

# AAAAI Work Group Report: Physician Wellness in Allergy and Immunology



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**BACKGROUND:** Physician health and wellness can be negatively impacted by burnout, which, in turn, can lead to medical errors and early retirement. Burnout issues can start in medical school and progress during residency, fellowship, and throughout a physician's career. Previous studies have reported burnout rates between 45% and 54% for US physicians in general. However, there is currently little data regarding health and wellness specifically in the field of allergy and immunology.

**OBJECTIVE:** This workgroup report was developed to assess health and wellness in our specialty.

**METHODS:** The American Academy of Allergy, Asthma, and Immunology (AAAAI) electronically distributed an anonymous questionnaire using the validated mini-Z survey to a random sample of 1035 fellows and members. In addition to the mini-Z items, the survey queried personal and professional demographic characteristics, and included open-ended wellness questions.

**RESULTS:** A total of 138 fellows and members of the AAAAI completed the survey, yielding a 13% response rate. The burnout rate was 35%, which is lower than the national average among US physicians, and is overall encouraging. However, there is room for improvement. Limitations of the study include a small sample size as well as evolving definitions of burnout. **CONCLUSIONS:** Our results identify specialty specific concerns and can be used to inform the development of tailored interventions to improve wellness and minimize burnout. However, future surveys with a larger sample size are needed to obtain a more robust data set on allergy and immunology specific wellness challenges. © 2020 American Academy of Allergy, Asthma & Immunology (J Allergy Clin Immunol Pract 2020;8:1224-9)

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Physician health and wellness/well-being can be negatively affected by factors such as burnout, provider stress, and depression, which can lead to medical errors, early retirement, addiction, divorce, and suicide. Burnout has been defined as “an erosion of the soul caused by a deterioration of one's values, dignity, spirit, and will.”<sup>1,2</sup> The 3 classic burnout symptoms are exhaustion, lack of personal accomplishment, and depersonalization.<sup>1</sup> However, the definition of burnout is evolving.

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*Abbreviations used*

AAAAI- American Academy of Allergy, Asthma, and Immunology  
EMR- Electronic medical record  
MOC- Maintenance of Certification

Individuals often have their own definitions of burnout. It has been shown that burnout issues may start in medical school and progress during residency, fellowship, and throughout a physician's career.<sup>3</sup> Medical schools, residencies, and allergy/immunology fellowship programs may not devote sufficient time to this topic during training, and given the current and future health care climate, physician/provider health and wellness is going to become an increasingly challenging issue. Previous studies have reported burnout rates among physicians in the United States of approximately 45%, and burnout rates have increased over the past few years to approximately 54%.<sup>3,4</sup> There is currently very little data regarding health and wellness specifically in the field of allergy and immunology.<sup>5</sup> A 2017 Medscape Physician Lifestyle survey revealed a 43% burnout rate among allergists/immunologists (50% female burnout rate and 39% male burnout rate).<sup>6</sup> These numbers resulted from a single self-reported burnout question. However, the exact number of allergists/immunologists surveyed and specific wellness issues facing allergists/immunologists were not elucidated.<sup>6</sup> The 2018 Medscape Physician Burnout and Depression Report, a follow-up survey, was performed.<sup>7</sup> Of note, 15,543 physicians completed the 2018 survey: 61% self-reported as male, 39% female, and only 1% as allergists/immunologists (n = 155).<sup>7</sup> Across all specialties, 48% of women and 38% of men described themselves as burned out.<sup>7</sup> Forty-four percent of the allergists/immunologists reported experiencing burnout.<sup>7</sup>

This workgroup report was developed as a mentorship project under the American Academy of Allergy, Asthma, and Immunology (AAAAI) Leadership Institute Mentorship Program. This project led to the formation of a wellness workgroup in the Innovation Center of the AAAAI Office of Practice Management. This article describes the results of one mentorship project goal: to perform a wellness survey of the AAAAI membership to provide information on this topic in our field. Ultimately, we hope to use these results to develop and implement evidence-based wellness strategies and interventions for allergists/immunologists.

## METHODS

An electronic anonymous questionnaire using the validated mini-Z survey to assess wellness and burnout among AAAAI members and fellows was administered in 2018 by the AAAAI Practice, Diagnostics, and Therapeutics Committee. The mini-Z survey is a wellness survey originating from the "Z" (Zero Burnout Program) Clinician Questionnaire and was selected because of external validation and internal consistency across multiple surveys.<sup>8-10</sup> Surveys were sent to randomly selected members and fellows of the AAAAI in the United States at 6 separate 2-week intervals (approximately 1035 members and fellows in total, who each had 6 opportunities to complete the survey). Fellows-in-training were not invited to participate.

