Family Physician Burnout Rates in Rural versus Metropolitan Areas: A Pilot Study

By Amy Hogue, MD, FAAFP; and Mark K. Huntington, MD, PhD, FAAFP

Abstract

Purpose: Physician burnout is prevalent in family physicians. Burnout has been associated with an intent to leave practice location. This is especially concerning in many rural areas, which already have physician shortages. While other demographic characteristics of burnout have been assessed, no previously published studies were found that have specifically compared family physician burnout rates in rural versus metropolitan areas. We hypothesized that rural family physicians have higher burnout rates due to increased practice demands and lack of resources.

Methods: Three hundred and two graduates of a Midwest family medicine residency program were surveyed to assess burnout rates in rural (practicing in towns less than 10,000 people) versus medium-sized towns (10,000-50,000 people) and metropolitan areas (greater than 50,000 people). Burnout was determined by a one question assessment tool that has been validated with the Maslach Burnout Inventory Emotional Exhaustion Index.

Findings: Ninety-nine surveys were completed. Twenty-five percent of rural respondents reported burnout, compared to 37.5 percent of respondents in medium-sized towns, and 51.4 percent of respondents practicing in metropolitan areas. These results were statistically significant (p value=0.0183).

Conclusion: These results were unexpected and may indicate that a rural practice location has a positive effect on physician well-being, which could encourage physicians to pursue rural practice. A larger study of this issue would be beneficial.

Introduction

Physician burnout is defined as high emotional depletion from clinical work, disconnection from patients, and a low sense of work-related achievement[1] and has been found to be prevalent in family physicians.[2,3] Burnout has been associated with an intent to leave practice location.[4,5] While this is concerning for physicians and patients in all geographic areas, an exodus of family physicians from their rural practices could have even more dire consequences given the shortage of practicing physicians in these areas. Burnout in rural physicians could lead to worsening access to health care and increased health disparities.

Multiple demographic factors have been associated with increased burnout rates in family physicians, including sex and younger age.[6] However, there are not any studies that have specifically compared burnout rates in rural family physicians to family physicians practicing in more populated areas.

We hypothesized that family physicians working in rural areas have increased burnout rates due to significant practice demands and potentially increased work hours, lack of resources, lack of ready access to specialty consultation, lack of privacy from patients, and increased isolation.

Methods

Institutional Review Board (IRB) approval was obtained for this study from the University of South Dakota IRB.

Online surveys were sent to 302 graduates of the Sioux Falls Family Medicine Residency Program using email

addresses available from contact information in an alumni database. Responses were collected during a three week period in November and December of 2017. One reminder email was sent. Subjects were instructed not to complete the survey if they are retired or not currently in a clinical practice.

Table 1. Demographics of survey respondents. There were no differences between the complementary subgroups (P > .05).

	Female	Male	Age ≤45	Age >45	Obstetrical deliveries	No obstetrical deliveries
Rural	16 (40%)	24 (60%)	19 (48%)	21 (52%)	20 (50%)	20 (50%)
Medium-sized town	14 (58%)	10 (42%)	15 (63%)	9 (38%)	12 (50%)	12 (50%)
Metropolitan	21 (60%)	14 (40%)	19 (54%)	16 (46%)	11 (31%)	24 (69%)

Subjects were asked demographic information including their age, sex, number of years in practice, practice scope, and population size of their practice location. Additionally, they were asked "Using your own definition of 'burnout' circle one of the answers: (A) I enjoy my work. I have no symptoms of burnout; (B) I am under stress, and don't always have as much energy as I did, but I don't feel burned out; (C) I am definitely burning out and have one or more symptoms of burnout; (D) The symptoms of burnout that I am experiencing won't go away. I think about work frustrations a lot; (E) I feel completely burned out. I am at the point where I may need to seek help." Responses C, D, and E were scored as "burned out." This single-item burnout question used in the Physician Work Life Study was selected for this survey because it has been shown to be well-correlated with the Maslach Burnout Inventory Emotional Exhaustion Index.[7,8]

Answers were tabulated after completion of the study period. Subject groups were classified as rural (10,000 people or less), medium-sized town (10,000-50,000 people), and metropolitan (greater than 50,000 people) based on the reported population of their practice location.

Pearson's chi square test was used to assess for statistical significance. Comparisons were determined *a priori*; no *post-hoc* analyses were performed.

Results

Of the 302 subjects emailed, 54 addresses were found to be invalid. One hundred and four surveys were started; 99 were completed in entirety. The final data set included the 99 completed surveys, for a response rate of 39.9 percent.

Demographically, while physicians in the rural group tended to be male, older, and practice obstetrics with deliveries compared to the metropolitan group (Table 1), these differences were not statistically significant.

The rural group had a burnout rate of 25 percent, compared to 37.5 percent in the medium-sized town group, and 51.4 percent in the metropolitan group. This was statistically significant at $p = 0.0183$ (Figure 1).

While not the focus of this study, burnout rates were also calculated for subgroups based on sex, age, and practice of obstetrical deliveries and are listed in Table 2. Due to its small size, the study was not adequately powered to assess statistical significance in subgroup analysis; results are presented as descriptive statistics only.

