Primary Care Physicians' Experiences With and Strategies for Managing Electronic Messages

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Abstract

Importance The increasing use of electronic communications has enhanced access to physicians for patients and clinical staff. Primary care physicians (PCPs) have anecdotally identified electronic inbox management as a new source of work-related stress.

Objectives To describe PCPs' experiences managing their electronic inboxes and to characterize the array of management strategies developed by individual physicians and practice groups.

Design, Setting, and Participants This qualitative study was conducted in 8 medical centers of a large group practice with more than 4 million patients in diverse settings and a mature electronic health record. The group encourages patients to use portal secure messaging to enhance access to their physicians and the care experience. Semistructured interviews were conducted with 24 internists and family medicine physicians identified via snowball sampling. Interviews were conducted July through November 2018. Data analysis was conducted between November 2018 and April 2019.

Main Outcomes and Measures Audio recorded interviews were transcribed and analyzed using thematic analysis to identify major themes and subthemes.

Results The 24 participants (12 women [50.0%]; mean [SD] age, 45.5 [6.5] years), including 9 department chiefs and 15 PCPs, had a mean (SD) of 16.8 (7.8) years since medical school graduation. Participants described substantial changes in medical practice due to electronic communication, including perceived patient expectations to receive rapid responses to portal secure messages. They described portal secure messaging as useful for building relationships with patients, but also reported that electronic message management has created new stressors, including erosion of work-life boundaries and anxiety associated with unlimited inbox volume. Individual PCPs used a diverse array of strategies, including multitasking during and outside work and delegating to medical assistants. Chiefs described group-level strategies, including reserving clinic time for inbox management, coverage systems for vacation and sick days, physician-to-physician training, and interdisciplinary teams to share messaging work.

Conclusions and Relevance Individual physicians and local practice groups have developed a wide array of strategies for electronic inbox management. The volume of electronic messages and PCPs' perceptions that patients expect rapid responses have created new stressors in primary care practice. Medical groups and health systems can support PCPs by facilitating knowledge transfer among physicians about inbox management strategies and developing team structures for inbox coverage.

Key Points

Question What strategies have primary care physicians and groups developed to manage electronic inboxes and their associated stressors?

Findings This qualitative study included interviews of 24 primary care physicians and found that new workflows associated with electronic messages and perceived patient expectations to respond rapidly have created new stressors. Individual physicians have developed a wide array of strategies to enhance efficiency and communicate with patients; group strategies included scheduling time for panel management, coverage systems, skills training, and interdisciplinary coverage teams.

Meaning Medical groups and health systems can support primary care physicians by facilitating knowledge transfer among physicians about inbox management strategies and developing team structures for inbox coverage.
Introduction

Nationwide adoption of electronic health records has led to increasing use of electronic communication among patients, clinical staff, and physicians. The use of patient portal secure messaging—email-type communications that patients and clinicians can exchange via electronic health record–linked secure portals—has accelerated in recent years. In clinical practice today, a primary care physician's (PCP's) electronic inbox typically contains a variety of messages from patients, other physicians, clinical staff members, the pharmacy, laboratory, radiology, and other departments.

The growth of electronic health record use may be causing unintended effects on clinical practice and physician well-being. In some practices, physicians spend more than half their time on computer activities, with high electronic message volumes associated with burnout symptoms. The trend toward secure portal messaging has created a need for new skills in primary care practice, and traditional medical training has not fully prepared today’s physicians with these skills. Medical groups and health systems are the parties most likely to be able to offer physicians the training and practical support they need.

Currently, scant published information exists to help operational leaders and practicing physicians understand the stressors associated with the electronic inbox and the array of possible strategies for management. We studied physician perspectives on this topic in one of the largest medical groups in the nation. This study’s aims were to describe how electronic inbox management has affected current medical practice, to identify resulting stressors, and to characterize a wide range of management strategies by individual physicians and practice groups.

Methods

Design and Study Setting

In this qualitative study, we conducted semistructured, in-depth telephone interviews with PCPs, including internists and family practice physicians. Participants were from The Permanente Medical Group, which has more than 9000 physicians and is part of Kaiser Permanente Northern California, an integrated system serving more than 4 million members in 21 hospital-based medical centers. The PCPs are grouped in clinic modules across 60 facilities, which offer in-person, telephone, and video visits.

