

CHALLENGES IN DEVELOPMENTAL DISABILITIES SERVICES IN WASHINGTON STATE AND THE UNITED STATES: 2011

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Washington Developmental Disabilities Council Seattle and Olympia, WA

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I. CURRENT TRENDS IN I/DD SERVICES IN WASHINGTON STATE & THE U.S.

II.FINANCIAL UNCERTAINTIES IN THE STATES

III.DEVELOPMENTS IN TECHNOLOGY APPLICATIONS IN COGNITIVE DISABILITY

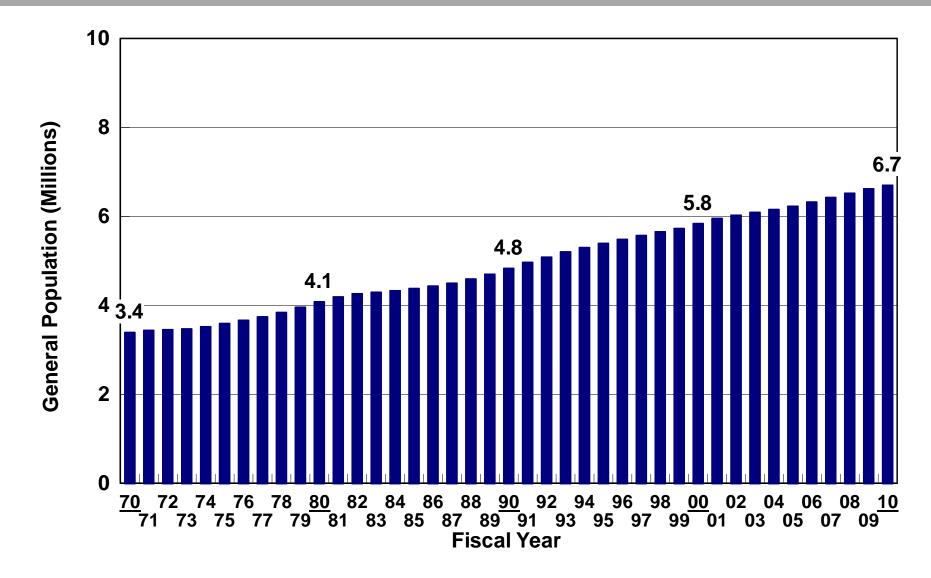
WASHINGTON AND COMPARISON STATES' cleman institute GENERAL POPULATION CHANGE

	AVERAGE		
	ANNUAL		
	POPULATION	U.S. Rank in	
	GROWTH	Population	2010
STATE	2006-10	Growth	POPULATION
Colorado	1.7%	8th	5,026,972
Washington	1.5%	10th	6,694,368
Oregon	1.2%	14th	3,828,366
Minnesota	0.8%	30th	5,285,070
Northern New England*	0.1%	50th	4,320,492
UNITED STATES	0.9%		307,974,177

*Includes Maine, New Hampshire, Rhode Island, Vermont

WASHINGTON STATE GENERAL POPULATION DOUBLES 1970-2010





Source: U.S. Census Bureau (2011).

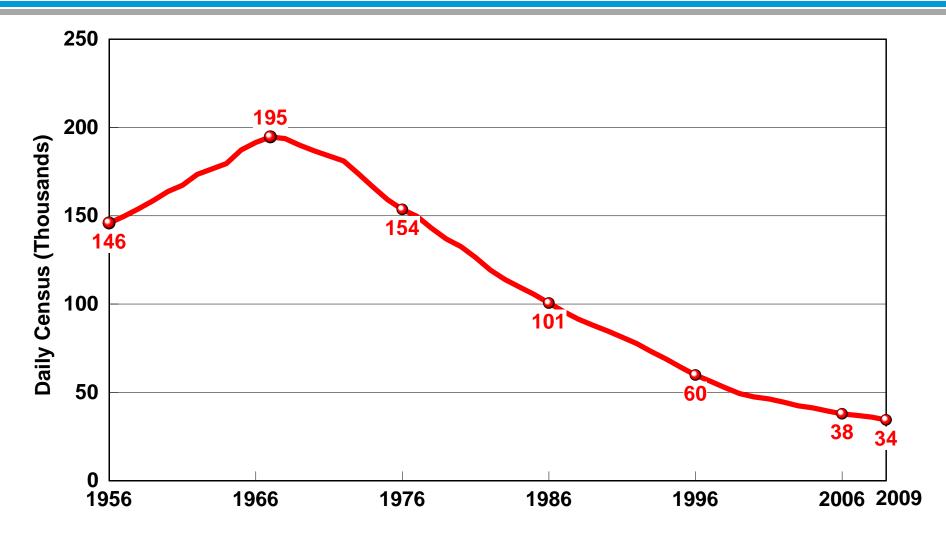
I. CURRENT TRENDS IN WASHINGTON STATE AND THE U.S.



- Structure and Financing of I/DD Services
- Recent Trends in Services and Supports
- Challenges

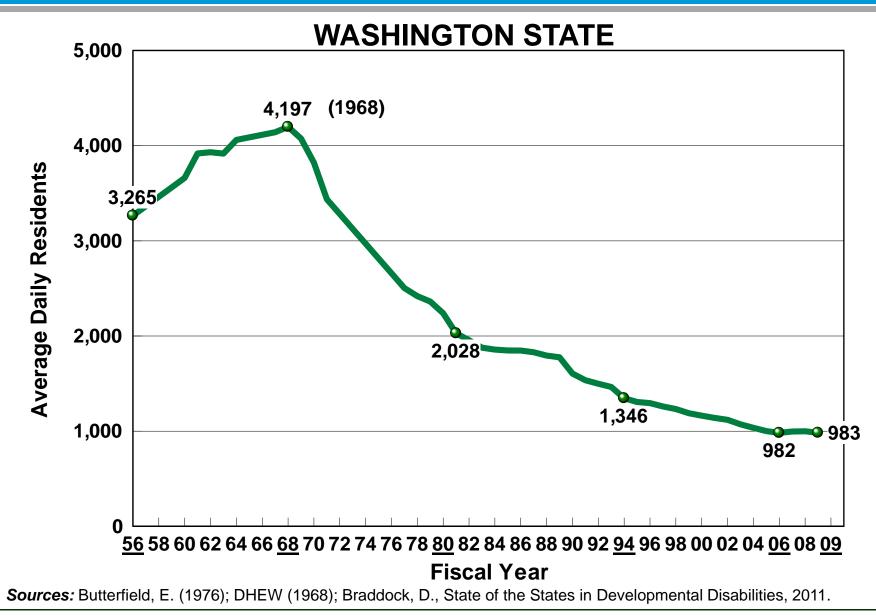
DECLINING NUMBER OF INSTITUTIONAL RESIDENTS WITH I/DD IN THE U.S. (IN THOUSANDS)





INSTITUTION CENSUS FOR PERSONS WITH I/DD DECLINES STEADILY 1966-2006, THEN PLATEAUS





STATE-OPERATED I/DD INSTITUTIONS IN WASHINGTON STATE



				FY 2009
Residential Habilitation Center (RHC)	Location	Year Facility Opened	Became I/DD Facility	Average Daily Census
Washington School for Defective Youth	Vancouver	1886		l Persons 1866-1908
Lakeland Village RHC (Territorial/State Custodial School) ¹	Medical Lake	1905	1905- present	234
Rainier RHC (Western State Custodial School)	Buckley	1939	1939- present	385
Fircrest RHC (Naval Hospital, TB Sanitarium) ¹	Shoreline	1942	1959- present	211
Interlake RHC (Geriatric Mental Health Center)	Spokane	1946	1967- 1994	Closed
Frances Haddon Morgan Center for Children with Autism (Naval Hospital)	Bremerton	c. 1950	1972- present	55
Yakima Valley RHC (TB Hospital) ^{1,2} FY 2009 AVERAGE DAILY CENSUS	Selah	1951	1958	98 983

¹Lakeland Village, Fircrest, and Yakima Valley, respectively, had 58, 84, and 98, nursing home beds in 2009.

²Yakima Valley opened in 1951 with residents from Rainier but closed and residents returned to Rainier in 1952. It reopened in 1958.

Sources: Braddock et al., 2011; Butterfield, 1976; DHEW, 1968; Jones, 2010; Washington State Joint Legislative Audit and Review Committee (JLARC), 2002.

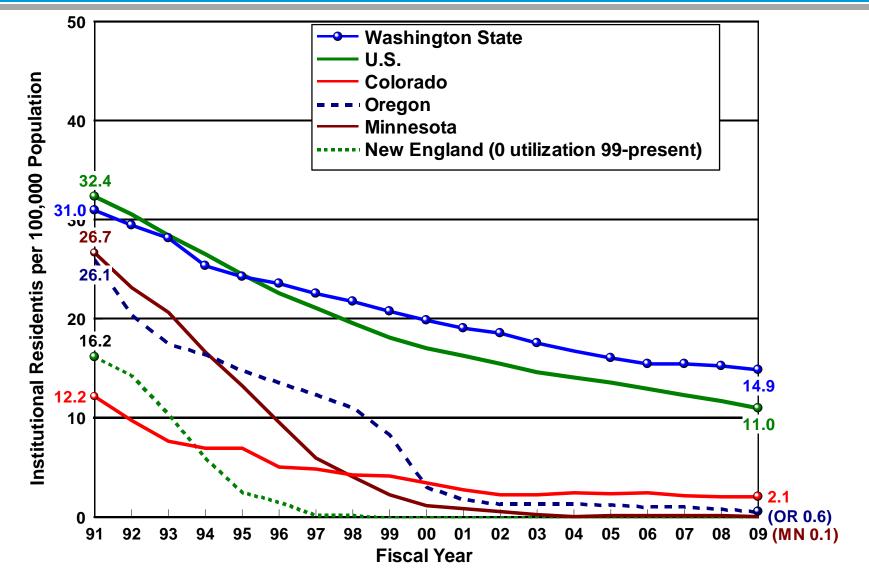
CENSUS AND PER DIEM COSTS IN WASHINGTON STATE AND COMPARISON STATES, 2009

STATE	CENSUS	PER DIEM
Washington	983	\$541
Colorado	103	\$541
Oregon	24	\$1,140
Minnesota	6	\$2,310
Northern New England ¹	0	\$0
U.S.	33,732	\$524

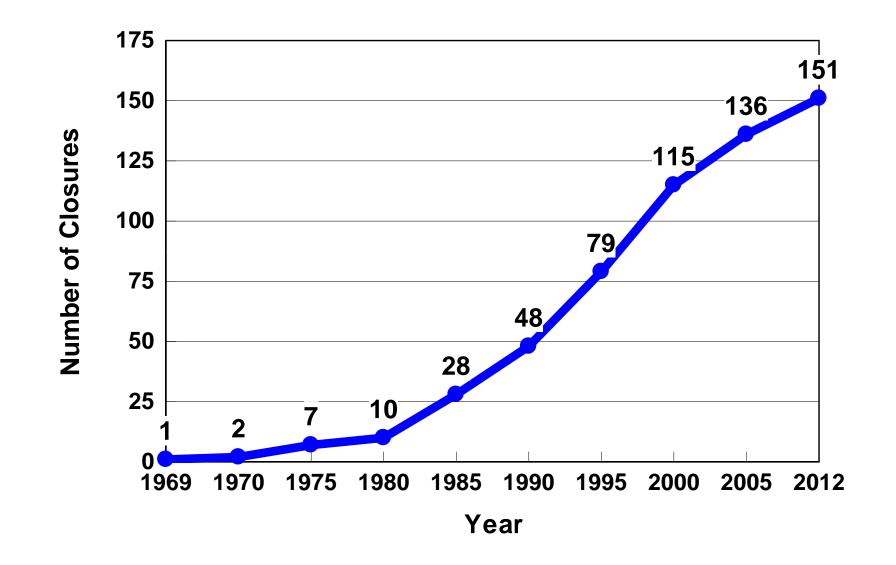
¹Northern New England Consolidated: States of Maine, New Hampshire, Rhode Island and Vermont

INSTITUTIONAL UTLIZATION IN WASHINGTON STATE AND COMPARISON STATES, 1991-2009





CUMULATIVE NUMBER OF COMPLETED/IN PROGRESS celeman institute **CLOSURES OF STATE-OPERATED 16+ INSTITUTIONS, U.S.**



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STATES WITHOUT STATE-OPERATED I/DD INSTITUTIONS



- 1. DISTRICT OF COLUMBIA (1991)
- 2. NEW HAMPSHIRE (1991)
- 3. VERMONT (1993)
- 4. RHODE ISLAND (1994)
- 5. ALASKA (1997)
- 6. NEW MEXICO (1997)
- 7. WEST VIRGINIA (1998)
- 8. HAWAII (1999)
- 9. MAINE (1999)
- 10. MICHIGAN (2009)
- 11.OREGON (2009)
- 12. ALABAMA (2012)

13. MINNESOTA (2000)* 14. INDIANA (2007)*

Source: Braddock, D., State of the States in Developmental Disabilities, 2011. *Denotes ICF/ID units in mental health institutions.





SMALLEST INSTITUT	ONAL
CENSUS , 2009	
1 Nevada	48
2 Montana	64
3 Delaware	76
4 Wyoming	83
5 Idaho	96
6 Colorado	103
7 North Dakota	123
8 Arizona	126
9 South Dakota	146
10 Utah	236





LARGEST CENSUS, 2009				
1 Texas	4,899			
2 New Jersey	2,703			
4 Illinois	2,308			
3 California	2,194			
5 North Carolina	1,638			
6 New York	1,492			
7 Ohio	1,423			
8 Mississippi	1,371			
9 Pennsylvania	1,253			
10 Virginia	1,184			
14 Washington State	983			

LARGEST CENSUS STATES, PER CAPITA *



CENSUS PER CAPITA,	2009	*Per
1 Mississippi	46.5	gene
2 Arkansas	37.5	
3 New Jersey	31.3	
4 Louisiana	26.1	
5 Connecticut	20.9	
6 Texas	19.9	
7 North Dakota	19.1	
8 North Carolina	19.1	
9 South Dakota	18.1	
10 Illinois	17.9	
15 Washington State	14.9	

100,000 of the state eral population

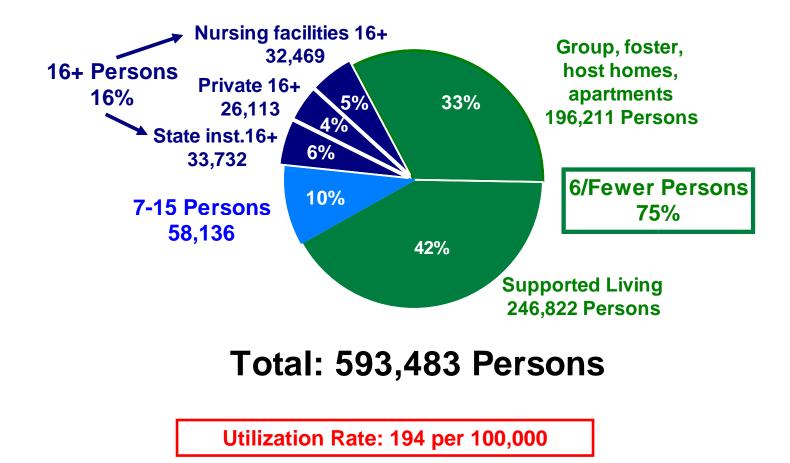


• STRUCTURE AND FINANCING OF I/DD SERVICES IN THE UNITED STATES

INDIVIDUALS WITH I/DD IN OUT-OF-HOME PLACEMENTS IN THE U.S., 2009

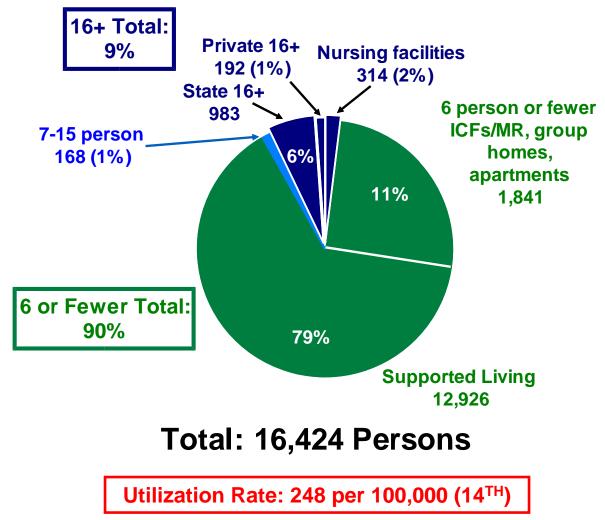


United States



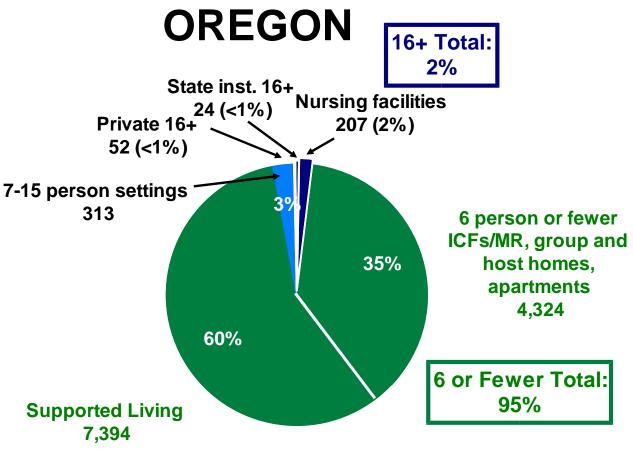


WASHINGTON STATE



INDIVIDUALS WITH I/DD IN OUT-OF-HOME PLACEMENTS IN 2009





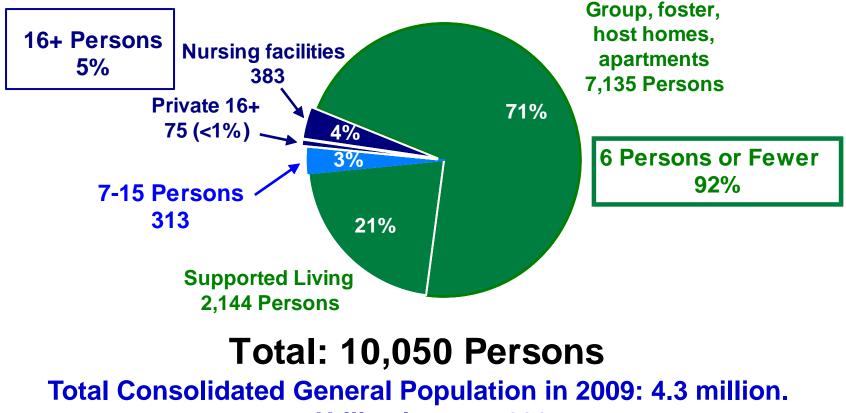
Total: 12,314 Persons

Utilization Rate: 324 per 100,000 (5TH)

