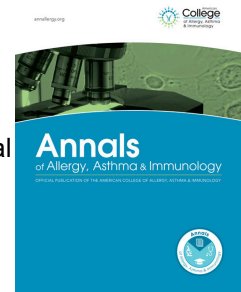


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Enhancing Practice Efficiency: A Key Organizational Strategy to Improve Professional Fulfillment in Allergy and Immunology

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Enhancing Practice Efficiency: A Key Organizational Strategy to Improve Professional Fulfillment in Allergy and Immunology

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Objective: To review evidence-based strategies which have been shown to improve professional fulfillment and reduce burnout by enhancing practice efficiency.

Data Sources: A comprehensive literature review was conducted to evaluate strategies to improve efficiency of practice, a key driver of burnout among physicians. **Study Selections:** Studies of efficiency-enhancing practices relevant to allergy immunology were included.

Results: Professional burnout among physicians is prevalent, and is associated with negative outcomes affecting physicians, patients, and healthcare organizations. Recent surveys suggest at least 35% of US allergists-immunologists experience burnout. There are multiple drivers of professional burnout, some at the individual level and others at the organizational or practice level. Strategies to improve professional fulfillment may be conceptualized using the Stanford physician wellness framework, in which efforts target three reciprocal domains: culture, personal resilience, and practice efficiency. Organizational strategies which support physician well-being by creating a more efficient practice environment hold great promise, particularly for allergists-immunologists. The reduction of administrative burden and fostering of team-based care have been shown in multiple studies to be cost-effective strategies to improve physician and patient satisfaction.

Conclusion: In order to ensure the well-being of the US allergy immunology workforce and optimize patient outcomes, both private and academic allergy immunology institutions should prioritize the adoption and iterative evaluation and refinement of these strategies to co-create an efficient and ideal practice environment.

1 Introduction

Professional burnout is prevalent among US physicians, including allergists-immunologists, at rates significantly higher than the general working population.^{1,2} Recent limited surveys suggest at least 35% of US allergists-immunologists report symptoms of burnout.^{3,4,5} Burnout is defined as a work-related reversible syndrome characterized by emotional exhaustion, depersonalization, and low sense of personal accomplishment. Burnout can overlap with other features of physician distress, such as fatigue, stress, depressive symptoms, moral distress, and dissatisfaction with work-life integration.

The impact of burnout on clinicians, patients and healthcare systems is profound.⁶ At the individual level, there is a moral and ethical imperative to address burnout as it is associated with an increased risk of broken relationships, alcohol and substance use, depression and suicide. Burnout also threatens key patient outcomes, including quality and safety of patient care, with an increased risk of medical errors and decreased patient satisfaction. For health care organizations, burnout is costly, as it poses challenges to the retention and recruitment of physicians and patients.⁷

Given the current prevalence and impact of allergic and immunologic disorders, it is imperative to address burnout among allergists-immunologists. But how do we get there? What are the most effective strategies to go beyond merely eliminating burnout to helping allergy immunology clinicians achieve true professional fulfillment? In order to develop effective strategies, the drivers of burnout must first be understood. Inefficient, chaotic, and administratively burdensome work environments have been recognized as a key predictor of

clinician burnout.⁸ For allergists-immunologists, efforts to improve workplace efficiency may be particularly beneficial in rapidly and directly improving professional well-being. This review discusses evidence-based organizational strategies which have been shown to enhance practice efficiency, and thereby reduce burnout and improve professional fulfillment.

What drives professional fulfillment?

A growing body of evidence indicates that strategies to address burnout must intervene on a wide array of drivers, addressing both individual clinicians and the systems and culture of their surrounding work and practice environment. The Stanford WellMD model recognizes three reciprocal domains that directly drive physician fulfillment: personal resilience, culture of wellness, and efficiency of practice.⁹ (Figure 1)

The model's first domain, personal resilience, relates to factors at the level of individual clinicians which influence their ability to thrive despite challenging external circumstances. Personal resilience encompasses individual skills, behaviors and attitudes that contribute to personal well-being.⁹ Resilience interventions may focus on self-care, self-compassion, work-life integration, social and family support, or cognitive and emotional flexibility.⁹ Resilience tools for individuals or work units are more powerful if simultaneously undergirded by *organizational* efforts to improve culture and efficiency.

