Nicaragua Project

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Recommended Citation
Ableman, Kelly; Perez, Kelly; Piper, Emily; and Tamulinas, Alys, "Nicaragua Project" (2010). Innovative Practice Projects. 5.
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Nicaragua Project

Description
The College of Health Professions of Pacific University in collaboration with the Jessie F. Richardson Foundation, a non-profit organization, completed its third annual visit to Nicaragua in December 2009. An inter-disciplinary team of students and faculty from dental health, occupational therapy, pharmacy, physical therapy, and physician assistants spent ten days in country increasing community awareness of the health needs of Nicaraguan elders and fostered access to health education and services for those in poverty throughout the community. The team worked with one of the four physicians in Nicaragua who specializes in the area of gerontology providing direct services to residents of two different hogars: La Providencia Hogar de Ancianos located in Granada and Hogar San Pedro Claver located in Masaya. The time spent out of country is used to prepare for the trip through fundraising activities, gathering donations, marketing, educating our local communities about the limited healthcare available for elders abroad, and developing evidence-based activities for future generations participating in this project. The goal of this project is to assist each hogar in becoming self-sufficient in providing adequate healthcare to every one of its residents.

Disciplines
Occupational Therapy | Rehabilitation and Therapy

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NICARAGUA PROJECT
2009 – 2010

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Alys Tamulinas

Advisor:
Tiffany Boggis

Pacific University of Oregon
Innovative Practice Project
Nicaragua Project 2009-10
Project Description

The College of Health Professions of Pacific University in collaboration with the Jessie F. Richardson Foundation, a non-profit organization, completed its third annual visit to Nicaragua in December 2009. An inter-disciplinary team of students and faculty from dental health, occupational therapy, pharmacy, physical therapy, and physician assistants spent ten days in country increasing community awareness of the health needs of Nicaraguan elders and fostered access to health education and services for those in poverty throughout the community. The team worked with one of the four physicians in Nicaragua who specializes in the area of gerontology providing direct services to residents of two different hogars: La Providencia Hogar de Ancianos located in Granada and Hogar San Pedro Claver located in Masaya. The time spent out of country is used to prepare for the trip through fundraising activities, gathering donations, marketing, educating our local communities about the limited healthcare available for elders abroad, and developing evidence-based activities for future generations participating in this project. The goal of this project is to assist each hogar in becoming self-sufficient in providing adequate healthcare to every one of its residents.
Nicaragua Project 2009-10

Student Contributions

Fundraising
- Donations of equipment and supplies
- Financial donations to JFR Foundation and Pacific University (PU): Nicaragua Fund
- Community activities
  - Garage Sale
  - Alumni Day on Forest Grove’s campus
  - Day of the Dead Salsa Night
  - Card Sales

Marketing
- Presentation to PU Occupational Therapy (OT) Advisory Board
- Presentation to first year OT students recruiting for participants for future trips
- Posting of informative program flyers around local businesses
- Media Coverage: Catholic Channel 48 (Nicaragua) & KOIN Channel 6 (PDX)
- Publications: PU OT Alumni monthly newsletter & web page

Education
- Presentation to Third Age Community Elder Group on Aging in Place (1 hour)
- Provided a three day seminar to local healthcare students regarding working with the elderly population: (10 hours total)
- Masaya caregiver education (2 hours)

Interacting with Residents
- Continuation of gathering resident personal profiles
- Led exercise groups with physical therapy students
- OT evaluations through leisure activities
- Engaged residents in leisure activities: therapeutic craft activities, fine motor activities, social activities, and sensory stimulation
- Conducted a needs assessment at a local hogar in Masaya
- Coordinated and led a Christmas fiesta for residents at both hogars

Building of Social Capital within Nicaragua
- Monsignor Hombach – reconfirmed support of our efforts and project
- Third Age Community Elder Group – potential volunteer at hogar to provide residents with leisure activities
- Rotary Club – potential volunteers at hogar
- Community Reception – provided community awareness and gained their support

Products for Future Generations
- OT intake form for inter-professional binder of resident’s records
- OT chapter in training manual
- OT log book for documenting observations and resident’s functional participation
- Volunteer sign-in book for activity participation
- Instructions and outline for conducting a focus group with hogar caregivers
- Presentation about program and experience to OT community (Hillsboro, OR)
### Nicaragua Project 2009-10

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- Masaya Needs Assessment

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- Outcome Measurement Quality of Life Questionnaire
- Volunteer Sign-In
- Occupation Therapy Activities Log Book
- Focus Group
- Training Manual

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  - Nicaraguan Religion
  - Nicaragua Demographics
  - Health Status of Elders in Nicaragua
  - Nicaraguan Culture
  - Nicaraguan Music
- Final Presentation
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Nicaragua Project 2009-10
Fundraising

Materials and finances donated/gathered were used to support student travel, provide equipment and supplies for the residents’ use, purchase supplies within country, further develop and support the project’s overall sustainability.

Donated Equipment and Supplies
Each member of the team carried an addition piece of luggage full of donated items over to Nicaragua. Donated items totaled $2654.19 and included:

- Self-care products
- Durable medical equipment (canes, walkers)
- Dental care products
- Physician Assistant care products

Monetary Donations
Through donations received from families, acquaintances, and corporations, the 2009-10 Nicaragua team was able to raise $1325 that was put towards the above mentioned purposes.

Grants
Faith Gabelnick Award $1000 put towards needed supplies
Community Events
The four occupational therapy students coordinated, participated, and assisted in various community events located in and around the Portland area.

- Garage Sale – students donated used items to be sold in a garage sale with all profits being donated to the Nicaragua fund. Amount raised: $250.00
- Alumni Day on Forest Grove – sold various Nicaraguan items. This event in conjunction with other disciplines selling Nicaraguan products raised $300.00
- Day of the Dead Salsa Night – students joined forces with a local Portland dance group and local Portland restaurant to celebrate Day of the Dead, offer free salsa lessons, sell Nicaraguan products, and run a 50/50 raffle. All proceeds were donated to the Nicaragua fund. Amount raised: $181.00
- Card Sales – students from all disciplines participated in selling cards designed by a Nicaraguan artist. Amount raised: $216.00

Table at Day of the Dead Salsa Night filled with Nicaraguan items for sale.
Nicaragua Donations

<table>
<thead>
<tr>
<th>Self-Care Supplies</th>
<th>Therapy Equipment</th>
<th>Therapeutic Activity Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combs, brushes, dandruff shampoo</td>
<td>Thera-putty</td>
<td>Jewelry making supplies</td>
</tr>
<tr>
<td>Toothpaste, mouthwash, dental floss</td>
<td>Foam for built up handles</td>
<td>Sensory stimulation materials &amp; sensory activity supplies</td>
</tr>
<tr>
<td>Hand/body lotion &amp; lip balm</td>
<td>Magnifiers &amp; low vision aids</td>
<td>Sewing supplies</td>
</tr>
<tr>
<td>Nail clippers, nail files</td>
<td>Modified dishes &amp; utensils</td>
<td>Wood working equipment</td>
</tr>
<tr>
<td>Nail polish &amp; remover</td>
<td>Wheelchair cushions</td>
<td>Painting supplies</td>
</tr>
<tr>
<td>Baby wipes</td>
<td>Contrast tape</td>
<td>Clay/putty sculpting materials</td>
</tr>
<tr>
<td>Cotton balls/cotton swabs</td>
<td>Wheeled walkers &amp; canes</td>
<td>Musical instruments</td>
</tr>
<tr>
<td>Hair cutting scissors/razors</td>
<td>Dynamometer &amp; pinch meter</td>
<td>Bird feeder materials</td>
</tr>
<tr>
<td>Band aids</td>
<td>Long-handed reachers</td>
<td>Puzzles</td>
</tr>
<tr>
<td>Head bands, hair ties</td>
<td>Towels</td>
<td>Craft kits</td>
</tr>
<tr>
<td>Antibacterial ointments</td>
<td>Theraband</td>
<td>Glue, scissors, tape</td>
</tr>
<tr>
<td>Liquid hand-sanitizer</td>
<td>Therapy balls</td>
<td>Cards</td>
</tr>
<tr>
<td>Tums/Antacids</td>
<td>Light weight hand weights</td>
<td>Felt material</td>
</tr>
<tr>
<td>Tylenol/Aspirin</td>
<td>Dycem</td>
<td>Stickers</td>
</tr>
</tbody>
</table>

List of Needed Supplies

All donations can be dropped off in the designated box in Rm 244
Thank you for your support!

To learn more about Nicaragua or find more ways to contribute go to:
http://pacificu.edu/international/nicaragua
**Nicaragua Project 2009-10**

**Marketing**

In order to grow as an innovative practice project and maintain our current stakeholders, marketing was a key factor. After completing our trip, presentations were prepared and given to the Pacific University Occupational Therapy Advisory Board and current occupational therapy students to help market and recruit for future trips. Power point presentations were provided for both groups.
Project Description

- Pacific University partnered with Jessie F. Richardson foundation (JFR) to provide health care services for elders living in hogars in Nicaragua
  
  hogars are care centers that house elders whose families are no longer able to care for them due to various circumstances

- Pacific students and faculty worked for 10 days with Dr. Lopez to provide services to the elders and caregiver education to the staff at the 2 hogars
Project History

- This is the third year Pacific University has been involved with the project.
- The first year an initial assessment/analysis was done and recommendations were made for future generations of the project.
- The second year dental hygiene provided direct oral care services; OT/PT educated the community, interviewed elders, and led groups; and Pharmacy conducted a needs assessment.
- Before Pacific University and JFR’s involvement there were very few programs established in Nicaragua to address the health ramifications faced by an aging population.

Elder Care in Nicaragua

- In the past, a majority of the healthcare in Nicaragua was focused on children and adolescents.
- Focus is now shifting and more attention is being given to the aging elder population.
- Because Nicaragua is the second poorest nation in the western hemisphere many families leave their elderly loved ones in order to find work in other countries.
- There are limited safety nets and pension programs for the elderly in Nicaragua.
Interdisciplinary Team

- 20 total participants
  - 6 OT Representatives
  - 2 PT Representatives
  - 7 Dental Hygiene
  - 1 Pharmacy Faculty
  - 2 Physician Assistant
  - Dr. Milton Lopez, Nicaraguan Gerontologist
  - Alma, translator

Occupational Therapy

- Addressed the leisure and social needs of the elders through various activities
- Provided education to Nicaraguan Physical Therapy students at the hogar
- Co-led elders and Nica PT students through an exercise group
- Engaged elders in sharing personal stories
- Networked with community members to promote awareness and sustainability of the project
Physical Therapy

- Provided physical exercise education to Nicaragua PT students and co-led group
- Attended meeting with Mosignor Hombach to re-confirm support for our efforts
- Performed needs assessment at Masaya hogar
- Assisted with OT activity group

Dental Hygiene

- Organized a two-day clinic at the both the Granada and Masaya hogars for residents and caregivers
- Clinics included cleaning and extractions as needed
- Provided education to residents and caregivers regarding dental health
Pharmacy

- Assessed the pharmaceutical needs of the Masaya hogar
- At Masaya, reviewed select charts, assessed medication storage and distribution process, and recorded medication profiles of all residents
- At Granada, conducted medication review and educated caregivers and nurses on proper medication use in the elderly, reviewed current medication supply, and assessed storage conditions and expiration dating.

Physician Assistant

- Reviewed charts and conducted physical exams on select residents in both Granada and Masaya hogars.
- Completed random screening checks as needed per other programs request.
- The physical exams included eye, ears, respiratory, cardiac, a minimal abdominal exam.
- Provided infection control education to Masaya caregivers
FIESTA!

- 32 residents attended a Christmas fiesta in Masaya
- 45 residents attended the fiesta in Granada
- All disciplines participated the celebrations to promote leisure and social participation among the elders

Building Community Ties

- Met with Mosignor Homboch to gain his support for the project
- Tour of local hospital
- Presented Aging in Place information to 3rd Age Group
- Hosted community outreach gathering
- National recognition via television interview
Making Lasting Connections

Beyond The Project

- Formal tour of Managua
- Day trips exploring Granada
- Exploration of Masaya Volcano
- Lago de Apoyo – hiking, kayaking, sunbathing, swimming
- Bat caves & spelunking
Travel Nicaragua!

Trip Cost

Approximately $1,500 includes:
- Course credit
- Orientation sessions
- Faculty supervision
- In-country gerontologist consultant
- Hotel
- Meals (3 per day)
- In-country transportation (private shuttle/driver)
- Limited interpreter services
- On-site Spanish lessons/access to Rosetta Stone
- Supplies for projects & fiesta
- Refreshments to host community events
- 1-2 days of fun excursions to explore Nicaragua
- Assistance with fund-raising
Additional Costs

- Airfare
- Passport/visa
- Immunizations
- Spending money
- Specialty items to prepare for trip (camera, medications etc.)

Helpful Tips

- Each day may be very unpredictable so it is important to have a flexible/adaptable attitude from the beginning

- Prepare yourself as much as you can ahead of time regarding the culture and the population you will be working with

- A lot of the preparation such as fundraising, donation gathering, and activity planning starts months before you leave

- Practice your Spanish speaking skills!
Preguntas?
International Interprofessional Education in Nicaragua: Health Promotion for Elders

Presented by:
Alys Tamulinas
Kelly Perez

Pacific University
Class of 2010

Nicaragua Project

Partnership with the Jessie F. Richardson Foundation (JFR)

- 2007: 9 team members OT, PT & DHS
- 2008: 14 team members- Pharmacy joins
- 2009: 20 team members- Physician Assistant joins
- 2010: Optometry joins
Nicaragua Project Overview

- December 13-23, 2009
- OT, PT, DHS, PA, Pharmacy
- 15 students/5 faculty
- Hogar de La Provedencia, Granada
- Hogar de San Pedro Claver, Masaya

Hogar Residents

Reasons elders live in the hogar:

- No family
- Abandoned
  - Natural disasters
  - Work migration
- Poverty
- Level of care needed

(Lopez 2008)
### Provider Facts Comparison

<table>
<thead>
<tr>
<th>profession</th>
<th>Nicaragua</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>3.7*</td>
<td>27*</td>
</tr>
<tr>
<td>Nurses</td>
<td>3.9*</td>
<td>84*</td>
</tr>
<tr>
<td>Hospital beds</td>
<td>9.0*</td>
<td>36*</td>
</tr>
<tr>
<td>Occupational Therapists</td>
<td>-</td>
<td>3.3*</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>3 per million</td>
<td>580 per million</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>1 per 60,000</td>
<td>49 per 60,000</td>
</tr>
<tr>
<td>Dentists</td>
<td>1 per 77,000</td>
<td>66 per 77,000</td>
</tr>
<tr>
<td>Gerontologists</td>
<td>1 per million</td>
<td>23 per million</td>
</tr>
</tbody>
</table>

* Professionals per 10,000 residents

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### Hogar de Ancianos la Providencia, Granada

- Home for abandoned elders
- Run by order of local nuns
- 46 residents
- 9 caregivers

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http://www.who.int/en/
Hogar de San Pedro Claver, Masaya

1 administrator
2 nurses
1 physician (once a week)
10 caregivers
32 residents

Community Based Rehabilitation (CBR)

- Promote education and sustainable services
- Enables communities to help themselves
- Internationally recognized rehab model
- Build social capital

(WHO, 2004)
### Stakeholders

- La Tercer Edad
- Monsignor Hombach
- Eulogio Mejia, Granada mayor
- Rotary club members
- Physiotherapy students (Nica)
- Medical students (Nica)
- Hogar caregivers
- JFR foundation
- Pacific University

### 2009 OT Services Provided

- Provided seasonal activity
- Engaged residents in sharing personal history
- Provided education:
  - Aging in Place
  - Transfer & Safe Lifting Techniques (Body Mechanics)
  - Exercise & Craft Activity Groups
Interdisciplinary Rehab Services

Physical Therapy
- Assessment of functional mobility
- Exercise and physical fitness

Dental Health
- Assessment of oral health needs
- Teeth cleanings & extractions

Interdisciplinary Rehab Services

Pharmacy
- Needs assessment
- Pharmaceutical management

Physician Assistant
- Physical Exams
- Needs Assessment
Interprofessional Collaboration

Interprofessional collaboration promoted via:

- Service provision
- Lodging arrangements
- Spanish classes
- Cultural excursions
- Community relationship
- Post-trip presentations
- Fundraising

Fundraising

- Charitable Donations
  - Equipment/Supplies
- Fundraising Events
- Marketing
Significance to PU Students

Testimonials:

“I gained valuable experiences in collaborating with other health professions and was challenged to understand their perspectives as well as articulate my own.” — OT student

“I recognize how other disciplines can help one person. With this knowledge I will be more likely to refer patients to other health disciplines when I see a need.” — Dental student

“Though I have worked with Occupational Therapy throughout my career, I don’t think I really understood what they did, until this trip.” — PT faculty

Program Outcomes

- Elders
  - Improved care by caregivers through education
  - Bi-monthly medical visits with a gerontologist
  - Yearly dental exams
  - Bi-weekly exercise groups led by local PTs
  - Access to an activity room with supplies for leisure time engagement

- Students & Faculty
  - Enhanced cultural, service & program development skills
  - Collaboration in interdisciplinary environment
  - Experience in service-learning and advocacy for social justice
  - Deeper understanding of health needs of elders living in poverty
Significance to OT curriculum

- Interdisciplinary experience
- Educate other disciplines about OT
- Cultural experience
- Application of CBR model
- Expand world view

Future Expansion and Development

- Service expansion to multiple hogares using Granada model
- Increase number of professional programs involved including clinical rotation development
- One-week course in Rehabilitation for health care providers in Nicaragua
- Refine outcome analysis
- Share outcomes through presentations and publications
Future Needs

- Mentor new faculty & community practitioners
- Expand project into health professional curriculums
- Financial support for project collaborators
- Educate in-country health providers and community volunteers
- Expand social capital in-country including governmental support

References


Nicaragua Project 2009-10  
Jenzabar Grant Application

The Jenzabar Foundation strives to recognize and support humanitarian efforts of student leaders serving others across the global community. In order to foster a culture of service and to inspire future generations to create a better world, the foundation issues grants to institutions of higher education and other charitable organizations. Funds are intended to promote the activities of grant recipients within their communities on a global level.

