Comparing Housing Affordability and Quality among Disability Households: The United States and Its Regions

Betty Jo White
Kansas State University

John Peaslee
Purdue University

Joseph LaQuatra
Cornell University

ABSTRACT: Two national data sets (the Panel Study of Income Dynamics and the Survey of Income and Program Participation) are analyzed to compare housing affordability and quality between U.S. disability households and other households and by region. The researchers conclude that disability households in the United States are at risk of inability to afford housing. In addition to higher housing-income ratios, these households are more likely to be older, in poverty, in poor or fair health, and on public assistance than other U.S. households. They are also more likely to carry severe housing cost burdens, to be in housing poverty, and to be receiving housing assistance. Regional differences among disability households and their housing seem to echo geographic economic and population trends, as well as regional variances in the housing stock. The data, which did not address housing accessibility, are less clear about disability households' risks relative to housing quality.

KEY WORDS: disability, housing affordability.

Betty Jo White is Professor of Housing in the Department of Clothing, Textiles and Interior Design at Kansas State University, Manhattan, Kansas. Her research interests include housing for special needs populations, community housing needs assessment, and housing policy. She received her Ph.D. from Virginia Polytechnic Institute and State University.

John Peaslee is Assistant Professor of Interior Design in the Department of Visual and Performing Arts at Purdue University, West Lafayette, Indiana. His research interests include professional practice and the housing needs of special needs populations, particularly the homeless. He received his Master's degree from California State University at Chico.

Joseph LaQuatra is Associate Professor of Housing in the Department of Design and Environmental Analysis at Cornell University, Ithaca, New York, and he is a Housing Extension Specialist with the Cooperative Extension Service. His research interests include environmental issues, housing at-risk populations, and international housing. He received his Ph.D. from Cornell University.

Introduction

During the 1990s, Americans are witnessing a not-so-quiet revolution in housing and other opportunities for persons with disabilities. Despite wide variations in concerns and often conflicting interests, the disability rights movement has begun to build political consensus (Mace, 1985). Advocates have used statistics relative to actual and potential incidences of the full range of disabilities, plus the numbers of family members and aides who assist persons with disabilities, to justify legislation that mandates a barrier-free environment.

The 1988 federal Fair Housing Amendments Act and the 1990 Americans with Disabilities Act are creating wider awareness of both accessibility standards and the civil rights of the disabled population. These statutes also emphasize needs related to a wider variety of disability concerns (e.g., including developmental disabilities, mental illness, and sensory impairments) than did previous legislation. Together, continuing deinstitutionalization and the aging in place phenomenon are accelerating the needs for accessible and affordable community-based housing and service packages for persons who happen to have disabilities.

Definitional and data collection differences have constrained the development of a demographic and housing profile of U.S. households with one or more disabled members. Another constraint to compiling housing data for disability households is that in addition to having needs that differ from those of people with other impairments, persons with the same disability may have vastly different needs.

The purpose of this article is to begin developing a housing profile of community-based disability households. The researchers analyzed two national data sets to compare housing affordability and quality between U.S. households with and without adult members with disabilities and to compare the same variables among disability households by region—Northeast, South, North Central, and West.

Literature Review

Different definitions of disability give rise to varying estimates of the number of people with disabilities in the United States. Many sources undercount disability households by using labor force–related definitions that exclude disabled children, nonemployed spouses with disabilities, and adults with temporary limitations. Except for insti-

tutional statistics (that have declined significantly since deinstitutionalization), until 1990 census data did not separate the housing situations of community-based persons with disabilities from those of the general population.

Approximately 43 million Americans of all ages experience some disability or physical impairment (Malizia, 1993). In 1990, 8.2% of over 157 million noninstitutionalized civilians from age 16 to 64 reported a work disability that had lasted six or more months (4.2% were prevented from working). Also, a total of 4.6% of the noninstitutionalized persons aged 16 to 64 indicated mobility (2.2%) or self-care impairments (3.4%) that made it difficult to go outside the home alone or to care for their own personal needs. In addition, 20.1% of the almost 30 million noninstitutionalized Americans age 65 and older reported a mobility (15.6%) or self-care limitation (11.9%) (U.S. Bureau of Census, 1992, p. 185).