INDIVIDUALS WITH I/DD IN OUT-OF-HOME PLACEMENTS IN 2009



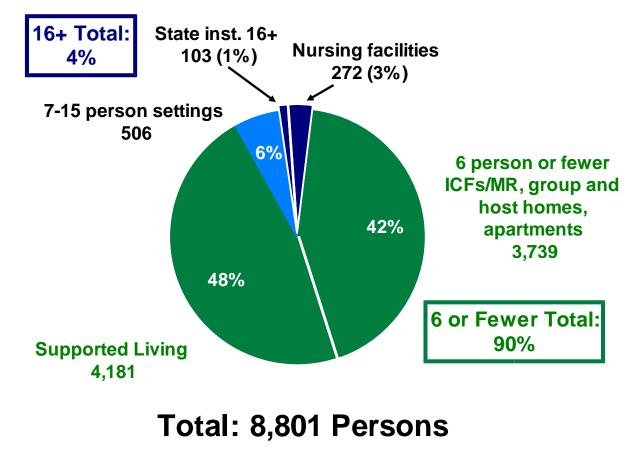
NORTHERN NEW ENGLAND (MAINE, NEW HAMPSHIRE, RHODE ISLAND, VERMONT)



Utilization rate 233



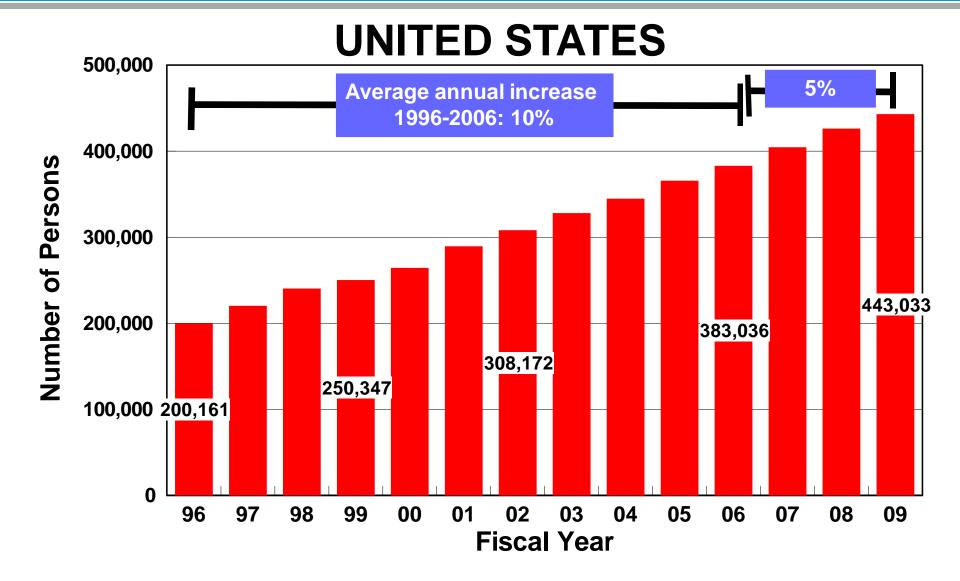
COLORADO



Utilization Rate: 177 per 100,000 (32ND)

INCREASED GROWTH OF COMMUNITY PLACEMENTS FOR SIX OR FEWER PERSONS

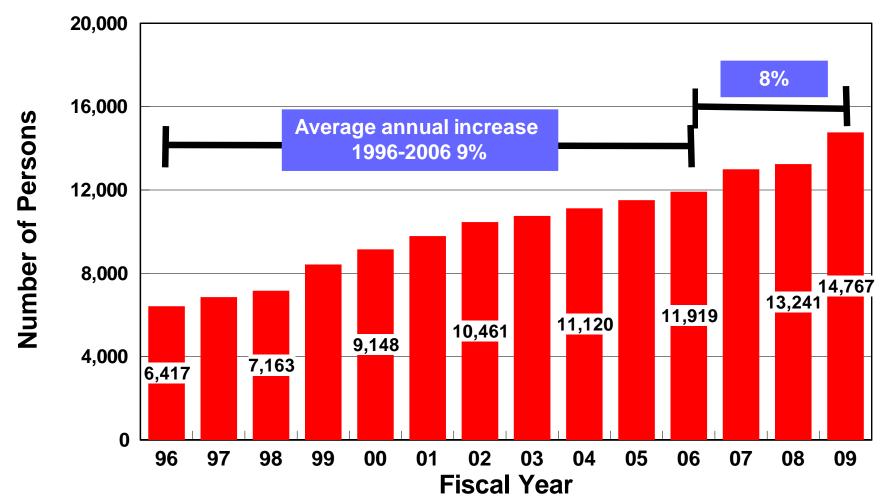




HCBS WAIVER FUELS GROWTH OF COMMUNITY PLACEMENTS FOR 6 OR FEWER PERSONS



WASHINGTON STATE



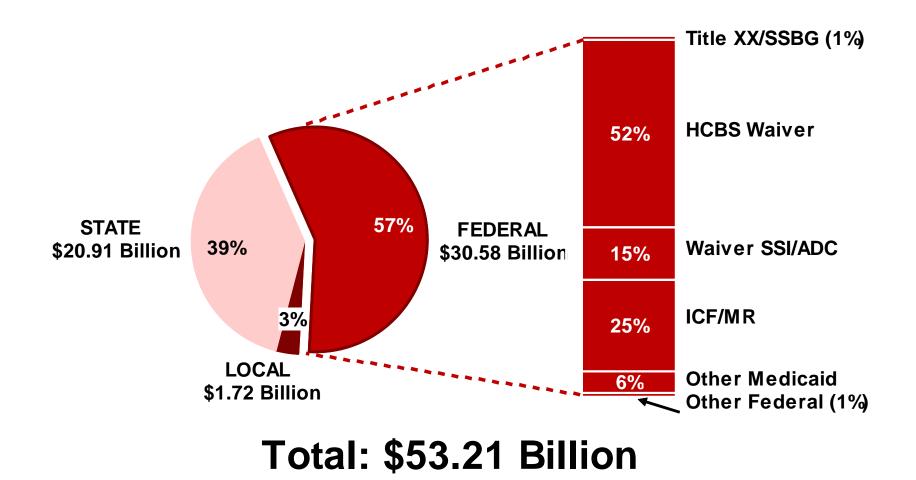
PUBLIC SPENDING FOR I/DD LONG-TERM CARE



- TRENDS IN SPENDING FOR I/DD SERVICES
- FISCAL EFFORT
- IMPORTANCE OF THE HOME AND COMMUNITY BASED SERVICES (HCBS) WAIVER

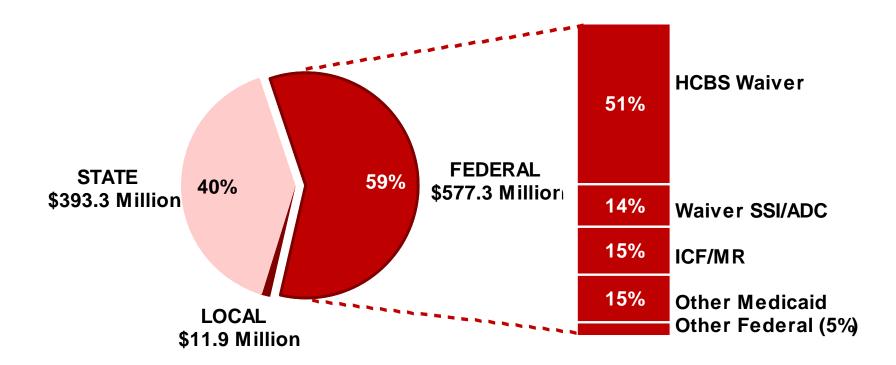
I/DD REVENUE SOURCES IN 2009: UNITED STATES





WASHINGTON STATE I/DD REVENUE SOURCES IN 2009

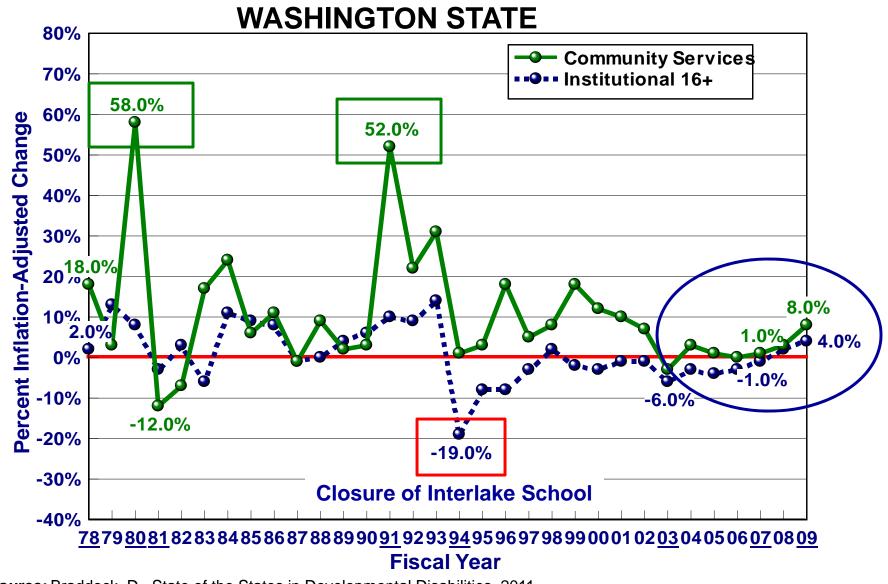




Total: \$982.5 Million

INFLATION-ADJUSTED % CHANGE IN I/DD COMMUNITY & INSTITUTIONAL SPENDING



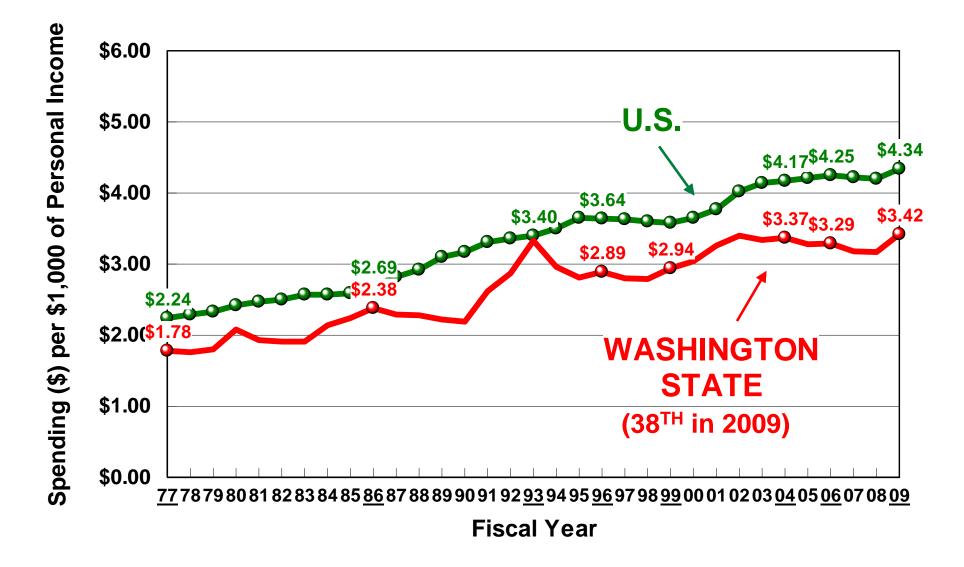




Fiscal effort is a ratio that can be utilized to rank states according to the proportion of their total statewide personal income devoted to the financing of I/DD services.

Fiscal effort is defined as a state's spending for I/DD services per \$1,000 of total statewide personal income.

FISCAL EFFORT FOR I/DD SERVICES IN WASHINGTON cleman institute for Cognitive Disabilities STATE LAGS U.S. AVERAGE FOR 32 YEARS



I/DD	I/DD FISCAL EFFORT*: 2009 (WASHINGTON 38 TH)							
1 Ne	w York	\$10.10	18	Wyoming	\$4.90	35	South Carolina	\$3.49
2 Ma	aine	\$8.32	19	Arkansas	\$4.75	36	Arizona	\$3.49
3 Co	onnecticut	\$7.69	20	Massachusetts	\$4.72	37	Missouri	\$3.45
4 Mi	nnesota	\$7.54	21	Idaho	\$4.69	38	Washington State	\$3.42
5 No	orth Dakota	\$7.28	22	South Dakota	\$4.59	39	Oklahoma	\$3.39
6 Lo	uisiana	\$7.13	23	Mississippi	\$4.26	40	Illinois	\$3.13
7 Oh	nio	\$6.84	24	Tennessee	\$4.17	41	Hawaii	\$3.11
8 lov	wa	\$6.50	25	Nebraska	\$4.16	42	Utah	\$2.94
9 Rh	node Island	\$6.31	26	Indiana	\$4.13	43	Maryland	\$2.89
10 Ve	ermont	\$6.21	27	Kansas	\$4.11	44	Kentucky	\$2.87
11 Dis	strict of Columbia	\$5.91	28	North Carolina	\$4.06	45	Virginia	\$2.73
12 Pe	nnsylvania	\$5.70	29	Alaska	\$3.95	46	Alabama	\$2.28
13 We	est Virginia	\$5.70	30	California	\$3.82	47	Colorado	\$2.23
14 Wi	sconsin	\$5.46	31	Michigan	\$3.80	48	Georgia	\$2.14
15 Ne	w Mexico	\$5.34	32	New Hampshire	\$3.79	49	Florida	\$2.09
16 Or	egon	\$5.18	33	Montana	\$3.77	50	Texas	\$1.93
17 De	laware	\$5.00	34	New Jersey	\$3.62	51	Nevada	\$1.59

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UNITED STATES: \$4.34

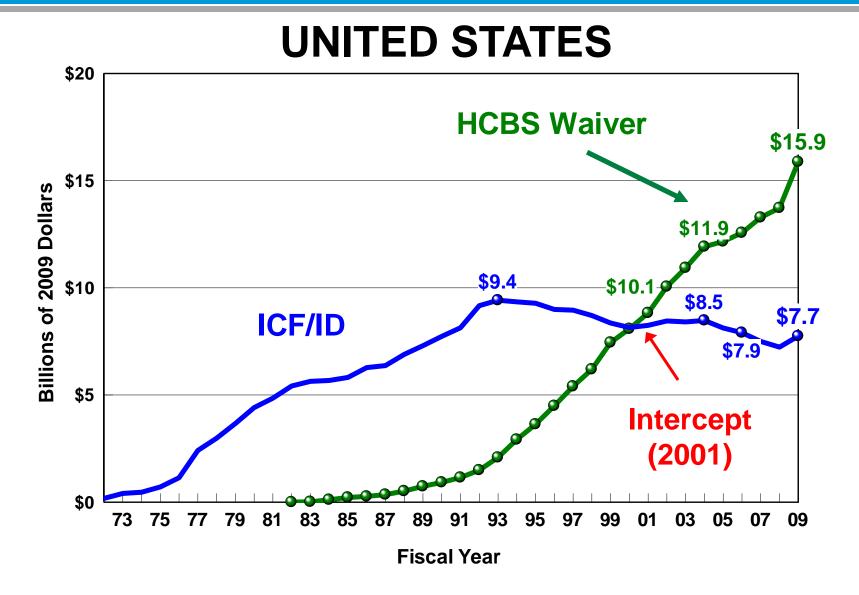
*Fiscal effort is I/DD spending per \$1,000 of statewide aggregate personal income.

Source: Braddock, D., State of the States in Developmental Disabilities, 2011.

