

SUNspot – Disability, Household Income and Use of Wireless Devices

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We created “SUNspot” to share some of the latest findings from ongoing data collection for our Survey of User Needs (SUN), our cornerstone survey on use and usability of wireless technology by people with disabilities. We launched the first version of the SUN in 2001. The current version (Version 4) was launched in September 2012. The data reported here are preliminary results. Data collection is ongoing.

This SUNspot addresses the question of whether household income is a factor in use of mobile wireless technology by people with disabilities. Two questions specific will be addressed:

- Does income affect the ownership of wireless devices such as cellphones, smartphones and tablets by people with any type of disability?
- Does income affect the types of devices (basic cellphone, smartphone, or tablet) that people with disabilities own?

Of over 700 SUN respondents to date, 614 reported having one of the following difficulties:

- Difficulty concentrating, remembering or making decisions
- Frequent worry, nervousness, or anxiety
- Difficulty seeing
- Difficulty hearing
- Difficulty speaking so people can understand you
- Difficulty using your arms
- Difficulty using your hands and fingers
- Difficulty walking or climbing stairs

Wireless use and type of devices used

Among SUN respondents who reported having one or more of the difficulties listed above, 92 percent reported owning or using a wireless device such as a cellphone, smartphone or tablet. Analysis of wireless device ownership by income shows little variation by income, as shown in Table 1. In other words, income does not affect whether people with disabilities own a wireless device.

**Table 1 – Do you own or use a wireless device such as a cell phone or tablet?
(Respondents with disabilities)**

Income range	Yes (%)
Less than \$10,000	90%
\$10,000-\$14,999	93%
\$15,000-\$24,999	85%
\$25,000-\$34,999	92%
\$35,000-\$49,999	95%
\$50,000-\$74,999	91%
\$75,000 or more	97%
All respondents with disabilities	92%

Income is shown to have an effect, however, on the *types* of devices that respondents own. Respondents were asked what kinds of devices they own or use from the choices listed below:

- Basic phone (Examples: Motorola Razr, Pantech Breeze, Nokia 6350, Owasys)
- Smartphone (Examples: iPhone, Android phone, BlackBerry, Windows phone)
- Tablet (Examples: iPad, Kindle Fire, Galaxy Tab, Google Nexus 7, BlackBerry PlayBook)

**Table 2 – If you own or use a wireless device like a cell phone or tablet, what kind do you use?
(Check all that apply)***

Income range	Basic phone	Smartphone	Tablet
Less than \$10,000	36%	47%	21%
\$10,000-\$14,999	48%	43%	21%
\$15,000-\$24,999	31%	46%	20%
\$25,000-\$34,999	42%	48%	28%
\$35,000-\$49,999	45%	58%	29%
\$50,000-\$74,999	34%	57%	38%
\$75,000 or more	19%	73%	47%
All respondents with disabilities who reported an income range	34%	56%	32%

*Some participants own more than one device.

Among all respondents with disabilities who reported an income range, smartphones were the most common type of device owned or used: 56% reported owning one of these devices. About equal percentages owned or used regular phones or tablets (34% and 32%, respectively).

Income appears to have an affect on ownership of all three types of devices. It is expected that as income goes up, ownership of regular (or “feature phones” in industry parlance) would go down. The converse is expected for smartphones and tablets – as income rises, ownership rates will also rise.

Generally, these expectations are supported by the data.

- For basic phones, despite some variation between the lower income ranges, ownership generally rises from the lowest to the middle ranges, and then steadily declines in the two highest household income ranges.
- Smartphone ownership is generally flat in the bottom four income ranges (though at a fairly high level in the mid-40% range). Then rises sharply through the highest three income ranges.
- Tablet ownership is generally flat at about 20-21% in the lowest three income ranges, and then rises steadily through the highest 4 income ranges.

For many people with disabilities, smartphones are critical pieces of assistive technology that allow them to participate more fully in society and economy. This may explain relatively high ownership rates even in the lowest income levels. Tablets, on the other hand, may be a secondary device for many respondents with disabilities, perhaps with the exception of those with speech impairment, learning disabilities, or low vision. This may be reflected in the lower tablet ownership rates overall compared to smartphones, and the more steeper rise of ownership rates for tablets from the lowest income level to the highest.

Data source: Survey of User Needs (SUN), Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC). We share survey data with manufacturers and carriers, as well as with policymakers, for the purpose of improving usability of wireless technology. SUN data are regularly used in guiding industry and government initiatives. We invite the public to take the Survey of User Needs and share how wireless technology affects daily life, and how it could be improved. The survey is available on paper, by phone (404-367-1348), or online at: https://www.surveymonkey.com/s/SUN_2012-2013.

The data presented here are based on a non-random sample. The survey is promoted as broadly as possible through convenience sampling techniques, with special effort toward reaching under-represented groups.

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