



Disproportionate Negative Career Impact of the COVID-19 Pandemic on Female Pediatric Cardiologists in the Northeast United States

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Abstract

The COVID-19 pandemic has had a dramatic impact on practicing physicians, with effects in clinical practice, academic pursuits, research endeavors, and personal lives. Women in medicine have been uniquely impacted. We examined the impact of the pandemic on the careers of pediatric cardiologists in the Northeast with an anonymous online survey. Participants reported demographic data, information on work hours, administrative burden, career satisfaction, academic productivity, and burnout. We approached 490 cardiologists and received 127 completed surveys (response rate 26%; 49% female). Among all respondents, 72% reported increased burnout, 43% reported decreased career satisfaction, and 57% reported decreased academic productivity. In multivariable ordinal regression analysis, when compared to male physicians, females were 2.4 times more likely to report decreased overall career satisfaction ($p = 0.027$), 2.6 times more likely to report decreased academic productivity ($p = 0.028$), and 2.6 times more likely to report increased feelings of burnout “to a large degree” ($p = 0.022$). Among all respondents, decreased career satisfaction was independently associated with increased household responsibility (OR = 4.4, $p = 0.001$). Increased administrative burden was independently associated with decreased academic productivity (OR = 2.6, $p = 0.038$). Open-ended responses highlighted loss of community due to remote work and blurring of the boundaries between work and home. Conversely, respondents appreciated flexibility to work remotely. In conclusion, the majority of pediatric cardiologists in the Northeast experienced negative career impacts due to the COVID-19 pandemic. Important gender differences emerged, with female physicians disproportionately reporting increased burnout, decreased career satisfaction, and decreased academic productivity.

Keywords COVID-19 · Pediatric cardiology · Burnout · Women in medicine

Introduction

The COVID-19 pandemic has had a dramatic impact on practicing physicians, with effects in clinical practice, academic pursuits, research endeavors, and similarly, in personal lives. Compared to adult medicine providers, pediatric

cardiologists in the Northeast region (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, and Pennsylvania) were not frequently called upon to provide front-line care for COVID-19 patients during the first year of the pandemic. However, the day-to-day practice of this subspecialty of medicine necessarily changed when the pandemic began. Pediatric cardiologists have continued to provide inpatient and ambulatory care despite taking on personal health risks. In addition, there have been increasing administrative duties and triage tasks, cross coverages for ‘sick call,’ and new telehealth responsibilities. Many have continued to participate in medical education, often developing or using novel teaching strategies to meet the demands of virtual learners. As the pandemic has progressed, the expertise of pediatric cardiologists has been in demand to address the emergence of multisystem inflammatory syndrome in children, COVID-19 myocarditis, and

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to study and treat cases of myocarditis associated with the COVID-19 vaccine. The pace of being a pediatric cardiologist has remained rigorous during the COVID-19 pandemic, while additional household responsibilities have also been added, particularly for those with children or other dependents in the home. These changes have occurred against the backdrop of economic and social chaos experienced by all Americans.

Physician burnout in the pre-pandemic era was widespread and increasing, affecting physicians across all specialties and backgrounds [1–4]. The tremendous stress brought on by the COVID-19 crisis has further worsened career satisfaction and burnout levels among healthcare workers [5–7]. We have observed that pediatric cardiologists in the Northeast have not been spared from the additional stress and strain impacting physicians nationwide during the COVID-19 crisis. In the present study we examined patterns of career satisfaction, academic productivity, and burnout in pediatric cardiologists in the Northeast United States. By surveying pediatric cardiologists, we hoped to better understand the challenges facing this community and inform interventions to improve productivity and satisfaction going forward. We anticipated that physician career satisfaction and academic productivity decreased and feelings of burnout increased during the COVID-19 pandemic in this subset of physicians. Furthermore, we hypothesized there would be important differences in the physician experience based on gender and caregiving responsibilities, as has been consistently shown in emerging research on women in science, engineering, and medicine [7, 8]. Women in the work force have been uniquely and disproportionately impacted by the COVID-19 pandemic, and we hypothesized that female pediatric cardiologists were no exception. We aimed to probe for disparities within this group of physicians but also aspired to collect physician perspectives on strategies for managing stress and possible “silver linings” of the pandemic.

