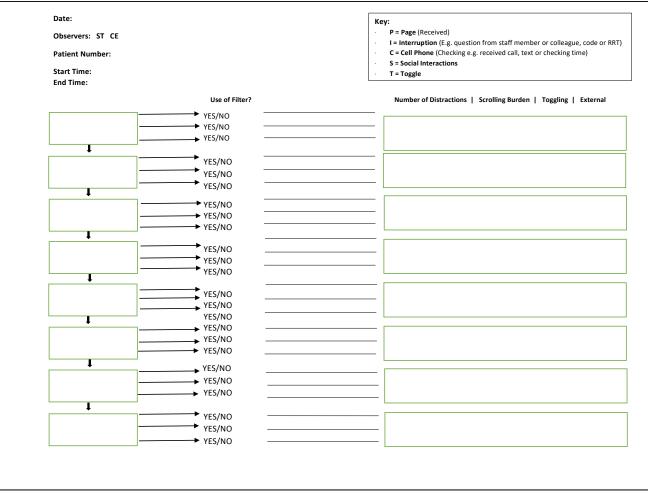
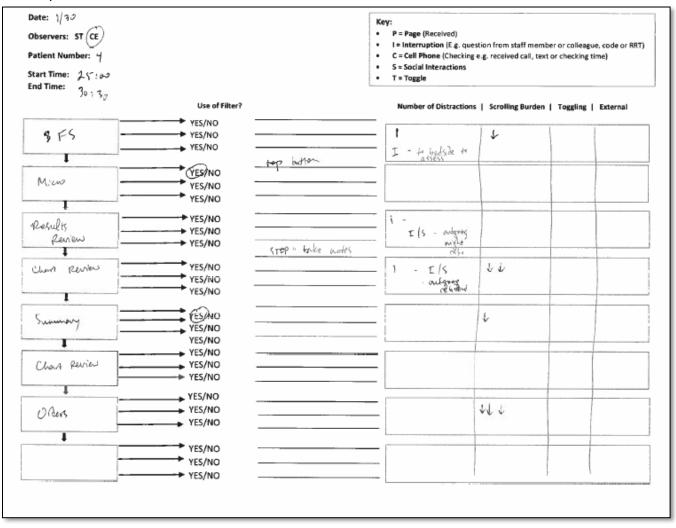
APPENDIX

I. Observation checklist used by research assistants



1. Scrolling burden indicates the degree to which the user was deemed by the observer to be scrolling up or down on a given EHR screen. Observers made this indication with upward or downward arrows to indicate the direction of the scroll and rated the scrolling burden on a scale from 1 to 3, with 1 arrow representing mild scrolling and 3 arrows indicating severe scrolling burden.

2. Toggling indicates whether the user was deemed to be flipping back and forth between the EHR screen and another window, such as a pop-up window containing a chest x-ray image or a pop-up window involving the web-based institutional paging system. This was assessed on a binary (yes/no) scale and indicated with a "+".
3. External indicates whether the user was deemed to be using any external resources, such as web-based calculators or clinical resource guides.



II. Example annotated observation checklist from live observation.

1. Scrolling burden indicates the degree to which the user was deemed by the observer to be scrolling up or down on a given EHR screen. Observers made this indication with upward or downward arrows to indicate the direction of the scroll and rated the scrolling burden on a scale from 1 to 3, with 1 arrow representing mild scrolling and 3 arrows indicating severe scrolling burden.

2. Toggling indicates whether the user was deemed to be flipping back and forth between the EHR screen and another window, such as a pop-up window containing a chest x-ray image or a pop-up window involving the web-based institutional paging system. This was assessed on a binary (yes/no) scale and indicated with a "+".
3. External indicates whether the user was deemed to be using any external resources, such as web-based calculators or clinical resource guides.

III. Interrater Reliability

Participant	Total EHR Screens	# of Screens w/ agreement by 2 observers	IRR* (% Agreement)	
1	42	33	78.6%	
2	63	51	81.0%	
3	71	61	85.9%	
4	62	47	75.8%	
5	56	42	75.0%	
6	36	30	83.3%	
TOTAL	330	264	80.0%	

*IRR = interrater reliability, calculated as percent agreement for the observed EHR screens. Agreement was defined as both observers recording the same EHR screen in the same sequential workflow position for a given participant. IRR was calculated once for each participant and once in aggregate. Given that this work was performed as a pilot test as part of a larger mixed-methods investigation, no acceptability threshold was set in advance. No data were deemed unacceptable for inclusion. The paired observation sessions took place over three days between December 2017 – February 2018; given this limited timeframe and the range (75.0% - 85.9%), analysis for chronological trend in IRR was deferred.

KEY		Participant					τοται	0/	
		1	2	3	4	5	6	TOTAL	%
Ι	Interruption	2	2	6	3	5	3	21	38.2%
S	Social interaction	4	2	3	10	8	2	29	52.7%
Р	Pager	0	1	0	2	0	1	4	7.3%
С	Cell phone	0	0	0	1	0	0	1	1.8%
		6	5	9	16	13	6	55	

IV. Results: Distractions Observed During Pre-Rounding Chart Review

Interruption = clinical question involving face-to-face dialogue with colleague; rapid response or "code blue" (i.e., a medical emergency during which the participant was called to bedside to assess the patient), etc.

Social interaction = making small talk with colleague or co-worker, non-clinical conversation, etc.

Pager = page received

Cell phone = phone call received, text message sent or received, checking time, using calculator, etc.