



A System-Level Approach to EHR Inbox Reduction

Nine Steps with Practical Examples from 3 Organizations

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Introduction

Midway through a busy morning of scheduled patients, the physician feels their heart rate rising. Their EHR inbox displays the total volume of messages requiring resolution, and the numbers continue to increase each time the physician looks up. Patients are in rooms waiting while the physician completes notes, orders, and care coordination tasks for previous patients. The physician bounces between taking care of clinic session tasks and addressing as many inbox messages as possible. By lunchtime, the physician feels overwhelmed by the work and tries to prioritize as best they can. The next patient session starts in an hour, and the cycle resumes. Does this scenario sound familiar?

The daily work for physicians doesn't have to be this way. First, you can assess and prioritize how to respond more effectively by analyzing the volume and type of inbox messages. You can begin to resolve the challenge by thoroughly understanding what message types physicians receive. Form an interdisciplinary team of leaders and frontline clinicians to reduce the number of notifications and messages and delegate initial management of the inbox to upskilled team members.

Taking Action

These 9 steps can help guide the way as you scale your inbox reduction effort:

1. Measure your current state by quantifying the type and volume of inbox messages
2. Develop a governance structure, strategic framework, and target for inbox reduction
3. Eliminate low-value and duplicate notifications (“d/c the cc”)
4. Implement [pre-visit lab protocols](#) and [90 x 4 prescription renewals](#) to reduce inbox volume
5. Establish a single recipient for test results (“You order it, you own it.”)
6. Automate routing of normal results to the patient portal and bypass the inbox
7. [Automate routing of prescription renewals to a refill pool](#)
8. Delegate remaining inbox triage to upskilled and empowered team members
9. Collaborate using structured cross-coverage approaches during physician absences

An **EHR Inbox Reduction Checklist** can support your efforts as you embark on this endeavor to eliminate unnecessary burdens and improve workflows in the EHR at the organizational level (see page 11).

1. Measure your current state by quantifying the type and volume of inbox messages

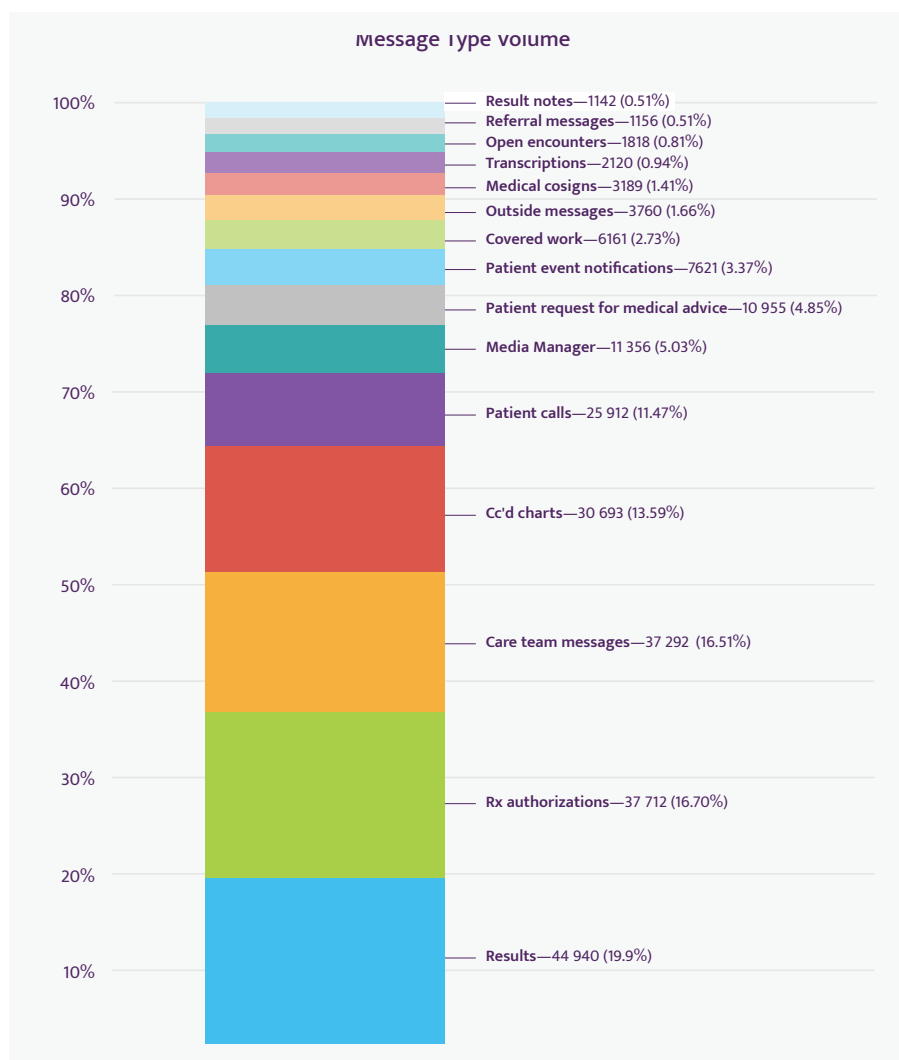
Quantification can help you understand your greatest opportunities for improvement. Use your EHR's audit-log data, such as Epic's Signal data or Oracle Cerner's Lights On program, to quantify the number and type of inbox messages received per week by specialty (Figure 1). When reviewing your EHR audit-log data, it is necessary to know your platform's functionality to obtain the needed data. Many EHRs present this data by volume rather than by time. Assessing time in conjunction with volume is essential to get the most accurate picture of your current EHR inbox state. For example, some categories with a relatively small volume, such as Patient Medical Advice Requests, may contribute disproportionately to the overall work of the inbox because each message requires considerably more time to resolve. Low-volume, high-effort messages like this example warrant prioritization for your improvement efforts.

