

REACHING THE CELL PHONE ONLY POPULATION: A PHONE-FREE METHODOLOGY

Daniel Mallett, Scott Willoth, David Eden, Natalie Strauss, Scarborough

Background

The rapid increase in the Cell Phone Only (CPO) population, and the need to sample them commensurate with their universe proportion, presents significant challenges to media research companies that have historically used telephone sampling. Traditional landline Random Digit Dial (RDD) samples do not cover the CPO population. Cell phone RDD samples are available, but low productivity and other operational complexities (e.g. legal requirements for hand dialing) make them costly to implement.

While Scarborough is actively pursuing use of Cell Phone RDD, we have also conducted a series of tests using a Phone Free Methodology (PFM) that would eliminate the need for a phone interview in some markets. Besides making use of Address-Based Sample (ABS), this approach requires migrating questions traditionally asked in the telephone interview to the Consumer Survey.

After fine tuning this methodology through a series of preliminary tests, we have recently concluded a large-scale three-market test of this methodology. In this paper we will discuss how the PFM methodology and our standard syndicated service compare on key metrics, especially newspaper-related audience measures.

Scarborough's Standard Practices

Scarborough is a local market service, and our "top-tier" syndicated studies cover 77 US markets representing about 80% of the US population. We conduct more than 200,000 interviews annually. While these top-tier studies cover, among other things, a wide range of lifestyle, shopping and demographic topic areas, there is a special emphasis on media behaviors. Indeed, we are the "currency" service for newspaper readership in much of the US.

Scarborough's top-tier syndicated studies have traditionally used landline RDD samples and three distinct survey instruments to collect consumer data:

- A **telephone survey** to measure newspaper readership, radio listening, media website visitation, and demographics.
- A **Consumer Survey** (paper or online) to measure activities, shopping, travel, entertainment, and other miscellaneous behaviors and attitudes.
- A **TV diary** (paper) to measure TV viewing.

Both the Consumer Survey and TV diary are self-administered instruments delivered to respondents upon completion of the telephone survey. In cases where one or both are not returned, they are ascribed¹.

Within this framework, Scarborough's newspaper readership measurement utilizes what the industry has long considered the "gold standard", as embodied by the Advertising Research Foundation's "*ARF Guidelines for Newspaper Audience Studies*", and the Alliance for Audited Media "*Reader Profile Standards*" (aka "*Audience Snapshot*"). In line with these standards, Scarborough's questions relating to newspaper readership are administered via telephone.

Respondents are first asked about weekday printed newspapers. For each such newspaper commonly available in their local area, they are asked whether they have "read or looked into" any part of the paper in the past 7 days. They are also provided the opportunity to identify any "other" weekday papers they've read during this time period. For each paper passing this screener, the interviewer goes on to ask about the "last time" they read or looked into a copy of the paper.

Respondents are next asked about Sunday printed newspapers, followed by weekday and then Sunday "digital editions". In each case the sequence of questions is similar except for time periods used for screening and determining readership.

Questions about newspaper and other local media websites follow shortly thereafter, with respondents being asked whether they've visited the websites in the past 30 days; 7 days; and "yesterday".

¹ Scarborough uses distance-based matching (DBM) to ascribe missing product booklets and TV diaries. In DBM, the booklet or diary non-returner is matched with a donor who most closely matches the recipient on more than a dozen geographic and demographic characteristics.

The Cell Phone Only Population and Scarborough's Initial Response

While this newspaper measurement methodology has long served Scarborough and the industry well, it became clear in recent years that modifications needed to be made to account for the rapid growth of the Cell Phone Only (CPO) population. The latest Center for Disease Control and Prevention (CDC) estimates place this number at about 38% of US adults, with growth continuing unabated². These CPO adults, of course, are not part of the landline RDD sample utilized by Scarborough, and development of an alternate way of reaching these individuals is therefore crucial in order to maintain a fully representative sample now and into the future.

Scarborough's initial response—introduced in 2009 for the 2010 data release—was to supplement our landline RDD sample with CPO phone numbers obtained via a brief survey mailed to an ABS sample. The survey included questions enabling us to identify CPO individuals and gather the corresponding cell phone numbers. We then proceeded to contact these respondents by phone and administer the standard telephone interview, including the newspaper readership questions.

