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Medical Expenditure Panel Survey

Challenges and Solutions in Data Collection Following the Pandemic

Agenda

- MEPS background
- Overview
- Impact of COVID-19 on MEPS data collection
- Computer Assisted Video Interviewing (CAVI)Implementation
- MEPS Electronic Authorization Forms
- Closing remarks
- Questions

MEPS
Medical Expenditure Panel Survey

Background – MEDICAL EXPENDITURE PANEL SURVEY (MEPS)

- Sponsored by the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services.
- Began in 1996
- A set of large-scale surveys of families and individuals, their medical providers, and employers across the United States.
- Collects data on:
  - The specific health services that Americans use
  - How frequently they use them
  - The cost of these services
  - How they are paid for

Background – MEDICAL EXPENDITURE PANEL SURVEY (MEPS) (cont.)

- Major MEPS Components
  - Household Component (HC)
    - Data from household respondents reporting for members
  - Medical Provider Component (MPC)
    - Collects data from a sample of providers who provided medical care to MEPS Household Component respondents.
    - Collects data on dates of service, use of medical care services, charges and sources of payment.
  - Insurance Component
    - A survey of employers that provides data on employer-based health insurance.

Background – MEPS Household Component

- A nationally representative subsample of households that participated in the prior year's National Health Interview Survey (NHIS)
- MEPS household component employs a panel design which features several rounds of interviewing covering two full calendar years.
- Historically 5* rounds of CAPI per sample year (panel) at 6-month interval
- Collects over 25,000 interviews per year from respondent reporting for entire household
- Provides annual estimates of health care cost and use as well as health insurance coverage for civilian U.S. population

*Due to pandemic, two panels were extended to 9 rounds to offset lower response rates

Background – MEPS Household Component (cont.)

MEPS HC collects data for each household member including the following:

- Demographic characteristics
- Health conditions and health status
- Use of medical services
- Charges and source of payments
- Access to care
- Satisfaction with care
- Health insurance coverage
- Income and employment

Overview of Innovations

- For the Medical Expenditures Panel Survey (MEPS) Household Component two major innovations flowed from the COVID-19 pandemic:
  - Computer Assisted Video Interviews
  - Electronic Authorization Forms
- All efforts relate to:
  - Respondent burden reduction
  - Increased efficiency
  - Data quality
  - Higher response rates
- Pandemic pushed MEPS-HC to implement innovations

Impact of COVID-19 on MEPS-HC Data Collection

- Pivoted completely to telephone in late-March 2020
  - Contact, particularly for new households, was problematic
  - Show Card use for options was difficult, even with web option
  - Round 1 response rate fell ten points into low 60s
  - Later rounds dropped in similar fashion but from a starting point in the 90s

Year	Round 1 Response Rate
2017	74.4
2018	72.9
2019	71.2
2020	61.7
2021	60.1
2022	61.5
2023	65.0

Impact of COVID-19 on MEPS-HC Data Collection (cont.)

- Prior to 2020, between 5 percent and 8 percent of interviews were conducted by telephone. Following March 2020, the shift back to in-person was a challenge.
- In spring 2021:
  - Round 1 - 71.7% of interviews conducted by telephone
  - Round 3 - 96.4%
  - Round 5 - 98.2%
- In fall of 2021 a significant shift back to in-person took place.
  - Round 2 - 33.8%
  - Round 4 - 39.7%

Impact of COVID-19 on MEPS-HC Data Collection (cont.)

- The collection of SAQs on health status and diabetes, and authorization forms for the MPC needed to procure relevant records from medical providers and pharmacies was impacted.
  - Required to FedEx forms and incentives rather than distribute in person
  - Had to provide BRE or establish contactless pick-up routines
  - Could not collect forms at the time of the interview
- Data quality a real concern due to mode shift
- Recruiting, staffing and training concerns
  - Required different staffing model
  - Required fully remote training