Kaiser Permanente Northern California uses a comprehensive electronic health record (Epic) that integrates inpatient, emergency, and outpatient care, including primary care, specialty, laboratory, pharmacy, and imaging data. The electronic inbox receives messages that patients send via a secure portal website (first implemented in 2005, and also available through patient-facing mobile applications) and messages from other physicians, clinical staff, the pharmacy, the laboratory, and other departments. The typical PCP reads more than 70 messages each workday. Physicians can access their messages on computers or mobile devices. Physicians are expected to ensure that each patient message receives a reply within 2 business days.

Participants

We recruited participants using snowball sampling, aiming to include maximum variation in practices. To identify local practices with a range of group-level strategies for inbox support, we conducted a written survey of primary care chiefs that included open- and closed-ended questions. We purposively sampled chiefs with varying strategies for interviews. We then identified frontline PCP participants by asking the interviewed chiefs to suggest physicians with a range of inbox management practices.

This study was approved by the Kaiser Permanente Northern California institutional review board. Participants provided written informed consent and received no financial compensation. This study follows the Consolidated Criteria for Reporting Qualitative Research (COREQ) and Standards for...
Reporting Qualitative Research (SRQR)\textsuperscript{12} reporting guidelines to ensure that data analysis was systematic and verifiable.

**Interview Guide**

The study team, including 2 primary care chiefs (J.A.E. and M.F.M.), developed the interview guide (available on request). Two versions were developed: one for chiefs, focused on group-level strategies, and one for PCPs, focused on individual experiences and strategies. Interviews began by exploring participants' general approaches to inbox management, then explored specific domains, including managing patient expectations, drivers of inbox-associated distress, and opinions about individual and organizational strategies. The semistructured format allowed new topics to emerge during interviews.

**Data Collection**

Each physician participated in a 30- to 40-minute interview with an investigator (T.A.L., a researcher and pediatrician, or A.A., a qualitative researcher) between July and November 2018. Interviews were audio recorded and transcribed verbatim. Investigators wrote field notes after interviews on findings and emerging themes. Interviewers met biweekly during data collection to discuss themes and determine when thematic saturation was reached.

**Qualitative Analysis**

We used a thematic analysis approach to coding and analysis, including both inductive and deductive coding.\textsuperscript{11,13-15} We selected thematic analysis for its broad applicability to identify and explore both explicit and implicit views expressed by participants. Three investigators (T.A.L., A.A., and J.Z.W.) iteratively developed a coding schema based on the interview guide and field notes and then independently coded 5 transcripts. Differences in coding were resolved via meetings, and a final codebook was established. The 3 investigators each coded one-third of the transcripts using this codebook.

**Statistical Analysis**

Data analysis was conducted between November 2018 and April 2019 using NVivo statistical software version 12 (QSR International). No statistical tests were performed, and no \( P \) values were calculated.

**Results**

Twenty-four physicians (12 women [50%]; mean [SD] age, 45.5 [6.5] years) from 8 medical centers participated in interviews; 9 were chiefs and 15 were PCPs. Participants' mean (SD) time since medical school graduation was 16.8 (7.8) years, and their mean (SD) time with The Permanente Medical Group was 10.5 (5.5) years. Most participants (16 [67.0%]) practiced family medicine, and most were Asian (12 [50.0%]) or white (10 [42.0%]). The mean (SD) percentage of physicians' patients younger than 45 years was 40.0% (11.6%), and a mean (SD) of 42.3% (16.6%) of patients lived in US Census tracts with poverty rates of 5% or higher (Table 1).

**Theme 1: Effects of Inbox Management on Primary Care Practice**

**Shifts in Primary Care Practice From Inbox Management**

Participants observed that the culture of medical practice had changed because of inbox management competing with other activities in their clinical workdays. One said, "Desktop medicine [is] like having a second set of patients you're seeing; you're just seeing them virtually instead of in person."
Increasing Patient Expectations for Personalized, Quick Responses

Participants expressed mixed feelings about the increased ease of patient access created by secure portal messaging. A few described it as a beneficial tool: "If the whole point is to form a long-term, continuous, trusting clinical relationship with a patient...you can do so much with email to build a relationship."

One physician described developing new skills for conveying empathy through electronic messages to patients: "I realized that my emails were too, 'Let's get down to business. I'm gonna get you what you need so I can move on to the next person.' Now, [my] statements are like, 'Oh, my goodness! That must be so overwhelming! So sorry you're going through this. I'd like to help you get back on your feet.'"