Looking more deeply into the content of each message type, you will likely discover other ways to improve your EHR inbox workflows. For example, Atrius Health found highly varied items within each folder:

- The Results folder typically contained a mix of routine preventative normal lab results and critically abnormal diagnostic results
- The CC'd Charts folder had a range of critical new diagnoses, prognoses, treatment plans, and routine follow-up visits
- Media Manager included scanned documents ranging from outside hospital discharge summaries to insurance-related authorizations.

This variation meant no simple or singular tactics could address all message types. The resolution required a multipronged approach of many smaller interventions combined.

Figure 1. Example of EHR Audit Log Data from an Internal Medicine Practice



Courtesy of Jane Fogg, MD, MPH, Atrius Health.

2. Develop a governance structure, strategic framework, and a target for inbox reduction

Inbox management is an ongoing improvement opportunity that should not be rushed by your organization. Reengineering how information is categorized in the EHR inbox and improving team-based workflows takes time. Preliminary optimization can take up to a year, with refinements from then on.

Governance structure

A successful program requires bringing the right leaders and frontline team members together. You can set your organization up for success by establishing a governance structure of stakeholders to resolve clinical issues, such as which results can go straight to the patient portal and bypass the inbox.

Establish a steering committee comprised of physician and advanced practice clinician leaders, nursing leaders, operations leaders, IT leadership, and IT design experts. Each stakeholder group can bring their expertise and learn from each other.

Depending on the size of your organization, you may also want to establish working committees for each inbox message category. These committees should include:

- Practicing physicians to guide important clinical decisions





- Nurse or medical assistant team members empowered to make greater contributions to inbox management
- Process improvement specialists to assist with change management
- Leadership to pave the way internally to make changes and to overcome any over-interpretation of policies and standards
- IT specialists to help redesign EHR protocols

Strategic framework

Establish a strategic framework to guide the initiative. One effective approach is “eliminate, automate, delegate, collaborate” (Table 1):

- **Elimination** is the removal of waste and duplication from the inbox
- **Automation** employs protocols and direct routing to task completion (eg, routing lab results directly to the patient via the portal without first sending them to the physician’s inbox)
- **Delegation** routes the inbox task to a team member to resolve independently whenever possible
- **Collaboration** involves sharing responsibility for message types among team members, such as between a physician and advanced practice provider (APP) or nursing colleagues

Table 1. The *Eliminate, Automate, Delegate, Collaborate* Approach to EHR Inbox Reduction

	Action	Potential Targets
<p>Eliminate</p> 	<p>Go upstream with <u>pre-visit lab testing and synchronized (90 x 4) prescribing</u> to eliminate Results and Renewal messages</p> <p>Get rid of low-value clinical information, <u>waste</u>, and duplication</p>	<ul style="list-style-type: none"> • Post-visit lab results • Prescription renewal requests for stable chronic medications • Duplicative notifications from the emergency department (ED) or hospital • Low-value Media Manager scanned documents • cc'd charts with low clinical value
<p>Automate</p> 	<p>Embed protocols and automated pathways into the inbox to resolve routine, repetitive tasks</p>	<ul style="list-style-type: none"> • Routine medication renewal requests • Normal lab and imaging results • Routine orders for protocol-based needs
<p>Delegate</p> 	<p><u>Direct tasks to team members</u> who can resolve them within their scope of practice and with clinical protocols</p>	<ul style="list-style-type: none"> • Patient portal queries to nursing oversight for research, resolution or triage • Test results requiring protocol-based actions
<p>Collaborate</p> 	<p>Share accountability for inbox tasks between 2 or more team members</p>	<ul style="list-style-type: none"> • Shared inbox with APP partner for a shared panel of patients • Cross-coverage inbox strategies for physician absences

Target for inbox reduction

Set an inspirational and aspirational target for inbox reduction that all stakeholders can get behind. A measurable goal is ideal because it holds teams accountable for the work, and the organization can celebrate it in year-end reporting. For example, “We will decrease inbox volume by 25% in 2 years.”

Putting Theory into Practice: UCHealth

UCHealth established a “reinventing the inbox” initiative, with vision and mission statements and a 4-phased action plan for inbox reduction.

- Vision statement: The inbox initiative will reduce the burden of messages by 90% by focusing on “today’s work today” and “keeping it simple,” fostering high-performing teams and outstanding patient care.
- Mission statement: We will reduce the inbox burden by eliminating low-value work, simplifying routine tasks, improving teamwork, creating a thoughtful response to patient requests, and constantly seeking further improvement.

The team then used their EHR audit-log data to understand the current state and variation between physicians and to track evidence that their interventions made a difference.

3. Eliminate low-value and duplicate notifications (“d/c the cc”)

Much of the content of the inbox does not need to be there. Many messages don’t contain useful information and should be eliminated at a system level. Examples include notifications for an ordered test that does not yet have results, or duplicate notifications, such as alerting a physician multiple times of a patient’s admission and discharge through the emergency department on their way to inpatient admission.

