Assistive Technology: An Interdisciplinary Approach

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Learning Objectives

1. Name three essential members of an interdisciplinary AT team

2. Describe three of the team collaborations that can reduce duplication of service, gaps in care and improve efficiency and quality with service delivery

3. Identify three outcome measures that can be used by AT clinics to monitor progress, effectiveness of services and equipment being issued
Assistive Technology

Any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.

The Road to Assistive Technology at VA Puget Sound: A Collaborative Approach to Patient Care
In 2009 VACO assembled a team of experts to develop a system for implementing AT programs for the VA

Initially contracted for a 3 year term to establish AT programs at the 5 PRC’s

Development of interdisciplinary teams, incorporating outcome measures and evidence based practice
Establishing an AT Program at the VA Puget Sound

**Informal Needs Assessment:**
- Strengths & weakness
- Enlisted support from RCS leadership
- Identified team members
- Inventory of resources & equipment
- Ordered equipment for trial
- Contacted the National VA AT team to build support
- Scheduled trainings for new products & services
- Advocated for designated AT lab space
An Interdisciplinary Approach
Occupational Therapy Role

Electronic Aids for Daily Living (EADL’s)

- Computer Access
- Environmental Controls
- Power Mobility/Seating
- Home Access/Safety
- Adaptive Driving/Vehicle Accessibility
- Cognitive Devices

Occupational Therapists are qualified to select and implement AT to increase client participation and performance in daily activities, roles & occupations.
Speech Pathology Role

- Assessment of swallow function
- Assessment of cognitive & communication deficits
- Prescription of no tech, low tech, high tech AAC and cognitive aids, and swallowing interventions
- Computer access

Speech Pathologists provide a focus on optimizing augmentative and alternative communication options and cognitive prosthetic aids
Physical Therapy Role

- Gait Aids
- Transfer Training/Aids
- Mobility Assessment
- Seating/Positioning
- Exercise Programs
- Mobility Dog Prescription

Physical Therapists provide expertise in mobility, motor functioning and movement to the AT Team.
Collaborative Seating & Mobility Clinic

- Evaluate seating and mobility needs
- Provide custom seating system to protect integrity of skin, prevent further breakdown, and optimize posture
- Issue appropriate wheelchair (manual vs power wheelchair) that suits patient’s current level of function
- Provide necessary accessories (i.e. one arm drive)
Collaborative Computer Access/AAC Clinics

Installation and positioning of mounting options for AAC and cognitive aids

Modification of positioning to optimize AAC access

Collaboration on access methods
Collaborative Adaptive Recreation

- PT collaborates with RT to:
  - Evaluate and provide custom seating on recreational equipment
  - Provide alternative equipment for recreation and leisure activity
Other Essential Collaborations

- Prosthetics/PCU
- Manufacturer’s Reps
- Local/Regional DME vendors
- Home Based Primary Care
- Telehealth
- Visual Impairment Service Team
- Community Based Outpatient Clinics
New Consult Template/Referral Service

RCS ASSISTIVE TECHNOLOGY (one consult below for all areas)

ADAPTIVE LEISURE/RECREATION
- Access to this community use of public transit systems
- Devices to participate in adapted leisure/sports
- Evaluation for personal service/mobility animals

AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC)
- Speech generating devices / speech and language software
- Adaptive communication / voice amplification devices

COGNITIVE PROSTHETIC AIDS
- Low and high tech adaptive devices to augment cognitive processes such as attention and memory

COMPUTER ACCESS
- Alternative computer/tablet/phone access methods
- Modified keyboards / speech to text / eye gaze controls
- Mounting systems (for wheelchairs/tablet/bedside)

ELECTRONIC AIDS FOR DAILY LIVING (EADL)
- Environmental control units / home controls
- Devices used to access and operate home environment

POWER MOBILITY
- Customized prescription for power wheelchairs and scooters
- Assessment of specialized seating and positioning needs
- Assessment and prescription of alternative drive controls

