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Recent Insights into CAHPS Survey Modes and Response Rates

Speakers

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Stephanie Fry

Fry (opening), Slide 1

Good afternoon. Good morning to those of you on the West Coast. And welcome to Insights into CAHPS Survey Modes and Response Rates, a webcast presented by the Agency for Healthcare Research and Quality's CAHPS User Network.

Fry (opening), Slide 2

We have a fantastic lineup of speakers for you today, including Caren Ginsberg, who directs the CAHPS program at AHRQ; Marc Elliott, Senior Principal Researcher at the RAND Corporation; Layla Parast, Statistician, also at the RAND Corporation; and Paul Cleary, Professor of Public Health in the Department of Health Policy and Management at the Yale School of Public Health.

Fry (opening), Slide 3

Our focus for the next 90 minutes is to provide an overview of recent research on the impact of various survey administration modes and strategies. Specifically, we would like to share lessons learned including how do these strategies affect response rates across different population groups and how can we improve the representativeness of survey responses.

Fry (opening), Slide 4

Some of the key research questions that we will address in this webcast include: can high response rates be achieved with the hard-to-reach young adult population? How do response rates for electronic modes alone and in combination with other survey modes compare to more traditional modes? What electronic modes

achieve the highest response rates? What methods of web survey invitation are most effective? And how do characteristics of respondents to electronic and traditional modes differ?

Fry (opening), Slide 5

Before we begin our content, I wanted to take just a moment to go through a couple of housekeeping details. If you're having difficulty hearing the audio from your computer speakers, you can change the audio selection so that WebEx calls you back to connect you through your telephone instead. In the event that your computer freezes during the presentations, you can try logging out and logging back in to the webcast to refresh the page. Also remember, however, that you may just be experiencing a lag in the advancement of slides due to your Internet connection speed. If you need help at any time during this webcast, please use the Q&A icon.

Fry (opening), Slide 6

At any point through today's presentation, if you have either technical difficulties or have questions for our speakers, you may ask a question through the Q&A feature. Depending on the browser that you're using, your WebEx screen may look slightly different from what you see on this slide here. Look for the Q&A icon, which may be blue or gray, and be sure that the drop-down option displays all panelist for you to ask a question so our team can see it. Feel free to share your name, organization, or role when you type your question.

Today's session is being recorded. A replay of today's webcast, as well as the slides, will be made available on the AHRQ website. So, with that, I will turn it over to Caren Ginsberg to get us started. Caren, over to you.

Caren Ginsberg

Ginsberg, Slide 7

Welcome everyone to today's talk on survey modes and response rates. I'm, as Stephanie said, Caren Ginsberg and I direct the Agency for Healthcare Research and Quality's CAHPS Program. So, if you're familiar with the CAHPS Program and our webcast, you'll notice we've recently started discussing our research on survey methods and data collection. A couple of months ago, we hosted a webcast on survey invitation wording to increase response rates and today's presentation is on understanding survey administration modes as drivers of response rates.

I'm excited to present this to you today but, before I do, I'd like to take a few minutes to give you some context for why this topic is important to us and especially, to welcome those of you that might be new to the CAHPS world. And I'll go through some background for you so you have the context for why we're doing this work and presenting it to you.

Ginsberg, Slide 8

The Agency for Healthcare Research and Quality, or AHRQ, has a mission to improve the life of patients by helping healthcare systems and professionals deliver care that's of high quality and of high value and is safe. AHRQ's a science-based agency and, as such, what we do is invest in research and evidence to make healthcare safer and improve quality. We create tools for healthcare professionals to improve care for their patients and we generate measures and data that are used by providers and policymakers and researchers to improve the performance of the healthcare system and evaluate its progress. And as part of this research, we feel it's important to push it out to you, push the science to implementation, and get our tools and products to you, our users. So today's program, as part of this data and analytics competency is to help you understand the best ways to collect data and the effect of the data collection mode that you choose on your survey findings.

Ginsberg, Slide 9

CAHPS stands for Consumer Assessment of Healthcare Providers and Systems and the CAHPS Program is a comprehensive program to advance the understanding, the measurement, and improvement of patients' experiences with their healthcare. I'll speak more about that in a minute. We have been funded by AHRQ since 1995, so we've been around a long time. It's a mature program. We have a very large and extensive website with a lot of information on it, including recordings of all of our webcasts so if you're interested in the one that I just mentioned on invitation wording, it's on our website.

Ginsberg, Slide 10

The CAHPS Program has an active research agenda that focuses on understanding patients' experiences with healthcare, how to measure it, and on the best methods to implement surveys. So we also conduct research on how to report patient experience data and also on quality improvement efforts involving CAHPS surveys. So we're most known, though, I think, for the surveys, the CAHPS surveys that we develop and the related materials all designed to help assess patients' experiences in healthcare settings and with health plans and providers. And these surveys are recognized as the gold standard for patient experience measurement and we design these surveys by capturing the patients' voice in the foundational work to understand what's important to patients before we even draft a survey and then we test it extensively with patients to make sure that it's understandable to patients and relevant to them. We use a standardized methodology for the development of all of our surveys and other tools.

Ginsberg, Slide 11

So for those of you who might be new to the CAHPS world, here are some of the surveys that we offer that are all recognized CAHPS Surveys covering healthcare providers, some condition-specific care, in-patient and out-patient facilities, health plans, and even a program delivering care as part of the Medicaid Program, the Home and Community Based Services CAHPS Survey. So some of our versions include a pediatric version in addition to an adult version. All are available in Spanish and some have additional translations, as well.

Ginsberg, Slide 12

Let me just say, ultimately, the focus of the CAHPS Survey Administration effort is to have response rates that are sufficient to allow us to understand patient experience and also to ensure that we have a representative sample of patients who are responding to the surveys, what we're calling responsiveness and representativeness. And so there are several factors that can influence responsiveness and representativeness and so today we're talking about survey administration modes as determinants of survey responsiveness and representativeness. So I'm excited about this program. As I said, you're going to hear today from survey methods researchers who have worked on CAHPS efforts for many, many years and who are leaders in this field. So with that, I'm going to turn this to Marc Elliott.

Marc Elliott

Elliott, Slide 13

And I'd like to start by talking about some work that was done with colleagues at a variety of institutions and the motivation for this work, as Caren said, is that it's an increasing problem to try to combat low response rates for hard-to-reach populations in particular.