Many participants described anxiety about patient expectations for quick responses. Others said some patients expected to trade multiple secure portal messages in periods of 1 or 2 hours. One physician observed that expectations have increased: "With the ease of technology and with our mobile app, I mean, it's great that people have ready access, but I think the flip side is, it's literally treated somewhat like a text message from your regular phone, and it's not really the same."

Theme 2: Stressors Associated With Inbox Management

Erosion of Work-Life Boundaries

All participants described electronic messaging as having led to increased work outside normal work hours. One noted, "My management actually starts the night before, because I found if I come in and start everything for the day that morning, there's never enough time and it's too overwhelming."

Many described working during personal time: "When my kids go to sleep, I will log in. I log in in the morning, when my kids are watching cartoons, getting them ready for school. So, yeah. Any free moment I have."

Anxiety Associated With the Unlimited Nature of the Inbox

Several participants reported anxiety from the lack of limits on the volume of electronic messages. One chief expressed empathy for her group's PCPs: "No matter what you're doing, you know it's growing. Growing and growing, constant—it's 24 hours and it never shuts off."

Table 1. Participant Characteristics

| Characteristic                                      | Participants, No. (%) |
|-----------------------------------------------------|------------------------|
| Age, mean (SD), y                                   | 45.5 (6.5)             |
| Female                                              | 12 (50.0)              |
| Race/ethnicity                                      |                        |
| Asian                                               | 12 (50.0)              |
| Black                                               | 1 (4.0)                |
| Latino                                              | 1 (4.0)                |
| White                                               | 10 (42.0)              |
| Specialty                                           |                        |
| Family medicine                                     | 16 (67.0)              |
| Internal medicine                                   | 8 (33.0)               |
| Time since medical school graduation, mean (SD), y  | 16.8 (7.8)             |
| Time with Kaiser Permanente, mean (SD), y           | 10.5 (5.5)             |
| Patients in panel, mean (SD), %a                    |                        |
| Aged <45 y                                          | 40.0 (11.6)            |
| Living in US Census tracts with poverty rate ≥5%    | 42.3 (16.6)            |

*a For each physician in the study, the percentage of patients in their panel who were younger than 45 years or living in US Census tracts with 5% or higher poverty rates was calculated. The percentage is the mean among all physicians.
One PCP observed, “It’s more the volume than it is the particulars, because if my inbox volume is very low, I don’t mind doing it at all. It’s just when I am face to face with having to clean it up and I’ve already put in a full 8 to 10 hours, and feel like I still have a dirty inbox.”

Some participants reported reducing their work schedules to 70% or 80% of the standard to reduce work volume. However, this did not necessarily free up days from inbox management, because most covered their own inboxes on days off.

**Theme 3: Diverse Individual Strategies for Inbox Management**

Participants reported diverse strategies for inbox management, as outlined in the following subsections and Table 2. Individuals had varying and sometimes divergent preferences about their preferred strategies.

**Techniques to Enhance Efficiency**

Physicians described using various techniques for inbox management efficiency, including 1-touch approaches (ie, always resolving items after opening them just once), working on different inbox folders in a clustered fashion, attempting to clear their inbox completely once per day, and using voice transcription software.

Different physicians preferred different strategies, with no single technique being endorsed by all participants. One physician noted, “I do a one-touch system… I won’t open something until I know that I have time to deal with it...If you open things multiple times, and you have to think about them multiple times, you’re really wasting a lot of time.” Another said, “I never allow my inbasket to grow

