SUNspot –People with Disabilities, Income, and Wireless Access

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We created "SUNspot" to share some of the latest findings of our ongoing Survey of User Needs (SUN). This survey is about the use and usability of wireless technology by people with disabilities. We began the survey in 2001 and launched Version 3 in May 2010. Among 447 SUN respondents to date, 393 reported having a sensory, physical, and/or cognitive disability.

We share SUN 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 www.wirelessrerc.org/survey. The data reported here represent preliminary results.* Data collection is ongoing.

This SUNspot addresses the following question related to the impact of household income on wireless use and economic impact by people with disabilities:

- *Do ownership or access to a wireless device and frequency of use increase with income?*

Household Income and Wireless Access

It should be noted at the outset that 92% of respondents with disabilities who have completed the SUN since May 2010 reported owning or having access to a wireless device such as a cellphone or text messenger. This suggests high rates of ownership or access even by people with lower household incomes, which is generally true. Furthermore, more than 77% of respondents (generally evenly distributed across income ranges) said their devices were "very important".

However, some income effects on ownership and access to wireless technology are indicated by the survey data. Generally, higher levels of income were associated with higher rates of ownership or access to wireless devices. First let's look at the income ranges of survey respondents who reported a physical, sensory or cognitive disability. Table 1 shows that the survey sample included robust percentages of respondents with disabilities in each of 7 household income ranges.

Table 1 – Household income ranges of SUN respondents with disabilities

Income range	Percentage of respondents*
Less than $10,000	8%
$10,000-$14,999	12%
$15,000-$24,999	16%
$25,000-$34,999	15%
$35,000-$49,999	18%
$50,000-$74,999	14%
$75,000 or more	18%

*Percentages do not add to 100% due to rounding.

Table 2 shows the percentage of respondents with disabilities in each household income range who own or have access to a wireless device. Except for minor variation at the lowest and highest household income ranges, the rates of ownership/access rise steadily with increases in income range. These results produce a strong measure of association (gamma = 0.376) that is significant above the 0.01 level (p=0.003). In other words, increases in household income are strongly associated with increases in rates of ownership/access to wireless technology, and this relationship is highly reliable (unlikely to be the result of chance).

Table 2 – Ownership/access to wireless devices by respondents with disabilities, by income

Household income	Respondents who own or use a wireless device (%)
Less than $10,000	90%
$10,000-$14,999	82%
$15,000-$24,999	87%
$25,000-$34,999	89%
$35,000-$49,999	95%
$50,000-$74,999	98%
$75,000 or more	96%

Household Income and Frequency of Use

Do people with disabilities who have lower household incomes use their wireless devices less frequently? Analysis of the responses of people with disabilities who report owning or having access to a wireless device shows that household income has no observable effect on the frequency of use of respondents' wireless devices (Table 3). High percentages of people with disabilities across the range of incomes use their devices on a daily basis.

Table 3 – Household income and frequency of use of wireless devices (respondents with disabilities who own or have access to a wireless device)

Household income	Less than once per month	Less than once per week	1-2 times per week	3-6 times per week	Daily	TOTAL
Less than $10,000	4%	0%	4%	8%	84%	100%
$10,000-$14,999	0%	14%	8%	8%	69%	100%
$15,000-$24,999	2%	2%	9%	6%	81%	100%
$25,000-$34,999	5%	5%	5%	14%	73%	100%
$35,000-$49,999	5%	5%	2%	16%	73%	100%
$50,000-$74,999	2%	6%	4%	12%	76%	100%
$75,000 or more	2%	2%	3%	9%	85%	100%

Conclusion

These results show that lower household income can act as a barrier to owning or having access to a wireless device among people with disabilities. However, among people with disabilities who have overcome that barrier (by achieving ownership or access to a wireless device), level of household income has no discernible effect on the frequency with which they use their devices.

*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.

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