The survey included the questions listed in [Table I](#). In addition to the mini-Z items, personal and professional demographic characteristics were also assessed. A few questions were open-ended (Q24-

26 and Q37), to qualitatively assess burnout, stress, and solutions for professional well-being ([Table I](#)). The results were tabulated and evaluated by the Information Services team of the AAAAI and the authors of this workgroup report. The primary outcome of interest, burnout, was defined as per mini-Z criteria (a response of (c), (d), or (e) to question 29). Regarding statistical analysis, cross-tabulation and  $\chi^2$  tests were used to examine relationships between binary demographic characteristics and burnout. The Wilcoxon rank sum test was used to measure associations between continuous demographic characteristics and burnout. Analysis was performed with StataSE 9.0.

## RESULTS

### Respondent characteristics and clinical activities ([Table II](#))

A total of 138 surveys were completed, producing a 13% response rate, which is similar to other completed AAAAI surveys.<sup>11-13</sup> Because some participants did not complete all of the questions, the number of respondents to each question may vary, and both number of respondents and percentages are included for transparency. Forty-two percent (n = 58) of the respondents were women. Age range was between 38 and 77 years with a median age of 58 years. Current AAAAI membership is approximately 40% women, and approximately 51% of AAAAI members are between the ages of 40 and 69.<sup>14</sup> Forty-five percent (n = 61) had children/dependents less than 18 years of age. Thirty-nine percent (n = 48) of respondents were fellows in the AAAAI, 2% (n = 2) were members of the New Allergist Immunologist Assembly, 6% (n = 7) were division directors, and 4% (n = 5) were allergy and immunology training program directors.

Participants were asked to describe their practice setting and select all of the options that applied. Forty-seven percent (n = 61) were in private group practice, whereas 25% (n = 32) were in solo practice. Twenty-four percent (n = 31) were in academic practice, 10% (n = 13) were in hospital practice, and 2% (n = 2) were in military practice. Most (97%; n = 128) focused on an outpatient practice setting with the majority (69%; n = 90) also having some responsibility for in-hospital consultations.

Eighty-four percent (n = 114) of respondents had been in practice for at least 10 years. Nearly all (98%; n = 134) were involved in clinical care with 32% (n = 44) additionally involved in research, 38% (n = 52) in education, and 39% (n = 53) in administration. Thirty percent (n = 39) worked more than 50 hours per week, whereas 60% (n = 79) worked between 30 and 50 hours weekly.

Regarding the strength of a general professional support system, 52% (n = 68) reported marginal or satisfactory support and 42% (n = 54) reported a good or optimal support system. Ninety percent (n = 117) reported a satisfactory or higher degree of efficiency in their health care team working together. Of the 72 respondents who answered the question on specific support staff for patient care, 64% (n = 46) had advanced practice providers, such as physician assistants and nurse practitioners, with 29% (n = 21) having fellows in training, and only 7% (n = 5) using a scribe. Regarding allergy and immunology procedures, 90% (n = 119) performed oral food challenges and/or medication challenges, whereas 60% (n = 79) performed drug desensitization.

**TABLE I.** AAAAI Physician Wellness Survey questions

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Q1: Do you have children/dependents less than 18 years of age?

Q2: Are you single, married, or divorced?

Q3: Are you a member of the following groups?: Fellow, New Allergist/Immunologist, Division Directors Committee, Fellows hip Program Directors Assembly, RSL Assembly Member

Q4: How many years have you been in practice in allergy immunology?

Q5: In which of the following areas are you involved?: Clinical Care, Research, Education, Administration

Q6: Where do you dedicate the majority of your professional time?: Clinical Care, Research, Education, Administration

Q7: Is your position and/or salary dependent on research grant support?

Q8: Have you had research grant applications funded in the past 1 year?

Q9: Have you had research grant applications rejected in the past 1 year?

Q10: How many hours do you work per week?: <30 h, 30-50 h, >50 h

Q11: How would you describe your practice setting?: Private Practice-Solo, Private Practice-Group, Academic Practice, Hospital Practice, Veterans Hospital, Active Military Practice

Q12: Where do you spend the majority of your clinical time?: Inpatient, Outpatient

Q13: Are you on call for consultations in the hospital?

Q14: Do you take call outside the hospital?