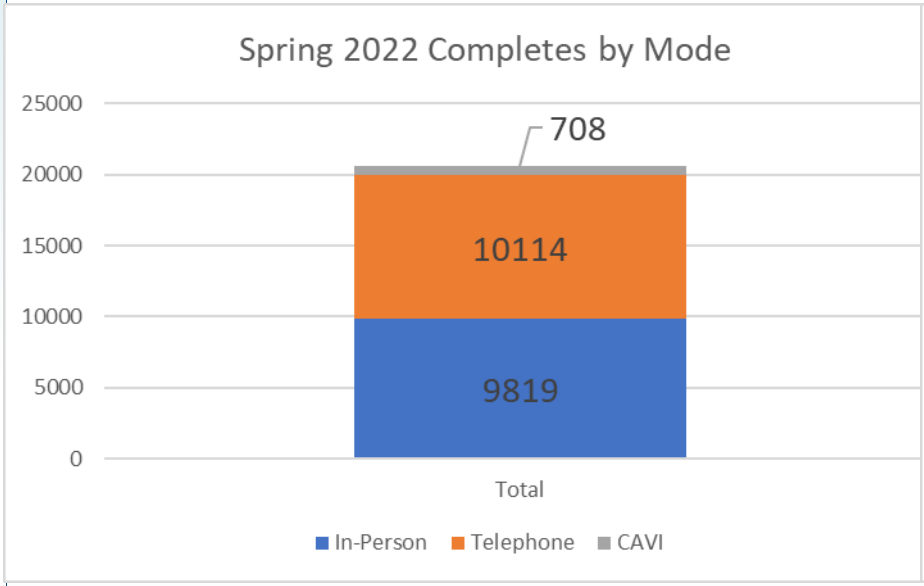
The Birth of CAVI on MEPS

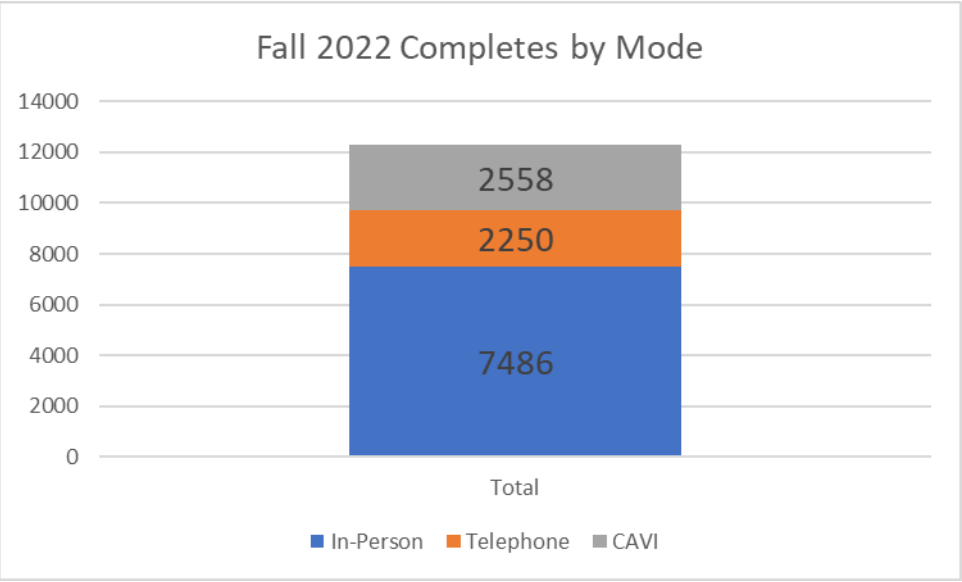
- Strong Push from Agency for Healthcare Research and Quality (AHRQ) away from phone when in-person was not possible.
- Compared to phone, CAVI Offers:
  - Better rapport
  - Sharing of electronic show cards
  - Visual sharing of medical records (when respondent on tablet or laptop)
- Interviewer setup (channeling MacGyver):
  - A laptop for the MEPS CAPI instrument
  - A cell phone (with LTE internet service) and stand for use of Zoom
  - An in-ear microphone and headset to facilitate CARI recording
- Respondent requires a computer or phone with an internet connection

CAVI: Full Implementation

- In 2021 very limited CAVI piloting
- Trained all 350 interviewers on CAVI (December 2021 – January 2022)
  - New procedures
  - New equipment
- Adjustments to protocols and systems for providing:
  - Authorization forms (more to come)
  - SAQs
  - $50 debit card incentive
  - The mode had been tested and interviewers more comfortable
  - Slow build of procedures, training and implementation in the field