Elliott, Slide 14

And the standard survey approaches using mail and phone usually receive lower response rates for younger adults, adults under age 35, often less than a 30% response rate. And we looked at it here in the context of the Child HCAHPS survey because this population has a number of younger adults, in this case the respondents are parents of pediatric patients.

Elliott, Slide 15

The questions that we asked in this work were was it possible to achieve high response rates in this population? In other words, is this a population that's fundamentally unwilling to complete surveys in large numbers or are there methods out there that might allow us to do that? In particular, we had interest in email since we were looking at a series of hospitals that had unusually high proportions of email addresses collected and we wanted to know how response rates for email alone and email in combination with other survey modes compared to the response rates that were obtained by standard mixed mode.

Elliott, Slide 16

So for background, the Child HCAHPS survey, which is the Child Hospital Consumer Assessment of Healthcare Providers and Systems Survey, was used for an experiment in which we sampled almost 4,000 parents of pediatric in-patients from six large children's hospitals. And we randomized them equally to six arms and I'll describe that design.

Elliott, Slide 17

We either had an incentive or not, those are the columns. And the incentive was $20. We used one of three survey modes and those are the rows. So the first row is what CAHPS calls standard mixed mode so a regular US Postal Service mail survey followed by a telephone followup of mail non-respondents.

The other rows involve things that were less traditional. So in the middle row we looked at a commercial overnight delivery service, which has an envelope which draws the potential respondents' attention to the survey and indicates, perhaps, that it's particularly important, followed by telephone followup of those respondents. So that's essentially substituting this overnight delivery service for regular USPS mail.

And then the third approach was a three stage approach so that people were first contacted by email, if they didn't respond then there was the overnight delivery service, and then people who didn't respond to that were followed up by telephone. And so we looked at all six combinations of these three sequential delivery processes and whether we had an incentive or not.

Elliott, Slide 18

And so the next slide summarizes what we found and what we found was that each of these row two and row three helped and also the incentive helped. Let me say a little bit more about that. So across the whole design, on average, the incentive increased the response rate by about 15 percentage points versus not having an incentive. Secondly, if you compare the overnight delivery service to the US Postal Service with telephone followup of each, you get about another 12 percentage points for the overnight delivery service. And then when you add the email on top of that for the three stage procedure, you get about a 14 percentage point jump over the standard mixed mode approach. We didn't find an interaction. In other words, the incentive effects just added to the effect of these multi-stage approaches in each case.

Elliott, Slide 19

And here are the actual response rates. If you look in the upper left corner, the 29% response rate that was achieved with the standard mixed mode approach is typical of what we often see with that approach in a typical hard-to-reach, low response rate population such as adults under 35. And then you can see that even without an incentive, you're looking at response rates that are closer to 40% by either adding the overnight component or having the three stage component. And then in some cases when you added the incentive, as well, you're looking at response rates higher than 50% and almost approaching 60% with populations where the response rates are often half of that.

Elliott, Slide 20

This next slide provides some additional information and thoughts about these results. The headline message here, and I'll describe the basis for this, is that here email worked but it only works when there is traditional followup. When you just use no incentive and you did the US Postal Service and phone, then you got about half of your responses by phone. When you go down to this third row, and you use the overnight delivery service, this is an expensive approach and it's just the mix of mail and telephone dramatically. Rather than getting about half or even more than half of your responses by phone, now the vast majority of your responses are in response to that overnight mail.

Now what happens if we throw in the three stage approach? If we do the three stage approach, it's got about half the responses that you get are by email and then only a quarter to a third of them are by overnight mail, leaving, again, about a quarter of them or less by telephone. So what you see in terms of the nature of the responses is that stacking email, which is intended to be the least expensive mode up front, even if it doesn't really change your overall response rate much, it may shift the modes that are used and it may have an impact on cost. The other thing that's notable is that email by itself, depending up whether there was an incentive involved, produced the lowest response rate of all. It produced a response rate on the order of 15-25%. And so if we had just stopped at email, we would have gotten a much worse response rate than the traditional US Postal Service followed by the telephone followup. In the case of no incentive, we would have gotten about half the response rate that we would have through that traditional method.

Elliott, Slide 21

So to summarize, it's not the case that even low response rate hard-to-reach populations can't achieve high response rates. If you use techniques such as overnight delivery service or incentives, then you can take the response rate as much as 25 percentage points higher from less than 30% to the 50-60% range. Now some of these techniques are expensive and they may not be practical for some implementations but at least we learned from this that it's not that these respondents are unwilling to respond under any circumstances. In terms of the multi-stage approach that begins with email, when you add an email to an approach that already had these other two stages, in this case the overnight delivery service and the telephone, you didn't really change the response rate that you got but, as I alluded to earlier, it's possible that you achieve the same response rate in this multi-stage approach but possibly with less cost since it's substituting email responses for things like overnight delivery and telephone followup.

And then just to emphasize, we also learned that, and you'll see this theme in some of the other studies that follow, is that email by itself produced a really poor response rate, worse than standard methods, but it did seem to have a potential role as part of a multi-stage approach where it was linked to other methods.

Elliott, Slide 22

A few implications, so for young adults, again, a high response rate is possible and email added to a mixed mode procedure can preserve a response rate, possibly at a lower cost. And again, email by itself resulted in very poor response rates and although this was just done in a particular setting, so the parents of pediatric in-patients, we think that the patterns seen here may generalize to other groups and you'll see in the following talks some evidence of that.

Elliott, Slide 23

I'd like at this point to pass the presentation to Layla.

Layla Parast

Parast, Slide 23

Thank you, Marc. I'll be speaking today about testing the feasibility of the Emergency Department Patient Experience of Care, the EDPEC Survey, and I'll specifically be talking about our experience testing a web survey.

Parast, Slide 24

So I'd first like to note that this work was funded by CMS but I take full responsibility for what I say here today.

Parast, Slide 25

And I'd also like to acknowledge our large study team at RAND and CMS and Health Services Advisory Group.

