

## **SUNspot – Use of Wireless Devices by People with Disabilities**

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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 following questions related to use and usability of wireless technology by people with all types of disabilities:

- The rate of ownership of wireless devices such as cellphones, smartphones and tablets by people with any type of disability
- The types of devices that people with disabilities own

Of over 600 SUN respondents to date, 452 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. Respondents were subsequently 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)

Smartphones were the most common device owned or used, with a majority of respondents (53%) reporting owning one of these devices. Regular “feature phones” were owned or used by about a third of the respondents (32%). Somewhat fewer respondents (27%) reported using a tablet. The table below summarizes these results. These results generally mirror the rates of ownership and use of wireless devices reported for the general population by the Pew Internet and American Life project, whose research shows that 45 percent of Americans own smartphones<sup>1</sup>, and 25 percent own tablets.<sup>2</sup>

**Table 1 – Use of Wireless Devices**

<b>Do you own or use a wireless device such as a cell phone or tablet? (% yes)</b>	92%
<b>If you own or use a cell phone or tablet, what kind do you use? (Check all that apply)</b>	
Smartphone (Examples: iPhone, Android phone, BlackBerry, Windows phone)	53%
Basic phone (Examples: Motorola Razr, Pantech Breeze, Nokia 6350, Owasys)	32%
Tablet (Examples: iPad, Kindle Fire, Galaxy Tab, Google Nexus 7, BlackBerry PlayBook)	27%

### Operating systems on respondents’ wireless devices

Respondents who reported owning a smartphone or a tablet were also asked which operating system powers their devices. Among smartphone owners, Apple’s iOS was the most common with just less than half of the respondents owning iPhones. The Android operating system, also powered a substantial number of smartphones owned by respondents (39%). Blackberry devices were the third most commonly owned device (9%).

**Table 2 – Smartphone Operating Systems**

<b>If you own or use a SMARTPHONE, what kind do you have? (Operating system)</b>	
Android powered smartphone (Examples: Motorola Droid, Samsung Galaxy S)	39%
Apple iOS smartphone (Example: Apple iPhone)	49%
BlackBerry smartphone (Example: BlackBerry Bold 9700)	9%
Windows powered smartphone (Examples: Nokia Lumia, HTC Tilt, Samsung Focus)	5%
WebOS powered smartphone (Palm Pre or Pixi)	0%
Other	4%
Don’t know	1%

Among tablet owners, Apple’s iPad was by far the most common device, owned by 74% of respondents. Android devices were owned by 23% of respondents. Tables 2 and 3 summarize the data on device type and operating system.

**Table 3 – Tablet Operating Systems**

<b>If you own or use a TABLET, what kind do you have? (Operating system)</b>	
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<sup>1</sup> Pew Internet and American Life Project, “Two-thirds of young adults and those with higher income are smartphone owners”, September 11, 2012. Online, <http://pewinternet.org/Reports/2012/Smartphone-Update-Sept-2012.aspx>, accessed January 9, 2012.

<sup>2</sup> Pew Internet and American Life Project, “25% of American Adults Own Tablet Computers”, October 4, 2012. Online, <http://pewinternet.org/Reports/2012/Tablet-Ownership-August-2012.aspx>, accessed January 9, 2013.

Android powered tablet (Examples: Samsung Galaxy Tab, Amazon Kindle Fire)	23%
Apple iOS tablet (Example: Apple iPad)	74%
BlackBerry tablet (Example: BlackBerry Playbook)	2%
Windows powered tablet (Examples: Microsoft Surface)	1%
WebOS powered tablet (HP Touchpad)	1%
Other	6%
Don't know	1%

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**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 (800-582-6360), or online at: <http://www.wirelessrerc.org/content/projects/sun-overview>

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. Sampling errors are corrected by weighting the response data by family income according to American Community Survey (ACS) microdata on demographics of the U.S. population of people with disabilities provided by the Integrated Public Use Microdata Series project at the University of Minnesota.<sup>3</sup> This helps to mitigate potential biases introduced by the convenience sampling approach. The data reported here are weighted by total household income, which is strongly correlated with education level in the ACS sample.

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<sup>3</sup> Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database]. Minneapolis: University of Minnesota, 2010.