, and leisure. The *AT* is the extrinsic

enabler and requires specific intrinsic enablers (the general underlying abilities that individuals use to perform activities and tasks). The *context* includes physical, social, cultural, and institutional contexts (2008).

As occupational therapists we can use the HAAT model to direct our involvement in the home modification process. Often, we inherently recognize the intricacy of both the human and occupation components of this model. This unique recognition is the basis for the very significant role of occupational therapy in the provision of modifications. Occupational therapists have mastered the ability to focus on an individual in terms of their abilities, affective elements, life roles, etc. We have been trained to use meaningful and purposeful occupations as a channel to increase functional abilities. In addition, occupational therapists understand the general concepts of home modification (AT) and context. However, all may not understand the particular processes and complexities of the home modification service delivery system. To fully serve individuals in need of home modification, all components mentioned must be weighted equally.

Home Modification Providers

The term 'home modification provider' (HMP) includes a broad range of companies and individuals. HMPs include architects, builders, contractors, interior designers, remodelers, and tradesmen. As home modification awareness, acceptance, and popularity increase, the variety of professional involvement is expected to swell within this market. Many organizations are advertising home modification online courses and certificate programs to various professionals. For example, Innovative Designs in Environments for an Aging Society (I.D.E.A.S.), through a grant received by the National Institute for Health, currently offers online courses regarding home modification for persons with sensory impairments, motor impairments, dementia, or who

are at risk for falls. The course website states that the information is valuable to individuals who provide any type of home evaluation, design, or construction service for seniors or people with disabilities, such as occupational therapists, physical therapists, home health care workers, case managers/social workers, builders/remodelers, architects and interior designers (I.D.E.A.S., n.d.).

Overall, the differences among providers can be attributed largely to varying education. For example, focus and language vary widely from one provider to another. In comparison to occupational therapists, providers typically demonstrate greater competence regarding the components of the home modification and the context, whereas therapists demonstrate greater competence regarding the components of human and occupation. HMPs generally focus on a) the home modification component in regards to installation issues, costs, size requirements, etc., and b) the context component primarily concerning the physical components of the home (e. g., structural, plumbing, electrical).

Funding Issues for Home Modification

Home modifications are typically expensive and impossible without appropriate funding. In an electronic publication titled, *Funding for Home Modifications and Programs* through the National Association of Home Builders (NAHB), Fagan and Cabrera (2007) stated that approximately 80% of U. S. home modifications, renovations and repairs are paid for by the primary occupants of the residence. Of these, the majority are funded by personal savings. However, many individuals in need are unable to afford these services. To supplement or substitute for the withdrawal of finances from personal accounts, alternate funding opportunities for home modification services are sometimes available. It is imperative that all persons involved in the service delivery system be knowledgeable about possible funding resources in their community.

Although numerous funding sources for home modifications are readily identifiable, these sources are not always available to every individual. To receive funding, the individual must often meet strict requirements. Eligibility criteria may include, for example, an individual's age, income, disability or diagnosis, and previous home modification funding. It is therefore important for those involved in the service delivery system to determine an ideal match on a case-by-case basis between the funding source and the client. According to Fagan and Cabrera (2007), possible funding sources include insurance (e.g., Medicaid, Medicare, automobile insurance), federal programs (e.g., community block development grants, Veteran's Administration home loans), state programs, health promotion/fall prevention grants, foundations and organizations, and tax deductions. When working side by side with home modification providers, the occupational therapist can assist in making a match between current financial availability, current and future needs of the individual, and costs of the home modification.

Need for an Effective Interface between the Therapist and the Provider

Inadequate service delivery system often occurs when all four parts of the HAAT are not fully considered simultaneously. For example, upon the referral for a home modification, occupational therapists typically investigate the client through an in-home assessment. This assessment may involve the use of observations, interviews, and/or questionnaires/checklists. The assessment process allows the therapist to determine what occupations are most challenging for the client within and around the home and what home modifications would be most appropriate. For example, if the client demonstrates difficulty when transferring from a wheelchair to the toilet from the right side and expresses preference for an aesthetically pleasing bathroom, the occupational therapist would typically recommend modifications that address both the clients' needs and preferences. Recommendations could include the relocation of the toilet

and/or removal of walls or cabinetry that can impede transfers from the left side. Also, custom grab bars that match the existing bathroom décor might be recommended. In this same example, the HMP conducting the assessment may not completely recognize the present occupational challenges. The HMP may recommend that the cabinetry alone be relocated, despite transfer difficulties, because an existing structural wall is not available to support the plumbing fixtures when moving a toilet. In addition, standard grab bars might be recommended to support the weight of the client, given that some custom grab bars are unable to do so. The HMP may also make these recommendations based on knowledge of the costs of the modifications and the estimated financial resources available to the client. If the client receives the home modifications recommended by the occupational therapist alone, the modifications might be costly and not function as intended. Additionally, if the client receives the recommendations solely provided by the HMP, the client will continue to experience difficulty with transfers, may not be able to independently complete the occupation of toileting, and may be disappointed with the appearance of the bathroom. When clients receive either half of the HAAT without receiving the other, the professionals are failing to provide the client with the most comprehensive service delivery system. Clearly, it is imperative that occupational therapists and HMPs work together as a unit to bridge this gap that currently exists among the interface.

Four Areas for Interface Improvement

Education.

There are distinct differences among the education received by occupational therapists and individuals that may hold professions involved in home modification. For example, Jeffrey L. Haase of the Department of Design at The Ohio State University stated that the interior architecture students primarily receive information in their curriculum regarding ADA

accessibility rather than universal design or home modification (J. L. Haase, personal communication, April 9, 2009). As these students develop their skills in the field of interior architecture, they begin to utilize the ADA provisions in their designs. Haase stated that the provisions provide challenges to the students by “increasing the complexity of the design, spatial issues, and budget issues.” In this case, the curriculum differs from that of occupational therapy students as accessibility issues are guiding structural designs rather than guiding promotion of meaningful and purposeful occupations. In contrast, the typical occupational therapy student curriculum focuses on accessibility issues that increase independence and encourage functional occupations.

Service delivery focus.