Nesmith (1987) noted that in the mid-1980s, 4.3 million U.S. children between ages 3 and 21 were enrolled in educational programs for the handicapped, including those directed to learning disabilities, speech impairments, mental retardation, emotional disturbances, and orthopedic, hearing, or vision impairments. As a result of the 1975 federal Education for All Children Act, many children who previously would have been housed and educated in institutional settings have grown up at home and attended public schools.

Past assumptions implied that about one-half of the nonelderly disabled population was institutionalized or aided by an outpatient facility and that most of the remainder were unsuitably housed. For example, Nathanson (1980) reported that housing deficiency rates were higher for the disabled than for able-bodied persons in both rural and urban settings.

Rather than focusing on housing affordability, the bulk of housing literature on persons with disabilities has addressed architectural barriers and wheelchair accessibility (e.g., Battelle Laboratories, 1977; Reizenstein & Ostrander, 1981) and civil rights and fair housing policies guaranteeing access (e.g., Bureau of National Affairs, 1988). Hunt and Hoyes (1980) used "restriction criteria" to identify people handicapped to the extent of having special housing requirements. Orleans distinguished between the elimination of *place* barriers (allowing one to enter and passively observe or move through the ongoing activities of others) and removal of *activity* barriers (allowing one to undertake activities of daily living largely unaided) (U.S. Department of Housing and Urban Development, 1980).

In summary, federal legislation enacted over the past three decades has mandated an environment that will allow persons with disabilities to live and work in their home communities. Despite varying estimates of children and older adults with impairments, plus their families and aides, their absolute numbers and rising growth rate clearly merit removal of existing attitudinal and physical barriers. The limited literature on community-based housing for persons with disabilities indicates, however, that inadequacy may be its predominant characteristic.

Methodology

Anticipating improved future statistical profiles of disability households, the researchers analyzed two national sets to provide baseline data for comparison. They compared demographic and housing characteristics of disability households and other households from the 1987 Panel Study of Income Dynamics (PSID) (Staff, 1989) and the Survey of Income and Program Participation (SIPP) (U.S. Bureau of the Census, 1987). Because the remaining two sets analyzed by the NC-199 technical committee (Winter et al., 1994) did not include both housing and disability variables, those data were excluded from this analysis.

The NC-199 research team defined "disability households" as those in which one or more members reported any disability (Winter et al., 1994). Neither of the two data sets separated mobility impairments from self-care limitations. Whether either set included adequate representation of persons with developmental disabilities or those with severe and persistent mental illness is unknown. Neither set incorporated data on children with disabilities or on housing accessibility.

The PSID definition of disability households focused on employment—whether either the head or spouse had a physical or nervous condition limiting the type or amount of work the individual could do. More than one-fourth (1,940 or 27.5%) of PSID's 7,061 households met that definition. The PSID frequencies differed from those in the SIPP data, which used a functional definition of disability. In some cases, the PSID and SIPP statistics were similar; in others, PSID was higher or lower than SIPP—but not consistently in one direction.

The SIPP data classified a household as disabled if anyone aged 15 and over reported at least one of the following conditions: (a) low vision; (b) hearing impairment; (c) incomprehensible speech; (d) use of mobility aid; (e) inability to carry ten pounds; (f) inability to walk one-fourth mile; (g) inability to walk up a flight of stairs without assistance; and (h) difficulty getting around outside the house. Of the 16,305 households in the total SIPP sample, nearly 17% (2,761) were categorized as disabled.

