

Ensuring Representative Samples in Telephone Surveys

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Over the past few years the proportion of the US adult population with a cell phone but no landline phone has been steadily increasing. Current estimates from the [National Health Interview Survey \(NHIS\)](#), the gold standard on this topic, indicate that as of December, 2009 almost one in four US adults has become “wireless-only.” This is a dramatic increase from the 2004 estimate of just over 4 percent. The largest share of these wireless-only adults is clustered among the younger demographic (18-35 years old), although the proportion of adults 30 and older without a landline also has increased. In addition to being a younger group than the population at large, wireless-only adults also are more likely to earn less, rent rather than own their homes, and live in non-family households with other adults.

This dramatic migration from landlines to cell phones has significant implications for telephone surveys. The telephone number sample frame from which RDD samples are drawn does not include cell phones and even surveys that start with samples of customers often exclude cell phones by design. Earlier empirical research had generally shown that any bias created by excluding cell phones could be corrected through simple demographic weighting, except when the population of interest was 18-35 year olds or the survey topic might be correlated with the likelihood of being

wireless only (e.g., technology use). However, more recent research makes it clear that the problem has reached a magnitude where demographic weighting is no longer sufficient. *Most researchers now believe that survey samples must include cell phones if the results are to be truly representative.*

Therefore, Market Strategies recommends that all telephone surveys include cell phones in their samples. In those instances where the sample comes from a list of customers we suggest that the sample be drawn in such a way that it includes cell phone numbers in the same proportion as in the customer list from which it is drawn. When RDD is used, we recommend that the standard RDD frame be augmented by a cell phone frame. The sample should be drawn to include at least 15 percent cell phone numbers. At the fielding stage we also recommend that quotas be set to ensure that at least 10 percent of the interviews or at least 50 interviews are conducted via cell phone. While calling cell phones can degrade the efficiency of the calling effort, the limits placed on the number of cell phone numbers fielded generally means that the added costs are manageable.

For more detail, see the Market Strategies white paper, “Approaches to Solving the Wireless-Only Problem in Household Telephone Surveys.”