Differences in education results in differences in the service delivery focus. In the case of a home modification, occupational therapists can make an important contribution by focusing on the human component through the assessment of functional ability. Assessment may include range of motion, muscle strength, balance, and coordination. We may, for example, investigate the client’s cognitive, visual, and auditory skills. In addition, we may determine the client’s history of falls and fear of falls. Safety checklists can be helpful in the occupational therapy assessment. In a 2006 Home & Community Health Special Interest Section Quarterly article titled, *Home modification Entrepreneurs*, occupational therapists Morris, Conrad-Reingold, and Sabata outline checklists and standardized assessments that they have used when conducting an assessment for home modification. These include *Home Safety Checklist* (Rebuilding Together, 2007), *Safety Assessment of Function and the Environment for Rehabilitation (SAFER)* (COTA Health, n.d.), *Westmead Home Safety Assessment* (Clemson, 2007), *Comprehensive Assessment of Solution Process for Aging Residents (CASPAR)* (Extended Home Living Services, Inc.,

2004), and *Buildease/Lifeease* (Buildease, n.d.). In consideration of the complete ‘picture’ of the client, OT practitioners might determine additional factors that may not be addressed through the assessments mentioned. These factors can include those relating to cognitive and psychosocial components. As explained by occupational therapist, Susan McCabe, “Some clients will simply refuse modifications in light of what the structural changes may represent. As occupational therapists we have to be aware of this.” (S. McCabe, personal communication, April 24, 2009). For example, a recent widow may be reluctant to modify the master bathroom because it was designed and built by her husband. She might feel as though she is experiencing an additional loss when these changes occur and the components of the bathroom that *he* built are removed.

Despite our many contributions to the service delivery process, we must recognize that our perspective is limited. Overall, our home modification assessment is completed through a limited looking glass lens. We ‘see’ what we are trained to ‘see,’ and we base our recommendations on such observations. As occupational therapists, we must educate ourselves so that we can look beyond this incomplete picture. We must alter the lens of the looking glass so that we can catch sight of all components that truly affect our client. This will require greater knowledge in areas such as structural limitations of the home, extensive knowledge of what home modifications are possible and most effective given the limitations of the physical space, actual costs of the complete home modification, and the availability of finances.

Just as OT practitioners carry a limited looking glass, as do HMPs. Theirs focuses on the home modification and the context components of the service delivery system. They see the modification as structural: one that will physically be viable or not in the space provided. They may determine whether the supporting walls in the bathroom will hold the weight applied to a grab bar or whether the plumbing will allow for a low-cost installation of a drive-in shower.

They determine the length, height, and permit allowances for an outdoor ramp and materials. HMPs must broaden this focus to better understand the human and occupation components to provide the most affective home modification.

Language.

Resulting from differences in education and service delivery focus, differences in terminology are inevitable. As occupational therapists, we often assess occupations with language that may not be well understood by others. For example, an assessment may state, “Client demonstrates limited range of motion of the left-upper extremity (0-30°) shoulder extension with 0° elbow flexion. Client demonstrates difficulty reaching toilet paper when toileting.” Those not familiar with this language may not recognize immediately that it would be ideal to either locate the toilet paper holder several inches from the floor on the left side or simply relocate it to the right side. After making the same assessment, an HMP professional may state, “Reinforced toilet paper roll holder recommended to be relocated to the right side of toilet on the supporting wall at a standard height of 27 inches.” An occupational therapist may not be able to determine why a reinforced toilet paper roll holder installed on the supporting wall was recommended and the need for it to be located at the noted height. Although the languages between the professions differ, the goal to provide a home modification to assist the client is the same. To reach this goal, often, either professional is forced to translate the language of the other. The disservice to the client exists with the time, energy, and finances that are exhausted in this translation, resulting in an inefficient service delivery system. All professionals should work together to understand the purpose and value of the information that is embedded in the languages used. As in other instances this understanding can be achieved through education, experience, and collaboration.

Finances.

Occupational therapists are often naïve to the costs of recommended home modifications and thereby support financially unrealistic modifications, and installation processes. As pointed out by T. K. Oberschlake, the operations director at Creative Housing, Inc. (Columbus, Ohio), “Sometimes I see home modification recommendations made by occupational therapists that clearly exhaust the budget of the client.” This occurs when the occupational therapist may not realize that a narrow stairway will not afford the space needed for a large chairlift. The stairway would have to be widened and therefore total costs of the project will significantly increase (T. K. Oberschlake, personal communication, April 14, 2009). In another instance, an outdoor ramp may be recommended to decrease a client’s difficulty when entering and exiting their residence. Therapists frequently underestimate the cost without considering the full costs of the wood, stains to protect the ramp, removal of existing structures, leveling the soil prior to installation, non-skid surfaces, a permit to build, and labor costs. In a telephone interview, Carla Chase of Western Michigan University describes this as “financial irresponsibility.” She explained that promising the modification without determining the total cost and the budget is the ultimate disservice to our clients (C. Chase, personal communication, January 29, 2009).

Improving the Interface

To provide optimal services to our clients, all involved must become a unified team. The first step is for all parties to recognize professional differences and limitations. Upon this recognition, we can move forward. The second step involves expanding our knowledge regarding the complex processes in the provision of home modifications through education, experience and collaboration.

Education.

As stated by Scherer, Coombs, & Hansen Merbitz (2004), for the consumer to receive an effective, comprehensive evaluation, professionals must be trained to provide it. This requires complete knowledge of components mentioned through the HAAT model. Scherer et al. (2004) suggests that this education has to be provided at the pre-service, field, and in-service levels. At the pre-service levels, occupational therapy educators can stress the importance of the complex process of home modification services. They can encourage interested occupational therapy students to collaborate with students of other fields (e.g., architecture, interior design, construction management). This will allow the student to gain insight on the varying approaches in providing home modification. In addition, occupational therapy students might be encouraged to engage in shadowing experiences with HMPs, durable medical equipment specialists, and other occupational therapists experienced in home modification to observe the service delivery system in action. Finally, students should hear consumers who have received home modifications discuss their experiences. The consumer can provide a unique perspective on the particulars of the system, the results of their services, and their personal satisfaction with the delivery process.

At the field level, occupational therapists must further educate themselves. As pointed out by T. K. Oberschlake, “OT practitioners must continue to require more of themselves to understand the entirety of the service delivery system. Specifically, and most importantly, they require knowledge regarding structural issues within the home and realistic costs of remodeling and building” (T. K. Oberschlake, personal communication, March 10, 2009). To address these and other issues, AOTA has collaborated with other relevant organizations involved in home modification. American Association of Retired Persons (AARP), the American Occupational

Therapy Association (AOTA), and the National Association of Home Builders (NAHB) are continuing a collaboration that provides solutions to address this growing societal need (AOTA, 2008). Occupational therapists interested in home modification should recognize and support these collaborations by utilizing information and by participating in courses and conferences sponsored by these organizations.