A major source of unnecessary inbox volume is the practice of routinely carbon copying (eg, cc’ing) visit notes to the referring physician or the primary care physician whenever another physician sees their patient. This dramatically adds to the overall volume of notes; most notes do not need to be seen by the primary care or referring physician. One approach is to “d/c the cc” or discontinue the practice of routinely carbon copying visit notes. If a physician wishes to copy another physician on their note, this is the exception rather than the norm. The sending physician should include a detailed explanation (beyond FYI) for why they are sending the note.

Putting Theory into Practice: UCHealth

Clearing clogged inboxes

The UCHealth inbox redesign journey kicked off with a grand gesture. We realized that older EHR inbox messages never expired, and hundreds of our physicians and APPs had inboxes with over 10,000 messages. Some clinicians’ inboxes had 15,000 messages. Many of these messages dated back years.

Involving our governance teams (including legal, compliance, medical, nursing, operational, and IT leadership), we decided to delete all inbox messages in all categories that were older than 6 months. We reasoned that by 6 months, patients would have addressed their concerns, found a different clinician, or been seen in the clinic and discussed their needs, results, or requests.

In December 2021, we deleted these messages in bulk. To avoid EHR performance slowdown during the clinic day, we cleared messages in the evening. It took nearly 3 weeks to delete 12 million messages. In concert, we also set a new 90-day expiration date on all new incoming messages for a similar reason and to avoid having this problem occur again in the future. Incidentally, if there are individual messages that physicians or APPs wish to keep, they can forward

the message to themselves in the future. “Future-pended” messages can be easily searched and found. As a result, most physicians and APPs saw a visible drop in message volume in their inboxes.

Funneling relevant cc’d charts

At the Epic national meeting, we heard the phrase “d/c the cc” (discontinue the automated carbon copy) from another organization, and we implemented this change. In 2011, upon deploying the Epic EHR, we felt we were doing the right thing for internal communication by automatically sending a specialist’s note to the referring physician and the primary care physician. Over the years, we realized that inbox volume was skyrocketing. One full-time physician indicated that he saved “every other Saturday, all day” to read the hundreds of cc’d chart messages from his specialists, seeking the needle in the haystack: the 3 to 5 messages a week that truly had an action for him to consider. After stopping this automation, he said, “Now, I get personal notes from specialists when they want to call my attention to a specific action, or I see the patient in [the] clinic and read the notes in front of the patient.” He has his Saturdays back. We are working on a software improvement that will allow referring physicians to specify individual referrals where they can request that designated specialty notes be sent back to them when completed.

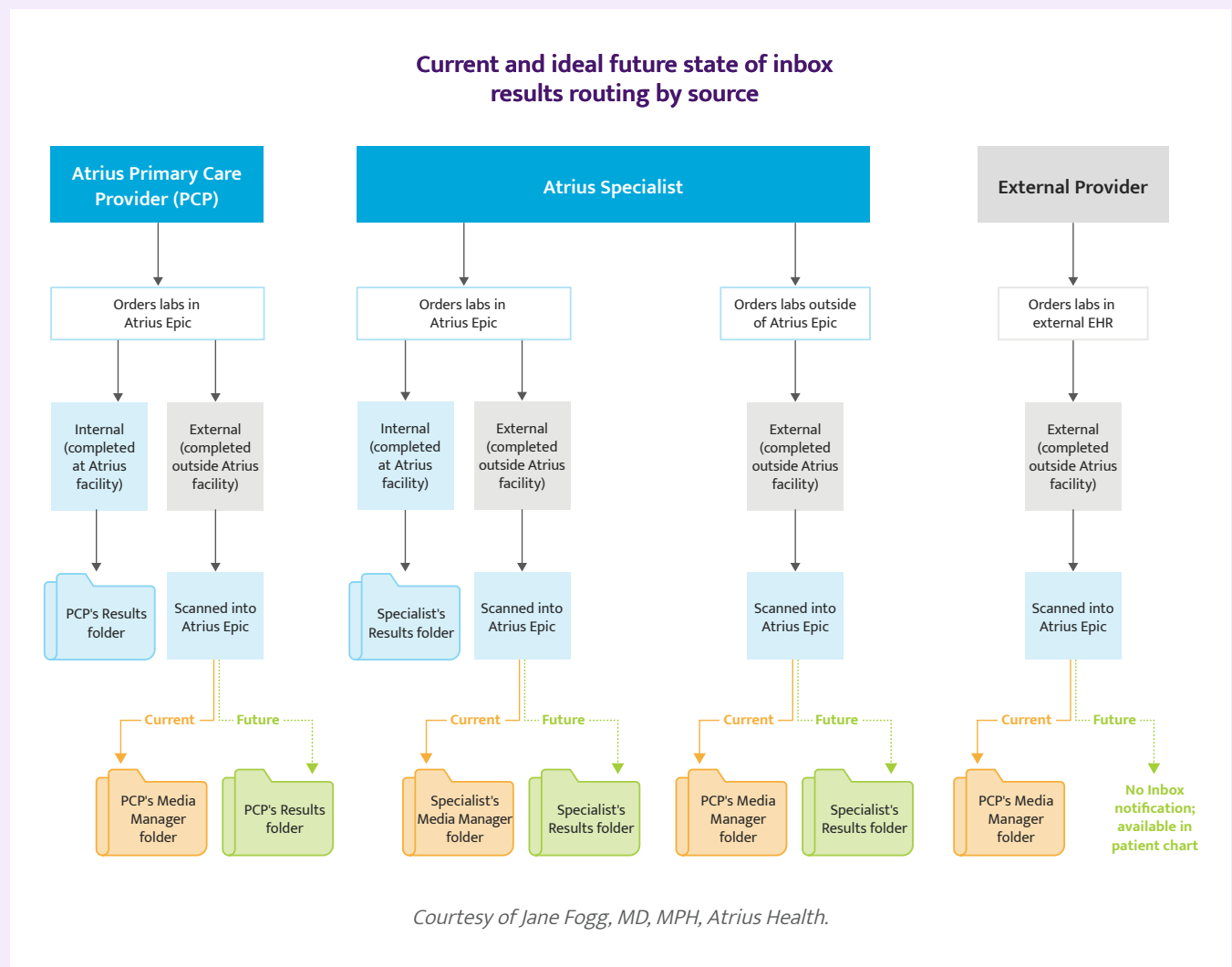
Putting Theory into Practice: Atrius Health

