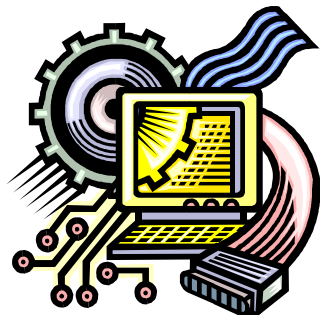


Residential Services, Developmental Disabilities and Technology

David Braddock, Ph.D.
Coleman-Turner Chair and Executive Director
Coleman Institute for Cognitive Disabilities
Associate Vice President, University of Colorado System



***Paving the Way, Pathways for Research,
Education and Training***
AUCD Annual Meeting and Conference
Washington, DC
November 10, 2008

The Institute's mission is to catalyze and integrate advances in science, engineering and technology to promote the quality of life and independent living of people with **cognitive disabilities.**

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COLEMAN INSTITUTE ACTIVITIES

- **120 GRANTS ALLOCATED 2001-08**

Research and development projects

Faculty fellowships and sabbaticals

Postdoctoral and graduate research fellowships

Workshops, symposia and conferences

- **4 INTELLECTUAL PROPERTY PARTNERSHIPS
WITH FACULTY**

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- **Annual Coleman Conferences bring together world-wide representatives of academia, government, industry and the disability communities**
- **The Ninth Annual Coleman Conference will be October 23, 2009 in Westminster, Colorado**
- **Visit the Coleman Institute website for information on the 2001-2008 conference agendas, posters and presentations**

www.ColemanInstitute.org

NOTABLE SPEAKERS AT COLEMAN INSTITUTE CONFERENCES

- **RAYMOND KURZWEIL, Inventor and Entrepreneur**
- **JOHN SEELY BROWN, Former Chief Scientist, Xerox Corporation**
- **VINTON CERF, Vice President and Chief Internet Evangelist, Google (and co-designer of the protocols and architecture of the Internet)**
- **BILL COLEMAN, Founder Cassatt, Inc. and BEA Systems; founding donor, with CLAUDIA COLEMAN, of the Coleman Institute**
- **EUNICE KENNEDY SHRIVER and TIMOTHY SHRIVER**
- **MICHAEL BERUBE, Professor in Literature, Science, Technology and Society, Penn State, Author *Life as we Know It***
- **TEMPLE GRANDIN, Professor, Colorado State University; author of *Thinking in Pictures and Other Reports from My Life with Autism***

The Ninth Annual Coleman Conference: October 23, 2009

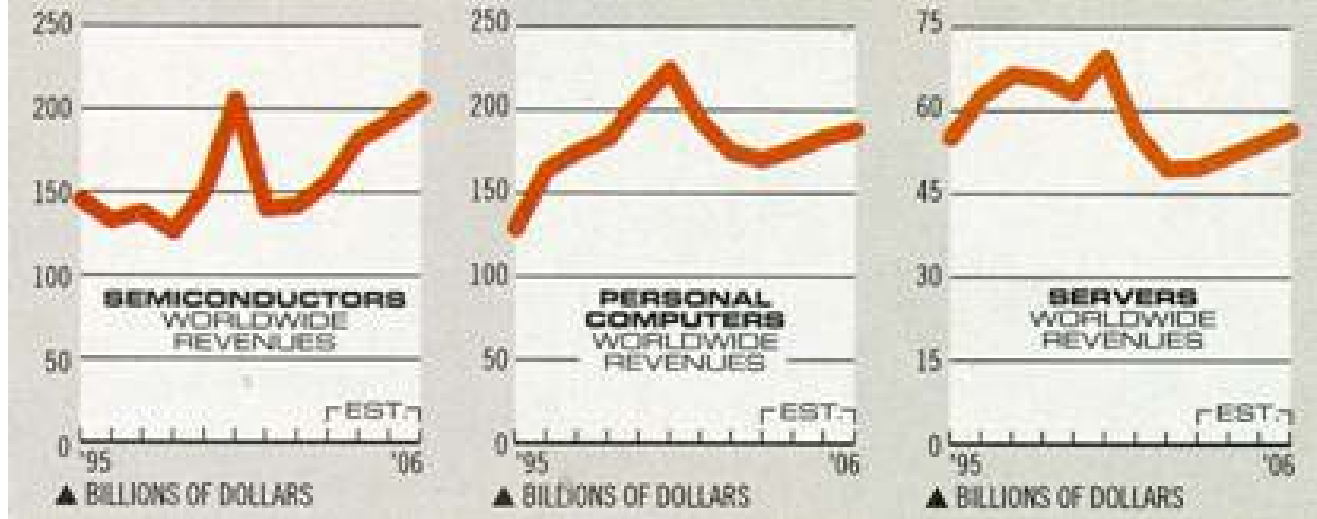
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THE ARC's PROPHECY: 20 YEARS AGO

