

The Impact of Smartphone Call Screening Features on Survey Response Rates

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Abstract

Recent advancements in mobile operating systems have introduced call screening and filtering tools that give users greater control over unknown incoming calls. Although these features are intended to reduce spam and improve the user experience, they may have unintended consequences for legitimate telephone survey research using outbound dialing. This report examines the potential impact of smartphone call screening features on random-digit-dial (RDD) cell-phone data collection for the National Immunization Surveys (NIS), a family of surveys sponsored by the U.S. Centers for Disease Control and Prevention.

The NIS relies heavily on telephone interviewing, with 96% of completed interviews in early 2026 conducted by phone. Consequently, changes in telephony behavior have the potential to affect both survey costs and response rates. Using NIS operational data from January through April 2026, this report describes observed increases in call screening dial volume following the public release of Apple iOS 26 in September 2025, compares contact rates among working numbers that did and did not go through a screening service, and assesses increased call durations due to call screening tools and their impact on data collection costs. The findings suggest that call screening introduces a new layer between interviewers and respondents, increasing call duration and costs even when contact rates among calls reaching a screening tool are slightly higher.

Key Words: National Immunization Surveys, call screening, RDD cell-phone surveys, response rates, contact rates, survey operations

1. Background

Telephone survey research has long faced challenges associated with caller identification, spam labeling, declining answer rates, and increasing respondent control over incoming calls. Recent smartphone operating system updates have introduced more advanced forms of call screening that may further alter the way respondents interact with unknown callers. In particular, Apple's iOS 26 software update, released to the public in September 2025 on an opt-in basis, includes features that allow users to screen and filter calls from unknown callers.

These features include real-time call screening using artificial intelligence for unknown callers and call filtering options that can automatically silence unknown calls or calls identified as spam or fraud. Although the default setting for this feature is set to "off," the operating system encourages users to turn call screening "on" if it is not enabled. It is estimated that around 80% of iOS users have installed iOS 26 as of July 2026,¹ suggesting that the prevalence and operational impact of these tools may continue to grow as adoption increases.

¹ TelemetryDeck. (n.d.). *iOS versions market share*. Retrieved July 22, 2026, from <https://telemetrydeck.com/survey/apple/iOS/majorSystemVersions/>

The National Immunization Surveys (NIS) are a family of RDD cell-phone surveys sponsored by the Centers for Disease Control and Prevention that assess vaccination coverage in the United States. The surveys include NIS-Child for children aged 19–35 months, NIS-Teen for adolescents aged 13–17 years, NIS-Flu for influenza vaccination coverage among children aged 6 months–17 years, and the NIS Fall Respiratory Virus Module for adults aged 18 years and older. Because almost all NIS completed interviews are conducted by phone, any change that affects the ability to reach respondents, the amount of time spent on calls, or the outcomes of call attempts can have meaningful consequences for survey efficiency, costs, and response rates.

When a respondent has the iOS 26 call screening feature enabled, the NIS interviewer is first connected to the screening tool rather than directly to the respondent. The screening tool prompts the interviewer by stating, "Hi, if you record your name and reason for calling, I'll see if this person is available." After the interviewer identifies themselves, the respondent's phone begins to ring while the screening process continues in the background. As the phone rings, the respondent can view a transcript of the interviewer's interaction with the screening system and choose to answer the call, decline it, or allow it to go to voicemail. During the timeframe of January - April 2026, NIS interviewers were instructed to respond with "Calling on behalf of the Centers for Disease Control and Prevention" when a call screener was encountered. The interviewer would then wait for the respondent to accept the call and proceed with the survey, or disposition the call as needed.

2. Methodology

The NIS call records for the United States, excluding U.S. territories, were evaluated from January through April 2026. The analysis focused on first-dial outcomes among working cell-phone numbers and compared cases that encountered a call screening service with cases that did not.

We defined contact rate as the proportion of calls to working cell-phone numbers that resulted in contact with a respondent or other human contact. We also examined call duration because call screening can delay the point at which a call reaches voicemail or is otherwise resolved. When call screening is not enabled, an NIS dial that reaches a voicemail has a duration of approximately 6 seconds, on average.² When call screening is enabled, the same dial may take approximately 45 seconds, because the interviewer first must interact with the call screener before the call is accepted, rejected, or goes to voicemail. Therefore, each dial that encounters a screening service consumes substantially more interviewer and system time.

The distribution of first-dial outcomes among cases that encountered call screening was also assessed. These outcomes include continuation with the respondent, connection to voicemail, rejection with no option to leave voicemail, and other contact. Together, these measures provide an early assessment of how call screening may affect both respondent access and operational efficiency.

2. Results

2.1 Call Screening Uptake

Among NIS first dials to working cell-phone numbers, the proportion that reached a call screener increased after the public release of iOS 26 in mid-September 2025, as shown in Figure 1. This pattern is consistent with the expected increase in availability and use of smartphone-based screening services. As more respondents adopt operating systems and settings that support call screening, the proportion of NIS calls affected by these tools is likely to increase.

Figure 1: Proportion of Dials that Reached a Call Screener among First Dials to Working Numbers by Call Date, National Immunization Survey, July 2025-April 2026.

² This is how long it takes an interviewer to identify and disposition a call as having reached a voicemail once the call connects, on average.

