Costs and utilization of assistive technology in individuals with spina bifida enrolled in Washington State Medicaid program

ALYSSA M. BAMER, MPH
KURT L. JOHNSON, PHD
BRIAN L. DUDGEON, PHD
FRED A. CONNELL, PHD, MPH

Funding provided by a grant from the Centers for Disease Control and Prevention (CDC) & the Association of University Centers on Disabilities (AUCD)

AUCD
ASSOCIATION OF UNIVERSITY CENTERS ON DISABILITIES

CDC Department of Health and Human Services Centers for Disease Control and Prevention

Grant Projects and Goal

- Goal: Investigate how AT promotes health and reduces secondary conditions in spina bifida
  - Onset and course of secondary conditions related to spina bifida: Patient database review

    Johnson *et al.* (2007) *Am J Public Health*. Feb;97(2):330-6.
  - Costs and outcomes associated with different models of health care for adolescents and young adults with spina bifida
  - The role of assistive devices in promoting health and limiting secondary conditions in spina bifida: Telephone survey of individuals with spina bifida

    Bamer, Dudgeon, & Johnson (Nov. 2006) APHA Annual Meeting.

Background

- AT was presumed to be relevant to adolescents with SB, especially re: secondary conditions
- Some data from Johnson et al. on prevalence from CHRMC database
- No statewide or national data on prevalence
- No data on costs of AT for adolescents with SB
- Presumption by Medicaid and clinicians that AT is expensive, but in comparison to what?
- State Medicaid database is appropriate since most children with disability secondary to SB have Medicaid coverage

Methods

- Data source: Billing data extracts from Washington State Medicaid program of all claims and eligibility records for January 1, 2001 to December 31, 2004.

- Participants: All individuals with service visit with ICD-CM-9 code 741.xx (spina bifida). Individuals categorized into 3 age groups of interest: 0-15, 16-25, 26+ years.

Methods (continued)

- Analysis:
  - Billed services categorized into AT subgroups:

    (1) manual wheelchairs, (2) powered wheelchairs, (3) wheelchair cushions and seats, (4) wheelchair accessories and repairs, (5) wheelchair rental, (6) beds and bed accessories, (7) positioning aids, (8) communication and hearing aids, (9) ambulatory aids, (10) bathroom equipment, and (11) orthotic and prosthetic devices.

  - Primary outcomes included:
    - Number of persons who used these services
    - Numbers of services used
    - Total dollars billed and paid by the Medicaid program

Overall Results

- 848 average per year enrollees with dxs of SB
- Average annual number enrollees by age group were 323 (0-15 yrs), 215 (16-25 yrs), and 341 (26+ yrs)
- Numbers do not sum to 848 because individual may age into or out of a group during a study year (analyses done on a per month basis)
- 10.9 average months of eligibility per user per year
- 32.6 % of enrollees had some type of AT claim

Results Table

AT Type	# Users per Year	% Users Utilizing	Total Paid per Year	Paid per User per Year
Orthotics & Prosthetics	127	15.00%	$141,241	$1,114
Wheelchair "Other"	126	14.80%	$102,284	$815
Power Chairs	14	1.60%	$64,907	$4,808
Manual Wheelchairs	30	3.50%	$40,603	$1,365
Beds	20	2.40%	$24,375	$1,204
Wheelchair cushions	55	6.50%	$21,742	$395
Positioning	25	2.90%	$16,895	$690
Bathing	53	6.30%	$12,630	$237
Communication & Hearing	5	0.60%	$4,680	$985
Ambulatory Aids	28	3.30%	$3,684	$132
Wheelchair Rental	8	0.90%	$1,132	$151
Total Assistive Technology	277	32.60%	$434,172	$1,570
All Medicaid Claims	821	96.90%	$13,310,511	$16,208

Utilization Results

- Orthotics and prosthetics had the highest number of average annual users at 15%
- Wheelchair “other” charges second highest utilization at 14.8% of users
- Wheelchair cushion and bathing charges next most utilized at 6.5% and 6.3%
- Communication and hearing devices least utilized at 0.6%

Expense Results

- Most was spent overall on orthotics and prosthetics, followed by wheelchair “other” charges and power wheelchairs.
- Per user, power wheelchairs and manual wheelchairs were the most expensive AT.
- Average annual cost for AT per spina bifida enrollee was $512.
- $432,000 paid annually for AT for this population or 3.3% of all $ paid by Medicaid for this population.

Age Group Results

- Per user AT costs for individuals age 16-25 are 37% and 39% lower than those 0-15 and 25+ years respectively.
- 3.1%, 4.3%, and 3.6% of all $ spent were for AT in each age group respectively (as a % more $ spent on AT for 16-25 year olds)
- Not sure how to interpret this. We know that as children with SB age, they are likely to move from independent mobility to assisted mobility to wheelchair use.

Conclusions

- Only 1/3 of enrollees had a Medicaid charge for AT during any given year.
- As a percentage of the overall Medicaid costs for children and adolescents with SB, the cost of AT is only 3-4%.
- May be an underestimate since many children are dual eligible for Medicare which is the first payer, families may use commercial insurance, Medicaid may contract with HMO, or families may pay out of pocket.

Conclusions

- Preliminary analysis excluding those with other insurance (e.g., HMO, Medicare, TPL) found that per user, AT costs increased 30-40% whereas overall medical costs increased half that much.
- Are AT needs adequately covered?
- No way to track AT that might assist with learning, reading, writing, and executive function.