

Supplemental Appendix

Bunce A, Middendorf M, Hoopes M, Donovan J, Gold R. Designing and implementing an electronic health record-embedded card study in primary care: methods and considerations. *Ann Fam Med*. 2022;20(4):348-348.

ASCEND CARD STUDY; ASCEND Card Study Questions

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Overview

Your clinic is part of a research study (ASCEND) that is exploring how best to support community health centers in incorporating patient-specific contextual information into clinic workflow. As part of this study, we are using a 'card study' to learn more about the types of information that influence point-of-care decisions. A card study is a simple way to investigate clinical and research questions that focus on understanding circumstances within which patients receive care. Typically clinic staff are asked to complete a few questions on a physical index card (hence the name 'card study'); in this case we will collect responses in the EHR. The questions do not become part of the patient's medical record, do not ask for any patient data, and take less than 1 minute to complete. The card study will take place [dates].

At each study clinic, we will invite two providers to participate in the card study. The research team selects these providers based on EHR data. We are employing the same selection criteria across study clinics. To be able to compare the data we gather, it is important that only the selected providers participate. As a token of our appreciation, each provider will receive a \$50 gift card. If providers cannot receive gift cards per your clinic's policies, a check can be sent to your clinic for general clinic use.

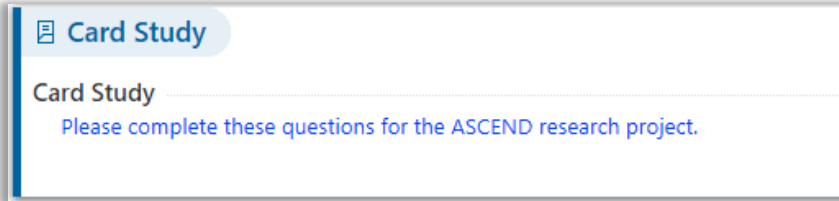
During the 3-week card study period participating providers will see a hyperlink in the Wrap-Up tab (as well as a prompt at close encounter) for two patients per day. Clicking on that link will take them to a short series of questions designed to explore the sources of information relied on during that clinical encounter. Below (pages 4-5) you can see what this looks like in the EHR.

Card Study Checklist***What information do we need from you?***


1. Can individual providers accept \$50 gift cards?
2. Have selected providers agreed to participate, and are they available [dates]?
3. Is there anything we should know about the providers' schedules (e.g., part-time, only certain days at study clinic, PTO during card study period, etc.)?
4. Information about selected providers:
 - a) Name and credentials as listed in Provider Master File
 - b) Epic ID (# provider uses to log into Epic)
 - c) Email if can accept gift card

Card Study WORKFLOW details

For a period of approximately three weeks [dates], you will see a prompt in the Wrap-up tab “Card study: Please complete these questions for the ASCEND research project” immediately following the office visit of two patients each day.



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If you click on the text highlighted in blue, it will take you to a pre-populated message with the study questions. Use your mouse or keyboard to move through the questions and select answers. If questions are covered up by a list, use the scroll bar and F2, or use Magnify Field  (F3 on your keyboard) to see the questions.

Bobby Zzzduck, Bobby
 Pref Language: English
 Pref Pronoun: they/them/theirs
 Male
 45 year old, 01/01/1973
 SSN: 999-99-9999

MRN: 1370001087
 Allergies: Meperidine (P...
 Health Maintenan...
 BestPractice (4)
 FYI
 Research: Active
 G4P2011
 Need Interp: No

Non Confidential
 PCP: Heidi F Groff, NP
 Prim Loc: DC BEND
 Phone: 541-425-1234
 MyChart: Active
 Patient Reminders: None +

CSN: 317935154
 Primary Payor: Se
 Primary Plan: Self
 Visit Payor: No Lin
 Visit Plan: No Link

Enter Research Request

This message will not be permanently saved to the patient's chart. Dismiss

Message **Options**

To ... **P OCHIN RESEARCH CLARITY EXTRACTION [12085]**

Cc ...

F5: Open search window

Subject: **CARD STUDY**

Patient: **ZZZDUCK, BOBBY [1370001087]** Patient Lookup

Phone: Call Me

Notes: Insert SmartText

1) Which of the following factors influenced the care you provided during this patient encounter (mark as many as apply)?
{CARD STUDY Factors:22981}

- * Clinical factors (e.g. history, lab results, medications, etc)
- * Patient preferences
- * Available resources (e.g. availability of specialty care, formulary restrictions, insurance requi
- * Other, what: ***
- * Patient-specific social and economic conditions (social determinants of health) {CARD STI

Accept
Cancel

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Once you have selected the appropriate responses, hit 'Accept' and you will return to the Wrap-up tab.

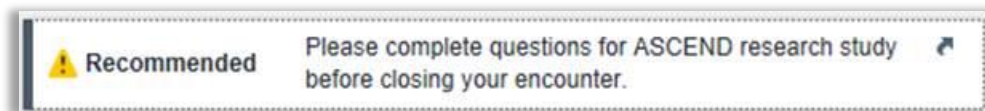
The card study now is marked as completed.

Card Study

Thank you for completing the questions for the ASCEND research project.