| Table 2. Individual Physician Strategies for Electronic Inbox Management |
|-----------------------------|-------------------------------|
| Strategy                   | Example                                      |
| Physician self-management strategies |
| Efficiency approaches       | “I do a one-touch system. If I—I won’t even—I won’t open something until I know that I have time to deal with it, so if I touch something and I think about it once, then I have to take action on it right then, so I don’t ever open something, look at it, and be like, ‘I’ll do that one later.’...If you open things multiple times, and you have to think about them multiple times, you’re really wasting a lot of time.” |
|                            | “I have a million smart phrases. So basically you type in period and then a couple letters, and you get like a whole handout on something. So I have a million of those.” |
|                            | “I have tweaked every little keystroke that I do to try get the chart to open faster, so the button that you click to open a message to a patient, there are like three or four different ways to do that, and they can vary from ten seconds to one second, in terms of how fast they go when you click that button. And it makes a huge difference in your day if you’ve got a hundred of these things sitting around and you’ve got that extra ten seconds.” |
| Inbox clearing              | “I never allow my inbasket to grow that it gets to the unmanageable [point], I’m obsessively taking care of that every night...this is why it’s not such a big problem for me.” |
|                            | “My goal daily is to be inbasket clear before I see my first patient...Like when you get it, just do it. It saves time in the long run to answer an email right away, because if you don’t, they will call in. And if you don’t answer that, they will schedule an appointment. The work’s not gonna go away. It just snowballs. So the sooner you do it, the sooner it gets done and then, for the patient, too, they’re much happier to have the problem solved in minutes, vs an email, a few phone calls, and an office visit.” |
| Multitasking                | “Depending on the flow of the patients, you try and do a little bit in between patients...[But] there are some days where it’s just all patients and I don’t even look at the inbasket for like three hours until it gets close to lunchtime.” |
|                            | “When my kids go to sleep, I will log in. I log in in the morning, when my kids are watching cartoons, getting them ready for school. So, yeah. Any free moment I have.” |
| Patient-focused strategies: messages signaling how to use secure portal messaging | “A couple of physicians have this dot-phrase disclaimer below their signature line that reminds patients to ‘please do not e-mail urgent things or do not e-mail, but call, if you’re expecting a same-day answer.’” |
|                            | “I used to have all these smart phrases where I’d say—I always start off by saying, ‘Happy Saturday!’ or ‘Happy Sunday!’ Just to acknowledge that, hey, it’s a weekend day. And then I say, ‘I’m sorry you’re experiencing X, Y, and Z. Let’s do this, this, and that. Just so you know, I will not be able to access my computer regularly for the remainder of the weekend. If you need anything urgent, please contact the main line. Thank you for understanding my absence on the weekends.’” |
that it get to the unmanageable [point]. I'm obsessively taking care of that every night...this is why it's not such a big problem for me.”

Multitasking was described by several physicians as an adaptive strategy. One said, "Depending on the flow of the patients, you try and do a little bit in between patients...[But] there are some days where it's just all patients and I don't even look at the inbasket for like three hours.”

Another noted, "I basically do an hour of pre-work, real work before coming in, and now, I have the iPhone, and so while I'm helping my son brush his teeth with one hand, with the other hand, I can flip through the iPhone and see what's important.”

Regulating the Pace of Replies to Patients

Physicians described varying approaches to timing their replies to patient messages. A few felt that responding quickly averted additional work: “It saves time in the long run to answer an email right away, because if you don't they will call in. And if you don't answer that, they will schedule an appointment. The work's not gonna go away. So the sooner you do it, the sooner it gets done.”

However, other participants reported regulating the pace of their replies to patients, to slow down communication cycles. One observed, "When you hear the feedback from patients, when they say, 'Wow, that was a fast response, thank you so much,' you kind of think, 'You're doing a great service, but at the same time, are you setting up an unrealistic expectation?'”

Theme 4: Group-Level Strategies for Inbox Management

Panel Management Time

Some local practice groups earmarked dedicated workday time for inbox management and other panel management activities. The PCPs consistently described having this type of panel management time as desirable.

Coverage Systems

Most chiefs reported their facilities had developed a systematic approach to covering inboxes for physicians out of office for vacations, sick days, or other unplanned leaves, or scheduled days off when working part-time. All these inbox coverage systems covered vacation days; some also covered sick or unscheduled days off. These systems usually did not cover inboxes for part-time physicians on their days off.

The simplest coverage strategy was a buddy system in which physicians in a clinic module (typically a group of 5-15) who were working on a given day provided inbox coverage for out-of-office physicians. However, buddy systems could sometimes result in disproportionate burden. One physician described high stress from being the sole person covering the inbox of a partner who went on extended leave for several weeks.

More sophisticated inbox coverage systems were feasible at the level of medical centers, which could include more than 100 PCPs. Some chiefs reported creating a rotating physician role (which some termed the “inbasket ninja”) to cover the inboxes of all physicians on vacation and/or sick days.

Physician-to-Physician Training

All departments had designated physicians who served as department technology leads. These leaders held didactic sessions and were available for individual meetings. One chief noted, “You offer your doctors time to meet with the [department technology leads] to gain efficiency. So if we look across the department at who is successful at being able to do this job and have a great work-life balance, it's these doctors that have developed these incredible efficiencies and ability to delegate their work.”