The Jenzabar Foundation’s annual Student Leadership Award honors ten student-led campus groups or activities that have made a difference in the world through community or philanthropic activities. A $5,000 grant is included with the recognition to support the student or group’s future humanitarian endeavors.

In 2009, participants of Pacific University’s Nicaragua Project received Jenzabar’s Community Service & Humanitarianism Award for “best in class” for their on-going work to promote health of Nicaraguan elders. The award included a $1,000 grant to support these efforts. Again in 2010, Pacific University submitted a nomination for Jenzabar’s 2010 Student Leadership International Humanitarian Efforts Award. The awards for this year have yet to be determined.
NOMINATOR

Tiffany Boggis, Associate Professor
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503-352-3750
boggisDL@pacificu.edu

INSTITUTIONAL AFFILIATION | PROJECT NAME

PACIFIC UNIVERSITY | Promotion of Health of Elders in Nicaragua

GRANTS ADMINISTRATOR CONTACT | Should award be funded

Brian J. Hess, Director of Corporate & Foundation Relations
Pacific University
2043 College Way
Forest Grove, OR 97116
503-352-2838
bhess@pacificu.edu

Does this organization have 501c3 status with the IRS? Yes (Attachment 1)
PACIFIC UNIVERSITY | Promotion of Health of Elders in Nicaragua

Pacific University is grateful for the opportunity to submit this nomination to the Jenzabar Foundation for the 2010 Student Leadership International Humanitarian Efforts Award. This nomination recognizes a passionate group of health professional students enrolled in the University’s College of Health Professions for their dedicated work to promote the health of elders in Nicaragua.

2010 NICARAGUA PROJECT STUDENT PARTICIPANTS

- Wilber Ramirez-Rodriquez (Dental Health Science)
- Kristen Thomas (Dental Health Science)
- Amanda Leong (Dental Health Science)
- Kimberly Collins (Dental Health Science)
- Mattie Morris (Dental Health Science)
- Nancy Wong (Dental Health Science)
- Alya Tamulinas (Occupational Therapy)
- Kelly Ableman (Occupational Therapy)
- Kelly Perez (Occupational Therapy)
- Emily Piper (Occupational Therapy)
- Mineca Riggs-Flores (Physical Therapy)
- Tammy Wilson (Physician Assistant Studies)
- Melissa Belogh (Physician Assistant Studies)

INTER-PROFESSIONAL INTERNATIONAL EDUCATION

The College of Health Professions (CHP) at Pacific University follows in the footsteps of a well-established international program in the undergraduate College of Arts and Sciences to establish interdisciplinary international education opportunities for its health professions students. According to University President, Dr. Lesley Hallick, global leadership is an aspect that that all Pacific University graduates must embrace as a prerequisite to develop world leaders prepared to serve in a global community. The College of Health Professions aims to foster “collaborative work amongst the faculty and students to weave together international education and interprofessional instruction and clinical experiences,” while addressing the healthcare concerns of marginalized and underserved populations.

Initiated in 2007, the Promotion of Health of Elders in Nicaragua project is the first interprofessional international educational endeavor for the College of Health Professions. The project lays the foundation and serves as a model for similar endeavors currently under development.

For this project the College partners with the Jessie F. Richardson Foundation, a non-profit organization whose mission is to create sustainable solutions to problems that adversely impact
the quality of life of elders in the U.S. and abroad. Goals of this project align with a model of Community Based Rehabilitation, a sustainable approach endorsed by the World Health Organization that has been replicated and adapted to address issues of poverty and health in over 50 nations worldwide. The goals of the project are to (1) provide health-related service-learning opportunities in Nicaragua that build capacity and long-term interventions within the means of the local economy, whereby Nicaraguans can begin to help themselves, and (2) enhance inter-professional understanding and service delivery among health disciplines for students and faculty.

The project receives widespread support from the University. The University assists with fundraising for the program; the International Programs office assists students with required pre-departure documentation and safety information; The Berglund Center for Internet Studies assists with the project’s web page (www.pacificu.edu/chp/international/nicaragua); and the Student Health Program provides students with travel insurance.

PROJECT OVERVIEW

Each year, an inter-professional team of health students and faculty volunteer to spend their winter vacation working with elders in Nicaragua. The team collaborates with one of only four doctors in Nicaragua who work specifically in the area of gerontology. The team works to increase community awareness of the health needs of Nicaraguan elders and to foster access to health education and services for those in poverty throughout the community.

As the second poorest country in the Western Hemisphere, healthcare resources in Nicaragua are scarce. Resources that are available are predominantly geared toward the healthcare needs of women and children, making it very difficult for society, as well as families, to meet the needs of the elderly population. Nicaraguan elders do not receive any government pension, social security, or health benefits such as Medicare, leaving them with little financial security as they age.

Adult children must frequently leave the country to seek employment to support their nuclear families, leaving elder parents to fend for themselves. Elders living alone in the community worry about how long they will be able to remain independent in their homes. Many elders, who can no longer work and have no family to care for them, live in elder centers (“hogar” in Spanish) that rely on foreign aid and municipal assistance for funding. Elders residing in these centers, as well as elders in the community, experience the long-term effects of aging, poverty, and a lifetime of poor healthcare. Heart disease, diabetes, chronic pain, poor vision, gum disease, and lack of productive and leisure opportunities are common challenges.

The first trip to Nicaragua in December 2007 included nine students and faculty from the College of Health Professions’ programs of occupational therapy, physical therapy, and dental health science. In the second year, the team expanded to fourteen participants with the addition of the College’s pharmacy program. During these first two trips, a needs assessment was completed, and services and education were provided with a focus at the La Providencia Hogar de Ancianos, which houses forty-five
residents, and elders in the surrounding Granada community. A model of exemplary health service has been established and continues to be fostered within this hogar. Residents of La Providencia now receive regular health visits by the local gerontologist, bi-weekly access to physical therapy, annual dental check-ups, and on-going education of caregivers. An activity room for exercise and opportunity for leisure and social interaction is now equipped with necessary therapy equipment and supplies.

Now in its third year, the physician assistant studies program joined the project creating a team of twenty participants. The focus expanded to a second elder home in the town of Masaya, Hogar San Pedro Claver, which currently serves thirty-two residents. These convalescent homes are two of twenty in operation in Nicaragua today. The vision for this program is to gradually expand services to all twenty homes in Nicaragua, using La Providencia as a model.

STUDENT LEADER CONTRIBUTIONS

In December 2009, fourteen student leaders, including four occupational therapy students (OT), five dental health science students (DHS), one physical therapy student (PT), and two physician assistant students (PA), along with faculty member practitioners in each field, including one pharmacy faculty member traveled to Nicaragua for ten days to continue Pacific University’s endeavor to foster sustainable health services for elders.

STUDENT PRE-DEPARTURE PREPARATION

Students begin to prepare months in advance for in-country service including Spanish study, fund-raising, and gathering equipment and supply donations. Each student develops and implements a personal action plan to enhance Spanish language skills. This year, the College implemented a new course titled “Spanish for International Travel”. Student leaders work with the instructor to create customized lessons focused on the type of work they do in their professions once they arrive in Nicaragua. Additionally, many students join local Spanish conversation groups and access Rosetta Stone® language learning software.

Prior to travel, students research the history, politics, culture, and health status of elders in Nicaragua and share their findings with team members through formal presentations. Students gather over two thousand pounds of donated supplies and equipment and self-direct a number of fund-raising events including a recycled can drive, yard sale, and a Day-of-the-Dead celebration. Students use proceeds to provide refreshments for community gatherings to build social capital for the project, and to purchase any needed supplies that were not donated. Finally, students pay their own way to participate and pack all personal belongings into one carry-on bag, using checked luggage to transport donated supplies.
STUDENT CONTRIBUTIONS WHILE IN-COUNTRY

Inter-professional Teamwork
Students work as an inter-professional team to provide care and to learn from each other’s expertise. For example, DHS students learn how to safely assist elders from their wheelchair to the dental chair through collaboration with the PT and OT students. Physician Assistant students team with the pharmacy faculty to review medication profiles of the residents and jointly identify topics for caregiver education. All student leaders work collaboratively to create a fun holiday fiesta for residents residing at both homes in Granada and Masaya, facilitating the participation of those of varying ability levels to toss balloons, blow bubbles, dance, hit the piñata, feed themselves, and open hygiene gifts that students gift-wrap prior to leaving the States.

Direct Service
While in Nicaragua, PA students perform health screenings and physical exams with residents and document follow-up care plans. During the visit, one resident fainted and PA students required no prompting to quickly start an IV solution taking the necessary steps to stabilize the resident. Dental students assessed residents’ need for dental care, followed by three dental clinics offering teeth cleanings, extractions, debridement, and fluoride treatments. The estimated cost of care provided, if delivered in the U.S. health care system, is over $18,000. Occupational and Physical Therapy students collaborate to provide exercise groups for residents, adapting exercises for those in wheelchairs and those of varying ability levels. They also join forces to assist clients in self-care and leisure activities, including nail care, social interaction activities, and the creation of holiday ornaments.

Assessment
At the second hogar, San Pedro Claver, a needs assessment was performed. The student team evaluated the physical environment and their overall system of care including a system for charting procedures, exams, medication, self-care needs, and urgent care needs. Medication storage and distribution process was assessed and medication profiles recorded for all residents. Needs for donated materials were identified. Direct service and caregiver education was provided on-site to meet the most immediate needs of elders and caregivers.

Education
Provision of direct care is a motivating factor for students; however, these student leaders embrace the importance of education for local caregivers as a fundamental way to maximize the impact of their efforts in the long-term. The education provided, based on needs identified by the local caregivers, is described below:

- PA students educate caregivers in infection control strategies to lower risks for both residents and caregivers.
- PT and OT students instruct caregivers in proper body mechanics for lifting heavy items and transferring residents from wheelchair to bed or toilet, as well as strengthening
exercises to prevent and reduce back, neck, and shoulder pain, which are a common complaint of care providers.

- DHS students educate residents and caregivers in proper oral hygiene.
- PA, PT and Pharmacy students educate caregivers in methods to assist with constipation.
- OT students provide an educational session for two “well elder community groups” on “aging in place” to facilitate the ability of these individuals to live safely and independently in their own homes for as long as possible.

Community Capacity Building
Students recognize the importance of building community support and establishing relationships with local individuals and groups to sustain their efforts. Students routinely present their work to the regional manager who oversees the elder homes, and he has endorsed the work they are doing. Students sponsor a reception for the Granada city mayor, members of the local Rotary Club, and a number of local health providers, at which support was secured to assist with various needs of the Granada hogar. In addition, students collaborated with “Fundación Nicaraguense de la Tercera Edad”, a foundation comprised of community elders called “The Third Age”, who have now volunteered to facilitate hogar resident participations in leisure activities throughout the year including origami and jewelry-making.

As another strategy to build social capacity, local health students from la Universidad Nacional Autónoma de Nicaragua volunteer to work with Pacific’s student leaders to learn more about care of elders within their chosen fields; health education in Nicaragua often overlooks elder care in favor of a focus on caring for children. Pacific’s student leaders understand prior to travel that they will be training two to three Nicaraguan student volunteers who will continue to work with these elders throughout the year. The group was surprised when over twenty volunteers arrived, but quickly rallied, adjusting their plans for the day and creating a full-day educational class for these eager volunteers. The class included instruction and practice in adapted intake interviewing techniques for the elderly, exercise routines, special needs in dental care, and adaptation in how to assist those with physical and cognitive deficits to participate in meaningful leisure activities, complete with a lecture session and hands-on “lab” session, where the volunteers worked directly with elders. Afterward Pacific’s student leaders led a question/answer and reflection session. This was an amazing accomplishment to witness as Pacific’s students went about the task at hand while maintaining a professional demeanor throughout, without complaint or signs of frustration, and with very little need for guidance. After a full day of improvising, these fatigued students graciously engaged in their evening Spanish lesson class.
STUDENT LEADER CONTRIBUTIONS POST-TRIP

Since returning from Nicaragua the student participants work on self-identified projects to support the continuation of care for Nicaraguan elders. These include:

- Consolidation and documentation of findings, PowerPoint presentations, and informal gatherings to build enthusiasm and educate the next generation of health student participants.
- Formal presentations for School Advisory Boards and community practitioners to generate support for the project.
- Creation of an inter-professional intake evaluation form to formalize documentation procedures.
- Research to develop a proposal for a mobile dental clinic.
- Development of educational modules for future caregiver instruction.
- Development of tools to evaluate outcomes in relation to changes in health status of elders to demonstrate efficacy of their work.
- Continued efforts to gather donations of needed equipment and supplies.

As a result of this experience, students expanded their team skills while working closely with disciplines other than their own, gained an appreciation for the concerns of those living in poverty, learned first-hand of the needs of elders in an economically marginalized country including strategies to promote health, better understand methods and the need to build social capital, became skilled at adapting interventions in the moment for unexpected circumstances and under less-than-ideal conditions (e.g., heat, lack of modern equipment and supplies, communication in a non-native language), improved their Spanish speaking skills, and gained experience in fund-raising and donation gathering. Many students refer to this as a “life changing experience”. Some students volunteered a written testimonial to supplement this application (Attachment 2).

FUTURE DIRECTIONS

As the goals and vision for eldercare in Nicaragua evolves, this project continues to have a significant impact on this population. Should student nominees receive this award, funds will be used toward future program expansion, to provide opportunity for a greater number of students to participate and learn, while sustaining current efforts and expanding services for elders. Initiatives planned over the next two years, include:

1. Incorporate Optometry students into the team project to address vision needs of elders.
2. Expand project to two visits to Nicaragua each year and service to a third elder home.
3. Offer a one-week course in rehabilitation to local providers, including a training manual for caregivers translated into Spanish, to build community capacity.
4. Implement a mobile dental clinic to allow for greater service area coverage.
5. Create a medication guide in Spanish, specifically addressing medication use issues in the elderly, as this kind of reference is not currently available.