The demographic variables shown in Table 1 were defined as follows. The age, in years, of the household head or reference person, was presented in the form of the mean. The ages of other household members were used to obtain

TABLE 1

Demographic Characteristics of Disability Households: United States and Regions (PSID and SIPP Data[a])

Variable	Data set	United States households			Disability households	
		Disability	Other	All	Regional high	Regional low
Mean age	PSID	57.8	42.2	46.5	SO 58.5	WS 57.2
	SIPP	63.2	45.6	48.5	NE 63.7	WS 61.3
Percent elderly	PSID	41.4	12.1	20.2	SO 43.0	NC 39.8
	SIPP	53.6	16.6	22.8	SO 55.4	WS 48.1
Percent female head	PSID	34.0	30.0	31.1	NE 34.8	NC 32.7
	SIPP	36.7	24.6	26.6	SO 38.6	WS 33.4
Percent in poor/fair health	PSID	48.4	6.9	18.3	SO 57.7	WS 36.1
	SIPP	76.3	17.7	27.9	SO 78.8	WS 72.3
Percent in poverty	PSID	9.1	8.7	8.8	SO 21.4	WS 4.0
	SIPP	19.3	9.2	12.8	SO 25.0	WS 15.0
Percent receiving public assistance	PSID	19.4	8.1	11.3	SO 21.8	NC 17.0
	SIPP	34.2	13.2	17.0	WS 36.3	NC 30.2
Mean number in household	PSID	2.3	2.5	2.5	NE 2.4	NC 2.2
	SIPP	2.4	2.8	2.7	SO 2.4	NE/W 2.3
Percent with members < 18	PSID	25.7	41.7	37.3	NC 26.5	NE 24.4
	SIPP	20.5	43.1	39.3	SO 22.2	NC 18.7
Percent large households	PSID	4.7	8.6	7.5	SO 5.8	WS 3.5
	SIPP	4.4	9.1	8.4	SO 5.7	NC 3.1
Mean monthly income	PSID	$2,133	$2,913	$2,699	NE $2,537	SO/NC $1,920
	SIPP	$1,533	$2,404	$2,260	WS $1,676	SO $1,397
Median monthly income	PSID	$1,575	$2,308	$2,113	NE $1,953	SO $1,339
	SIPP	$1,129	$2,054	$1,800	NE $1,263	SO $994
Percent married	PSID	54.6	52.0	52.7	SO 56.0	WS 52.1
	SIPP	52.3	61.5	60.0	SO 53.5	NE/W 50.5
Percent minority	PSID	15.3	17.8	17.1	SO 23.3	NC 9.1
	SIPP	21.9	17.2	18.0	SO 27.2	NC 14.1
Sample N	PSID	1,940	5,121	7,061		
	SIPP	2,761	13,544	16,305		

Note: NE means Northeast, SO means South, NC means North Central, and WS means West.

[a]Reference persons or reference persons' households in the Panel Study of Income Dynamics, 1987, Wave XX; and Survey of Income and Program Participation, 1984 panel, Waves III and IV.

the percentage of households with one or more children under age 18. An elderly household was defined as one in which the household head or his or her spouse was age 65 or over. Marital status of the household heads who were married with the spouse present was presented as percentage married. A female-headed household was a household headed by a female not currently married and living with her spouse.

The number of persons living in the dwelling at the time of data collection was presented as the mean number in the household. A large household was defined as one with three or more children under age 18. A minority household was defined as a household in which either the household head/reference person or his or her spouse is black, Native American, Asian, or Hispanic. The health variable indicated whether the household head or any member aged 15 years and over reported their health status as fair or poor.

The total monthly household income was the sum of all income received by all household members from all sources each month, expressed in dollars and presented as mean and median monthly incomes. Poverty status indicated whether the household's income at the time of data collection was greater than the poverty guideline for a household of that size, as specified by the U.S. Department of Health and Human Services. The public assistance variable indicated whether the household received cash or in-kind benefits from any means-tested program (e.g., Aid to Families with Dependent Children, Supplemental Security Income, food stamps, or Medicaid), excluding housing assistance.

Definition of the housing variables in Table 2 was dictated by the data available. The housing affordability measures were defined as follows. Monthly housing expense, calculated separately for owners and renters, included monthly mortgage or rent payments, plus property taxes and utilities, presented in dollars. Percent of income spent on housing was calculated by dividing the monthly housing expenses by the monthly household income. The median percentage plus the percentages of households with housing cost burdens greater than 35 and 50% of their incomes were presented. The housing poverty variable indicated whether the household's housing expenditures were so high that the remaining income was less than two-thirds of the poverty guideline for the household. Housing assistance indicated whether the household was receiving aid from any of the following: housing vouchers or certificates, public housing, other subsidized housing, interest subsidy, or energy assistance.