Parast, Slide 26

So just a little bit of background about the Emergency Department Setting. Nationwide there are over 130 million emergency department visits annually. Most emergency department patients are discharged to the community, which just means they're discharged home as opposed to, for example, admitted to the hospital. The development of the Emergency Department Patient Experience of Care Survey began in 2012 and it was designed to measure the experiences of patients who are discharged home from the emergency department. Our development began with a call for topics. We've had multiple literature reviews, multiple technical expert panels, and while this is not a CAHPS Survey, it was developed with CAHPS principles in mind and we've had ongoing meetings with the CAHPS Consortium. We've had multiple rounds of cognitive testing of potential survey items, both in English and in Spanish. And we've had multiple field tests, which I'll talk about today.

Parast, Slide 27

Our first field test of the survey was conducted in 2014 with 12 hospitals and then in 2016 we conducted a mode experiment with 50 hospitals. Both of these were experiments in that patients were randomized within hospitals to different mode protocols. For both experiments, the three mode protocols were mail only, telephone only, and standard mixed mode, which was mail with telephone followup. For both, our overall response rate was quite low at about 20% and particularly low in the mail only mode. So for example, in the mode experiment we had a 13.7% response rate by mail only. We also learned from both of these experiments that the contact information for emergency department patients was less accurate and less complete as compared to admitted patients. For both of these at the same time we were doing some experimentation with admitted patients, so patients who had an in-patient stay in the hospital, and so we were able to compare the accuracy of the contact information between those two populations.

Parast, Slide 28

So motivated by these results in our field test and the mode experiment, we wanted to conduct some additional experiments to answer these research questions: can the use of a web survey increase response rates in this hard-to-reach population? And what methods of web survey invitation are most effective? And by a web survey I mean an electronic version of the survey that's online so a respondent either clicks a link or they can type it in and they're taken to a web browser that contains the survey questions and they answer the questions within that web browser. It could be completed on any device with internet and if they leave the web survey and come back, we save their spot.

Parast, Slide 29

So we began with what we call Feasibility Test I. This was conducted in 2016 with eight hospitals and the goal was to explore novel administration modes. We had five different mode protocols. One of them was actually in ED distribution so we've heard a lot from people that we should try handing out the survey in the emergency room right when they're discharged so we did try that and it was problematic so our response rate was 9.3% and we saw a possible bias in distribution. For example, in our debriefings with hospital staff, they told us that they were much less likely to hand out the survey to someone who was unhappy at discharge. Two of the five protocols that were tested were web-only protocols. One was an emailed link to the web survey. The other was a paper invitation that was mailed to the patient that had a URL and a PIN such that they could log in and complete the survey online. For both of those, the response rates were very low at less than 5%. So we really learned here that a web-only approach was not going to work for this population.

Parast, Slide 30

Next we moved on to Feasibility Test II, which is what I'll talk more about, where our goals were to continue to test novel approaches to try to improve response rates to our surveys and specifically here to examine different push-to-web strategies. So learned from Feasibility Test I, we can't do web-only but wanted to focus on web-first approach where we try to push as many people to access and complete the web survey and then followup with non-web components. By push-to-web strategies I mean, for example, email, text, and then paper invitation with a URL, and also the use of QR codes, which are those black and white squares you can use your phone to take a picture of it and it takes you to a website. And lastly to explore challenges associated with collecting the contact information we would need for a web-first approach, so collecting email addresses and information we would need to be able to text patients.

Parast, Slide 31

Feasibility Test II was conducted in 2018. It involved 16 hospitals. We sampled almost 27,000 emergency department patients and the majority of adult emergency department patients were eligible so this is not restricted to Medicare patients. Patients were randomized within hospitals to one of nine survey arms and our reference arm was standard mixed mode, so mail with telephone followup.

Parast, Slide 32

The other eight arms involved some form of an invitation to the web survey, so one or a combination of email invitations, text message invitations, or mailed survey invitations with a URL and a PIN code and/or a scannable QR code. And importantly, by text message invitation I don't mean that we're texting the individual questions to patients, I mean that we are texting a link to the survey, you click on the link within the text and it takes you to a web browser with the survey. All eight arms involved three to four web survey invitations or

reminders. All arms involved sequential mixed modes. And all eight arms had mail and/or telephone followup after the three to four web survey invitations.

Parast,, Slide 33

The overall response rate across all nine arms was 18.6%, so still lower than we'd hope. The highest overall response rate was in the email plus mail plus phone arm where we saw a 27.3% response rate but this was not significantly higher than our reference arm, the mail plus phone, which had a 25.5% response rate. All of the other arms had a response rate less than 25.5%. The only arms that got us a response rate over 20% were those with a telephone component, so email + mail + phone, which was 27.3, mail + phone 25.5, and then we also had an email + phone arm, which was about 22%.

Parast, Slide 34

In terms of responses by completion mode, we had 4.8-7.5% of sampled patients completing by web. The arms with text invitation had the highest percentage completing by web. So we had two of the nine arms that involved the text invitation and both of those had 7.5% completing by web, which is a sizeable percentage when you consider the overall response rate was 18.6%. Our analyses found that the use of a paper invitation and a QR code were not useful in terms of improving response rates. Not surprisingly, in arms with telephone, the majority of responses were by telephone. And in the email plus mail plus telephone arm, which is the arm where we saw that highest response rate of 27%, we saw significantly fewer responses by mail and phone compared to the standard mixed mode, kind of telling us that the use of an initial web mode has the potential to perhaps reduce costs associated with mail and telephone contact. A web-only approach again will not work but seems to be kind of skimming people off the top in a web-first approach.

Parast, Slide 35

Our analysis of respondent characteristics found that the inclusion of a phone component increased representation of respondents who were less likely to respond by other modes, so those who are younger, minority, less healthy, frequent emergency department visitors, and those without a usual source of care.

Parast, Slide 36

With respect to contact method for a web invitation, for web survey invitations, like I said, email was one of the contact methods and your invitation to the web survey is only going to be as successful as, you know, if you don't have someone's email address, it's going to be very hard to invite them to the web survey by email. So we saw that in this setting that our email coverage rates across hospitals varied dramatically, by that I mean the percentage of patients who had an email address in the hospital contact information. The overall rate was about 30%. And text coverage rates also varied. And we considered somebody textable if they had a mobile number in the hospital contact information and if they provided consent to text. So all of our texting was done in accordance with Telephone Consumer Protection Act regulations so we required documentation of patient consent to text. A patient had to have both a mobile phone number and consent to texts for us to be able to text them. Overall we found that only 11% of our patients had only an email address. 19% had both email and text, meaning we were able to both email them and text them. 40% had only text and 30% had neither email or text. So at least in our population, texting dramatically increased the reach of the web survey.