Q15: On average, how many patients (inpatients and outpatients) do you treat per week?

Q16: In your practice, do you have support staff?

Q17: Do you have the following support staff for patient care?: Fellows, Advanced Practice Providers (Physician Assistant, Nurse Practitioner), Scribe

Q18: Do you perform the following procedures in your clinical practice?: Oral food challenge, Medication challenge, Drug desensitization

Q19: How many times per week do you perform the following procedures in your clinical practice?: Oral food challenge, Medication challenge, Drug desensitization

Q20: Do you regularly (>2 times per week) engage in any of the following activities?: Exercise, Yoga, Meditation, Personal Hobby, None of the Above

Q21: How would you describe the strength of your personal support system?: Poor, Marginal, Satisfactory, Good, Optimal

Q22: How would you rate your home life stress level?: Low, Moderate, High

Q23: How would you describe the strength of your professional support system?: Poor, Marginal, Satisfactory, Good, Optimal

Q24: Is there anything you would like us to know regarding physician wellness or burnout?

Q25: What is your biggest challenge?

Q26: What ideas do you have for change?

Q27: Overall, I am satisfied with my current job?: Agree strongly, Agree, Neither agree nor disagree, Disagree, Strongly disagree

Q28: I feel a great deal of stress because of my job: Agree strongly, Agree, Neither agree nor disagree, Disagree, Strongly disagree

Q29: Using your own definition of "burnout," please choose one of the answers:

- I enjoy my work. I have no symptoms of burnout
- I am under stress, and don't always have as much energy as I did, but I don't feel burned out
- I am definitely burning out and have one or more symptoms of burnout: eg, emotional exhaustion
- The symptoms of burnout that I'm experiencing won't go away. I think about work frustrations a lot
- I feel completely burned out. I am at the point where I may need to seek help

Q30: My control over my workload is: Poor, Marginal, Satisfactory, Good, Optimal

Q31: Sufficiency of time for documentation is: Poor, Marginal, Satisfactory, Good, Optimal

Q32: Which number best describes the atmosphere in your primary work area? 1-5 scale: 1: Calm, 3: Busy, but reasonable, 5: Hectic, chaotic

Q33: My professional values are well aligned with those of my department leaders: Agree strongly, Agree, Neither agree nor disagree, Disagree, Strongly disagree

Q34: The degree to which my care team works efficiently together is: Poor, Marginal, Satisfactory, Good, Optimal

Q35: The amount of time I spend on the electronic medical record (EMR) at home is: Excessive, Moderately High, Satisfactory, Modest, Minimal/None

Q36: My proficiency with the EMR use is: Poor, Marginal, Satisfactory, Good, Optimal

Q37: Tell us more about your stresses and what we can do to minimize them.

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AAAAI, American Academy of Allergy, Asthma, and Immunology.

### Wellness activities/issues

Seventy-two percent (n = 94) of respondents exercised regularly, 31% (n = 40) had a personal hobby, 14% (n = 18) performed meditation, and 7% (n = 9) performed yoga. In the survey, yoga was considered as a distinct entity from exercise or hobby. Forty-eight percent (n = 63) reported a good personal support system with 21% (n = 28) having an optimal support system. Fifty-two percent (n = 68) reported a moderate home stress level with 37% (n = 48) having a low home stress level.

### Career/job satisfaction

Sixty-nine percent (n = 89) of respondents reported overall current job satisfaction, and 62% (n = 81) reported satisfactory or better control over workload. However, 50% (n = 65) reported a great deal of stress because of current job.

### Prevalence (Figure 1) and predictors of burnout (Table III)

Thirty-five percent (n = 45) of respondents reported burnout symptoms. As in Table III, there was no significant difference in

**TABLE II.** Respondent characteristics (n = 138)

Women	42% (n = 58)
Men	58% (n = 80)
Married	91% (n = 124)
Single	5% (n = 7)
Divorced	4% (n = 5)
Group practice	47% (n = 61)
Solo practice	25% (n = 32)
Academic practice	24% (n = 31)
Hospital practice	10% (n = 13)
Military practice	2% (n = 2)

the prevalence of burnout between women and men; however, burnout tended to be more common in younger respondents and those with fewer years of experience though the differences did not achieve statistical significance. As expected, dissatisfaction with current job and elevated job-related stress were highly significant predictors of burnout. However, other work-related factors, such as control over workload, hours worked per week, type of practice, atmosphere, and value alignment with leadership, were not. Of note, there was a trend toward lack of adequate time for clinical documentation being associated with burnout. There were no significant associations observed between personal wellness practices (exercise, hobbies, yoga) and burnout.