Methods and Materials

Study Design

This was a prospective descriptive survey study. The Institutional Review Boards of Boston Children’s Hospital and University of Massachusetts Medical School approved this study. This study was conducted in accordance with institutional guidelines. The survey for this study was designed by the authors and piloted among practicing pediatric cardiologists at Boston Children’s Hospital and University of Massachusetts Medical School. See the Supplemental File for a full list of survey questions.

The study was initially conceived through discussions at a regional collaborative professional pediatric cardiology association meeting with members from New England and nearby states. Potential participants were identified by a search of faculty listings at academic pediatric hospitals and private practices from the association’s membership. Eligible participants included 490 practicing pediatric and congenital heart disease specialists (including adult congenital heart disease specialists) in Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island and Vermont. Potential participants were identified by a search of faculty listings at academic pediatric hospitals and private practices.

Data Collection

An online RED-Cap-based survey was distributed via email to all eligible participants between August 23, 2021 and September 20, 2021. Anonymous survey results were captured in a RED-Cap database. The survey collected demographic information including gender, age, primary location of work, and primary area of focus within the field of pediatric cardiology. It also collected information on caregiver responsibility at home including whether there were children or elderly dependents in the home and whether the respondent self-identified as the primary caretaker. Additionally, participants were asked questions regarding the impact of the COVID-19 pandemic on their job, including change in hours of work, change in burden of administrative tasks, and whether they had considered leaving medicine for a different career path. Participants were asked questions regarding the impact of the COVID-19 pandemic on their personal lives including taking on more responsibility with household management, childcare, education of children, care for young adults, and care for elderly dependents. Finally, participants were asked about change in career satisfaction, change in academic productivity, and increased feelings of burnout during the COVID-19 pandemic. Open-ended questions allowed for participants to comment on aspects of their job that improved since the start of the pandemic, aspects of their job that are worse since the start of the pandemic and strategies used to address the common experiences of isolation, stress and exhaustion during this time period. See the Supplemental File for the full list of included survey questions.

Statistical Analysis

Categorical characteristics by gender were compared using a Fisher exact test. Each of the covariates and primary predictor were considered in separate univariate ordinal regression models with Change in Career Satisfaction as the primary outcome. A multivariable ordinal regression

model containing primary predictor (Gender) as well as the covariates of interest: (1) Age, (2) Children living at home, (3) Elderly living at home, (4) Change in work hours per week, (5) Primary location of work, (6) Change in administrative burden of work, (7) Change in responsibility with household management was also explored. These analyses were repeated for the two secondary outcomes: (a) Change in academic productivity and (b) Change in satisfaction with work-life balance.

Results

Demographics

A total of 127 practicing pediatric and congenital heart disease specialists in Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island and Vermont completed the survey (response rate 26%). Demographics of respondents are presented in Table 1. Women comprised 49.1% of respondents. The demographics of non-respondents in this cohort are not known. The current work force of board certified pediatric cardiologists is 62% males and 38% female [9]. In this cohort, the largest group of respondents were 41–50 years of age (36%). Sixty-six percent of respondents reported their primary location

Table 1 Demographics

Characteristic	No. (%)
Female ($N=116^*$)	57 (49)
Age (years) ($N=120$)	
30–40	26 (22)
41–50	43 (36)
51–60	29 (24)
61–70	17 (14)
71–80	5 (4)
Race ($N=120$)	
Asian	16 (13)
Black or African American	1 (1)
Hispanic/Latino	5 (4)
White	93 (78)
Other	5 (4)
Center size ($N=120$)	
Large (> 12 Faculty members)	83 (69)
Medium (6–12 Faculty members)	18 (15)
Small (1–5 Faculty members)	19 (16)
Primary location of work ($N=117$)	
Outpatient	77 (66)
Inpatient	22 (19)
Intensive Care	9 (8)
Administrative	3 (3)
Research	6 (5)
Do you have children living at home? ($N=119$)	83 (70)
Yes	
Do you have elderly dependents living at home? ($N=113$)	7 (6)
Yes	
Do you consider yourself primary caregiver for the dependents in the home? ($N=95$)	45 (53)
Yes	
Do you have a spouse/partner/significant other in the home? ($N=120$)	112 (93)
Yes	
Does your spouse/partner/significant other work outside the home? ($N=112$)	83 (74)
Yes	