An important source of information is the AARP Home Fit Guide (AARP, 2008). This guide is directed toward consumers and covers everything from home safety tips to hiring a contractor. Occupational therapy is also prominently featured for its role in assessing the fit between the individual and his or her home environment. This guide was a result of collaboration after AOTA staff was invited to review and comment on the draft guide prior to its completion (AOTA, 2008). In addition to this guide, occupational therapists can attend conference meeting and presentations. For example, AARP, AOTA, and the NAHB jointly presented a short course titled "Creating Partners for Aging-in-Place" at AOTA's 2008 Annual Conference in Long Beach (AOTA, 2008). In addition, AARP, AOTA, and NAHB have provided similar presentations at the NAHB Remodelers Show and the International Conference on Aging, Disability, and Independence (ICADI), and plan presentations at the AARP and NAHB conferences (AOTA, 2008).

Structural and many other issues are addressed through the National Association of Home Builders (NAHB), Certified Aging-in-Place Specialist (CAPS) program. Occupational therapists have been involved in the development of this program and have assisted in the recent revision of the CAPS courses. Currently 3% of CAPS designees are occupational therapy practitioners (AOTA, 2008), and the profession should strive to increase that percentage. AARP has also played a role in the development of the CAPS program and has used its wide reach to inform

consumers about CAPS professionals (AOTA, 2008). NAHB developed this program to provide comprehensive, practical, market-specific information about working with older and maturing adults to remodel their homes for aging-in-place (2009). In a brochure titled, *What is CAPS?*, NAHB authors state that in a program of three classes, CAPS teaches the strategies and techniques for marketing, designing, and building aesthetically enriching, barrier-free living environments. Going beyond universal design, CAPS also addresses the communication and technical needs of the older adult market (National Association of Home Builders, n.d.).

In addition to the CAPS courses, occupational therapists can participate in online courses through I.D.E.A.S (previously mentioned) as well as the Fall Prevention Center of Excellence and Homemods.org at the University of Southern California, which offers the Executive Certificate in Home Modification. This program is designed for professionals (e.g., remodelers/contractors, planners, personnel of organizations representing the elderly and people with disabilities, occupational and physical therapists, policymakers) who work directly or indirectly in the field of supportive home environments (Homemods.org, n.d.). Course titles include *The Basics and Beyond*, *How to Get It Done*, *Funding Resources and Financing Mechanisms*, *Raising Awareness and Coalition Building*, and *The Ethics of Home Modification* (Homemods.org, n.d.). Occupational therapists currently involved in home modification services can also seek out information and continuing education courses that seem less traditional, but might provide unique information. For example, the Center for Universal Design at North Carolina State University offers an online course titled, *Explore Your Dream Kitchen*. Through this course, participants planning to remodel or build a kitchen receive information about currently available appliances, cabinets, fixtures, and materials. They are taught kitchen planning principles, including universal design applications (Center for Universal Design, 2004).

Another example is an online course offered through Residential Architect (n.d.) titled *Accessibility: Baths for today and tomorrow*. This course identifies codes and standards that govern accessibility requirements and describes accessible bath fixtures. The student will be able to discuss bath fixtures and accessories that meet current accessibility guidelines (Residential Architect, n.d.).

In addition, occupational therapists can complete personal educational exploration through the review of research and various informational websites. For example, in a randomized controlled trial, Mann, Ottenbacher, Fraas, Tomita, & Granger (1999) conducted a study where participants first underwent a comprehensive functional assessment and evaluation of their home environment. Participants in the treatment group received AT and environmental interventions based on the results of the evaluation. Participants in the control group received “usual care services.” The authors concluded that frail elderly persons in their trial experienced functional decline over time. However, the rate of decline was slowed and institutional and some in-home personnel costs reduced through a systematic approach to providing AT and environmental interventions (Mann et al., 1999). More recently, another study was conducted to determine if occupational therapy home visits targeting environmental modifications benefit persons with dementia and their caregivers. In this randomized control trial, intervention involved five 90-min home visits by occupational therapists that provided education, and developed strategies to modify the environment, such as the removal of excess clutter. The control group received education materials and a booklet describing home environment safety tips at the conclusion of the study. Author, J. Fricke (2004), noted that the program had a modest effect on instrumental occupations of daily living dependence for people with dementia, with a trend to fewer declines in occupations of daily living and behavior problems. In addition to

existing evidence which supports the benefit of occupational therapy involvement in home modification, occupational therapists might consider a recent novel development involving the use of remote assessment to provide home modifications has surfaced. Sanford & Butterfield, published findings that suggest that remote home assessment has the potential to provide underserved elders with access to home modification services that have heretofore eluded them (2005). Also, occupational therapists can utilize websites to search for and determine the cost of home modification materials. These websites might include *Ablenet*, *Access Mobility Inc.*, and *Hometech Solutions*. All of these companies offer a large selection of home modification products.

Experience.

Although formal educational experiences are important, much essential knowledge is most efficiently acquired at the in-service level, because of the 'hands-on' nature of experience and collaboration. As pointed out by Cabrera & Chase (2008), attempting to teach what has been learned over years of experience to novice clinicians in easy-to-follow guides or textbooks is not usually possible. Through experience, occupational therapists can gain invaluable information regarding specific home modifications and the clients that are using them to assist in occupations. For example, within the client's home, they will be able to observe an individual using a wheelchair while preparing a meal benefiting from a drive-under stovetop. Skills in determining what modifications can be implemented based on the structural limitations of the home will also be developed. They can recognize the importance of the installation of a reinforced grab bar on a supporting wall rather than another location. Finally, through these experiences they can determine the importance of a multi-disciplinary collaboration in the home modification service delivery system.

Collaboration.

