

Research and Applications

Primary care physicians' experiences with inbox triage

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Abstract

Objective: Many primary care physicians (PCPs) feel overwhelmed by the number of electronic health record inbox messages they receive. The objective of this study was to characterize PCPs' experiences with inbox triage—the process of reviewing inbox messages and deciding when and how to address them.

Materials and Methods: We conducted 3 focus groups and 1 individual interview with 9 PCPs at an academic medical center and coded the transcripts for themes related to inbox triage.

Results: We identified 5 themes in PCPs' experiences with inbox triage: (1) inbox triage is a continuous process; (2) inbox triage involves different team members performing multiple activities, including identifying messages better addressed through synchronous care, preparing messages to be reviewed by PCPs, and prioritizing messages; (3) PCPs prioritize messages based on multiple factors including clinical urgency, time constraints, and team member involvement; (4) team support for inbox triage varies by clinical experience, team stability, and co-location; and (5) patient expectations and clinic practices help make inbox triage a continuous process, requiring PCPs to establish personal policies to constrain inbox work.

Discussion: Designers of clinic workflows, healthcare policy, and health information technology should aim to support the diverse activities involved in inbox triage, message prioritization based on multiple factors, and the collaborative process of establishing and communicating messaging norms.

Conclusion: Inbox triage is a collaborative and continuous process requiring PCPs to evaluate multiple aspects of each message, find time to address those messages during busy clinic days, and negotiate different expectations for messaging behavior.

Lay Summary

Many primary care physicians feel they do not have enough time to review and respond to the large number of messages they receive in their electronic health record inboxes. In this study, we spoke with nine primary care physicians to better understand how they decide which messages to address before others, a process physicians called “inbox triage.” Many of the physicians we spoke to felt they had to triage their inboxes constantly. They described inbox triage as involving multiple activities performed by different members of the care team including identifying urgent messages, deciding whether the patient's concern should be handled through a scheduled visit instead of a message, and the work staff did to prepare messages for physicians to address. Physicians prioritized messages based on multiple factors including clinical urgency, time constraints, and whether other members of the care team were waiting on their response. Physicians described how nurses and medical assistants helped them triage and respond to patient messages but also felt this support varied by staff member. Finally, the physicians described needing to navigate differences between patients', clinics', and their own expectations for when and how quickly they should respond to patient messages.

Key words: triage; inbox; electronic health record; message; primary care.

Background and significance

The practice of primary care has changed dramatically in recent years to involve providing more care outside scheduled appointments, driven in part by a rise in electronic messages from patients.^{1,2} Some of this increase in message-mediated care reflects a long-term trend of increasing access to patient portals, many of which provide facilities for patients to send electronic messages to their care team.^{3–6} According to the Health Information National Trends Survey, 73% of patients had access to an online medical record or patient portal in

2022, up from 59% in 2020 and 51% in 2018.⁶ However, the recent rise in inbox-mediated care may also reflect the more recent impact of the COVID-19 pandemic on messaging behavior. As clinics canceled in-person appointments in spring 2020, physicians across the country saw a sharp increase in both the number of messages they received from patients and the time they spent in electronic health record (EHR) inboxes.^{7–9} According to one national study, ambulatory physicians received 57% more messages in the weeks following the onset of the pandemic than the weeks

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before.⁸ Rather than return to pre-pandemic levels, primary care physicians' (PCPs') message volumes and inbox time have remained elevated in the years since, suggesting higher inbox workloads represent a new normal in primary care.^{7,9,10} PCPs now receive dozens of inbox messages each day, more than physicians in other specialties.^{7,9,11} These include not only messages from patients but also messages from staff, colleagues, and the EHR itself.