A brief history of the group or project, including sources of funding

Attachment 2 | Student Testimonials

Kelly Ableman | Occupational Therapy
In Nicaragua we led groups and cross-culture lectures introducing new concepts and discussing common themes in rehab and geriatric therapy with twenty volunteer PT students from Managua. We held a meeting with community leaders and the mayor of the town discussing the need for elder care. The best part of the trip was the interactions with the elder residents who I was able to connect with on a different level than I ever have with anyone else; through nonverbal communication, engagement, and participation in tasks and activities. It was amazing to witness and be a part of the power of human connection. Here at home, we continue to work on various projects to create products that will demonstrate what we did while we were over there and ways to improve the process and impact we have in the upcoming years. We intend to share our experiences and the knowledge we gained with our home communities. I find it amazing that we were able to accomplish so much while we were there. I also appreciate my own growth in self-awareness, cultural awareness, and the lessons I learned about my occupational self and working with non-English elderly residents.

Kelly Perez | Occupational Therapy
I am blessed to have had the opportunity to travel to Nicaragua to work with abandoned elders of La Providencia, for my final capstone project. Working with elders has always been a passion, however nothing prepared me for the impact our efforts would have on them. Prior to arriving in Nicaragua, I was able to raise money for the project by fund-raising at local farmers markets and hosting a Salsa night in our community. While in Nicaragua, we saw our prior preparations and fund-raising efforts materialize as hygienic supplies and tools were made available for our work with the elders. My short stay in Nicaragua was not only a great international experience, but one that helped me broaden my cultural awareness. I gained a greater appreciation not only for my future profession, but also
of the power of serving those in need and less fortunate than me. I hope to travel to Nicaragua again in the future to help maintain the sustainability of this program.

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**Emily Piper | Occupational Therapy**

This project serves to improve quality of life for Nicaraguan elders and facilitates leadership skills within student participants. I became a better leader with every fund-raiser, donation collected, activity planned, presentation prepared, interaction with an elder, student or caregiver, and every time I adapted my daily plans to fit an ever-changing agenda. I am confident I will use the skills developed during this experience to benefit future clients, employers, co-workers, and the profession and community. The most valuable lesson learned was that being a leader does not always mean directing operations or taking charge. Sometimes, leadership is so much simpler than that. John Quincy Adams summed it up best when he said, “If your actions inspire others to dream more, learn more, do more and become more, you are a leader.”

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**Wilber Ramirez-Rodriguez | Dental Health Science**

Last year I had the opportunity to participate for the first time in the inter-professional trip to Nicaragua. This year, I decided along with capstone partner Kristen Thomas, to gather donations to benefit and improve the elders’ lifestyle. This year we collected dental equipment and instruments including dental chairs, sterilizer, wheelchairs, walkers, and other items used for primary care and delivered them to Nicaragua. Our primary goal was to increase the elders’ life expectancy by eliminating or reducing oral infection which is the primary cause of other systemic complications due to their health condition. We also created a sustainable project having the proper dental equipment. While there, we provided treatments like dental exams, oral cancer screening, periodontal treatment, extractions, and education in oral hygiene. As a Latino myself, I am grateful to Pacific for promoting these types of programs that not only benefit underserved communities but also enrich students’ knowledge.
Mineca Riggs-Flores | Physical Therapy
As an older student with many life experiences, leadership is familiar to me. In past management roles, I was involved in guiding others, and I was able to utilize this skill on the trip to Nicaragua. I plan to practice physical therapy in underserved geriatric populations, and this program provided an opportunity to bring service and supplies to some of the poorest elders in the world. It was amazing to work alongside peers from other disciplines and realize how our knowledge and skills both differ and overlap. As the sole student representative for physical therapy in our group, I worked with faculty to educate Nicaraguan students from the school of physical therapy in Managua on specifics about providing care to the geriatric population. We encouraged students to dedicate their future practices to elder care.

Alys Tamulinas | Occupational Therapy
Many elders told stories of survival despite national turmoil and personal setbacks. With the medical students from Nicaragua, I observed a growing understanding of the aging experience. With my peers from Pacific, I gained a heightened awareness of clinical reasoning skills and the holistic perspective we all shared. To gain a better understanding of what it means to age in a developing country was a remarkable learning experience. Through formation of personal relationships with residents at La Providencia, we gained a better cultural understanding of each other. I now have a deep appreciation for being from a country with plentiful resources.

Kristin Thomas | Dental Health Science
This is my second year going to Nicaragua and I continue to be impressed by the impact we have had on the lives of these abandoned and orphaned elders. The most important thing I’ve learned is how we can, collaboratively, interact to give each patient holistic care. All programs can interact and affect the same person’s body. And, to ignore one part of the body is detrimental to the rest. We learn to work as a team and how the parts work together to create a whole. Thus, we increase our opportunity to learn, to serve and to change the world around us. In order to create change, you have to be open to change yourself. You have to allow yourself to be changed by the people, places and circumstances around you. In Nicaragua, this means talking to the elders, listening to their stories, exploring the city, talking to the community leaders, researching the history of the country, and learning not only the “what” but the “why” behind the cultural and personal aspects. You have to remember that “different” is not “bad” and that embracing a culture is to say “yes” to new things. You
have to break out of your comfortable, “normal” life and say, “I have no idea how to do it, but I’ll try!”

Tammy Wilson  |  Physician Assistant Studies
The program at Pacific is equipping me to be an interprofessional health care expert. As part of my program I was able to travel to Nicaragua to provide care to an underserved population. In my fifteen years of health care experience I felt I was prepared for the challenge of this mission, however I was not prepared for the changes this mission would make in me. I developed a commitment to work with underserved populations. I carried away two important lessons from this experience. First, I learned to be adaptable. While in Nicaragua our team learned quickly to meet the medical needs of our patients with limited supplies. We worked together to plan, prepare, set up and run clinics and educational training sessions with minimal resources. Second I learned to be patient. It is important to keep things moving forward, but sometimes it takes time. Since returning from the trip, I have been called upon to help plan for, prepare for, and serve in the next trip, and I feel like I am still making a difference. My work in Nicaragua gave me an improved understanding of the needs of a third world country.
Nicaragua Project 2009 – 10
Needs Assessment

This year, the group completed a second needs assessment in Nicaragua at Hogar San Pedro Claver located in Masaya. All five professions (OT, PT, PA, Dental, and Pharmacy) were present and completed their own evaluations. The following is the written report from those needs assessments.
Masaya Hogar San Pedro Claver Needs Assessment Summary
Carretera a Masaya, kilómetro 19 y medio
December 2009

Overview
- The oldest hogar for elders in the country
- Moved to this location 6 years ago. Building use to be an embassy.
- Supervisor: Hermana Lucía (also a nurse)
- Can accommodate up to 40 residents
- Funding: Donations mostly. Given it is the longest established hogar (since 1975?), has close proximity to Managua, and has well educated nuns, this hogar has the best access to resources of any in the country. If the resident has family, the family must pay for services.
- Community volunteers come frequently, esp. during the holidays to bring lunches and donations.

Staff
- 1 administrator
- 2 nurses: Nurse #1 works 7:00-3:00pm; Nurse #2 is the supervising nun/nurse who is always on-site for emergency.
- 1 physician comes every Friday to see residents for general care. He is also a surgeon and does minor surgery at no charge. He lives 3 hours away and can come when needed.
- 10 caregivers including: 2 laundry service staff, 2 kitchen staff, 1 security guard, 4 direct care staff, and the 1 nun/nurse who also does exercise groups and lives on-site (as above).

Residents (general characteristics)
- Criteria for admission: generally no family or experiencing a hazardous situation ex: homeless; must be 65 years old but they made an exception for one resident who is 64; must be HIV/AIDS free; must not be harmful to others. Do not accept individuals with severe dementia. These individuals go to the hospital.
- How referred: generally residents are just dropped off by community officials or members
- Currently 32 residents (12 female/20 male)
- Age range: 64-98
- Average length of stay: it is rare for elders to leave the hogar to live elsewhere; some residents have been there for 15, 20 or 30 years.

Physical Characteristics (See photos below and map of floor plan)
- Located on a busy street so residents are not allowed to go out on their own
- Administrative office with desk, files, medications. Adjacent bed and bath if needed to monitor a residents’ condition; room is kept locked
- Use of energy efficient light bulbs
• Small black and white TV's available in common areas
• Have a "hospital area" designated for end of life care; ramp for entrance, 2 hospital beds that elevate and have guard rails, accessible bathroom with modern toilet and accessible shower, sinks, supplies. The room is not air-conditioned but they anticipate this soon.
• Separate male and female living quarters with approx. 6 beds per room. Residents who are allergic to mosquito bites have mosquito nets over their beds.
• Large multi-use activity/sitting room for all residents with TV and shrines for worship
• Kitchen: has gas stove, micro-wave oven, sinks and lots of counterspace
• Common dining area for men and woman with approx 10 tables with 3-4 chairs for each table.
• Large covered courtyard (size of basketball court) shared with school next door with cement floor that also has a stage area. Tables and chairs available in this space
• Physical Therapy room (approx. 16’ X 24’) is cooled by fans. Furnishings include: 1 bed, 1 electric scooter, 2 shoulder wheels, exercise bike, 2 recumbent bikes, stairs, parallel bars, 2 walking machines, bureau with mirror that has weights in the drawers.
• Adjacent craft room with art supplies (approx. 16’X16’)
• Laundry room with washing machine but must hand pour the water from buckets into the machine; hang clothes on line to dry
• Small garden areas throughout
• Ramp access to all areas of hogar.
• Building structure appeared well maintained. Walls and floors appeared clean and in good condition.
• They raise and butcher some of their own meat (pigs, chickens)

Operations
• A different part of the hogar is cleaned each day by caregivers. Ex: Thursday dining area, Friday multi-purpose room etc.
• Keep well-organized filing and medication system
• Personnel schedule is posted on the wall in multi-purpose room

Dental
• No regular dental care available for residents but they can be referred for extractions.
• Dental Health Science was provided a room (approx. 12’X14’ to set up clinic, accessible bathroom attached
• Rather than individual toothpaste, the hogar uses one central supply. Recent source of toothpaste has been lost thus they can use access to toothpaste.
• Caregivers provide tooth-brushing with residents after every meal.
• All residents had a toothbrush and caregivers said that they used them 2 x day every day
• 16 needs assessments were done. The primary need for Masaya is extractions, education, education of care givers on signs of oral health or disease, and adult prophy, education and extractions for caregivers.

Physical Therapy
• ½ of residents are in wheelchairs, some cannot ambulate at all, some walk with assistance due to fall risk.
• Have plenty of canes and walkers. Those who need wheelchairs have them and there is one spare wheelchair for emergency transport. Hermana Lucía would like 1-2 more wheelchairs for emergency transport.
• Karen Obando: volunteer PT student who would like to provide service weekly for elders (joined us for 3 days of care).
• Hermana Lucía would like more ideas for PT exercises for residents, esp. those who are W/C bound as well as transfer training for caregivers.
• All caregivers report either back, neck or shoulder pain.
• Caregivers report difficulty transferring heavy residents and would like access to 7-8 gait belts.
• Fall risk residents are restrained in chairs if needed
• Residents sit for long periods and constipation is a common issue
• Several residents are capable of performing more advanced exercise routines and would benefit from heavier weights (10 or 12# instead of currently available 3# weights)
• A large portable mirror would be useful

Occupational Therapy

Typical Day for resident:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM</td>
<td>Breakfast</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Exercise Group (~6 residents per day); led by Hermana Lucía &amp; 1 helper; Each resident attends exercise group 1-2 X weekly.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Snack</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Lunch</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>Arts &amp; Crafts Group: led by professor of media arts</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Dinner</td>
</tr>
<tr>
<td>5:00</td>
<td>Bed</td>
</tr>
</tbody>
</table>

Other Activities:
- Sometimes a marimba band comes to provide music for the elders
- Birthdays are celebrated every 2 months
- Celebrations for Mother’s and Father’s Day
- Local students often come and volunteer
ADL’s
- Caregivers report there are 8 dependent residents
- Many residents in W/C’s are fed by caregivers
- At fiesta it was observed that all but 1 resident who participated could self-feed
- Caregivers find it difficult to dress residents who are “limp”.
- Laundry personnel assist caregivers in self care of residents when needed

Durable Medical Equipment
Bedside commodes are available for those who need them; bathrooms have modern toilets with hand-rails and 2 bath bench seats (possible more).

Physician Assistant:
- Palliative Care Plan.
- Resident chart reviews done and patterns identified.
- Nurse’s Station:
  - Very few out of date medications identified.
  - Need for additional IV supplies, including solutions.
  - Need for blood born pathogen training and protection. They were grateful to get alcohol wipes, gloves and other supplies. Plan to expand this next year with training and additional supplies.
- BP’s reported to be taken daily but documentation shows BP ceased in early October and resumed with this trip. There is a need to train other caregivers how to take and record vital signs, including BPs.
- Most residents were on blood pressure medications however BPs where exceptionally low. This needs to be surveyed and evaluated during the next trip.
- Reportedly two residents have diabetes. These residents are the only ones who get glucose checks if symptomatic. They were provided with glucometers. This is an area that is going to require further research regarding the monitoring of diabetes without treatment. At this point it has been identified that treating diabetes causes an increased risk of hypoglycemia.
- Additional research needed in the area of strokes, as a large number of the residents appear to have suffered some sort of stroke or TIA.
- Additional training needs to be given for ear care and the use of Ceruminix and ear irrigation.
- Many of the residents complain of “My arthritis”. Residents are given 400mg Ibuprofen BID for arthritis.
- A major problem with constipation. A number of the residents were identified. Increased water intake and exercise was recommended. These need to be addressed further during the next trip.
- There is a large portion of the population with GI complaints, most seem to be related to GERD. This needs to be addressed during the next trip.
• Most residents were wearing clean cotton socks and adequate footwear. During the next trip foot care training would be beneficial, including instrument and sock donation.
• Some of the older residents have skin ulcers and the residents could benefit by being provided perfume and dye free lotions and/or crèmes. This would also give the additional benefit of increasing circulation and encouraging fine motor usage.
• Hermana Lucía reported that education of caregivers on importance of hand hygiene for safety of residents and caregivers would be beneficial.
• Caregivers change diapers without using gloves. Gloves are expensive and not readily available. Caregivers also need to be introduced to and provided with chucks and/or blue pads.
• Need to develop a system for US to Nicaragua donation transportation. This is important to occur as regularly as possible, not just once or twice a year. This is just one of the areas identified as critical to assure this mission is sustainable year round.

Pharmacy
• Skin ulcers are treated with crèmes mostly to reduce pain
• Have access to IV solutions
• Constipation is an issue – recommended increased water intake and mobility. There is a need for stool softener agents. Caregivers requested advice on bowel regimens for residents.
• Hermana Lucía reported that an American foundation donates medications every 2 months.
• The hogar purchases needed medications that are not donated.
• Money for purchasing medications comes from fundraising activities like BINGO, clothing sales, youth group donations, and other organizations.
• Each resident has a medication record in their chart.
• Each resident receiving medications has a medication cubby that contains their current medications and a medication card with drug name, dosage and frequency.
• Medication bottles are labeled with drug name, dose, and time of administration marked on the bottle (i.e. breakfast, lunch, dinner, bedtime).
• RN does weekly assessment and monitors for changes – documents in medical record.
• Currently, one resident has insulin-dependent diabetes. RN checks blood sugar once daily due to the high cost of testing strips.
• A resident on isosorbide 10 mg and verapamil 80 mg had a syncopal episode during our visit. Education should be given on use and proper dosages of antihypertensive agents in the elderly. Combination antihypertensives were commonly used.
• Most medications were in date (not expired). Did not do thorough review of this.
• Medication distribution process is very organized with standard medication pass times.
• Silvia, RN, places medications in med cups for each administration time (i.e. breakfast, lunch, dinner, bedtime).
• Medication cups are labeled with patient name and are washed between uses.
• Education is needed on which medications to avoid in the elderly
• Recommend medication reviews in future to check for drug-disease interactions
• List of medications that are purchased by the hogar that could be donated:
  o Isosorbide 10 mg
  o Digoxin 0.25 mg (low dose recommended in elderly)
  o Enalapril 10 and 20 mg
  o Aspirin 100 mg (81 mg easier to get in the US)
  o Ranitidine 300 mg
  o Omeprazole 20 mg
  o Alprazolam 0.5 mg (0.25 mg tablet may be more appropriate)
  o Lorazepam 2 mg (lower tablet strength recommended: 0.5 or 1 mg)
  o Atreven (sp?); albuterol nebulizer solution
  o Acetaminophen 500 mg (recommend 325 mg also)
  o Ibuprofen 400 mg (recommend 200 mg)
  o Colipax (liquid nutritional supplement for bowel health)
  o Triflusal 300 mg (Disgren®) (antiplatelet agent); not available in US, may substitute clopidogrel 75 mg.
  o Multivitamin
  o Carbamazepine
  o Thiamine
  o Haloperidol tablets and drops
  o Etilefrine (alpha/beta agonist to treat orthostatic hypotension); not available in US, need to know route of administration and typical usage to recommend agent.
  o Cinnarizine (antiemetic; not available in US, recommend meclizine)
  o Propranolol
  o Triple antiobiotic cream
  o Clotrimazole cream
  o Neomycin cream
  o Pepto-Bismol
  o Mylan; liquid antacid
  o Hydrocortisone ampules (Recommend injectable form, not ampules)
  o Diazepam ampules (Diazepam is not recommended for use in the elderly)
Summary of Needs and Potential Future Interventions

Physical Therapy
- Donations Needed: 1-2 W/C’s, 7-8 gait belts, theraband, 10-12# weights, therapy balls,
- Education in exercises esp. for those in W/C’s
- Strategies for increased activity level to reduce constipation
- Additional education in transfer training, lifting, and strengthening exercises for caregivers to prevent injury and reduce back, shoulder & neck pain.
- Identify and train community volunteers to provide additional exercise groups throughout the week
- Further assess cause of skin ulcers and if due to in adequate pressure relief – provide education/training.
- Wheelchair fittings
- A large portable mirror would be useful.

