

SUNspot – Wireless Device Ownership by People with Disabilities

Volume 2016, Number 01 – December 2016

John T. Morris, PhD and W. Mark Sweatman, PhD

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 latest version (Version 5) was conducted in the second half of 2015 and first half of 2016.

Introduction

This SUNspot addresses the following question related to ownership of wireless devices by adults with disabilities:

- Do people with disabilities own wireless devices (regular phones, smartphones and tablets) at the same rates as the general population?

Ownership rates provide a key measure of access to technology and provide an initial (though only partial) view of a possible “technology divide” between people with disabilities and the general population. Additional measures like rates of use, user satisfaction, and use activities are also needed to understand the landscape of technology access by people with disabilities. This SUNspot addresses only the question of rates of device ownership.

Background to the SUN

Originally launched in 2002 and now in its 5th version, the SUN has been updated over the years to keep current with the rapid pace of technological change. This unique, nationwide survey on wireless technology use by people across disabilities has come to be an important reference for the wireless industry, government regulators, people with disabilities, disability advocates, and other researchers. Over 7,500 people with all types of disabilities have completed at least one of the previous versions of the SUN since 2002. Sample size for SUN 5 is 1,168. Participants were recruited using convenience sampling via email, the web, personal outreach, telephone, and in-person interviews. The mean age of all respondents who reported a disability was 59.29 years and 52.23 for the 2012-2013 and 2015-2016 surveys, respectively. Whites accounted for 81 percent and 84 percent of the earlier and later samples, respectively.

Females represented 58% of respondents in both surveys. Regarding income, 61 and 56 percent of the earlier and later samples reported annual household income below \$50,000.

Of over 1150 SUN respondents, 970 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 device ownership by people with disabilities

Table 1 shows the ownership rates of basic cellphones (feature phones in industry parlance), smartphones and tablets for people with disabilities who responded to the SUN survey in 2015-2016 and the general population as sampled by the Pew Research Center in 2015.

Table 1 – Use of Wireless Devices by Adults with Disabilities and in the General Population

	SUN 2015- 2016* (n=907)	PEW
Do you own a wireless device such as a cell phone or table? (% yes)	91%	N/A
Do you own a basic cell phone or smartphone?***	83%	92%
If you own or use a wireless device, what kind do you use? (Check all that apply)		
- Basic phone (e.g., Motorola Razr, Pantech Breeze, Nokia 6350, Owasys)	13%	24%
- Smartphone (e.g., iPhone, Android phone, Blackberry, Windows phone)	71%	68%
- Tablet (e.g., iPad, Kindle Fire, Galaxy Tab, Nexus 7, BlackBerry PlayBook)	50%	45%

* SUN results weighted by distribution of total annual household income in the American Community Survey, 2015.

*** A small percentage of SUN respondents with disabilities reported owning both a basic phone and a smartphone. Consequently, the total number of respondents with disabilities who own any kind of cell phone is smaller than the sum of the percentage of respondents with disabilities who own either type.

Sources: Wireless RERC, Survey of User Needs, 2015-2016. Pew Research Center, Technology Device Ownership, www.pewinternet.org/2015/10/29/technology-device-ownership-2015/.

Comparison of the results from the SUN and the Pew Research Center show that people with disabilities own cellphones at a high rate (83%), but still substantially lower than the general population (92%). Drilling down to examine the rates of ownership of specific types of mobile wireless devices shows that people with disabilities own smart devices (smartphones and tablets) at slightly higher rates than the general population. People with disabilities own basic cellphones at much lower rates than the general population.

These results suggest that the considerable capabilities and functionality offered by smart devices have a strong appeal or otherwise address important access and assistive technology needs of people with disabilities as a group. Anecdotal evidence suggests that functionality like wayfinding in the community using GPS and maps with audio output have greatly empowered blind individuals to travel in their community. Similarly, video calling/chats have helped deaf individuals to communicate without the help of a relay service or other technology. Tablets have become a key communication and learning platform for individuals with complex communication needs.

Challenges to access and usability remain. A substantial percentage of SUN and Pew respondents do not have a smartphone or tablet. Furthermore, as new iterations of mobile wireless technology devices and networks are rolled out, previous solutions can be broken or overwritten. Researchers, engineers, advocates and the wireless industry must continue to push for ever greater access to these critical technologies.

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. 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.

Acknowledgement

The Rehabilitation Engineering Research Center for Wireless Technologies is funded by the National Institute on Disability, Independent Living and Rehabilitation Research of the U.S. Department of Health and Human Services, grant # 90RE5007-01-00. The opinions contained here are those of the grantee and do not reflect those of the U.S. Department of Health and Human Services.