Inbox messaging provides a convenient method for patients to request care, care teams to communicate, and the EHR to notify physicians about new information relevant to patient care (eg, new lab results). Some evidence suggests PCPs who spend more time in the inbox provide higher quality care.¹² Yet, PCPs have also described the steady stream of inbox messages as eroding work-life boundaries,^{2,13} and PCPs who receive more messages or spend more time in their EHR inbox report higher rates of burnout.^{14–18} Health systems, clinics, and individual physicians have experimented with numerous techniques to reduce PCPs' inbox workloads, including providing inbox coverage for days off, having staff respond to routine messages, and using natural language processing to classify and route messages to the most appropriate respondent.^{13,19–24} Still, many PCPs feel they receive more inbox messages than they can handle effectively and that they lack sufficient protected time in their clinic schedules for inbox work.^{19,25}

Despite the sustained increase in PCPs' inbox workloads, little is known about how PCPs review inbox messages and decide when and how to address each one,²⁶ a process known as *inbox triage*. This is a critical gap as understanding how PCPs triage inbox messages could help designers of clinic workflows, healthcare policies, and health information technology identify ways to reduce the time and stress associated with inbox work.^{1,21,27}

Objective

The objective of this study was to characterize PCPs' experiences with inbox triage to inform efforts to reduce inbox workloads.

Materials and methods

Setting and participants

This qualitative study was conducted at UW Health, the academic medical center of the University of Wisconsin—Madison and was approved by the university's minimal risk institutional review board (IRB #2021-0642). UW Health employs ~200 PCPs and hundreds of staff (eg, nurses, medical assistants, patient schedulers) who together care for more than 300,000 primary care patients across the departments of family medicine, internal medicine, and pediatrics. This study was conducted as part of a broader study of PCPs' EHR workflows.

We employed purposive sampling to identify PCPs with potentially diverse EHR workflows. We measured how long each PCP spent in the EHR per hour of scheduled patient appointments based on PCPs' schedules and EHR use metadata (Signal, Epic Systems, Verona, WI) and recruited PCPs from the highest and lowest quartiles of this normalized EHR time. A member of the study team who was a medical student at the time (RS) emailed 12 prospective participants to recruit them for the study—6 practicing family medicine and 6

Table 1. Attributes of study participants.

ID	Specialty	Sex	EHR time
P1	Family Medicine	Male	Low
P2	Family Medicine	Male	Low
P3	Family Medicine	Female	High
P4	Family Medicine	Female	Low
P5	Family Medicine	Female	Low
P6	Family Medicine	Male	High
P7	Internal Medicine	Female	Low
P8	Internal Medicine	Female	High
P9	Internal Medicine	Female	High

practicing general internal medicine—3 of whom did not elect to participate. The final sample included 6 family medicine and 3 internal medicine physicians, 4 from the highest quartile of EHR time and 5 from the lowest quartile (Table 1). PCPs were not compensated for their participation.

Data collection and analysis

To help identify topics to discuss with PCPs, 2 female authors (R.S. and C.D.) who were medical students at the time observed separate half-day clinics with each study physician at their home clinic in November and December 2021, totaling approximately 72 hours of observation. Observation notes were recorded on a structured data sheet developed through pilot observations with 2 male PCPs on the study team who were not study participants (M.A.M. and B.G.A.). The data sheet contained separate sections for documenting observations on EHR-mediated tasks such as chart review, note writing, and responding to inbox messages. The 2 observers created an affinity diagram of themes from the observations related to PCPs' EHR workflows.²⁸ Following the observations, 3 authors (A.R., R.S., and C.D.) conducted 3 focus groups and 1 individual interview with the study participants via Webex in March and April 2022. Focus group/interview questions addressed themes identified in the observations including the sequencing of EHR-mediated tasks throughout the clinic day, team support for EHR-mediated work, and EHR optimization. The average focus group/interview lasted 66 minutes (range, 53–71 minutes). The focus groups and interview were facilitated by male assistant professor (A.R.) with PhD training in human-computer interaction and extensive experience conducting qualitative research. None of the authors who conducted the observations, focus groups, or interview had a prior relationship with the study participants. The study team introduced themselves at the start of each focus group or interview and told participants the goal of the study was to better understand how PCPs sequence EHR-mediated work throughout the day. An information systems specialist from the health system was also present at the first focus group to help the study team understand EHR features referenced by the participants, if needed.