This ABS/CPO supplement enabled Scarborough to begin addressing CPO challenges in a manner which was cautious, operationally-feasible, and did not fundamentally alter the traditional phone-based newspaper readership methodology. At the same time, Scarborough recognized that it was impractical as a long-term strategy for several reasons, including the relatively low response rates predictably associated with the need for otherwise anonymous respondents to provide telephone contact information via a mailed instrument. (About 15%, versus approximately 40% for landline RDD.) This in turn added to the expense of the technique—which would only increase as CPO incidence continues to grow. Moreover, while there was some desired improvement in the demographic makeup of Scarborough respondents—specifically among the young and ethnic populations who are disproportionately represented in the CPO universe—further improvement was needed.

Alternative Approaches to CPO

For the reasons discussed above, we have continued to explore alternative approaches to CPO challenges.³

Using a cell phone RDD sample frame is a generally appealing and realistic approach with much to recommend it—foremost perhaps being its continued reliance on a phone-based newspaper readership interview. At the same time, it presents challenges of its own, including the inescapable reality that using it in all our syndicated markets would require a significant expansion in capacity of our phone interviewing centers. Nonetheless, it is a promising option which we have been and will continue to pursue in conjunction with other alternatives.

Still another approach is to use an all-ABS sample, eliminate the phone interview altogether, and move all questions previously administered by telephone—including questions that measure newspaper readership—to the self-administered Consumer Survey. The exploration and testing we've performed in connection with this Phone Free Methodology (PFM) is the central topic of this paper.

Phone Free Methodology

Certain benefits of a PFM approach with an all-ABS sample are self-evident. The primary one from a data quality perspective is that it eliminates CPO proportionality in the sample as an issue. ABS sample is, of course, compiled without regard to the kind of phone service a household happens to have. Moreover, this inherent proportionality will, by definition, continue into perpetuity.

There are other advantages as well. Demographic database indicators are readily available from leading ABS sample providers, presenting opportunities for targeting perennially hard-to-reach groups, such as young adults. Moreover, the need for ascription is either eliminated (as in the case of Consumer Survey data), or has the potential to be greatly reduced (should TV diary returns increase, as hypothesized).

At the same time, questions remain about the responsiveness of all population groups to mailed instruments. And perhaps most crucial for moving this initiative forward, we need to be satisfied that levels we are getting via this method are acceptably close to the 'gold standard' levels of the current telephone interview method for newspaper readership. Similarly, measures from the Consumer Survey and TV diary need to continue to be trendable.

² The CDC collects phone usage data in conjunction with its telephone-based National Health Interview Survey in order to ensure that the NHIS is effectively targeting a survey group that reflects the current state of nationwide health.

³ One such approach, of course, would be door-to-door interviewing. However, for a local market service such as Scarborough, and without the need for the kinds of physical props typically used in, say, magazine audience research, there is no real benefit that might even be weighed against the enormous associated costs and burdens.

PFM Testing History

Our most recent tests of the Phone Free Methodology (the “2012 Tests”) were a culmination of several years of testing, dating back to early 2010. This test program was an iterative process, with learnings from each iteration leading to adjustments, and informing how we proceeded with subsequent tests. The 2012 Tests incorporated all previous learnings, and were intended as a dry run for what we hoped to begin fielding live in a handful of markets.

Common to all these tests, of course, was the need to adapt previously phone-administered questions to a self-administered format. In some cases, such as demographics, this merely necessitated changing some wording or inserting check boxes so that the question made sense when read and completed by the respondent, as opposed to having the question read to the respondent, with answers recorded by a live interviewer.

Tailoring a new newspaper question, however, required a fundamental rethinking of the phone-based approach, which depends heavily on the interviewers’ ability to control the timing of the interview. Specifically, they must ensure that the bulk of the interviews are distributed roughly equally between Tuesday and Saturday. That level of control is, of course, inconsistent with a mailed, self-administered instrument.

Consistent with techniques commonly used to measure print readership in a self-administered format, the key phone question regarding when the respondent “last...read or looked into” a copy of the newspaper in question was changed to the “number of issues read or looked into” out of a given number of issues published. (Five issues for weekday papers, four for Sunday.) In addition, a larger timeframe for the screen-in question was put in place.