Only two variables that could serve as measures of housing quality were included in both data sets. Persons per room was a measure of crowding, obtained by dividing the number of persons in the household by the number of rooms in the dwelling. The data were reported as mean number of persons per room and the percentage of households with more than 1.0 persons per room.

Definitions for the remaining housing characteristic variables were self-explanatory. The data on homeowners included both conventional and condominium methods of ownership. Single-family dwellings included both attached and detached houses, but not mobile homes, duplexes, or apartment buildings. The percentages of households living in single-family homes were presented separately from those in mobile homes.

TABLE 2

Housing Characteristics of Disability Households: United States and Regions (PSID and SIPP Data[a])

Variable	Data set	United States households			Disability households	
		Disability	Other	All	Regional high	Regional low
Housing affordability						
Median percent of income on housing	PSID	17.0	16.0	16.0	NE 17.3	SO 15.9
	SIPP	27.3	24.6	25.1	NE 30.5	NC 25.9
Mean housing expense per month	PSID	$313	$441	$406	NE $378.0	SO $283.0
	SIPP	$266	$388	$367	NE $310.0	SO $228.0
Percent H/I > 35%	PSID	15.9	11.6	12.8	NC 18.0	NE 13.4
	SIPP	20.1	14.4	15.4	WS 23.7	SO 16.9
Percent H/I > 50%	PSID	7.8	5.5	6.1	NC 8.7	WS 7.1
	SIPP	10.1	7.1	7.6	NE 12.2	SO 8.2
Percent in housing poverty	PSID	11.8	9.0	9.8	SO 20.6	WS 7.2
	SIPP	20.9	11.2	12.8	SO 23.2	WS 18.8
Percent receiving housing assistance	PSID	16.8	7.5	10.1	NE 22.1	WS 11.6
	SIPP	12.8	7.0	7.9	NE 17.4	NC 8.8
Housing quality						
Mean persons per room	PSID	0.46	0.49	0.48	SO 0.47	NE 0.44
	SIPP	0.47	0.51	0.50	WS 0.51	NC 0.44
Percent crowded	PSID	2.2	3.6	3.2	WS 3.2	NE 1.2
	SIPP	2.6	2.8	2.8	WS 3.7	NE 1.2
Housing characteristics						
Percent homeowner	PSID	65.7	57.8	60.0	SO 69.0	WS 61.5
	SIPP	67.9	68.2	68.1	SO 75.5	NE 58.3
Percent single-family	PSID	69.5	65.0	66.2	SO 73.1	NE 60.6
	SIPP	69.8	71.2	70.3	SO 82.1	NE 46.4
Percent mobile home	PSID	5.7	6.0	5.9	SO 9.4	NC 2.7
	SIPP	6.3	5.9	6.0	WS 9.5	NE 1.8
Sample N	PSID	1,940	5,121	7,061		
	SIPP	2,761	13,544	16,305		

Note: NE means Northeast, SO means South, NC means North Central, and WS means West.

[a]Reference persons or reference persons' households in the Panel Study of Income Dynamics, 1987, Wave XX; and Survey of Income and Program Participation, 1984 panel, Waves III and IV.

Results and Discussion

Tables 1 and 2 compare demographic and housing characteristics of disability and other households in the United States, as well as in the Northeast, South, North Central, and West. Earlier comparisons of the PSID and SIPP data (LaQuatra, Peaslee, & White, in press) revealed that disability households differed from other households on the variables of age, health status, household composition, income, housing poverty, housing tenure, housing cost burdens, and receipt of public and housing assistance. Because the data were derived from two different samples, the differences could not be tested for significance.