Data analysis

Focus group and interview recordings were transcribed and deidentified. Transcripts were not returned to study participants for review. These transcripts were coded via inductive thematic analysis in NVivo (QSR International, v. 1.4.1) by a single author (A.R.).²⁹ Themes and sub-themes were identified by grouping related codes. This coding was informed by memo-writing, peer debriefing by the authors involved in

data collection (A.R., R.S., and C.D.) and iterative discussion of the themes with co-authors (M.A.M. and B.G.A.) at weekly meetings over several months until consensus was reached. Study participants did not provide feedback on codes or themes. While the focus groups and interview addressed EHR workflows in general, this manuscript focuses on the salient set of themes related to PCPs' experiences with inbox triage.

Results

We identified 5 themes and 15 sub-themes in PCPs' experiences with inbox triage (Table 2).

Theme 1: inbox triage is continuous

PCPs described inbox triage as a continuous process with PCPs checking their inboxes before clinic sessions began, between appointments, after clinic sessions ended, during other periods of work (eg, meetings, teaching), and on days without appointments. As one PCP shared, "I think the ongoing triaging is happening almost continuously throughout the day" (P1). PCPs described needing to check their inbox on a regular basis to identify urgent messages and prevent the number of messages from growing so large as to be discouraging.

Theme 2: inbox triage involves several distinct activities

Redirecting messages to synchronous care

PCPs described inbox triage as involving several related but distinct activities which they performed in collaboration with clinic staff. One component of inbox triage was identifying messages that should be addressed through a synchronous mode of care such as a telemedicine or office visit instead of through electronic messaging or back-and-forth telephone calls. This could be because the patient's concern was urgent, complex, or required a visit to address due to clinic practices or PCP preference. As one PCP shared, "If it's too complex, they just need to schedule a visit" (P9).

Preparing messages for PCPs to address

PCPs also used the term "triage" to refer to the process by which staff members prepared messages for them to address. In each participant's clinic, most messages were first sent to inbox pools where nurses, medical assistants, or both would review them. In addition to staff handling routine messages (eg, medication refills that could be addressed through a delegation protocol) and redirecting patients to schedule an appointment for more complex requests, PCPs expected staff to perform preparatory actions for certain types of messages (eg, checking the refill history for controlled medication refill requests) before routing that message to the PCP for further review. These staff actions could include conducting chart review, documenting key information from that chart review, or pending orders. Several PCPs described being frustrated when routed a message before this preparatory work had been done. As one shared, "I'll get MyCharts [patient messages requesting care or advice] that will say 'Forwarded to provider to advise.' Like, that's not very helpful because it's basically just forwarding it to me with absolutely no legwork done" (P5).

Prioritizing messages

Finally, PCPs described inbox triage as the process of prioritizing which messages to address next, or sooner rather than later. As will be discussed in the next section, several factors were considered when deciding whether a message was high or low priority.

Theme 3: PCPs prioritize messages based on multiple factors

Time-sensitive tasks related to synchronous care

PCPs described considering multiple factors when prioritizing messages, both relative to other messages and relative to other work. One factor was prioritizing time-sensitive tasks related to synchronous care over inbox work. This included prioritizing not only synchronous office and telemedicine visits but also time-sensitive tasks related to those visits such as placing orders or documenting exam findings before they were forgotten. As one PCP noted: "It generally comes down to prioritizing the patient that's there, so seeing them physically, doing their orders, making sure the conversation of the documentation with the scribe is having occurred" (P1). However, PCPs also described deferring some tasks related to synchronous visits—such as finishing a progress note or assigning billing codes—until after they had addressed urgent inbox messages since these tasks were less urgent and able to be completed by the PCP on their own.

Clinically urgent messages

Second, PCPs described prioritizing clinically urgent messages and deprioritizing non-clinically urgent messages. As one PCP said: "I'll at least scroll through and try to see if there is anything urgent in the results. But I do a lot of non-urgent results over lunch or at the end of the day" (P4).