LEADERS AND LAGGARDS IN

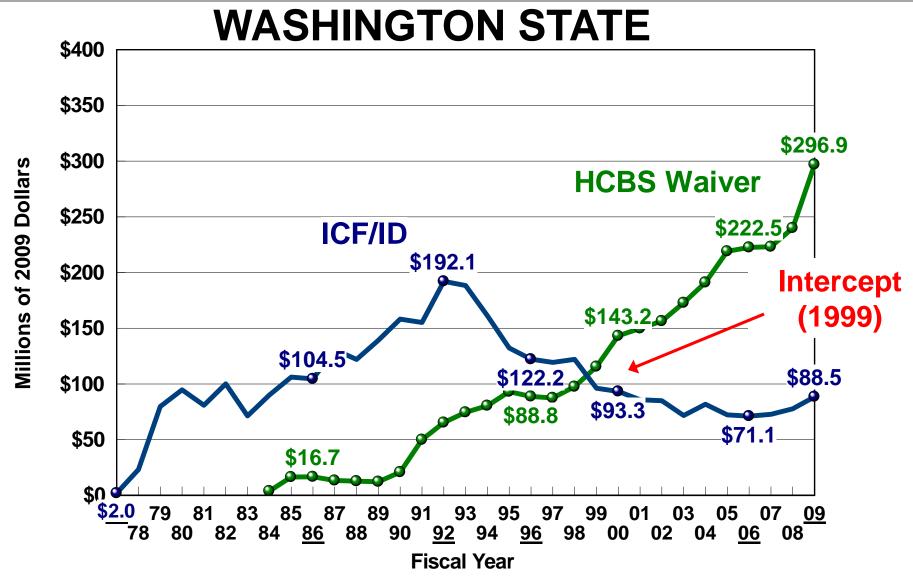
FEDERAL HCBS WAIVER SPENDING DOUBLES ICF/ID SPENDING IN 2009





FEDERAL WAIVER SPENDING WAS MORE THAN THREE TIMES ICF/ID SPENDING IN 2009

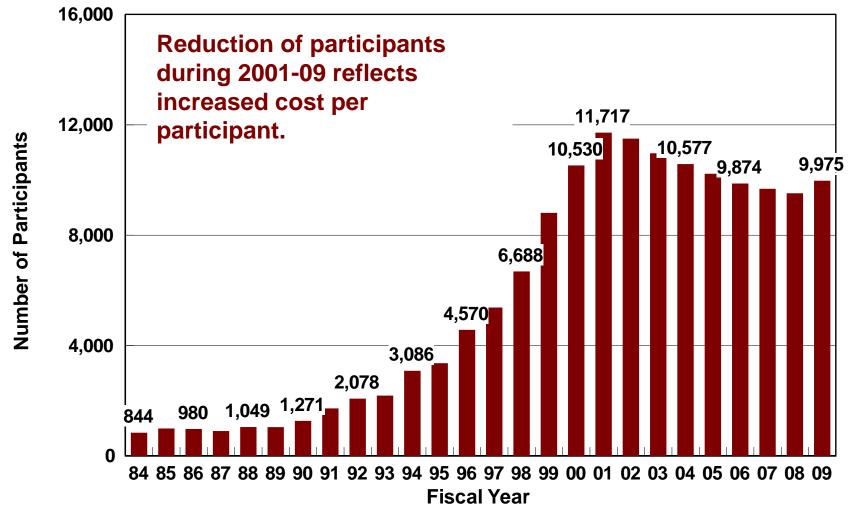




HCBS WAIVER PARTICIPANT GROWTH: 1984-2009



WASHINGTON STATE



WASHINGTON STATE'S 5 HCBS WAIVERS

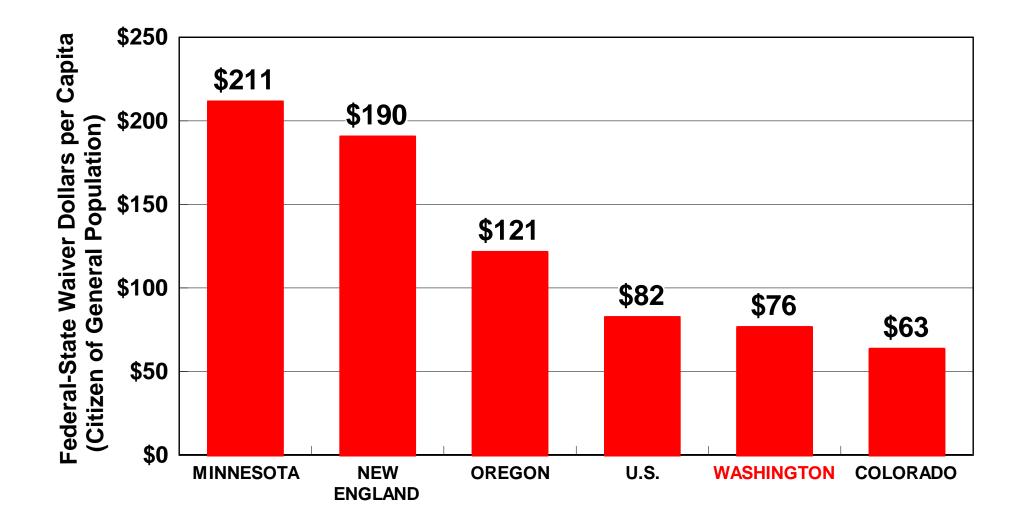


WASHINGTON STATE WAIVERS: 2009	UNDUPLICATED RECIPIENTS	SERVICES: 2009
BASIC WAIVER	3,654	Personal Care; Respite Care; Aggregate Services (Behavior Management and Consultation; Community Guide; Evironmental Accessibility Adaptations; OT; PT; Specialized Medical Equipment/Supplies; Pyschiatric Services; Speech, Hearing & Language; Staff/Family Consultation & Training; and Tranportation); and Employment/Day Program Services
BASIC PLUS	2,038	Aggregate Services; Employment/Day Program Services; Adult Family Home and Adult Residential Care; Mental Health Stabilization Services.
CHILDREN'S INTENSIVE IN-HOME BEHAVIOR SUPPORT (CIIBS)	30	Behavior Management & Consultation; Staff/Family Training and Consultation; Assistive Technology; Specialized Nutrition; Specialized Clothing; Therapeutic Equipment and Supplies; Vehicle Modification; and All Aggregate Services , except Community Guide; Respite Care; Personal Care.
CORE WAIVER	3,938	Residential Habilitation; Community Transition and all Basic Plus Waiver ServicesExcept Emergency Assistence, Adult Family Home and Adult Residential Care Services.
COMMUNITY PROTECTION WAIVER	315 9,975	All Core Waiver ServicesExcept Personal Care, Respite, Community Guide; and Community Access.

Yearly cost limits per recipient range from \$1,454 for the Basic Waiver's Aggregate Services to \$48,000 for the CIIBS Waiver.

HCBS SPENDING IN WASHINGTON IS BELOW ALL COMPARISON STATES EXCEPT COLORADO





WASHINGTON LAGS ALL COMPARISON STATES EXCEPT COLORADO IN WAIVER UTILIZATION*



-						-
1	New York	\$247	18 South Dakota	\$113	35 Oklahoma	\$63
2	Maine	\$230	19 Wisconsin	\$106	36 New Jersey	\$57
3	Rhode Island	\$214	20 Kansas	\$104	37 Virginia	\$56
4	Minnesota	\$211	21 Delaware	\$100	38 Alabama	\$54
5	Vermont	\$205	22 Nebraska	\$93	39 California	\$52
6	District of Colum	\$203	23 Maryland	\$91	40 North Carolina	\$51
7	Wyoming	\$178	24 Tennessee	\$90	41 South Carolina	\$51
8	New Mexico	\$139	25 Iowa	\$89	42 Florida	\$47
9	Connecticut	\$133	26 Massachusetts	\$88	43 Utah	\$47
10	Pennsylvania	\$131	27 Hawaii	\$82	44 Arkansas	\$45
11	North Dakota	\$131	28 Michigan	\$80	45 Idaho	\$44
12	West Virginia	\$127	29 Ohio	\$79	46 Kentucky	\$42
13	New Hampshire	\$124	30 Washington	\$76	47 Illinois	\$38
14	Alaska	\$124	31 Montana 💦	\$72	48 Georgia	\$34
15	Oregon	\$121	32 Indiana	\$72	49 Texas	\$28
16	Louisiana	\$119	33 Missouri	\$66	50 Nevada	\$27
17	Arizona	\$115	34 Colorado	\$63	51 Mississippi	\$13

UNITED STATES \$82

* Federal-State HCBS Waiver spending per citizen of the general population.



1. FAMILY SUPPORT

- 2. SUPPORTED EMPLOYMENT
- **3. SUPPORTED LIVING**
- 4. SELF-DIRECTED SERVICES



FAMILY SUPPORT INCLUDES

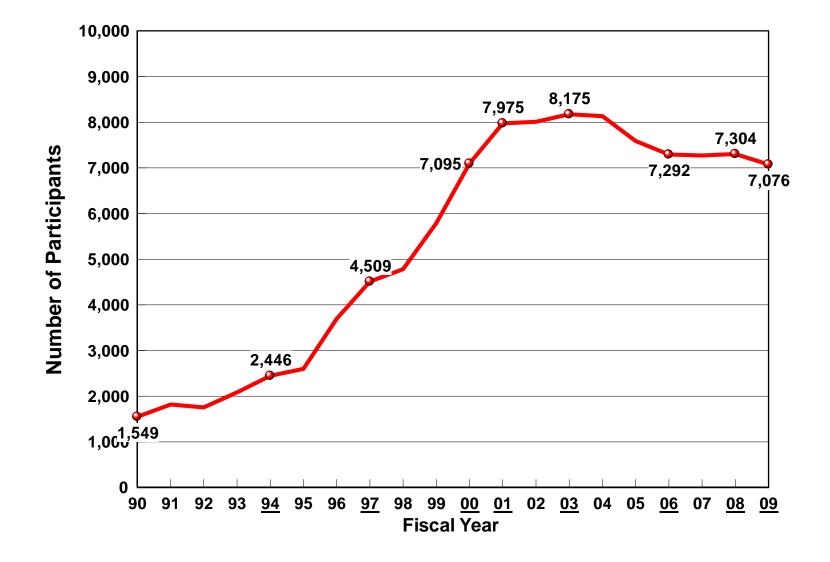
- Respite
- Family counseling
- Architectural adaptation of the home
- In-home training, education, behavior management
- Sibling support programs, and
- Purchase of specialized equipment

"CASH SUBSIDY FAMILY SUPPORT" INCLUDES:

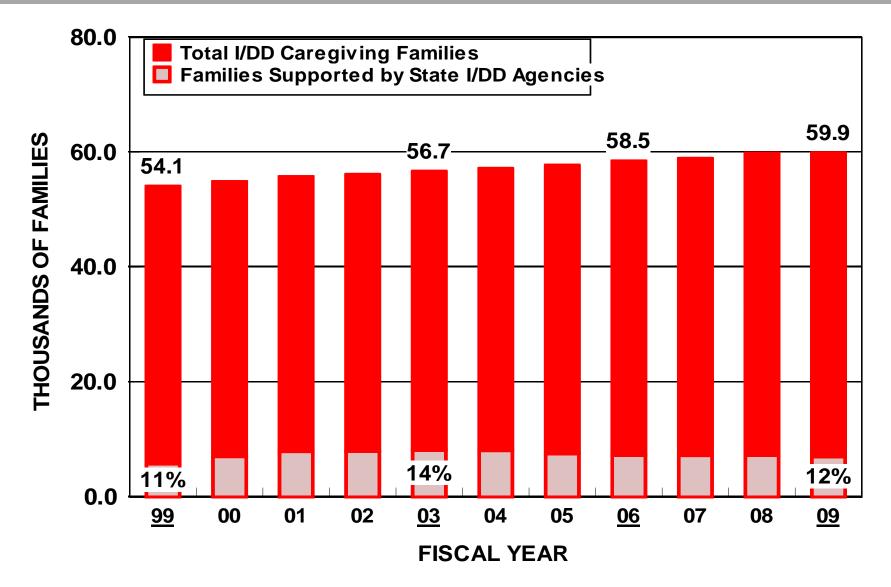
Payments or vouchers directly to families; families determine what is purchased

FAMILIES SUPPORTED IN WASHINGTON STATE DECLINES: 2004-09





celeman institute FAMILIES SUPPORTED IN WASHINGTON ARE 12% **OF TOTAL ESTIMATED I/DD CAREGIVING FAMILIES**



for Cognitive Dis

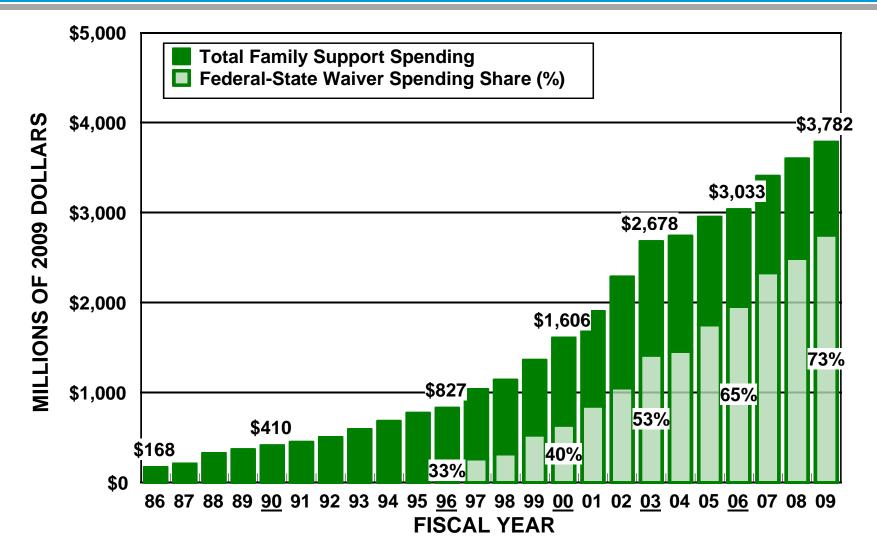
FAMILIES SUPPORTED: WASHINGTON LAGS THE U.S. AVERAGE



State	Families Supported Share of All Caregiving Families	National Rank
Northern New England	19%	18
Minnesota	18%	20
UNITED STATES	17%	
Washington State	12%	30
Colorado	8%	38
Oregon	7%	44

HCBS WAIVER SPENDING PROVIDED 73% OF I/DD FAMILY SUPPORT SPENDING IN U.S., 2009





Washington State Waiver funding was 50% of total family support spending in 2009.

WASHINGTON IS IN BOTTOM QUARTILE IN \$S PER FAMILY IN CASH SUBSIDY PROGRAMS IN 2009



		Families				Subsidy Per
		Supported			State	Family
1	Michigan	7,125	ľ	1	Utah	\$10,299
2	New Jersey	5,685		2	Illinois	\$7,920
3	South Carolina	3,627		3	Minnesota	\$6,811
4	Connecticut	3,578		4	North Dakota	\$5,571
5	Tennessee	3,403		5	Nevada	\$4,502
6	Texas	3,060		6	New Mexico	\$4,337
7	Minnesota	2,781		7	Iowa	\$4,249
8	Washington State	2,311		8	Florida	\$3,908
9	Oklahoma	2,299		9	Delaware	\$3,294
10	Louisiana	1,523		10	Louisiana	\$3,272
11	Kansas	1,418		11	Rhode Island	\$3,261
12	Maine	545		12	Michigan	\$2,598
13	Nevada	492		13	Oklahoma	\$2,588
14	Illinois	413		14	Kansas	\$2,516
15	lowa	353		15	Arizona	\$2,509
16	Arizona	181		16	Texas	\$1,870
17	New Mexico	164		17	Washington State	\$1,711
18	North Dakota	95		18	Tennessee	\$1,429
19	Florida	85		19	New Jersey	\$1,315
20	Delaware	54		20	South Carolina	\$1,134
21	Rhode Island	50		21	Maine	\$1,101
22	Utah	6		22	Connecticut	\$917
	U.S.	39,248	ſ		U.S.	\$2,328



"While supported employment has made significant gains since its formal introduction in 1984 (P.L. 98-527), segregated services continue to outpace the growth of supported employment nationally."

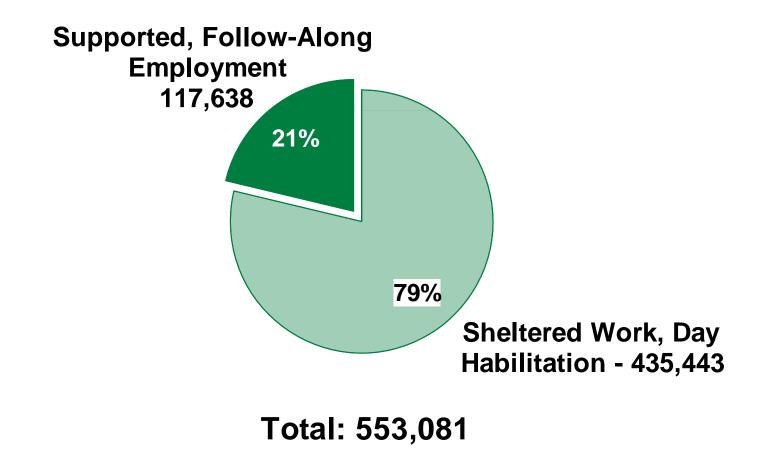
≻True in 2004 and true today.

(Rusch & Braddock, Research and Practice for Persons with Severe Disabilities, 2004)

SUPPORTED/FOLLOW-ALONG EMPLOYMENT IS 21% OF DAY/WORK PROGRAMS IN 2009



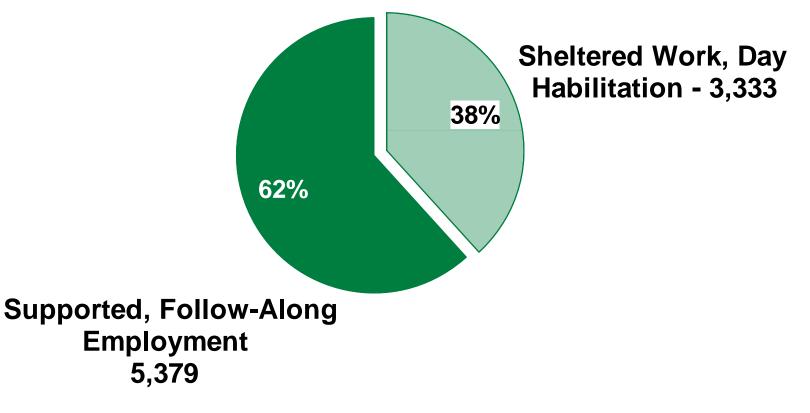
UNITED STATES Day/Work Programs, 2009



SUPPORTED EMPLOYMENT PARTICIPANTS ARE 62% OF DAY/WORK PROGRAMS IN 2009



WASHINGTON STATE

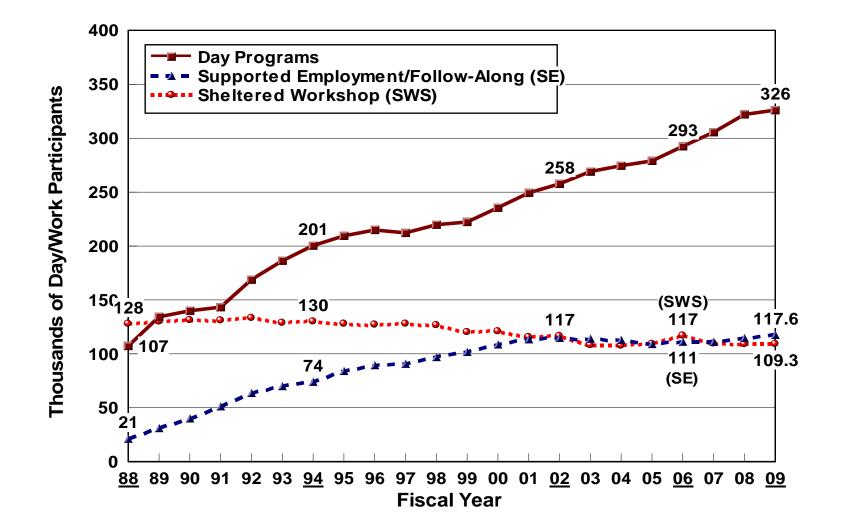


Total: 8,712

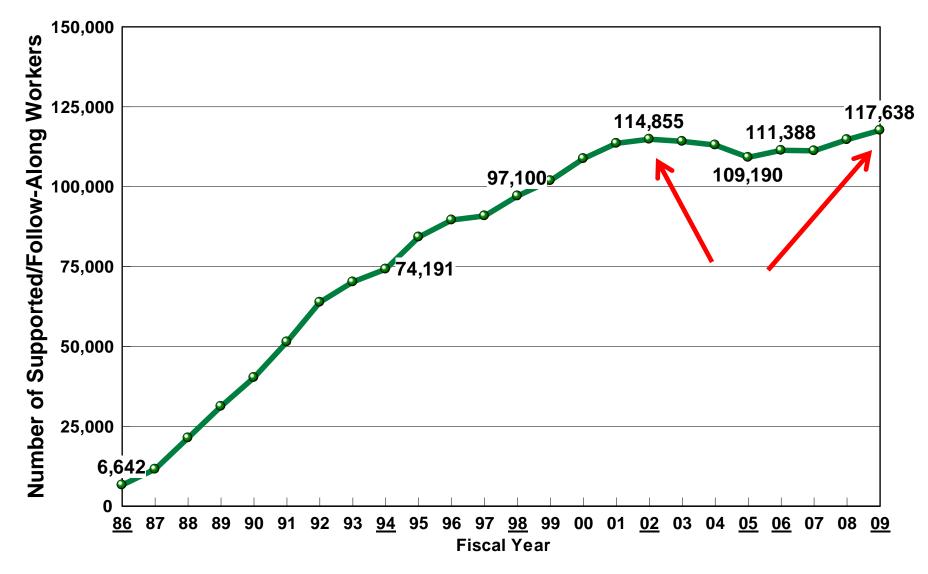
• Washington State ranks 2nd nationally, after Oklahoma.

