



# Medicare Home Health Services 1989-1994: Patterns of Benefit Use Among Chronically Disabled Elders

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# The 1994 National Long-Term Care Survey

- Funded by the National Institute on Aging
- Data Collected by Duke University and Bureau of the Census
- Earlier Surveys: 1982, 1984, 1989
- 1999 NLTCs Planned

# The 1994 National Long-Term Care Survey

- Disabled Medicare Population
- Aged 65 and Older
- Telephone Screening to Identify Disabled (ADLs & IADLs)
- In-Person Interviews of the Disabled
- Consistency of Data Elements Across Surveys
- Linked to Medicare Claims Data
- Cross-Sectional Estimates of the Community-Dwelling Elderly
- Ability to Examine Trends

# Number and Percent of Medicare Beneficiaries Using Medicare Home Health Services by Disability Status, 1989 and 1994

	Disabled Users	Non-Disabled Users	All Medicare Beneficiary HH Users
<b>1989 Calendar Year</b>	804,089 (16.9%)	781,721 (3.2%)	1,585,810 (5.4%)
<b>1994 Calendar Year</b>	1,362,529 (27.6%)	1,216,945 (4.6%)	2,579,474 (8.2%)
<b>Percent Increase 1986-1994</b>	69%	44%	63%

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

**NOTE:** Percentages in parentheses represent proportion of group using Medicare home health services, i.e., 16.9% of disabled elders used home health services in 1989.

Disability is defined as 1+/6 chronic ADLs or 1+/9 chronic IADLs (use of assistive devices not included in the definition of disability.)

# Changes in Medicare Home Health Use Between 1989 and 1994, By Disability Status

	1989	1994	Percent Increase: 1989-1994
<b>Mean (Median) Visits Per User in Calendar Year</b>			
<b>Disabled</b>	40.3 (21)	106.3 (52)	164% (148%)
<b>Non-Disabled</b>	21.7 (11)	34.5 (20)	59% (82%)
<b>Total</b>	31.1 (15)	72.5 (32)	133% (113%)
<b>Mean (Median) Visits Per Episode in Calendar Year</b>			
<b>Disabled</b>	32.9 (16)	96.2 (44)	192% (175%)
<b>Non-Disabled</b>	19.6 (11)	32.4 (18)	65% (63%)
<b>Total</b>	26.6 (13)	66.8 (27)	151% (108%)
<b>Mean (Median) Visits Per Episode in Calendar Year, Extended</b>			
<b>Disabled</b>	69.6 (24)	273.1 (72)	292% (200%)
<b>Non-Disabled</b>	28.4 (12)	59.0 (25)	107% (108%)
<b>Total</b>	50.3 (17)	154.9 (49)	208% (188%)

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

The parameters of a home health episode are defined by a minimum of a "clean" period of 60 days both before the first home health claim and 60 days following the last home health claim.

In this table, some episodes are "extended" to include HH utilization outside the calendar year but associated with episodes in force at the beginning and/or end of calendar year.

Definition of disability: 1+ chronic ADLs/6 or chronic incontinence or 1+ chronic IADLs/9; assistive devices not included in the definition of disability.

# Changes in Medicare Home Health Expenditures Between 1989 and 1994, By Disability Status

	1989	1994	Percent Increase: 1989-1994
<b>Mean (Median) Home Health Expenditures Per Person in Calendar Year</b>			
<b>Disabled</b>	\$2,031 (1,103)	\$6,245 (\$3,439)	207% (212%)
<b>Non-Disabled</b>	\$1,156 (\$602)	\$2,220 (\$1,281)	92% (113%)
<b>Total</b>	\$1,599 (\$825)	\$4,350 (\$2,112)	172% (156%)
<b>Mean (Median) Home Health Expenditures Per Episode in Calendar Year</b>			
<b>Disabled</b>	\$1,655 (\$875)	\$5,654 (\$2,626)	242% (200%)
<b>Non-Disabled</b>	\$1,043 (\$565)	\$2,085 (\$1,148)	100% (103%)
<b>Total</b>	\$1,368 (\$684)	\$4,006 (\$1,825)	192% (167%)
<b>Mean (Median) Home Health Expenditures Per Episode in Calendar Year, Extended</b>			
<b>Disabled</b>	\$3,408 (\$1,120)	\$13,393 (\$4,766)	293% (290%)
<b>Non-Disabled</b>	\$1,474 (\$646)	\$3,633 (\$1,625)	146% (151%)
<b>Total</b>	\$2,502 (\$915)	\$8,888 (\$2,720)	255% (197%)

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

The parameters of a home health episode are defined by a minimum of a "clean" period of 60 days both before the first home health claim and 60 days following the last home health claim.