### Open-ended answers to wellness and burnout issues

Regarding the qualitative responses to Q24 (Is there anything you would like us to know regarding physician wellness or burnout?), 13 respondents of the 76 who answered this question specifically mentioned issues with the electronic medical record (EMR), and 3 directly mentioned Maintenance of Certification (MOC) issues. With Q25 (What is your biggest challenge?), 25 of the 100 respondents mentioned the EMR as their biggest challenge with 15 of 100 mentioning difficulty in maintaining a healthy work-family life balance. As far as ideas for solutions for burnout/wellness issues are concerned (Q26), 6 of 78 respondents mentioned retiring early or leaving clinical practice altogether. In terms of solutions for stresses (Q37), 17 of 54 respondents mentioned improving the EMR, and 6 mentioned changing and/or eliminating MOC. Fifty-five percent (n = 70) of respondents reported poor or marginal time for documentation (Q31) with 53% (n = 68) reporting moderate to excessive amounts of time spent on the EMR at home (Q35).

## DISCUSSION

The results of this survey are overall encouraging. Seventy percent reported overall current job satisfaction. Sixty-nine percent of respondents also reported a good and/or optimal personal support system. Even though the burnout rate among AAAAI fellows/members (approximately 35%) is lower than the national average among all physicians (national surveys have reported an overall burnout rate of approximately 45%-54% among US physicians),<sup>3,4</sup> there is room for improvement. It should be noted that due to the various and evolving definitions of burnout, it may not be possible to directly compare results from past studies. The modestly higher burnout rate in younger respondents midway in their careers suggests that specific efforts may be targeted toward this group to ensure a sustained pool of

allergists/immunologists in the future. In addition, as practical stresses of today's health care climate continue to increase, the rate and risk of burnout should be reassessed at regular intervals. It is essential to minimize the burnout rate in our specialty. The promising results of the survey can also be used as a tool to attract medical students and residents to pursue a career in allergy and immunology, helping to ensure an appropriate and adequate specialty workforce. One potential limitation of the study is having respondents use their "own definition of burnout." This question is directly from the mini-Z survey, as described above. As the definition of burnout continues to evolve, individuals can identify their own perception of burnout and state of wellness. That being said, the mini-Z is a validated assessment of burnout. Furthermore, the Medscape studies asked physicians to self-report burnout as a single question as well. Also, because of the cost and length of some of the initial validated tools to assess burnout, studies assessing the correlation of single question measures with the full measures have been found to be useful and have been validated ("I feel burned out from my work").<sup>15,16</sup> One of the other shortcomings of the survey is a relatively low rate of completed surveys (13%; 138 completed out of approximately 1035 members/fellows who received them). The small sample size may result in difficulties in drawing definitive conclusions. As such, this may underestimate or overestimate the prevalence of burnout in that those who are most burned out would potentially not take the time to complete the survey. The AAAAI has over 7000 members and fellows,<sup>14</sup> and there may be a wide variation in wellness and burnout rates among these other members. Other shortcomings include a lack of more detailed information regarding the frequency of call schedules and specific workloads.

With regard to specific ideas for change, several members recommended adjusting the MOC program. In response to prior suggestions by board-certified members, the American Board of Allergy and Immunology has changed its MOC program from a 10-year recertification exam to 6-month block intervals of questions from clinically relevant articles on a variety of allergy and immunology topics.<sup>17</sup> It is surprising that there was a lack of a statistically significant effect (though there was a trend) of inadequate time for EMR documentation on burnout. However, many allergists/immunologists pointed out negative issues regarding the EMR, similar to physicians in other specialties.<sup>5</sup> Addressing EMR documentation issues may produce substantial direct benefits as well as enhancing the functionality and efficiency of the EMR. One potentially concerning issue is that 29% of respondents did not exercise regularly, and 70% did not regularly engage in a personal hobby, potentially placing them at higher risk of burnout.<sup>1</sup> In addition, multiple respondents mentioned leaving clinical practice altogether as a solution.