Occupational Therapy
- Further assessment of caregivers knowledge of how to assist residents in dressing, feeding and other self-cares with education to maximize resident independence while easing caregiver challenges to provide self-care.
- Education in how to incorporate purposeful activity into exercise groups
- Meet with the arts and crafts media art professor to determine types of activities offered to residents and professor's knowledge in how to adapt activities to maximize participation of residents of different ability levels. Provide education as needed.
- Further Assessment of frequency and type of leisure/productive activity for residents. If needed, identify community resources and education to promote opportunities for resident participation.

Physician Assistant
- Donations Needed: gloves, hand sanitizer, socks, chucks, bluepads
- Train caregivers how to take and record vital signs, including BPs.
- Further research regarding the monitoring of diabetes without treatment, and need for routine glucometer checks
- Additional training for ear care and the use of Ceruminix and ear irrigation
- Constipation: Address need for increased water intake and exercise.
- There is a large portion of the population with GI complaints, most seem to be related to GERD. This needs to be addressed.
- Foot care training, including instrument and sock donation
- Provision of perfume and dye free lotions and/or crèmes for skin ulcers and to promote circulation and fine motor usage.
- Education of caregivers on importance of hand hygiene for safety of residents and caregivers
- Need to develop a system for US to Nicaragua donation transportation on a systematic. Sustainable basis.
Dental
• Donations Needed: toothpaste in bulk quantity
• Dental clinics for oral exams and cleanings
• Educate caregivers and residents with adequate cognition in proper oral hygiene
• Identify liaison with local dentist to provide care throughout the year
• Extractions, partials/dentures and follow up adjustments, denture relines

Pharmacy
Medications that are purchased by the hogar that could be donated:
  o Isosorbide 10 mg tablets
  o Digoxin 0.125 mg or 0.25 mg tablets
  o Enalapril 10 and 20 mg tablets
  o Aspirin 81 mg tablets
  o Ranitidine 300 mg tablets
  o Omeprazole 20 mg capsules
  o Alprazolam 0.25 mg tablets
  o Lorazepam 0.5 or 1 mg tablets
  o Atreven (sp?); albuterol nebulizer solution
  o Acetaminophen 325 and 500 mg tablets
  o Ibuprofen 200 mg tablets
  o Probiotic or digestive health solution
  o Clopidogrel 75 mg tablets
  o Multivitamin tablets
  o Carbamazepine tablets
  o Thiamine tablets
  o Haloperidol tablets and drops
  o Meclizine tablets
  o Propranolol tablets
  o Triple antibiotic cream
  o Clotrimazole cream
  o Neomycin cream
  o Pepto-Bismol
  o Mylanta; liquid antacid
  o Hydrocortisone injectable
  o Ear wax removal kits
  o Skin lotion
  o Hydration fluids (NS, D5W)

• Most residents were on blood pressure medications however BPs were exceptionally low. Medical records should be reviewed for recommendations.
• Need for stool softener agents. Caregivers requested advice on bowel regimens for residents.
- Education needed on use and proper dosages of antihypertensive agents in the elderly.
- Education is needed on which medications to avoid in the elderly
- Recommend medication reviews in future to check for drug-disease interactions

Masaya Hogar

A. Multi-Purpose Room
B. Hospice Room

C. Clinic Space
D. Nurses Station

E. Shower/Bathroom

F. Sleeping Quarters (Female)
G. Dining Area
H. Kitchen
I. Craft Room

J. Rehabilitation Room

K. Laundry
L. Sleeping Quarters (Men)
Prior to departing for Nicaragua, OT student participants were responsible for planning leisure activities to promote engagement in meaningful occupation for hogar residents. We considered how to make the activities culturally relevant and appropriate to the temporal context. Being that our visit occurred during the Christmas holiday we selected several ornament making craft activities using felt, beads, pipe cleaner, and various decorating materials. OT students also considered how each activity might be graded to promote engagement of all residents despite functional abilities. We provided typed step-by-step instructions for participants who required a visual aid, and practiced various methods of modification for compensation of physical limitations. Additionally, we trained Nicaraguan physical therapy students and volunteers in the use of scaffolding techniques to promote the highest level of independent participation possible.
Beaded Christmas Ornament

Materials:
2 pieces of string
46-48 beads

Steps:
1. Tie two strings together by making knot at the top.

2. Using pattern, begin weaving top row. Slide all beads for that row on one cord.

3. Slide the other cord through the same beads in the opposite direction.

4. Pull tight.

5. Continue until ornament is complete.

Ornamento bordado con cuentas de Navidad

Las materias:
2 pedazos de cuerda
46-48 cuentas

Pasos:
1. Ate dos cuerdas juntos haciendo nudo por encima.

2. La pauta que utiliza, empieza fila de cima que teje. Deslice todas cuentas para esa fila en una cuerda.

3. Deslice la otra cuerda por las mismas cuentas en sentido contrario.

5. Continúe hasta que ornamento sea completo.
**Beaded Wreath Ornament**

**Materials:**
- 2 piper cleaners
- Beads

**Steps:**
1. String beads entire length of piper cleaner.
2. Repeat with second pipe cleaner.
3. Twist beaded pipe cleaners together.
4. Form a circle.

---

**Ornamento bordado con cuentas de Guirnalda**

**Las materias:**
- 2 limpiapipas
- Cuentas

**Pasos:**
1. La cuerda borda con cuentas longitud entera de limpiapipas.
2. Repita con segundo limpiapipas.
3. La torsión bordó con cuentas limpiapipas juntos.
Nicaragua Project 2009-10
Aging in Place Presentation

The presentation for the third age group in Managua, Granada was an opportunity for us to provide a 60 minute informational session on common aging in place topics. A handout was provided, which describes the concept of aging in place and reviews specific areas of concern, including: housing, recreation, social and cultural opportunities, healthcare/medications and family education. The handout provided is an expansion on one of the teaching modules from 2009.
Aging in Place

Introduction

Aging in place is the ability to live in one’s own residence for as long as possible, utilizing community resources, services and support to ensure physical, spiritual, social and emotional needs are met. This concept implies that aging in one’s personal residence, within one’s community facilitates increased independence and wellbeing. With proper planning and learning about local resources in your community, an individual will be able to maximize their quality of life and independence. During this presentation we will review specific areas of concern including: Housing, recreational, social and cultural opportunities, healthcare/medications and family education.

Residence of elders in the community

Residing in urban versus rural areas will have implications as far as access to resources in your area. It is important to plan and prepare ahead of time to accommodate your needs. Another factor to consider with living situations includes:

- Lives with children and grandchildren
- Lives with spouse only
- Lives with non-relatives (including institutional care)
- Lives alone

Areas of Concern

Housing

The ability to age in place without changing locations depends on the livability of the dwelling in which older adults reside, whether in individual homes and apartments or some form of senior or group housing. A good living environment for aging in place is one that is safe, promotes independent function, and allows for easy access to needed resources. A safe and accessible home is one that will meet one’s needs as he or she changes, allowing for aging in place by offering maximum flexibility with a minimum of remodeling and intervention. In many cases, home modifications to ensure safety and accessibility are necessary as a result of physical changes in the adult such as hearing or vision loss, cognitive decline, or reduced mobility. Listed below are some general suggestions for improving safety and accessibility to promote aging in place. Multiple checklists are available for a more detailed assessment of living environments.

🏠 Home modifications for safety
• bright/adequate lighting
• grab bars near toilet and shower
• seats in shower or bath tub
• no-slip surfaces in shower and bath tub
• no clutter
• no loose rugs
• minimal furniture

Home modifications for accessibility
• wide doorways
• wide hallways
• low kitchen counter spaces
• low shelves
• no-step entry or ramp over steps
• extra floor space
• one floor living
• lever door handles instead of knobs
• rocker light switches

Successful aging in place also requires that older adults have access to needed resources and services such as healthcare and shopping markets. For individuals who do not live within close proximity to these resources, it is important to develop a network of caregivers, friends, family, or hired individuals, to help with healthcare, housekeeping, or routine tasks such as transportation, grocery shopping, or paying bills.

Recreational, Social, and Cultural Opportunities

As one ages, they begin to experience changes in their occupational roles, social circles, shifts in responsibilities, and changes in their ability and enjoyment to participate in certain leisure activities. Some find themselves feeling isolated and lonely with the loss of peers and/or family members; one may feel that they are not contributing to society as they once did; there is a lot of enjoyment in activities that once provided excitement. Although we will all experience some form of these changes at some point in our lives, getting older does not have to be a negative experience or end with these feelings. Now is the time to empower yourselves with knowledge and make choices that create personal health and well-being. The following is a list of suggested ways one can stay healthy.

Opportunities for Social interactions
• Get involved in community organizations, groups, or gatherings.
• Plan and attend family and friend gatherings often.
• Spend quality time with the ones you love
• Meet new people. We are social beings and it is never too late to form new friendships or relationships.

• Try something new (a new activity, a new café/restaurant, a new type of dance, walk down a new road in your neighborhood, etc).

• Volunteer (at your child’s school, your church, within the community, etc).

Opportunities for Productivity

• Maintain your old hobbies and find a new one to begin.

• Volunteer.

• Participate in the market; selling your own goods or helping family members or friends sell theirs (fruits, vegetables, handmade crafts, etc).

• Family opportunities (babysit, take care of a relative, walk dogs, make a meal for someone, help garden, help someone with a project, etc.).

Balance in Responsibilities

• Focus on the present and future.

• If you have lost a responsibility that was important to you (job, family role, sports) replace it with something else that is similar: no longer employed than you can volunteer your time or pick up a new hobby; children have moved away, find another individual who could use your assistance or expertise; unable to participate in one activity (soccer), find another activity that has similar traits (competitive, challenging, and uses strategy).

• Take some time for yourself; to relax, to laugh, to sleep, to take care of your own health needs.

The important thing to staying healthy is to be involved in activities that are meaningful to you and to surround yourself with people who care about you and who are there to support you and who you are.

Healthcare/Medications

• How the caregiver can help:
  • As a caregiver, it is important to monitor and manage medications if needed. Making sure pills are taken at the proper time to help treat medical conditions and avoid complications is important. It is also important that
you understand the medication routine. One way to help with medication management can include:

- Organizing pills using a pill-box
- Placing medications in a safe and accessible place around the home
- Putting into place a reminder system if needed (alarm)

- Another component to staying healthy includes a healthy lifestyle. Regular physical activity, which has been shown to improve the functional status and quality of life of older adults.
- Physical activity can reduce the risk of falls; improve the mental health and cognitive function in older adults.

**Family Education**

An important part of aging in place is having family or caregivers be informed about your health and your particular daily living needs. Family or caregivers typically provide support to help a person carry out their wishes. Family or caregiver education topics should include:

- Concepts about aging in place
- How to make the home hazard free
- What community resources are available
- Information about your medication regimen
- Information about any conditions you have
- Emergency planning (including transportation, communication)
- End of life wishes

These particular education topics will vary according to each person and what is available in their community.

**References:**


Trachtman, L. H., Mace, R. L., Young, L. C., & Pace, R. J. (1999). The universal design home: Are we ready for it? In E. D. Taira & J. L. Carlson (Eds.), *Aging in place:*
Designing, adapting and enhancing the home environment (pp. 1-18). Binghamton, NY: The Haworth Press, Inc.
# Older Adult Home Safety Checklist

<table>
<thead>
<tr>
<th>Area</th>
<th>Observation</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floors</td>
<td>When you walk through a room, do you have to walk around furniture?</td>
<td>Move the furniture so the path is clear.</td>
</tr>
<tr>
<td>Floors</td>
<td>Throw rugs on the floor?</td>
<td>Remove the rugs or use double-sided tape or a non-slip backing so the rugs won't slip</td>
</tr>
<tr>
<td>Floors</td>
<td>Are papers, magazines, books, shoes, boxes, blankets, towels, or other objects on the floor?</td>
<td>Always keep objects off the floor</td>
</tr>
<tr>
<td>Floors</td>
<td>Do you have to walk over or around cords or wires (like cords from lamps, extension cords, or telephone cords)?</td>
<td>Coil or tape cords and wires next to the wall so you can't trip over them. Have an electrician put in another outlet.</td>
</tr>
<tr>
<td>Stairs and Steps</td>
<td>Are papers, shoes, books, or other objects on the stairs?</td>
<td>Keep objects off the stairs.</td>
</tr>
<tr>
<td>Stairs and Steps</td>
<td>Are some steps broken or uneven?</td>
<td>Fix loose or uneven steps</td>
</tr>
<tr>
<td>Stairs and Steps</td>
<td>Is there a sturdy handrail on only one side of the stairs?</td>
<td>Make sure handrails are on both sides of the stairs and are as long as the stairs</td>
</tr>
<tr>
<td>Stairs and Steps</td>
<td>Is the carpet on the steps loose or torn?</td>
<td>Make sure the carpet is firmly attached to every step or remove the carpet and attach non-slip rubber treads on the stairs.</td>
</tr>
<tr>
<td>Kitchens</td>
<td>Are the things you use often on high shelves</td>
<td>Keep things you use often on the lower shelves (about waist high).</td>
</tr>
<tr>
<td>Kitchens</td>
<td>Is your step stool unsteady?</td>
<td>Use a steady step stool with a bar to hold on to</td>
</tr>
<tr>
<td>Bedrooms</td>
<td>Is the light near the bed hard to reach?</td>
<td>Place a lamp close to the bed</td>
</tr>
<tr>
<td>Bedrooms</td>
<td>Is the path from your bed to the bathroom dark?</td>
<td>Use a night-light</td>
</tr>
<tr>
<td>Bathrooms</td>
<td>Is the tub or shower floor slippery?</td>
<td>Put a non-slip rubber mat or self-stick strips on the floor of the tub or shower</td>
</tr>
<tr>
<td>Bathrooms</td>
<td>Do you have some support when you get in and out of the tub or up from the toilet?</td>
<td>Install grab bar inside the tub and next to the toilet.</td>
</tr>
</tbody>
</table>
**Lista de verificación Adulta más vieja de Seguridad de Hogar**