Getting rid of clutter in Media Manager

Media Manager is a folder for scanned documents. At Atrius, it accounted for 5% of the total inbox volume. It included any information received by fax or paper and not available electronically. The team scrutinized the contents of the Media Manager messages to look for waste, duplication, and opportunities to reduce the size of this folder. Primary care physicians (PCPs) struggled to find relevant clinical information among the large volumes of extraneous information. Additionally, some Media Manager items were mislabeled, causing physicians to miss important information.

At Atrius, a governance committee of practicing PCPs reviewed the contents of Media Manager with the Director of Health Information Management. Items were categorized and assessed for clinical value. The governance committee discovered that when Atrius physicians ordered lab tests at outside hospitals, the results went to Media Manager (Figure 2). This made it likely that the ordering physician would not see the result—and it added clutter to the Media Manager folder. These tests are now re-routed to a Results folder in the inbox. The governance committee determined that other items in the Media Manager could be safely filed in the chart without notification and no longer routinely routed to the PCP's inbox. Atrius reduced the volume of messages in Media Manager by 98%.

Figure 2. Reengineering Results Routing to Decrease Media Manager Folder Volume.



The key learning from this tactic was that we could find waste and opportunity for improvement if we took the time to examine the contents of an inbox folder, understand the routing protocols, and use a clinical governance committee to decide on the appropriate changes.

Reducing CC'd Chart folder volume

CC'd Charts is a folder for consults, urgent care, and cross-coverage notes from colleagues. At Atrius, this folder comprised 16% of the total inbox volume. With this volume of daily messages, it was difficult to identify those of clinical importance for follow-up, such as a care plan change or outreach.

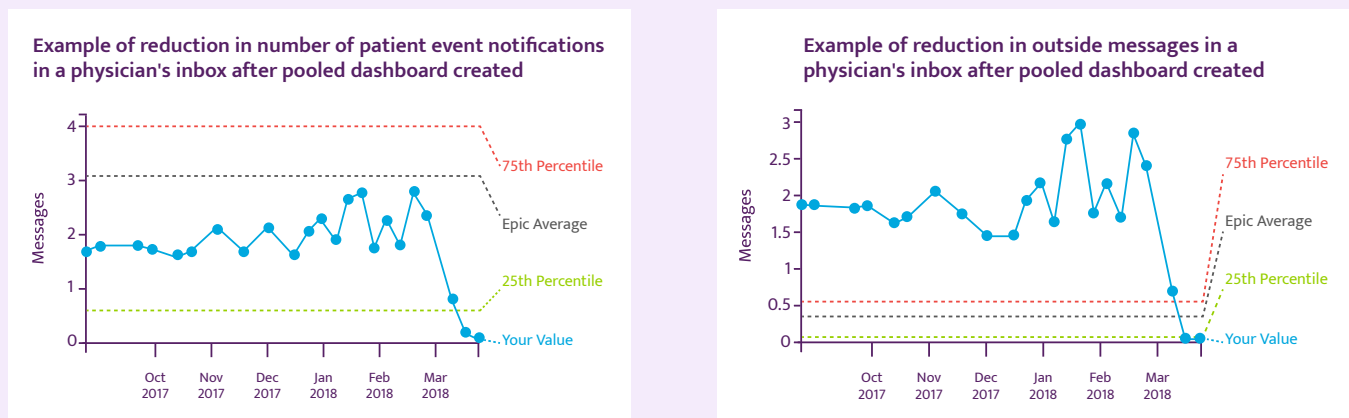
We approached the work with several tactics. First, we looked at the logic embedded in Epic that determined if a cc'd chart was automatically sent to a PCP. We uncovered wide variations by department and site. We engaged all stakeholders, including primary care, subspecialty, and urgent care physicians, to understand the intention of sending their notes and the clinical value to the PCP. We turned off the automatic routing, forcing all cc'd charts to be pushed rather than automated. We created a practice agreement on what to send and what not to send. The agreement spelled out that subspecialists and urgent care physicians should send new consults, significant changes in treatment, prognosis, or condition, or recommended action for another physician to make. **We asked that all sent notes have an attached customized comment to indicate the reason for sending.** Finally, after discovering that a large volume of cc'd charts remained active in the inbox, we purged all cc'd charts older than 60 days. The early results showed a 40% drop in monthly cc'd charts in PCP inboxes.

Stemming the flow of emergency department (ED) and hospital event notifications

PCPs receive automated alerts, notifications, and discharge summaries in their inbox through admission, discharge, and transfer (ADT) feeds from an array of local and national health systems. One hospital admission could generate 6 or more unique inbox messages. We found duplication of documentation and incomplete information in many of these messages. The timing of notification was not synchronous with clinical care, and drilling down on pertinent information was onerous.