In this table, some episodes are "extended" to include HH utilization outside the calendar year but associated with episodes in force at the beginning and/or end of calendar year.

Definition of disability: 1+ chronic ADLs/6 or chronic incontinence or 1+ chronic IADLs/9; assistive devices not included in the definition of disability.

## Contribution of the Disabled and Non-Disabled Elderly Populations to Increases in Medicare Home Health Between 1989 and 1994 Calendar Years

<b>Type of Increase 1989-1994</b>	<b>Increase Accounted for by Disabled</b>	<b>Increase Accounted for by Non-Disabled</b>
<b>63% Increase in Beneficiaries Using Home Health Services</b>	53.20%	43.80%
<b>50% Increase in Total Number of Home Health Episodes</b>	55.31%	44.69%
<b>275% Increase in Total Number of Home Health Visits</b>	82.00%	18.00%
<b>338% Increase in Total Home Health Expenditures</b>	79.43%	20.56%

# Characteristics of Disabled HH Users and Non-Users, 1994

Characteristic	HH Users	HH Non-Users	P-Value
Mean Age	79.9	77.7	$\leq .05$
Percent Female	72.3	68.3	$\leq .05$
Percent White	84.0	85.8	NS
Percent Married	35.9	43.8	$\leq .05$
Mean ADLs/5	1.81	1.0	$\leq .05$
Mean IADLs/9	4.9	3.2	$\leq .05$
Percent Cognitively Impaired	24.7	16.4	$\leq .05$
Percent Incontinent	16.9	7.0	$\leq .05$
Percent Indiv/Spouse Income \$15,000+	34.9	44.4	$\leq .05$
Percent Lives with Others	66.2	72.8	$\leq .05$
Percent on Medicaid/SSI	23.0	17.7	$\leq .05$



# Characteristics of Disabled HH Users and Non-Users, 1994, Continued

Characteristic	HH Users	HH Non-Users	P-Value
Percent with Diabetes	24.0	17.5	≤ .05
Percent with Cancer	10.1	8.1	NS
Percent Paralyzed	11.5	7.4	≤ .05
Percent Suffered Stroke	14.1	7.9	≤ .05
Percent Suffered Heart Attack	5.6	4.5	NS
Mean Number Prescription Medications	3.9	3.0	≤ .05
Mean Hours of Care Per Week From Informal Sources	32.3	20.3	≤ .05
Mean Hours of Care Per Week From Formal Sources	11.6	4.7	≤ .05

**SOURCE:** 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

**NOTE:** Disability defined as 1+ chronic ADL/6 or 1+ chronic IADL/9 or evidence of incontinence. Use of an assistive device without the need for personal assistance is not considered sufficient evidence of disability.

# Variables Entered Into Home Health Regression Analyses

## Beneficiary Characteristics

- Age
- Race
- Number of ADLs
- Cognition
- Income
- Medicaid/SSI Status
- Cancer
- Stroke
- Number of Prescription Meds
- SNF Use
- Sex
- Marital Status
- Number of IADLs
- Continence
- Living Arrangement
- Diabetes
- Paralysis
- Heart Attack
- Number of Hours of Informal Care
- Inpatient Use

## Environmental Variables

- HCFA Region
- HCBS \$ Per Capita in State
- % HH Agencies Proprietary in State
- Number Nursing Home Beds/1,000 in State

# Statistically Significant Predictors of Medicare Home Health Use Among Disabled Medicare Beneficiaries Aged 65+, 1989 and 1994

Predictor	1989	1994
Age	Older	Older
Number of ADLs	More Disability	More Disability
Number of IADLs	More Disability	More Disability
Living Arrangement	-----	Lives Alone
Diabetes	Diabetic	-----
Number of Prescription Meds	More Meds	More Meds
Region	New England, Pacific vs. Mid-Atlantic	New England, East South Central vs. Mid-Atlantic
Inpatient Services	Inpatient Use	Inpatient Use
SNF Services	-----	SNF Use
HCBS \$ in State	Average \$ vs Low/Very Low \$	-----
# Nursing Home Beds/1,000 in State	-----	More Beds