Transitioning to Multi-mode – to CAVI, Away from Phone





- CAVI took time to take root on MEPS through 2022 as a significant mode alternative.
- However, by Spring 2023, 1/4 of all interviews were completed by CAVI
- Two exiting panels targeted for this mode, roughly half asked agreed

Mode Distribution for 2023

	Round						
Interview Type	1	2	3	4	5	9	Grand Total
CAVI	11.7%	9.1%	18.4%	23.5%	44.7%	38.9%	21.2%
By Telephone	5.0%	2.5%	9.8%	4.7%	42.9%	53.0%	15.1%
In Person	83.3%	88.4%	71.8%	71.8%	12.4%	8.1%	63.6%
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	Round						
Interview Type	1	2	3	4	5	9	Grand Total
CAVI	763	524	887	1059	1588	1163	5984
By Telephone	326	146	472	212	1524	1586	4266
In Person	5438	5096	3459	3240	440	242	17915
Grand Total	6527	5766	4818	4511	3552	2991	28165

Results: CAVI Respondent Characteristics by Mode

- In comparison to other modes, CAVI respondents tend to be more:
  - Young and middle-aged (18-54)
  - More educated
  - Either married or never married
  - NH white
  - English-speaking
  - Not living in single-person HHs
- No differences regarding the respondent's sex
- Differences are consistent across both data collection periods

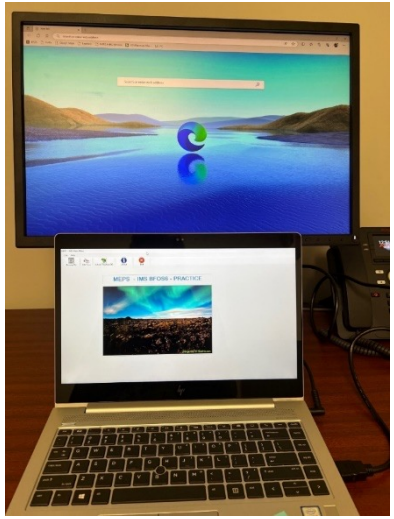
Conclusions from Preliminary Data

- Does adding CAVI introduce a mode effect in MEPS?
  - None apparent yet
- How does CAVI quality compare to CAPI and CATI?
  - Appears to be more akin to CAPI that CATI
    - CAVI interviewers maintain meaning of questions at a higher rate
    - CAVI has the lowest rate of questions with timing durations faster than 4 words per second
    - CAVI respondents reported higher use of records than CAPI and CATI
  - No strong evidence of measurement effects introduced by CAVI as a mode of data collection

Case Management Challenges with CAVI

- Deciding when to offer CAVI & to whom is greatest challenge – not random
- In-person interviews still gold standard but mode is flexible
- Rounds 1 and 2 targeted as in-person for rapport building and respondent training.
- Continued participation in later rounds by trained respondents is necessary for full calendar-year quality data with accurate event reporting.
- Rounds 3 and 4 CAVI targeted for:
  - Smaller households with more tech-savvy respondents
  - Households with less utilization
  - Respondents averse to interviewers in their homes
- Exit rounds (5 and 9) budgeted for telephone but targeted for CAVI

Solutions: The Building of a Team



- Expect all interviewers to be trained and conduct CAVI interviews
- Identified a core team of 17 interviewers that complete most of their interviews via CAVI
- Brought in specialized management of this staff
- Provided specialized equipment - a second monitor for the Zoom session and sharing of show cards
- Using team experience to build management systems akin to remote call center
- Telephone rate again targeted for no more than 5%
- CAVI targets can be adjusted for cost and efficiency throughout field period

Future Analysis: a Data-Driven Decision Tree

- Searching for a data-driven model to determine suggested mode of contact and preferred mode of interview
- Incorporate demographic, contact history, and utilization data to develop a decision tree for:
  - Contact
  - Cooperation
  - Mode of Interview with focus on:
    - Data quality
    - Respondent burden
- Allow skilled interviewers to make key decisions in process but arm them with a tool suggesting next steps

Switching Gears…
Authorization Form Collection During the MEPS-HC

- During interview, HH members are asked to sign authorization forms (AFs) needed for the Medical Provider Component of MEPS to contact providers for cost and use data.
- Signed forms requested for each unique person-provider pairing identified in the interview, including persons not present at the time.
- Medical provider AFs are requested for:
  - Physicians seen in an office-based setting
  - Inpatient, outpatient, or emergency room care received in a hospital
  - Care received from a home health agency
  - Certain stays in long-term care institutions
- Pharmacy AFs are requested for each pharmacy from which a household member obtained prescription medicines.