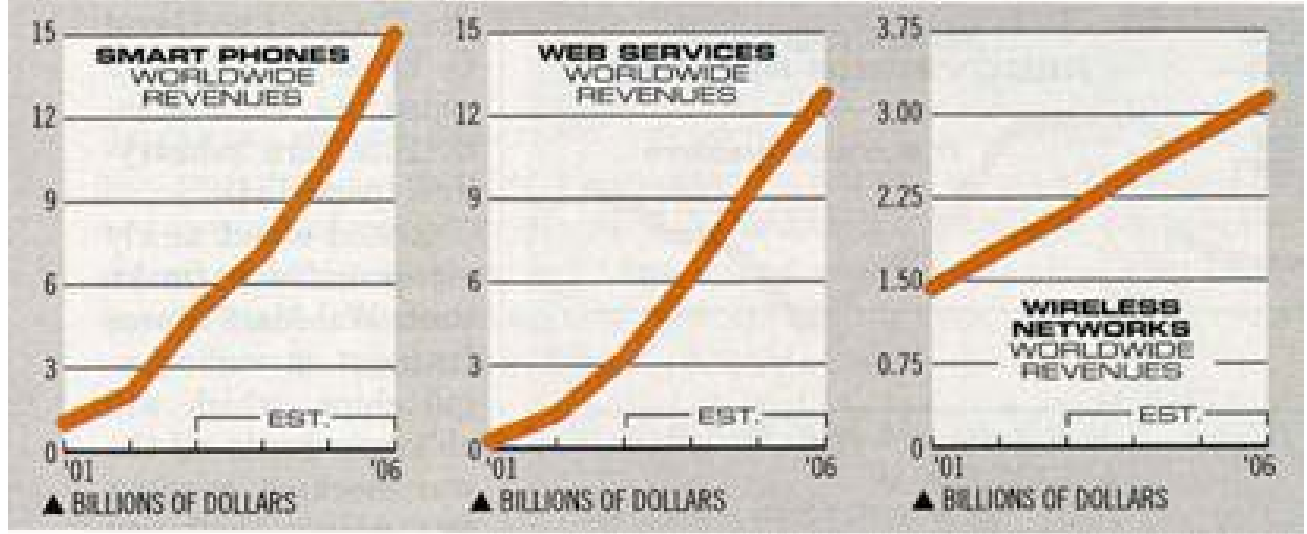
There is a prevailing belief ...in the field of assistive technology that people with mental retardation are not appropriate consumers of assistive technology... People with mental retardation should be named as a 'traditionally underrepresented group'...It is the belief of the Association for Retarded 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.

