

Part II:

Activities and Outcomes

The CATEA assistive technology team initially conducted an on site evaluation at the Hartford Insurance Company and her vocational rehabilitation counselor provided the AT recommended from this analysis. After Jamie left Hartford and found her home based employment, the AT team once again met with Jamie, at her vocational rehabilitation counselor's request. They were asked to evaluate her home office and make recommendations about independent living aides, especially in regard to her lunchtime meal. The table she was using for her computer was not comfortable, as it did not allow easy access for her wheelchair.

RECOMMENDATIONS: INITIAL

The main component of Jamie's workstation is a **desktop computer with voice-activation software**. Her windows-based personal computer is equipped with Dragon Naturally Speaking software, the Microsoft Office Suite, and a standard mouse.

A **voice-activated tape recorder** is hooked into both her phone and her computer, so she can record phone conversations. A small **speakerphone**, without a handset, is placed in her lap and she hits the phone switch to turn the phone on and off. When off the phone, Jamie rewinds, listens to the conversation again and completes an electronic survey form. She is then able to email the form to her employer.

She uses a **mouth stick** to press the buttons on the tape recorder and to turn the pages in her notebook. The tape recorder was initially difficult to depress with the mouth stick, so **metal extenders** were added to the buttons, increasing leverage and ease of use.

Occasionally, Jamie uses the **magnifier program** built into Microsoft applications to ease eyestrain, and the **on-screen keyboard program** as a substitute for voice recognition during periods when there is too much background noise.

ADDITIONAL RECOMMENDATIONS FOR HOME OFFICE: The rehabilitation engineer from CATEA built a customized **computer table** that allows her to drive her wheelchair into position over a platform that contains her mouse. A **stand** was built to hold her mouth stick and the phone is placed in her lap.

Since Jamie was home for most of the day without attendant care, it was necessary for her to feed herself during the day. CATEA designed a **wheelchair-accessible tray and table mount** that allows Jamie to feed herself during the day when no one else is at home. The **self-feeding tray** is prepared in the morning by her attendant. "Little things like this that give me back my independence mean the world to me," she says.

Jamie also uses a **Power Lock system** on her door, which operates by radio waves. The battery-operated unit is mounted on her chair and features an auto re-lock after 30 seconds. This system also provides her with the ability to operate lights with an

additional button. The installation involves no wires and is simply installed, as a regular lock would be.

Attendants, provided through Medicaid, or **volunteers** from her community, assist Jamie with activities of daily living in the morning and during the evening. A **modified van** was provided by an individual from her church. Volunteers also help with evening meal preparation, van driving and household chores.

COST ANALYSIS

The initial intervention took place in 1995 and information on AT expenses at that time is not available. The following represents a current estimate of similar products.

1. Dragon Naturally Speaking, speech recognition software, is currently available for \$149 at www.scansoft.com.
2. Microsoft Office XP Suite Edition, standard software is currently available for \$479 at www.microsoft.com/office/
3. Voice activated tape recorders are available at Radio Shack for approximately \$100.
4. Speakerphones with handsets are also available at Radio Shack for approximately \$45.
5. Screen magnifier and on-screen keyboard are standard accessible features on Windows operating system software.
6. Jamie's computer table was custom built by a Rehabilitation Engineer at CATEA but commercially available tables can be found at sources such as Herman Miller in a range from \$500 to \$1500.
7. The wheelchair accessible eating tray and mount was also custom built by the Rehabilitation Engineer at CATEA. To date, no comparable product can be found on the market.
8. The Power Lock system is made by Black and Decker and can be found for approximately \$99 at home improvement centers such as Lowe's and Home Depot.

FOLLOW UP

Even though working from home is easier than the time consuming task of going into an office, a journey that involved the help of her family and a home health care professional, Jamie misses the companionship of her co-workers and is eager to find another professional job. She would like to find a challenging position with benefits and salary in line with her education and her teaching experience.

In addition to her home based employment, Jamie teaches English as a second language to several Korean children in her community. She is also helping a Chinese doctoral student at Georgia Tech defend his dissertation in English. She uses her computer to prepare her lesson plans and search the Internet for resources and job possibilities.