## Statistically Significant Predictors of Medicare Home Health Visits Among Disabled Medicare Beneficiaries Aged 65+ Who Used Medicare Home Health Services, 1989 and 1994

Predictor	1989	1994
<b>Number of ADLs</b>	More Disability	More Disability
<b>Number of IADLs</b>	-----	More Disability
<b>Continenence</b>	-----	Others Manage
<b>Income</b>	-----	< \$15,000
<b>HCFA Region</b>	New England, East South Central vs. Mid-Atlantic	New England, East South Central vs. Mid-Atlantic
<b>% HH Agencies Proprietary in State</b>	-----	Larger Proportion Proprietary
<b>Number of Nursing Home Beds/1,000 in State</b>	-----	More Beds

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

## Statistically Significant Predictors of Medicare Home Reimbursement Among Disabled Medicare Beneficiaries Aged 65+ Who Used Medicare Home Health Services, 1989 and 1994

Predictor	1989	1994
<b>Number of ADLs</b>	More Disability	More Disability
<b>Number of IADLs</b>	-----	More Disability
<b>Continence</b>	-----	Others Manage
<b>Income</b>	-----	< \$15,000
<b>HCFA Region</b>	New England, East South Central vs. Mid-Atlantic	New England, East South Central vs. Mid-Atlantic
<b>% HH Agencies Proprietary in State</b>	-----	Larger Proportion Proprietary
<b>SOURCE:</b> 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.		

# Percent of 65+ Medicare Beneficiaries With Home Health Use by Home Health Use Type and Disability Status, Calendar 1994

Disability Status	Home Health Visit Type			
	HH Aide	HH Skilled Nurse	Other Therapies	Any*
Not Disabled	2.0	4.7	2.4	5.0
IADL Only	9.6	18.5	9.8	19.3
1-2 ADLs/5	22.3	32.4	17.9	33.0
3+ ADLs/5	34.3	45.3	28.4	47.0
Total 65+	4.2	7.9	4.3	8.3

**SOURCE:** 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

\* Excludes DME and supplies.

## Mean Number of Home Health Visits\* (For Those with Any Home Health Utilization) by Home Health Use Type and Disability Status, Aged 65+ Medicare Beneficiaries, 1994

HH Use Type	Not Disabled	IADL Only	1-2 ADLs/5	3+ ADLs/5	Total 65+
Aide	13.1	17.9	64.3	92.7	35.7
Skilled Nursing	19.6	28.2	37.6	48.5	28.7
Other Therapies	5.2	5.1	8.0	14.8	7.4
Any*	38.0	51.3	109.9	156.1	71.8

**SOURCE:** 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

\* Excludes DME and supplies.

# Distribution of Home Health Visits\* Types By Disability Status, Aged 65+ Medicare Beneficiaries, 1994

HH Use Type	Not Disabled	IADL Only	1-2 ADLs/5	3+ ADLs/5	Total 65+
Aide	34.5%	35.0%	58.5%	59.4%	49.7%
Skilled Nursing	51.7%	55.1%	34.2%	31.1%	40.0%
Other Therapies	13.8%	10.0%	7.3%	9.5%	10.3%
Any*	100.0%	100.1%**	100.0%	100.0%	100.0%

**SOURCE:** 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

\* Excludes DME and supplies.

\*\* Rounding error.



# Proportion of HH Episodes By Type of Episode, 1989 & 1994: All Medicare Beneficiaries, Aged 65+

Types of Home Health Episodes	1989	1994
Prior Hospital Stay Only	45.1%	40.0%
Prior & Interim Hospital Stay	17.4%	19.0%
Interim Hospital Stay Only	9.8%	14.2%
Some Interim Hospital Stay	27.1%	33.2%
No Hospital Stay	27.7%	26.8%

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

# Proportion of HH Episodes By Type of Episode, 1989 & 1994: Disabled Medicare Beneficiaries, Aged 65+

Types of Home Health Episodes	1989	1994
Prior Hospital Stay Only	35.3%	29.4%
Prior & Interim Hospital Stay	18.2%	20.8%
Interim Hospital Stay Only	14.1%	20.2%
Some Interim Hospital Stay	32.3%	41.1%
No Hospital Stay	32.3%	29.6%