**AS SOME
MARKETS
MATURE...**

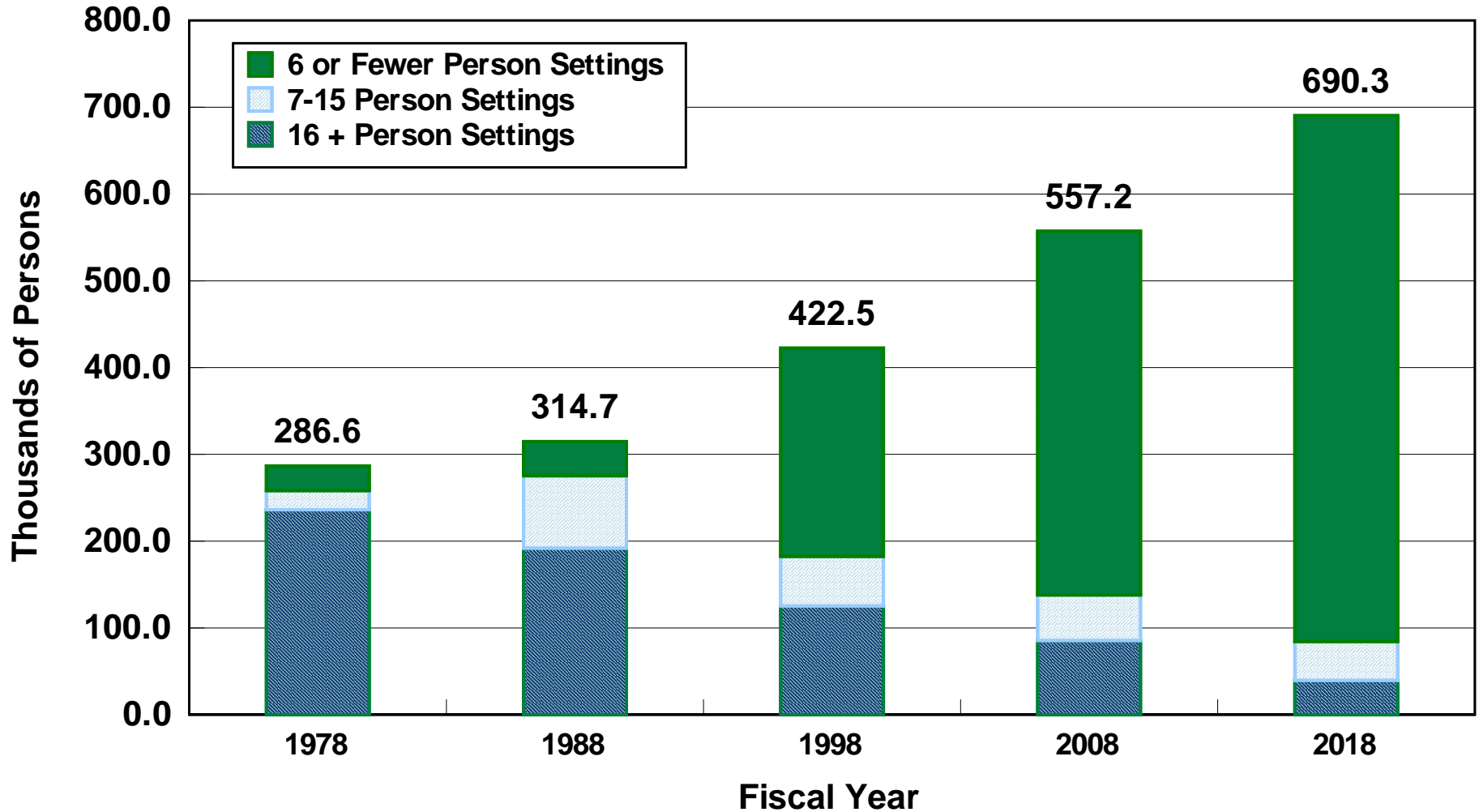


**NEW HIGH-
GROWTH
MARKETS
EMERGE...**



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

RESIDENTIAL SERVICES FOR PERSONS WITH I/DD: GROWTH 1977-2018 (PROJECTED)



