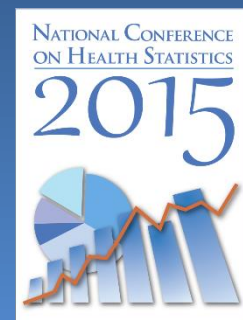


Web data collection among office-based physicians:

*Insights from the Physician Workflow Study
and implications for the 2015 National
Electronic Health Records Survey*

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*The findings and conclusions in this report are those
of the authors and do not necessarily represent the
official position of the Centers for Disease Control
and Prevention*



Objectives

- To provide insight about offering a web survey option to a cohort of physicians in their final year of a panel study.
- To describe the current web experiment we are conducting to understand how the additional mode may impact physician response.

Introduction

Physicians are difficult to survey

- Competing demands; dynamic environment; receive many requests to participate in surveys
- Dilemma - How to maximize participation?
- Rely on: branding; legitimacy of data; careful packaging; multiple follow-ups; non-monetary incentives
- What about offering them multiple modes to take the survey? (exposure to different physicians)

Data collection

National Ambulatory Medical Care Survey (NAMCS)

- Mail surveys on Health IT:
 - Physician Workflow Study (2011-2013)
 - Electronic Medical Records Supplement (2008-2011); Rebranded as National Electronic Health Records Survey (2012-current)
 - State estimates since 2010.
- Follow mail-in/mail back format with telephone follow-up. (Dillman)

Physician Workflow Study

- Panel of office-based physicians from the 2011 NAMCS Electronic Medical Records Supplement followed over 3 years (2011-2013).
 - Meet NAMCS eligibility requirements
 - See Ambulatory patients
 - Office-based settings
 - Mail in/Mail back with phone follow-up
 - 2nd year we obtained physician email addresses.
 - 3rd year we offered a web option

Physician Workflow 2013

To reduce attrition, physicians were invited to web through 2 methods:

- **Via email**
 - Using valid emails from 2012 (n=1,937), ~37% of the entire cohort were sent an email invitation to web in 2013.
 - Email reminders sent 1 week before each milestone.
- **Via US mail**
 - 100% of the entire cohort (n=5,258)
- Follow-up for non-response to web
 - 3 questionnaire mailings with telephone follow-up.

Findings from 2013 Physician Workflow Study

Among the 4,634 eligible/unknown eligible cohort of physicians:

- 16% were web respondents
 - Of which,
 - 51% completed web survey through the email
 - 49% completed web survey through the US mail
 - 61% of those completing the web through the US mail had provided email addresses in 2012.
- 19% were 1st mailing respondents
- 10% were mail follow-up (2nd /3rd mailing) respondents
- 8% were phone follow-up respondents
- 48% were Non-Respondents

Findings

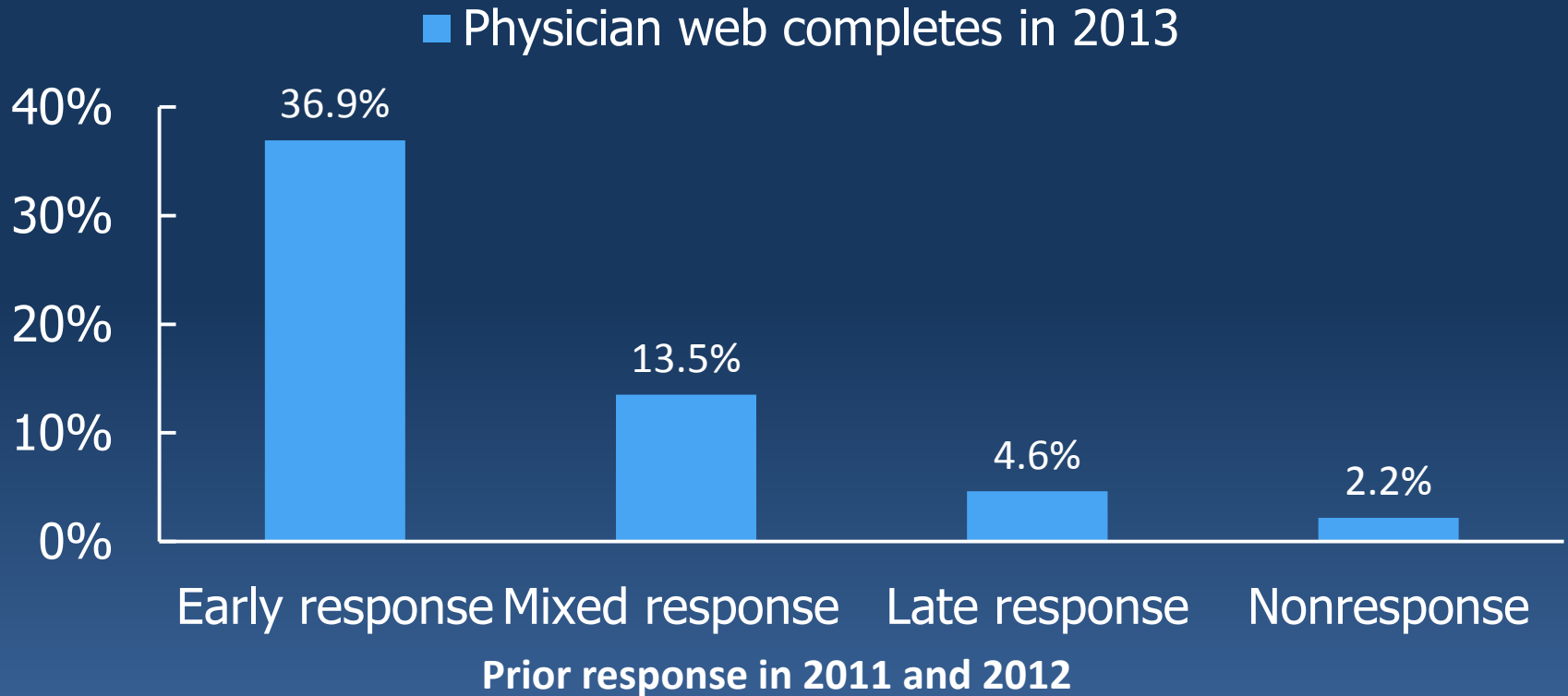
Percent of physicians who responded by each mode