DAY PROGRAM, SHELTERED WORKSHOP & SUPPORTED EMPLOYMENT PARTICIPANTS: U.S.





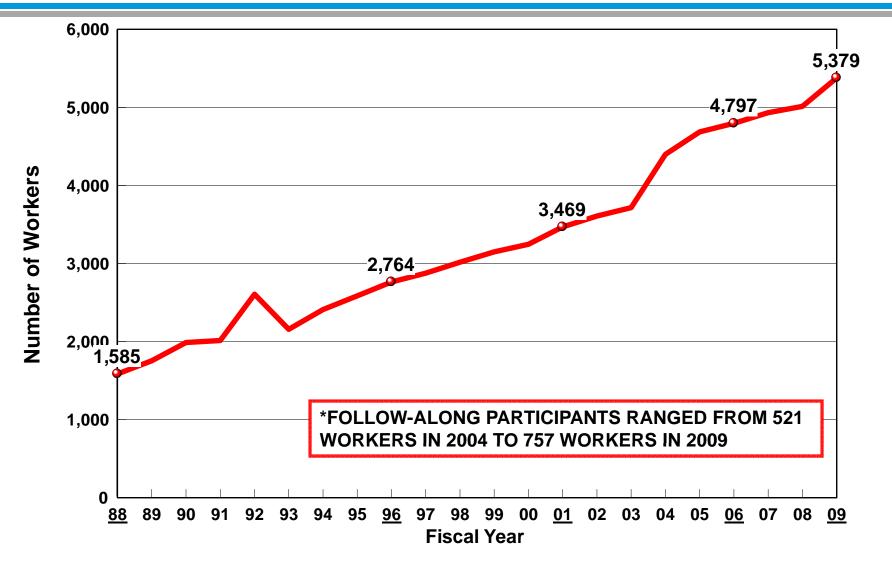
NO. OF SUPPORTED/FOLLOW-ALONG WORKERS IN THE U.S. INCREASES ONLY 2%, 2002-09



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SUPPORTED EMPLOYMENT/FOLLOW-ALONG* WORK Cleman institute SUPPORT IN WASHINGTON, 1988-09



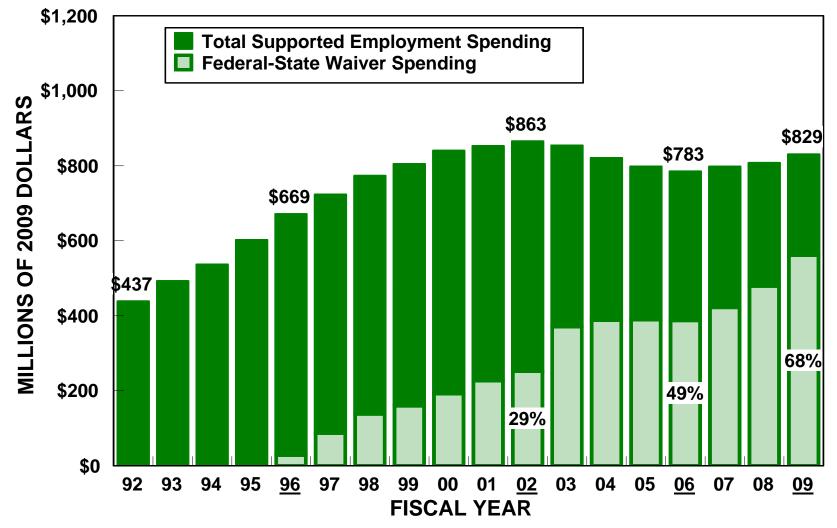
WASHINGTON STATE RANKED 11TH IN SUPPORTED/ FOLLOW-ALONG WORKERS PER CAPITA IN 2009



		Workers per
		Capita
National		(General
Rank	State	Population)
1	Vermont	146
2	Connecticut	129
3	Iowa	111
4	Oklahoma	93
5	South Dakota	90
6	Maine	87
7	Maryland	82
8	Pennsylvania	75
9	Alaska	71
10	District of Columbia	71
11	Washington	70
	UNITED STATES	34

THE HCBS WAIVER PROVIDED 68% OF U.S. I/DD SUPPORTED EMPLOYMENT SPENDING IN 2009





Washington State HCBS Waiver funding was 6% of total supported employment spending in 2009.

GROWTH IN SUPPORTED EMPLOYMENT WORKERS 2006-09



1.	Florida ¹	2,597
2.	Michigan	1,749
3.	California	1,527
4.	Maryland	1,069
5.	North Carolina	612
6.	Washington	582
7.	lowa	500
8.	Indiana	478
9.	Pennsylvania	417
0.	Oklahoma	384

¹Florida increase was due in part to State's inability to report follow-along workers in prior years.

Washington's 2006-09 increase was 12%, twice the U.S. rate.

3. SUPPORTED LIVING PRINCIPLES



✓ CHOICE

- Where to live, with whom and which lifestyle
- ✓ OWNERSHIP BY OTHER THAN THE SERVICE PROVIDER
 - Individual owns or rents;
 - Family owns or holds lease;
 - Housing cooperative owns
- ✓ INDIVIDUAL SUPPORT
 - Focus on individual's changing needs over time;
 - Individualized support plan or support contract

WASHINGTON STATE 1st AMONG CMPARISON STATES coleman inst AND 3RD NATIONALLY IN SUPPORTED LIVING SPENDING

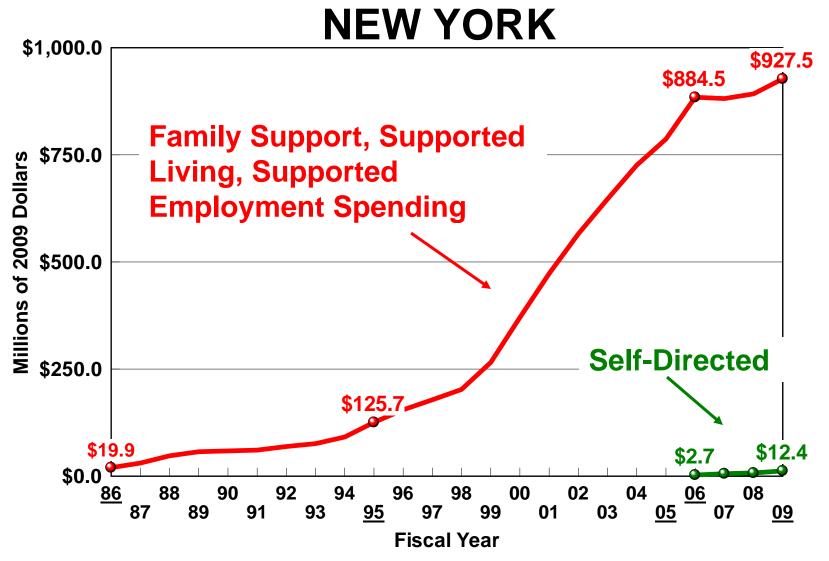


for Cognitive

*lowa and New Mexico are ranked #1 and #2.

SELF-DIRECTED SHARE OF FAMILY SUPPORT, SUPPORTED LIVING & EMPLOYMENT SPENDING





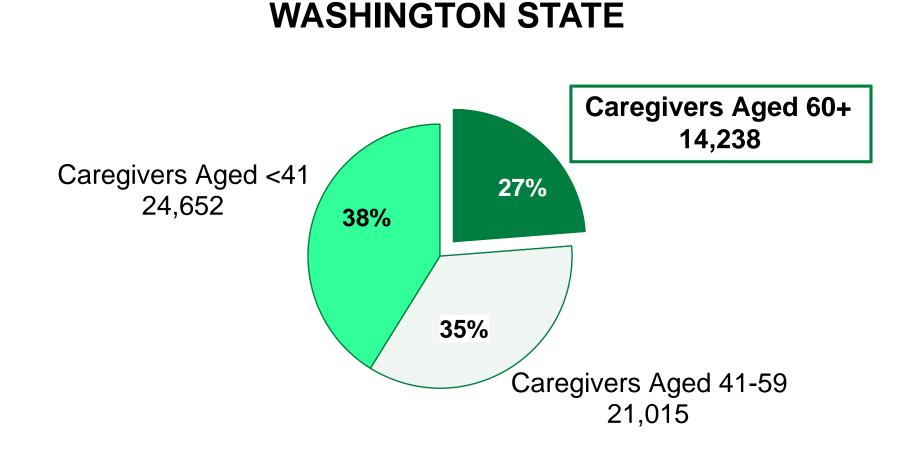
Source: State of the States pilot study of individual and family support, 2010.



• IMPACT OF AGING CAREGIVERS

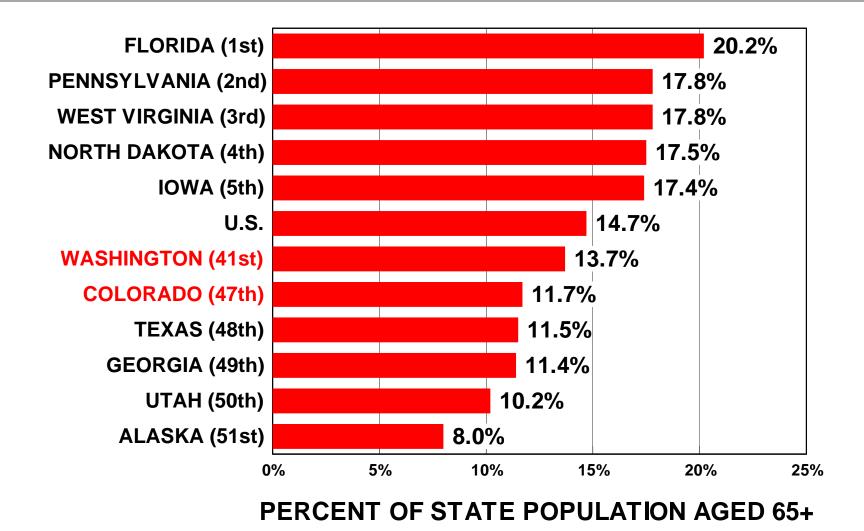
27% OF PERSONS WITH I/DD LIVE AT HOME WITH CAREGIVERS AGED 60 YEARS OR MORE





Estimated Aging Family Caregivers in 2009 59,905

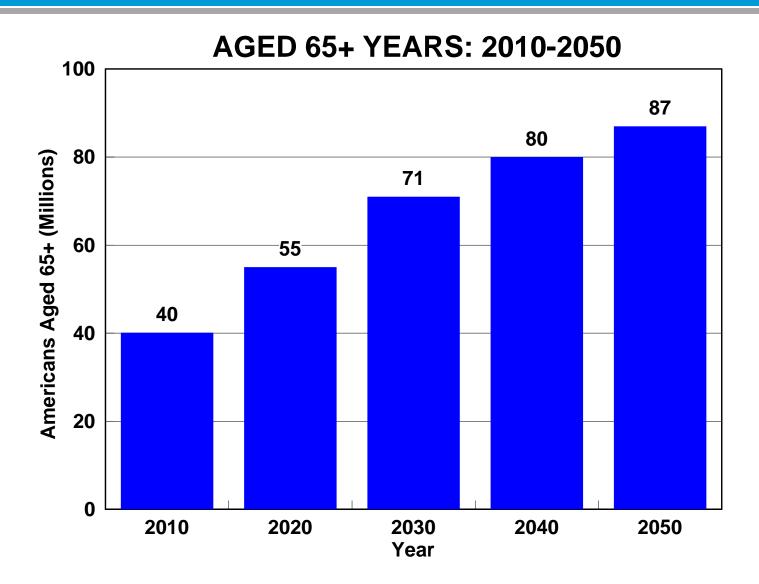
STATES WITH GREATEST AND LEAST PROPORTIONS Common institute of RESIDENTS AGED 65+ YEARS, 2009



Source: U.S. Bureau of the Census, 2010

AGING POPULATION DOUBLES 2010-40, U.S.





Source: U.S. Bureau of the Census, 2009



- 1970s: 59.1 years
- 1993: 66.2 years
- U.S. General Population: 70.4 years
- In the future "...those without severe impairment can be expected to have a life span equal to that of the general population."

Source: M. Janicki. (1996). Rehabilitation Research and Training Center on Aging and Mental Retardation, University of Illinois at Chicago.



- Has made progress in reducing reliance on large congregate care settings and in supported living
- It is third in supported living spending per capita
- Is one of 22 states with a family support cash subsidy, and ranks 8th among those states
- Ranks third nationally in supported employment workers and ranks 11th in workers per capita
- Ranks 2nd nationally in supported employment workers as % of total day/work participants (62% vs. 21%, U.S.)

WASHINGTON STATE'S CHALLENGES



- Washington is below comparison states and 21% below U.S. average in fiscal effort
- State institutional are over-utilized; Washington State is 15th highest of the 40 states with stateoperated institutions
- The HCBS provides only 6% of Supported Employment spending vs. 68% nationally
- The State ranked 30th in I/DD agency funded families supported as a % of the State's total I/DD caregiving families (12% vs. 17%, U.S.)

WASHINGTON STATE'S CHALLENGES



- Washington State's Waiver participants declined 15% from 11,717 in 2001 to 9,975 in 2009
- Aging caregivers present significant challenges to the state and this challenge will increase in the years ahead
- Washington has an estimated 14,238 aging caregivers (aged 60+ years). This figure equals 87% of all current state-assisted out-of-home participants with I/DD in 2009

II. DEVELOPMENTS IN TECHNOLOGY

- a. GENERAL ADVANCES
- b. SMART HOMES FOR PERSONS WITH COGNITIVE DISABILITIES
- c. PERSONAL SUPPORT TECHNOLOGIES
- d. UNIVERSITY OF COLORADO RERC



THE ARC's PROPHECY: 22 YEARS AGO

There is a prevailing belief ... in the field of assistive technology that people with mental retardation are not appropriate consumers of assistive technology...

People with mental retardation should be named as a 'traditionally underrepresented group'...It is the belief of the Association for Retarded Citizens of the United States that advances [in AT] will not occur without strong leadership from our federal government (Cavalier, 1988)

Source: Testimony of A. Cavalier before the Senate Subcommittee on the Handicapped, 1988.

ADVANCES IN MICROELECTRONICS

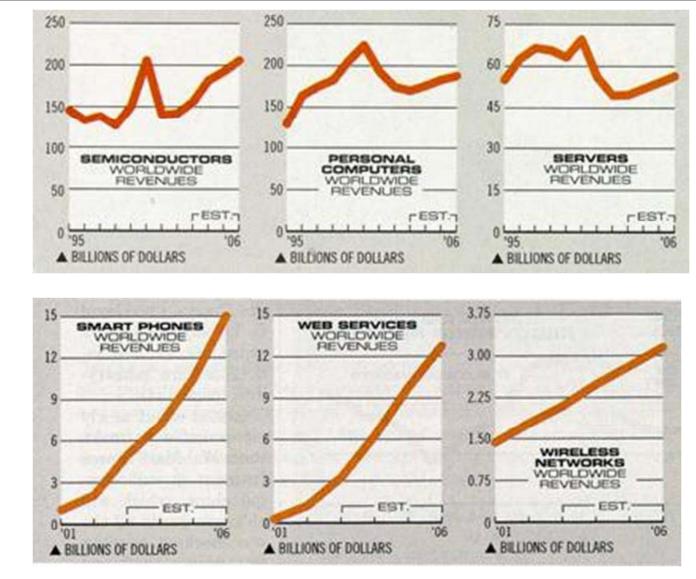


- Dramatic increase in price-performance of computing technology
- Advances in wireless technology, GPS, broadband, and web-based services
- Improved access to computers & the Internet including voice recognition systems
- Easier to use Personal Digital Assistants (PDA's) with "prompting capabilities" and "contextawareness"

A NEW GENERATION OF TECHNOLOGIES



AS SOME MARKETS MATURE...



NEW HIGH-GROWTH MARKETS EMERGE...

Sources: Adapted from Business Week, August 25, 2003.



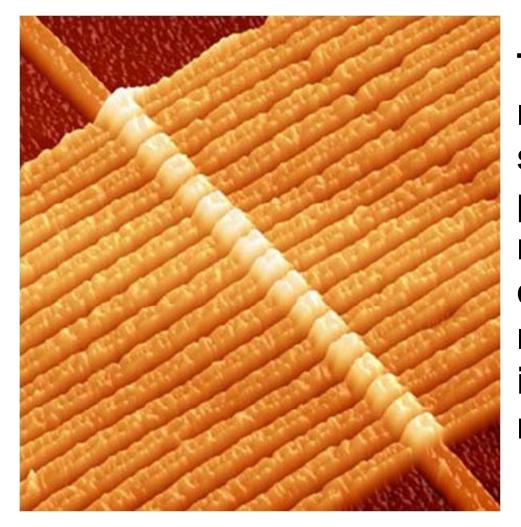
Hewlett-Packard scientists report advances in the design of this new class of switches to replace transistors as computer chips shrink closer to the atomic scale.

The most advanced transistor technology today is 30 to 40 nanometers in size—a biological virus is typically about 100 nanometers. H.P. Lab's 3nanometer "memristors" can switch on and off in about a nano-second, or a billionth of a second.

