

# SUNspot – Stroke Survivors and Wireless Use and Usability

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We created “SUNspot” to share some of the latest findings of our ongoing Survey of User Needs (SUN). This survey focuses on the use and usability of wireless technology by people with disabilities. We began the survey in 2001, and launched Version 3 in May 2010. The data reported here represent preliminary results.<sup>i</sup> Data collection is ongoing.

We share data like these 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 [www.wirelessrerc.org/survey](http://www.wirelessrerc.org/survey).

## Stroke Survivors

Each year, about 650,000 Americans survive a stroke, with about one-quarter of these under the age of 65.<sup>ii</sup> Stroke is the leading cause of serious, long-term disability in the United States. About 1.1 million Americans have functional limitations due to stroke.<sup>iii</sup>

As a population, stroke survivors are among the most diverse in cognitive, physical, and sensory abilities. Like other people with disabilities, most find wireless technology critical to independent living. This SUNspot examines the similarities in wireless use and usability of stroke survivors with those of other wireless customers with disabilities by addressing the following questions:

- *What percentage of stroke survivors own or use a wireless device?*
- *How important is their wireless device to stroke survivors?*
- *How often do stroke survivors use their wireless device?*
- *How easy is it for stroke survivors use their wireless device?*
- *How satisfied are stroke survivors with their wireless device and service?*

Among 440 respondents to the 2010 SUN, 409 reported having a sensory, physical, and/or cognitive disability, and 91 reported having survived a stroke. The vast majority (89%) of these stroke survivors own or have access to a wireless information and/or communications device. This figure compares to 92% of all other survey respondents with a reported disability. Both figures are somewhat lower than the levels reported by the CTIA-The Wireless Association for wireless subscribers as a percentage of the total population in the US (94%).<sup>iv</sup>

## Importance of wireless technology

Stroke survivors attach the same level of importance to their wireless devices as do all respondents with a disability. A high percentage of both groups (77%) said their wireless device was “very important.”

As described in Table 1, both groups regard their wireless devices as important for the same reasons, and in generally the same order of importance. The ability to communicate with anyone at any time is regarded as important by the highest percentage of respondents in both groups – 84% of stroke survivors and 83% of all respondents with a disability. The second and third most frequently cited reasons why their wireless devices are important are the same for both groups - “makes me feel safer

and more secure” and “can get emergency help”. Large majorities (over 70%) of both groups cited these two security oriented reasons, reflecting the importance of wireless technology to an independent lifestyle, because it serves as a key tool for managing critical situations.

**Table 1: Importance**

	<b>Stroke Survivors</b>	<b>All other respondents with a disability</b>
<b>How important?</b> (Percentage who said “very important”)	77%	78%
<b>Why important?</b>		
- Can communicate with anyone, anytime	84%	83%
- Makes me feel safer and more secure	75%	72%
- Can get emergency help	73%	77%

### **Ease of use and satisfaction**

About the same percentage of respondents in the two groups said their wireless devices are either easy or very easy to use – 87% of stroke survivors and 86% of all respondents with a disability, as indicated in Table 2. Similarly, the same percentage (89%) of each group said they use their wireless devices either “3-6 times per week” or “every day.”

**Table 2: Ease of use, frequency of use, and satisfaction**

	<b>Stroke Survivors</b>	<b>All other respondents with a disability</b>
<b>How easy is your device to use?</b>		
- percentage who said “easy” or “very easy”	87%	86%
<b>How often do you use your device?</b>		
- percentage who said “every day” or “3-6 times per week”	89%	89%
<b>How satisfied are you with your wireless device?</b>		
- percentage who said “somewhat satisfied” or “very satisfied”	81%	81%
<b>How satisfied are you with your wireless service provider?</b>		
- percentage who said “somewhat satisfied” or “very satisfied”	85%	81%

Additionally, the same percentage of both groups said they are either satisfied or very satisfied with their wireless devices (81%), and similar percentages (85% of stroke survivors and 81% of all others with a disability) said they are either satisfied or very satisfied with their wireless service providers.

Stroke is the leading cause of serious, long-term disability in the United States, and stroke survivors are a very important part of the current and potential wireless user population. The data presented in this

SUNspot show that wireless use and needs among stroke survivors are representative of the general population of people with disabilities.

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<sup>i</sup> Data source: Survey of User Needs (SUN), Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC). These data are based on a non-randomized population 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. 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.

<sup>ii</sup> American Heart Association (2009). Heart Disease and Stroke Statistics — 2009 Update. Accessed December 9, 2010, <http://www.americanheart.org/downloadable/heart/1240250946756LS-1982%20Heart%20and%20Stroke%20Update.042009.pdf>.

<sup>iii</sup> Centers for Disease Control and Prevention. Stroke Fact Sheet. Accessed December 9, 2010, [http://www.cdc.gov/dhdsplibrary/fs\\_stroke.htm](http://www.cdc.gov/dhdsplibrary/fs_stroke.htm).

<sup>iv</sup> Source: CTIA Semi-Annual Wireless Industry Survey. Accessed December 6, 2010, <http://ctia.org/advocacy/research/index.cfm/AID/10316>. The adoption rate was computed by dividing the CTIA's figures for total number of subscriptions by the U.S. Census Bureau's estimate of the U.S. population (310.9 million). The CTIA data does not account for multiple cellphone service subscriptions belonging to a single individual, so the percentage of people in the United States with cellphone service is probably lower than 94%.