<table>
<thead>
<tr>
<th>Area</th>
<th>Observación</th>
<th>Remedio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pisos</td>
<td>¿Cuando usted anda por un cuarto, tiene usted que andar alrededor de muebles?</td>
<td>Mueva los muebles tan el sendero es claro.</td>
</tr>
<tr>
<td>Pisos</td>
<td>¿Tira alfombras en el piso?</td>
<td>Quite las alfombras o el uso se alinea cinta o un apoyo antideslizante tan las alfombras no resbalarán</td>
</tr>
<tr>
<td>Pisos</td>
<td>¿Son los papeles, las revistas, libros, los zapatos, las cajas, las cobijas, las toallas, u otros objetos en el piso?</td>
<td>Siempre mantenga objetos del piso</td>
</tr>
<tr>
<td>Pisos</td>
<td>¿Tiene usted que andar sobre o alrededor de cuerdas o alambres (como cuerdas de lámparas, de los alargadores, o de cuerdas telefónicas)?</td>
<td>Las cuerdas del rollo o la cinta y alambres junto a la pared tan usted no puede tropezar sobre ellos. Que a un electricista pusiera en otra salida.</td>
</tr>
<tr>
<td>La escalera y Da un paso</td>
<td>¿Son los papeles, los zapatos, libros, u otros objetos en la escalera?</td>
<td>Mantenga objetos de la escalera.</td>
</tr>
<tr>
<td>La escalera y Da un paso</td>
<td>¿Son rotos algunos pasos o desigual?</td>
<td>Fije pasos flojos o desiguales</td>
</tr>
<tr>
<td>La escalera y Da un paso</td>
<td>¿Hay una barandilla firme en sólo un lado de la escalera?</td>
<td>Aségurese barandillas están en ambos lados de la escalera y son tan largo como la escalera</td>
</tr>
<tr>
<td>Area</td>
<td>Pregunta</td>
<td>Solución</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>La escalera y Da un paso</td>
<td>¿Está la alfombra en los pasos flojos o rotos?</td>
<td>Aségurese la alfombra es conectada firmemente a cada paso o quita la alfombra y conecta pasos antideslizantes de caucho en la escalera.</td>
</tr>
<tr>
<td>Cocinas</td>
<td>¿Son las cosas usted utiliza a menudo en alto arrincona?</td>
<td>Mantenga cosas que usted utiliza a menudo en el más bajo arrinconan (acerca de cintura alta).</td>
</tr>
<tr>
<td>Cocinas</td>
<td>¿Es su taburete del paso inestable?</td>
<td>Utilice un taburete constante de paso con una barra para guardar</td>
</tr>
<tr>
<td>Piezas</td>
<td>¿Está la luz cerca de la cama dura de alcanzar?</td>
<td>Coloque una lámpara cercano a la cama</td>
</tr>
<tr>
<td>Piezas</td>
<td>¿Es el sendero de su cama a la oscuridad del cuarto de baño?</td>
<td>Utilice una lamparilla</td>
</tr>
<tr>
<td>Cuartos de baño</td>
<td>¿Es el piso de la tina o la ducha resbaloso?</td>
<td>Ponga una estera antideslizante de caucho o ser- tiras de palo en el piso de la tina o la ducha</td>
</tr>
<tr>
<td>Cuartos de baño</td>
<td>¿Tiene usted algún apoyo cuando usted entra y fuera de la tina o arriba del baño?</td>
<td>Instale barra de agarre dentro de la tina y junto al baño.</td>
</tr>
</tbody>
</table>
Nicaragua Project 2009-10
Occupational Therapy Interview Form

In an effort to record data pertaining to residents health and wellness, and to determine benefits of inter-professional team efforts at Nicaraguan Hogares, Pacific University dental health participants in collaboration with occupational therapy participants proposed the development of a universal charting system. The goal is to create a chart for each individual resident consisting of both a face sheet summarizing basic medical information, and a separate section for each profession (i.e., OT, PT, PA, DH, and pharmacy) to record more detailed information pertaining to their field. The following is an OT interview form created by occupational therapy students utilizing the Person-Environment-Occupation model of occupational therapy and the Occupational Therapy Practice Framework: Domain and Process 2nd Edition. It is intended to be used to compile information regarding residents’ occupational profiles while highlighting the transactional relationship that exists among personal characteristics of the residents; their occupations; and the cultural, physical, and geographical environment in which they live.
<table>
<thead>
<tr>
<th>PERSONAL PROFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your medical history?</td>
</tr>
</tbody>
</table>

Do you take any medications?
If so, do you know which ones?

**Mental Functions:**
Do you ever have trouble remembering things?
If yes, what do you have trouble remembering?
Resident is oriented to: Person ☐ Place ☐ Country ☐ City ☐ Other ☐

*Note observations related to memory, attention, consciousness, orientation, temperament, personality, etc.*

**Sensory Function & Pain:**
Do you have any trouble seeing?
Do you wear glasses?
Do you have any trouble hearing?
Have you ever noticed a cut or bruise that you don’t remember getting?
Do you frequently drop things?

*Note observations related to pain, temp, hearing, seeing, etc.*

**Pain**
Do you have pain, numbness or tingling?
If so, where?
What time of day do you experience the most pain? (i.e., morning, afternoon, evening)
What makes it better or worse?

Are there things you can’t do now that you would like to do

**Neuromusculoskeletal Structures & Functions:**
Do you require rest breaks when walking or wheeling short distances?
Are you able to stand up and sit down by yourself?

*Note observations related to tone, involuntary motor movements, joint mobility/stability, motor coordination, endurance, etc.*

**Mobility**
How is your balance?
Do you ever get dizzy?
Have you fallen or almost fallen?
If so, did you get injured?
Do you use a cane or walker?

*Note observations related to balance/gait.*

### OCCUPATIONAL PROFILE

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How long have you lived in the hogar?</td>
</tr>
<tr>
<td>What is a typical day like for you?</td>
</tr>
</tbody>
</table>

### Social Participation:

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell me about your family? (i.e., children, siblings, parents)</td>
</tr>
<tr>
<td>Do you have family in the area?</td>
</tr>
<tr>
<td>If so, how often do you get to see them?</td>
</tr>
<tr>
<td>Who do you socialize with here in the hogar?</td>
</tr>
</tbody>
</table>

### Work:

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did you do for work?</td>
</tr>
<tr>
<td>Do you currently have any source of income?</td>
</tr>
</tbody>
</table>

### Education:

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you go to school?</td>
</tr>
<tr>
<td>If so, how much schooling did you complete?</td>
</tr>
</tbody>
</table>

### Leisure:

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What kind of hobbies do you like to do?</td>
</tr>
<tr>
<td>What activities do you participate in that you enjoy? (i.e., visit with others, church, crafts, card games, music, etc.)</td>
</tr>
<tr>
<td>Do you have enough to do with your spare time?</td>
</tr>
<tr>
<td>Do you get bored?</td>
</tr>
<tr>
<td>What activities do you want to do that you don’t do now?</td>
</tr>
</tbody>
</table>

### Activities of Daily Living:

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you receive help with going to the bathroom?</td>
</tr>
<tr>
<td>Do you receive help with dressing?</td>
</tr>
<tr>
<td>Do you receive help with managing buttons, snaps, buckles, laces, or zippers?</td>
</tr>
<tr>
<td>If yes, what gives you trouble? Why?</td>
</tr>
<tr>
<td>Do you receive help with bathing?</td>
</tr>
<tr>
<td>Do you receive help with eating?</td>
</tr>
<tr>
<td>Do you receive help with getting in/out of bed, getting up from a chair, or getting from one place to another?</td>
</tr>
</tbody>
</table>
If yes to any of these, what specifically do you need help with? (i.e., transferring, walking, socks, pants, etc.)

**Sleep & Rest:**
How much sleep do you get each day?
Does anything prevent you from sleeping? (i.e., pain, comfort, noise, etc.)
Does anything cause you to sleep too much? (i.e., pain, fatigue, medications, etc.)

---

**Residente de Nombre:**
**Fecha de Nacimiento:**
**Edad:**
**Nombre del Entrevistador:**
**Fecha:**

**Perfil Personal**
¿Qué es la historia clínica?

¿Toma algún medicamento?
Si es así, ¿sabe usted cuáles?

**Funciones Mentales:**
¿Nunca tiene problemas para recordar cosas?
En caso afirmativo, ¿qué han problemas recordar?
Residente está orientado a: ☐ Persona ☐ Lugar ☐ País ☐ Ciudad ☐ Otros __________________
*Tenía en cuenta las observaciones relacionados con la memoria, atención, conciencia, orientación, temperamento, personalidad.

**Función Sensorial & Pain:**
¿Tienes cualquier problema viendo?
¿Usar gafas?
¿Tiene usted cualquier audiencia de problemas?
¿Que haya usted jamás observado una corte o un hematomas que no te acuerdas de obtener?
¿Con frecuencia coloca las cosas?
*Observaciones de nota relacionados con el dolor, la temperatura, la audiencia, viendo.*
### Dolor
- ¿Tiene usted dolor, entumecimiento u hormigueo?
- ¿Si es así, donde?
- ¿A qué hora del día experimenta más dolor? (es decir, mañana, tarde, noche)
- ¿Lo que hace mejor o peor?
- ¿Hay cosas que no se puede hacer ahora que gustaría hacer, pero están limitado por el dolor o una condición médica?

### Neuromusculoskeletal Estructuras y Funciones:
- ¿Necesita pausas de descanso al caminar o empujando su silla de ruedas distancias cortas?
- ¿Eres capaz de levantarse y sentarse por sí mismo?
  
  _Tenga en cuenta las observaciones relacionadas con tomo, movimientos involuntarios de motoras, movilidad conjunto/estabilidad, coordinación motriz, resistencia._

### Movilidad
- ¿Cómo es tu saldo?
- ¿Alguna vez sacas mareado?
- ¿Han caído o casi caído?
- ¿Si por lo tanto, llegar lesionado?
- ¿Usa un bastón o andador?
  
  _Tenga en cuenta las observaciones relacionadas con equilibrio/marcha._

### PERFIL OCUPACIONAL
- ¿Durante cuánto tiempo han vivido en el hogar?
- ¿Qué es un día normal como para usted?

### Participación Social:
- ¿Me dicen acerca de su familia? (es decir, hijos, hermanos, padres)
- ¿Tiene familia en el área?
  
  Si es así, ¿con qué frecuencia tienes verlos?
- ¿Que socializar con aquí en el hogar?

### Trabajo:
- ¿Qué hizo usted para el trabajo?
- ¿Tienes actualmente a cualquier fuente de ingresos?

### Educación:
- ¿Usted ir a la escuela?
- ¿Si es así, cuánto escolarización termine?

### Tiempo Liebre:
- ¿Qué tipo de hobbies te gusta hacer?
- ¿Qué actividades participar en que usted disfrutar? (es decir, visite con otros, iglesia, artesanía, juegos de cartas, música)
¿Tiene usted lo suficiente como para hacer con su tiempo libre?

¿Sacás aburrido?

¿Qué actividades desea hacer que usted no hace ahora?

### Actividades de la vida diaria:

<table>
<thead>
<tr>
<th>¿Recibe ayuda con ir al baño?</th>
</tr>
</thead>
<tbody>
<tr>
<td>¿Recibe ayuda con aderezos?</td>
</tr>
<tr>
<td>¿Recibe ayuda con la administración de botones, hebillas, cordones, copias instantáneas o cremalleras?</td>
</tr>
<tr>
<td>En caso afirmativo, ¿qué da problemas? ¿Por qué?</td>
</tr>
<tr>
<td>¿Recibe ayuda con baño?</td>
</tr>
<tr>
<td>¿Recibe ayuda con comer?</td>
</tr>
<tr>
<td>¿Recibe ayuda con la obtención de entrada y salida de la cama, levantarse de una silla o llegar de un lugar a otro?</td>
</tr>
</tbody>
</table>

Si sí a cualquiera de estos, lo específicamente ¿necesita ayuda? (es decir, transferir, caminar, calcetines, pantalones)

### Sueño y Resto:

<table>
<thead>
<tr>
<th>¿Cuánto sueño usted obtener cada día?</th>
</tr>
</thead>
<tbody>
<tr>
<td>¿Nada impedirle dormir? (es decir, dolor, comodidad, ruido)</td>
</tr>
<tr>
<td>¿Hace nada que le dormir demasiado? (es decir, dolor, fatiga, medicamentos)</td>
</tr>
</tbody>
</table>
Nicaragua Project 2009-10
Training Manual

These forms compiled together make up a chapter that will be included in an interdisciplinary training manual. The training manual will be issued to a number of caregivers during an educational course in Nicaragua led by Milton (a local physician) and multiple healthcare professors from Pacific University in the summer of 2010. The occupational therapy chapter will include general information regarding an overview of the body systems, the aging process, common conditions affecting the various systems, fall prevention strategies, energy conservation techniques, tips for aging in place, and an assortment of adaptive equipment and their purposes.
Aging in Place: Recreation/Social

As one ages, they began to experience changes in their occupational roles, social circles, shifts in responsibilities, and changes in their ability and enjoyment to participate in certain leisure activities. Some finds themselves feeling isolated and lonely with the loss of peers and/or family members; one may feel that they are not contributing to society as they once did; there is a lost of enjoyment in activities that once provided excitement. Although we will all experience some form of these changes at some point in our lives, getting older does not have to be a negative experience or end with these feelings. Now is the time to empower yourselves with knowledge and make choices that create personal health and well-being. The following is a list of suggested ways one can stay healthy

**Opportunities for Social interactions**
- Get involved in community organizations, groups, or gatherings.
- Plan and attend family and friend gatherings often.
- Spend quality time with the ones you love
- Meet new people. We are social beings and it is never to late to form new friendships or relationships
- Try something new (a new activity, a new café/restaurant, a new type of dance, walk down a new road in your neighborhood, etc)
- Volunteer (at your child’s school, your church, within the community, etc)

**Opportunities for Productivity**
- Maintain your old hobbies and find a new one to begin
- Volunteer
- Participate in the market; selling your own goods or helping family members or friends sell theirs (fruits, vegetables, handmade crafts, etc)
- Family opportunities (babysit, take care of a relative, walk dogs, make a meal for someone, help garden, help someone with a project, etc.)

**Balance in Responsibilities**
- Focus on the present and future
- If you have lost a responsibility that was important to you (job, family role, sports) replace it with something else that is similar: no longer employed than you can volunteer your time or pick up a new hobby; children have moved away, find another individual who could use your assistance or expertise; unable to participate in one activity (soccer), find another activity that has similar traits (competitive, challenging, and uses strategy)
- Take some time for yourself; to relax, to laugh, to sleep, to take care of your own health needs

The important thing to staying healthy is to be involved in activities that are meaningful to you and to surround yourself with people who care about you and who are there to support you and who you are.
Resources


Fall prevention

"A fall is one of the most common events that threaten the independence of older adults" (Advanceweb, 2009). 10-15% of falls result in a broken bone or other serious injury. In general, falls are associated with decreased function, greater chances of needed higher care (going to a hogar), increased use of medical services, and the development of a fear of falling (Advanceweb, 2009).

Many falls can be prevented. Successful fall prevention involves three main strategies, including: Balance training and physical activity; medical management; and, environmental/home modifications. A combination of all three interventions is necessary to prevent falls in the home and out in the community (Stopfalls.org, 2005).

Statistics:
- 1 out of 3 individuals over the age of 65 fall once a year
- Leading causes of Senior falls:
  - Injury
  - Hospitalization due to injury
  - Death due to injury
- Most falls are caused by problems with walking, coordination, and balance (Stopfalls.org, 2005)

Risk factors:
- Age
- Mental dysfunction (dementia)
- Past history of falls
- Weakness in the legs
- Feeling weak or dizzy
- Difficulty walking or getting out of bed or chairs (problem with gait)
- Foot disorders
- Decrease vision and or hearing
- Balance Problems
- Vitamin D deficiency – Osteoporosis (thin, weak bones)
- Medications
- Arthritis (especially in the knee and may affect mobility and posture)
- Parkinson's disease (causes stiff muscles, lack of coordination, low blood pressure and sometimes mental impairment)
- The home environment can also be a contributor to falls, including: Clutter around the house, raised floor mats, uneven surfaces, slippery surfaces.

Prevention: Will depend on the cause and risk factor(s)
- Exercise and/or therapy (balance, strength and gait training)
• Physical activity keeps us healthy and reduces the risk of falls.
• It also can:
  • Improve balance
  • Improve muscle strength and flexibility
  • Keep bones strong
  • Increase energy levels
  • Help with sleeping problems
  • Help control blood pressure, blood sugar levels and weight
• Home environment evaluation and modification (Home Safety Assessment)
  • Remove loose carpets and throw rugs or use nonskid backing or tack down
  • Add lights to dim areas
  • Use nightlights in bedroom and bathroom
  • Clean up clutter (especially stairs and walkways)
  • Use hand rails and grab bars: steps/stairs, bathroom
• Changes in medication
• Nutritional or vitamin supplementation
• Assistive device (balance and stability)
• Change in footwear
• Eat a wide variety of foods and drink plenty of water, especially in hot climates.
• Stand up slowly after lying down or sitting. Be cautious when bending down and make sure you are steady before walking.