Parast, Slide 37

Our lessons from Feasibility Test II, overall response rates in this setting are still low, regardless of administration protocols. The highest we saw was that 27%. And even in that email plus mail plus phone arm, no arm performed significantly better than standard mixed mode. And although it's the most expensive mode,

phone surveys do capture a segment of the population that may not respond otherwise and especially for this emergency department setting we found that a phone component is necessary and leads to increased response rates and increased representativeness.

Parast, Slide 38

Specific to lessons learned about a web survey, like I said, email coverage rates vary dramatically and that was really important. One of our hospitals only had 0.4% of their patients that had an email address even though they said they collected email addresses. And while text message did increase the reach of the web survey and we were very excited about our results, it is important to make sure that texting is done in accordance TCPA regulations and think about the administrative procedures that need to be in place to ensure that you have that documented consent to text.

Parast, Slide 39

And lastly with respect to completion by web, again, we saw that 4.8-7.5% completing by web, which for us was a meaningful percentage given our overall response rate and really tells us that for our emergency department we do consider the web survey, at least the web-first approach to be promising as long as there is some non-web followup by mail and/or phone.

Parast, Slide 40

And if you have any questions, please feel free to email any of us...

Parast, Slide 41

...and I will now pass it on to Paul Cleary.

Paul Cleary

Cleary, Slide 41

Thank you very much. I'm going to continue the discussion of studies of different types of survey protocols, different protocols. One is going to be a fairly classic experiment comparing electronic and mail surveys. The second one has to do with texting. It's not completed yet but given the interest by our constituents in texting I thought it would be useful to present some preliminary results. Research questions are similar to what you've seen so far, that is how do the response rates of web and mail surveys compare? And how are the characteristics of respondents to web and mail surveys similar or different?

Cleary, Slide 42

The study was done in a practice or an organization with three practice sites in Greater Boston. The reason we conducted this study is at that site, the majority of the patients have signed up for a patient portal. If you've seen in the two presentations today and other studies in the literature, the responses to web surveys tend to be relatively low and we are very interested whether in a group of patients who already had signed up and were using electronic means of communication we could do better for people who had that portal and for whom there are email addresses. So as comparison group we also sampled patients who had not signed up for the portal and had no email addresses. This was a study using the CAHPS Clinician and Group Survey and there was four survey protocols, which I'll now describe to you.

Cleary, Slide 43

The first protocol, and patients were randomized into these four protocols, was the standard mail survey. We sent a mail questionnaire, reminders, second questionnaire. The second condition was a mixed mode where we sent a postal advance letter, email letter with the URL link, email reminder, and then a postal mail survey. The

third was a web survey where we emailed a letter with a URL link to the survey and then two email reminders to non-respondents. And the fourth was web through portal, in other words the patient got an email notification to look for messages on the portal, a letter and email with link to the survey, and everyone was sent an email reminder.

Cleary, Slide 44
For patients without email addresses, we just conducted a standard mail protocol so we could compare how those patients were similar or different in terms of response rates and characteristics.

Cleary, Slide 45
Generally we were interested in response rates, who responded as related to the representativeness question that you've heard before and then whether there were differences in patients' experience response or CAHPS scores.

Cleary, Slide 46
A simple version of the response rates comparing the web and web and mail shows that the main difference was for web-only, which as you've seen in other studies, was substantially below the mail protocol and the mail and web protocol. As you've seen in the other studies if you combine web and mail, you can get close to in some other studies greater response rate than mail but it's essentially comparable when you use mail and web but web is substantially lower than either the conditions using a mail survey.

Cleary, Slide 47
One thing that surprised us is there were no differences in the age, education, or racial, race and ethnicity of those responding to the three protocols and I'll get back to why we think this may be the case later. Females were slightly more likely to respond to the mixed protocol. That may just be a random effect.

Cleary, Slide 48
We looked at several different measures. We had four CAHPS composites. The overall rating, there were three items, supplements for the Patient-Centered Medical Home addendum and two item composite measure and there were an additional four items that we compared.

Cleary, Slide 49
Basically there were no significant differences in any of the four composite measures, provider rating, or the Patient-Centered Medical Home measures. Of the five other comparison, there was one statistically significant difference, such as those in the mixed mode protocol were more likely to say they were asked about depression.

Cleary, Slide 50
When we compared the portal and direct email link, the response rates were similar. If you may remember, I presented the response rates to mail and web was about 20%. The portal got about a 17%. Those over 65 were more likely to respond if they did not go through the portal. No differences in the composite measures, the provider rating, or the PCMH measures. That's between people who are approached through the portal and the direct email link. And of the additional comparisons, only the Shared Decision Making composite was significantly different.

Cleary, Slide 51
When we took the comparison group of patients without email addresses to other patients' response rates were higher for those with email. Those with email were more likely to be under 65, more likely to be college graduates, and more likely to be female, consistent with a lot of research on respondents to email surveys. Of

the nine key measures, there was only one statistically significant difference. And on the five supplemental measures, there were three significant differences.

Cleary, Slide 52
These results are quite different than many other studies because the respondents to the electronic modes were very similar in terms of their characteristics and their responses were very similar but I should caution everyone that this is a very ungeneralizable study. In this particular practice, there were 70% were college grads, over 90% were non-Hispanic, white, and over 80% had enrolled in the portal program, which means they use the Internet. So although we think it indicates there are possibilities using this method I want to caution everyone that it's a very atypical group and so the findings probably don't generalize to other situations.

Cleary, Slide 53
If you looked at the results as they are you could say if this survey had been done entirely on the Internet, in other words we hadn't expended any effort or expense on mail surveys, and we offered no mail alternative, the response rates would have been quite different, about half, 20% by the web and even lower by portal but the characteristics of the respondents would have been comparable and the substantive results for all the measures would have been comparable. Again, keeping in mind the caveats that I mentioned earlier.