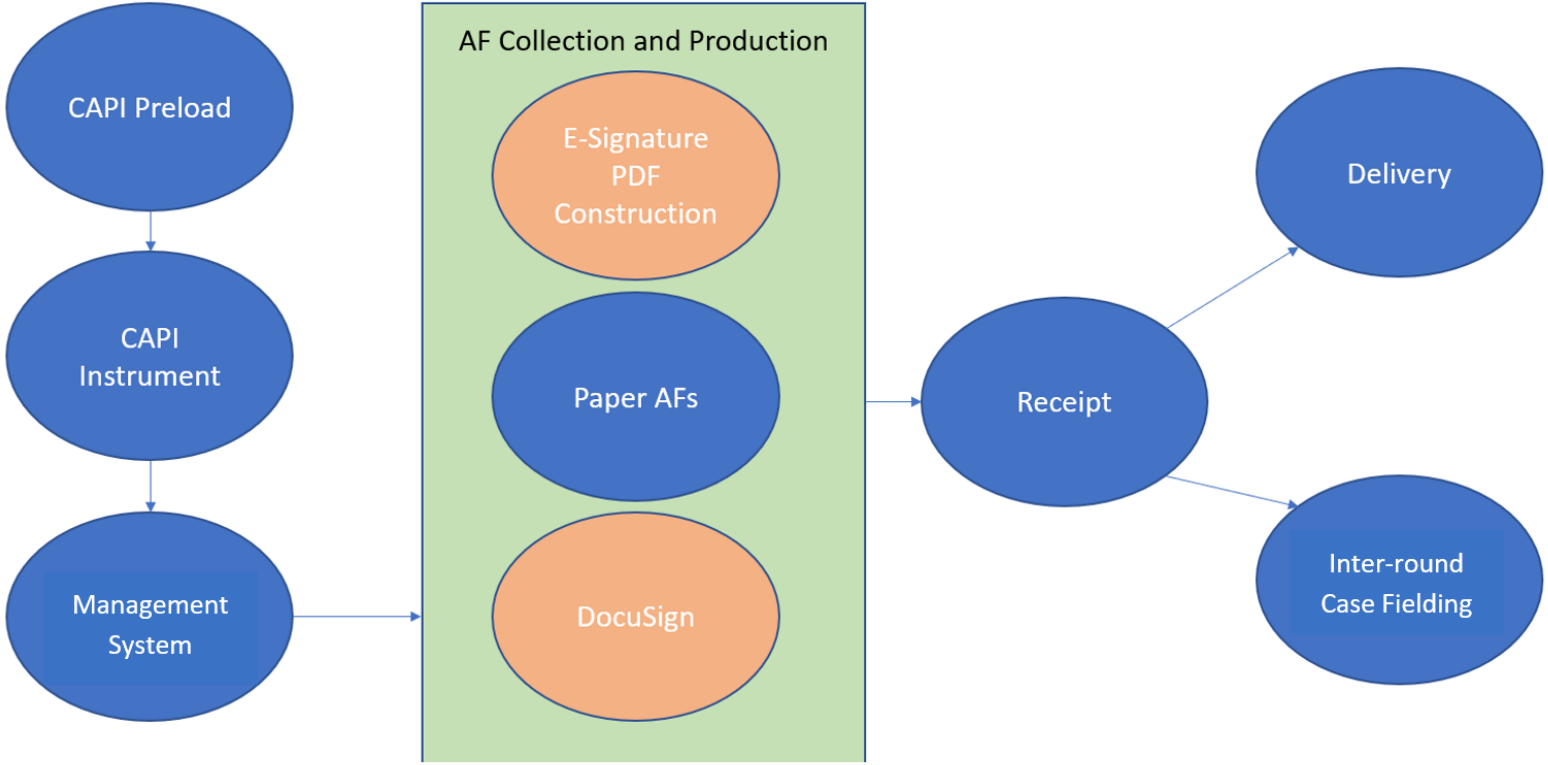
The Initial Goals

- Reduce costly and time-consuming paper form processes
  - Burdensome preparation, signing, and processing
  - Costly form retrieval including several reminders and form pick-up
- Offers greater security for PHI compared to paper forms
- Improve response rates by offering multiple signing options
  - Rates were declining pre-COVID and decline accelerated during COVID
- Produce a consistent form format for delivery with three sources:

