

# Universal Design

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**Universal design** (often **inclusive design**) refers to broad-spectrum ideas meant to produce buildings, products and environments that are inherently accessible to older people, people without disabilities, and people with disabilities.







# Age: In 2012, the prevalence of disability in the US was:

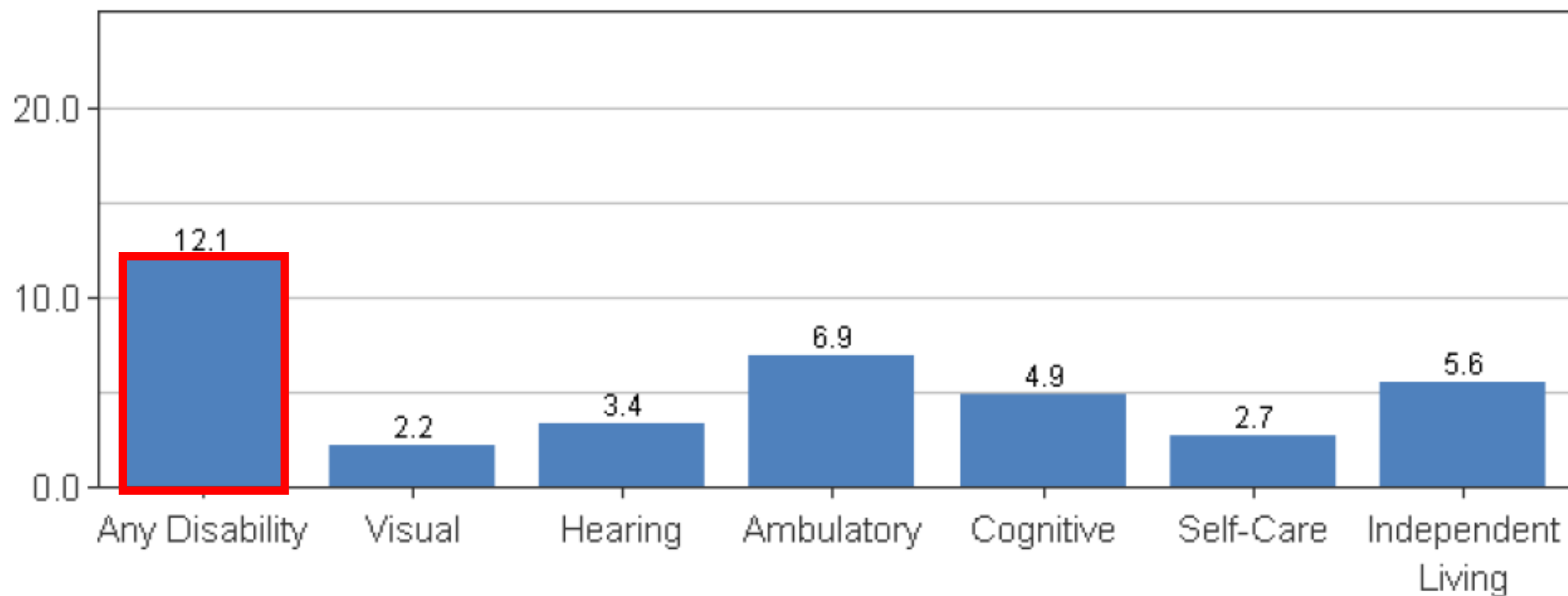
- 12.1 percent for persons of all ages
- 0.8 percent for persons ages 4 and under
- 5.3 percent for persons ages 5 to 15
- 5.5 percent for persons ages 16 to 20
- 10.4 percent for persons ages 21 to 64
- 25.0 percent for persons ages 65 to 74
- 50.0 percent for persons ages 75+

These statistics indicate the social and economic status of non-institutionalized people with disabilities in the United States, using data from the 2012 American Community Survey (ACS).

[http://disabilitystatistics.org/StatusReports/2012-PDF/2012-StatusReport\\_US.pdf](http://disabilitystatistics.org/StatusReports/2012-PDF/2012-StatusReport_US.pdf)