SUPPORTIVE MOBILITY DEVICES
- Prosthetic limb training (upper/lower extremity)
- Functional electrical stimulation Orthotics (upper/lower extremity)
- Customized manual mobility devices (e.g. high tech walkers)
- Customized manual wheelchairs / Power assisted manual wheelchairs
- Patient lift and transfer aids (lifter/overhead/seal lift assist)

VOCATIONAL TECHNOLOGY
- Technology needed to support continue or return to work

<< ORDER CONSULT >>
AT Consults

- Consults are added to AT tracking sheet
- Contact patient/caregivers through phone clinic to identify areas of need
- Consult documentation template is in development
- Discuss patient’s case during interdisciplinary team rounds
- Generate appropriate referrals to relevant services
- Continue to monitor and discuss as needed
Outcome Measures

- Allows us to track success with individual patients and device/applications.
- Data is tracked locally within our medical center through CPRS templates with established health factors, as well as comparison through a national data database.
Functional Mobility Assessment- FMA

- A ten item self report questionnaire that can be administered over time to consumers and yields a means to measure the effectiveness of wheeled mobility interventions. Includes the following items:
  - Ability to carry out daily routine safely and independently
  - Comfort needs
  - Health needs
  - Ease of operation
  - Reaching different surfaces
  - Ability to transfer
  - Supports self care
  - Getting around indoors
  - Getting around outdoors
  - Utilize transportation

Center for Assistive Technology, University of Pittsburgh.
Quebec User Evaluation of Satisfaction with Assistive Technology- QUEST

12 item instrument to assess the satisfaction with a specific assistive device

- 8 items assess characteristics of the device:
  - Dimension
  - Weight
  - Adjustability
  - Safety
  - Durability
  - Simplicity of use
  - Comfort
  - Effectiveness

- The remaining 4 items assess service:
  - Service and delivery
  - Repairs and service of the device
  - Professionalism of service
  - Follow-up services

Demers, et al. (2002). QUEST 2.0
Outcomes Measures

- Speech – tracking outcomes using the ASHA NOMS
  - American Speech-Language Hearing Association National Outcomes Measurement System – tracking 8 areas:
    - Attention
    - Memory
    - Motor speech
    - Reading
    - Spoken language comprehension
    - Spoken language expression
    - Swallowing
    - Writing
Achievements and Progress

- Established weekly interdisciplinary patient rounds
- Created templates in CPRS (consults, documentation and outcome measures)
- Transitioning the majority of new wheelchair referrals to a collaborative format
- Three clinicians planning on acquiring ATP certification by the end of the year
- Acquired an AT lab space for evaluation and equipment trial
- Improved patient care and satisfaction
AT Clinic Space
Telehealth & CVT to Home
Collaborative Mobility Clinic
Computer Access, AAC & Cognitive Prosthetics
Case Example – Veteran with ALS
Case Example – Veteran with ALS

- Patient’s goals:
  - ECU / EADL control of
    - TV & cable
    - Lighting
    - HVAC, fans
    - Call system for alerting wife / caregiver
  - Access /mounting for Tobii C15 AAC device
  - Initial training w/ Tobii
  - Alternative controls & seating modifications to power mobility
  - Options for assisted transfers
  - Review of ADL equipment for toileting
  - Review of bed options to improve sleep hygiene
Home Visit Participants

- Patient
- Caregiver & wife
- OT
- PT
- SLP
- Wheelchair Manufacturer’s Rep
- AAC device Manufacturer’s rep
- Home Automation vendor
- Consultation with ALS MD/Nurse Coordinator
Case Example – Veteran with ALS
Case Example – Veteran with ALS

Home Automation Vendor
Case Example – Veteran with ALS

Power Mobility and AAC manufacturers reps
Case Example – Veteran with ALS
Case Example – Veteran with ALS
Case Example – Veteran with ALS
Case Example – Veteran with ALS
Plans for the future

- RESNA Certifications: ATP/SMS
- AT fair at the Seattle VA in 2015
- Establish Telehealth Clinics: including CVT to home and Telemobility
- CARF Assistive Technology Certification
- Fully outfitted AT lab space
Questions & Comments…
Obtaining CME/CE Credit

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http://pva.cds.pesgce.com

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