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1. Introduction

State and city-level stay-at-home orders/advisories during the COVID-19 pandemic are an essential part of the public health response. These advisories directly and indirectly impact the professional and personal lives of physicians [1]. Before the pandemic, gender differences in work-life balance were present [2,3], and pandemic related impacts will potentially exacerbate these inequities. Physician organizations have focused on physician wellness in the face of this pandemic. To target interventions, it is important to understand the pandemic-related impacts on physician work and life [4]. This study examines changes in the professional status and personal responsibilities of physicians related to the COVID-19 pandemic and the stay-at-home advisories.

2. Methods

This is a cross-sectional, observational study of Massachusetts emergency medicine (EM) and pediatric physicians. They were selected to characterize effects of a single state’s stay-at-home advisory among physicians with different clinical impacts from COVID-19. This study was deemed exempt by the Institutional Review Board.

EM physicians were recruited through the Massachusetts College of Emergency Medicine Physicians (MACEP). Pediatric physicians were recruited through the Massachusetts Chapter of the American Academy of Pediatrics (MCAAP). The self-administered, anonymous online survey (Harvard Medical School Qualtrics™, Provo, UT) was distributed May 22, 2020 to June 27, 2020, which was phase 1 of Massachusetts reopening. The primary outcomes were changes in work hours and income and changes in hours spent on home-related care. We calculated descriptive statistics and comparative analyses between demographic and specialty groups using the chi square or Fisher’s exact test (tests two-tailed, alpha at 0.05). Analyses were performed using Stata Statistical Software v. 16.0 (Statacorp, College Station, TX).
Fig. 1. Change in hours spent on professional and personal responsibilities.
3. Results

The survey was returned by 205/1640 MCAAP (13%) and 76/792 MACEP members (10%), for 281 respondents total (Table 1). Questions about professional and personal responsibilities were completed by 260. Most respondents reported no change in employment (96%), but 47% reported a current or anticipated decrease in income. Pediatric physicians (8%) were more likely to experience a change in their employment status compared to EM and pediatric EM (PEM) physicians (0%, \( p < 0.05 \)). A minority (5%) of respondents reported being furloughed. There were no statistically significant differences by gender in changes to employment status or income.

Overall, 14% of physicians quarantined from their families. EM/PEM physicians (20%) were more likely to have quarantined than pediatric physicians (8%, \( p < 0.05 \)). Most physicians reported spending increased time on childcare, home schooling and household care (Fig. 1). This was accompanied by a decrease in hours spent on their professional physician duties and on self-care. More men (28.9%) reported increased hours spent on professional responsibilities compared to women (15.9%, \( p = 0.02 \)). Females spent more hours on childcare and household care than males (childcare: median [IQR]: 4.5 [0,20] versus 0 [0,8]; household 4 [0,8] versus 0 [0,4]), and less time on selfcare (−1 [−5,0] versus 0 [−4,0]).

4. Discussion

We report an early perspective of the personal and professional impacts of the COVID-19 pandemic on EM and pediatric physicians. Overall there was minimal change in employment; however, half experienced income decreases. This has been reported at a practice level, but the individual level impacts are less well described [5]. There were greater personal domain effects with one in five EM/PEM physicians quarantined from their family. Our study has limitations, including the potential for responder and recall bias, generalizability with surveying EM and pediatric physicians in one state, and the limited response rate.

Our study supports concerns for increased professional gender disparities during the pandemic stay-at-home advisory [2], including fewer scientific publication submissions by women compared to men [6]. These may be due in part to the hypothesized differential effects of school closures on women [7]. In our study, female physicians invested more time in child and household care and less time on self-care and professional responsibilities, compared to men. Awareness of gender-specific impacts is important or we risk continuing to exacerbate gender disparities in wage and leadership. Understanding these effects is also important to inform targeted efforts to support physician wellness and mitigate the long-term impacts of the COVID-19 pandemic on physicians.

Presentations

None.

Financial Support

No external funding was used for this study.

Declaration of Competing Interest

None.

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