The second domain of well-being, an organization or practice's culture of wellness, is determined by how that work environment promotes self-care, personal and professional growth, and compassion for colleagues, patients, and self.⁹ Strategies to optimize

organizational culture may seek to enhance leadership, meaning in work, peer support, community, flexibility, and autonomy.⁹

The third well-being domain, efficiency of practice, may be conceptualized as the value-added clinical work accomplished divided by the time and energy the physician had to expend to complete those tasks. While technological advancements have improved medical diagnosis and treatment, patient communication, and access to clinical data, this has not come without a price, namely the increased administrative burden on physicians.¹⁰ Outpatient physicians now spend twice as much time on clerical tasks and clinical documentation as they do in direct patient care.¹¹ Practice inefficiency and chaos are driven by an imbalance between patient care demands and available resources. The key contributors to insufficient resources include excess administrative burden, as above, as well as inadequate staffing and inefficient workflows.⁸ Chaos in clinical settings has been shown to be associated not only with increased risk of medical errors, but also burnout, stress, and intent to leave practice.⁸ Given that most allergists-immunologists practice in busy ambulatory settings, practice efficiency is a key domain to target to mitigate burnout and improve fulfillment.

Proven Strategies to Enhance Practice Efficiency

There are several evidence-based tactics to improve practice efficiency which may be particularly relevant to allergy immunology. Strategies to improve documentation burden, team-based care, and inefficient workflows will be discussed below.

Improving Electronic Health Record (EHR) Usability

Poor usability and increased burden created by the EHR have been identified as significant sources of clinician burnout and job dissatisfaction.¹² The higher a physician's EHR task load, the greater the likelihood of burnout and intent to leave practice.¹³ Documenting in the EHR during patient visits also takes physicians away from face-to-face contact with patients, which can diminish their sense of meaning in work. Furthermore, documentation complexity has greatly expanded after-hours work. Approximately 50% of physicians' workdays are comprised of EHR data entry, and an additional 30 hours per month are spent on after-hours completion of EHR tasks on nights and weekends.^{12,14} Sinsky et al. found that for every hour physicians engage in direct patient care, two additional hours are spent on EHR and clerical work.¹¹ While some documentation may have been performed during the patient visit, many physicians leave completion of their documentation for the end of day, and then spend one to two hours per night working in the EHR.¹¹ Given these findings, it is clear that documentation burden is a significant threat to the sustainability of safe, satisfying and effective patient care.

Several interventions have been studied and shown to improve EHR usability and burden. (Table 1) Some measures target ease of data entry into the EHR. Streamlining of data entry and documentation through reduction of "clicks" and log-in times have been beneficial. For example, rapid EHR sign-on using "tap and go" technology has been demonstrated to save 56 hours per year of physician time.¹⁵ Deletion of unnecessary data fields and automatic population of certain fields has also been found to improve documentation burden.¹⁶

Training physicians in optimal use of the EHR is another strategy that holds promise in easing documentation burden. At institutions where formal EHR training and support is

provided, perceptions of the EHR are improved.¹⁷ This training may be most effective when it is led by peer physician "super-users," who are experienced with efficiency accelerators. Two studies found that a three-day intensive EHR training improved documentation proficiency, job dissatisfaction, and work-life balance.^{18,19}

Beyond the level of the individual physician, national efforts are needed to lessen EHR documentation burden. The 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act established guidelines for "meaningful use" compliance. These guidelines laid out specific documentation requirements, which in large part have contributed to the inefficiency and burden of the EHR.²⁰ National efforts for regulatory change may help address this problem, by calling for prioritization of interoperability, or standards of seamless data sharing which would require less data input by physicians themselves.²¹