Messages to be acted on by others

Third, PCPs described prioritizing messages that would create work for staff or other clinicians, such as a message that would require a nurse to call a patient back. As one PCP described, "If I have time I'll jump into my inbox as a priority over closing notes just so that I can try to get things routed back to the nursing team so that they can get back to patients" (P3). PCPs described several reasons for prioritizing messages which needed to be acted on by others including boosting patient satisfaction due to receiving a quick response, boosting staff satisfaction ("upset patients lead to upset nurses" [P7]), and avoiding additional work at the end of the day. As one PCP shared, "If stuff needs to be dealt with and I'm dealing with it at 5 PM, my team is gone. So, I have to prioritize looking at those messages over say, getting my charts done" (P4).

Time constraints

Finally, PCPs described prioritizing messages based on time constraints. In one respect, this meant prioritizing messages that could be completed in a short window of time. This was particularly true when reviewing messages in short gaps between appointments. As one PCP shared, "Then I'll look at the phone calls to see if I see anything that I can really do quickly, just to get it out of the in-basket" (P7). In another respect, prioritizing based on time constraints meant PCPs prioritized messages based on whether they would have another opportunity to address the message before the time

Table 2. Themes from the focus groups and interview.

Theme	Sub-theme	Example quote
Inbox triage is continuous	–	“I’ll scan through it [the inbox] really often throughout the day just to see if there’s anything that can’t wait, that I need to do right now.” (P5)
Inbox triage involves several distinct activities	Redirecting messages to synchronous care	“I need to route [the message] back to the RN [registered nurse] pool and say, ‘Please triage this, this really shouldn’t have been a MyChart message in the first place.’” (P8)
	Preparing messages for PCPs to address	“So, it’s not me typing out every MyChart message, every letter. As staff gets [more comfortable] they’re like, ‘Hey can you send this letter that I’ve already typed up for me?’ I don’t need to type up a work excuse letter. They can do that as good or probably better than me.” (P2)
	Prioritizing messages	“I’ll just go in my in-basket and I’ll just click through everything that’s new and just see if anything is time-sensitive, like if it’s a UA [urinalysis], if it’s something they need an order for today, if it’s something that I can’t put off.” (P5)
PCPs prioritize messages based on several factors	Time-sensitive tasks related to synchronous care	“If I have time between patients. . . after I see the patient, I’m finalizing things with my scribe and then if I have time I’ll jump into my inbox as a priority over closing notes.” (P3)
	Clinically urgent messages	“I will kind of screen through my patient calls and see if there’s anything that I can defer until the end of the day. But I try to get all of those dealt with before I leave. Those are usually the most urgent.” (P9)
	Messages to be acted on by others	“The things that need to be acted on by someone else during the day, it just ends up being prioritized more, or the things I know the patient’s more likely to be waiting for.” (P8)
	Time constraints	“Sometimes I’ll look at a folder because I know it usually doesn’t have anything necessary for me to. . . I know it’s not going to create work and then I can just get it done with, right? So fast or urgent looking is what I should look for first, in my in-basket.” (P9)
	Variation in clinical experience	“Definitely variability in that [experience], it makes a big impact on our workload for sure.” (P6)
Team support varies	Lack of team stability	“The problem is recently we’ve had, especially for our RNs you’re working with different people every day, every hour, float [nurses] jumping in, which understandably is what’s had to happen. But at the same time. . . if I try to get different nurses to maybe follow that workflow, if they’re not used to that, that does not go well.” (P2)
	Lack of co-location with staff	“I used to have my nurses working right by our workstation. So, I’d get routed this more complicated [message], I’d just get up and go and talk to them and have a quick conversation. That saves some time. Whereas now it’s usually, I don’t even know who’s working in clinic versus from home and their workstation’s far away even if they are in clinic, it might be working in various offices. So, it ends up with a lot of back-and-forth.” (P8)
	Patients expect rapid responses	“The volume and complexity of MyCharts has really, in my practice, I feel like changed over the past two years, what patients expect in terms of response times and care delivered asynchronously outside of visits is dramatically different I think than pre-COVID.” (P3)
Inbox work is guided by expectations, practices, and policies	Patients use messages for urgent or complex requests	“I think there’s a, a lot of misunderstanding as to what you can get done during MyChart and also with, with a pandemic we’re trying to do as much as we could outside of clinic for a while so now people’s expectations are even higher than pre-pandemic.” (P9)
	Resetting patient expectations	“I don’t like the precedent of those patients thinking that I’m looking [at my inbox] and available after hours or in-between, but I can’t really find a system that doesn’t have that [reviewing messages after hours]. So, I do, I have a dot phrase that I put in those [messages] that says like, ‘Just so, you know, if you answer this, we’re not going to see it till Monday’, or, you know, until the next business day.” (P7)
	Impact of organizational practices and policies	“Part of it is that the current expectation in my clinic is that I’ll cover my patient’s stuff, even when I’m not in clinic, if I’m working somewhere [else] that day.” (P9)
	Establishing personal policies	“We have to put some parameters around it [the inbox]. Cause if I leave [the EHR] up on my desktop, it’ll just ping me all day long, and I won’t get anything else done. So I just have to put some parameters around that and turn that computer off.” (P4)