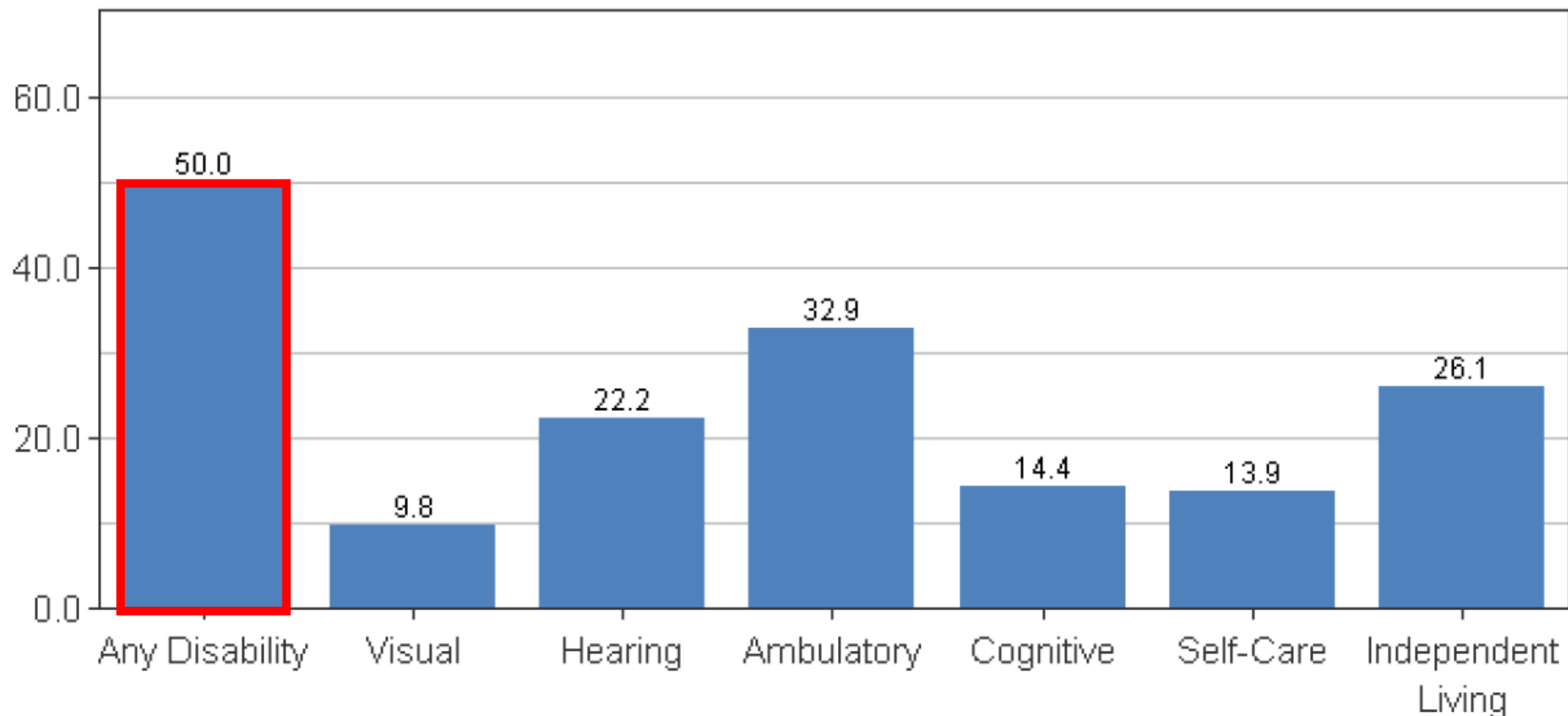
## Prevalence of disability among non-institutionalized people of all ages in the United States in 2012\*

Prevalence Rates: All Ages (%)



## Prevalence of disability among non-institutionalized people ages 75 and older in the United States in 2012

Prevalence Rates: Age 75 and older (%)



## Quick Statistics

Prevalence:  
Males All  
Ages  
**12.0%**

Prevalence:  
Female All  
Ages  
**12.3%**

Employment:  
with disability  
**33.5%**

Employment:  
without  
disability  
**76.3%**

Household  
Income: with  
disability  
**\$37,300**

Household  
Income: without  
disability  
**\$60,600**

# Upcoming: Prevalence of Developmental Disabilities in U.S. Children

- 12 year study: 1997-2008
- Center for Disease Control (CDC) & Health Resources / Services Admin (HRSA)
- Parents asked if their child had any of the following conditions:  
ADHD, autism, blindness, cerebral palsy, hearing loss,  
intellectual disability, learning disorders, seizures, stuttering/stammering,  
other developmental delay.
- 119,367 children ages 3–17 in U.S
- 1 in 6 children between 2006-2008 have developmental disabilities



- The prevalence of any DD in 1997–2008 was 13.87%
  - Prevalence of learning disabilities was 7.66%;
  - Prevalence of attention deficit hyperactivity disorder (ADHD) was 6.69%;
  - Prevalence of other developmental delay was 3.65%; and,
  - Prevalence of autism was 0.47%.
- Over the last 12 years, the
  - Prevalence of DDs has increased 17.1%—that’s about 1.8 million more children with DDs in 2006–2008 compared to a decade earlier;
  - Prevalence of autism increased 289.5%;
  - Prevalence of ADHD increased 33.0%; and,
  - Prevalence of hearing loss decreased 30.9%.
- In addition, data from this study showed
  - Males had twice the prevalence of any DD than females and more specifically had higher prevalence of ADHD, autism, learning disabilities, stuttering/stammering and other DDs;
  - Hispanic children had lower prevalence of several disorders compared to non-Hispanic white and non-Hispanic black children, including ADHD and learning disabilities;
  - Non-Hispanic black children had higher prevalence of stuttering/stammering than non-Hispanic white children;
  - Children insured by Medicaid had a nearly two-fold higher prevalence of any DD compared to those with private insurance; and,
  - Children from families with income below the federal poverty level had a higher prevalence of DDs.