The newspaper readership questions were formatted as grids incorporating both the screener and frequency questions for each publication. The template for the weekday version of these grids is reproduced below:

	Read/Looked Into in the Past 4 Weeks	Number of Issues Read or Looked Into Out of the Past 5 Issues Published				
		0	1	2	3	4
Weekday Newspapers						
Newspaper A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newspaper B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Separate versions of this grid were inserted in the Consumer Survey for weekday and Sunday printed newspapers, as well as, eventually, for weekday and Sunday digital editions.

Media websites were measured using a grid formatted as follows:

<u>Media Internet Sites</u>	Visited Past 30 days	Visited Past 7 days	Visited Yesterday
Newspaper Websites			
Website A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TV Websites			
Website A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radio Websites			
Website A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As noted above, over the course of testing performed between 2010 and 2012, various adjustments were made to the newspaper and media website questions, primarily in order to achieve levels that more closely resembled those found in our syndicated study. The types of adjustments made included:

- **Logos:** In early testing, newspapers were identified by logos. These were found to make little difference in readership levels and ultimately dropped as not worth the operational challenge.
- **Question order:** Which should come first: Sunday or weekday papers? Media websites or digital editions? Various options were tested.
- **Appropriate screen-in timeframes**
- **Miscellaneous wording tweaks**

In addition, over the course of these preliminary tests we explored assorted methodological issues, including: Modes and timing for the self-administered materials (i.e. online versus printed—which get offered to which respondents? At what points in the process? etc.)⁴; approaches to within-household respondent selection; the need for supplemental samples (especially with regard to young adults); and various regimens of incentives and reminders.

⁴ Included in these tests was an electronic version of the TV Diary, though it was ultimately determined to be not yet ready for live implementation.

The 2012 Tests

The 2012 Tests were fielded in the Fourth Quarter of 2012 in three markets. The markets were of the type where we would likely choose to introduce PFM in our syndicated study first—that is, they are relatively small, with low urban density and minimal presence of an ethnic population for whom language issues associated with mailed instruments might be a complicating factor.

The local market Consumer Surveys used in this test were designed and administered in accordance with what we deemed to be “best practices” arising from the preliminary testing. This included administering the newspaper and media website questions in the following order:

- Sunday printed papers “read or looked into” (6 month screen/ Number of issues read out of past 4)
- Weekday printed papers “read or looked into” (4 week screen/ Number of issues read out of past 5)
- Local media websites “visited”
 - Categorized by affiliation (newspaper, TV, radio)
 - Three timeframes: 30 days; 7 days; “yesterday”
- Sunday digital editions
- Weekday digital editions
 - Digital edition grids had the same format and timeframes as printed papers
 - Preceded by the following definition:

“...[W]e would like to know about newspapers offered in your area as DIGITAL EDITIONS, also called e-editions or replica editions. You receive e-editions over the Internet as part of a paid subscription, and they are different from the free newspaper website.” [Emphasis in original]

The Consumer Surveys utilized in the 2012 Tests included all questions from the most recent syndicated Consumer Surveys and telephone interviews for the local markets. As noted, some modifications were made to telephone question wordings and (as in the case of newspapers) formats to make them appropriate for self-administration.

As for modes and delivery of the survey and associated materials, potential respondents were first sent a letter inviting them to complete the Consumer Survey online. If after a designated time period the online booklet had not yet been completed, a paper booklet was sent. Several reminders, which both encouraged return of the paper booklet and reiterated instructions for completing the online Consumer Survey, followed as needed. Cash incentives were enclosed and/or promised in all mailings.

Mailings of a paper TV diary began after the Consumer Survey was returned, and were also followed by multiple reminders.

Returned survey materials underwent standard Scarborough processing, including cleaning, TV diary ascription, sample balancing, and radio conforming⁵.

Results

Response and Return Rates

Response and return rates in the three markets, summarized in the table below, were significantly better than what we had been achieving with our ABS/CPO supplement, and comparable to what we are now getting in our syndicated studies (at the Consumer Survey and TV diary stages). Moreover, they were extremely close to goals we had set in connection with a potential syndicated rollout (i.e. Consumer Survey Response Rate= 25%; Diary Return Rate=60%; and Diary Response Rate=15%).