We removed the automatic ADT routing to inboxes and pooled the notifications into a dashboard. The dashboard organized ED and hospital discharges by patient and provided the relevant information. When discharge summaries were available, the physician could access them via a link. Post-discharge calls and appointments are visible to the PCP as well. PCPs “pull” their dashboard on the main page of Epic at their discretion. We had nearly 100% elimination of ED and hospital event notifications in the inbox after turning on the dashboard.

Figure 3. Reduction of Inbox Notifications from Emergency Department and Hospital Events.



The key learning was that the gatekeeper model—where the PCP serves as quality control for care delivery, so all messages route through their inbox—meant ambiguous responsibility and potential safety hazards. We adopted a human factors engineering perspective that cognitive overload and distraction caused by overwhelming and cluttered inboxes were also hazard sources.^{1,2} We changed our professional norms from PCPs touching everything as quality control to trusting well-engineered systems to deliver reliable, high-quality outcomes.

4. Implement pre-visit lab protocols and 90 x 4 prescription renewals

Going upstream to implement pre-visit lab testing and annual prescription renewals (90 x 4, “call me no more”) protocols can significantly reduce inbox messages. For example, by arranging for patients to have their predictable prevention or chronic illness lab drawn a few days before their appointment, the physician can review the results once during the in-person visit. This pre-visit lab testing approach reduces the volume of results reporting and follow-up questions from the patient portal. Similarly, by renewing all of a patient’s stable chronic illness medications for 90 days with 4 refills (commonly referred to as 90 x 4) at a single annual appointment, a practice can eliminate most prescription renewal requests through the patient portal and outside of a patient visit.

Putting Theory into Practice: Medical Associates Clinic in Dubuque, IA

Incorporating pre-visit labs

The care team proactively schedules all prevention and chronic illness laboratory for the next appointment at the conclusion of the current appointment. The patient receives a reminder message to come in for the lab test close to their appointment time. The nurse on the physician's team reviews the labs for actionable abnormal results, researches the clinical history behind any abnormal results, and reviews with the physician to schedule any additional testing (if needed) before the appointment. The vast majority of pre-visit labs do not require forwarding to the physician's inbox and can be reviewed and acted upon once, in context at the time of the appointment, in partnership with the patient. Results constitute the largest category of inbox messages, so this approach markedly reduces the physician's inbox work.

Streamlining with annual prescription renewals

The physician renews all stable chronic illness medications for 90 days plus 4 refills at the time of the annual comprehensive care visit. Patients are seen at 3- or 6-month intervals, as their conditions require, but the physician and team are not repeatedly renewing stable medications for random intervals between appointments. In fact, a message requesting a prescription renewal between annual appointments indicates a breakdown in the system and should be rare.

5. Establish a single recipient for test results (“You order it, you own it.”)

Establish a policy of “you order it, you own it” to avoid the safety hazards associated with ambiguity about test result follow-up. This policy reduces the possibility that multiple clinicians believe someone else is responsible for following up on a result, risking a situation where a meaningful result falls through the cracks because no one took action. This also reduces the volume of test results in non-ordering physicians' inboxes.

Putting Theory into Practice: UCHealth

Applying single delivery

We used the principle of “single delivery” of test results. **We did not deliver a test result to more than one physician or APP under any circumstances.** This way, we avoided the “diffusion of responsibility” that can occur as a busy physician reasons, “Oh, someone else sees this too and will handle it.”

Putting Theory into Practice: Atrius Health

Routing results only to the ordering physician

We discovered that some information was routinely designated “route to PCP” when the intention and purpose of the message or test result was ill-defined, or ownership was ambiguous. We also found that many routing protocols generated unnecessary work and created confusion about who owned the test result. Within our governance structure, we developed protocols so that the default position was for results to return only to the individual who had ordered the test.

6. Automate routing of normal results to the patient portal and bypass the inbox

The automatic release of results to patients is federally mandated, and sending normal results directly to the patient portal (bypassing the physician's inbox) can safely reduce the inbox burden. Abnormal results, or results with high dependency on clinical context, should still be routed to the ordering care team in addition to the patient.

Ideally, the practice performs pre-visit lab testing and thus has the opportunity to address all results at an upcoming appointment. However, there are times when a patient is sent for testing after an appointment. Many of these results will return as normal, therefore not triggering additional evaluation or management. In such circumstances, sending the results directly to the patient portal is a safe alternative to reduce the inbox burden.

Putting Theory into Practice: Atrius Health

Redirecting normal test results

The Test Results folders comprised 19% of the total inbox volume and constituted the largest bucket of inbox work for our PCPs. These physicians felt overwhelmed both by the volume of results to manage and by the angst that they may miss significant findings buried by the sheer number of messages. With the success of prescription renewal automation, we looked again to automation to reduce the burden of the Test Results folder while also helping clinicians avoid missing a critical result.

A multidisciplinary team of physicians, APPs, nurses, IT, data scientists, and practice operations analyzed the contents of all internal medicine and family medicine results messages over 3 months and found that over 2 of 3 were normal. This translated to 20 normal labs per PCP per workday. We leveraged the EHR capability to share some of these results with patients automatically via the portal, bypassing the physician inbox. The team analyzed the most frequently ordered labs at the pilot sites to understand the potential impact of automated select labs. Examples of lab tests suitable for automation include basic metabolic panel (BMP), complete metabolic panel (CMP), HbA1c, vitamin B12, and vitamin D. Some lab tests could not be automated because the clinical context would impact interpretation and action, such as a lipid panel. We also added an option to “cc” a lab test to yourself if you wanted to see the results regardless of whether they were normal.