when they thought the message should be addressed. This perspective is demonstrated in one PCPs’ statement that “I’m always going to take a peek at [the inbox] and if it’s something that I don’t feel I could wait until the lunch hour, which is my next hold, then acting on that” (P8).

Theme 4: team support varies

Variation in clinical experience

PCPs described substantial variation in staff support for inbox triage. PCPs attributed some of this variation to differences in team members’ clinical experience, both overall and

in their clinic. As one PCP described: “I think a lot of what our work is very dependent on our staff, like how experienced your RN [registered nurse] is, as to what level of triage you get in your message, how much follow-up you have to do, how much digging you have to do, if orders are pending for you when they come to you” (P5).

Lack of team stability

PCPs described another source of variation in team support as changing team membership and a resulting lack of awareness of the PCPs’ patients and desired workflow. This was especially difficult when staffing shortages required cross-coverage of inbox work by staff from another clinic. As one PCP noted: “There were RNs sitting somewhere, at [a different clinic] or something, helping, which is great, but they don’t know our patients, they don’t know our workflows” (P4).

Lack of co-location with staff

Finally, PCPs described a lack of co-location with staff as a source of variation in team support. Working from different spaces made it difficult to fall back on face-to-face communication when discussing how to triage or address specific messages. One PCP described working with remote staff as involving “a lot of back-and-forth” over messaging platforms to come to a shared understanding of how to triage or address a message (P8).

Theme 5: inbox work is guided by expectations, practices, and policies

Patients expect rapid responses

PCPs described several expectations, practices, and policies as influencing why, when, and how they conducted inbox triage. For example, PCPs described patients as expecting rapid responses to their messages and not realizing how this affected physicians’ work hours. As one PCP described: “I think for the patients, they’re surprised that I’m working outside of [clinic] hours, but they also want things immediately” (P7).

Patients use messages for urgent or complex requests

PCPs likewise described patients as using messages to make urgent or complex requests better addressed through a phone call or synchronous visit. As one PCP shared, “People try to get their medical concerns, taken care of there. They want me to create a mini, a personalized mini lecture on the vascular system for them” (P9).

Resetting patient expectations

In response, PCPs described needing to reset patient expectations for inbox messaging. As one PCP shared, “our patients I think have learned not to send MyChart messages that are time-sensitive, that are urgent that way.” While some of this resetting occurred implicitly (eg, based on how long it took to hear back from the clinic), some PCPs used explicit methods to reset patient expectations. One PCP, for example, used templated text in their replies to patients to communicate that they should not expect a reply outside clinic open hours (P7).

