



Brief Report

Prevalence of Preventive Measures in Selected Disabilities versus a Matched Comparator

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Background

A substantial literature exists examining access to preventive health services for those with physical or intellectual disabilities versus the non-disabled [1]. We used a large all payer claims data set to explore this question.

Methods

The data accessed was from the Colorado All Payer Claims Database with dates of service from 1/1/2017 to 6/30/2020. Based on CMS guidelines for disabling conditions, we identified patients with ICD10 codes for the following conditions: cerebral palsy, cystic fibrosis, mobility impairment, multiple sclerosis, muscular dystrophy, spina bifida, traumatic brain injury.

CPT codes specifying 4 non gender specific preventive healthcare procedures of varying degrees of mechanical performance difficulty (levels 1-4) were selected as follows: level 1-alcohol misuse screening and consulting, level 2-pneumococcal

vaccine, level 3-cholesterol screening, level 4 - colorectal cancer screen.

After identifying the disabled population, we used propensity score matching to select non-disabled comparators on a 1:1 basis and then compared the prevalence of the 4 chosen preventive healthcare CPT codes (at least one claim during the dates of service interval) between the disabled versus non-disabled cohort.

Results

The major finding was that those with disabling conditions have a higher percentage of the Level 1 (alcohol misuse screening and consulting) and Level II (pneumococcal immunization) preventive procedures than a matched reference group. This finding was largely true of Level 3 (cholesterol screening) with the exception of muscular dystrophy and spinal cord injury. With Level IV (colonoscopy), we more often saw a lower rate of preventive screening in the disabled population: CRC screening rates were lower in CP, MI, MS, SCI and TBI.

Disability Description	N	Level I Survey Type	Level II Vaccination	Level III Blood Draw Type	Level IV Physical Exam Type
		Alcohol Misuse Screening and Consulting	Pneumococcal vaccine	Cholesterol screening	Colo-rectal cancer screening
Cerebral Palsy (CP)	7,320	0.5%	9.6%	38.0%	1.0%
CP comparator	7,320	0.1%	6.1%	34.7%	1.4%
Difference		0.4%	3.4%	3.3%	-0.4%
% Difference		75.0%	35.7%	8.6%	-42.9%
Cystic Fibrosis (CF)	19,320	1.7%	11.0%	66.1%	2.6%
CF comparator	19,320	0.5%	10.8%	48.3%	2.6%
Difference		1.2%	0.2%	17.8%	0.1%
% Difference		72.7%	1.9%	26.9%	2.0%
Mobility Impairment (MI)	29,090	1.3%	17.5%	56.1%	2.1%
MI comparator	29,090	1.0%	14.4%	56.1%	3.5%
Difference		0.3%	3.1%	0.0%	-1.4%
% Difference		21.6%	17.5%	0.0%	-68.9%
Multiple Sclerosis (MS)	14,140	0.6%	14.6%	57.9%	3.5%
MS comparator	14,140	0.6%	9.2%	56.3%	3.6%
Difference		0.1%	5.4%	1.6%	-0.1%
% Difference		11.1%	36.9%	2.7%	-2.0%
Muscular Dystrophy (MD)	1,100	0.0%	10.9%	33.6%	1.8%
MD comparator	1,100	0.0%	6.4%	38.2%	0.9%
Difference		0.0%	4.5%	-4.5%	0.9%
% Difference		NA	41.7%	-13.5%	50.0%
Spina Bifida (SB)	10,140	0.3%	13.5%	34.2%	1.5%
SB comparator	10,140	0.2%	12.1%	29.3%	1.0%
Difference		0.1%	1.4%	4.9%	0.5%
% Difference		33.3%	10.2%	14.4%	33.3%
Spinal Cord Injury (SCI)	17,580	1.2%	14.9%	51.5%	2.6%
SCI comparator	17,580	0.7%	12.2%	52.3%	3.2%
Difference		0.5%	2.7%	-0.8%	-0.6%
% Difference		38.1%	18.3%	-1.5%	-24.4%
Traumatic Brain Injury (TBI)	24,370	0.7%	9.8%	50.1%	2.1%
TBI comparator	24,370	0.2%	7.3%	44.0%	2.5%
Difference		0.5%	2.4%	6.2%	-0.5%

% Difference		72.2%	24.8%	12.3%	-24.0%
Legend	Significantly lower in disabled population				
	Amount lower (n and %) in disabled population vs. age-sex matched comparator				

Significance

We conclude that easily performed preventive measures are conducted at a higher rate in the disabled population than a matched group. We also observed that this finding is reversed with the more mechanically difficult (level 4) CRC screening. Clinicians should be aware of this pattern and make an effort to mitigate it.

References

1. Diab ME, Johnston MV (2004) Relationships between level of disability and receipt of preventive health services. Arch Phys Med Rehabil 85: 749-757.