Team-Based Inbox Management

All participants reported that medical assistants (MAs) have been encouraged to comanage electronic messages for their PCPs. Many chiefs said they provided structured message management
training for MAs. The types of clerical tasks delegated to MAs are consistent with other clerical tasks that can be executed on the basis of protocol. However, the effectiveness of this approach varied depending on the practice's characteristics, with several chiefs noting limitations, including variability in skill levels, language issues, and turnover. One observed, “It’s intensively physician-dependent to train the MAs, and we just don’t have the time for the many hours that it would take to get an MA to be confident.”

Individual PCPs had divided opinions on how beneficial delegation to MAs could be. Some perceived MAs as being capable of handling a range of tasks, provided they were appropriately trained: “She knows if a patient says something about a rash, she’ll email them back and ask them to send a picture. Or if a patient has some vague complaint, she has a dot phrase [template language] that’ll be like, ‘Okay, tell me more about your symptoms.’ So by the time I look at it, there’s actually relevant information.” Another said, “In training her, I would actually give her one new item a week to work on…at this point, she knows what I’m going to say when she asks me about a patient.”

Physicians who were reluctant to delegate electronic message management to their MAs cited a variety of reasons (Table 3). Some thought that their MA’s time was better invested in other activities, such as taking patients to examination rooms or making phone calls. Others thought that it was more efficient and reliable to handle electronic messages themselves.

One department developed an interdisciplinary team, including MAs, a pharmacist, and physician, to address messages for physicians who were on vacation or who needed to miss more

| Table 3. Group-Level Strategies for Electronic Inbox Management |
|---------------------------------------------------------------|
| Strategy | Example |
| Protected time | “The number one [request from physicians] would be reduction in the daily office visits we offer each day....And what that does is it actually gives credece or gives balance to the day.” |
| Cross-coverage for vacations and other days off | “We have a ‘doctor of the day’ system. So we actually do block out additional time for when physicians are out of the office, for them to handle the emails, and they do full coverage. We block out clinical time to help answer the urgent and all of the messages of the doctors who are out of the office.” |
| | “We have the three MAs, and then I have the pharmacist...and we created a new position in our department called Virtual Doctor...So between a pharmacist and the virtual doctor and the MA, they can completely manage the entire inbox.” |
| Physician-to-physician training | “We have an onboarding called IT boot camp to really get people up to snuff. And then, you know, so we’ve done things like, as part of some of our year-end work, also training everyone on how to use, like, quick actions and, you know, those types of things, to try and just give them good shortcuts.” |
| | “Our department technology leads, it’s part of the orientation and it’s sort of an ongoing assessment. Sit down with people and we do inbox management tips and things like looking at quick actions and how to set up quick actions and do all the little—how to use all the quality tools, and where do you get information to send people?” |
| Training of other team members | “I think one of the things that helps us with our dyad meetings, too, is some of the docs weren’t even aware of things that their MAs can do for them. So when we actually told them, ‘Okay, is your MA doing this?’ they were like, ‘What? They can do that?”’ |
| | “My MA and I started at the same time, two years ago...She’s very tech-savvy. At the beginning I didn’t trust her very much, but that transitioned. And what I do is, in training her, I would actually give her one new item a week to work on, and so in the beginning it was just the stuff that’s on her list...at this point, she knows what I’m going to say when she asks me about a patient.” |
| | “I did try to let my MA handle a lot of my secure messages, but I have this personality where I can’t just let it sit...If I’ve touched it, I’ve already read it and looked at it. To let it sit there and wait to say, ‘Oh, I’m just going to leave this for someone else,’ is just not a good use of time.” |
| | “There’s a lot of things for [my MA] to do, and so I would rather she get all the clinic stuff done.” |
| MAs | “We have six [pharmacists] that handle all of the refills for all of our physicians...They can do this protocolized work if they make sure that they’ve had labs, that they’ve been seen...It helps everybody. And it’s not like they need to check in with us about whether or not they can refill it. Most of these things can be refilled automatically.” |
| Pharmacists | “We have six [pharmacists] that handle all of the refills for all of our physicians...They can do this protocolized work if they make sure that they’ve had labs, that they’ve been seen...It helps everybody. And it’s not like they need to check in with us about whether or not they can refill it. Most of these things can be refilled automatically.” |

(Regarding pharmacists managing protocol-driven treatment): “What used to maybe take me 20 min...I’m sending to someone else, and the pharmacists love it. They absolutely love it because they get to do patient counseling, they get to interact with patients on that sort of clinical basis.”