> Hewlett Packard Senior Fellow R. Stanley Williams HP Labs, Palo Alto, CA NY Times, April 8, 2010.

HORIZON: MEMRISTORS





The memristor is a nano-scale device that stores data, explains previous anomalies in nano-device characteristics, and may act as a synapse in analog neural networks.

Source: HP Labs, imaged by an atomic force microscope (reported in Wikipedia, April 2010).



HP has tested the material in ultra-highdensity "crossbar" switches, which use nanowires to pack a record 100 Giga-bits onto a single die—compared with 16 Gbits for the current highest density flash memory chips.

> Professor Leon Chua, University of California-Berkeley EE Times, April 9, 2010.

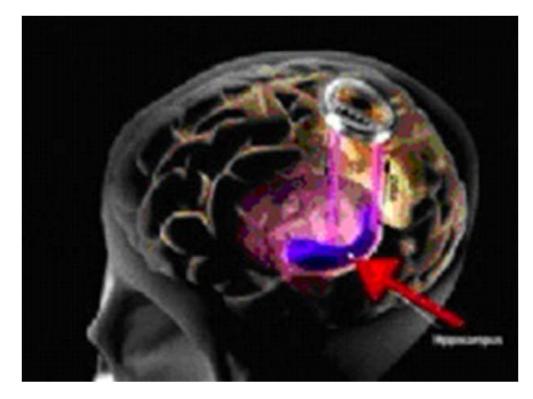


"We are...designing new types of circuits in both the digital and analog domains using our crossbar architecture. In the analog domain, we want to build memristor-based devices that operate in a manner similar to how the synapse works in the brain....we think that using the memristor in its analog mode with our crossbar is a pretty good representation of a neural net."

Professor Leon Chua, University of California-Berkeley EE Times, April 9, 2010.

NEURAL PROSTHESES AND MEMRISTORS

Computer chips implanted in the brain could help to enhance/replace/bypass damaged brain regions (e.g., chip reroutes information past damaged hippocampus to help form new memories in an Alzheimer's patient)



Source: Berger, T., Professor of Biomedical Engineering, Viterbi School of Engineering, USC.

celeman



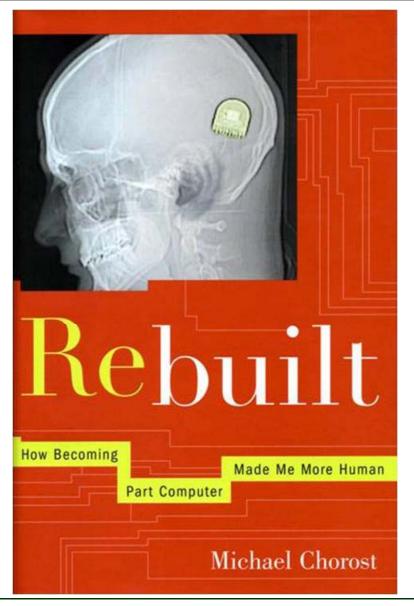
Bill Gates notes that cochlear implants, which use digital signals the brain interprets as sound, can help profoundly deaf people hear. He remarks that these types of technologies will continue to be improved and expanded, especially in areas where they would "be correcting deficiencies."

"We will have those capabilities...and computerhuman links would become mainstream, though probably not for several generations."

Source: Bill Gates, Wall Street Journal, July 5, 2005, p. D-4

MICHAEL CHOROST'S BOOK: 2005





Coleman Institute Conference, October 13, 2011 in Westminster, CO



State of the States, State of the Nation: 2011

PETER BLANCK, PhD, JD, Chairman, Burton Blatt Institute, Syracuse University DAVID BRADDOCK, PhD, Chair of Conference, Associate VP, University of Colorado ANN CALDWELL, PhD, Chief Research and Innovations Officer, The Arc of the US HENRY CLAYPOOL, Director, Office on Disability, US DHHS BILL COLEMAN, founding donor, partner, Alsop-Louie Partners, San Francisco DIANE COYLE, PhD, economist, internationally acclaimed author of *The Economics of Enough: How to Run an Economy as if the Future Matters*, Princeton Univ. Press MARK EMERY, CEO, Imagine! Colorado JIM GARDNER, PhD, President and CEO, The Council on Quality and Leadership SHARON LEWIS, Commissioner, Administration on Developmental Disabilities, US **Department of Health and Human Services [USDHHS]** WILLIAM POUND, Executive Director, National Conference of State Legislatures JO ANN SIMMONS, Board Chair, National Down Syndrome Society SUE SWENSON, Deputy Assist. Secretary for Special Education and Rehabilitation NANCY THALER, Exec. Director, Nat'l Assoc., of State Directors of Developmental **Disabilities Services (NASDDDS)**

ColemanInstitute.org

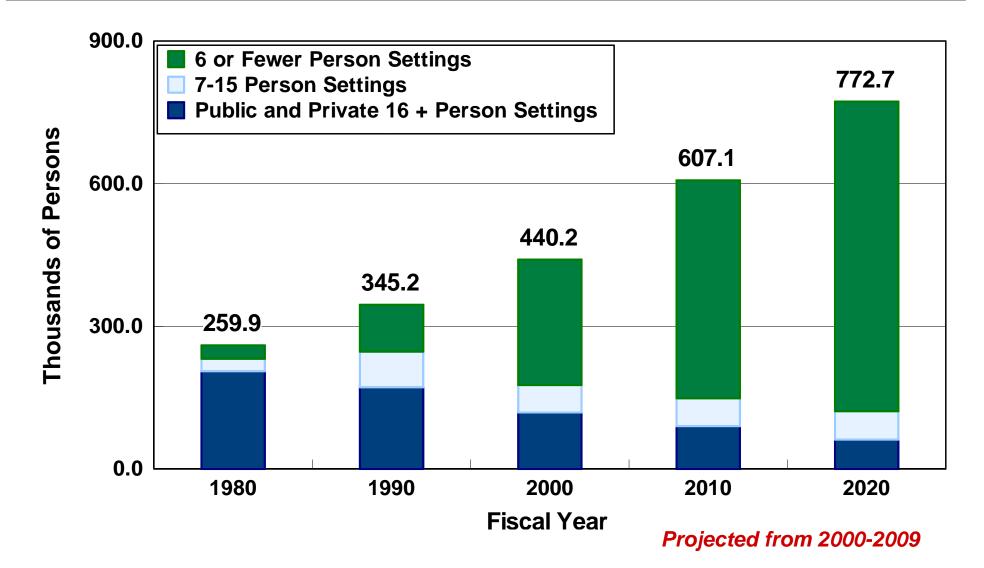
IIb. DOWN TO EARTH: SMART HOME TECHNOLOGY



"I think we can do a 'virtual nursing home' with technology"...

Andy Grove Co-Founder, Intel Corp. In USA Today, 2006

U.S. DEMAND FOR ID RESIDENTIAL SERVICES IN THE NEXT DECADE IS 165,000



Source: Braddock, D., State of the States in Developmental Disabilities, 2011.

INTEGRATED WIRELESS SENSOR NETWORKS



IN THE FUTURE:

- A combination of wireless cell phone, Internet, and sensor technology will connect people, objects, and events.
- Smart homes/care will play key roles in assisted living for persons with I/DD, allowing seamless connectivity between clients, caregivers/health care providers, and parents.



TWO PRIMARY METHODS TO REMOTELY MONITOR A PERSON'S PHYSICAL AND MENTAL STATE AND LOCATION:

1. Via instrumenting the environment

(Sensors located in rooms, on doorways, drawers, faucets, light switches, mattresses, pill bottles, etc.)

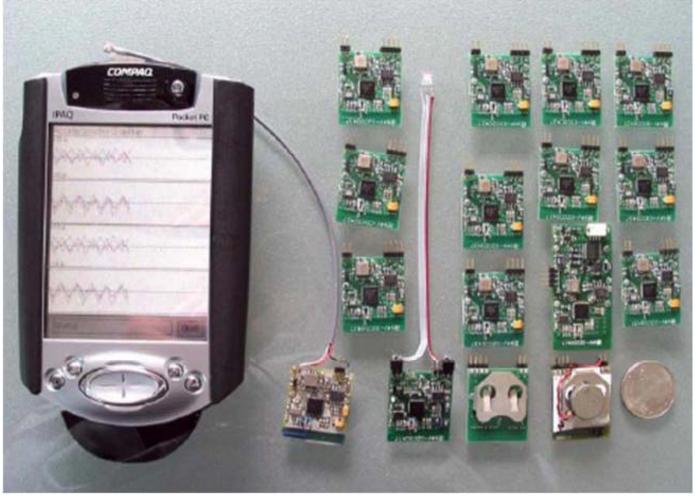
2. Via sensors located directly on people

Both have advantages: environmental sensors are less instrusive, and do not require user compliance. Person sensors offer more direct measurement.

MIT PLACELAB - BEHIND THE SCENES



Context-aware PDA with wireless sensors/motes



Source: MIT PlaceLab website at http://architecture.mit.edu/house_n/placelab.html

U.S. SMART HOME SERVICE PROVIDERS FOR PERSONS WITH ID



- IMAGINE! BOULDER AND LONGMONT, COLORADO
- REST ASSURED, LLC., LAFAYETTE, INDIANA
- SOUND RESPONSE, MADISON, WISCONSIN

Source: Braddock, D., Coleman Institute, University of Colorado, 2010.

IMAGINE! SMART HOME, BOULDER, COLORADO: COMPLETED 2009





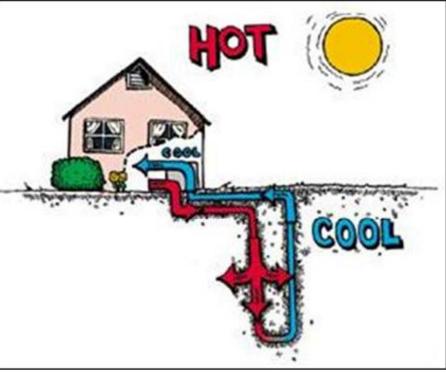
Imagine! Smart Homes in Boulder and Longmont, Colorado http://www.imaginesmarthomes.org/

IMAGINE! SMART HOME, BOULDER, COLORADO: GREEN TECHNOLOGIES



Photovoltaic cells generate electricity





Geothermal systems heat and cool the home

IMAGINE! SMART HOME, LONGMONT, CO, OPENED MAY 2011





Imagine! Smart Homes in Boulder and Longmont, Colorado http://www.imaginesmarthomes.org/



FUNDING FOR HOMES

- Private donations
- HUD
- Cities of Boulder and Longmont
- State of Colorado/Medicaid

IMAGINE! SMART HOMES, BOULDER/LONGMONT



STAFF SYSTEMS

- Employee/manager portal for centralized information collection and reporting
- Web-based medication prompt system
- Location based activity prompting/logging
- Web based training courses
- Lifelogging of resident histories
- Family portal for daily activities and health status with text and picture-sharing



CONSUMER, ENVIRONMENTAL AND COMMUNICATIONS ADAPTATIONS

- Accessible control of environment and appliances
- Accessible, safe kitchen and bathroom
- Cameras monitor high-risk areas
- Automated windows and doors
- Task prompters and reminders
- Specialized, accessible PC, Internet, journaling and web conferencing

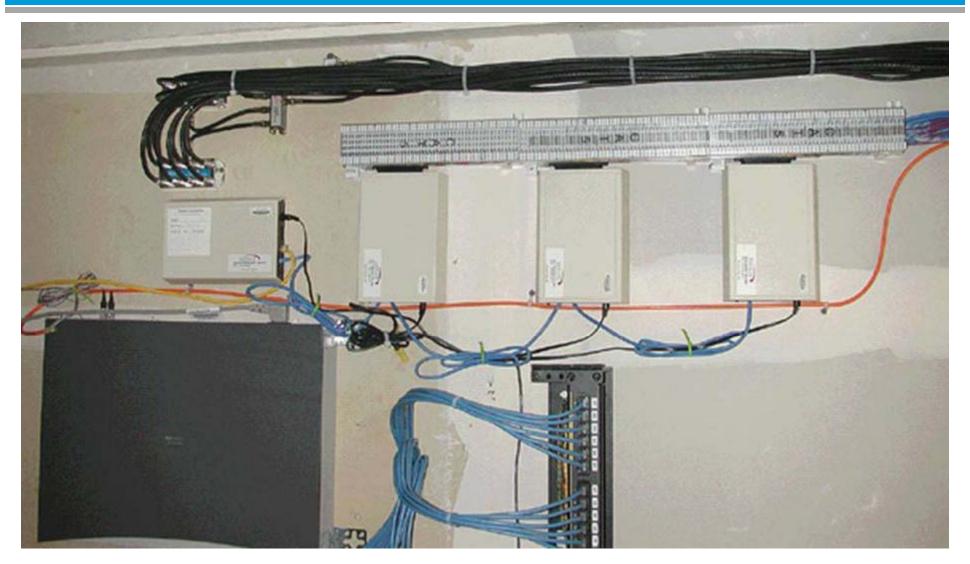


ELITE CARE/CUROTEK WEB-BASED MONITORING SYSTEM

- Activity and safety sensors are utilized: bio-metric, motion, pressure, contact, security, fire, temp, nurse call, door threshold.
- Residents' badges provide location, call for assistance.
- Real-time resident monitoring, alerts, reporting and care planning.

IMAGINE! SMART HOME ADAPTS ELITE CARE WEB-BASED MONITORING SYSTEM





Elite Care Technologies CARE Systems



Creating Autonomy-Risk Equilibrium

- Infrared/RF tracking
- Pendant Assistance calls
- Bed weight, threshold, motion
- Control lights, locks, appliances
- Programmable events/alerts
- Building sensors/controls
- Real-time Intra/Intranet
- DB Reports, trends, queries

www.elitecare.com

Holistic care model Open building design Supportive technology



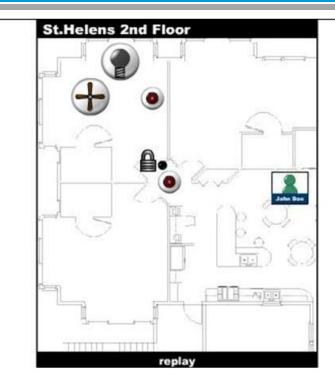
Oregon Assisted Living Oatfield Estates Jefferson Manor

SMART HOUSE BADGE



Assist resident

 Badge detects when resident reaches his/her room
 Unlock their doors
 Turn lights on/off
 Turn ceiling fan on/off
 Disable unsafe appliances



Predict/prompt activity (future)

Using statistical modeling



Source: Elite Care Corp.

REST ASSURED PROGRAM





Staff person monitors several apartments simultaneously.



REST ASSURED PROGRAM

- Uses PTZ (Pan, Tilt, Zoom) cameras for monitoring in high risk areas like the kitchen
- Remote supervision via two-way audio/video communication with caregiver
- Motion, temperature, carbon monoxide, and door brake sensors used in, in addition to a Personal Emergency Response System
- Consumers report increased independence; caregiver is not a constant physical presence in the house
- Reduced overall cost of care
- Currently used primarily for third-shift support

Source: Jeff Darling, Executive Director, Rest Assured, Wabash, Indiana.

REST ASSURED PROGRAM-ATTRIBUTES

- Developed in collaboration with EPICS (Engineering Projects In Community Service) at Purdue University
- Serves consumers with ID
- 65 homes and apartments with 136 consumers served
- Recent agreement with Humana to market technology to 500,000 elderly caregivers

Source: Jeff Darling, Executive Director, Rest Assured, Wabash, Indiana.

SOUND RESPONSE SYSTEMS: MADISON



Monitoring Station



- Professional Monitors
- Communication between Monitor and staff/ individuals served
- Access to protocols and personal intervention strategies
- Provider agency back-up
- Individualized alarm readings
- Generates reports





- Personal Pagers
- Door/Window Security Sensors
- Smoke Detectors
- Carbon Monoxide Detectors
- Flood/Moisture Sensors
- Motion/Sound Sensors
- Stove Sensors
- Incontinent Detectors
- Other Sensors Available Upon Request



EQUIPMENT FEATURES



- Completely Wireless in the Home
- Cellular Transmission- No Phone or Internet Connection is Required
- 2-Way Communication
- Event Sequencing
- Data Tracking
- Portable and Adaptable to People's Homes and Abilities

Sound Response costs average between \$25 to \$850 per person per month





- "We can alleviate some of the demand for Direct Support Professionals (DSPs) by identifying new service options for people who do not need intensive DSP support.
- The system is tailored to the needs of each person who uses it and has been shown to improve personal independence, as well as alleviating the needs for a direct support professional where one is not needed."

Mitch Daniels, Governor, State of Indiana The Arc of Indiana, *Meet the Candidates*, Summer 2008

STATES WITH MEDICAID SUPPORT FOR SMART HOME TECHNOLOGIES



CURRENTLY HAS MEDICAID WAIVER AMENDMENT APPROVED BY CMS

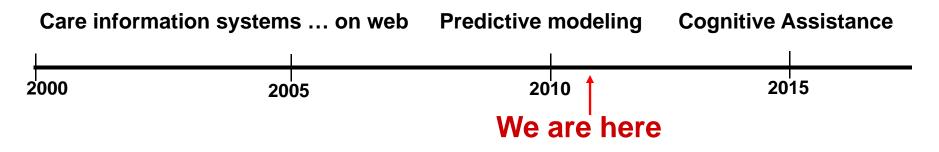
• INDIANA

SUBMITTED WAIVER AMENDMENT, PENDING CMS APROVAL

• OHIO

OTHER STATES ARE IN THE PROCESS OF SUBMITTING WAIVER AMENDMENTS FOR TECHNOLOGIES TO CMS (E.G., FLORIDA, WEST VIRGINIA)





RECOMMENDATIONS:

- Adopt early: learn from experience
- Start small: expand incrementally
- Adopt gradually: change care procedures
- Assess needs, cost-benefits, & risk
- o Plan pilot & evaluation with R&D partner

o *Source*: Rodney Bell, Coleman Institute consultant (2007)

COGNITIVE ASSISTANCE FRONTIER



- Envisions systems with wearable or environmental sensors that infer a user's context and cognitive state.
- Prompts, reminders, and other forms of automatic intervention.
- Tasks addressed include navigation, remediation of memory impairments, behavioral self-regulation, and monitoring and guidance in the performance of ADLs.