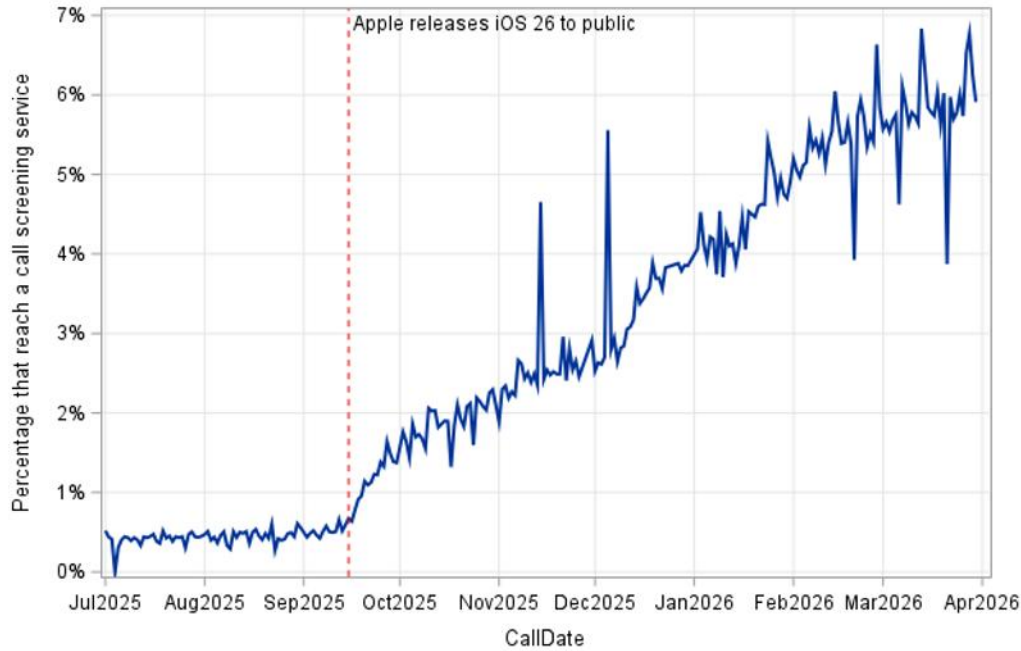


Figure excludes U.S. territory sample.

2.2 Contact Rate

The first-dial contact rate among working numbers was slightly higher for cases that went through a screening service than for those that did not, as shown in Table 1. Among cases that did not go through the screening service, the first-dial contact rate among working numbers was 19.3%. Among cases that did go through the screening service, the first-dial contact rate was 21.4% and this difference is statistically significant ($p < 0.001$).

Table 1: First Dial Contact Rate among Working Numbers, National Immunization Survey-Child, January-April 2026.

Measure	Cases that do not go through the screening service	Cases that do go through the screening service	p-value
First dial contact rate among working numbers	19.3%	21.4%	<0.001

Table excludes U.S. territory sample.

One possible explanation for this difference is that the script read by the interviewer when the call screener asks who we are and why we are calling may convey enough information about the reason for calling to increase respondent interest. Respondents who have enabled screening tools may also be more selective about answering unknown calls, but more willing to engage when the purpose of the call appears legitimate or relevant.

2.3 Call Duration and Cost

Although the contact rate among screened cases was slightly higher, call screening increases the amount of time required to complete a dial, as described in the Methodology section. Every dial that reaches a screening service has a duration that is about 40 seconds longer than a dial with the same

outcome that does not reach a screening service. For NIS-Child, data collection costs increased by approximately 4% to 5% from September 2025, when iOS 26 became available, to April 2026. Thus, even if call screening does not reduce contact rates, it can still have a substantial impact on survey costs.

2.4 Response After Call Screening

Table 2 presents the distribution of call screener outcomes among first dials encountering a call screener. The largest share of outcomes resulted in connection to voicemail, followed by rejection with no option to leave voicemail. Approximately one-fifth of screened calls continued with the respondent, meaning the respondent decided to accept the call.

Table 2: Distribution of Outcomes among First Dials Reaching a Screening Service, National Immunization Survey-Child, January-April 2026.

Outcome	Percentage
Continues with respondent	20.3%
Connected to voicemail	47.1%
Call rejected with no option to leave voicemail	31.4%
Other contact	1.2%

Table excludes U.S. territory sample.

4. Conclusion and Next Steps

Smartphone call screening features represent an important emerging challenge for RDD cell-phone survey operations. Call screening adds time to each affected dial and has already contributed to increased data collection costs. Because nearly all NIS interviews are conducted by phone, even modest changes in calling efficiency can have important operational consequences.

In response to the increased data collection costs associated with the adoption of call screeners, the NIS has made two changes to its data collection protocol. In Quarter 1 of 2026, the calling rules were modified to stop calling back cases after the second instance of reaching a call screener, as additional call backs were not cost effective. Beginning in Quarter 2 of 2026, interviewers no longer spend time interacting with the call screener; instead, the interviewer simply codes that a call screener was encountered and ends the dial. Our next step is to use an interactive voice response (IVR) system to interact with the call screener. If the call is accepted, the IVR would detect when a respondent is on the line and route the call back to an interviewer in real time. If the respondent does not accept or reject the call but instead lets it go to voicemail, the IVR would leave the voicemail message.

Going forward, the NIS will continue monitoring smart phone operating systems and cell-phone carrier updates to identify additional impacts on telephone survey operations.

Although call screening has received attention because of its introduction in iOS 26, the feature is not limited to users of the latest Apple devices. Similar call screening capabilities are available on earlier iPhone models that support the feature, as well as on many Android devices, meaning its potential impact extends beyond users of the newest iOS version. As call screening technologies continue to expand, survey organizations should monitor their impact on response rates and cost and consider adapting data collection protocols to reduce these impacts.

References

- ¹ TelemetryDeck. (n.d.). *iOS versions market share*. Retrieved July 22, 2026, from <https://telemetrydeck.com/survey/apple/iOS/majorSystemVersions/>