U.S. Disability vs. Other Households and Their Housing

Table 1 shows that in both data sets, the mean ages and percentages of elderly subjects were much higher among disability households than in other U.S. households. Female heads were more frequent among disability households, which also were far more likely to report poor or fair health. Consistent with earlier findings that adults with disabilities had less education, less employment, less income, and more poverty than the general population, these data revealed much higher proportions of disability households below the poverty level and receiving public assistance.

Conversely, Table 1 indicates that the disability households were slightly smaller (means 2.3, 2.4) than other U.S. households (means 2.5, 2.8) and much less likely to have children under age 18, with a much lower incidence of large households. The disabled group also reported far lower mean and median monthly income levels than other U.S. households.

Comparisons of U.S. disability and other households on the variables of marital and minority status were inconclusive. In the PSID data, the number of married disability households was slightly higher than that of other households. The SIPP data, however, showed a lower marriage rate among the disability households. The data on age, female headship, and widows may explain that difference. The rate of widowhood (reported only by PSID) was far greater among disability households. The higher marriage rate in the SIPP data may include widows.

Relative to racial and ethnic characteristics, the SIPP data showed that disability households were more likely than other U.S. house-

holds to be minorities. In the PSID data, however, the minority rate for disability households was lower than that of other households. One explanation for the difference may arise from the data sets' variation in defining disability. The PSID used a work-related definition; therefore, discrimination based on race *and* disability status may explain its lower percentage of minorities.

Comparisons of the two data sets on 11 housing variables (Table 2) showed that U.S. disability households had somewhat higher housing-income ratios (median percent of income spent on housing) than other households. Although the disability households' mean monthly housing expenditures were nearly one-third lower than those of other households, the former were more likely to pay more than 35 or 50% for housing, to be in housing poverty, and to receive housing assistance. On a poor housing measure found only in the PSID data, the frequencies for disability households also were somewhat higher. Not surprisingly, the mean persons per room and crowding rates (percentage of households with more than one person per room) were somewhat lower for the disability households.

The two data sets also differed on rates of home ownership and single-family residence. In the PSID, the percentages for disability households were several points higher than those of other households for both home ownership and single-family residence. The corresponding percentages in the SIPP data were somewhat lower, except for a slightly higher percentage of mobile homes. Although frequencies for home ownership were somewhat above the 1990 U.S. owner-occupancy rate (63%) in both sets, the disability households' rates of home ownership (65.7%, 67.9%) were lower than expected, given their higher mean age and higher percentage of elderly householders. The explanation may lie in the disability households' higher incidences of poverty, public and housing assistance, housing-income ratios, and rent burdens.

Regional Comparisons among Disability Households and Their Housing

For each data set and housing variable, the researchers identified the highest and lowest frequencies and percentages among disability households across four regions of the country: Northeast, South, North Central, and West. In some cases, the highest- or lowest-ranking region was the same for both data sets, hence two figures are

cited. In other cases where the results differed, each high and low is reported separately. After similarities among regions are noted, each region is described individually.

Two population variables (age and household size) and one of the two housing quality indicators (mean persons per room) proved to be similar among disability households across the United States. In the four regions, the mean age of U.S. disability householders was within a range from 57.2 in the West (PSID data) to 63.7 years in the Northeast (SIPP data) (Table 1). The mean number of persons in the disability households ranged from 2.2 to 2.4 persons. In all four regions, the mean number of persons per room was within a close range from 0.44 to 0.51 persons (Table 2).

The South. Disability households in the southern region showed the highest frequencies or proportions on the greatest number of population and housing variables—many of which are indicators of at-risk housing or housing deficits. Reflecting general economic conditions, Table 1 shows that southern disability households were more likely than disability households in other regions to be in poor or fair health (57.7%, 78.8%), married (56.0%, 53.5%), elderly (43.0%, 55.4%), minority (23.3%, 27.2%), in poverty (21.4%, 25.0%), and have large households (5.8%, 5.7%), according to both data sets. The South also was highest in one data set for female heads (38.6% SIPP), public assistance rate (21.8% PSID), and members under age 18 (22.2% SIPP). Finally, the South showed the lowest mean and median monthly income levels.