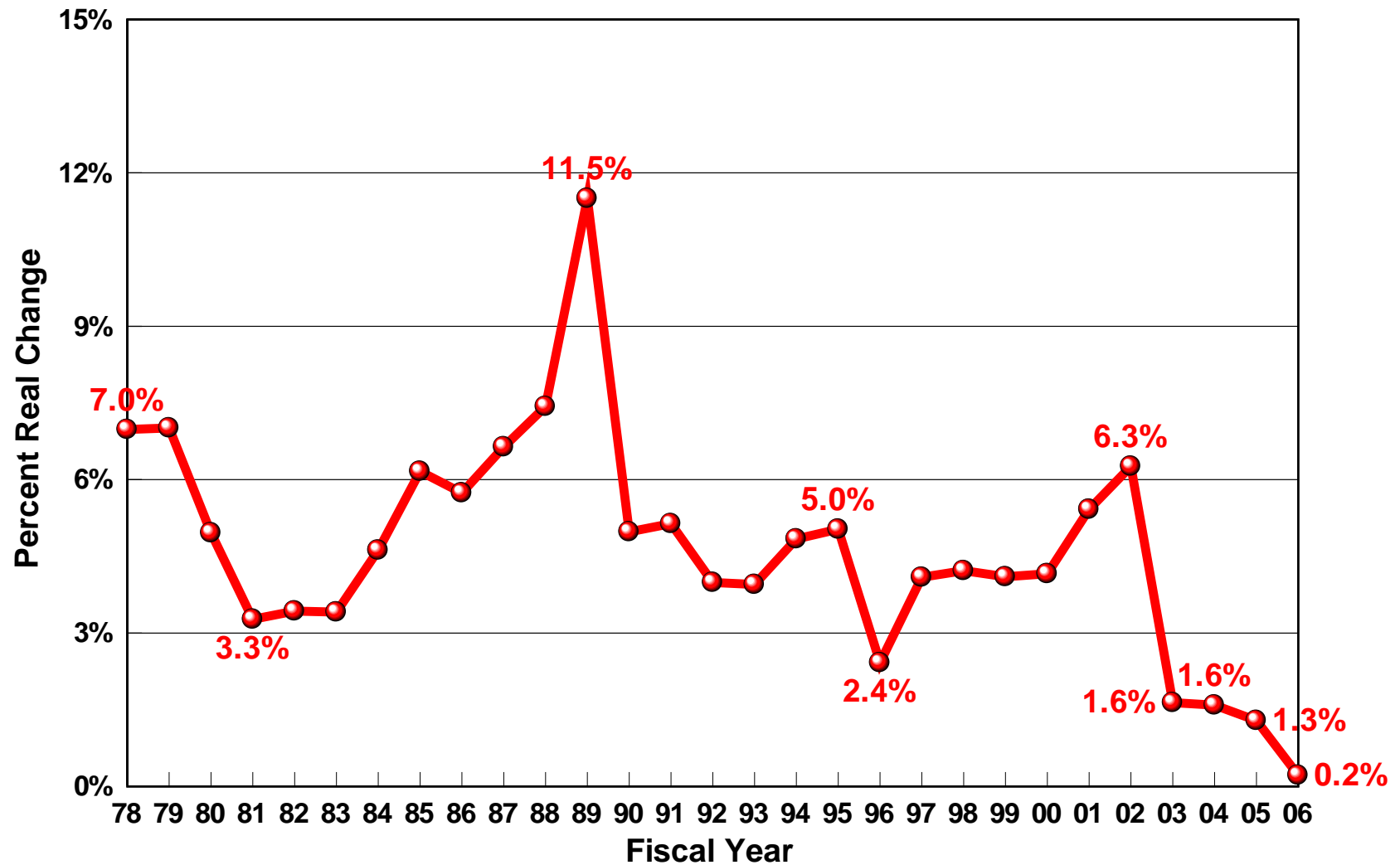
Source: Braddock, D., State of the States in Developmental Disabilities, 2008.

WHY USE TECHNOLOGY IN ID/DD RESIDENTIAL CARE?

- **U.S. demand will grow from 557,000 persons currently in residential services – to nearly 700,000 persons in 10 years;**
- **Staff turnover in community living settings averages 50-70% nationally;**
- **Emerging residential technologies can address projected demand for long-term care services and reduce somewhat the need for tens of thousands of additional staff; and**
- **Technology can also monitor and support persons with I/DD in recreational, health promotion, and other activities of daily living.**

Source: Braddock, D., State of the States in Developmental Disabilities, 2008.

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



Source: Braddock, D., State of the States in Developmental Disabilities, 2008.

DETERIORATING FISCAL CONDITIONS IN THE STATES IN FY 2008/09

THIRTY STATES AND DC WITH PROJECTED BUDGET GAPS FOR FY 2009

State	Budget Gap (\$ Billion)	Percent of 2008 State General Fund	State	Budget Gap (\$ Billion)	Percent of 2008 State General Fund
Alabama	\$0.78	9.5%	Michigan	\$0.47	4.8%
*Arizona	\$2.00	19.9%	Minnesota	\$0.94	5.4%
Arkansas	\$0.11	2.4%	Mississippi	\$0.09	1.8%
California	\$22.20	22.0%	*Nevada	\$1.20	16.0%
*Connecticut	\$0.45	2.6%	*New Hampshire	\$0.20	6.4%
Delaware	\$0.22	6.0%	New Jersey	\$2.50	7.7%
*District of Columbia	\$0.23	3.6%	*New York	\$5.50	9.8%
*Florida	\$5.10	19.9%	*Ohio	\$1.30	4.5%
*Georgia	\$1.80	8.7%	Oklahoma	\$0.11	1.7%
*Hawaii	\$0.16	2.8%	Rhode Island	\$0.43	13.1%
*Illinois	\$1.80	6.3%	*South Carolina	\$0.39	5.7%
Iowa	\$0.35	5.5%	Tennessee	\$0.47	4.1%
Kentucky	\$0.27	2.9%	*Vermont	\$0.83	6.8%
Maine	\$0.12	4.1%	*Virginia	\$1.20	7.1%
*Maryland	\$1.10	7.2%	Wisconsin	\$0.65	4.6%
*Massachusetts	\$1.20	4.3%	TOTAL	\$53.40	10.0%