Decreasing Documentation Burden: Scribes

While, as described above, some benefits can be gained from enhancing EHR usability, a more sustainable strategy to improve physician satisfaction and burnout is the sharing of EHR documentation tasks with other members of the healthcare team. The most widely studied method of reducing physician documentation burden is the use of scribes, healthcare team members trained to document patient visits. Two recent papers have specifically examined the benefits of using scribes in allergy/immunology.^{22,23} The tasks performed by medical scribes vary depending on the clinical setting, but may include collecting prior records and results, documenting the medical visit in real time, documenting laboratory results, and preparing patient educational or discharge instructions. The Joint Commission states that scribes may be

unlicensed, licensed or certified, and should meet certain minimum standards criteria, such as training in medical terminology, electronic medical records, and electronic order procedures.²²

Various professional roles may serve as scribes as part of team-based documentation, including professional scribes, medical team scribes, student scribes, and digital scribes.²² Professional scribes are employed and trained by scribe companies. While this model relieves the physician of training burden, it may not allow for adequate background in specialty-specific documentation. Medical team scribes are members of the healthcare team, such as medical assistants, nurses or advanced practice providers, who support documentation completion, often in a model which pairs them with a physician. Benefits of this form of team-based documentation include specialty-specific expertise as well as the ability of the team member to provide additional patient care services, including procedures, patient education, and care coordination. Student scribes may typically be post-baccalaureate or medical students seeking additional experience through the authoring of clinical documentation. While student scribes may have a lower salary expense than professional or medical team scribes, their high turnover rate requires frequent training of new scribes.²² Digital scribes will use artificial intelligence, speech recognition and natural language processing to document the patient encounter, but they are not yet ready for clinical practice.

Several studies have documented the positive impact of scribes on efficiency, productivity and patient satisfaction. A 2017 randomized controlled trial of the use of scribes in an academic family medicine clinic found that scribes improved all aspects of physician satisfaction, including a more than ten-fold increase in the odds of overall satisfaction with

clinic.²⁴ The use of scribes also resulted in improvements in time spent charting, chart quality and accuracy, and the proportion of charts closed within 48 hours, with no detrimental effect on patient satisfaction.²⁴ Likewise, a meta-analysis of 8 studies evaluating the use of scribes in emergency departments found consistent increases in physician professional satisfaction with unchanged or improved patient satisfaction.²⁵

While scribes do carry an additional salary expense, their use has been shown to enhance productivity, thereby generating additional revenue in excess of their expense. A study in an academic emergency department reported that use of scribes resulted in a significant improvement in revenue value units (RVUs) generated per hour. In outpatient settings, financial productivity is also boosted as scribes allow for physicians to see more patients daily and include more comprehensive billing codes in their documentation.²⁶ A 2017 study in a large outpatient urology office found that scribes increased both office E&M (evaluation and management) visits as well as total RVUs.²⁷ Over 50 additional visits were performed per month, which generated revenue of almost three times the scribes' expense.²⁷

Implementing Team-based Models of Care

Chaos in clinical work environments is driven by an imbalance between demands (patient volume, complexity and severity) and resources (the number of healthcare team members, their degree of teamwork, and their individual and collective efficiency).²⁸ A lack of teamwork among members of healthcare teams is associated with an increased risk of medical errors, burnout and intention to leave the profession.²⁹ In team-based models of care, each member of the health care team functions at the top of his or her license, thereby improving

efficiency of patient care and ultimately the well-being and engagement of all members of the team. It involves a strategic redistribution of work among members of a practice team, such that the right person is doing the right work at the right time.