References:
1. Stopping Falls One Step at a Time, Retrieved January 28, 2010, from Fall Prevention Center of Excellence website:
   http://www.stopfalls.org/individuals_families/index.shtml
Energy Conservation

What is Energy Conservation?

The performance of activities while using minimal energy expenditure. When you work more efficiently, you reduce strain on your cardiovascular system; minimizing effort to reduce fatigue, shortness of breath and pain on the body. By using energy conservation techniques, an individual can prevent injury and allow their energy go further.

Energy Techniques:

- Change the way in which you use your body during an activity.
  - Correct body position
  - Relax
  - Breath correctly, never hold breath
  - Pace yourself

- Change the environment to allow the task to be completed easier.
  - Organize work and storage areas
  - Adjust work heights
  - Use adaptive equipment
  - Plan, organize and/or eliminate tasks

Basic Principles:

1. BODY POSITION: Use the position which uses the least amount of strain and energy.
   - Sit instead of stand (using a chair or stool while facing the task to avoid twisting)
   - Push instead of pull
   - Slide or use a cart-on-wheels to avoid lifting
   - Squat instead of bending
   - Use a step stool instead of reaching
   - Carry object close to the body using two hands

2. RELAX: Tension and anxiety use energy and place stress of the body and heart.
   - Work in a relaxed state, never hurry
• Stop the activity for 5 minutes and practice breathing techniques if you are feeling fatigued or short of breath.

3. BREATHE EASY: Slow and deep breathing is relaxing and helps slow and smooth out body motions. Avoid holding your breath during tasks.
   • Inhale when your arms, legs move away from you.
   • Exhale when your arms, legs move towards you, when you stand or when you bend.

4. PACE YOURSELF: Take your time during tasks. Use smooth fluid motions rather than jerky ones. Take frequent breaks to prevent fatigue.
   • Allow plenty of time to complete task
   • Rest 10 minutes out of every hour
   • Take 1-2 minute mini-breaks during the task
   • Stop if you become short of breath

5. ORGANIZE STORAGE AND WORK AREAS: Keep items that are frequently used within easy reach. Store items in the area where they are used most. If you must bend and reach, breathe in rhythm with body movements.

6. ADJUST WORK HEIGHTS: Improper working height can cause back strain and fatigue. Poor posture also restricts breathing. The best working height for a tabletop is 2 inches below your bent elbow. Table, bed, or chair legs can be extended with wooden blocks. Pillows can be placed in chairs.

7. ADAPTIVE EQUIPMENT AND ELECTRICAL APPLIANCES: These can be used to keep bending, lifting and reaching to a minimum and thus conserve energy.
   • Long-handed dust pans, sponges, and reachers
   • Use a stool in the bathtub and a hand-held shower
   • Electrical appliances: Toaster, washing machine, dryer, upright sweeper, can opener, dishwasher

8. PLAN, ORGANIZE AND/OR ELIMINATE UNECESSARY TASKS:
   • Eliminate extra trips by planning ahead and assembling supplies
   • Use disposables, such as paper plates to eliminate washing time
   • Alternate heavy work with lighter work throughout the day
   • Straighten the covers before getting out of bed to make bed-making easier
   • Plan each day to include only what you can realistically accomplish
   • Get help when you need it
   • Invent your own short-cuts
Self-Care:

Hygiene
- Sit with arms supported on the sink/counter while shaving, brushing teeth, combing hair, washing face/hands and applying make-up.
- Consider using electric toothbrush and/or shaver.
- Use a washcloth versus splashing water onto face.
- Place all shower items within easy reach.
- Use a long handled sponge to scrub back and feet.
- Install grab bars and non-slip bath mats for safety.

Dressing
- Get dressed sitting at the edge of the bed or using a chair.
- Wear comfortable, loose-fitting clothes. Wear slip-on shoes rather than laced ones. Choose clothes that have buttons or zipper on the front side.
- Store items that are worn most often at waist height.
- Organize your clothing the night before and place them near the area where you dress.
- Put your underwear inside of your pants and put them on at the same time. Sit while placing feet into pant legs and then stand to pull up and fasten.
- Put on shoes and socks by crossing one leg over the other. If you must bend, remember to use breathing techniques.

Eating
- Avoid eating and talking at the same time.
- If eating easily makes you tired, eat six small meals instead of 3 normal sized meals.
- Drink 8 glasses of water/fluid each day.
- Avoid eating a heavy meal within 2 hours before bedtime.

Activities of Daily Living:

Bed making
- To make easier, raise the height of the bed if possible (10-16cm).
- Keep bed away from walls on the sides to ease in making bed.

Meals
- When preparing food, sit at table or on a comfortable stool.
• Arrange storage so that frequently used items are on the most accessible shelves. Kitchen aides such as a lazy susan or slide-out storage tray, bring items to the front of the shelf.
• Slide, rather than lift, heavy pots across the counter. Use a cart-on-wheels or large apron pocket to transport items.
• Plan meals in advance. Assemble all the necessary items to be used to avoid making extra trips.

Dishwashing:
• Soak pots in hot soapy water to eliminate scouring.
• Stack to dry instead of hand drying.
• Comfortable rest hands on the bottom of the dishpan when working in a good height and position. Avoid bending over and reaching.

Laundry:
• Choose easy care fabrics that need little or no ironing.
• Squat to avoid bending when reaching into machine.
• Lift wet clothes in small loads. Use a rolling laundry cart.
• Sit when folding clothes.
• When hanging laundry on a line, inhale when reaching up. Put the line just high enough so clothes clear the ground.
• Have frequent washdays to avoid large loads.
• Roll clothes in a towel instead of wringing.

Yard work
• Choose a clear, smog free day to work. Morning hours are best.
• Sit while pulling weeds.
• Use good posture when hoeing, digging or raking and avoid bending at the waist for prolonged periods.
• Move rhythmically with entire body, stepping into the movement hoeing/raking motions.
• Use pursed-lip breathing and exhale through pursed lips during effort.

Shopping
• Find a market that can deliver groceries when you are not feeling well.
• Make a shopping list and shop ahead.
• Consider getting a freezer.
• Buy lighter-packaged items in foil or plastic.
• If you walk to the market, invest in a rolling shopping cart.

References:


6. Tiffany Boggis?
# The Human Body and the Aging Process

<table>
<thead>
<tr>
<th>Body Systems</th>
<th>Function</th>
<th>Aging Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vision</strong></td>
<td>Interprets the information from visible light to build a representation of the world surrounding the body.</td>
<td>Decreased abilities in vision</td>
</tr>
<tr>
<td></td>
<td><strong>CONDITIONS</strong></td>
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<tr>
<td></td>
<td>• Low vision</td>
<td></td>
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<tr>
<td></td>
<td>• Cataracts</td>
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<td></td>
<td>• Glaucoma</td>
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<td>• Macular degeneration</td>
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<td></td>
<td>• Diabetic retinopathy</td>
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<td></td>
<td>• Homonymous hemianopsia</td>
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<tr>
<td><strong>Hearing</strong></td>
<td>It allows one to hear the world around them</td>
<td>Decreased ability to hear</td>
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<tr>
<td></td>
<td><strong>CONDITIONS</strong></td>
<td></td>
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<tr>
<td></td>
<td>• Conductive</td>
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<td>• Sensorineural</td>
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<td>• Presbycusis</td>
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<td>• Otosclerosis</td>
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<td>• Paget’s disease</td>
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<td>• Hypothyroidism</td>
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<tr>
<td><strong>Taste</strong></td>
<td>It refers to the ability to detect the flavor of substances such as food, certain minerals, and poisons.</td>
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<td></td>
<td><strong>AFFECT TASTE</strong></td>
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<tr>
<td></td>
<td>• Smoking</td>
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<tr>
<td></td>
<td>• Chronic allergies</td>
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<td></td>
<td>• Dentures</td>
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<tr>
<td></td>
<td>• Stroke</td>
<td></td>
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<tr>
<td><strong>Cognition</strong></td>
<td>The process and formation of thought</td>
<td>Decreased reaction time; memory loss; slower processing time; more time needed to complete task</td>
</tr>
<tr>
<td></td>
<td><strong>CONDITIONS</strong></td>
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<tr>
<td></td>
<td>• Alzheimer’s</td>
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<tr>
<td></td>
<td>• Dementia</td>
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<td>• Stroke</td>
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<td>• TBI</td>
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<td></td>
<td>• Drugs/medications</td>
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<td>Pumping and channeling blood to and from the body and lungs</td>
<td>Decrease in blood vessel flexibility; max heart rate decreases; resting HR remains the same;</td>
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<td>System</td>
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<td>-------------------------------------------------</td>
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<td>Decreased sensitivity to hormonal triggers</td>
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<td>Skin, hair and nails</td>
<td>Decrease in skin elasticity; decreased vascularity; change in hair color; potential loss of hair; nails become brittle and thick</td>
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<td>Immune</td>
<td>The system that fights off disease</td>
<td>Decreased antibodies and proteins to help fight viruses and bacteria</td>
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<td>Muscular</td>
<td>The system that physically moves the body</td>
<td>General decline in strength, power, muscle mass, and endurance; decreased muscle flexibility</td>
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<td>Collecting, transferring and processing information with brain, spinal cord,</td>
<td>Decreased cerebral mass and brain weight; decreased cerebral blood flow;</td>
</tr>
<tr>
<td>System</td>
<td>Condition</td>
<td>Description</td>
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<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Peripheral</td>
<td>slowing of neural processes</td>
<td></td>
</tr>
<tr>
<td>Reproductive</td>
<td>The sex organs</td>
<td>Decreased ability to reproduce</td>
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<td>Respiratory</td>
<td>The organs &amp; muscles used for breathing</td>
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<td>Endocannabinoid</td>
<td>Physiological processes including appetite, pain-sensation, mood, motor learning, and memory</td>
<td>Decreased appetite; loss of memory; harder to learn new task; decreased sensitivity to touch</td>
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</tbody>
</table>

**Reference:**


Personal Communication (September 2008). *Process of aging*
Independence in Activities of Daily Living:
Typical limitations experienced by elderly individuals in ADLs & IADLs within their home environment

<table>
<thead>
<tr>
<th>Decreased Ability</th>
<th>Potential Problem</th>
<th>Adaptation</th>
</tr>
</thead>
</table>
| Vision            | Limited visibility – trip on unseen objects; put self in unsafe situations | • Place more lighting around house (light fixtures, lamps, night lights)  
• Reduce glare  
• Remove throw rugs  
• Wear needed/proper eye glasses/contacts  
• Magnifying glass  
• Allow more time for eyes to adjust when switching between different environments  
• Highlight contrast between objects (color differences, large print) |
| Vestibular        | Impaired balance – falls, general sense of uncertainty with body movements, dizziness from certain head movements | • Place grab bars in needed areas  
• Remove throw rugs & clutter  
• Create clear pathways throughout your house  
• Proper lighting  
• Sit up/stand up and allow a minute for your body to adjust before moving |
| Cognition/Memory  | Forget steps for certain actions; forget important information or contact numbers; forget to turn hazardous items off after using (stove, etc); forget where going or where home is | • Place reminders around the house (Post-it notes)  
• Use Pill boxes  
• Keep a Memory log  
• Voice recorder devices  
• Alarms  
• Remain engaged in life: social activities & hobbies  
• Ask for demonstrations or written instructions for new task  
• Make sure medication are correct & the correct amount |
<p>| Mobility          | Limited mobility – | • Place grab bars/railings in |</p>
<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Suggested Solutions</th>
</tr>
</thead>
</table>
| Difficulty getting around house &/or running errands; potential problem if caught in an emergency situation | needed areas  
- Place phones or emergency devices in every/commonly used rooms  
- Organize outings so to get as much done in one trip  
- Have an emergency plan in place for the chance you are stranded either at home or out-n-about  
- Utilize family, friends, & community resources for help getting around  
- Adaptive mobility equipment (wheelchairs, modified vehicles) |
| Strength | Decreased strength – unable to complete task that one was once able too; placing self in unsafe situations  
- Ask for assistance  
- Break task up  
- Rearrange house so don’t have heavy items up high  
- Use assistive carrying devices to help carry items (place items in carts instead of carrying items yourself) |
| Endurance | Decreased endurance – reduced ability to perform routine task; potential to place self in unsafe situations  
- Pursed lip breathing  
- Break task up, take breaks  
- Have chairs set up around the house that you can sit down & rest when needed  
- Ask for assistance with task  
- Buy items that minimize the number of steps you need to complete (cut up vegetables instead of whole vegetables) |
| ROM | Decreased ROM- unable to reach needed items; potential to place self in unsafe situations  
- Long-handled Reacher  
- Steeping stool  
- Rearrange house so items used most frequently are within easy reach |

Reference:


# The Human Body, the Affects of Aging, and Adaptation Tips

<table>
<thead>
<tr>
<th>Body Systems</th>
<th>Function</th>
<th>Aging Process/ Potential Conditions</th>
<th>Adaptation And Safety Tips</th>
</tr>
</thead>
</table>
| Vision       | Interprets the information from visible light to build a representation of the world surrounding the body. | Decreased abilities in vision  
**CONDITIONS**  
- Low vision  
- Cataracts  
- Glaucoma  
- Macular degeneration  
- Diabetic retinopathy  
- Homonymous hemianopsia  | • Place more lighting around house (light fixtures, lamps, night lights)  
• Reduce glare around house  
• Remove throw rugs  
• Wear needed & proper eye glasses & contacts  
• Magnifying glass  
• Allow more time for eyes to adjust when moving between environments  
• Highlight contrast between objects (color differences, large print) |
| Hearing      | It allows one to hear the world around them | Decreased ability to hear  
**CONDITIONS**  
- Conductive  
- Sensorineural  
- Paget’s disease  
- Tumor  
- Hypothyroidism  | • Let people know about hearing difficulty  
• People need to speak slowly, clearly, and directly to the individual  
• Hearing aids  
• Enhanced sound devices  
• Eliminate surrounding distractions |
| Taste        | It refers to the ability to detect the flavor of substances such as food, certain minerals, and poisons. | Decreased taste sensitivity  
**AFFECTS TASTE**  
- Smoking  
- Chronic allergies  
- Dentures  
- Stroke  | • Increase the concentration of certain flavors within food |
<p>| Cognition    | The process and | Decreased reaction  | • Place reminders around |</p>
<table>
<thead>
<tr>
<th>System</th>
<th>Function</th>
<th>Conditions</th>
<th>Suggestions</th>
</tr>
</thead>
</table>
| Circulatory | Pumping and channeling blood to and from the body and lungs | Decrease in blood vessel flexibility; max heart rate decreases; resting HR remains the same; decreased blood flow and volume; decreased glucose tolerance | • Light exercise  
• Sit up slowly  
• Stand up slowly  
• Sit back down if feeling dizzy at any point  
• Allow time for the blood to catch up with the body’s actions |
| Digestive | Digestion and processing food | Decreased efficiency of all organ functions; decrease in salivation production | • Proper nutrition  
• Take small bites  
• Take time to chew food before swallowing  
• Tilt head slightly forward to swallow  
• Use thicker liquids if choking while swallowing |
| Endocrine | Communication within the body using hormones | Decreased sensitivity to hormonal triggers | • Proper medication  
• Education about |
<table>
<thead>
<tr>
<th>CONDITIONS</th>
<th>diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td></td>
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<tr>
<td>Skin, hair and nails</td>
<td>Decrease in skin elasticity; decreased vascularity; change in hair color; potential loss of hair; nails become brittle and thick</td>
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<tr>
<td>The system that fights off disease</td>
<td>Decreased antibodies and proteins to help fight viruses and bacteria</td>
</tr>
<tr>
<td>The system that physically moves the body</td>
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<td></td>
<td>Auto-immune diseases</td>
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<tr>
<td></td>
<td>Atrophy; Fibromyalgia; SCI</td>
</tr>
<tr>
<td>Mobility concerns:</td>
<td>Place grab bars/railings in needed areas; Place phones or emergency devices in every/commonly used rooms; Have an emergency plan</td>
</tr>
</tbody>
</table>
| Nervous | Collecting, transferring and processing information with brain, spinal cord, peripheral nerves, and central nerves | Decreased cerebral mass and brain weight; decreased cerebral blood flow; slowing of neural processes | • Be patient  
• Allow more time to complete tasks  
• Break tasks into smaller jobs  
• Ask for assistance  
• Use adaptive equipment |
|---------|---------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------|
| Respiratory | The organs & muscles used for breathing | Chest wall stiffens; decreased ability to exhale air from lungs; decreased lung capacity | • Pursed lip breathing  
• Break task up, take breaks  
• Have chairs set up around the house that you can sit down & rest when needed  
• Ask for assistance with task  
• Buy items that minimize the number of steps you need to complete (cut up vegetables instead of whole vegetables)  
• Organize outings so to get as much done in one trip |
| Skeletal | The system that holds the body together and gives it shape | Bones become stiffer; loss of bone mass & density; loss in physical height | • Exercises that places natural weight on the bones  
• Calcium & Vitamin D |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Symptom</th>
<th>Conditions</th>
<th>Prevention Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinary</td>
<td>Fluid and electrolyte balance; excretion of urine</td>
<td>Loss of bladder control; decrease in bladder capacity</td>
<td>Proper nutrition, Proper hygiene, Voiding schedule</td>
</tr>
<tr>
<td>Vestibular</td>
<td>Contributes to our balance and our sense of spatial orientation</td>
<td>Decreased sense of balance; slower response time to sudden body movements</td>
<td>Place grab bars in needed areas, Remove throw rugs &amp; clutter, Create clear pathways throughout your house, Proper lighting, Sit up/stand up and allow a minute for your body to adjust before moving</td>
</tr>
<tr>
<td>Endo-cannabinoid</td>
<td>Physiological processes including appetite, pain-sensation, mood, motor learning, synaptic plasticity, and memory</td>
<td>Decreased appetite; loss of memory; harder to learn new task; decreased sensitivity to touch</td>
<td>Create reminder cues: notes to self, memory log, assistance from others, Break tasks into multiple steps, Practice newly learned tasks, Receive instructions in multiple forms: verbally, auditorally, and visually, Be aware of the temperature of items</td>
</tr>
<tr>
<td>before touching</td>
<td>Look where you are reaching</td>
<td>Frequent skin checks</td>
<td></td>
</tr>
</tbody>
</table>