The initial pilot of 4 clinical sites showed a 25% reduction in the Results folder of the inbox. In 2021, we rolled the program out to the remaining sites, and in 2022 we added more lab results to the menu of those that could bypass the physician inbox. We have reached a sustained average of 30% result notification reduction across our service line.

We encountered some professional reluctance to adopt this approach. The idea of ordering a test and having the results go directly and only to the patient was indeed new. We engaged in open discussions about the role of a PCP in managing lower acuity care needs and the expectations of our patients. We also wanted to reduce the volume overload in results messaging that can lead to errors.

A key learning is that the engagement of physician leaders is critical. The steering committee met regularly to discuss and give feedback on metrics, workflows, and pilot design. Our physician leader addressed all individual PCP feedback.

7. Automate routing of prescription renewals to a refill pool

Another approach to divert prescription renewal requests away from the physician’s inbox is to develop protocols so that a [prescription renewal team](#) or automated technology can handle this task. This involves establishing standards for the types of medications that a team member can renew by protocol, the types of laboratory testing and specified time intervals per the medication class, and the visit frequency for clinical monitoring—all of which must also be evident in the EHR.

Putting Theory into Practice: Atrius Health

Decreasing prescription renewal volume

Prescription renewal requests made up 16% of the total inbox message volume, resulting in an average of 16 or more requests per day per PCP. Patients and pharmacies requested renewals by phone or fax, creating duplication and waste. Examining the volume at one of our smaller sites, we learned that it required 7.65 hours of administrative work per day to complete a fax review, chart review, and enter a refill encounter for all prescriptions. This single site with 5.6 FTE PCPs needed a full-time administrative assistant to enter renewal requests into the inbox. We also reviewed safety events related to renewals from pharmacy faxes at that site and found 36 incidents in 1 year.

We worked with our IT team to develop protocols for automated prescription renewal based on EHR evidence of appropriate monitoring tests and appointments. We created a clinical governance team of primary care and subspecialty care physicians, pharmacists, and nurses to determine what medication categories would be eligible for automated renewal by these protocols. Antibiotics, scheduled medications, and medications requiring close clinical oversight were deemed ineligible for automated renewal.

We piloted the renewal automation at 2 of our primary care sites. We gathered physician and APP input and identified further adjustments to improve workflows and ensure that the care gaps identified were clinically appropriate. Next, we worked with our legal, nursing, and senior leadership team to align our policy on automated prescription renewal.

Importantly, our workflow did not require a PCP to sign each approved medication reauthorization. Our renewal teams can facilitate a medication renewal request through a protocol and do not need to exercise clinical judgment. We invested in broad and robust communication across our organization and the participating service line.

One key learning was that the combination of ongoing clinical governance, sharing early results from our pilot, gathering physician input, and thorough iterative piloting supported broad adoption of the renewal automation process. Investing in pilot learnings enabled rapid spread across the remaining 19 sites. Automating prescription renewals reduced the inbox volume of renewals by 50% for our PCPs.

Putting Theory into Practice: UCHealth

Standardizing renewal of non-controlled medications

Through medical leadership decisions and technical changes, we decided to standardize our non-controlled stable chronic medications for a 90-day supply with 4 additional refills (90 x 4). **We replaced the “3” button for refills with a “4” button.** In addition, our technology searches out incoming automated refill messages from outside pharmacies and replaces a “90 with 3” request with a “90 with 4” request—calling this automated change to the prescriber’s attention. **We also display the relevant monitoring lab results within the same message, prompting the prescriber to simultaneously add the appropriate monitoring lab.**

8. Delegate remaining inbox triage to upskilled and empowered team members

Rather than having the physician be the first to respond to all incoming messages, it is a wiser use of limited resources to empower other care team members, such as medical assistants or nurses, to manage the inbox. They can process prescription renewal requests by protocol and answer some patient questions. For example, a medical assistant answering, “What was the date of my last tetanus shot?” or a nurse answering questions about testing for mild symptoms of COVID-19. Furthermore, a nurse can research the patient’s unique clinical context for abnormal lab results.

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Empowering nurses to manage the inbox

In our practice, nurses are partnered in stable pairings with their physicians and develop close working relationships. The nurses manage the inbox, address medical advice requests within a nurse’s scope, renew medications by protocol, review notes from other physicians, and perform the first review of laboratory results. For example, suppose a potassium level returns slightly below normal. In that case, the nurse reviews the patient’s medications and previous lab results and then calls them to see if they are taking their potassium supplements or have any symptoms of vomiting or diarrhea. Afterward, the nurse reviews the message with their physician for orders for next steps.

Putting Theory into Practice: Atrius Health

Delegating messages to other care team members

We had a long-standing system to triage our portal messages routing prescription renewals, clerical questions, and other items to the right team member. In 2020, we saw a sharp rise in nurse triage calls and patient-generated medical advice requests via the patient portal. We triaged messages about COVID to central nursing teams. Despite that effort, the questions directed to primary care physicians rose ~100%.

Our goal was to delegate the medical advice message to a different team member who could then “delegate up” to the physician as needed. A current state analysis showed wide workflow and team responsibility variation across our adult primary care practice. To determine the optimal team member to be the first recipient, we compared nurses and patient service representatives (PSRs). We found that PSR workflows were equal or superior in sustaining a ~40% reduction of messages going to the physicians. Beyond volume reduction for PCP inboxes, we chose metrics including turnaround time, percent of messages converted to appointments, patient experience, and clinician experience. We are spreading this model across our adult primary care sites at the time of this resource publication.