Periodically monitoring and appreciating the wellness needs of AAAAI members is imperative. As health care—related stresses such as additional bureaucracy and decreased reimbursement progress, burnout rates are likely at risk of increasing. Likewise, repeat assessment of burnout will be indicated as targeted measures to improve clinician well-being are implemented. Future open-ended questions can be used to evaluate members' specific grievances and potential solutions. Future surveys are needed to obtain a larger sample size and a stronger data set on wellness issues. Interventions designed to improve wellness among all our members can then be initiated with the goal to minimize burnout in our specialty; this will be our next step through the

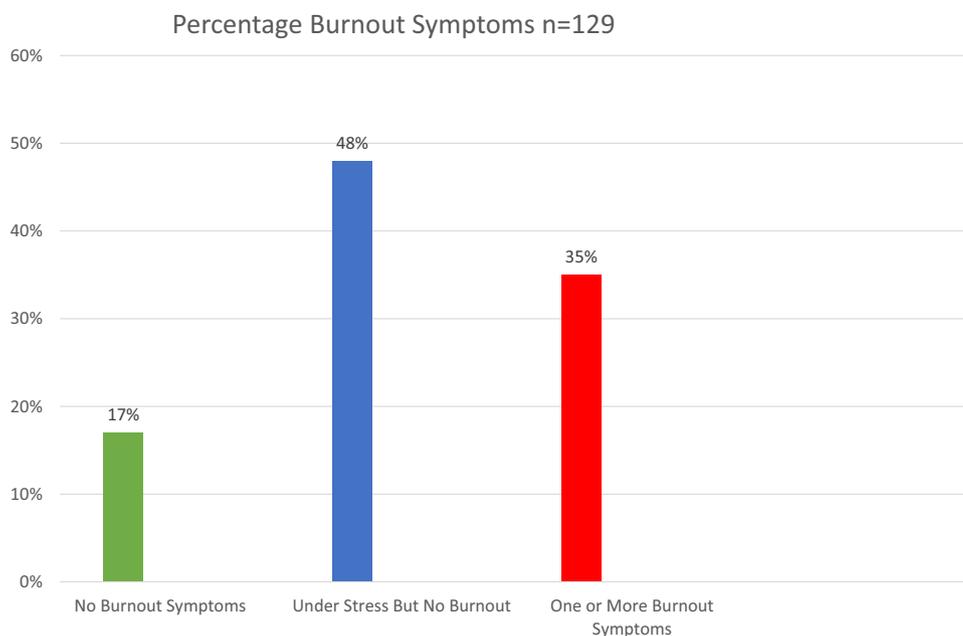


FIGURE 1. Frequency of burnout in allergy/immunology physicians.

TABLE III. Respondent characteristics and associations with burnout

Characteristic	All respondents (n = 138)	Burnout (n = 45)	No burnout (n = 84)	P value
Gender: female	42%	49%	37%	.19
Age (y), median (range)	58 (38-77)	52	59	<b>.046</b>
Years in practice (y), median (range)	18 (3-45)	15	21	<b>.025</b>
Patients seen per week, median (range)	50 (0-300)	50	50	.92
Not satisfied with current job	31%	61%	15%	<b>&lt;.001</b>
Elevated stress due to job	50%	78%	36%	<b>&lt;.001</b>
Poor control over workload	37%	42%	38%	.65
Chaotic work atmosphere	28%	33%	26%	.42
Lack of satisfactory time for documentation	54%	65%	48%	.07
Too much time spent on the EMR at home	53%	51%	55%	.72
Values not aligned with physician leaders	42%	47%	41%	.54
Hours worked per week				.98
<30	10%	9%	11%	
30-50	60%	62%	58%	
>50	30%	29%	31%	
Being on call	65%	62%	67%	.61
Type of practice				
Solo practice	25%	20%	26%	.43
Group practice	47%	44%	49%	.64
Academic setting	24%	22%	24%	.84
Personal practices				
Exercise	72%	64%	76%	.16
Yoga	7%	9%	6%	.53
Meditation	14%	9%	17%	.22
Hobby	31%	27%	32%	.52

EMR, Electronic medical record.

Bold values indicate significant P values < .05.

wellness workgroup in the Innovation Center of the AAAAI Office of Practice Management. The first step is addressing topics on wellness and burnout at local, state, and national

allergy meetings, including the AAAAI. To that end, we have proposed and will continue to propose programming at the annual AAAAI meeting and annual AAAAI Practice

Management Workshop and are in the process of developing internet/web-based educational platforms for use by AAAAI members. In the future, we will also propose to tailor solutions to the specific needs of certain high-risk groups within allergy/immunology, such as women,<sup>3</sup> younger members, and fellows in training. The goal of this workgroup is to provide the allergist/immunologist with the tools necessary to thrive in practice.

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