Henry Kautz Department of Computer Science University of Rochester, January 2010 COGNITIVE ASSISTANCE DISCIPLINES

- In Computer Science:
- Artificial intelligence
- Human-computer interaction
- Pervasive computing
- Electrical engineering (chip technology)
- **In Care-Related Disciplines**
- Gerontology
- Rehabilitation Psychology & Special Ed.
- Physical and Occupational Therapy
- Nursing
- Medical Informatics

IIC. PERSONAL SUPPORT TECHNOLOGIES

- **1. PDA Task Prompting Software**
- 2. Adapted Web Browser
- 3. Adapted E-mail
- 4. Audio Books
- **5. Location Tracking**
- 6. Personal Support Robots, Teaching Technologies

PDA TASK PROMPTING SOFTWARE



Visual Assistant (Prompting System)



Source: Ablelink Technologies, Colorado Springs (Terry & Jonathan).

SOURCE: Ablelink Technologies, Colorado Springs.

VISUAL ASSISTANT

A pocket personal computer with an integrated PC-slot digital camera;

Staff/caretakers take pictures of and narrate--the steps in a task;

> The verbal instructions and images guide users through the steps:

- Grocery shopping
- Medications
- Personal hygiene
- Using public transportation, etc.







ADAPTED WEB BROWSER AND E-MAIL



Adapted Web Browser



The Web Trek adapted web browser improves access to the World Wide Web for people who have difficulty with reading and writing.

Web Trek's Favorite

Adapted E-mail Program

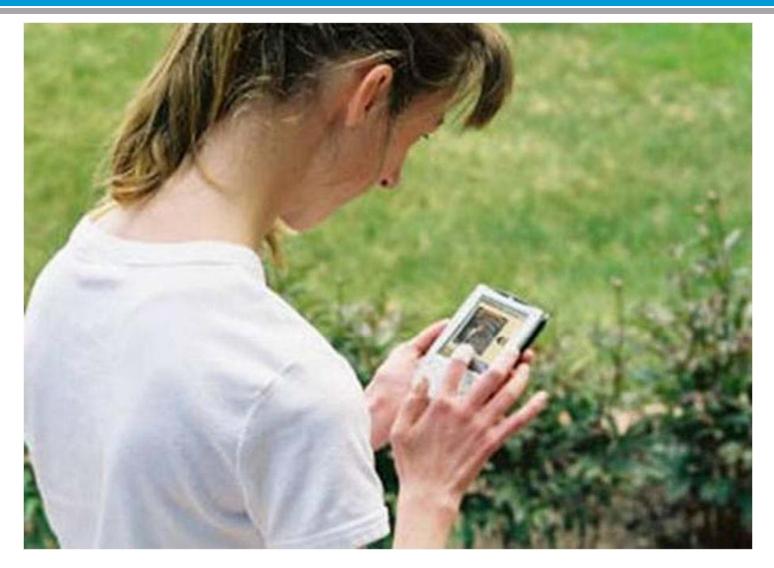


Web Trek Connect's picture-based Inbox and interface for automated recording and sending of audio email.

SOURCE: Ablelink Technologies, Colorado Springs.

ROCKET READER AUDIO BOOKS





Source: Ablelink Technologies, Colorado Springs; www.ablelinktech.com

LOCATION TRACKING



Nextel mobile locator:

http://www.nextel.com/en/services/gps/mobile_locator

Wherifone:

http://www.wherify.com/wherifone/

Accutracking:

http://www.accutracking.com/

•911 to go:

http://www.travelbygps.com/articles/tracking.php/

Contact your cell phone provider for phones/services



TREKKER BREEZE GPS



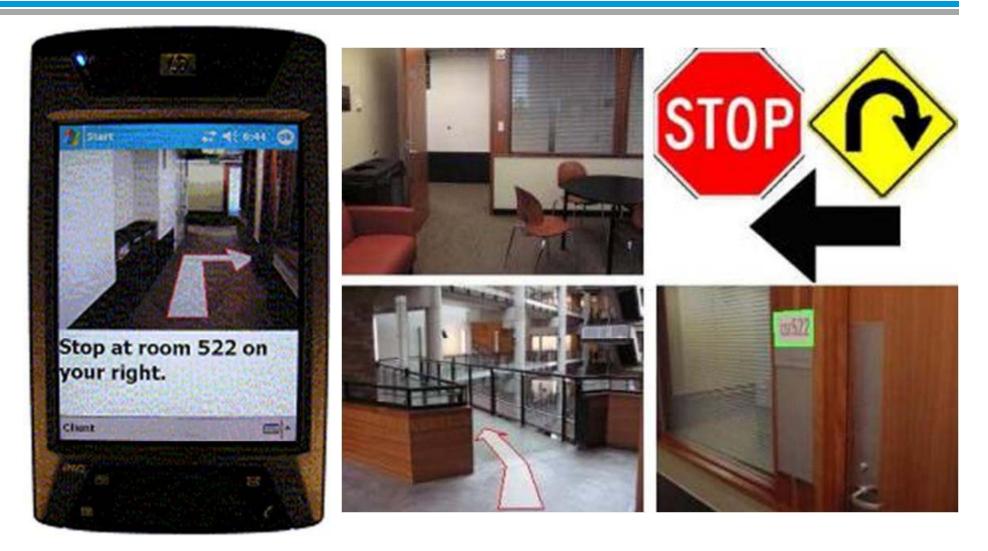


Verbally announces the names of streets, intersections and landmarks as you walk.

Source: http://www.visabilitystore.or g/browse.cfm/trekkerbreeze-gps/

INDOOR WAYFINDING SUPPORT





SOURCE: http://cognitivetech.washington.edu/assets2006_liu.pdf.

[In Development]



Can serve as "life support partner" to follow a person from place to place, respond to commands, aid in activities of daily living, help with route finding, interact with others.



Source: Maja J Mataric, University of Southern California, Viterbi School of Engineering



Animated Teaching/Learning Tools

- Students choose animated images representing themselves and their teacher.
- □ Then students use the animated characters to engage in learning activities such as reading instruction.



Each of the 8 characters makes hundreds of emotions and expressions in real time.

For more information contact Sarel Van Vuuren at sarel@colorado.edu http://ics.colorado.edu/



REHABILITATION ENGINEERING RESEARCH CENTER ON ADVANCING COGNITIVE TECHNOLOGIES (RERC-ACT)



University of Colorado School of Medicine

University of Colorado School of Medicine - Anschutz University of Colorado – Boulder Cathy Bodine, Ph.D., Principal Investigator Co-funded by the Coleman Institute www.uchsc.edu/atp/RERC-ACT.html



- 1. EVALUATION AND TESTING OF EXISTING AND NEW TECHNOLOGIES
- 2. DEVELOPMENT OF GUIDELINES AND STANDARDS
- 3. CREATION OF A PLATFORM FOR DEVELOPING A VARIETY OF COGNITIVE TECHNOLOGY APPLICATIONS AND PRODUCTS

RERC-ACT: 2010 COLLABORATORS



UNIVERSITIES

- UNIVERSITY OF COLORADO/ANSCHUTZ AND BOULDER
- GEORGIA INSTITUTE FOR TECHNOLOGY
- UNIVERSITY OF MARYLAND-BALTIMORE
- UNIVERSITY OF TORONTO

COMPANIES

- IBM, HUMAN ABILITY AND ACCESSIBILITY CTR.
- ASSISTIVE TECHNOLOGY INDUSTRY ASSN.
- BENEFICIAL DESIGNS, INC.
- PEARSON KNOWLEDGE TECHNOLOGIES
- NEURINTEL, LLC

- **R1. THE RERC-ACT Product Testing Laboratory**
- R2. Context-aware prompting system
- **R3.** Mobile-based job-coaching intervention
- R4. Cognitive decline and recovery from work interruptions in the IT workforce
- R5. Vocabulary development in mild cognitive impairments
- **R6.** Socially assistive robotics for skills acquisition.

- D1. Uniform standards for cognitive technologies
- D2. Interactive animated agents platform for home, school, work and community
- D3. Non-linear context-aware prompting for adults with cognitive disabilities in the workplace
- D4. Mobile life coach vocational applications
- **D5. Socially interactive early childhood robotics**
- D6. Inclusive collaboration technology for employment



III. ECONOMIC UNCERTAINTY IN THE STATES

FINANCIAL CONDITIONS IN THE STATES

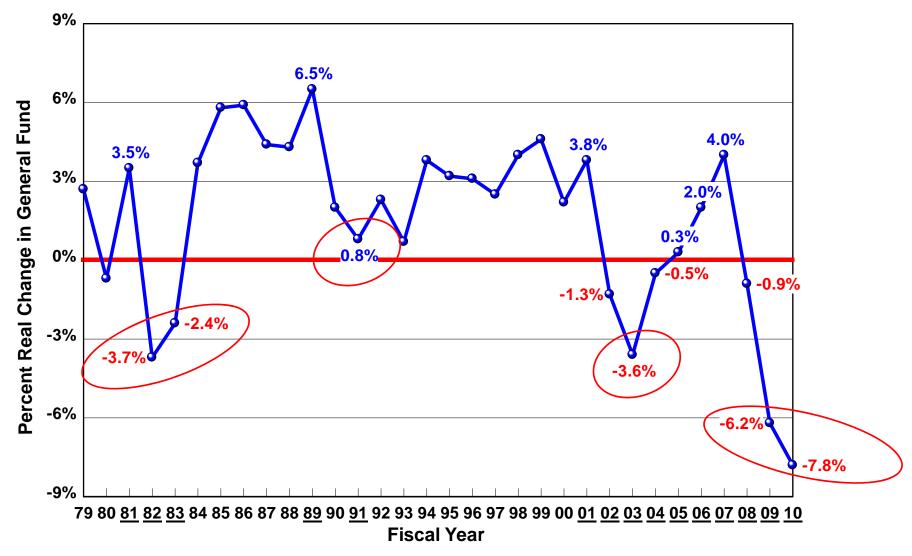


• TOTAL INFLATION-ADJUSTED I/DD SPENDING IN THE U.S. INCREASED MARGINALLY DURING 2006-09

• I/DD SPENDING INCREMENTS IN 2006, 2008 AND 2009 WERE THE LOWEST SINCE WE BEGAN COLLECTING DATA IN 1977

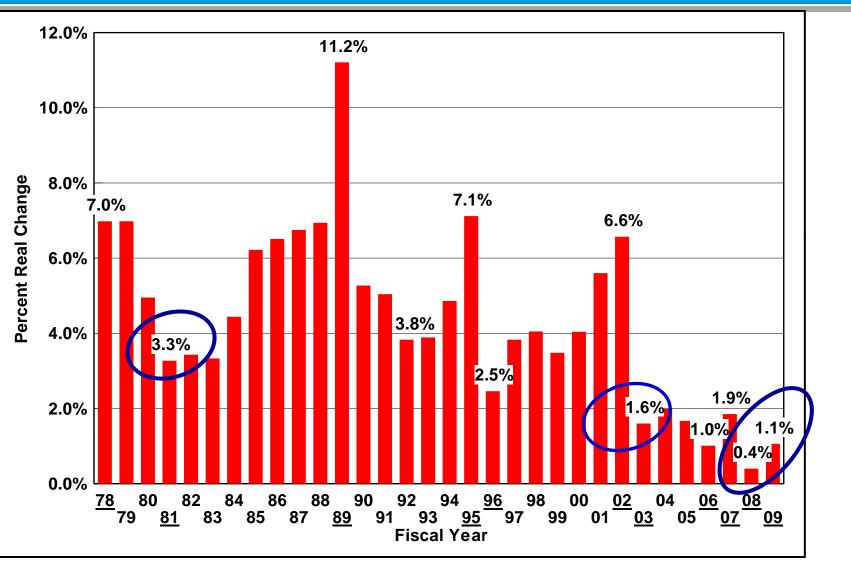
A TALE OF FOUR RECESSIONS: 1979-2010 GENERAL FUND IN THE STATES





Source: National Governors Association and National Association of State Budget Officers (November 2010) **79-09** "actual" state expenditure; 2010 "preliminary actual."

ANNUAL % CHANGE IN INFLATION-ADJUSTED I/DD SPENDING IN THE U.S.: 1978-09

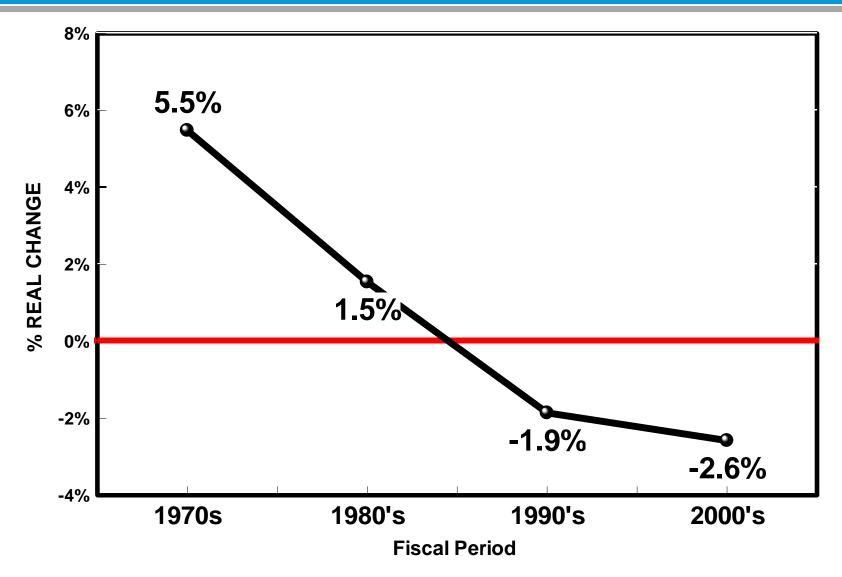


celeman institute

for Cognitive Disabilities

iversity of Colorado Syster

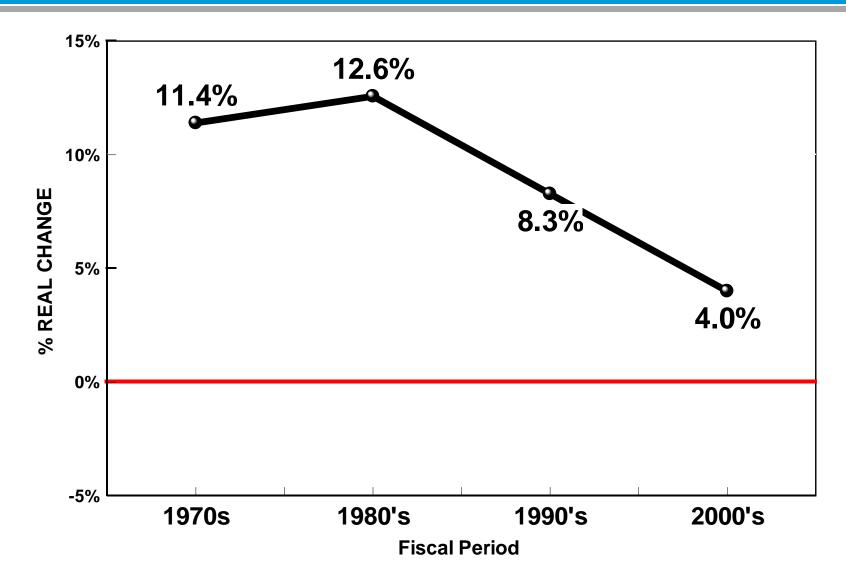
INSTITUTION SPENDING GROWTH IS NEGATIVE celeman institute **OVER THE LAST TWO DECADES**



for Coanitive Disa

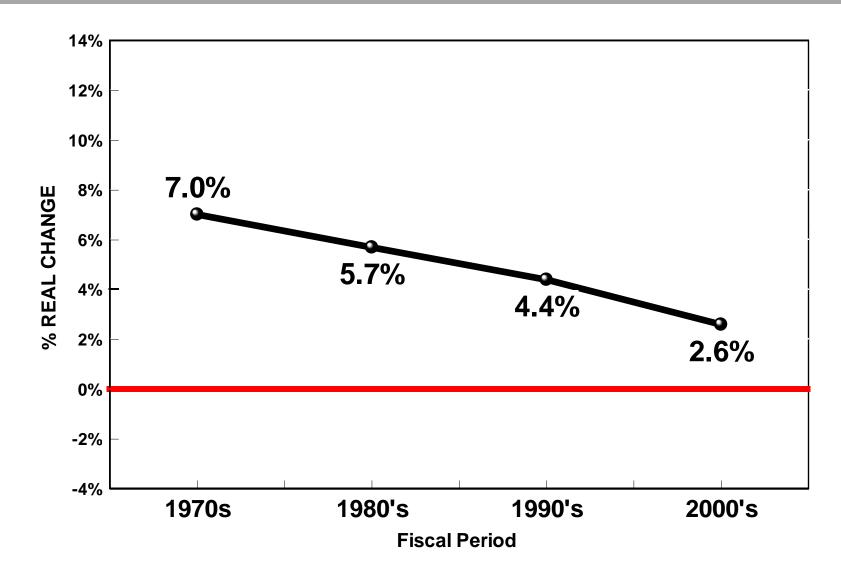
COMMUNITY SERVICES SPENDING GREW THEN SLOWED DOWN BY DECADE IN 1990s, 2000s





AVERAGE ANNUAL RATE OF TOTAL I/DD SPENDING STEADILY DECLINED BY DECADE





NUMBER OF STATES WITH INFLATION-ADJUSTED CUTS IN I/DD SPENDING: 1978-2009



1978 - 8	1989 - 5	2000 - 6
1979 - 6	1990 - 4	2001 - 10
1980 - 18	1991 - 6	2002 - 3
1981 - 15	1992 - 11	2003 - 20
1982 - 14	1993 - 18	2004 - 16
1983 - 17	1994 - 8	2005 - 22
1984 - 10	1995 - 6	2006 - 21
1985 - 5	1996 - 10	2007 - 16
1986 - 5	1997 - 8	2008 - 23
1987 - 7	1998 - 4	2009 - 23
1988 - 6	1999 - 10	