Cleary, Slide 54
The summary of the patients without emails, they are slightly less likely to respond. Their characteristics were different. Responses for the four core composite measures, the provider rating, and the PCMH measures were very similar to those with email addresses and differences on the additional items suggest that they may have some different experiences.

Cleary, Slide 55
So the conclusions, the response rates to web and mail are very different and this particular study, which again is atypical, the survey results were very, very similar. Responses from those without known email addresses were also similar but were differences in reports and some experiences.

Cleary, Slide 56
If one wanted to use the Internet to collect CAHPS data to address concerns about low response rates and possible different perceptions in experiences of those without email, one conclusion is that a web survey should be combined with alternative mode. Mail seems to be the best at this time from what we're seeing in various studies to improve response rates and to include those who do not use email.

Cleary, Slide 57
Let me now just present some brief results from a survey using texting. These are preliminary but again, I thought I would share some of them because of interest in this issue. So the first question was does using SMS for survey invitations affect response rates? Does using SMS for survey administration affect results?

Cleary, Slide 58
This study was done with a convenience sample and one of the participants asked about what some of the HIPAA concerns. We may come back to that but this is a convenience sample of people who are in a panel who had had a recent physician visits. There were basically three conditions: email invitation to a web survey, SMS invitation to a web survey, and an SMS invitation to an SMS survey, in other words they would send an SMS invitation if they responded, the survey was administered by text one question at a time. I should emphasize when you see some of the results that we used what is called a modular approach so when we texted the survey

to people, we used just part of the survey. For example, the communication posits plus some core items so they were much shorter than the full CAHPS survey.

This is a question we get all of the time. What if we did a shorter survey and we did it electronically?

Cleary, Slide 59
These kinds of studies start to address that. There were differences between individuals who responded to a web survey and an SMS survey similar to the kinds of differences that Layla described. Responses were highest in email to web versus SMS to web and SMS survey. So the lowest was when SMS was used for both solicitation and surveys the response rates and completion rates were actually lower. I'm not going to present the detailed results but I'll say the maximum here was 14%. So the idea that we can cheaply contact a large population electronically and get a high response rate is more difficult than many of us think it might be. The SMS completion rates in addition to having a lower response rate were 10% lower than the web. And the SMS survey respondents tended to provide more positive responses.

Cleary, Slide 60
So this is a quick and preliminary summary but the uses of SMS are often less representative of a whole population compared to those who use Internet versus mail. SMS may complement other methods for eliciting surveys but still there are very important limitations and it's very difficult to conduct full surveys using SMS.

Cleary, Slide 61
Let me take a couple minutes to say what I think are the overarching messages from these three presentations as well as other work that people on the call and people on the Consortium have done. First is that response rates to all types of surveys have been declining for many years. It's not just CAHPS surveys. All types of surveys by all modes have been decreasing for a variety of reasons. Response rates are very important but representativeness is also important and often is not assessed. In other words, you could double your response rate and that may be good because you get more patients and more power and you get more surveys per dollar but it might not improve the representativeness of the sample and in some instances it may be less representative of the population you're trying to make inferences to.

It's true, increasing numbers of people use electronic methods such as email, patient portals, and SMS to communicate but low response rates and poor representativeness remain serious limitation for these types of surveys in spite of this increase that we see all around us.

Cleary, Slide 62
Aside from this focus on electronic methods to increase response rates, the previous two presentations emphasize that high response rates by traditional modes are possible even for very hard-to-reach populations.

It's true that some affect the strategies, like overnight delivery service and incentives may not be feasible or cost effective but as Marc pointed out, you can increase response rates and this and other research we've done show that mail surveys can yield high response rates but many survey protocols are not optimal and studies not presented here have examined variations in a variety of aspects of this survey and have shown that there are very, very large differences in response rates due to things that could be easily improved and adjusted in traditional surveys.

Another message that comes through each of these presentations is the different populations respond to different contact and survey modes. So mixed protocols often yield the best response rates and

representativeness. It's not just that you get more people by doing both phone and mail, but often because complementary people respond to those modes you get a more representative sample.

Cleary, Slide 63

As you've seen, using email or portals to contact patients typically lead low response rates. Respondents to electric contacts often differ from other respondents so caution is required when we're using these modes. Using email, web, or SMS in combination with other strategies can achieve the response rates of traditional mixed methods and may reduce overall cost but anticipated savings aren't always realized. So for example, there may be more followup required. There are costs to getting emails into tracking those kinds of surveys and so on so we should be cautious about assuming that using electronic methods will reduce costs.

Cleary, Slide 64

Factors in mail surveys to consider, evaluate, are things like sponsorship, contact and survey material design. For example, in older adults in a study I mentioned a more attractive layout compared to a least attractive layout increased mail response rates by 15-20%. Protocol timing and intensity and using different strategies, for example, a well-known delivery service that conveys urgency, there's a large literature on factors that we can do to improve mail and telephone surveys and often we're not taking advantage of those. It's pretty clear the best approach often differs by population but several different basic approaches would improve response rates in many applications much more than shortening surveys. The differences we've talked about today are much bigger than any differences we see by cutting surveys dramatically in length. So even though there's a perception that shortening surveys will increase response rate, we think people would be better advised to focus on really maximizing the protocols for…

Cleary, Slide 65

…distributing and collecting surveys.

Cost is important, obviously, but representativeness of data is the sine qua non of survey approaches. If we don't have a representative sample, then it doesn't really matter how efficiently we did it. I think a basic conclusion is electronic methods used alone are not ready for prime time and the Consortium and many people throughout the country are continuing to do research on diverse contact and survey methods including different permutations and combinations of these methods. I think with that I will turn it over to Stephanie.

Stephanie Fry

Fry, Slide 65

Thank you. With that we will move into the…

Fry (closing), Slide 66

questions portion and so just to remind you about how to ask a question. You can type into the Q&A box and you may need to select the button with the three dots at the bottom of your screen to open the Q&A section so that it appears on your screen. And, again, please be sure to send your questions to all panelists. Again, depending on the browser that you're using, your WebEx screen may look slightly different from what you see here. We have few questions that have come in already so we will start working our way down the list and get to as many as we can here.

Paul and Layla, I will ask you both to respond to this based on your experiences. We've had some questions and wanted to ask you to describe your experience using text messaging protocols for administering CAHPS surveys.

Paul Cleary

Layla, do you want to start?