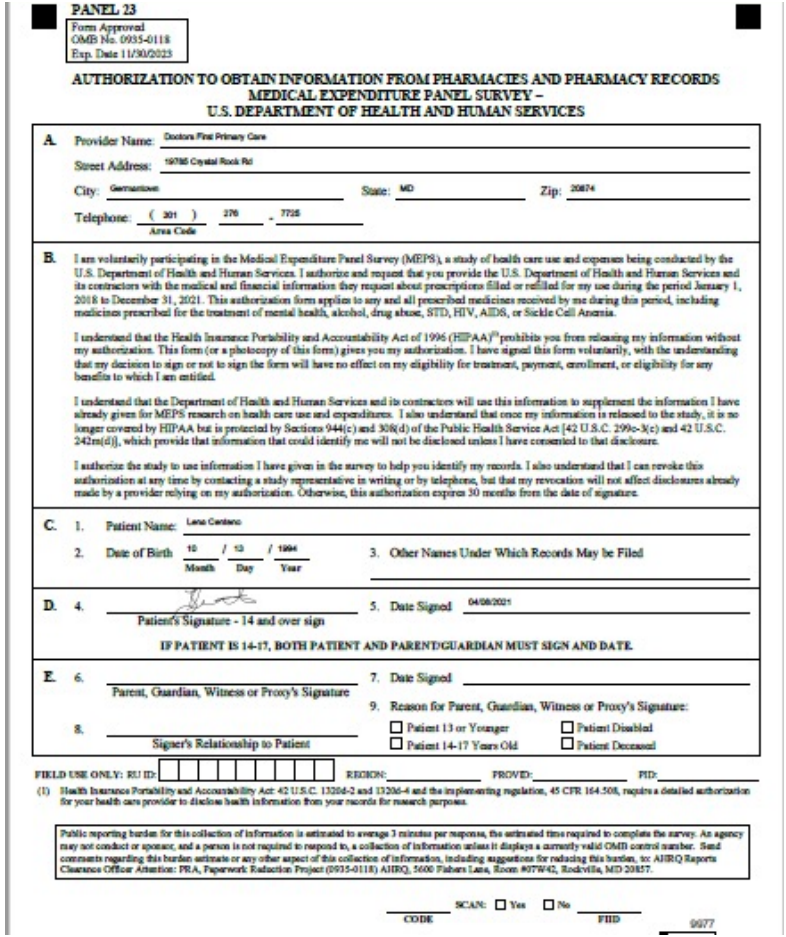
Paper	Laptop Signature	DocuSign

- Update receipt process for forms to fully electronic storage and review
  - Needed common stream for evaluation, processing, and delivery

Traditional and Updated AF Collection and Processing



Paper Authorization Form Layout



PANEL 23

Form Approved
OMB No. 0935-0118
Exp. Date 11/30/2023

AUTHORIZATION TO OBTAIN INFORMATION FROM PHARMACIES AND PHARMACY RECORDS
MEDICAL EXPENDITURE PANEL SURVEY –
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

A. Provider Name: Doctors First Primary Care

Street Address: 19785 Crystal Rock Rd

City: Germantown State: MD Zip: 20874

Telephone: (301) 270 - 7725
Area Code

B. I am voluntarily participating in the Medical Expenditure Panel Survey (MEPS), a study of health care use and expenses being conducted by the U.S. Department of Health and Human Services. I authorize and request that you provide the U.S. Department of Health and Human Services and its contractors with the medical and financial information they request about prescriptions filled or refilled for my use during the period January 1, 2018 to December 31, 2021. This authorization form applies to any and all prescribed medicines received by me during this period, including medicines prescribed for the treatment of mental health, alcohol, drug abuse, STD, HIV, AIDS, or Sickle Cell Anemia.