INFLATION-ADJUSTED CHANGE IN I/DD SPENDING IN THE STATES, 2008-09: 23 REDUCTIONS

State	% Change	State	% Change	State	% Change
Oregon	12%	Illinois	2%	Kentucky	-1%
District of Columbia	11%	Delaware	2%	Michigan	-2%
Louisiana	10%	West Virginia	2%	Missouri	-2%
North Dakota	10%	Utah	2%	Alabama	-2%
Nevada	9%	Mississippi	2%	Indiana	-3%
Alaska	8%	New Mexico	2%	Maryland	-4%
Washington State	7%	Virginia	1%	lowa	-4%
North Carolina	6%	Massachusetts	1%	New Jersey	-4%
Arkansas	5%	Maine	1%	Hawaii	-5%
Arizona	4%	Kansas	1%	Montana	-6%
California	4%	South Dakota	0%	Georgia	-6%
New York	4%	Minnesota	-0.3%	Texas	-7%
Connecticut	4%	Nebraska	-1%	Florida	-8%
New Hampshire	3%	Wyoming	-1%	Idaho	-9%
Colorado	3%	Ohio	-1%	Rhode Island	-10%
Pennsylvania	3%	Wisconsin	-1%	South Carolina	-11%
Vermont	3%	Tennessee	-1%	Oklahoma	-12%
				UNITED STATES	1.1%

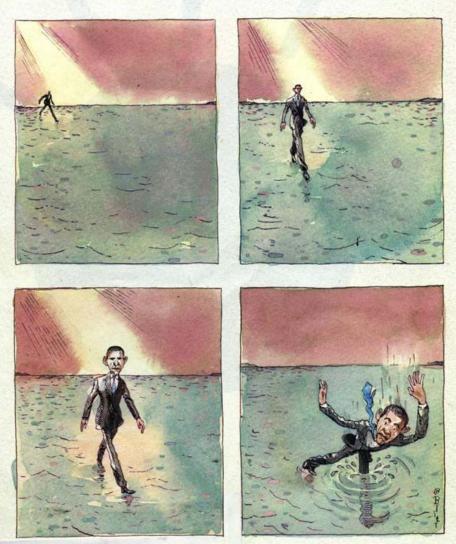
STATES INFLATION-ADJUSTED CHANGE IN COMMUNITY I/DD SPENDING, 2008-09: 18 REDUCTIONS



	Adjusted %		Adjusted %		Adjusted %
State	Change	State	Change	State	Change
Nevada	14%	Pennsylvania	3%	South Dakota	-0.2%
Oregon	13%	Illinois	3%	Missouri	-0.4%
District of Columbia	12%	Delaware	3%	Michigan	-1%
Louisiana	10%	Colorado	3%	Indiana	-2%
Washington State	8%	Utah	3%	Alabama	-3%
Arkansas	8%	Vermont	3%	Kentucky	-3%
Alaska	8%	West Virginia	2%	Georgia	-5%
North Carolina	8%	Nebraska	2%	Maryland	-5%
California	7%	Kansas	2%	Hawaii	-5%
North Dakota	7%	New Mexico	2%	Iowa	-5%
Virginia	7%	Wyoming	1%	Montana	-5%
Mississippi	5%	New Jersey	1%	Texas	-6%
Connecticut	5%	Ohio	1%	Florida	-8%
Arizona	4%	Wisconsin	1%	Idaho	-9%
New York	4%	Tennessee	1%	Rhode Island	-10%
Massachusetts	4%	Maine	1%	South Carolina	-11%
New Hampshire	4%	Minnesota	-0.1%	Oklahoma	-12%
				UNITED STATES	2.3%

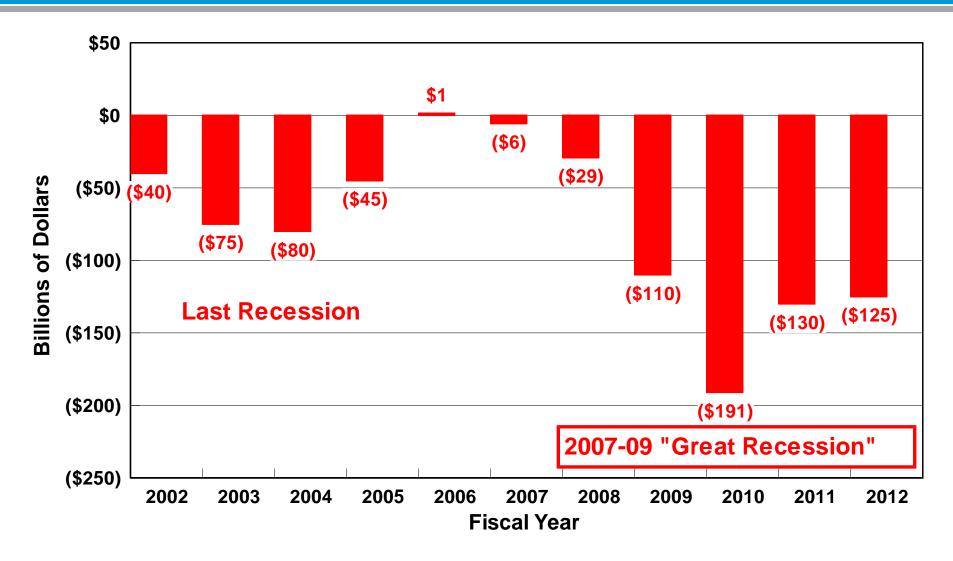
PRICE \$5.99 THE FEB. 1, 2010 NEW YORKER





THE PRESIDENT ONE YEAR AGO

DECADE OF STATE BUDGET SHORTFALLS



Sources: McNichol, Oliff, & Johnson, *Center on Budget and Policy Priorities,* January, 2011; National Bureau of Economic Research, 2010.

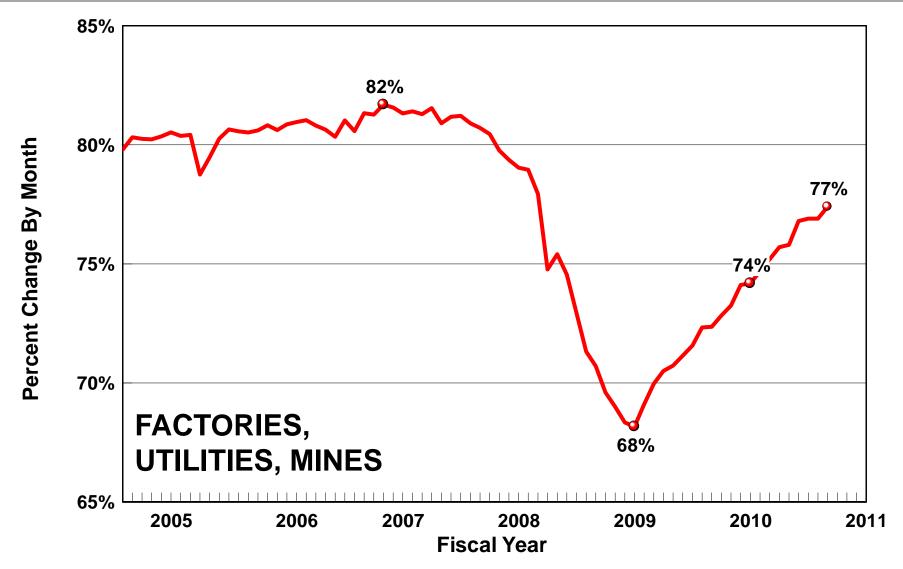


STATE BUDGET GAPS: FY 2012

State	Percent of 2011 State Budget	State	Percent of 2011 State Budget	State	Percent of 2011 State Budget
Nevada	45.2%	Alabama	13.9%	Utah	8.2%
New Jersey	37.4%	Colorado	13.8%	Georgia	7.9%
Texas	31.5%	Virginia	13.1%	Delaware	6.3%
California	29.3%	Wisconsin	12.8%	Michigan	5.9%
Oregon	25.0%	North Carolina	12.7%	Massachusetts	5.7%
Minnesota	23.6%	Arizona	11.5%	District of Columbia	5.2%
Louisiana	20.7%	Rhode Island	11.3%	Montana	4.3%
New York	18.7%	Ohio	11.0%	West Virginia	4.1%
Washington State	18.5%	South Dakota	10.9%	Idaho	3.9%
Connecticut	18.0%	Maryland	10.7%	lowa	3.5%
South Carolina	17.4%	Oklahoma	9.4%	Indiana	2.0%
Pennsylvania	16.4%	Nebraska	9.2%	Alaska	na
Vermont	16.3%	Kentucky	9.1%	Arkansas	na
Vaine	16.1%	Missouri	9.1%	New Hampshire	na
Florida	14.9%	Kansas	8.8%	North Dakota	na
llinois	14.6%	New Mexico	8.3%	Tennessee	na
Vississippi	14.1%	Hawaii	8.2%	Wyoming	na
Source: McNichol, Oliff,	_			TOTAL	17.6%

WASHINGTON HAS 9TH LARGEST GAP FOR 2012: 19%

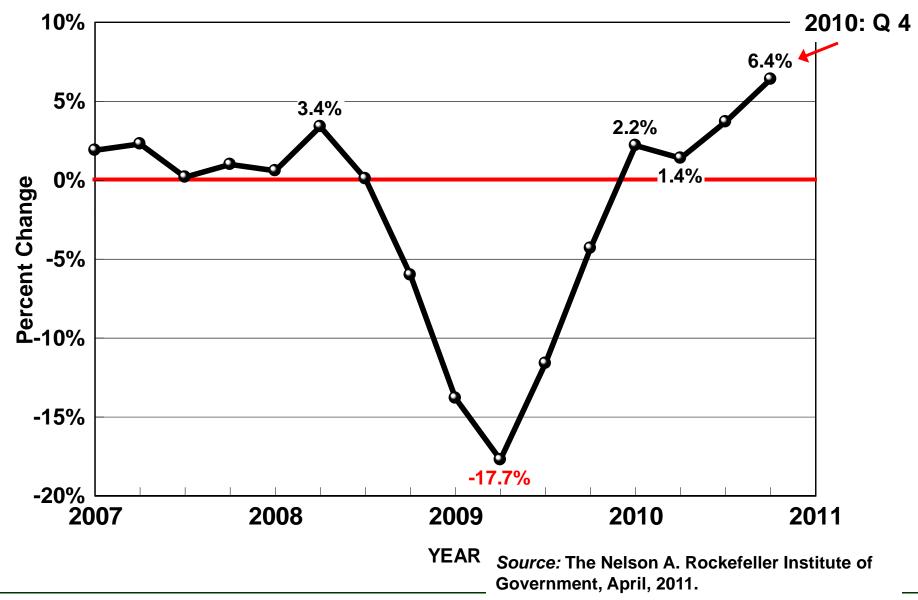
U.S. INDUSTRIAL CAPACTIY UTILIZATION: JANUARY 2005-MARCH 2011



coleman in

Source: Federal Reserve (2011). G.17 Industrial Production and Capacity Utilization for April 15, 2011.

STATE TAX REVENUE FELL FROM 2008 Q2 THROUGH Colorado System



BOUNCING BACK: SALES TAX REVENUE INCREASES IN 42 STATES



North Dakota	41.7%	Indiana	6.2%
Wyoming	34.4%	Missouri	5.5%
New York	19.0%	Maine	5.1%
Arizona	17.7%	Virginia	4.3%
New Mexico	17.7%	lowa	4.2%
California	16.8%	West Virginia	4.1%
Oregon	14.0%	Connecticut	3.9%
Illinois	10.5%	Florida	3.8%
Hawaii	10.3%	Rhode Island	3.6%
Massachusetts	9.5%	Wisconsin	2.8%
South Carolina	9.0%	Kansas	2.6%
Colorado	8.8%	Alabama	1.8%
Minnesota	8.8%	New Jersey	1.3%
Georgia	8.6%	Nebraska	1.1%
Washington State	7.8%	New Hampshire	1.0%
Delaware	7.4%	Arkansas	0.9%
Montana	7.4%	South Dakota	0.9%
Vermont	7.2%	Maryland	-0.2%
ldaho	7.1%	Utah	-1.3%
Pennsylvania	6.9%	Michigan	-1.5%
Mississippi	6.7%	Ohio	-1.5%
Kentucky	6.6%	Nevada	-2.3%
Texas	6.5%	North Carolina	-3.1%
Oklahoma	6.3%	Louisiana	-12.1%
Tennessee	6.3%	Alaska	-14.3%
_		U.S.	7.8%

% CHANGE IN STATE TAX REVENUE OCTOBER-DECEMBER 2009 TO 2010

Source: The Nelson A. Rockefeller Institute of Government, April, 2011.

ECONOMIC MOMENTUM IN THE STATES: TOP FIVE AND BOTTOM FIVE



INDEX OF ECONOMIC MOMENTUM¹ IN SELECTED STATES: March 2011

U.S.				
RANK	STATE	INDEX		
1	North Dakota	1.72		
2	Texas	1.32		
3	Alaska	0.88		
4	Oklahoma	0.63		
5	Kentucky	0.51		
27	Washington State	-0.06		
46	Montana	-0.50		
47	Rhode Island	-0.68		
48	New Jersey	-0.79		
49	Maine	-0.82		
50	Nevada	-0.97		
UNITED STATES 0.00				
¹ Weighted average growth in personal income, employment and population (Federal Funds Information for States, May, 2011).				

CHANGING POPULATION MIGRATION IN THE STATES 2006-09



OUT-MIGRATION: TOP 5 STATES			
California	(793,578)		
New York	(639,918)		
Michigan	(356,139)		
New Jersey	(229,605)		
Illinois	(229,524)		
IN-MIGRATION: TOP 7 STATES			
Texas	644,310		
North Carolina	373,278		
Arizona	298,480		
Georgia	298,235		
South Carolina	183,159		
Florida	160,593		
Washington	152,887		

Source: Federal Funds Information for States (2009). State Policy Reports, Vol. 27, No. 21.

STATE BOND RATINGS: JANUARY 2010



TIER 1		
Delaware	AAA	
Florida	AAA	
Georgia	AAA	
Indiana	AAA	
lowa	AAA	
Maryland	AAA	
Minnesota	AAA	
Missouri	AAA	
North Carolina	AAA	
Utah	AAA	
Virginia	AAA	

	TIER 2	
	Alaska	AA+
	Kansas	AA+
	Nebraska	AA+
	Nevada	AA+
	New Mexico	AA+
	North Dakota	AA+
	Ohio	AA+
	Oklahoma	AA+
	South Carolina	AA+
	Tennessee	AA+
	Texas	AA+
	Vermont	AA+
7	Washington	AA+
	Wyoming	AA+

TIER 3		
Alabama	AA	
Arkansas	AA	
Colorado	AA	
Connecticut	AA	
Hawaii	AA	
Idaho	AA	
Maine	AA	
Massachusetts	AA	
Mississippi	AA	
Montana	AA	
New Hampshire	AA	
New Jersey	AA	
New York	AA	
Oregon	AA	
Pennsylvania	AA	
Rhode Island	AA	
South Dakota	AA	
West Virginia	AA	
Wisconsin	AA	

TIER 4	Ļ
Arizona	AA-
Kentucky	AA-
Louisiana	AA-
Michigan	AA-

TIER 5	
Illinois	A+
California	A-

SELECTED COUNTRIES

Chile	A+
China	A+
Italy	A+
Portugal	A+
Estonia	A -
Libya	A-
Poland	A-

Source: Standard & Poors Ratings, *NY Times*, 2/3/10

States of denial

Annual pension benefits* promised by US states As % of forecast tax revenues[†]

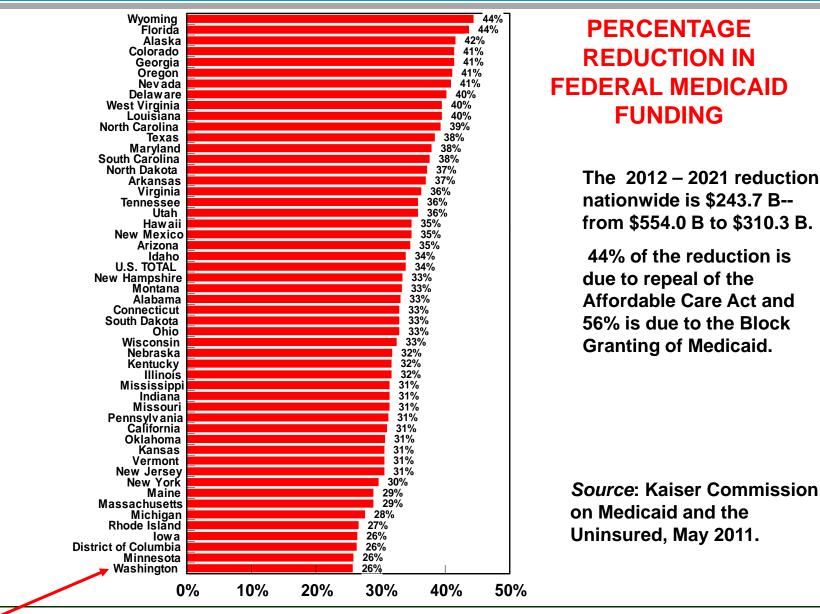
1

Year pension-fund assets run ou				s run out‡			
s cost of be	0	10	20	30	40	50	60
Ohio							2030
Colorado		-					2022
Rhode Island							2027
New Mexico							2026
Alabama							2023
Missouri							2025
South Dakota						1912	2031
Mississippi							2023
Kentucky							2022
New Jersey							2019
South Carolina							2024
Oregon							2039
Illinois							2018
Oklahoma							2020
California							2030
New Hampshire					-	1	2022
	no	ut	Assu	ming	2008	3 reve	tion assets nues grow
Source: Joshua Rauh	b						8% annual sted in full



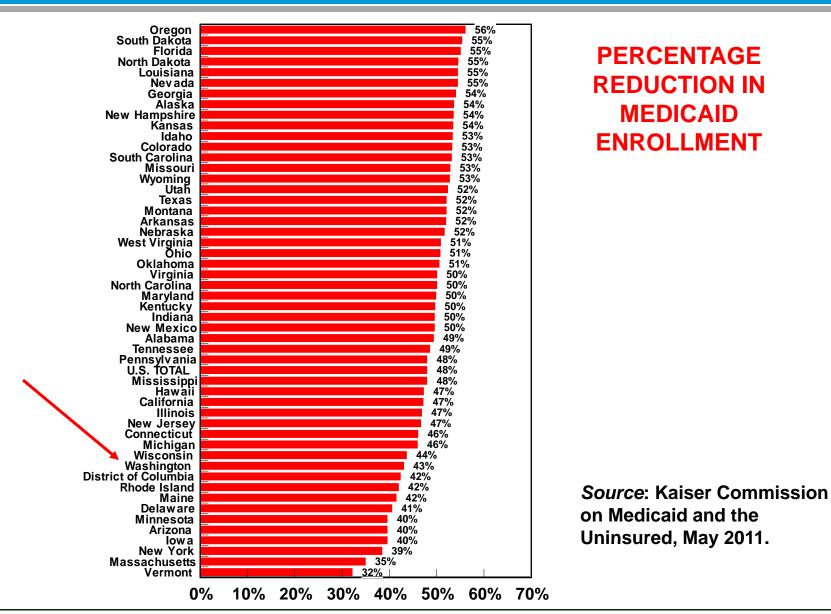
ECONOMIC UNCERTAINTY OF THE HOUSE'S MEDICAID BUDGET CUTS





ECONOMIC UNCERTAINTY OF THE HOUSE'S MEDICAID BUDGET CUTS







"The arithmetic is, unfortunately, quite clear...To avoid large and unsustainable budget deficits, the nation will ultimately have to choose among higher taxes, modifications to entitlement programs such as Social Security and Medicare, less spending on everything else from education to defense, or some combination of the above.