Providing education to the residents about aging, their condition, and why you are helping with certain parts of their care is important for the residents’ own peace of mind and to help encourage their participation in their care.

Reference:


Personal Communication (September 2008). *Process of aging*
## Adaptive Equipment

<table>
<thead>
<tr>
<th>Adaptive Equipment</th>
<th>Function/Purpose</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long handle reacher</td>
<td>Assist an individual pick up items that may have dropped, reach items that may be out of their reach, or assist with dressing</td>
<td></td>
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<tr>
<td>Long handle hairbrush, bath sponge, back scrubber</td>
<td>Assist an individual with brushing hair, washing various body parts, &amp; itching hard to reach spots</td>
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</tr>
<tr>
<td>Dressing aides (button aid, zipper aid)</td>
<td>Assist an individual who may have limited hand function, button or zip up an article of clothing by themselves</td>
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<tr>
<td>Sock-Aid</td>
<td>Assist an individual with putting on socks or stockings</td>
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</tr>
<tr>
<td><strong>Elastic Shoelaces</strong></td>
<td>To make wearing a shoe less work; it turns lace shoes into slip-ons</td>
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<td>----------------------------------------------------------------</td>
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<tr>
<td><strong>Bathroom</strong></td>
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<tr>
<td>Bath &amp;/or shower chair</td>
<td>Allows an individual to sit down while showering</td>
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<tr>
<td><strong>Non-slip mats</strong></td>
<td>Assist an individual in a shower by providing a stable, non-slippery surface to stand on</td>
<td></td>
</tr>
<tr>
<td><strong>Raised toilet seats</strong></td>
<td>Raises the surface for the individual to sit on, so they do not have sit down as low. It also provides handles for the individual to use when sitting down &amp; standing up</td>
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<tr>
<td><strong>Eating</strong></td>
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</tr>
<tr>
<td>Universal hand cuff</td>
<td>For those with no hand strength, sensation or function, it assist an individual with holding eating utensils to help them be able to feed themselves</td>
<td><img src="image1.jpg" alt="Universal hand cuff" /></td>
</tr>
<tr>
<td>Built-up eating utensils</td>
<td>For those with limited hand movement or strength it assist an individual with holding eating utensils</td>
<td><img src="image2.jpg" alt="Built-up eating utensils" /></td>
</tr>
<tr>
<td>One Handed cutting board</td>
<td>For those with the use of only one hand to assist with cutting items.</td>
<td><img src="image3.jpg" alt="One Handed cutting board" /></td>
</tr>
<tr>
<td>Adapted cups &amp; straws</td>
<td>Makes drinking easier, allows one to maintain proper head &amp; neck positioning.</td>
<td><img src="image4.jpg" alt="Adapted cups &amp; straws" /></td>
</tr>
<tr>
<td><strong>Adapted plates &amp; bowls</strong></td>
<td>Makes scooping food onto eating utensils easier</td>
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<th><strong>Transfers/Mobility</strong></th>
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<tr>
<td><strong>Sliding boards</strong></td>
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<td><strong>Gait/Transfer belts</strong></td>
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<tr>
<td><strong>Canes</strong></td>
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<td><strong>Walkers (4ww, Fww)</strong></td>
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<tr>
<td><strong>Wheelchairs</strong></td>
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<th><strong>Safety/</strong></th>
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<td>General Care</td>
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<tr>
<td>Grab bars</td>
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<tr>
<td>Bed rails</td>
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<tr>
<td>Adult bibs &amp; clothing protectors</td>
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<tr>
<td>Hipster briefs</td>
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<tr>
<td>Pill organizers</td>
</tr>
<tr>
<td>Product</td>
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<tr>
<td>--------------------------------</td>
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<tr>
<td><strong>Dycem non-stick mats</strong></td>
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<tr>
<td><strong>Leisure</strong></td>
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<tr>
<td>Playing card holders, Low vision cards</td>
</tr>
<tr>
<td>Adapted writing tools</td>
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<tr>
<td>Adapted scissors</td>
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</tbody>
</table>

**Reference:**


Nicaragua Project 2009-10
Focus Group

The purpose of the focus group is to understand the impact of caregiver education on service delivery. The initial focus group will be conducted with caregivers. The following focus group guideline is intended for the participation of caregivers only. Although, it may be appropriate to triangulate information with a follow-up focus group of resident elders. The follow-up focus group with elders will need additional development from subsequent project contributors, if deemed a necessary step in understanding this outcome.

The focus group is designed to understand the behavior, knowledge and attitudinal changes that have occurred since participating in caregiver education.

Please see our list of recommendations for other ways to measure change with regards to caregiver education.
Nicaragua Project  
Outcomes Measurement  
Focus Group

**Purpose of focus group:** to understand the impact of caregiver education on service provided to elders living in the Hogar La Providencia, Granada.

**Members of focus group:** 4-6 caregivers who volunteer to participate

**Demographic Data Collection:** The following information should be collected from each participant prior to the focus group discussion.

1. Age
2. Gender
3. Education level
4. Number of years caregiver experience
5. Past work experience
6. Nationality
7. Race
8. Ethnicity
9. Languages spoken
10. Children (yes/no, gender, age)
11. Family members in household (relationship, age, gender)
12. Provided care for a friend or family member (yes/no, relationship, age, gender)

**Introduction to group:** Disclose the purpose of the focus group to the participants. Let them know that it is an attempt to improve the classes and help design ones in the future as other caregivers in other Hogares may be receiving similar training. They have already received their certificate, it is not a way to grade their performance. In a way, they are grading, or providing feedback on the course itself. Data collected may also be used for future research exploring the benefits of caregiver training.

Give the group the rules of participation. Limit interruptions between group members. Allow others to finish their thoughts before sharing.

**General Recommendations:** Begin with an ice-breaker. If group members are having trouble sharing, ask a question, and then have them write down their answer. Ask them to then share what they wrote. Note if there is a dominant voice in the group. Be sure to get everyone’s input. Sometimes group members feel they have to agree with the dominant person. Ensure everyone that each person’s experience is different and there are no right or wrong answers.

The interviewer must maintain direction of the group. Three recommendations to maintain control of the group direction is to have a clear understanding of the purpose of
the group, ask the right questions to get the information needed, giving appropriate verbal and non-verbal feedback. 
Record the conversation with an audio or video device. Or designate one person to moderate the group and another person to take detailed notes.

The following questions are a guide, and may be used to stimulate conversation. However, the interviewer must be flexible to understand the direction of the group conversation and allow members to share enough to derive meaning from their experience. And to guide group members who are verbose to get the correct information. It may be beneficial to conduct a practice group with non-participant volunteers (i.e., classmates, friends, co-workers) prior to conducting the focus group with actual participants and data collection process.

*See attachment for detailed suggestions for moderating a focus group.

**Questions for the group:**

1. What is the most surprising thing you learned from the caregiver education course? (discussion starter, personalized question to deter “groupthink”)

2. Writing Exercise: allow participants 2-3 minutes to write down a few things they learned from the caregiver education course prior to sharing with the group.

3. What was the most important thing you learned from the caregiver education course? (knowledge)

4. How have you used that information to change the way you work with the elders? (behaviors)

5. Has your perception of the elders changed since participating in the caregiver education course? (attitude)

6. Have you experienced any barriers that prevent you from implementing what you’ve learned? If so, what are your suggestions for improvement?

7. What is your favorite part about working with the elders? (attitudes)

8. What is you least favorite part about working with the elders?

9. Closing Statement: Ask each participant to share one last closing remark. Do not allow other participants to interject during closing statements.

**Analyzing the data:**

- After the focus group is finished, it may be worthwhile to make a field-note log book entry and note any initial perceptions of the group process, themes that emerged, or any group dynamics that may affect the group process.
- Process the raw data. Transcribe the recorded conversation. This process will help you become familiar with the data collected.
- Identify a thematic framework. This is derived from the aims and objectives of the study and issues raised during the process.
- Index the data by identifying themes. This can be done by writing themes on index cards and then grouping them visually, for example.
- Note any associations between themes to provide explanations for findings. The process of mapping is influenced by the original objectives as well as the themes that have emerged from the group.

**Guidelines for Developing a Focus Group**

**Determining the Interview Content**
- typical discussion lasts 1-2 hours; recommended to set length at 90 minutes, while telling participants that discussion will run 2 hours—this half-hour cushion avoids disruption of group dynamics from “later arrivers” or “early leavers”
- important to maintain focus during this time span and not explore too many topics
  - for unstructured groups, this might mean just 2 broadly stated topics or questions
  - for structured groups, the limit should probably be 4-5 distinct topics or questions, with preplanned probes under each major topic
    - for more structure group, it is useful to organize discussion topics into a guide that the moderator follows in more or less the same order from group to group (this guide helps to channel group interaction and for making comparisons across groups during analysis phase)
    - a good guide creates natural progression across topics with some overlap between topics (artificial compartmentalization of discussion defeats purpose of using group interaction)
    - additional value of guide is to ensure consensus among researchers in regards to topics to be covered and amount of detail
    - one common form of guide is based directly on questions—act of asking questions signals moderator’s basic control over content and direction of group’s discussion
    - avoid tendency to follow predetermined order of topics in rigid fashion, don’t adhere to fixed questions—instead moderator should probe more deeply where necessary, skip over areas that have been covered, and follow completely new topics if they arise
    - guide may need revision if moderator frequently has to work hard to force attention to topics or keep attention from shifting to
another topic—with a good guide discussion should flow easily from topic to topic

Moderating the group
- open session by introducing the topic in general fashion (don’t be too detailed as it might guide participants’ discussions or might lead them to think you are looking for something specific and restrict discussion as a result)
- also introduce ground rules
  - only 1 person speaking at a time
  - no side conversations among neighbors
  - everyone participating with no one dominating
- keep introduction brief

Beginning the Discussion
- ice-breaker vs. discussion-starter
  - ice-breaker = each participant giving brief self-introduction (or moderator can lighten mood by asking “tell us something about what you like to do for fun”)
  - discussion-starter = a questions that all participants would be interested in and is easy for them to respond to
  - advantage of opening question is that it helps to deter “groupthink” (tendency for dissenders to suppress their disagreements in favor of maintaining consensus in the group) by getting everyone on record with their different experiences and opinions before consensus emerges
    ▪ may be beneficial to have participants take a few moments to write notes prior to responding—writing things down often reinforces a person’s commitment to contributing those thoughts to the group, even in event of disapproval
  - beginning with general question that emphasizes participants’ interest lets researchers hear participants’ perspectives
    ▪ starting with participants’ perspective rather than researchers’ interests can lead to new way of thinking about the topic
    ▪ also provides evidence of consensus or diversity of the group which is valuable during data analysis and for managing upcoming discussion

Continuing and Concluding the Discussion
- Following ~10 minutes of opening discussion, moderator may introduce first substantive topic on the guide “one thing I’ve heard several people mention is….I wonder what the rest of you have to say about that?”
- if first topic has not been raised “one thing that I’m surprised no one has mention is…Does this matter or not?”
Topics mentioned in opening discussion need to be remembered and used to segue into later topics “I recall that some of you mentioned something a little different earlier, and I wonder how things like…fit into the picture?”

Transition is important for marking both the beginning of group discussion and that session is coming to an end…in structured groups, moderator might ask each participant to make a final statement and ask others’ not to interrupt.

### Site Selection & Data Collection
- Site should be comfortable, should provide:
  - Circular or rectangular table for participants
  - Good space for audio recording, be sure audio equipment is tested prior to group meeting to ensure good recording quality and to eliminate technical problems
  - Videotaping not recommended due to intrusiveness
- Moderator should take notes immediately following focus group. Notes might include observation of group interactions…tone of group, general interaction observations, etc.

### Recommendations for Future Research

When implementing services in additional Hogares spend time developing methods for more rigorous future data analysis. It is recommended that researchers obtain both qualitative and quantitative data for analysis. Quantitative data may be obtained by: (1) Having the trainees take a pre-test and a post-test to document what they have learned, (2) Collecting data in resident chart notes that indicate changes in health status or quality of life. This quantitative data may be triangulated with qualitative themes obtained through a follow-up focus group (w/ trainees and/or elders). It is also recommended that researchers collect demographic data from all caregivers who participate in the caregiver education course, which can be used later in correlational studies to determine what factors contribute to reduction in reported cases of caregiver abuse. Long-term, data collected from each Hogar may be compiled and analyzed in a comparison study.

### Resources:


**Nicaragua Project 2009-10**  
**Occupational Therapy Activities**  
**Log Book**

**Purpose:** The purpose of the log book is to provide a historical record of our activities in Nicaragua. This information will be recorded in an effort to understand the therapeutic value of activity for the residents at the Hogar La Providencia, Grananda. It may also serve as information to submit to collaborative stakeholders or for evaluation of services.

The information recorded in the log book may be used at a later date, so it is important to fill out the information completely and as accurately as possible. Please use legible handwriting when authoring a log book entry.

All log book pages must include a page number, date and name of the author so that they may act as a stand-alone document.

**Directions:** Fill out the formatted section (grid at top of page) of the log book page entirely. If more than one page is needed, cross out grid on next page. Describe the activity provided for the elders. Describe any therapeutic interaction. Subjective information may also be included such as quotes from residents and information that is not observable but may affect the performance of an individual participating in the activity. Attempt to use objective language when possible. Refrain from making judgments; instead, describe a situation from all parties’ perspectives.

*It is advisable to make a log book entry directly after an activity is complete to maximize data recall.*

Other activities may also be recorded. For example, you may wish to record any educational activities provided and who participated in the event. Change headings accordingly.
**Nicaragua Project**  
**Occupational Therapy Activities**  
**Field-Note Log Book**

**Purpose:** The purpose of the log book is to provide a historical record of our activities in Nicaragua. This information will be recorded in an effort to understand the therapeutic value of activity for the residents at the Hogar La Providencia in Granada, Nicaragua. It may also serve as information to submit to collaborative stakeholders or for evaluation of services.

