SEATING AND MOBILITY SERVICE DELIVERY PROCESS

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ABSTRACT

There are several models describing seating and mobility service delivery processes. The first objective is to identify and analyze themes found within these models. The second objective is to perform a case study of the seating and mobility clinic at The Ohio State University Medical Center (OSUMC) Assistive Technology (AT) center. The case study compares the theoretical models described in the literature to the real-world implementation of a clinical program.

BACKGROUND

Systematic service delivery processes have been a growing area of interest in the assistive technology field for several years. Models of service delivery have been created to fit the needs of the general AT community (Cook & Polgar, 2008).

While the AT models are useful for generalized AT service, it is also important to fit these models more specifically to certain services, such as seating and mobility. After reviewing several models specific to seating and mobility service delivery, general themes emerged as essential to the service delivery process. The resulting process as follows in Figure 1 is developed from the RESNA Wheelchair Service Provision Guide (Arledge, Armstrong, Babinec, Dicianno, DiGiovine, Dyson-Hudson, 2011) as well as from other wheelchair service delivery models (Borg, & Khasnabis, 2008; Eggers, Myaskovsky, Burkitt, Tolerico, Switzer, Fine, 2009):

While the themes that emerged provide a useful theoretical guide, the goal of this paper is to compare and contrast these areas of service delivery to the implementation of a real-world seating and mobility clinic.

SERVICE DELIVERY AT THE OHIO STATE UNIVERSITY MEDICAL CENTER

The OSUMC Assistive Technology center is a comprehensive program providing services to individuals with disabilities in communication, computer access, driver rehabilitation, electronic activities of daily living, electronic cognitive devices, seating and mobility, and workplace accommodations. Though individual pieces of the program have been in place throughout the in-patient and out-patient continuum for at least the past 15 years, the establishment of a comprehensive program was formally developed over the past 2.5 years. The largest service is the seating and mobility clinic, which has steadily increased with 606 visits in FY 2010 and 758 visits in FY 2011.

As a part of continual quality improvement, the seating and mobility clinic began tracking all cases during the 2nd half of FY 2011. During the six-month period, the clinic tracked 331 unique cases, including 222 evaluations, 41 pressure mapping assessments, and 68 fittings. The tracking process is utilized to ensure that each client receives services in a timely fashion, to lead the panel process, and to document updates to the timeline.

The seating and mobility clinic provides a unique opportunity to compare and contrast the real-world implementation of the clinic to the standard practices that are identified in the literature. The overarching goal of the