Layla Parast

Sure. Happy to answer that. I would say that the most challenging thing we found about using text messaging for the web survey invitation was making sure we were in accordance with TCPA regulation like I mentioned. During a lot of our early work we kept hearing that, "You have try texting. You have to try texting that's how you're going to get this population to respond." So we tried it and it took a lot of effort to get hospitals recruited who were willing to give us documentation of that patient consent to text. We did leave it up to the hospitals and their legal departments to determine what consent to text meant but they had to literally give us a field for every patient that said whether they consented to text or not. And for one hospital that consent rate was 1.3% and for another it was 85% so it varied a lot and their methods for getting consent varied a lot and I think that that will make a big difference in terms of trying to implement a survey more broadly that uses texting.

That being said, we did find that it did reach a lot more people just like ED physicians and administrators told us it would. We were able to invite a lot more people to the web survey. We saw people completing the web survey the day we sent it, both by text and by email but was certainty something that we don't see in a mailed survey to get that kind of turnaround. It also highlighted the importance of mobile optimized survey. Even if you're just using email, of course it's important to make sure your survey is mobile optimized because the majority of people will likely be completing it on their phone so we spent a lot of effort making sure that our survey was mobile optimized and looked attractive so we did everything we could to avoid any wrapping of text, any required horizontal scrolling, we did a lot of testing with colors and layout and design and we continue to explore that. So, yeah, I think it's promising but there are certainly still a lot of challenges.

Paul Cleary

I would echo everything Layla said. What I presented were data from a convenience sample, which was a web panel. There were two other experiments we planned that we had abandon because impractical constraints. We're very excited about working with PBGH on a texting survey and because of concerns they hired counsel in California and basically the bottom line was they said the patients had to have given explicit consent before they were contacted by texting. Because we would be dealing with practices throughout the state, we explored it and questioned and the bottom line was it was just unfeasible, we would never get a large enough sample.

Subsequently, we were very excited that the Yale New Haven Healthcare System was excited about doing a texting experiment and they told us they had permission but it turned out they only had the adequate permission that would enable contact by texting for a relatively small proportion of their patients. They had generic permissions and some sub-samples had permissions but it just, again, was not feasible. That may change over time if healthcare systems start to get permission to text individuals but people should be aware it can be a major barrier to using those techniques and I agree to everything else Layla said about optimizing the survey for different platforms and so on.

We've pretty much come to the conclusion it's not feasible to do a complete survey that one would probably revert to a modular approach where you got a subset of the survey from subsets of the patients and then combine the data to form an integrated score.

Stephanie Fry

Thanks, Paul and Layla. Moving through to some other questions. Marc, we have a couple of specific questions about the work that you did and a request for some information about how soon after discharge did you mail the survey and how long was the survey questionnaire?

Marc Elliott

I will have to defer answering those questions but I can provide that by email shortly. I will say that the approach followed the Child HCAHPS protocol but I want to be sure that I answer that accurately so I'll followup on that by email.

Stephanie Fry

Absolutely. Thank you, Marc. And we have a couple of questions that I think many of you may be able to weigh in on so one of them is what would you recommend as best administration methods for Medicaid enrollees?

Marc Elliott

This is Marc. I'll just make a couple of comments related to this and then I'm sure that others will have comments as well. Some of the things that we've noticed with Medicaid enrollees is that, at least comparing the standard modes of mail and telephone, you tend to get a higher proportion of responses by telephone relative to mail in the mixed mode protocol with Medicaid enrollees possibly due to lower literacy so that having the telephone phase or some phase, some component that doesn't rely on higher literacy can be helpful. Also, depending on the particular Medicaid population, having instruments available in a variety of languages can be important, as well. On to others.

Stephanie Fry

So I'll sweeten the question a little bit. We also had another question about specific populations and this one about any recommendations that the panelists may have about reaching populations over age 65.

Marc Elliott

This is Marc. I'm going to again make an initial comment. First, in general, response rates that we've seen across a variety of CAHPS surveys tend to rise with respondent age until they level off often around 80-84 and then tail off a little bit at that point so in some ways respondents who are, say, 65-79 are often the easiest respondents to approach and to get high response rates from.

That said, a few other observations. One is that this is a population where you tend to get more responses by mail than by telephone. And secondly, in one of the studies that Paul alluded to earlier, we found that if you do have a mail survey, and we think this finding might generalize to other visual presentations, for example, some web or electronic-based approaches. While it's a good idea for any population to have a clear, visually appealing, uncrowded layout, we found some evidence that it makes a much bigger difference with older respondents than with younger respondents. So I think one thing I would emphasize is the importance of visually clear and appealing layouts.

Paul Cleary

This is Paul. I agree with Marc's comments to both questions. I was on mute before. The only thing I was going to add on Medicaid is that when we've done experiments trying to optimize Medicaid responses, the accuracy of contact information is often a huge proportion of the non-response. So in Medicaid populations, one of the things you can do is try and ensure accuracy of contact information and that's one speculation why mail response rates are so low but everything else I agree with.

Layla Parast

Mm-hmm (affirmative). And this is Layla. I didn't comment on the Medicaid question because for the emergency department experiments we unfortunately didn't have any information about insurance so I can't comment on the Medicaid population there. And like what Marc was saying, we did see that older patients were much more likely, we were able to capture them with a mail component but it was really the younger, minority, less healthy patients where we really needed a phone component. So I guess at least for our population, I would strongly emphasize that phone is absolutely necessary for us as a component in whatever sequential mixed mode we're going to do. We do need phone. We heard repeatedly that a web survey would get the younger population and it did get a younger population but not as much, it didn't do as well as phone.

Stephanie Fry

Thanks, Layla. And Layla, I'm going to keep you on the hot seat for a moment. There are some questions about abandonment rates for web surveys.

Layla Parast

Mm-hmm (affirmative).

Stephanie Fry

And what can you say about abandonment rates and to the extent that you know it, how often do people return to complete surveys? In what way are you prompting them to do that and do you think that survey length has an impact on abandonment rates?