I understand that the Health Insurance Portability and Accountability Act of 1996 (HIPAA)[1] prohibits you from releasing my information without my authorization. This form (or a photocopy of this form) gives you my authorization. I have signed this form voluntarily, with the understanding that my decision to sign or not to sign the form will have no effect on my eligibility for treatment, payment, enrollment, or eligibility for any benefits to which I am entitled.

I understand that the Department of Health and Human Services and its contractors will use this information to supplement the information I have already given for MEPS research on health care use and expenditures. I also understand that once my information is released to the study, it is no longer covered by HIPAA but is protected by Sections 944(c) and 308(d) of the Public Health Service Act [42 U.S.C. 299c-3(c) and 42 U.S.C. 242m(d)], which provide that information that could identify me will not be disclosed unless I have consented to that disclosure.

I authorize the study to use information I have given in the survey to help you identify my records. I also understand that I can revoke this authorization at any time by contacting a study representative in writing or by telephone, but that my revocation will not affect disclosures already made by a provider relying on my authorization. Otherwise, this authorization expires 30 months from the date of signature.

C. 1. Patient Name: Lena Centano

2. Date of Birth 10 / 13 / 1994
Month Day Year

3. Other Names Under Which Records May be Filed

D. 4. _____
Patient's Signature - 14 and over sign

5. Date Signed 04/08/2021

IF PATIENT IS 14-17, BOTH PATIENT AND PARENT/GUARDIAN MUST SIGN AND DATE

E. 6. _____
Parent, Guardian, Witness or Proxy's Signature

7. Date Signed _____

8. _____
Signer's Relationship to Patient

9. Reason for Parent, Guardian, Witness or Proxy's Signature:
☐ Patient 13 or Younger ☐ Patient Disabled
☐ Patient 14-17 Years Old ☐ Patient Deceased

FIELD USE ONLY: RU ID: ☐☐☐☐☐☐☐☐☐ REGION:_____ PROVID:_____ PID:_____

(1) Health Insurance Portability and Accountability Act: 42 U.S.C. 1320d-2 and 1320d-4 and the implementing regulation, 45 CFR 164.508, requires a detailed authorization for your health care provider to disclose health information from your records for research purposes.

Public reporting burden for this collection of information is estimated to average 3 minutes per response, the estimated time required to complete the survey. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: AHRQ Reports Clearance Officer Attention: PRA, Paperwork Reduction Project (0935-0118) AHRQ, 5600 Fishers Lane, Room #07W42, Rockville, MD 20857.