9. Collaborate using structured cross-coverage approaches during physician absences

Are physicians reluctant to take a vacation because they don't want to burden colleagues with their inboxes? Or do physicians spend an hour or more each day working down their inboxes while on vacation? It is important to develop a systematic approach to inbox coverage during physician absences, whether for vacation, illness, or other personal reasons. In some practices, a nurse addresses any need for action beyond protocol with the physician on call. In other practices, physicians are partnered and cross-cover for each other; in others, physicians and APPs form a practice team.

Putting Theory into Practice: Medical Associates Clinic in Dubuque, IA

Covering with nurse-physician or nurse-APP teams

The general internal medicine department assigns 1 to 2 nurses to each of their 12 physicians or APPs. These nurse-physician teams are stable each day, allowing efficient workflows and communication to develop. The nurse manages the inbox and refers messages to the physician, either verbally or by forwarding the inbox message. If the physician is out and their nurse(s) are working with another physician that day, the nurses continue to cover their primary assigned physician's inbox. If both the physician and the nurse(s) are out at the same time, the on-call nurse for the entire department manages urgent messages, addressing clinical concerns verbally with the physician on call for the day. The non-urgent messages remain for the practice nurse to review on return. It is common to schedule a half day for the nurse to address the non-urgent messages accumulated during their absence.

Putting Theory into Practice: Atrius Health

Covering with APP-physician teams

Each primary care physician is paired with an APP (nurse practitioner or physician assistant). Together they care for panels of 2500 patients as a dedicated team. This model's expectations are of shared accountability for managing the panel and the inbox. This required teamwork and trust, with the PCP and APP determining the optimal way to share an inbox.

There is also a clinical coverage department staffed by PCPs and APPs employed specifically to cover during extended physician absences, such as medical or maternity leaves or departures before a replacement hire. This coverage included inbox coverage and in-person and telehealth appointments as needed. This department also gave episodic help to physicians struggling with their inbox volumes and needing relief to catch up. Several PCPs successfully emerged from this inbox assistance with additional skills and support.

Conclusion

The volume of inbox work has become unsustainable for many physicians. Performing a detailed analysis of inbox message categories followed by a multi-stakeholder approach to eliminate, delegate, automate, and collaborate on inbox work can enable practices to reduce message volume while preserving the clinical team's ability to provide exceptional patient care.

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EHR Inbox Reduction Checklist for Health Care Organizations

Guiding Principles

<input type="checkbox"/> Establish an inbox reduction task force	<p>The task force may include the following:</p> <ul style="list-style-type: none"> • A C-suite-level organizational champion • Clinical operational leaders • IT operational leaders • Compliance professionals • Patient experience leaders • Practicing physicians • Care team members • A process improvement specialist (in-house or consultant) • An EHR vendor representative <p>Financial investment may be required to ensure the task force has adequate time and resources for this effort.</p>
<input type="checkbox"/> Use EHR audit-log data	<p>This data will help the task force understand the current state and assess the impact of interventions to reduce inbox volume. For example, Epic’s Signal data or Oracle Cerner’s Advance program data can help identify variations in the number of messages per 8 hours of patient scheduled time within and across specialties. Additionally, with this data, the task force can analyze the volume of messages in different subcategories.</p>
<input type="checkbox"/> Create a culture of a shared team inbox	<p>Establish the cultural norm that the inbox belongs to clinical teams or pods. Use nomenclature that reflects this culture, for example, by referring to the “practice’s inbox” or the “care team’s inbox” rather than the “physician’s inbox.”</p>
<input type="checkbox"/> Go upstream	<p>Start with a goal of preventing unnecessary messages from entering the inbox in the first place rather than increasing the efficiency of message handling (though both are important).</p>

Starting Tactics

<input type="checkbox"/> Consider deleting most inbox messages that are >6 months old	<p>Some organizations have found that starting with a grand gesture like this establishes credibility, ensures buy-in, and gives hope that inbox reduction will be successful (Note: This may take several weeks to complete because of the volume of messages).</p>
<input type="checkbox"/> Auto-expire any message >3 months old	<p>Let teams know that this will be the norm from this point on unless messages are individually marked for exception.</p>
<input type="checkbox"/> Empower patients to identify the topic of their messages for appropriate triage	<p>Patients know the nature of their requests best. Guide them through the message navigation and triaging process with an “I want to…” sorting window. For example, “I want to…ask for medical advice, ask a question about a test result, refill a prescription, make or cancel an appointment, request a referral, or other.”</p>
<input type="checkbox"/> Provide patients with self service options	<p>Facilitate opportunities for patient self-service, such as self-scheduling in select departments.</p>
<input type="checkbox"/> Establish team pools	<p>A team pool consists of care team members, including RNs and MAs. All patient messages within a practice or clinical unit should go to this pool first, not directly to the physician. In this model, only questions that MAs or RNs cannot handle are managed by physicians.</p>
<input type="checkbox"/> Assign an RN or MA to each physician as the primary manager of their inbox	<p>This care team member takes ownership of the inbox and manages all incoming messages, resolving anything they can on their own. For messages outside their scope, they should “mature the message” to make it as useful and actionable as possible, before delegating to another team member. After additional research on a message, if it is necessary to consult a physician or APP, verbal communication is preferred when possible, as it may be more efficient and safer than forwarding the message.</p>
<input type="checkbox"/> Establish the expectation that physicians and advanced practice providers (APPs) do not access their inboxes while not working (for part-time clinicians) or on vacation	<p>Set the precedent that clinicians do not check messages when they are out of the office and not on call. Employ the training and skill of RNs to manage most of the inbox, with backup assistance from the covering APP or physician. Some organizations pair physicians to cover for each other while one is away if there is anything the RN can’t resolve. The expectation is to “treat it as your own” so that physicians leave with and come back to an empty inbox.</p>