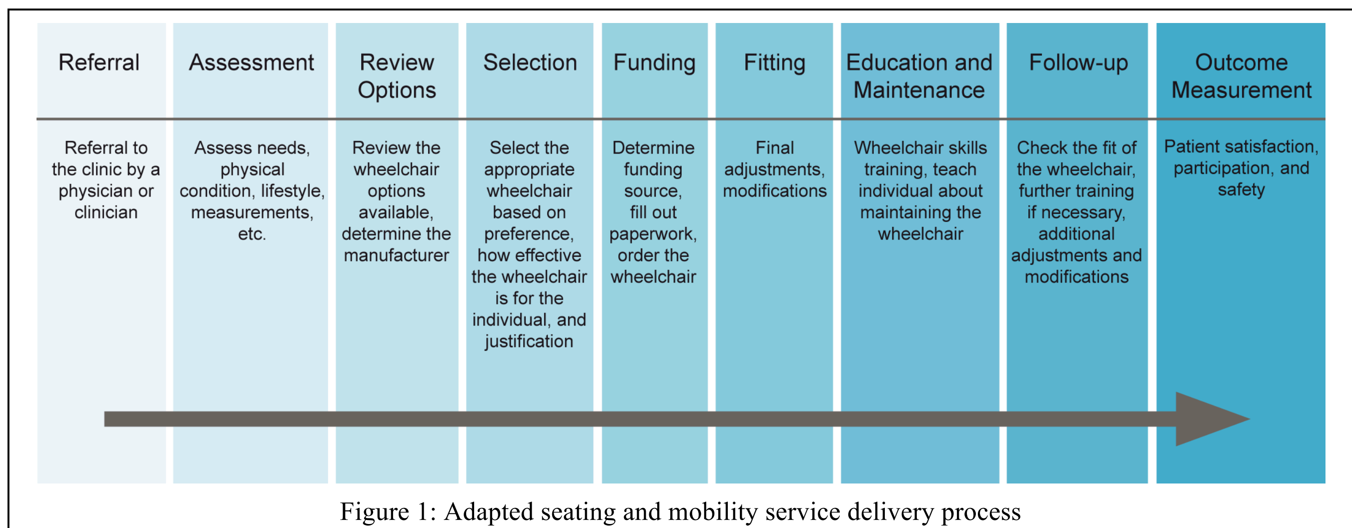

Figure 1: Adapted seating and mobility service delivery process

clinic is to provide the highest quality services to individuals with a disability as part of a multi-disciplinary team that includes members both internal and external to the medical center.

Seating and Mobility Team Members

The OSUMC AT center incorporates numerous members in the seating and mobility team, including a team leader (0.5 FTE), a rehabilitation engineer (0.5 FTE), occupational therapists and physical therapists (2.75 FTE), and an office associate (.5 FTE). The rehabilitation engineer has the assistive technology professional (ATP) and rehabilitation engineering technologist (RET) certification from RESNA. The team leader, an occupational therapist, and a physical therapist have the ATP certification. There are three primary local Rehabilitation Technology Supply (RTS) companies, and numerous manufacturing representatives involved in the service delivery process. The three RTS companies employ individuals with the ATP certification. The clinicians working in the seating and mobility clinic have access to other clinicians within the AT center as well as professionals through the academic continuum (e.g. College of Medicine and College of Engineering).

Referral and Intake Process

Once a physician refers the client to the Assistive Technology Center, the client is scheduled for an evaluation and he or she is added to the tracking system. This secure system tracks the client's name, MRN, physician, service, appointments, supplier, scheduler, clinician, date the report is completed and submitted, comments, outcome measure status, and case status. The AT center at OSUMC utilizes a supplier rotation, which includes the three RTS companies previously discussed, unless the client has a preference. Though the clinic has a preference for RTS with the ATP certification, the client has the final say in selecting the supplier. For this reason, and because the supplier participates in the assessment process, the rehabilitation technology supplier is chosen before the funding step, as described in the model. The suppliers participating in the seating and mobility clinic meet the OSUMC DME Supplier Guidelines. At this point a funding verification is done in the office for the services provided through OSUMC.

Client Arrival

An important step in creating a relationship with the client is an introduction to the AT center and the service delivery process. The supplier is typically asked to join the evaluation to help the client understand the roles and responsibilities of each team member. The team explains the process and typical timeline to receive a mobility solution. Introducing the process in advance provides an opportunity for client education and improves the client's awareness and comfort.

Assessment

The assessment is a large component of the evaluation process and a crucial step in determining the appropriate wheelchair. At this time information is recorded on the client's current seating and mobility system, including why it might or might not be working for him/her. Medical history and information on the client's lifestyle, activities of daily living (ADLs), transfers, goals, and community participation are recorded. The clinician will also look at the client's range of motion and take anthropometric measurements. Postural issues are addressed during the assessment to find the appropriate seating and mobility fit. At this point, the clinician is beginning to formulate the justification for appropriate seating and mobility devices.

Equipment Discussion

The clinician and mobility supplier will work together to discuss product availability and appropriateness with the client. This discussion includes descriptions of products available, including wheelchair frames, backs, cushions, armrests, leg rests, etc. Pros and cons are discussed regarding mobility types, such as the difference between manual and power wheelchairs and the options available for each. This discussion is lead by the clinician and client with input from the supplier to determine the appropriate seating and mobility solution. Once again, it is important for the clinician to keep multiple options open while still remaining aware of justification needs.