_____ SCAN: ☐ Yes ☐ No _____
CODE FIID

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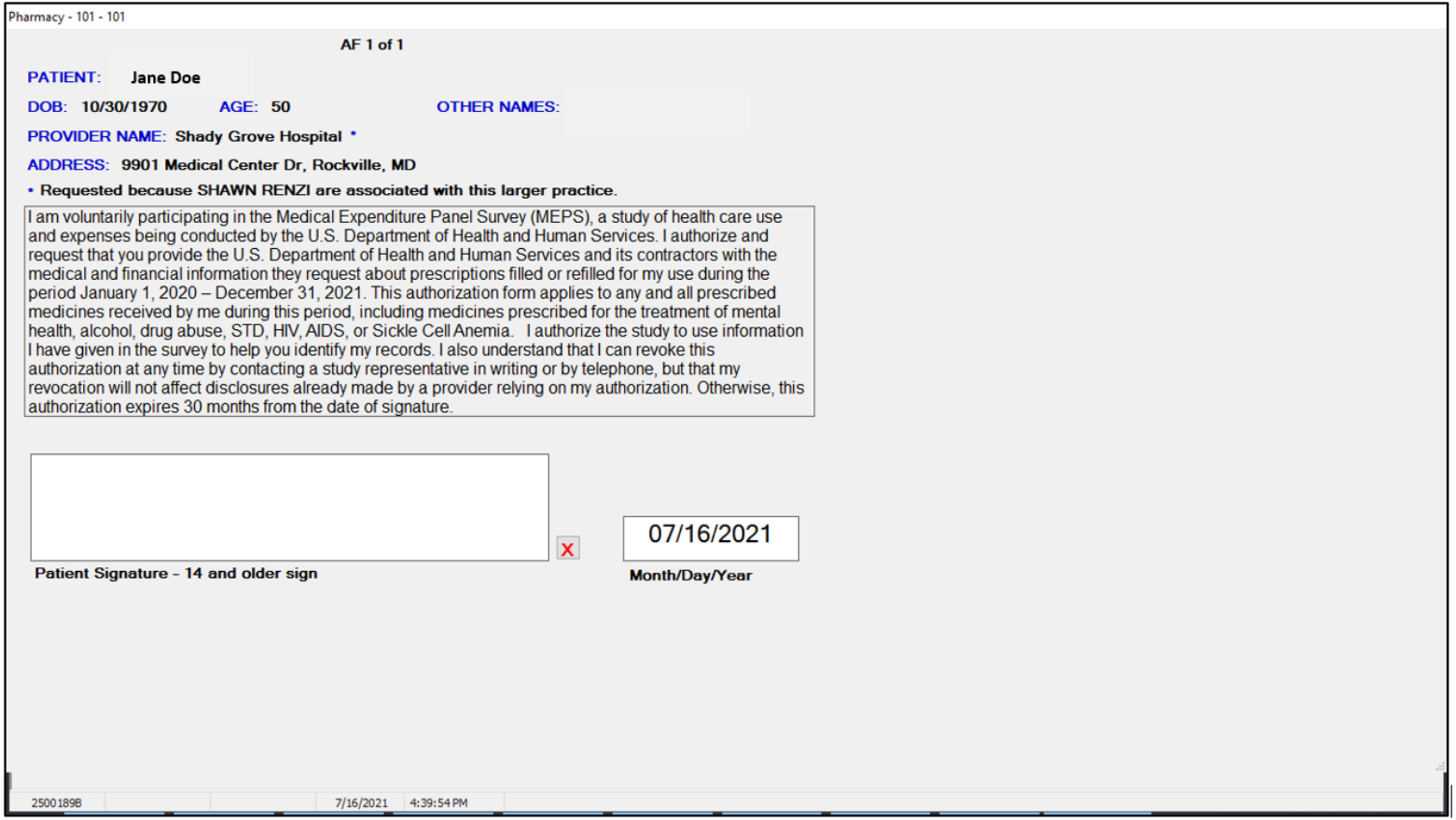
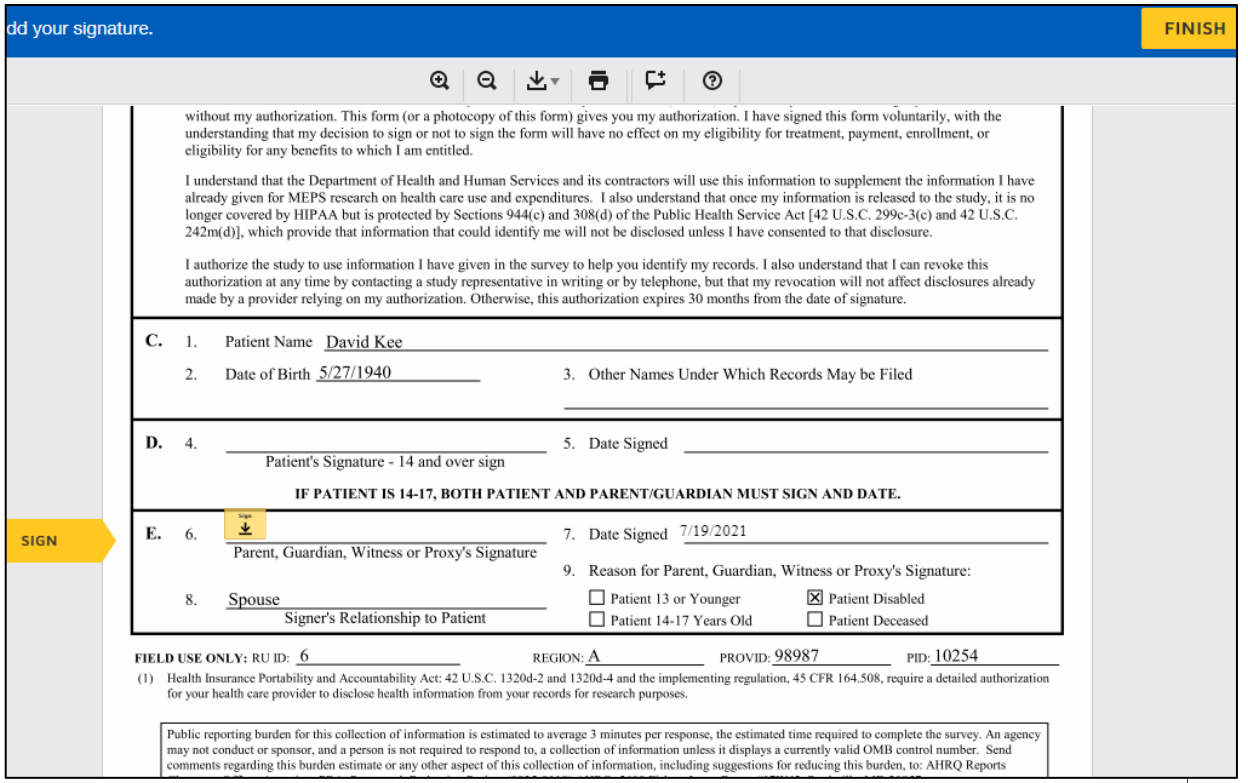
On-laptop Signature Application