Involvement of all professionals and teamwork is essential in the provision of home modification. This requires coordination of schedules and the willingness of all parties to become available for client assessments and supplemental meetings. The process can begin during the initial home assessment. At this moment, inclusion of the full team of HMP professionals (e.g. architects, builders, remodelers, tradesmen, individuals involved with funding sources occupational therapists?) is important. Those present will be able to assemble all home modification recommendations, alternative possibilities, and individual rationales for the modifications. Without all involved parties present, comprehensive service does not occur. For example, without the HMPs, consideration for the physical limitations of the context in which the modification is provided would not necessarily be considered. Additionally, true costs of the modification and the availability of financial resources might not be considered. On the other hand, without the occupational therapist, specific understanding of the client's needs may not be met. Consider the simple case of an individual with visual impairments in need of a grab bar. With only an HMP present, a standard grab bar would be recommended to be installed appropriately according to structural limitations of the home. This would result in a grab bar that bears the weight of the client, but may not be visually salient, compromising safety. On the other hand, recommendations from an occupational therapist alone might include the installation of a contrasting colored grab bar with a rough surface. This would result in a grab bar that can be easily 'seen' but may not bear the weight of the client if not installed properly; again a safety issue. Clearly, initial collaboration is ideal, but to further all parties' understanding, follow-up meetings as a team are also important. In these meetings and through follow-up consultation with clients, professionals can determine and appreciate the effectiveness of the collaboration.

Summary

In summary, I make the following recommendations to improve the interface between occupational therapists and home modification providers.

Occupational therapists.

As occupational therapists, we must:

- 1) Acknowledge differences between the occupational therapist and the home modification provider in terms of education, service delivery focus, language, and the knowledge of costs of home modifications.
- 2) Completely understand all components of the home modification service delivery system: *human, occupation, home modification (AT), and context.*
- 3) Further our own knowledge through education, by participating in online courses, reading other on-line resources, attending conferences and meetings, and seeking relevant resources such as books, brochures, and guides.
- 4) Work to increase the number and variety of experiences in the home modification service delivery system so that a complete picture can be gained. This includes collaboration with HMPs and with a large number of clients with different needs.
- 5) Promote collaboration with all individuals involved in the provision of home modification so that assessment, referral, and follow-up can be completed through team-work.
- 6) Explain and demonstrate the unique services occupational therapists can provide to the consumer, home modification provider, and to the public.

AOTA.

It is suggested that AOTA:

- 1) Continue to build positive relationships and collaborate with other relevant organizations such as AARP and NAHB.
- 2) Sponsor relevant continuing education courses so that occupational therapists are encouraged to attend these courses that specifically address structural issues in the home and costs of home modification.
- 3) Encourage research through the provision of pilot funding that promotes the involvement of occupational therapy in home modifications and the value of these unique services.

Conclusions

As occupational therapists, we must work to understand all aspects of the home modification service delivery system. Through the identification of barriers existing in the interface between ourselves and HMPs, we can move forward to erase these issues. As advocated in the AOTA Centennial Vision, we must become a globally connected and diverse workforce so that we will be better positioned to address society's occupational needs (AOTA, 2007, p. 614). As a team, and through a collaboration process, we can use our inherent skills to provide the most effective and comprehensive home modification service delivery system possible.

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Appendix B

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Retrieved February 6, 2009, from

http://www.aarp.org/family/housing/articles/home_special_needs_checklist.html

A home with universal design features is a home that fits everyone - even those who face special physical challenges. This is a list of some physical challenges that many people face. The questions below each condition will help you find out if your home will help you or a relative live with those challenges. The conditions included are: Limited reach, Poor strength in hands and arms, Balance and coordination problems, Trouble bending, Trouble walking and climbing stairs, Uses a wheelchair and cannot stand for long periods of time, Limited vision, and Hearing impairment.

American Association for Retired Persons. (2000, May). *Fixing to Stay: A national survey of*

housing and home modification issues. Retrieved March 19, 2009, from

http://assets.aarp.org/rgcenter/il/home_mod.pdf

This report presents the results of a national telephone survey of Americans age 45 and over conducted by Greenwald and Associates, Inc., on behalf of AARP. The study examines the opinions and behavior of older Americans regarding their current and future housing situations with an emphasis on home modification that enable people to remain independent and that increase the safety and convenience of their home. Specifically, this report addresses the results of the survey regarding older Americans and current housing, future housing plans, mobility

within the home, home modification, and housing related financial issues. This is a large document with valuable information and statistics.

Angelo, J. (1997). *Assistive technology for rehabilitation therapists*. Philadelphia: F. A. Davis Company.

This entire book acts as a resource for the occupational therapist to determine all details regarding assistive technology. Main categories addressed include: wheelchair seating, access methods, switches, low-technology interface devices, powered and manual wheelchair mobility, written and spoken augmentative communication, environmental control units, and funding.

Angelo, J. (2000). Factors affecting the use of a single switch with assistive technology devices. *Journal of Rehabilitation Research and Development*, 37(5), 591-598.

Identifying consumers' motor ability for consistent and reliable control can be a difficult yet essential part of a single switch assessment. Current literature does not identify the essential components of a single switch evaluation. Therefore, the following focus group study was conducted. Six occupational therapists with experience in assistive technology service delivery participated in a focus group meeting. The purpose of the meeting was to identify essential components of a single switch evaluation in the single switch assistive technology assessment. Eleven items were identified as essential to the single switch assessment. They are: reliability of motor movements, volitional nature of movement, safety, movements that are easily performed, endurance, activities and positions the client assumes throughout the day and evening, efficiency of movement, previous successful movements, ability to perform timed response, ability to activate the access device within a given time frame, and time between switch closures . The

significance of this study is that essential components of a single switch evaluation were identified. Using this detailed information should lead to optimal switch placement and switch use.

This journal article can be used as a resource which includes the utilization of the Human Activity Assistive Technology (HAAT) model as a guide to providing assistive technology. This is unique as the author uses this model as an occupational therapist through her published research.

Buning, M. E. (2008). High-technology adaptations to compensate for physical disability. In M. V. Radomski, & C. A. Trombly Latham (Eds.), *Occupational therapy for physical dysfunction* (6th ed., pp. 511-541). Philadelphia: Lippincott, Williams & Wilkins.

This chapter focuses on technology that may be used for individuals with disability. It outlines the Human Activity Assistance Technology Model and the many areas of application including technology to support: self-maintenance, advancement, and enhancement roles. The chapter also describes methods used to assess a client to determine what technologies would be best in meeting their needs.