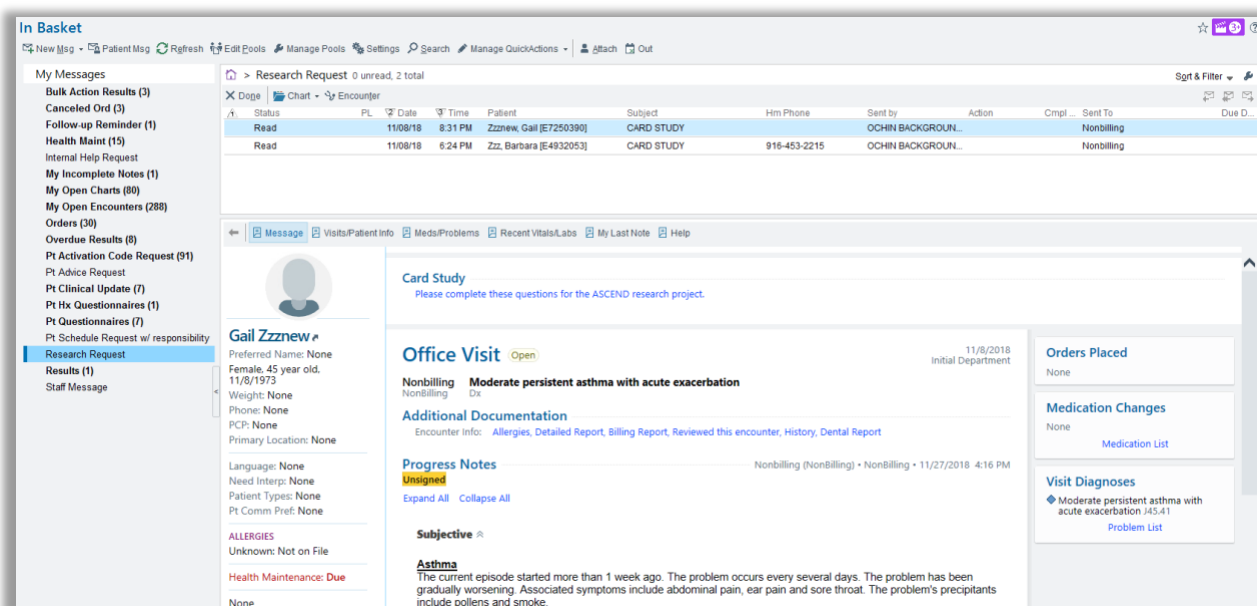
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A soft stop at close encounter will remind you to complete the card study if necessary (hidden if already completed).



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If you are not able to complete the card study right away, you will receive an in-basket message in a folder labeled 'Research Request'.



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Please complete the questions as soon as possible after each patient visit. The answers you select will not be stored in the patients' chart and are only accessible to researchers at OCHIN.

TIMELINE for Project Champion

[wedge mo 3]

- Background and workflow materials sent to project champion.
- Introduction to the card study at [month] office hours; includes sharing names of two previously identified eligible providers with project champion.

[mid mo 3 – mid mo 4]

- Project champion recruits the two selected PCPs for the card study (consider scheduling a dedicated 10-15 minute slot to go over details).
- [date]: PCP recruitment finalized
- Project champion shares 'Card study PCP materials' document with site specialist (to ensure awareness if site specialist receives questions during ongoing card study)

[1st week wedge mo 5]

- ASCEND team sends an email to project champions reminding them the card study is about to start.
- The project champion reminds each PCP of the upcoming card study start, ensures they are familiar with the workflow in Epic.

[2nd week wedge mo 5]

- [date]: Be on the lookout for the first prompts to appear today. Providers should see approximately two card study prompts per day.
- Project champion informally checks in with participating providers to see how the card study is going, and if any questions.

[3rd week wedge mo 5]

- ASCEND team will send updates with numbers of 'cards' completed by each provider to project champion. Project champion can share this information during check-ins with participating providers.
- Card study prompts continue to appear for selected patients.

[4th week wedge mo 5]

- Last week of card study! Card study prompts continue to appear for selected patients.
- [date]: Last day card study prompts will appear.
- Gift card request submitted.

[5th week wedge mo 5]

- Last week to complete outstanding card requests
- [date]: Last day to complete card study requests.

Contact Information

Please contact Ascend@ochin.org with any questions. Thank you for supporting the ASCEND card study!

ASCEND Card Study Questions

1) Which of the following factors influenced the care you provided during this patient encounter (mark as many as apply)?

- Clinical factors (e.g., history, lab results, medications, etc.)
- Patient-specific social and economic conditions (social determinants of health)
- Patient preferences
- Available resources (e.g., availability of specialty care, formulary restrictions, insurance requirements)
- Other, what: _____

*(If SDH **not** checked, provider is done)*

If SDH checked:

2) How did you know this patient-specific SDH information (mark all that apply)?

- Prior personal knowledge of the patient
- Conversation with the patient during this encounter
- Communication from other clinic staff
- Reviewed on paper SDH screen
- Reviewed in EHR (see Q2a)
- Other (where): _____

2a) If reviewed SDH information in EHR, where? (mark all the apply):

- Rooming Activity > Screening section
- SDH Flowsheet
- Patient Header
- Snapshot / Care Plan
- SDH Snapshot Report
- Multi-Provider Schedule Report
- SDH Sidebar
- SDH Synopsis
- All Flowsheets Synopsis
- Social History
- Problem List
- Other (where): _____

3) The amount of time it took to look up the patient-specific SDH information was:

- Just right, didn't take me long at all
- Longer than I expected
- Too long, I gave up
- Not applicable, I didn't try
- Other: _____

4) Did you wish you had any SDH information that was not available? (Yes/No)

4a) If yes, what information was missing? (free text) _____

5) How much did the patient's SDH information influence the clinical decisions (e.g., treatment decisions, medications prescribed) you made? (A lot, Somewhat, Not at all)

6) How much did the patient's SDH information influence any additional care you provided (e.g., social service or behavioral health referrals, warm hand-offs)? (A lot, Somewhat, Not at all, Not applicable)

7) Optional: How did your care change? _____

THANK YOU