Layla Parast

Mm-hmm (affirmative). Sure. Our survey was 38 items, and I can say that of the patients who accessed the web survey, so by that I mean they clicked the link and at least got to the introduction page. 89% of them completed the survey by web so that was higher than we expected. And those that didn't complete the web survey, they tended to just, they saw the introduction screen and then just never came back. It was rare for someone to start answering questions and then not complete. Of course that did happen but it was mostly that people just the introduction screen, that 11%, and then didn't complete the survey. In terms of starting and coming back to the survey, so if someone started the web survey and then didn't complete it, they did continue to get reminder emails and they could, and we saved their spot like I mentioned so if they answered the first ten questions and then quit, they would get a reminder email and they could access it again on a completely different device even and we did see some device switching and complete the survey there. The device switching was I think 1-2% so not very many but we tried to make it as easy as possible to leave and come back.

We did a lot of analyses of the paired data collected from the web survey, so device type and how people actually access the web survey, how long they spent on each question and when people tended to pause a while on a question, it tended to be at the beginning of a new section. So nothing very surprising there but we were looking to see if there was a particular question where people tended to quit the survey right there, obviously that would be an indication that there might be a problem with that question but we really didn't see that. I think I answered all those questions.

Stephanie Fry

Thank you, Layla.

Layla Parast

You're welcome.

Stephanie Fry

We also have some questions that I think a couple of you can respond to about your respective work about how many email attempts do you think is ideal in terms of that portion of the data collection segment?

Layla Parast

This is Layla. I can comment on that at least for the ED population. Like I said we tried three to four reminders, and we had two different technical expert panels that focused on protocol refinement and got a lot of advice about whether we should test different numbers of reminders, and we settled on three to four. I believe the research shows that the more reminders you are going to get a bump in response rate, but you don't want to completely annoy everyone that you're trying to contact, so we felt like four, based on the research we saw and the panel members, we felt like four was our max that we were willing to go. And we did find that of the people who completed the web survey, the biggest chunk of them completed after the first invitation. It's like if they were going to complete it, they're going to complete it that first time otherwise they're kind of just going to ignore all of the reminders but we did see bump at the second and the third invitation. The fourth we saw a much lower bump in response so our recommendation for this population is actually to keep it at three web survey invitations because we really didn't find that that fourth was that useful and better to move on to the non-web mode like mail or phone.

Paul Cleary

This is Paul. In our study do the experiment but on the email contacts we used two contacts really for the reasons Layla mentioned. You get the most of the contacts in the first one, and the site was actually reluctant to have too many email contacts and a lot of the net responses you get are moving to mail or phone and so we just sort of felt it was, we didn't do the experiment, but we felt it was best to move on to the other modes to try and maximize response.

Stephanie Fry

Thank you.

Paul Cleary

Also a timing issue. The more you do, the more it drags out the survey.

Stephanie Fry

Mm-hmm (affirmative). Absolutely understood. Paul, we have a followup question that [inaudible 01:09:26] to respond to asking about the impact of HIPAA on the verbiage that you used in the SMS invitation. Can you say a little bit about how HIPAA has impacted how some of your approaches have evolved?

Paul Cleary

Well, as I said, the study we did was a web survey where people had signed up and agreed to be contacted by SMS and they were not patients so it was very atypical. In the sites where we've tried to do studies, and by consulting with counsel, their advice was that we had to have explicit, you can't just contact someone and say is it okay to contact you by SMS. They have to have given explicit permission to the provider to be contacted by SMS for them to release their telephone number. At least that was the advice we got at PBGH and New Haven, I don't know if they got explicit legal counsel on that but that was their position that they only would text to people who had given explicit permission to be contacted by text.

Stephanie Fry

Thank you, Paul.

Paul Cleary

It's not whether we had the right language. It's sometimes in mail we often do passive consent. We say this is voluntary and you don't have to do it. SMS is a different situation. The very act of contacting the person is felt to be intrusive enough or people are defensive enough about it that the feeling is you're not allowed to do that without prior explicit consent. I'm sure that varies and people on the call may have different experiences but that was our experience in a couple of settings.

Stephanie Fry

Thank you. Marc, there are a couple of specific questions about the work that you have done. In your use of overnight mailings, how did you ask people to return the surveys? And also, can you say a little bit more about the incentive that you used in your experiment?

Marc Elliott

So the people were given a post-paid envelope to respond to the either USPS or the overnight delivery and the $20 incentive was provided in the way where it wasn't contingent upon your completing the survey as is often the case because there is evidence that incentive is effective when it's offered even if it's not contingent upon response.

Stephanie Fry

Thanks for that, Marc. Paul, a followup for you. You mentioned attractive design for surveys and there is a request for a little bit more information about what you mean by attractive design.

Paul Cleary

Well, it's really what Marc was referring to. I worked with Marc on a project, and a number of colleagues where we used subjective criteria and objective criteria and had to do with things like clarity and layout and how cluttered the designs were. And a lot of it follows pretty basic design principles, but we went through and looked at how different vendors prepare their contact materials and surveys. If you sit down with a group of people and look at them, the net effect is quite dramatic in terms of what one considers attractive and easy to understand and that showed up in the response rates. As Marc mentioned, one of the interesting results, which we think is very, very plausible, is that those effects were more pronounced in older respondents who might be more sensitive to confusing or crowded or cluttered layouts. Marc, do you want to elaborate?

Marc Elliott

Sure. I agree with everything that Paul said and to say a little bit more, as you might imagine there are some trade-offs sometimes, though not always, between a layout that's clear and one that's longer. Even when we examine that trade-off, we found something that occupied a little bit more space but was easier to read and more visually appealing compensated almost always for extra length and so one of the things that seemed to be the case is that cramming things into a smaller amount of space to save pages really causes more harm than good in terms of people's decision to participate in the survey. I should also say that the work describing this is in press, and once that appears we can make the journal article describing these findings available.

Paul Cleary

This is Paul again. One other thing we didn't present here because some of the work is not finished but the Consortium's also doing research and experiments on the elicitation language in letters. The Consortium had a research conference last year about response rate and representativeness and one of the issues that came up was the type of messages that one sends to potential respondents can be very important and we're finding fairly big differences when you randomize different messages and we're trying to get more systematic information on that as we go forward so that we can maximize those messages. The idea of sending very wordy, repetitive messages may work against response rates whereas if we customize messages and modify them for different contacts, that may have a different effect.