# Signs and Symptoms

## Autism Spectrum Disorders (ASD)

People with ASD often have problems with social, emotional, and communication skills. They might repeat certain behaviors and might not want change in their daily activities. Many people with ASD also have different ways of learning, paying attention, or reacting to things. Signs of ASD begin during early childhood and typically last throughout a person's life.

Children or adults with ASD might:

- not point at objects to show interest (for example, not point at an airplane flying over)
- not look at objects when another person points at them
- have trouble relating to others or not have an interest in other people at all
- avoid eye contact and want to be alone
- have trouble understanding other people's feelings or talking about their own feelings
- prefer not to be held or cuddled, or might cuddle only when they want to
- appear to be unaware when people talk to them, but respond to other sounds
- be very interested in people, but not know how to talk, play, or relate to them
- repeat or echo words or phrases said to them, or repeat words or phrases in place of normal language
- have trouble expressing their needs using typical words or motions
- not play "pretend" games (for example, not pretend to "feed" a doll)
- repeat actions over and over again
- have trouble adapting when a routine changes
- have unusual reactions to the way things smell, taste, look, feel, or sound
- lose skills they once had (for example, stop saying words they were using)

# Broadening Diversity...

## Surprising facts?

- + kids: rise in developmental disabilities in US, age 3-17
- + elderly: 50% have disabilities in US, age >75
- + ...

## Universal Design

- + beyond physical architecture >> online society



**Race:** In the US in 2012, the prevalence of disability for working-age people (ages 21 to 64) was:

- 10.2 percent among Whites
- 14.2 percent among Black / African Americans
- 4.3 percent among Asians
- 17.6 percent among Native Americans
- 9.9 percent among persons of some other race(s)

These statistics indicate the social and economic status of non-institutionalized people with disabilities in the United States, using data from the 2012 American Community Survey (ACS).

<http://www.disabilitystatistics.org/StatusReports/2012-PDF/2012-Statu>



**Hearing Disability** (asked of all ages):

- Is this person deaf or does he/she have serious difficulty hearing?

**Visual Disability** (asked of all ages):

- Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?

**Cognitive Disability** (asked of persons ages 5 or older):

- Because of a physical, mental, or emotional condition, does this person have serious difficulty concentrating, remembering, or making decisions?

**Ambulatory Disability** (asked of persons ages 5 or older):

- Does this person have serious difficulty walking or climbing stairs?

**Self-Care Disability** (asked of persons ages 5 or older):

- Does this person have difficulty dressing or bathing?

**Independent Living Disability** (asked of persons ages 15 or older):

- Because of a physical, mental, or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor's office or shopping?

## Quick Statistics

Prevalence:  
Males All  
Ages  
**12.0%**

Prevalence:  
Female All  
Ages  
**12.3%**

- In the US in 2012, the overall percentage (prevalence rate) of males with a disability of all ages was 12.0 percent.
- In other words, in 2012, 18,138,200 of the 151,675,600 males of all ages in the US reported one or more disabilities.
- In the US in 2012, the overall percentage (prevalence rate) of females with a disability of all ages was 12.3 percent.
- In other words, in 2012, 19,489,600 of the 158,260,800 females of all ages in the US reported one or more disabilities.

## Quick Statistics

Employment:  
with disability  
**33.5%**

Employment:  
without  
disability  
**76.3%**

- In 2012, the employment rate of working-age people with disabilities in the US was 33.5 percent.
- In 2012, the employment rate of working-age people without disabilities in the US was 76.3 percent.
- The gap between the employment rates of working-age people with and without disabilities was 42.8 percentage points.
- Among the six types of disabilities identified in the ACS, the highest employment rate was for people with a "Hearing Disability," 50.2 percent. The lowest employment rate was for people with a "Independent Living Disability," 15.7 percent.

## Quick Statistics

Household  
Income: with  
disability

**\$37,300**

Household  
Income: without  
disability

**\$60,600**

- In 2012, the median income of households that include any working-age people with disabilities in the US was \$37,300.
- In 2012, the median income of households that do not include any working-age people with disabilities in the US was \$60,600.
- The difference in the median income between households including and not including working-age people with disabilities was \$23,300.
- Among the six types of disabilities identified in the ACS, the highest median income was for households including persons with a "Hearing Disability," \$48,400. The lowest median income was for households containing persons with a "Cognitive Disability" \$31,300 .