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

# Proportion of HH Episodes By Type of Episode, 1989 & 1994: Non-Disabled Medicare Beneficiaries, Aged 65+

Types of Home Health Episodes	1989	1994
Prior Hospital Stay Only	56.2%	52.4%
Prior & Interim Hospital Stay	16.4%	16.8%
Interim Hospital Stay Only	4.8%	7.1%
Some Interim Hospital Stay	21.3%	23.9%
No Hospital Stay	22.5%	23.7%

**SOURCE:** 1989 and 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

# Medicare Home Health IPS Simulation

- Estimated Average per Beneficiary Cost Limit
  - By Census Region
  - 1994 Data
  - Cost Limits Deflated to 1994 Dollars
- Identify Characteristics of Beneficiaries Who Would Exceed the Per Beneficiary Cost Cap

# Characteristics of Disabled\* Medicare Beneficiaries Who Would Have Exceeded the Home Health IPS Limit

	Less than or equal to Cap (N=406)	Exceeds Cap (N=402)
Mean Age	80.02	79.95
Percent Female	70.88	72.09
Percent White*	89.22	83.04
Percent Married	37.47	38.06
Mean # of ADLs*	1.45	2.58
Mean # of IADLs*	4.43	6.16
Percent Cognitively Impaired*	18.32	31.14
Percent Others Manage Incontinence*	11.36	26.97
Percent with \$15,000+ Indiv/Spouse Income	41.34	31.86
Percent Lives with Others*	63.55	72.28
Percent on Medicaid/SSI	22.13	22.48
Percent with Diabetes	22.33	26.03
Percent with Cancer	10.44	10.75
Percent Paralyzed*	8.48	15.90
Percent Suffered a Stroke*	14.21	19.77
Percent Suffered a Heart Attack	7.91	7.91

**SOURCE:** 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

\* One or more ADLs out of five or one or more IADLs out of nine; chronicity included, assistive device not included.

\*\* p<0.05

# Characteristics of Disabled\* Medicare Beneficiaries Who Would Have Exceeded the Home Health IPS Limit, Continued

	Less than or equal to Cap (N=406)	Exceeds Cap (N=402)
Mean # of Prescription Medicines*	3.74	4.37
Mean # Hours of Care from Informal Sources*	27.77	40.97
Mean # Hours of Care from Formal Sources*	10.34	17.93
Percent Used Inpatient Services	63.40	61.25
Percent Used SNF Services*	11.10	16.72
HCBS in State:		
- Percent High	20.13	19.32
- Percent Average	26.51	27.66
- Percent Low	53.35	53.03
Mean Percent Proprietary HH Agency in State*	43.81	48.85
Mean # of NH Beds/1000 in State*	53.14	56.45
<b>SOURCE:</b> 1994 National Long-Term Care Surveys and HCFA Administrative Claims.		
* One or more ADLs out of five or one or more IADLs out of nine; chronicity included, assistive device not included.		
** p<0.05		

# Percent of Medicare Home Health Users Exceeding the IPS Per Beneficiary Limit, by Disability Status

	Percent Exceeding Limit*
No Functional Disability	20.1%
IADL Disability Only	29.7%
1 ADL/5	48.0%
2 ADLs/5	51.9%
3+ ADLs/5	66.1%
<p><b>SOURCE:</b> 1994 National Long-Term Care Surveys and HCFA Administrative Claims.</p> <p>* <math>p &lt; .05</math></p>	

# Statistically Significant\* Predictors of Exceeding Medicare Home Health IPS Cost Limit Among Disabled\*\* Medicare Beneficiaries

- Number of ADLs
- Number of IADLs
- Lower income (<\$15,000)
- West South Central Region
- SNF Use
- From States with Larger Percentage of Proprietary HHAs

**SOURCE:** 1994 National Long-Term Care Surveys and HCFA Administrative Claims.

\*  $p < 0.055$

\*\* One or more ADLs out of five or one or more IADLs out of nine.



# Policy Discussion

- Chronically Disabled Using Medicare HH Benefit Not a New Phenomenon
- Rate of Increase Greater Among Disabled
- Disabled More Likely to Use Both Aides and Skilled Nursing
- Evidence of Medical Complexity Among Disabled Users
- Over Half of Disabled Users with ADL Deficits Exceed IPS Per Person Limit
- Implications for Possible Cost-Shifting to Medicaid for Dual Eligibles

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