Marc Elliott

Along the lines of what Paul was describing. This is Marc again. There is another ongoing effort which found that a simplified cover letter increased response rates for a survey with a particularly hard-to-reach population by four percentage points at absolutely no cost. I totally agree with Paul that there's a lot of potential with no cost trade-offs but just improving key aspects of layout and invitation and a lot of these aspects of surveys that often get overlooked.

Stephanie Fry

Thank you. That's great and you've just preempted the question around with cost trade-offs what would you recommend so for that question asker, there you go. I also have a question here about text messages and did you limit the number of characters on the messages that you were sending?

Paul Cleary

I'm forgetting the exact details but the answer is yes. We had to modify some of the response tasks is my recollection and/or survey questions and the details are escaping me right now. Layla may remember more of those details.

Layla Parast

Mm-hmm (affirmative). I can say for the ED experiment we did, of course, limit the characters. I can tell you exactly what the text were because I opened them up in front of me. We sent two texts. The first one said, "Please take a short survey about your recent ER visit at," and then it was the brief hospital name and then a short link to the survey. I'll have to count the characters there but it's not very long. And then the second text says, "Message and data rates may apply. Text stop to stop survey texts."

Paul Cleary

My recollection is some of the response tasks, not all of them, but some of them had to be reworded. Layla may remember the details on their experiment.

Layla Parast

Mm-hmm (affirmative). Right, well we didn't do any texting of the actual survey questions so we didn't have to worry about that.

Paul Cleary

Oh, that's right.

Layla Parast

It was just the invitation. But certainly that would have been a problem.

Paul Cleary

I'll have to look that up. Yeah, they do have to be modified and we're trying to get a feel for what difference that would make.

Layla Parast

Mm-hmm (affirmative).

Stephanie Fry

And there was a followup question to ask each of you about when your surveys were fielded. I think people are just trying to see what point in time your research represents. Layla, do you want to kick this one off?

Layla Parast

Sure. The Feasibility Test I that mentioned that had the within ED distribution and the web-only was in 2016 so it was January to March 2016 discharges so the fielding actually occurred into May and June. For Feasibility Test II, which is what I talked most about with the texting and the email with the sequential mixed mode that was discharges that occurred January through March of 2018, with administration continuing through May and June. And those results from both of those are published in Survey Practice and publicly available.

Marc Elliott

And this Marc, and the study that I described took place much earlier. The actual discharges were in April through July 2013. I'll comment that one of the interesting and frustrating things that we've seen is we've been pursuing email only or electronic only approaches for a number of years now and we keep thinking that if we use a younger set of respondents or if we wait a few more years they'll start surpassing the response rates that we get from things like mail with telephone followup but a comparison of some of what we are seeing in 2013 and five years later shows, unfortunately, not nearly as much progress in those response rates as we might have hoped.

Stephanie Fry

Thanks, Marc and Layla. Paul, I have a followup question for you. You had referenced the feasibility of doing a modular survey administration using text messaging where subsets of questions would be asked to different populations and then combined. Can you say a little bit more about how that would work and how feasible you think that would be?

Paul Cleary

Yeah, there's actually two approaches we've used. One is a texting and I may have misspoken. Some of the surveys were short in the experiment I mentioned but some of them were single questions. In other words, you administer one question at a time. We're also about to do something where we distribute using mail and phone traditional methods a modular approach, in other words you take a subset of the questions and administer them to a subset of the patients and then you can combine them and actually do imputation if you have some common items across patients.

We're pretty sure it's not going to be efficient or a good thing to do. The reason we're doing it is because so many people ask about using a shorter survey. If you think about it, you have to get an increase in response rate to the shorter survey that would compensate for the loss of information, including only one composite, for example. So you'd have to at least get double or quadruple the response rate and we've seen absolutely no evidence that decreasing survey length, even quite dramatically, increases response rates.

We have seen on the upper end when people had too many supplemental items, for example, the HCAHPS there may be a fall off in response rates but we don't think there's going to be much advantage to just using modulars and PBGH actually did a survey like that and got almost the same response rates, if I recall correctly, that they got with the full survey. It's very feasible and we know how to do it statistically and how to create the scores. My speculation is that it's not going to prove to be worthwhile to do and in fact that there'll be a net loss of information because the small if any increase in response rate in the shorter surveys will not even come close to compensating for the loss of information.

Marc Elliott

This is Marc. I completely agree with what Paul said. A few more comments. Just to quantify some of what Paul's describing in several of the studies which I'm aware, you're talking about the changes in response rates of maybe two percentage points for every dozen items or so. Really quite small. I completely agree that putting core items on and off in a modular way results in a net loss of data compared to the something like that than keeping them on. There have been some studies where when people have a large set of supplemental items and rather than putting them all on at once they sometimes put sort of non-core items on and off in a modular fashion but I completely agree that it's a losing trade-off to put essential items only on a subset of the surveys.

Stephanie Fry

Thank you both for that. I think we have time for maybe just one more question so let me go ahead and ask one more question about a presentation of surveys and with regard to collecting data and preparing surveys that have two languages on them that are placed side by side so the survey itself would be bilingual. Any thoughts about the potential effectiveness of that sort of approach?

Paul Cleary

One strategy we've used that has been quite effective, we call it the Canadian model. I happen to be Canadian and in Canada, people from there will recognize that almost everything you get has a French version and an English version. If you get a survey in Canada or any kind of document, it's English and French and we've tried that and that has been relatively successful. It's more expensive and it makes the document longer, a little unwieldy but it certainly can be done.

Marc Elliott

This is Marc. I agree and like Paul's, although in this case not French and English, we've conducted and published a study about a randomized experiment where anyone with a high predicted probability of speaking Spanish was given both an English language survey and a Spanish language survey in the same envelope and, as Paul says, it increases mailing costs. On the other hand, it caused dramatic increases in response rates for, in this case, lower SES, low response rate, Spanish-preferring plan members so it may be a trade-off worth making in terms of hard-to-reach groups.

Stephanie Fry

Thank you very much and thank you to all of you for your presentations today.

Fry (closing), Slide 67

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Fry (closing), Slide 68

If you have questions or comments, for example if you asked a question here today and we didn't have an opportunity to respond specifically to the question that you've asked, please go ahead and followup with us here by email or by phone. You can always reach us and we're happy to get back to you with any further information that we can to help support your efforts.

Fry (closing), Slide 69

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