The information recorded in the log book may be used at a later date, so it is important to fill out the information completely and as accurately as possible. Please use legible handwriting when authoring a log book entry.

All log book pages must include a page number, date and name of the author so that they may act as a stand-alone document.

**Directions:** Make all entries in blue or black ink. If a mistake is made, cross out with a single line and initial it. Fill out the formatted section (grid at top of page) of the log book page entirely. If more than one page is needed, cross out grid on next page. Include author’s initials at the end of an entry and cross out any unused portion of the page at the end of the entry *(see example)*.

Describe the activity provided for the elders. Describe any therapeutic interaction. Subjective information may also be included such as quotes from residents and information that is not observable but may affect the performance of an individual participating in the activity. Attempt to use objective language when possible. Refrain from making judgments; instead describe a situation from all parties’ perspectives.

It is advisable to make a log book entry directly after an activity is complete to maximize data recall.

Other activities may also be recorded. For example, you may wish to record any education activities provided and who participated in the event. Change headings accordingly.

When in doubt about any of the headings, the purpose is to include *details* of the events that took place while in country. It is better to include extra information, than to exclude something because of uncertainty of its purpose.
<table>
<thead>
<tr>
<th>Date:</th>
<th>Hogar Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name/Description of Activity:</td>
<td>Name of entry author (include credentials):</td>
</tr>
<tr>
<td>Time activity began:</td>
<td># of Volunteers assisting:</td>
</tr>
<tr>
<td>Time ended:</td>
<td>Training/credentials of volunteers:</td>
</tr>
<tr>
<td>Place:</td>
<td># of OT/S leading activity:</td>
</tr>
<tr>
<td># of Residents initiated activity:</td>
<td># of Residents completed activity:</td>
</tr>
</tbody>
</table>

Describe activity (please include any therapeutic interaction involved and subjective information that would influence the activity):

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Nicaragua Project 2009-10
Volunteer Sign-In

The purpose of the volunteer sign-in sheet is to document the frequency of which the residents at the Hogar La Providencia in Granada are receiving care from Physical Therapy, a community volunteer to lead leisure activities and/or other services. It may also be used at additional residences if the need arises.

This information may be used to report to stakeholders or be used to describe sustainable services provided to the elders in a summary report. It may also be used to monitor or change services as needed. This list of potential uses serves as an example of the ways in which this information may be used.

A copy of the sign-in sheet is included in this binder. An electronic copy has also been provided to Tiffany Boggis.
<table>
<thead>
<tr>
<th>Fecha</th>
<th>Nombre y Apellido del Voluntario</th>
<th>Actividades</th>
<th>Comienza</th>
<th>Termina</th>
<th>Cantidad de residentes ha visto</th>
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In an effort to understand the subjective experience of the elders we are serving, a cross-cultural measure of quality of life is recommended. The World Health Organization Quality of Life (WHOQOL) questionnaire may serve as a means to uncover the experience of abandoned elders. The WHOQOL was developed as an international cross-culturally comparable quality of life assessment. It assesses an individual's perceptions in the context of their culture and value systems, and their personal goals, standards and concerns. The BREF format may be more appropriate for this setting.

The WHOQOL may be administered periodically (i.e., annually) to understand any changes occurring for individuals in the Hogares. It may be appropriate to monitor this information as more services are provided and service improvements are made. Scores of the WHOQOL may be compared to descriptive data collected about services provided.

**For a copy of the assessment or for more information refer to:**


Health Promotion for Nicaraguan Elders

Kelly Ableman, Kelly Perez, Emily Piper & Alys Tamulinas

Pacific University
2010

History and Background

- Initiated in 2007
- Project Description:
  - To promote health and wellness of elders in Nicaragua.
  - Providing services
  - Social capital
2009 Nicaragua Overview

- December 13-23, 2009
- OT, PT, DHS, PA, Pharmacy
- 15 students/5 faculty

Jessie F. Richardson Foundation

- Local non-profit organization
- Advocates for quality and innovation in long-term care for elders
- Domestically and abroad


- JFR Foundation
Hogares

- Hogar de Ancianos la Providencia, Granada
- Hogar de San Pedro Claver, Masaya

Reasons elders live in hogares:
- No family
- Abandoned
- Natural disasters
- Work migration
- Poverty
- Level of care needed
- Occupational Deprivation
Ongoing Efforts

- Provided caregiver education at the hogar
- Access to a room with supplies for engagement in leisure activities
- Yearly dental exams
- Bi-monthly medical visits with a gerontologist
- Bi-weekly exercise groups led by local PTs

Students & Faculty Objectives

- Enhance students’ skills in developing culturally appropriate services & programs
- Collaborate in an interdisciplinary environment
- Gain experience in service-learning and advocating for social justice
- Gain a deeper understanding of the health needs of elders living in poverty
2009 OT Objectives

- Engage the elders in meaningful activities
- Provide meaningful social interactions
- Increase health awareness through active engagement in exercise, activities, and self-care tasks

Pre-Departure Preparations

- Fundraising
- Spanish Class
  - Culture Presentation
In-Country Activities

- Aging in place
- Activity groups for elders
  - Crafts
  - Self-Care
  - Leisure
  - Play (Fiesta)
  - Exercise
- Caregiver and student training
- Masaya needs assessment
- Community awareness

Community Based Rehabilitation Model (CBR)

- Health
- Education
- Livelihood
- Social
- Empowerment
- Sustainability
Post-Travel Project Development

- Presentations: OT Advisory Board and SOTA
- Mentorship for 1st and 2nd year OT students
- Reflection
  - CBR Model
  - Person-Environment-Occupation

Outcome Measurements

- Monitoring vs. Evaluation
- Quantitative vs. Qualitative
- Defining outcomes
  - QOL
  - Engagement in occupation
  - Impact of CG Training
2009 Contributions

- Development of outcome measures
  - OT Interview Form
  - OT Log Book
  - Focus Group
  - Volunteer Sign-In Notebook
- Development of education materials
  - Training Manual

Quality of Life Measurements

- Existing Measurements
- WHOQOL - BREF
Interdisciplinary Documentation

- OT Interview Form

Engagement in Occupation

- OT Log Book
- Volunteer Sign-In Notebook
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**Identified Needs**

- Financial support for project collaborators
- Educate in-country health providers and community volunteers
- Expand social capital in-country including governmental support

**Future Expansion**

- Service Expansion
  - Granada Model
- Increase involvement of Pacific’s professional programs
  - clinical rotation development
- One-week rehab course for health care providers in Nicaragua
  - Training Manual
- Refine outcome analysis
- Share outcomes through presentations and publications
Nicaragua Project 2009-10
Cultural Presentations

Prior to departing for Nicaragua, student participants set out to learn more about the culture of Nicaragua. In doing so, we were better equipped to ensure that the services we planned to provide would be well suited to elders, community members, and caregiver given their context. OT students completed two separate cultural presentations, one with a student from another discipline and the other during our Spanish for International Travelers course. Cultural topics explored by OT students and shared with peers included Nicaraguan religion, geography, music, economics, history, demographics, and health trends.
Nicaraguan Religion

Emily Piper
CHP 503
September 28, 2009

A Brief History

- Roman Catholicism introduced during the 16th century.
- Protestantism and other Christian denominations came during the 19th century.
- Members of evangelical Protestant groups and Mormons growing rapidly since 1990’s.
- Currently, strong Anglican and Moravian groups on the Caribbean Coast.
Current Statistics

- Roman Catholic 72.9%
- Evangelical 15.1%
- Episcopalian 0.1%
- Other 1.9%
- None 8.5%

(Hunter, 2008)

Religious Holidays

- Toro Guaco - patron saint festivals
- April
  - Holy Week (Maundy Thursday, Good Friday, Holy Saturday)
  - Easter
- November
  - All Soul’s Day
- December
  - Fiesta de la Virgen de la Inmaculada Concepción
  - Christmas

(Dall, 2007)
Nicaragua Geography
Emily Piper & Wilbur Ramirez-Rodriquez

Geographic Facts

- **Location**
  - Central America, bordering both the Caribbean Sea and the North Pacific Ocean, between Costa Rica and Honduras

- **Area**
  - total: 129,494 sq km
  - land: 120,254 sq km
  - water: 9,240 sq km

- **Geography Note**
  - largest country in Central America; contains the largest freshwater body in Central America, Lago de Nicaragua
Geographic Facts Cont...

- **Terrain**
  - extensive Atlantic coastal plains rising to central interior mountains; narrow Pacific coastal plain interrupted by volcanoes

- **Elevation**
  - lowest: Pacific Ocean 0 m
  - highest: Mogoton 2,438 m

- **Land Use**
  - arable land: 15.94%
  - permanent crops: 1.94%
  - other: 82.12% (2001)

- **Irrigated Land**
  - 880 sq km (1998 est.)

- **Climate**
  - tropical in lowlands, cooler in highlands

- **Natural Resources**
  - gold, silver, copper, tungsten, lead, zinc, timber, fish

- **Natural Hazards**
  - destructive earthquakes, volcanoes, landslides; susceptible to hurricanes

- **Environmental Issues**
  - deforestation; soil erosion; water pollution

Pacific Lowlands

- Located in the west of the country, hot & mostly flat region, except for a line of volcanoes, running between the Golfo de Fonseca and Lago de Nicaragua

- Lowland area runs from the Gulf of Fonseca to Nicaragua’s Pacific border with Costa Rica south of Lake Nicaragua.

- Most populous region, with over half of the nation’s population. Managua is the most populous city with over 1.5 million inhabitants

- Consists of beach & resort communities, & contains much of the country’s Spanish colonial heritage
North-Central Highlands

- Upland region away from the Pacific coast, with a cooler climate than the Pacific Lowlands.
- About a quarter of the country's agriculture takes place in this region, with coffee grown on the higher slopes. Oaks, pines, moss, ferns and orchids are abundant in the cloud forests of the region.
- Bird life in the forests of the central region includes Resplendent Quetzal, goldfinches, hummingbirds, jays and toucanets.

Atlantic Lowlands

- Rainforest region, irrigated by several large rivers and very sparsely populated.
- Caribbean coastline is irregular compared to the straight Pacific coast counterpart, consisting of lagoons and deltas.
- Rio Coco - largest river in Central America, forms border with Honduras.
Atlantic Lowlands Cont...

- Bosawás Biosphere Reserve – protects 1.8 million acres of Mosquitia forest, almost 7% of the country’s area making it the largest rainforest north of the Amazon in Brazil.

- Climate is predominantly tropical, with high temperature and high humidity.

- Home to a variety of birds, including eagles, turkeys, toucans, parakeets and macaws. Animals living in the area includes different species of monkeys, anteaters, white-tailed deer and tapirs.

Resources

- http://countrystudies.us/nicaragua/20.htm
NICARAGUA DEMOGRAPHICS

November 5, 2009
Mineca Riggs-Flores, SPT
Pacific University Oregon

POPULATION TRENDS
US vs. Nicaragua

Population by Age Group, United States, 1975-2025
Population by Age Group, Nicaragua, 1975-2025

Total Pop. 2002: 288,530,000
% <15yo 21%
% >65yo 12%
Pop. Density (people/km²) 2000: 29.4
Av. Ann. Pop. Growth Rate, 1980-00: 0.7%

Total Pop. 2002: 5,347,000
% <15yo 42%
% >65yo 3%
Pop. Density (people/km²) 2000: 39
Av. Ann. Pop. Growth Rate, 1980-00: 2.8%
NICARAGUA POPULATION

Nicaragua current population (July 2009):
5,891,199

Age Structure: (million)
- <14y/o: 33.8% (♂:1.013, ♀:0.976)
- 15-64y/o: 62.9% (♂:1.85, ♀:1.86)
- ≥65y/o: 3.3% (♂:0.0858, ♀:0.110)

Median age (years):
- Total: 22.1
- ♂: 21.7
- ♀: 22.5


LIFE EXPECTANCY TRENDS

US vs. Nicaragua

http://earthtrends.wri.org
NICARAGUA CHILDBEARING DEMOGRAPHICS (2009)

Birthrate: 23.25/1000 population
Infant Mortality Rate: 25.02/1000 live births
   - $\varphi$: 28.09
   - $\delta$: 21.8
Total Fertility Rate: 2.57 children born/woman


SAFE WATER & SANITATION

Access to improved water source, 2000:
   Urban: 91%
   Rural: 59%

Access to improved sanitation, 2000:
   Urban: 95%
   Rural: 72%

http://earthtrends.wri.org
SCHOOL ENROLLMENT & LITERACY

- Net primary school enrollment (1997-99) both sexes: 79%
- Net secondary school enrollment (1997-99)
  Female: 53%
  Male: 49%
- Adult Literacy Rate (2002) both sexes: 67%
- Youth Literacy Rate ages 15-24 (2002) both sexes: 72%

http://earthtrends.wri.org

ETHNIC GROUPS:

- Mestizo (mixed Amerindian & white: 69%
- White: 17%
- Black: 9%
- Amerindian: 5%

RELIGION
(2005)

- Roman Catholic: 58.5%
- Evangelical: 21.6%
- Moravian: 1.6%
- Jehovah’s Witness: 0.9%
- Other: 1.7%
- None: 15.7%


Part II—
Health Status of Elders in Nicaragua

Review of article by Dr. Milton Lopez Norori

Alys Tamulinas, OTS
Pacific University Oregon
Health status of elders in Nicaragua

- A descriptive study conducted by Dr. Lopez between April to December 2006
- Location of Hogares: North-Central Nicaragua
- Study represents 6 of 19 Hogares
- 165 residents
- 70 support staff

Description of Residents

<table>
<thead>
<tr>
<th>N= 165</th>
<th>Marriage Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age= 79</td>
<td>Alone- 37.6%(M)</td>
</tr>
<tr>
<td>60-69 years= 15.2%</td>
<td>35.8% (F)</td>
</tr>
<tr>
<td>70-79 years= 33.9%</td>
<td>Married- 6.1%(M)</td>
</tr>
<tr>
<td>80+ years= 50.9%</td>
<td>4.8% (F)</td>
</tr>
<tr>
<td>Sex</td>
<td>Separated/Divorced-</td>
</tr>
<tr>
<td>52.1% males</td>
<td>3.6% (M)</td>
</tr>
<tr>
<td>47.9% females</td>
<td>0.0% (F)</td>
</tr>
<tr>
<td>Mean years living</td>
<td>Widowed- 4.8%(M)</td>
</tr>
<tr>
<td>in Hogar: 6</td>
<td>7.3%(F)</td>
</tr>
</tbody>
</table>
Description of Residents

Reasons for entering Hogar:
No family: 59.4%
Abandoned: 32.7%
Other: 6.7%
Poverty: 1.2%

Description of Residents

Education level
Illiterate 69.1%
Incomplete primary 12.1%
Completed primary 12.7%
Incomplete secondary 1.8%
Completed secondary 1.2%
Completed university 1.2%
Technical training 1.8%
Description of Residents

Functional Independence:
- 48.1% are independent
- 21.3% require assistance for ADL
- 30.6% are completely dependent
- 17% experience urinary incontinence
- 13.9% experience fecal incontinence

Health Perception:
- 0.6% perceive their health as excellent
- 27% perceive their health as good
- 43% perceive their health as regular
- 23% perceive their health as bad

Description of Support in el Hogar

Services provided:
- lodging, diet, personal care and recreation

Mean ration of staff to residents:
- 12.3 to 64.6

- 66.7% included a medical geriatrician
- 30.3% had a general practitioner or medical specialist (not geriatrician)
- 27.2% had a psychologist
- 33% had physical therapists
- 24.2% had less than one nurse for 9 people

(percentage of Hogares included in the study)
Condition of Hogares

General findings:
- Poor accessibility
- Low level of physical comfort/privacy
- Few and small spaces for the support workers
- Few orientation aids
- Very little information dissemination about health conditions
- Residents have little control in their health services
- Most of the workers are women with little formal education and little to no education in gerontological issues
- Attention to oral health is practically inexistent
- Greatest STRENGTH was availability of assistance for ADL

REFERENCES


http://www.earthtrends.wri.org

References