Byrd, A. M. (Producer). (2008). *The Pedro project: Neighbors helping neighbors* [Motion picture]. (Available from the Planning Factory International, 34 Germany Drive, Wilmington, DE 19804)

This is a documentary by A. Michael Byrd that captures the story of Wilmington, Delaware resident Pedro Toala who was injured in a horrible act of violence in June 2006 that resulted in a broken spine and left him paralyzed. Like most people in Wilmington, the staff at

Planning Factory International, a local event planning and production company, had been following the Toala family story in the news and had donated money to the fund, but the PFI team couldn't stop feeling that sending a check wasn't enough. They knew an organization with PFI's skills and capabilities could make a much bigger difference. So Cher Przelomski and Susan Simmons from PFI met with the Toalas to see how they could help. Next came plans for a 1,200-sq. ft. addition that would add a master bedroom, bathroom and wheelchair lift to the ground floor, as well as other modifications to make the whole house handicap-accessible. Then, the PFI team used their industry connections to find companies to donate concrete, fixtures, T-shirts for volunteers, paint, furniture and other supplies; they used their event planning skills to coordinate carpenters, painters, plumbers, cleaners and other volunteer efforts. On Nov. 5, the Toala family moved into an apartment provided by Pettinaro Relocation and construction began. PFI gave The Pedro Project a Dec. 15 deadline, so the Toalas could be living in their new home by Christmas. On Dec. 15, a special DART bus delivered the family to their new and improved home. Community members were on-site to welcome the Toalas home, and television cameras captured the tearful, but joyous, reunion. The Pedro Project— an event unlike any PFI had ever undertaken— proved the perfect way to celebrate a quarter-century of work within the community, planning meetings and events locally, nationally and internationally. It spotlighted what great works are possible when meeting/event planners put their heads, skills and resources together

Creative Housing, Inc. (2005). *Housing, renovation, and construction for accessibility*.

Retrieved February 23, 2009 from <http://www.creativehousing.org/>

This website was created by the Capstone site employees. The website focuses on both portions of the company, “Creative Housing, Inc” and “Creative Renovations.” The website provides valuable information regarding the company, how one may get involved, funding issues, as well as photos of accessibility renovations among others.

Center for Inclusive Design and Environmental Access (IDEA), School of Architecture and Planning, University at Buffalo, The State University of New York. (2005, June).

Visitability as an approach to inclusive housing design and community development: A look at its emergence, growth, and challenges. Retrieved February 22, 2009, from the Center for Inclusive Design and Environmental Access Web site:

<http://www.ap.buffalo.edu/idea/visitability/>

As the population ages and faces a greater number of physical disabilities, housing and community design must be re-examined. This research explores the growing need for accessible housing in the United States and the recent emergence of visitability as an affordable and sustainable design strategy aimed at increasing the number of accessible single family homes and neighborhoods. Both a qualitative and quantitative methods approach was utilized to study the evolution of accessible housing policy in the United States, the history and fundamental principles of visitability, and the number and diversity of visitability initiatives and programs. The research explores existing theories on innovation diffusion to help understand trends in the visitability movement. The research also examines the challenges and controversies currently surrounding the visitability movement and potentially threatening its future success.

This document describes research information regarding the history, development, and emerging topic of visitability. The authors describe these subjects in depth and allow the reader to gain a general but informative ‘picture’ about visitability.

Centers for Disease Control and Prevention and the Merck Company Foundation. (2007).

The state of aging and health in America. Whitehouse Station, NJ: The Merck Company Foundation.

This report was released by the Centers for Disease Control and Prevention (CDC) and The Merck Company Foundation at the 2007 Joint Conference of the American Society on Aging and the National Council on Aging in March 2007. This report is reported as a welcomed and useful resource for a variety of audiences committed to improving and preserving the health of older adults, including public health and aging professionals, policymakers, and researchers. This report updates a similar report released in 2004 and is designed to present information and data from a variety of sources in a straightforward, easy-to-read format.

Centers for Medicare and Medicaid Services. (n.d.). CMS programs and information. Retrieved March 20, 2009, from <http://www.cms.hhs.gov/default.asp?>

This website is valuable as it offers information regarding both Medicare and Medicaid services and benefits. When seeking funding issues for home modification this website is informative as it covers what home modifications, durable medical equipment, assistive technology, etc is available through these funding sources.

Duncan, R. (1998). Funding, financing, and other resources for home modifications.

Technology and Disability, 8, 37-50.

There is an increasing recognition of the growth in the need for and benefits of, home modifications. At the same time there is a lack of awareness of resources. There are also threats to many existing funding and financing sources. The public has limited familiarity of the private or public resources for home modification projects that are available to households of all income levels: the most frequently asked question from callers to the Center for Universal Design's national information services relates to paying for home modifications. As with almost all affordable housing initiatives, programs directed at home modifications for people with low incomes have insufficient funds to meet their needs. Waiting lists are common while many people receive no assistance. Federal initiatives that currently provide millions of dollars of support for home modifications for low and moderate income households are in danger of elimination or reduced funding. This will create greater competition for the uses of the remaining funds and new demands on funding from within states. Another factor in under-utilization of home modifications is that manufacturers and the housing industry do not sense great demand in the private sector. Too few households see home modifications as viable remodeling options. Remodelers have not developed skills and experience and manufacturers and retailers do not emphasize product development, design or marketing. This article reviews funding, financing, and other resources for home modifications, outlines the current constraints and future limitations to these resources, and suggests actions to increase the availability of home modifications.

This is a complete summary of funding issues regarding home modification services. It provides general, yet important information that can be used by those involved in both providing

and receiving home modification services. The reader must be aware that the publication is dated and should be used primarily as a guideline in providing home modification services.

Duncan, R. (1998). Blueprint for action: The national home modifications action coalition. *Technology and Disability*, 8, 85-89.