Abbreviations: IT, information technology; MA, medical assistant.
than 2 days in the clinic. In addition, this department and another department each arranged for pharmacists to take complete charge of selected messages that can be handled on the basis of protocols, such as messages about urinary tract infection symptoms or sexually transmitted infections.

Some departments developed templated “smartphrases” containing the replies to common administrative questions: “[Developing the smartphrase] actually really helped the physician trust [in their MAs] also, because they are standard phrases and have been checked. Like everybody’s had a chance to read through them and comment, and we have Spanish translations all vetted…the physicians have more trust and confidence in the MAs in replying to some of [the messages].”

Discussion

Major Findings

To our knowledge, this study is the first to characterize the wide array of strategies for electronic inbox management developed by PCPs and local practice groups in a large community-based health system. The physicians we interviewed described new inbox-related stressors in primary care practice, including anxiety associated with inbox volume and a sense of urgency to respond to patient messages. To address these stressors, individual PCPs reported using a variety of efficiency methods and patient-focused strategies, as well as delegating to MAs. Local practice groups had implemented strategies to help PCPs establish time boundaries, such as dedicated inbox management time and coverage systems for days off. A few had created message management systems with interdisciplinary teams.

Implications

Our findings suggest that PCPs are continually investing time in learning new skills and helping their patients, MAs, and themselves learn to use electronic messaging effectively and efficiently. This suggests that structured programs to facilitate the transfer of technological and communication skills among physicians may help new PCPs more quickly become adept at inbox management. Such methods are already in use in the medical group we studied and are generalizable to a range of settings, from residency training programs to integrated systems.

Group-level strategies for inbox management support varied. Although smaller groups usually covered out-of-office days using buddy systems, some larger groups were able to develop coverage teams of designated physicians, MAs, and/or pharmacists to manage administrative and protocol-eligible issues. Our finding that physicians view team approaches as beneficial concurs with the results of another recent study.10 The most ambitious team approaches used by large groups in the present study may not be transferable to smaller, less-integrated groups. As national trends toward medical group consolidation continue, system-level strategies could play an increasing role in mitigating inbox-related stressors.

No single strategy emerged as the dominant solution to inbox management in this study. Individual PCPs reported diverse approaches. For example, some delegated as much as possible to their MAs, whereas others felt unable to do this. This diversity in strategies may represent desirable tailoring of approaches to individuals or to the local group’s environment. However, too much variability could diminish consistency in care experiences. Further study is warranted to determine the effectiveness of different strategies for inbox management on outcomes, including work efficiency, physician well-being, and patient satisfaction.

Limitations

This study has limitations. Kaiser Permanente Northern California’s patient population is highly diverse, but low-income patients are underrepresented. Kaiser Permanente Northern California includes Silicon Valley, and this setting’s patients may be somewhat sophisticated in using secure portal messaging. In addition, Kaiser Permanente Northern California is an integrated system where
the typical PCP's volume of electronic messages from specialists, the pharmacy, and others may be higher than in less integrated systems. Conversely, integration may afford physicians opportunities to delegate messaging work to others, such as pharmacists. With the growth of accountable care organizations nationwide, our experience seems likely to presage that of other medical groups in the near future. It would also be helpful to evaluate these challenges and management strategies in different outpatient settings, including academic settings and smaller, less integrated practices. This study reports physicians' perceptions, which may differ from the actual situation. For example, physicians' sense that patients expect rapid responses may reflect their own sense of responsibility. Focus groups with patients (N.G., unpublished data, August 28, 2018) suggest that most do not expect extremely quick replies. In addition, although we described a broad range of practice patterns, the sample size precludes conclusions on representative patterns across this large medical group.

Conclusions

This study provides a snapshot of an evolving phenomenon from a setting with mature patient portal technology and experienced users. When electronic messaging systems were first introduced a decade ago, message volume was low and PCPs were expected to handle every patient message. Today, growing message volume has made inbox management increasingly challenging. The medical group we studied continues to evaluate new approaches to supporting physicians with inbox work. Individual physicians and local practice groups have developed a wide array of strategies for electronic inbox management. The volume of messages and PCPs' perceptions that patients expect rapid responses have created new stressors in primary care practice. Medical groups and health systems can support PCPs by facilitating knowledge transfer among physicians about inbox management strategies and further developing team structures for inbox coverage.

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