	Booklet <u>Response Rate</u>	Diary <u>Return Rate</u>	Diary <u>Response Rate</u>
Market A	24%	59%	14%
Market B	25%	58%	14%
Market C	25%	56%	14%

The resulting Consumer Survey in-tab was 2892, or between 900 and 1000 in each of the three markets.

⁵ Radio Conforming is the process utilized to produce the final Scarborough respondent-level radio data. It is designed to align Scarborough’s radio estimates at broad geographic and demographic levels with that of Arbitron, the currency service.

Newspaper-related Audience Estimates

As reflected in the table below, printed local-newspaper readership levels from the PFM test mirror those in the contemporaneous syndicated studies quite closely. In the vast majority of cases, the variance between the two is no more than one or two percentage points.

<i>Printed Papers</i>	<u>Daily Edition</u>				<u>Sunday Edition</u>			
	<u>Average Issue</u>		<u>5 Issue Cume</u>		<u>Average Issue</u>		<u>4 Issue Cume</u>	
	<u>Paper</u>	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>
A	21	22	32	34	27	25	36	37
B	18	20	30	31	26	25	37	36
C	17	22	30	35	32	31	46	45
D	12	14	18	20	14	15	19	21
E	9	9	14	12	11	11	16	15
F	4	3	6	4	4	3	7	5
G	4	5	6	8	8	7	12	12
H	3	3	5	5	4	5	8	7
I	1	2	3	3	2	2	3	4
J	1	4	3	6	2	5	2	7
K	1	2	2	3	-	-	-	-

The same is true of local newspaper websites:

Newspaper Websites

	<u>Past 30d</u>		<u>Past 7d</u>		<u>Yest</u>	
	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>
A	16	18	12	7	7	4
B	14	17	10	8	6	4
C	13	18	7	9	3	4
D	5	5	3	2	1	1
E	5	7	3	3	2	3
F	5	5	3	3	1	1
G	4	3	3	2	1	1
H	1	4	1	2	0	1
I	1	1	0	1	0	0

Reported digital edition readership, however, tends to be higher in PFM than in the syndicated studies.

<i>Digital Editions</i>	<u>Daily Edition</u>				<u>Sunday Edition</u>			
	<u>Average Issue</u>		<u>5 Issue Cume</u>		<u>Average Issue</u>		<u>4 Issue Cume</u>	
	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>	<u>Synd</u>	<u>PFM</u>
A	1	3	1	5	*	3	1	5
B	1	4	1	6	*	2	*	4
C	*	3	1	4	*	3	*	4

[* = <0.5]

As for traditional Consumer Survey content, given that what was included in the PFM Consumer Survey was virtually identical to the syndicated booklet, we hypothesized that there would be negligible differences between syndicated and PFM levels, and this was indeed the case. In an in-depth analysis of one of the three test markets, there were over 4,000 possible responses that were common to both our syndicated Release 2 2012 Consumer Survey and the PFM Consumer Survey. The average response incidences for these were 13.0% and 13.1%, respectively, and the correlation between the two sets of survey booklets was 0.98.

Interestingly, with respect to TV viewership, PFM respondents recorded in their diaries about 20% more viewing than did the corresponding syndicated respondents. This pattern was consistent, being evident in all three markets as well as across most demos and dayparts. However, as these higher viewing numbers tended to be closer than our syndicated estimates to those reported by the TV ratings services, we believe this to be an added benefit of the tested methodology, as opposed to a drawback.

Next Steps

The series of PFM tests conducted by Scarborough over the past several years, culminating in the 2012 Tests described in this paper, have provided Scarborough with sufficient confidence in this approach to begin using it in a small number of live syndicated markets. Recognizing that challenges remain for a mail-based approach in larger and certain other markets — including, for example, markets with significant Hispanic populations, where language obstacles could suppress cooperation—our strategy is to begin introduction of PFM in smaller markets, while introducing cell phone RDD in larger or otherwise mail-challenged markets. Over time, we hope to introduce one or the other approach in each of our top-tier syndicated markets, in a manner that will best use the strengths of each.