These choices are difficult, and it always seems easier to put them off—until the day they cannot be put off any more."

NY Times, April 8, 2010.

AMERICA'S TAX BURDEN IS AMONG THE SMALLEST IN THE DEVELOPED WORLD



Turkey	42.7%
Sweden	42.4%
Poland	42.1%
France	41.7%
Belgium	40.3%
Hungary	39.9%
Greece	39.2%
Finland	38.4%
Germany	35.7%
Austria	35.5%
Italy	35.2%
Spain	33.4%
Denmark	29.6%
Norway	29.6%
Netherlands	29.1%

Czech Republic	27.1%
United Kingdom	27.1%
Portugal	26.6%
Japan	24.9%
Slovak Republic	23.2%
Canada	21.5%
Switzerland	18.6%
Mexico	18.2%
Korea	16.2%
Australia	16.0%
New Zealand	14.5%
Luxembourg	12.2%
UNITED STATES	11.9%
Iceland	11.0%
Ireland	8.1%

Organisation for Economic Co-operation and Development (OECD). (2008, preliminary).

Tax burden: Personal income, employee and employer social security contributions, and payroll taxes as a % of GDP (households of married couples, two children).



"...we could begin to develop a society in which our work, our cultural accomplishments, social life, sense of fairness, the general standard for the whole population, your work with helping people who come into society with disabilities and impairments, these things become the true and dominant measure of how well we're doing...."

> James Galbraith University of Texas Economist and Professor of Government At the Coleman Conference, November 5, 2009.



...the time is ripe for our measurement system to shift emphasis from measuring economic production [GDP] to measuring people's well-being....

Stiglitz, Sen, & Fitoussi, Report by the Commission on the Measurement of Economic Performance and Social Progress, 2010, p. 12. [www.stiglitz-sen-fitoussi.fr]





David Braddock, Ph.D. Coleman-Turner Professor of Psychiatry & Executive Director

Coleman Institute for Cognitive Disabilities University of Colorado System (SYS 586) 3825 Iris Avenue, Suite 200 Boulder, CO 80301

> E-mail: braddock@cu.edu Phone: 303-492-0639

http://ColemanInstitute.org

WASHINGTON INSTITUTE FOR DEFECTIVE YOUTH, VANCOUVER, 1886-1908





STATE SCHOOL AND HOME FOR THE FEEBLE-MINDED, MEDICAL LAKE (1905)





LAKELAND VILLAGE, MEDICAL LAKE (STATE SCHOOL FOR THE FEEBLE-MINDED, 1905)



Administration Building



LAKELAND VILLAGE, MEDICAL LAKE (STATE SCHOOL FOR THE FEEBLE-MINDED, 1905)



Residential Units



WESTERN STATE CUSTODIAL SCHOOL (MT. RAINIER), 1939-PRESENT

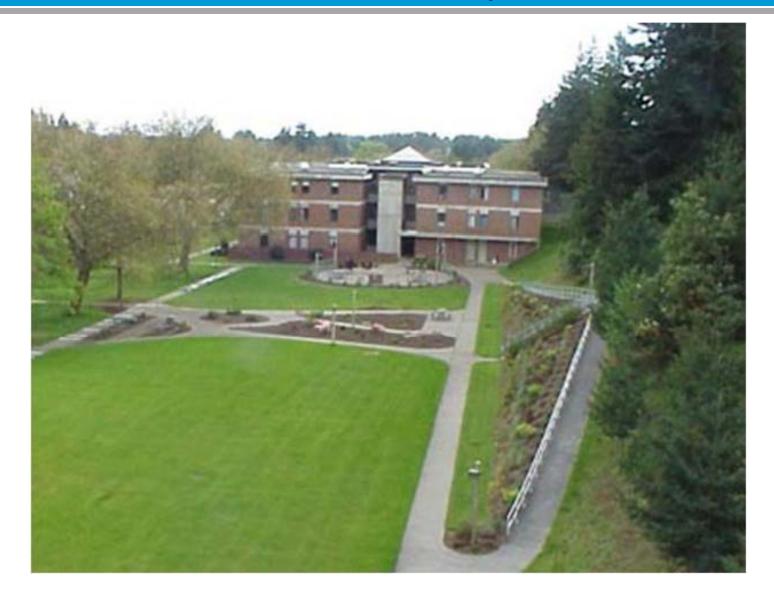




Richards Studie, Taxona

FIRCREST RESIDENTIAL HABILITATION CENTER (NAVY HOSPITAL, TB SANITARIUM,1942)



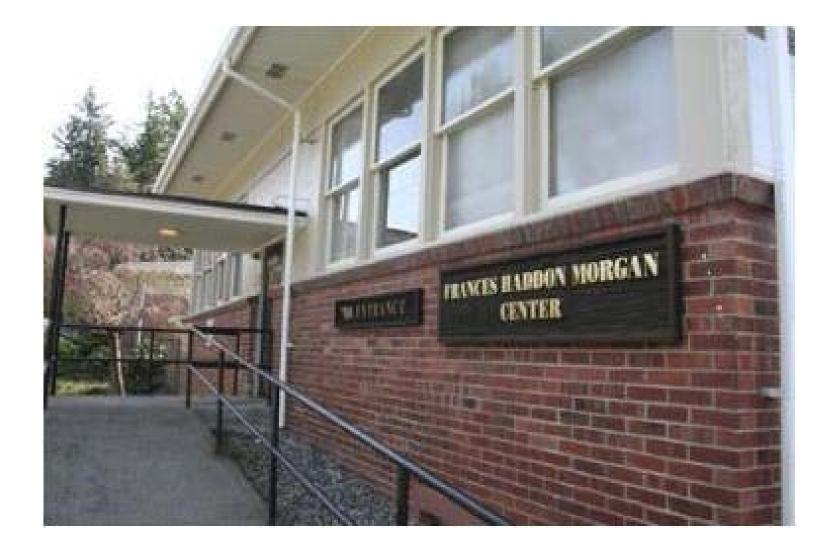




SERVED PERSONS WITH I/DD 1967, CLOSED 1994 NO IMAGE AVAILABLE

FRANCES HADDON MORGAN CENTER FOR CHILDREN WITH AUTISM (NAVAL HOSPITAL, c. 1950)





YAKIMA VALLEY RESIDENTIAL HABILITATION CENTER (TB HOSPITAL ,1951)







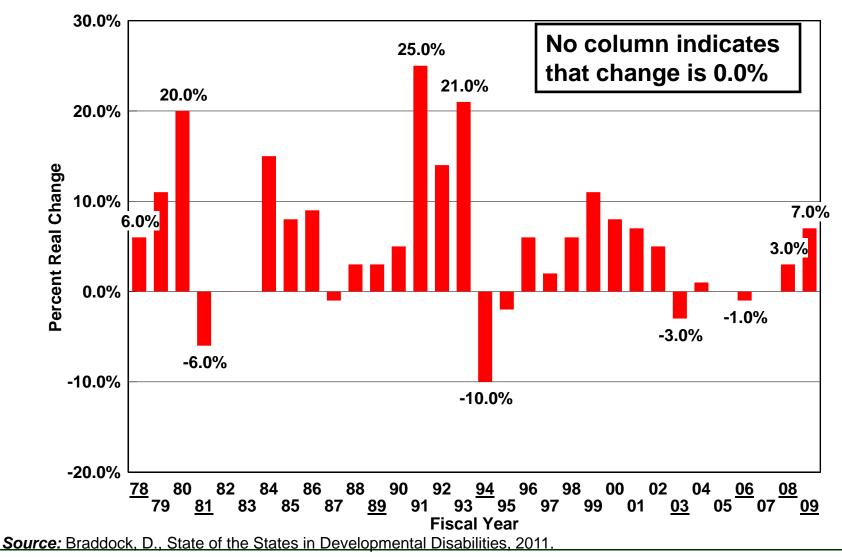
Washington State contracted with Davis Deshaies, LLC, to produce *Feasibility Study for the Closure of State Institutional Facilities* (11/09).

 The Report outlined a plan to close the Rainier and Frances Haddon Morgan Centers, and the ICF/ID Units at the Fircrest and Lakeland Centers (leaving Skilled Nursing [SNF] beds only)

INFLATION-ADJUSTED % CHANGE IN I/DD SPENDING: 1978-2009



WASHINGTON STATE



STATES RANKED BY PERSONAL INCOME PER CAPITA (GENERAL POPULATION): 2010¹



District of Columbia \$71,044 26 Louisiana \$38,446 1 Connecticut \$56,001 27 Wisconsin \$38,432 2 Massachusetts \$51,552 28 Iowa \$38,281 3 New Jersey \$50,781 29 Maine \$37,300 4 Maryland \$49,025 30 Oregon \$37,095 5 New York \$48,821 31 Nevada \$36,997 6 Wyoming \$47,851 32 Missouri \$36,979 7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,762 33 Oklahoma \$36,431 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,564 36 Michigan \$35,597 11 Illinois \$44,104 38 Montana \$35,537 11 Binnesota \$44,2802 40 <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th></td<>						
2 Massachusetts \$51,552 28 Iowa \$38,281 3 New Jersey \$50,781 29 Maine \$37,300 4 Maryland \$49,025 30 Oregon \$37,095 5 New York \$48,821 31 Nevada \$36,997 6 Wyoming \$47,851 32 Missouri \$36,979 7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,174 34 Ohio \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,159 37 Georgia \$35,597 11 Illinois \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,993 15 Rhode Island \$42,579 41 <		District of Columbia	\$71,044	26	Louisiana	\$38,446
3 New Jersey \$50,781 29 Maine \$37,300 4 Maryland \$49,025 30 Oregon \$37,095 5 New York \$48,821 31 Nevada \$36,997 6 Wyoming \$47,851 32 Missouri \$36,979 7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,762 33 Oklahoma \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,564 36 Michigan \$35,597 11 Illinois \$43,159 37 Georgia \$35,490 12 California \$44,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,348 19 Vermont \$40,283 45	1	Connecticut	\$56,001	27	Wisconsin	\$38,432
4 Maryland \$49,025 30 Oregon \$37,095 5 New York \$48,821 31 Nevada \$36,997 6 Wyoming \$47,851 32 Missouri \$36,997 7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,174 34 Ohio \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,159 37 Georgia \$35,597 11 Illinois \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,345 17 Hawaii \$440,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 <t< td=""><td>2</td><td>Massachusetts</td><td>\$51,552</td><td>28</td><td>lowa</td><td>\$38,281</td></t<>	2	Massachusetts	\$51,552	28	lowa	\$38,281
5 New York \$48,821 31 Nevada \$36,997 6 Wyoming \$47,851 32 Missouri \$36,979 7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,174 34 Ohio \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,159 37 Georgia \$35,597 11 Illinois \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,345 17 Hawaii \$440,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46	3	New Jersey	\$50,781	29	Maine	\$37,300
6 Wyoming \$47,851 32 Missouri \$36,979 7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,174 34 Ohio \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,564 36 Michigan \$35,597 11 Illinois \$43,159 37 Georgia \$35,317 13 Minnesota \$44,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,802 40 Arizona \$33,945 17 Hawaii \$41,152 42 Alabama \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,577 48	4	Maryland	\$49,025	30	Oregon	\$37,095
7 Virginia \$44,762 33 Oklahoma \$36,421 8 Alaska \$44,174 34 Ohio \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,564 36 Michigan \$35,597 11 Illinois \$43,159 37 Georgia \$35,490 12 California \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,579 41 Indiana \$33,945 17 Hawaii \$41,152 42 Alabama \$33,945 17 Hawaii \$44,021 43 New Mexico \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,163 21 Kansas \$39,737 <td< td=""><td>5</td><td>New York</td><td>\$48,821</td><td>31</td><td>Nevada</td><td>\$36,997</td></td<>	5	New York	\$48,821	31	Nevada	\$36,997
8 Alaska \$44,174 34 Ohio \$36,395 9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,564 36 Michigan \$35,597 11 Illinois \$43,159 37 Georgia \$35,490 12 California \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,579 41 Indiana \$33,945 17 Hawaii \$41,021 43 New Mexico \$33,837 18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,163 21 Kansas \$39,737 <t< td=""><td>6</td><td>Wyoming</td><td>\$47,851</td><td>32</td><td>Missouri</td><td>\$36,979</td></t<>	6	Wyoming	\$47,851	32	Missouri	\$36,979
9 New Hampshire \$44,084 35 North Carolina \$35,638 10 WASHINGTON STATE \$43,564 36 Michigan \$35,597 11 Illinois \$43,159 37 Georgia \$35,490 12 California \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,579 41 Indiana \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,845 17 Hawaii \$41,021 43 New Mexico \$33,837 18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,557	7	Virginia	\$44,762	33	Oklahoma	\$36,421
10WASHINGTON STATE\$43,56436Michigan\$35,59711Illinois\$43,15937Georgia\$35,49012California\$43,10438Montana\$35,31713Minnesota\$42,84339Tennessee\$35,30714Colorado\$42,80240Arizona\$34,99915Rhode Island\$42,57941Indiana\$34,94316Pennsylvania\$41,15242Alabama\$33,34517Hawaii\$440,59644Kentucky\$33,34819Vermont\$40,28345South Carolina\$33,16320Delaware\$39,96246Arkansas\$33,15021Kansas\$39,73747West Virginia\$32,64122Nebraska\$39,55748Utah\$32,25724Florida\$39,27250Mississippi\$31,186	8	Alaska	\$44,174	34	Ohio	\$36,395
11 Illinois \$43,159 37 Georgia \$35,490 12 California \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,579 41 Indiana \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,837 18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50	9	New Hampshire	\$44,084	35	North Carolina	\$35,638
12 California \$43,104 38 Montana \$35,317 13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,579 41 Indiana \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,945 17 Hawaii \$41,021 43 New Mexico \$33,837 18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	10	WASHINGTON STATE	\$43,564	36	Michigan	\$35,597
13 Minnesota \$42,843 39 Tennessee \$35,307 14 Colorado \$42,802 40 Arizona \$34,999 15 Rhode Island \$42,579 41 Indiana \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,945 17 Hawaii \$41,021 43 New Mexico \$33,837 18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	11	Illinois	\$43,159	37	Georgia	\$35,490
14Colorado\$42,80240Arizona\$34,99915Rhode Island\$42,57941Indiana\$34,94316Pennsylvania\$41,15242Alabama\$33,94517Hawaii\$41,02143New Mexico\$33,83718North Dakota\$40,59644Kentucky\$33,34819Vermont\$40,28345South Carolina\$33,16320Delaware\$39,96246Arkansas\$33,15021Kansas\$39,73747West Virginia\$32,64122Nebraska\$39,55748Utah\$32,59523Texas\$39,49349Idaho\$32,25724Florida\$39,27250Mississippi\$31,186	12	California	\$43,104	38	Montana	\$35,317
15 Rhode Island \$42,579 41 Indiana \$34,943 16 Pennsylvania \$41,152 42 Alabama \$33,945 17 Hawaii \$41,021 43 New Mexico \$33,837 18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	13	Minnesota	\$42,843	39	Tennessee	\$35,307
16Pennsylvania\$41,15242Alabama\$33,94517Hawaii\$41,02143New Mexico\$33,83718North Dakota\$40,59644Kentucky\$33,34819Vermont\$40,28345South Carolina\$33,16320Delaware\$39,96246Arkansas\$33,15021Kansas\$39,73747West Virginia\$32,64122Nebraska\$39,55748Utah\$32,59523Texas\$39,49349Idaho\$32,25724Florida\$39,27250Mississippi\$31,186	14	Colorado	\$42,802	40	Arizona	\$34,999
17Hawaii\$41,02143New Mexico\$33,83718North Dakota\$40,59644Kentucky\$33,34819Vermont\$40,28345South Carolina\$33,16320Delaware\$39,96246Arkansas\$33,15021Kansas\$39,73747West Virginia\$32,64122Nebraska\$39,55748Utah\$32,59523Texas\$39,49349Idaho\$32,25724Florida\$39,27250Mississippi\$31,186	15	Rhode Island	\$42,579	41	Indiana	\$34,943
18 North Dakota \$40,596 44 Kentucky \$33,348 19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	16	Pennsylvania	\$41,152	42	Alabama	\$33,945
19 Vermont \$40,283 45 South Carolina \$33,163 20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	17	Hawaii	\$41,021	43	New Mexico	\$33,837
20 Delaware \$39,962 46 Arkansas \$33,150 21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	18	North Dakota	\$40,596	44	Kentucky	\$33,348
21 Kansas \$39,737 47 West Virginia \$32,641 22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	19	Vermont	\$40,283	45	South Carolina	\$33,163
22 Nebraska \$39,557 48 Utah \$32,595 23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	20	Delaware	\$39,962	46	Arkansas	\$33,150
23 Texas \$39,493 49 Idaho \$32,257 24 Florida \$39,272 50 Mississippi \$31,186	21	Kansas	\$39,737	47	West Virginia	\$32,641
24 Florida \$39,272 50 Mississippi \$31,186	22	Nebraska	\$39,557	48	Utah	\$32,595
	23	Texas	\$39,493	49	Idaho	\$32,257
25 South Dakota \$38,865 UNITED STATES \$40,584	24	Florida	\$39,272	50	Mississippi	\$31,186
	25	South Dakota	\$38,865		UNITED STATES	\$40,584

¹District of Columbia not ranked by Bureau.

Sources: Estimates for 2010 based on 4/1/10 decennial census data (released 12/10); U.S. Bureau of Economic Analysis and Bureau of the Census (2011).