How Does DocuSign Work in this Process?

- FedRAMP compliant DocuSign envelopes
  - Accessed via a link sent to individuals by email or text message
  - Contain one more pre-filled forms that require signature
  - Each envelope may have one or more signers
  - An individual clicks a link to review and sign documents



Medical Authorization Form Response Rates

Year	Percent
2017	75.2%
2018	75.9%
2019	66.1%
2020	52.8%
2021	56.7%
2022	68.9%

- Post-pandemic rebound hard to disentangle from mode shift
- Feedback from MPC indicates little pushback from providers on use of electronic or digital signatures of their patients (MEPS respondents) for AFs

Success of AF Transition to Electronic (2022)

Signature Method	Authorization Forms Requested	Authorization Forms Signed	Signing Rate (%)
eSignature	32431	30637	94.5%
Docusign	33535	22075	65.8%
Paper	16782	4352	25.9%
Total	82748	57064	68.9%

This process resulted in an 80% reduction in paper AF requests for respondents.

Options for Improving AF Response Rates

- Built new on-line solution to inform interviewers of completion for AFs:
  - Allowed for proper reminders over 21 days following interview
  - Documented attempts at follow-through
- Recognition that electronic AFs for other household members:
  - Hampers efforts of household respondent to assist in collection
  - Presents challenges of email and text reminders
- To rebuild household cooperation with HC respondent:
  - Considering construction of respondent portal that allows household respondent to follow up with other household members on completion
- Considering following up directly other household members

Closing Remarks

- Surviving the pandemic prompted the rapid development of MEPS innovations
- The electronic nature of innovation serves as a catalyst for rapid development of web-based respondent outreach
- Further exploration is needed for the development of a respondent portal
- CAVI, like CARI, requires fluid case transfers, scheduling, and monitoring
- Optimal CAVI team size yet to be determined
- Mode-fluidity is key to managing costs and response rates
- Modeling is key to maximizing response rates and data quality
- Innovation must be continuous on studies

Additional Related Research

- Jennifer Kelley, Jesus Arrue, Brad Edwards, and Rick Dulaney. Evaluating Potential Mode Effects in Video Interviews. 2023 ESRA.
- Jesus Arrue. Are video interviews for everyone? A look at respondents' adopting and leaving video interviews in a longitudinal survey of medical expenditure. 2023 FCSM.
- Lena Centeno, Jennifer Kelley, Jesus Arrue, Brad Edwards, Ryan Hubbard, and Rick Dulaney. Video Interviewing in Full Production: A New Mode Is Here to Stay. 2023 ESRA.
- Ryan Hubbard. Not Home? No Problem: Capturing Electronic Authorization for Multiple Household Members on MEPS. 2022 AAPOR.
- Monica L Wolford (AHRQ), Jill Carle, Rick Dulaney, and Ryan Hubbard. Electronic Advancements in Complex Multimode Collection: Using Digital Signatures to Access Medical Records on the Medical Expenditure Panel Survey. 2022 FCSM.

Thank you

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