Impact of organizational practices and policies

In addition to patient expectations which necessitated inbox triage, PCPs described how organizational practices and

policies affected when they conducted inbox triage. Department-level expectations that PCPs work more than 40 hours a week, clinic-level expectations that PCPs check their inboxes on days when they were not in clinic, and scheduling policies that provided limited protected time for asynchronous care all contributed to PCPs feeling they needed to conduct inbox triage outside clinic hours. As one PCP shared, “We don’t have like a ton of extra hours built in our schedule to do all this, like in-basket work, you know” (P4). Conversely, practices such as having another physician cover their inbox when they were on vacation were seen as helping limit PCPs’ inbox work. As one PCP shared, “That’s been really helpful to have somebody else covering for me” (P9).

Establishing personal policies

Finally, PCPs described needing to set personal policies for how and how often they responded to inbox messages. As one PCP described: “I have a personal rule now that I’m not going to MyChart somebody back more than once in a day” (P9). Another PCP described needing to set boundaries for when they performed inbox work: “What’s important is taking the time off and just saying, ‘Well no. I’m going to take, you know, this day, or these hours, out. And that’s that’” (P6).

Discussion

We identified 5 themes in this qualitative study of PCPs’ experiences with inbox triage. First, PCPs see inbox triage as a *continuous* process. Second, inbox triage *comprises several related activities*, including not only prioritizing messages but also identifying messages better addressed through synchronous care, and staff preparing messages for PCPs to address. Third, *message prioritization is based on multiple factors* including not only clinical urgency but also whether messages will create work for other team members, and time constraints. Fourth, PCPs experienced *variation in team support for inbox triage*, which PCPs attributed to varying clinical experience, changing team membership, and a lack of co-location. Finally, various *expectations, practices, and policies* affect inbox triage including patient expectations for message responsiveness, clinic expectations for when PCPs check their inboxes, and the personal policies PCPs set to constrain inbox work.

These results agree with a recent study on PCPs’ message prioritization which found that PCPs (1) set workflow norms with staff to better manage inbox messages, (2) set boundaries with patients, other clinicians, and themselves to reduce their inbox workloads, and (3) use heuristics to classify message types (eg, informational messages, those requiring minimal work, those requiring more follow-up).²⁶ However, this prior work found that PCPs *did not* prioritize messages due to not having time to do so and needing to address all messages at some point, while the present study found PCPs regularly prioritized messages based on multiple factors.²⁶ There may be several reasons for this variation in message prioritization across the 2 studies including differences in study setting, inbox design (ie, the 2 health systems employed EHRs from different EHR developers), and methodology (ie, interviews and observations versus focus groups). In particular, whereas the prior work focused on message prioritization, the present study asked PCPs about inbox triage in the context of other EHR use. This broader focus may have

prompted PCPs to consider not only how they prioritize messages relative to one another but also relative to other EHR-mediated work they needed to complete during the clinic day.

Prior work has also examined how PCPs manage time constraints, finding they cope by keeping appointments close to their scheduled length, reducing the number of diagnoses they record at each visit, ordering tests that may not have been needed if they had more time, and reducing the number of patients they see.^{30–32} This prior work focused on how physicians' adapt to time pressures by changing work they do for synchronous visits. The present study extends this prior work by examining the impact of time constraints on work performed for care requested via inbox messages outside of scheduled visits.

These results have several implications for the design of clinic workflows, healthcare policy, and health information technology. We highlight 3 here. First, technology and workflows should be designed to help primary care teams not only identify clinically urgent messages but also messages better handled through synchronous care and messages which have time or team-member constraints. Natural language processing which tags and routes messages based on their content is a promising step in this direction,²¹ and one yet to be taken at many organizations including the study site. However, more development may be needed to help these systems reason about time and team-member constraints. Developing and disseminating clear triage guidelines may also help team members assess message appropriateness and urgency.²⁴