Discussion

Burnout rates in this study overall were similar to previously reported rates in family physicians.[3,6] However, the significantly lower burnout rate in rural areas was unexpected. Even though rural physicians may have increased practice demands, increased autonomy in the rural setting may contribute to less burnout. Lack of autonomy was found to be one of the strongest factors affecting physician satisfaction in a previous study.[9] Rural physicians may have stronger relationships with their patients and patients may be more appreciative of their care given the lack of other healthcare options, as has been suggested in other settings.[10] The variety of activities found in the broader-scope of practice characteristic of many rural sites may also be protective.[11] It is also possible that rural respondents have a better out-of-work lifestyle, which may contribute to the lower burnout rates. Another

Figure 1. Burnout percentage by general population of practice location. The lower rate seen in rural communities is significant ($P = .0183$).

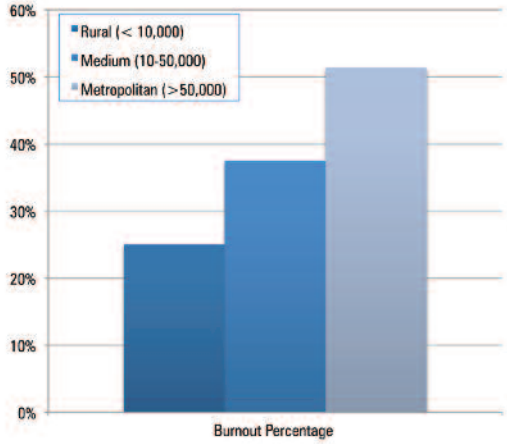

Table 2. Descriptive statistics of burnout relative to physician age, sex, and practice scope involving obstetrical deliveries. The number of respondents in each demographical category is followed by the number (percent) who screened positive for burnout. between the complementary subgroups (P > .05).

Sex of physician	Female	Male
Total	n = 51	n = 48
burned out	24 (47%)	13 (27%)
Rural	n = 16	n = 24
burned out	5 (31%)	5 (21%)
Medium	n = 14	n = 10
burned out	7 (50%)	2 (20%)
Metropolitan	n = 21	n = 14
burned out	12 (57%)	6 (43%)
Age of physician	**≤45 years**	**>45 years**
Total	n = 53	n = 48
burned out	16 (30%)	23 (48%)
Rural	n = 19	n = 21
burned out	3 (16%)	8 (38%)
Medium	n = 15	n = 9
burned out	6 (40%)	3 (33%)
Metropolitan	n = 19	n = 16
burned out	6 (32%)	12 (75%)
Obstetrical deliveries	**Yes**	**No**
Total	n = 43	n = 56
burned out	18 (41%)	19 (34%)
Rural	n = 20	n = 20
burned out	4 (20%)	6 (30%)
Medium	n = 12	n = 12
burned out	6 (50%)	3 (25%)
Metropolitan	n = 11	n = 24
burned out	8 (73%)	10 (42%)

possibility is that as rural physicians burnout, they move to more metropolitan areas, skewing the data.

There were several limitations to this study. This was a small sample size. The respondents are all graduates of a single Midwestern residency. While geography was not assessed, it is likely that the majority of respondents practice in the Midwest, which makes the results less generalizable at the national level. The residency program's mission statement includes training doctors for rural practice,[12] so respondents may have been self-selected for a preference for rural practice or lifestyle. This study only assessed the emotional exhaustion aspect of physician burnout; the survey question has not been validated to assess depersonalization or sense of work-related achievement.

It would be interesting to identify the specific characteristics of rural settings that contribute to the lower burnout rate. This study was not powered to assess the effects of age, sex, and obstetrical deliveries; however, some interesting trends were seen in the descriptive statistics that generate hypotheses for future study. Physicians practicing obstetrics with deliveries appear to have *lower* burnout rates in rural areas (20 percent vs. 30 percent), while higher rates of burnout were seen in medium-sized towns (50 percent vs. 25 percent) and metropolitan areas (73 percent vs. 42 percent). A very high burnout rate (75 percent) was noted in the subgroup of physicians 46 and older practicing in metropolitan areas. Questions specifically related to levels of autonomy, relationships with patients, participation in avocational activities, and time in practice at current and previous locations were not included. Future studies with a larger sample size encompassing graduates from multiple residencies, and incorporating these additional topics could provide insight.

The findings reported here may help with recruiting physicians to rural areas. Resident physicians who are considering rural practice – but are worried about burnout – can be assured that rural practice may in fact be *protective* against burnout. This will hopefully encourage family physicians to pursue rural practice where there may be more professional fulfillment and a higher quality of life.

While it is encouraging that there is less burnout in rural areas, a rate of 25 percent is certainly substantial and could still have a negative impact on rural patients' access to family physicians. Further research into how to best support rural physicians and prepare residents to be successful in these settings is needed. Potential ways to accomplish this include residency wellness curriculums that address factors unique to rural practice, expansion of telemedicine, and continued support of physician autonomy.

Acknowledgments: The authors would like to thank Raj Woolever, MD, for his guidance in this project.

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