Tactics for Individual Message Types

Patient requests for medical advice	
<input type="checkbox"/> Leverage the training and skill of MAs and RNs	Team members should thoroughly research all patient requests for medical advice and take action to the full extent of their ability and within their scope of practice before “delegating up” to a physician or APP. This is sometimes described as “maturing the message.” Avoid light “touch and pass” transfers with comments such as “please advise.” Encourage information coupling (presenting information necessary for clinical action on a result, such as previous hemoglobin levels with a newly abnormal level) as well as proactively pending orders for review and signature (in those settings where a signature is required).
<input type="checkbox"/> Institute reimbursable patient portal encounters	Several organizations have recognized that care delivered through the patient portal can and should be reimbursed and are piloting programs to that effect.
Prescriptions	
<input type="checkbox"/> Implement 90 x 4 refills	Establish a <u>90-day supply with 4 refills</u> as the default setting for medication orders for chronic medications.
<input type="checkbox"/> Automate refills	Develop protocols for <u>automated refills</u> if they meet defined criteria (eg, lab and appointment monitoring).
<input type="checkbox"/> Create a refill pool	Ensure refill requests route to a distinct team pool, not the physician’s inbox. Examples of sources of refill requests to direct to the refill pool include those from pharmacies, patients, or created by another teammate.
<input type="checkbox"/> Create intake templates for refills	Develop templates for the call center or front desk to capture all pertinent details when taking a refill request—this will capture all necessary information before the <u>request is sent to the refill pool</u> .
Results	
<input type="checkbox"/> Establish single delivery of test results	Route test results only to the ordering care team (“If you order it, you own it”). The ordering care team is responsible for following up on tests they ordered. If the care team wants another team or practice to take action, they must individually communicate with that team or practice.
<input type="checkbox"/> Route “normal, normal” results directly to the patient portal rather than the physician inbox	<p>Do not route “normal, normal” results (within the laboratory normal limits and normal in all clinical circumstances) to the physician’s inbox. The only exceptions is if, at ordering, the physician ticked a box requesting this result land in their inbox even if normal.</p> <p>The automatic release of results to patients is federally mandated, and sending normal results directly to the patient portal (bypassing the physician’s inbox) can safely reduce inbox burden. Abnormal results, or results with high dependency on clinical context, should still be routed to the ordering care team in addition to the patient.</p> <p>Ideally, the practice performs <u>pre-visit lab testing</u> and thus has the opportunity to address all results at an upcoming appointment.</p>
<input type="checkbox"/> Don’t route tests ordered without results	Turn off notifications of tests ordered without results.
<input type="checkbox"/> Batch non-urgent results	Batch all non-urgent ordered tests (excluding those that take longer than 24 hours to result) drawn at the same time for a given patient to arrive in a single inbox message.
<input type="checkbox"/> Establish protocols for results from routine screening tests	<p>Don’t route normal screening results (eg, mammogram, colonoscopy, DEXA scan) to the care team’s inbox. The only exceptions is if, at ordering, the physician ticked a box requesting this result land in their inbox even if normal.</p> <p>For abnormal results, use protocols to schedule a follow-up visit and initiate referrals as needed.</p>
CC’d charts	
<input type="checkbox"/> Turn off automatic cc’d charts (ie, “d/c the cc”)	Establish that charts should be cc’d only in limited, specific circumstances and that this is not the default setting (“say bye to the FYI”). If a physician wants to send their visit documentation to another physician, they must attach a note explaining why they are sending it. If the sender is requesting a specific action from the receiving team, they must indicate this via a personal, attached communication.

Tactics for Individual Message Types (continued)

Referrals	
<input type="checkbox"/> Create a process for declined referrals	Route notifications about declined referrals to the appropriate team pool rather than the referring physician's inbox. This includes notifications about an office being unable to contact a referred patient or a patient declining a referral. Forwarding the notification to the physician with "please advise" is not recommended. Instead, implement a close-the-loop process that ensures the inbox manager has a clear path and guidelines to follow when a patient declines the referral.
<input type="checkbox"/> Create intake templates for new referrals	Create a referral template for the call center, front desk, or clinical teammates to use when a patient requests a new referral. This template will ensure vital information is captured. Ideally, the inbox manager researches the request and discusses it with the physician or APP, who can decide whether the patient needs to be seen or a referral can be provided without a visit.
Admission, discharge, and transfer (ADT) notifications	
<input type="checkbox"/> Don't route ADT alerts to physician inboxes	Switch from push to pull notifications. Route all ADTs directly to an organizational dashboard where clinicians can pull the information rather than having it routinely pushed to their inboxes.
Media manager	
<input type="checkbox"/> Bypass the inbox so documents go directly into the chart	Establish protocols to file outside consultation notes, urgent care visit documentation, or results of tests not ordered by a clinician within the team straight into the chart, bypassing the team's inbox. Route any results of tests performed at an outside facility but ordered by a clinician within the team to the Results folder (if a result is "normal, normal" it would bypass the team's inbox, just as such results that originate within the organization do).

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