	Web	First mail	Mail follow-up	Phone follow-up
Who completed survey (N = 2,383)				
Survey completed by office staff	0%	22%	14%	63%
Physician completed survey	37% *	40% *	19% *	4% *
Practice ownership (N = 2,396)				
Not physician-owned	34%	37%	16%	13%
Physician-owned practice	28% *	36%	21% *	15%
Practice size (N = 2,396)				
Solo practice	25%	40%	18%	17%
2 physicians	30%	34%	19%	18%
3-5 physicians	30%	38%	18%	15%
6-10 physicians	36% *	33% *	19%	12% *
11+ physicians	35% *	35%	21%	9% *
EHR use (N = 2,399)				
Does not report EHR use	28%	38%	18%	16%
Reports EHR use	31%	36%	19%	14%

Notes: Total sample size is 4,632. Overall 2013 web response rate is 16%. * indicate significant differences ($p < 0.05$) from the first category of each variable

Source: CDC/NCHS: NAMCS Physician Workflow Study, 2013

Physicians completing 2013 web by response status in 2011 & 2012



Notes: Total sample size is 4,632, excludes ineligible physicians. Overall 2013 web response rate is 16%. For 2011 & 2012 response: early response is mail both years, mixed response is 1 year mail and 1 year phone; late response is either phone both years or 1 year phone and 1 year nonresponse; nonresponse = nonresponse both years. Response rates calculated according to AAPOR definition 1.

Source: CDC/NCHS: NAMCS Physician Workflow Study, 2013

Findings

After data collection:

- **Web: US mail invite vs. email**
 - Among the eligible physicians with emails (n=1,824)
 - 20% completed the survey via web.
 - Among eligible physicians without email addresses (n=2,808)
 - Only ~5% completed by web (n=138)
 - 61% of the US mail push to web respondents had also received email invitations, suggesting the US mail was helpful in facilitating the web response.

Lessons Learned from Physician Workflow study

Physicians from the 2013 Workflow cohort

- Overall 28% of physicians completed by web
- Motivated physicians in the cohort participated in web
 - Physicians providing email addresses in 2012 made up 81% of total web responses in 2013
 - 37% of early responders to 2011 & 2012 surveys completed by web in 2013.
- Lack of variation in web response by physician age, sex, or specialty.
- Given 100% web surveys were completed by physician, higher web response may improve completion by target respondent.
 - An experiment is needed to understand different response preferences in overall web and approaches to push to web.

2015 NEHRS Experiment

Objective

- To determine whether offering an additional web option will improve physician's response to the National Electronic Health Records Survey (NEHRS)
- To evaluate push to web approach and does this result in different response rates?

2015 NEHRS Experiment

2015 National Electronic Health Records Survey

- 10,302 office-based physicians sampled from AMA/AOA frame.
 - 9,700 physicians from the AMA
 - 602 physicians from the AOA
- Challenge: We do not have email addresses on all physicians for email push to web
- Experiment is limited to physicians with emails.

Process for Experiment eligibility

- Need a valid email address for all NEHRS sample.
 - National Provider Identifier (NPI)
 - NPI is issued by CMS
 - NPI is not available for 100% of AMA/AOA
 - SK&A Physician Database has NPI and email addresses.
 - Three questions required to meet experiment criteria for the experiment:
 1. Is the NPI information available for physicians in our sample?
 2. If available, does the NPI match the SK&A database?
 3. If NPI matches, is there a valid email address present?

Experiment Selection Methods

Among the 9,700 physicians from AMA

- 95% had a valid NPI (n=9218)
 - 70% of MDs with NPI matched SK&A (n=6416)
 - 53% had email addresses (n=3,371)

Among the 602 physicians from the AOA

- 98% had valid NPI (n=591)
 - 3.1% DOs with NPI matched SK&A (n=19).
 - 53% had email addresses (n=10)
- DOs were not included given low match.

Experimental Design

Treatments (n=3,371)	Description
T1 (n=843)	<ul style="list-style-type: none">Email push to web + control
T2 (n=843)	<ul style="list-style-type: none">US mail push to web + control
T3 (n=843)	<ul style="list-style-type: none">US mail and email push to web + control
T4 (n=842)	<ul style="list-style-type: none">CONTROL: 3 mailings + phone

2015 NEHRS Schedule

2015 NEHRS Field period:

- 8/10: US mail push to web (T2/T3)
- 8/12: email push to web* (T1/T3)
- 8/24: 1st mailing (T1-T4)
- 9/14: 2nd mailing (T1-T4)
- 10/5: 3rd mailing (T1-T4)
- 10/19-12/18: Phone follow-up (T1-T4)

*email reminders sent 1 week ahead of milestones

Next steps

Look into any selection bias:

- What are the differences between physicians with and without email addresses which may be related to SK&A physician database?

Evaluate the 4 experiment groups:

- Among physicians with email addresses:
 - How did web treatments' response rates differ from controls? From each other?
 - Did offering web option result in earlier response?
 - Cost implications?

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- For any questions about this study please contact:
 - Eric Jamoom – ejamoom@cdc.gov

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