Team-based care has many benefits. It engages a greater number of staff and allows the provider adequate time and focus to listen to patients, carefully consider differential diagnoses and treatment plans, and cultivate meaningful relationships with patients. Also, it provides team members the opportunity to gain knowledge and background of patients' history and treatment plans, which then allows them to better respond to patient questions and requests between visits. Team-based care provides more satisfaction to clinicians, staff, and patients, while being financially sustainable.³⁰ For example, patient-aligned care teams in which medical assistants (MAs) remain with patients during the entire visit, from patient rooming to discharge and care coordination, have been found to reduce physician burnout, improve satisfaction for both the patient and medical assistant, and save time, while being cost-effective.³¹⁻³³

Team-based models of "shared care" hold immense promise, but their effectiveness is dependent on adequate and stable levels of staffing to manage the workload, absences and turnover. Indeed, adequacy of staffing is associated with decreased burnout, enhanced satisfaction, and reduced turnover.³⁴

The American Medical Association's *Steps Forward* Program provides a roadmap of how to implement a team-based model of care.³⁵ The model is structured around several sequential components of the patient visit (Table 2):

167 1) *Pre-Visit Planning:*

168 The efficiency of a patient visit may be improved by a designated team member
169 obtaining outside medical records or test results before the visit. Also automated pre-
170 appointment reminders are useful in reminding patients to arrive early to complete pre-visit
171 questionnaires. The automatic population of this pre-visit information can then help to reduce
172 documentation burden.

173 2) *Pre-Visit Laboratory Testing:*

174 At the end of each appointment, the provider can order pre-visit laboratory testing for
175 the next visit. The provider can then review the results in person with the patient at the next
176 visit, and discuss interpretation and next steps. This approach saves times by eliminating the
177 need for follow-up phone calls or messages. Telemedicine may also be leveraged for follow-up
178 of lab results and prescribed treatment plans.

179 3) *Team Huddle:*

180 A 5-minute team huddle at the beginning of the day can allow the team to transition
181 from being “reactive” (always playing catch-up) to “proactive” (anticipating and coordinating
182 needs in advance). All members of the care team, including registration or check-in staff,
183 nurses, medical assistants, physicians, and advanced practice providers, may be included. The
184 huddle can facilitate planning of who will cover for any call-outs, anticipate busier times of
185 days, and foster cohesion in approaching the day’s activities.

186 4) *“Expanded Rooming:”*

During “expanded rooming,” the nurse or MA is empowered to enter certain elements of the medical history into the EHR, such as History of Present Illness (HPI), the Review of Systems (ROS), Past, Family, and/or Social History (PFSH), and any part of the chief complaint (CC) or history for new and established office/outpatient evaluation/management (E/M) visits. Of note, the billing practitioner must review the information and note in the medical record that s/he has supplemented and/or confirmed the information recorded by others.³⁵ The Nurse or MA can also reconcile medications, identify the purpose of the visit, and then hand-off the visit to the provider by summarizing the patient’s visit objective and any other pertinent information.

5) *Team Documentation:*

Once the provider enters the room, the nurse, MA or scribe documents the visit while the provider obtains additional history and develops the treatment plan with the patient. The nurse or MA also prepares the after-visit summary during this time.

6) *“Expanded Discharge”:*

During “expanded discharge,” the nurse or MA provides patient education and health coaching, reviews the plan of care (including printing and reviewing the visit summary), and conducts follow-up care coordination, such as ordering and scheduling of labs or studies.

7) *Documentation sign-off:*

After exiting the room, the provider reviews, modifies and signs the note in the EHR. Ideally, team-based care would allow the provider to fully complete documentation from one

patient visit before moving on to another, thereby minimizing after-hours documentation burden.

Clinical Re-design and Innovation

Clinical workflow re-design may greatly enhance practice efficiency through elimination of redundant efforts or improvements to physical clinic spaces. To be most effective, front-line physicians should be trained and empowered to participate in and lead clinical re-design and innovation.^{37,38} Physicians' unique perspective can help guide human-centered design of workplaces, leading to more sustainable solutions and reduced burnout.³⁹ Organizational leaders can help foster clinical innovation by encouraging physicians to propose creative new ideas and lead re-design efforts.⁴⁰

The co-location of team members is an example of a clinical workflow re-design which can greatly accelerate efficiency. Having physicians sit alongside the rest of the care team allows for more frequent and productive real-time communication. Patient questions and requests that come in throughout the day, for example via shared inboxes, can be quickly triaged, rather than waiting for the end of the day. Also, time is not lost with team members searching for each other in remote locations for urgent questions or information transfers. It has been reported that such team co-location can save thirty minutes of a physician's time per day.⁴¹