Our society's changing demographics include the aging of our population and a greater number of persons with disabling conditions. As a result, many people experience obstacles in their homes that are inconvenient, limiting and dangerous. They are beginning to realize that their homes can better support their needs through home modifications; that they can remain in their homes and neighborhoods rather than move to more institutional settings. The ability to meet this growing need for home modifications is hampered by lack of information, limited funding and inadequate services. Because these barriers are interlinked, a complex scenario evolves that negatively affects the availability of home modifications. A Blueprint for Action is the print product of the second national conference on home modifications which was convened to address these barriers. 'A Blueprint for Action: The Second National Working Conference on Home Modifications Policy', held in April, 1996 in Washington, DC was attended by over 60 of the nation's leading experts in disability, aging, housing finance, remodeling, design and construction, community development and long-term care. Planned by the National Home Modifications Action Coalition, this conference provided the opportunity to develop home modification agendas at community, state and national levels. The publication reflects the four key action areas of the conference -- Consumer Knowledge, Funding, Service Delivery and Systems Change. A Blueprint for Action was developed from the background papers written on the four themes, discussions and working groups at this second conference. Portions of the

papers are excerpted. This report includes a discussion of barriers and recommendations for national, state and community change. Its use is intended to increase the availability and affordability of home modifications for individuals of all ages. A Blueprint for Action reflects the diverse perspectives and approaches of the many experts who have contributed to the conference and the papers. Most importantly, A Blueprint for Action is an action plan for promoting home modifications through coalition building and sustained and coordinated activities.

Fagan, L. A. (2007, September). Funding sources for home modifications. [Electronic version].

Home and Community Health Special Interest Section Quarterly, 14 (3), 1-3.

While the need for home modifications is vast, many individuals who could benefit from these services are unable to afford them. In the United States, approximately 80% of home modifications, renovations and repairs are paid for by the primary occupants of the residence. Of these, the majority are funded by personal savings. Other options for homeowners include a second mortgage, using the equity in the home to secure the loan or, if the homeowner is over 62 years of age, a reverse mortgage may provide financial resources to pay for the modifications. The remaining 20% of home modifications and home repairs are covered by a variety of programs and services. Some of the options are restricted by age or disability, others are limited to individuals who reside in certain geographic locations, and yet others are reserved for individuals who meet strict income/resource criteria.

This article discusses several funding opportunities for home modifications and is an excellent resource. The authors include funding opportunities such as: Insurance coverage, Federal programs (state and local), State assistive technology (AT) projects, Health promotion/

Fall and injury grants, Foundations and organizations, and Tax deductibles. Occupational therapists must be aware of these funding opportunities so that individuals are able to receive the home modifications needed at the lowest cost.

Fricke, J. (2004). A home-based occupational therapy environmental modification program for caregivers had a modest effect on the performance of IODL in people with dementia, while for some caregiver subgroups, there was improved self-efficacy and reduced upset. *Australian Occupational Therapy Journal*, 51, 166-169.

International Center for Disability Information. (2000). *By state, the total civilian noninstitutionalized population 16-64 years old reporting a disability by disability type (2000)*. Retrieved February 22, 2008, from http://www.icdi.wvu.edu/disability/State_Tables/State15.htm

This website offers information by state regarding populations between 16 and 64 years who have reported a disability. The chart includes disability type as those that are sensory, physical, mental, self-care, go-outside-home, and employment disability. It is a useful resource when demographic data is needed.

Johansson, C. (2000). Top 10 emerging practice areas to watch in the new millennium [electronic version]. *OT Practice*, 7 (1).

In 1998, AOTA President Karen Jacobs said, "We have only just begun to identify and reach some of the most dynamic markets for our services." She was right. Since then, interest in emerging practice areas has soared, as opportunities in long-term care and other traditional

settings have declined. Some practitioners already work in so-called "emerging areas," while others are still considering new markets, either on a full- or part-time basis. Here's a brief look at how current events, legislative changes and professional advocacy are reshaping the face of OT practice today, based on information gathered by the AOTA's Communication Department.

In the ten emerging practice areas, Johansson includes the area of “design and accessibility consulting and home modification.” She outlines the current contribution that occupational therapy practitioners are making in this area and the needed development and involvement for the future.

Joint Center for Housing Studies (2008). *The State of the Nation's Housing 2008*. Boston, MA:

Joint Center for Housing Studies of Harvard University.

This is a large and comprehensive housing report from 2008. It is valuable as it provides data regarding home ownership and older Americans. It is helpful when seeking demographic data.

Klein, E. R. & Hahn, S. E. (1999). *Focus on transition: A workbook for independent living skills*. Tucson, AZ: Communication Skill Builders.

This resource may be used as a guide to determine what skills are necessary to live independently. The contents of this resource may be paired with home modification techniques and occupational therapy interventions in the home.

La Plante, M.P., Hendershot, G.E., & Moss, A.J. (1992). Assistive technology devices and home accessibility features: Prevalence, payment, need and trends, in National Center for Health Statistics. *Advance Data*, 217, 1-12.

This is a report of findings of a 1990 National Health Interview Survey on Assistive Devices which indicated that about 5.3 percent of the American population is using assistive technology to accommodate physical impairments. Background information defines "assistive technology," describe uses, and reviews recent federal legislative and policy initiatives in this area. The interview protocol is described in some detail. Findings are reported for: (1) prevalence of assistive technology devices and home accessibility features (e.g., about 13 million Americans use assistive devices and 7.1 million live in homes adapted for persons with impairments; (2) age patterns (52 percent of users are over 65 years of age); (3) prevalence rates in the general population (1 percent of persons under 25 and nearly 35 percent of persons over 75 years of age); (4) source of payment (48 percent said self or family paid for the devices); (5) unmet needs (2.5 million persons appear to have unmet needs for assistive technology devices; (6) poverty (people with low family incomes are more likely to use such devices); and trends (use of these devices increased faster than did the population even when data is adjusted for an aging population).

Lawlor, D & Thomas, M. A. (2008). *Residential design for aging in place*. New York: John Wiley & Sons.

This book is an up-to-date resource especially helpful to interior designers, the textbook incorporates design concepts and principles that can help professionals complete projects that allow homeowners to remain in their homes and plan for the future. This book is very detailed

and offers many great ideas for specific home modifications that range from low cost renovation to a very high cost building of a new structure.

Mace, R. L. (1997). *A blueprint for action: A resource for promoting home modifications*.

Raleigh, NC: North Carolina State University, The Center for Universal Design.

This document includes major recommendations regarding home modification promotion in five of the following areas: Leadership and Coalition Building, Research, Education, Funding, and Service Delivery. The document provides suggestion for how the outlined initiatives may be established at the national, state, and community levels.

Mathieson, K. M., Kronenfeld, J. J., & Keith, V. M. (2002). Maintaining functional

independence in elderly adults: The roles of health status and financial resources in predicting home modifications and use of mobility equipment. *The Gerontologist*, 42(1), 24-31.