Second, more attention should be paid to how care teams establish and communicate messaging norms, both with patients and with one another. PCPs already communicate norms with patients explicitly (eg, by including text in their replies about expected future response times) and implicitly (eg, by scheduling responses to send during work hours).² Many health systems also provide textual guidance to patients during message composition about the appropriate use of messaging platforms. However, more interactive interventions may be needed to help patients understand and apply those norms, such as using natural language processing to identify urgent concerns as patients draft messages, and automatically suggesting that patients call the clinic instead.^{33,34} Setting norms is also vital within care teams. Health systems can work to clearly define and communicate system-wide norms (eg, expected message response time) while also making clear what aspects of messaging workflows are up to individual clinics and care teams to define.²⁰ There are likely tradeoffs between standardization and customization in messaging workflows, though a lack of clarity about existing policies can lead to unintended variation across clinics (eg, variation in inbox coverage for days outside clinic).³⁵ In addition to clarifying inbox policies,²⁴ and experimenting with new staffing models for inbox triage,³⁶ health systems might also consider how to provide more stable in-person staffing so care teams can more easily establish and maintain local norms.^{37,38}

Finally, PCPs' experience of inbox triage as a continuous process suggests that the stress associated with managing inbox messages may be due not only to message volume but also the need to continuously monitor inboxes for urgent messages. Monitoring an inbox requires sustained attention, or vigilance, which increases cognitive load and draws attention from other tasks such as those associated with synchronous visits.³⁹ Efforts to redesign workflows, policy, and

technology should thus consider not only how to reduce the number of inbox messages PCPs receive, but how to fundamentally change inbox management from a continuous task of scanning for urgent messages into a periodic one of addressing messages between other periods of focused work.

This research has several limitations which future work could address. First, the focus group and interview transcripts were coded by a single author, so the themes identified in this study may reflect that authors' perspective as a PhD-trained informaticist. We employed several techniques to enhance the trustworthiness of this research including purposive sampling, peer debriefing, memo writing, and iteratively revising the themes and sub-themes as a team until consensus was reached.⁴⁰ Second, this study focused on physicians even as other members of the care team such as nurses and medical assistants engage in inbox triage.^{20,36,41,42} Future work might examine non-physician perspectives on inbox triage.⁴² Third, study findings were based on the perspectives of nine PCPs at a single academic medical center. Future work might investigate whether these findings transfer to physicians in other specialties and at other institutions.²⁶

Conclusion

In this study, we characterize inbox triage as a continuous and collaborative process with message prioritization based on multiple factors and messaging behavior guided by a complex set of expectations, practices, and policies. Triage is the prioritization of care in the face of scarce resources, and among the many shortages affecting primary care—including shortages of staff, physicians, medications, and time—one of the most profound is a shortage of attention.⁴³ By directing so much attention, so frequently, to reviewing inbox messages, PCPs lose some capacity to attend to other aspects of care such as proactive panel management. As one physician shared when describing why they had recently reduced their clinical hours: “I need to be able to sit and be uninterrupted and really do the things that are complex” (P9). In helping care teams manage inbox messages, health systems, clinics, physicians, staff, and patients must work together to ensure the urgent does not drive out the important.

Author contributions

Adam Rule (Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Supervision, Writing—original draft, Writing—review & editing), Rutvi Shah (Data curation, Formal analysis, Investigation, Methodology, Writing—review & editing), Christina Dudley (Data curation, Formal analysis, Investigation, Methodology, Writing—review & editing), Mark Micek (Conceptualization, Formal analysis, Methodology, Resources, Supervision, Writing—review & editing), and Brian G. Arndt (Conceptualization, Formal analysis, Methodology, Project administration, Resources, Supervision, Writing—review & editing)

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Conflicts of interest

The authors have no commercial, proprietary, or financial interest in any of the products or companies described in this article. A.R. reports receiving honoraria, travel support, and grants from the American Medical Association outside the reported work.

Data availability

The data that support the findings of this research study are maintained securely by UW Health according to security standards recommended by the University of Wisconsin's minimal risk institutional review board. The data are not publicly available.

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