Relative to housing characteristics (Table 2), disability households in the South were highest of the regions in percentages of single-family residences (73.1%, 82.1%), home ownership (69.0%, 75.5%), and housing poverty (20.6%, 23.2%). They also ranked highest in mobile homes (9.4%) in the PSID data. The South's disability households ranked lowest of the four regions on mean monthly housing expenditures in both sets and lowest in one set for median percentage spent on housing (15.9%) and percentages of housing-income ratios over 35% (16.9%) and 50% (8.2%).

The Northeast. In at least one data set, disability households in the northeastern quadrant were the highest region in mean age (63.7 years), percentage of female heads (34.8%), and mean and median monthly incomes (Table 1). The northeastern disability households registered the

lowest of the four regions in number of children under age 18 (24.4%) and percent married (50.5%, tied with the West) in one data set.

Relative to their housing situations, the northeastern disability group was the highest region in mean monthly housing expenditures, median percentage spent on housing (17.3%, 30.5%), and proportion receiving housing assistance (17.4%, 22.1%) in both data sets (Table 2). In the SIPP data only, the Northeast led the other regions in percentage of housing-income ratios over 50% (12.2%). In at least one of the sets, disability households in the Northeast ranked lowest on home ownership rate (58.3%), single-family residence (46.4%, 60.6%), percentage of housing-income ratios over 35% (13.4%), mobile homes (1.8%), and crowding (1.2%).

North Central. North Central disability households were highest among the four regions on percent with members under age 18 (26.5%), according to the PSID data, but lowest on that variable (18.7%) in SIPP data (Table 1). In at least one data set, they were lowest among regions in percent elderly (39.8%), female heads (32.7%), receipt of public assistance (17.0%, 30.2%), minority (9.1%, 14.1%), and large households (3.1%). In the PSID data, the North Central disability households tied with those in the South on lowest mean monthly income.

In one data set, disability households in the middle section of the country were higher than those in other regions on housing-income ratios over both 35% (18.0%) and 50% (8.7%) (Table 2). North Central disability households ranked lowest on median percent of income on housing (25.9%), receipt of housing assistance (8.8%), and mobile homes (2.7%) in one data set.

The West. Compared to disability households in other regions, those in the West were highest in percent receiving public assistance (36.3%) and mean monthly income in one data set (Table 1). They were lowest on age (57.2, 61.3 years), marriage rate (50.5%, 52.1%), poor or fair health (36.1%, 72.3%), and poverty rate (4.0%, 15.0%) in both sets and lowest in one set on elderly (48.1%), female heads (33.4%), and large households (3.5%).

In at least one data set, western disability households were highest in housing-income ratio over 35% (23.7%), mobile homes (9.5%), and crowding (3.2%, 3.7%) (Table 2). They also ranked lowest among U.S. regions on home ownership (61.5%), percent in housing poverty (7.2%,

18.8%), receiving housing assistance (11.6%), and housing-income ratio over 50% (7.1%).

Summary and Conclusions

Summary

According to PSID and SIPP data, U.S. adult disability households are likely to be older than other households and more likely to be in poor or fair health, in poverty, and receiving public assistance. They also have a higher overall housing-income ratios, are more likely to pay more than 35 or 50% for housing, to be in housing poverty, and to receive housing assistance. The results of comparisons between disability and other U.S. households relative to marital and minority status and home ownership and single-family residence rates are inconclusive.

Compared across four regions in both data sets, the southern disability households register the highest rates of poor or fair health, marriage, elderly, minority status, poverty, and large households but lowest in income levels. Although also highest in single-family residences, home ownership, and housing poverty in both sets, the South's disability households rank lowest in mean monthly housing expenditures.

In both data sets, disability households in the Northeast are highest among U.S. regions in median monthly incomes, mean monthly housing expenditures, median percentage spent on housing, and proportion receiving housing assistance. Northeastern disability households are lowest in both data sets only in single-family residences.

Disability households in the North Central region do not rank highest in both data sets on any of the population or housing variables. North Central disability households are lowest in both data sets on percent minority and receipt of public assistance.