This study investigated whether health status (i.e., need characteristics) and financial resources (i.e., enabling characteristics) were important predictors of two types of functional adaptations among elderly adults: home modifications such as putting nonslip tape on rugs or installing more telephones and use of equipment for mobility or activities of daily living (ADLs) such as canes or walkers. Participants were identified from the National Survey of Self-Care and Aging ($n=3,485$), a nationally representative sample of non-institutionalized U.S. adults aged 65 and older. Need and enabling characteristics were used to predict home modifications and equipment use in multinomial logistic analysis, controlling for predisposing characteristics. Although several health-status (need) variables had significant, direct effects on functional

adaptations, the effects of ADL limitations were diminished at higher levels of impairment.

Among the financial (enabling) variables, subjective income measures and supplemental insurance had significant, direct effects on functional adaptations. Promotion of functional adaptations among elderly people may benefit from both a proactive approach that targets elders with few limitations and a consideration of financial factors in addition to health status.

This journal article is valuable in that it demonstrates the value of proactively supplying older adults with home modifications and adaptations. It also describes the interplay of financial resources available to older adults and the provision of home modifications.

Messecar, D. C., Archbold, P. G., Stewart, B. J. & Kirschling, J. (2002). Home environmental modifications used by caregivers of elders. *Research in Nursing & Health*, 25, 357-370.

Although several definitions and categorizations of home environmental modification strategies exist, previous researchers have not addressed whether the conceptualizations developed by clinicians and researchers match the way families think about how they modify the home environment in order to provide care to frail elders. The aim of the analysis reported here was to describe, from the family's perspective, the home environmental modification strategies that they use. Twenty-four caregivers of community-dwelling elders with a variety of impairments were interviewed. Seventeen families provided guided tours of the elder's home and allowed selected observation of some caregiving activities. Forty-four modification strategies were identified and categorized into one of seven home environmental modification purposes: organizing the home, supplementing the elder's function, structuring the elder's day, protecting the elder, working around limitations or deficits in the home environment, enriching the home environment, and transitioning to a new home setting. More research is needed on the

processes families use to generate and refine the home environmental modification strategies identified in this study.

Moeller, P. (2009, February 27). More seniors opting for nontraditional retirement communities.

U.S. News and World Report. Retrieved February 22, 2009 from

<http://www.usnews.com/blogs/the-best-life/2009/02/27/more-seniors-opting-for-nontraditional-retirement-communities.html>

This article describes the desires of older Americans to age in place throughout their retirement and the benefits of naturally occurring retirement communities. The author describes the benefits of these communities including the provision of services to older Americans who may not have the income for these types of services otherwise. Among the support of such communities, the author additionally recognizes that the desire to age in place is and will continue to increase.

Pynoos, J., Tabbarah, M. Angelelli, J., & Demiere, M. (1998). Improving the delivery of home modifications. *Technology and Disability*, 8, 3-14.

This journal article discusses the incidence and need for home modifications for both older adults and individuals with disabilities, what is known about service delivery, barriers to developing an effective system, promising recent developments, and recommendations for the future.

Rossetti, R. (2007). Universal Design Living Laboratory. *Executive summary*. Retrieved January 28, 2009, from <http://www.udll.com>.

This website describes Dr. Rosemarie's journey and the resulting development of the "Universal Design Living Laboratory." Here she provides links to her published articles regarding home accessibility. This website is unique as she is located locally (Columbus, OH) and she provides a very personal and upfront depiction of her experiences regarding this subject. Additionally, she has been open to communications including that through email, phone, and a face-to-face interview in her home in Gahanna, OH.

Sanford, J. A., & Butterfield, T. (2005). Using remote assessment to provide home modification services to underserved elders. *The Gerontologist, 45*, 389-398.

Although remote home assessment would enable specialists to prescribe home modifications for anyone, anywhere, the strategy is dependent on the ability to provide specialists with the same information as an in-home assessment. The purpose of this paper is to document that remote assessment is feasible and concurs largely with traditional in-home assessment based on expert judgment. The authors compared two new remote assessments, a "zero-tech" paper-and-pencil protocol and a "high-tech" televideo protocol, to traditional in-home assessments to determine the equivalence of the remote and in-home assessments. They determined equivalence by comparing each of the remote assessments to a traditional in-home assessment in the same home. In-home assessments were conducted by home-modification specialists in all homes. Data collection for the remote protocols was conducted by individuals inexperienced in home modification. Assessment data from the remote protocols were analyzed by specialists to diagnose problems and prescribe solutions. The overall rates of correct problem identification

(i.e., Sensitivity + Specificity) were significant ($p = .000$) for both the remote paper-and-pencil (96.4%) and remote televideo (87.1%) protocols. Similarly, rates of agreement in recommendations of solutions were significant ($p = .000$) for both remote assessments (78.8% and 77.4%, respectively). The need for home-modification services, particularly in rural areas, far exceeds the capacity of specialists to provide them. The findings suggest that remote assessments can potentially be used to identify mobility and safety problems in the home as well as to recommend solutions to those problems. As a result, remote home assessment has the potential to provide underserved elders with access to home-modification services that have heretofore eluded them.

Seekins, T., Traci, M. A., Cummings, S., Oreskovich, J., & Ravesloot, C. (2008). Assessing Environmental Factors That Affect Disability. *Rehabilitation Psychology, 53*(1), 80-84.

The homes in which people live are one element of the shared built environment. The concept of visitability describes features of private homes that provide a minimal level of accessibility, allowing a person with mobility impairments to visit the homes of family and friends. This study's aim was to establish a baseline rate of basic home visitability in Montana. *Method:* A visitability question was included as part of the 2004 Montana Behavioral Risk Factor Surveillance System (BRFSS) Questionnaire, a random-digit-dialed telephone survey of 5,005 Montana adults. *Results:* Nearly 1 in 5 respondents (19.3%) said “a person who uses special equipment such as a wheelchair... could get into [their] house without being carried up steps or over other obstacles.” Respondents with a disability who reported living in a visitable house were less likely than those who did not live in a visitable house to report any days of poor mental health in the past month. *Conclusion:* The BRFSS affords the opportunity to measure

elements of the community environment important to the health and life quality of people with disabilities. Here, BRFSS data provided a baseline rate for visitable homes in the state.

Strategies to increase this number are discussed.