Equipment Trial

The client may or may not be familiar with wheelchair use at the time of the evaluation. The trial gives the client a better idea of what his/her chair might look and feel like and how it could be used in everyday life. The trial includes components from the wheelchair skills program (Kirby, 2011). Example skills include going up and down ramps, mobility on varying terrain such as tile, carpet and side slopes, and mobility through doorways and up to tables. The client and clinician are able to make the final decision at this point as to which equipment is appropriate.

Discuss Funding

The supplier often leads the funding discussion along with input from the client and clinician. The client defines the funding options, based on her/his own resources as well as his/her own 3rd party payment sources (e.g. medical insurance, vocational rehabilitation, workers compensation). The clinician and supplier make the client aware of all equipment and funding options, and let her/him decide how she/he would like to proceed. Finally, the clinician and supplier educate the client on the next steps following the

appointment and when she/he can expect to get her/his seating and mobility devices. The clinician's main job at this point is to create a letter of justification pulling together information from the assessment and equipment discussion.

Fitting

The fitting occurs once the supplier has acquired the seating and mobility devices. The fitting typically occurs at the seating and mobility clinic. For some clients, a pre-fitting appointment will occur at the local RTS, followed by the fitting at the seating and mobility clinic. Finally, based on the client's request, the wheelchair is delivered directly to the client by the local RTS, and a fitting appointment is scheduled at the seating and mobility clinic post-delivery.

The fitting appointment starts by discussing any medical changes since the assessment. This allows the clinician to decide which modifications, if any, will be necessary. The client then will trial his/her seating and mobility equipment and adjustments are made to the leg rests, armrests, headrest, cushion, and back. The clinician will review the original goals identified during the evaluation, ensuring the proper seating and mobility devices were selected to fit the client's needs.

Client Education at Delivery

The client will perform the wheelchair skills program (Kirby, 2011) again with his/her own equipment to ensure that she/he is able to have good mobility with the wheelchair. At this point the clinician and supplier will discuss maintenance, service, mechanics, and function of the wheelchair to make sure the client understands the chair and how it can help in everyday activities.

Follow-up

If necessary, the client might come back to the clinic to make any additional adjustments, make sure the fit is appropriate, and receive additional training. A follow-up appointment is usually recommended by the clinician, and is established at the time of the fitting. Of course, the individual may request a follow-up appointment at any time in the future.

Outcome Measures

The final step in assuring client satisfaction is the outcome measure. At OSUMC AT center there are pre- and post-test outcome measures that provide feedback to the multi-disciplinary team. The measures focus on the client's experience with the seating and mobility service delivery model as well as wheelchair fit, comfort, and usability. The two outcome measures used at OSUMC AT center are the Quebec User Evaluation of Satisfaction with Assistive Technology (QUEST; Demers, Weiss-Lambrou, Ska, 2002) and the Functional Mobility Assessment (FMA; Mills, Holm, Trefler, Schmeler, Fitzgerald, Boninger, 2002). Outcome measures allow clinicians to make sure they met the client's expectations, and provide feedback to the clinicians about improvements that could enhance the client's experience.

DISCUSSION

A literature review identified key themes in the seating and mobility service delivery process. By reviewing the actual service delivery process carried out at OSUMC AT center, it can be concluded that the theoretical models are good starting points for service delivery. However, it is essential to look at the facility, clinicians, clients, and rehabilitation technology suppliers to create an individualized service delivery process that meets everyone's needs.

It is important to note that while this service delivery model was discussed only in regards to seating and mobility, it can be translated to any assistive technology service delivery process. The main steps would remain the same while the details would be adjusted to fit the client's needs. For example, if the client needed computer access software and hardware, the assessment would focus more on computer-based needs rather than mobility. Furthermore the fitting and training would focus on how the client could use the computer.

Service delivery execution can be the difference between the client having a good experience and a poor experience. It is necessary to create an open and welcoming environment that allows the client to participate in the decision-making process, while still having a structure that allows the clinicians and suppliers to provide the best seating and mobility services and device. The implementation of the seating and mobility service delivery process at OSUMC AT center provides a good case study of how the client, clinician, and supplier work together to identify and implement the most suitable seating and mobility system.

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