The disability households in the West are highest in both data sets only on crowding. In both sets, the westerners were lowest in the nation on age, marriage rate, poor or fair health, in housing poverty, and in poverty.

Conclusions

Adult disability households in the United States clearly are at risk of housing *un*affordability. In addition to higher housing-income ra-

tios, these households are likely to be older, in poverty, in poor or fair health, and on public assistance. They are more likely than other U.S. households to carry severe housing cost burdens, to be in housing poverty, and to be receiving housing assistance. Regional differences among disability households and their housing seem to echo geographic economic and population trends (e.g., economic decline in the South and North Central quadrants) as well as regional variances in the housing stock (e.g., high housing costs in the West and Northeast).

These data are less clear about disability households' risks relative to housing quality, and neither data set addressed the most important quality measure for disability households: housing accessibility. While other households have more persons per room and are more likely to be crowded, the PSID data did reveal a higher incidence of poor housing for disability households.

These data also seem to reflect that regional influences on the population characteristics and housing costs of disability households are similar to the regional influences on other households. By region, disability households in the South were most likely to own single-family homes and clearly were in difficult financial straits. Yet they ranked lowest in mean monthly housing expenditures. In the Northeast, disability households apparently had higher monthly incomes but also higher housing expenses. Those in the Northeast were most likely to receive housing assistance and, not surprisingly, least likely to live in single-family residences.

In the North Central region, disability households were distinguished only by having the lowest percentage of minorities and lowest rate of receiving public assistance. Finally, western disability households were highest only in their rate of crowding but were the youngest, least married, in better health, and least likely to be in income or housing poverty than their cohorts in other regions.

Future comparisons of the housing characteristics of disability households could reveal both improvement and decline. The good news is that federal civil rights and accessibility legislation is producing education, employment, income, and housing gains for disability households. The discouraging fact is that aging can bring disabilities that could limit the ability of an increasing proportion of America's oldest households to age in place if their homes are not modified to accommodate age-related impairments and if community-based services are unavailable.

References

Battelle's, Columbus Laboratories. (1977). *Study and evaluation of integrating the handicapped in HUD housing.* Washington, DC: U.S. Department of Housing and Urban Development.

Bureau of National Affairs. (1988). *The new fair housing law: Impact and analysis.* Washington, DC: Author.

Hunt, J., & Hoyes, L. (1980, April). An approach to housing for the disabled. *Housing, 16*(4), 8–10.

LaQuatra, J., Peaslee, J., & White, B. J. (in press). Housing problems of the disabled in the United States. *Housing and Society.*

Mace, R. L. (1985, November). Universal design. *Designers West,* pp. 147–152.

Malizia, E. E. (1993, September–October). Marketing accessible housing: A new approach. *Journal of Housing,* 205–211.

Nathanson, I. N. (1980). *Housing needs of the rural elderly and the handicapped* (HUD-PDR-633). Washington, DC: U.S. Department of Housing and Urban Development.

Nesmith, L. (1987). Designing for special populations. *Architecture, 76* (1), 62–77.

Reizenstein, J. E., & Ostrander, E. R. (1981). Design for independence: Housing for the severely disabled. *Environment and Behavior, 13*(5), 633–647.

Staff. (1989). *A Panel Study of Income Dynamics: Procedures and tape codes* (Vol. I, Wave XX). Ann Arbor, MI: University of Michigan, Institute for Social Research.

U.S. Bureau of the Census. (1987). *Survey of Income and Program Participation users' guide.* Washington, DC: Author.

U.S. Bureau of the Census. (1992). *1990 Census of Population and Housing: Summary social, economic and housing characteristics, United States* (1990 CPH-5-1). Washington, DC: U.S. Government Printing Office.

U.S. Department of Housing and Urban Development. (1980). *Management of housing for handicapped and disabled persons* (HUD-PDR-537). Washington, DC: Author.

Winter, M., & NC-199 Technical Committee. (1994). *Housing of U.S. households at risk: Housing and household characteristics by location* (North Central Regional Research Publication 338 & Miscellaneous Publication 85-1994). St. Paul: University of Minnesota, Minnesota Agricultural Experiment Station.