This journal article provides a valuable resource concerning visitability. It includes discussions of the history of visitability, the organizations involved, and the components of a home that makes it more visitable. Although this article is specific to the state of Montana, it can be used as a valuable resource for information regarding this topic.

Smith, E. (2003). Concrete change – Every new home visitable. *Early History of the Visitability Movement*. Retrieved February 22, 2009, from http://www.concretechange.org/visitability_history.aspx

This article describes Eleanor Smith's personal account of her early history with visitability in the United States. In 1986 she named her initiative "Concrete Change." This initiative was termed "Visitability" in 1990. This website as a whole describes The visitability movement and provides readers with an accurate and personal recollection of the history and journey of the development of the initiative.

Wadler, J. (2009, February 18). A Colorado home is ready for its owners' own age. *The New York Times*. Retrieved February 22, 2009, from <http://www.nytimes.com/2009/02/19/garden/19colorado.html?8dpc>

This article gives a unique prospective describing, Cynthia Leibrock, a designer, consultant, and Harvard instructor who has ensured that she will reside in her home for many years. The article describes the many ways in which she has included high end modifications to

her home in the state of Colorado. A point was made in this article to highlight that aesthetics are very important in the 'aging in place' design. This is an up-to-date article which describes present building around the given topic. This article describes a perfect example of present day home modification.

Wasch, W. K. (1996). *Home planning for your later years*. St. Louis, MO: Beverly
Cracom Publications.

This book describes home planning for older adults. Chapters include topics such as evaluating options, evaluating resources, modifying the present home, building a new home, choosing a retirement home. The book is clear and concise and offers many practical suggestions for those in need of home modification.

Appendix C

To: Creative Housing
 Date: February 24, 2009
 Re: Long Term Care Insurance

Long-term care insurance: Inclusion of Home Modification
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Long-term care refers to the many services beyond medical care and nursing care used by people who have disabilities or chronic (long-lasting) illnesses. Long-term care insurance helps you pay for these services, which can be very expensive. A policy also ensures that you can make your own choices about what long-term care services you receive and where you receive them.

Policy costs vary greatly based on your age at the time of purchase, the policy, and the coverage you select. The average annual premium cost for a policy purchased in 2005, across all ages of buyers and all of the types of policies they bought were just over \$1,900. This represents a comprehensive policy (covering both facility and at-home care) that provides an average of 5.5 years worth of benefits, with a daily benefit amount of \$143. Most policies purchased in 2005 also included some form of automatic Inflation Protection. When you buy at a younger age, premiums are lower. The chart below shows the average annual premium amounts paid for long-term care insurance in 2005 overall, and for specific age groups.

Age	Average Annual Premium amounts paid in 2005 – averaged for all ages and for specific age groups
All ages	\$1,973
55 to 64	\$1,877
65 to 69	\$2,003
70 to 74	\$2,341
75 and older	\$2,604

Most insurance companies offer long-term care insurance that includes home modification benefits. According to State Farm Long-term Care Insurance

Policy Home Modification Benefit:

“Your policy will pay up to 50 times your Maximum Daily Benefit for qualified services to help you avoid moving to a facility. Covered services include widening doorways; building ramps; restructuring bathroom facilities to accommodate wheelchairs; or purchasing, renting, or leasing durable medical equipment for use in your home.”

You qualify for covered benefits with most plans when you need help with activities of daily living or when you need help because you have a severe cognitive impairment.

References

<http://www.ltcfeds.com/>

http://www.statefarm.com/_pdf/ltc/SMH-60012.pdf

http://www.longtermcarelink.net/eldercare/long_term_care_insurance.htm

http://www.longtermcare.gov/LTC/Main_Site/Paying_LTC/Private_Programs/LTC_Insurance/index.aspx

http://www.aarp.org/money/financial_planning/sessionfive/longterm_care_insurance.html

FUN FACTS!

- National demographic data suggests that both the older adult as well as persons with disabilities populations are increasing.
- According to a document titled, “State of Aging and Health in America 2007,” two factors will combine to double the population of Americans 65 and older during the next 25 years:
 - Longer life spans
 - Aging baby boomers
- According to The United States Census Bureau’s (USCB) 2006 American Community Survey of the population 65 years and over, the U. S. population was as 299,398,485 in 2006. 37,191,004 were over the age of 65, an 8.7% increase from 2004, as the population of older adults totaled 34,205,301.
- It is estimated that by 2030, there will be 71 million American older adults accounting for roughly 20% of the U.S. population.

Additional Resources:

- **American Association of Retired Persons (AARP)**
www.aarp.org
- Center for Universal Design**
www.design.ncsu.edu/cud
- Centers for Independent Living/ILRU**
www.ilru.org
- **Creative Housing, Inc**
www.creativehousing.org
- **Directory of Centers for Independent Living**
www.virtualcil.net/cils
- **National Center on Accessibility**
<http://ncaonline.org>
- **National Resource Center on Supportive Housing and Home Modification**
www.homemods.org
- **Senior Resource**
www.seniorresource.com
- **U.S. Department of Housing and Urban Development**
www.hud.gov/disabled.html

Home **Modifications,** **Accessibility &** **“Aging in Place”**



Presented by: Christina Asbrock

Occupational Therapy Doctorate Student

The University of Toledo – Health Science Campus

Home Modifications

Home modifications are changes to living environments intended to increase ease of use, safety, security, and independence. Modifications, in home or otherwise, may include structural changes (widening doorways), behavioral changes (change in footwear), material changes (flame resistant curtains), the use of special equipment or assistive devices (grab bars).

Accessibility

Home modifications may allow for greater accessibility!

Aging in Place

In the past, if someone had difficulty living by themselves, it was a signal that now was time to move in with family or go to a nursing home. But, for most people, that no longer is the case. Today, you can live on your own for many years, even as you grow older and start needing help with everyday tasks. This is called “aging in place.”



Home Modification Examples...Just to Mention a few...

- Entrance Ramp & No-step Entry
- Lever Door Handles
- Raised Toilet Seat
- Built-in Shower Seat/Grab Bars
- Roll-in Shower
- Hand Held Shower
- Anti-Scald Devices
- Hardwood Floors
- Lighting Changes
- Automatic Doors
- Drive Under Stove Top
- No Touch Sink Faucet
- Elevator
- Handrails
- Pocket Doors
- First Floor Bedroom & Bath