Another clinical re-design is placement of a printer in every exam room, which facilitates efficient printing of discharge summaries and other documents. This has been found to save another twenty minutes of time daily per physician.⁴¹ Finally, placement of large monitors

near work stations to closely follow patients' arrival and visit status can significantly accelerate patient visit flow, thereby saving fifteen minutes of physician time per day.⁴¹

Reciprocal Effects of Enhanced Efficiency on Resilience and Culture

The strategies discussed above to enhance practice efficiency have reciprocal effects on the other domains in the Stanford well-being model (Figure 1).⁹ Efforts to improve the efficiency of clinical environments often result in shift in culture, for example, a greater sense of teamwork and stronger value alignment with leadership. Similarly, measures to increase efficiency of practice lead to time savings for physicians, which may allow them the opportunity to engage in self-care and resilience-building activities.

Conclusion

Professional burnout is prevalent among physicians, including allergists-immunologists, and threatens the safety and quality of patient care they provide. Much of this burnout is driven by administrative burden and inefficiencies. Evidence-based, organizational strategies can create a more efficient practice environment by reducing administrative and clinical documentation burden, fostering models of team-based care, and encouraging physicians to engage in clinical re-design. We must also invest in complementary strategies to transform our local cultures of wellness and equip physicians with resiliency and self-care tools. Through these vital efforts, we can ensure the well-being and professional fulfillment of the US allergy immunology workforce and optimize the care and outcomes of our patients.

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Table 1. Strategies to Improve Electronic Health Record (EHR) Usability and Decrease Documentation Burden

Strategy	Tactics
Ease of data entry	• Deletion of redundant fields • Automatic text entry (autotext library and document templates) • "Tap and go" technology
EHR Training	• One-on-one EHR coaching and support • Intensive EHR training for new physicians
EHR Regulatory Policy	• National advocacy efforts to advance interoperability
Documentation assistance	• Scribes ○ Professional scribes ○ Medical team scribes (team-based documentation) ○ Student scribes ○ Virtual scribes and dictation tools • Patient-entered pre-visit data

Table 2. Components of the Team-Based Model of Care

Strategy	Tactics
Pre-visit Planning	• Team member obtains outside medical records and lab results • Patient completes pre-visit questionnaire
Pre-visit Laboratory Testing	• Physician or designee orders next visit's labs at end of visit
Team Huddle	• Pre-clinic huddle with all team members to plan clinic day's activities
"Expanded Rooming"	• Nurse or MA enters certain elements of medical history into EHR and performs medication reconciliation • Nurse or MA hands off to provider • Provider validates entered data
Team Documentation	• Nurse, MA, or scribe documents visit while provider obtains additional history and develops treatment plan • Nurse or MA prepares after-visit summary
"Expanded Discharge"	• Nurse or MA provides patient education, reviews plan of care, and conducts follow-up care coordination
Documentation Sign-off	• Provider reviews, modifies and signs note in EHR

Figure 1. The reciprocal domains of the Stanford physician well-being model⁹



To enhance the professional fulfillment of physicians, organizational strategies must target burdensome practice inefficiencies, as well as the reciprocal drivers of culture and resilience. Interventions in a given domain have a reciprocal effect on the other two drivers.

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Enhancing Practice Efficiency: A Key Organizational Strategy to Improve Professional Fulfillment in Allergy and Immunology

Key Messages:

- Professional burnout among physicians is prevalent, affecting at least 35% of US allergists-immunologists, and is associated with negative outcomes affecting physicians, patients, and healthcare organizations.
- Organizational strategies which support physician well-being by creating a more efficient practice environment hold great promise, particularly for allergists-immunologists, specifically by reducing administrative burden and fostering models of team-based care.
- Using scribes to document patient visits is a particularly effective strategy to enhance practice efficiency and physician well-being, while boosting productivity.
- Both private and academic allergy immunology institutions should prioritize the adoption and iterative evaluation and refinement of these strategies to co-create an efficient and ideal practice environment.