*These 15 States and DC had additional mid-year FY 2009 budget gaps of \$5.9 B (3.1% of their General Fund).

Source: McNichol & Lav (September 26, 2008).

ECONOMIC MOMENTUM IN THE STATES

INDEX OF ECONOMIC MOMENTUM¹ BY REGION (JUNE 2008)

1. Rocky Mountain (CO, MT, ND, SD, UT & WY)	1.71
2. Southwest (AR, LA, NM, OK, TX)	0.96
3. Pacific (AZ, CA, HI, NV, Pac. Basin)	0.85
4. Northwest (AK, ID, OR, WA)	0.43
5. Great Plains (IA, KS, MO, NE)	0.31
6. Southeast (AL, FL, GA, KY, NC, SC, MS, TN)	0.05
7. MID-ATLANTIC (DE, DC, MD, PA, VA, WV)	-0.32
8. Northeast (NJ, NY, PR, VI)	-0.57
9. Great Lakes (IL, IN, MI, MN, OH, & WI)	-0.71
10. New England (CT, ME, MA, NH, RI, VT)	-0.74
UNITED STATES	0.00

¹Index of economic momentum: Weighted average growth in **personal income, employment and population** (Federal Funds Information for States, 2008)

Source: Braddock, D., Coleman Institute and Department of Psychiatry, University of Colorado, 2008.

“I think we can do a ‘virtual nursing home’ with technology” ...

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

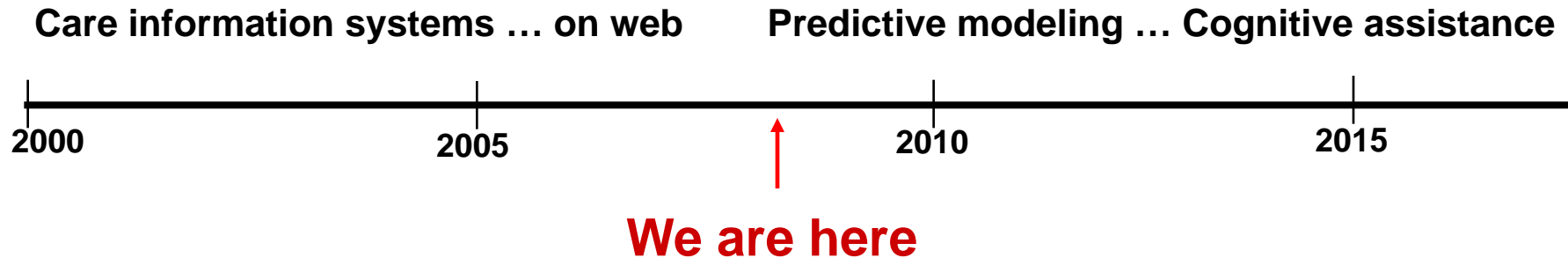
IF so, we can also provide individualized technology supports in multiple residential settings for people with developmental disabilities.

“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 Wabash Center developed one such alternative called ‘Rest Assured.’ This is a high tech system that allows two-way communication, and visual and sensor monitoring in a home. 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 DSP where one is not needed.”

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

- **Duane Tempel**, Night Owl Support Systems, LLC: “Smart Home Technology: Sound Response,” Madison, Wisconsin
- **Dustin Wright**, General Manager, Rest Assured, LLC: “Real-time Interactive Telecare Support Services,” Lafayette, Indiana
- **Brian Brown**, Chief Technical Officer, AbleLink Technologies: “A Vision for Independence,” Colorado Springs, Colorado
- **Clayton Lewis**, Professor of Computer Science, Scientist in Residence, Coleman Institute, University of Colorado: “Frontiers in Cognitive Accessibility and the Web,” Boulder, Colorado



RECOMMENDATIONS:

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

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

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