* N corresponds to the number of respondents to each of the questions included in this table

of work as Outpatient. Overall, 93% of respondents have a spouse, partner, or significant other living in the home, and 74% report that their spouse, partner, or significant other works outside the home. Seventy-seven percent of respondents have children living at home, while 6% have elderly or other dependents living at home. Seventy-three percent of female respondents reported being the primary caregiver for dependents in the home, while 31% of male respondents identified as primary caregiver (p -value < 0.001).

Impact on Work Life

Since the start of the COVID-19 pandemic, 31% of respondents work more hours per week, 62% work the same hours per week, and 7% work fewer hours per week. Sixty-six percent reported increased administrative burden. A small fraction of respondents (8%) were reassigned to a role outside of their typical practice and department. Seven percent of respondents took leave from work, 22% reported decreased compensation, and 15% worried they may lose their job. Overall, 23% of respondents reported having given serious consideration to leaving medicine for a different career path; Female respondents were more likely to report serious consideration for leaving medicine compared to male respondents (35% vs. 12%, p -value = 0.004).

Impact on Personal Life

Since the start of the COVID-19 pandemic, 51% of respondents reported working more during “off-hours” in order to take on responsibility at home. Forty-one percent took on more responsibility with household management. Of respondents with children, 62% took on more responsibility with childcare at home, and 52% took on more responsibility for the education of their children at home. An additional 17% percent took on more responsibility for the care of young adults at home and 26% took on more responsibility for elderly dependents.

Impacts on Career Satisfaction, Academic Productivity, and Burnout

Overall, 43% of respondents reported a decrease in career satisfaction. Analysis of respondent characteristics and change in career satisfaction is presented in Table 2. In multivariable ordinal regression analysis, female respondents had 2.4 times higher odds (p -value = 0.027) than males of reporting ‘Strongly Agree/Agree’ versus the combined adjacent answer categories (‘Neutral’, ‘Disagree’, ‘Strongly Disagree’) to the question of “Overall, my career satisfaction since the start of the COVID-19 pandemic has decreased.” Increased responsibility with household management during the COVID-19 pandemic was independently associated with a decrease in career satisfaction (OR = 4.4, p -value = 0.001). Primary location of work, having children or elderly parents

Table 2 Association between respondent characteristics and reported change in career satisfaction

Overall, my career satisfaction since the start of the COVID19 pandemic has decreased:	Strongly disagreed (N=10)	Disagree (N=27)	Neutral (N=29)	Strongly Agree/Agree (N=54)	Univariate ordinal regression OR (95% CI)	P value	Multivariable ordinal regression OR (95% CI)	P value
Gender	No (%)							
Male	8 (80)	19 (73)	12 (43)	20 (38)	Reference		Reference	
Female	2 (20)	7 (27)	16 (57)	32 (62)	3.13 (1.57, 6.37)	0.001	2.38 (1.11, 5.19)	0.027
Do you consider yourself to be primary caregiver for dependents in the home?								
No	3 (50)	9 (56)	9 (39)	19 (48)	Reference		Reference	
Yes	3 (50)	7 (44)	14 (61)	21 (52)	1.12 (0.5, 2.47)	0.786		
Has the burden of administrative tasks in your job changed during the pandemic?								
No change	4 (40)	11 (41)	9 (31)	17 (31)	Reference		Reference	
Yes, increased burden	6 (60)	16 (59)	20 (69)	37 (69)	1.33 (0.66, 2.68)	0.416	0.95 (0.42, 2.14)	0.897
Have you taken on more responsibility for household management?								
No	8 (80)	21 (81)	17 (59)	24 (44)	Reference		Reference	
Yes	2 (20)	5 (19)	12 (41)	30 (56)	3.32 (1.64, 6.89)	0.001	4.38 (1.8, 11.08)	0.001

Statistically significant findings are highlighted in bold

living at home, and change in hours of work per week were not associated with a decrease in career satisfaction.

Overall, 57% of respondents reported decreased academic productivity since the start of the pandemic. Analysis of respondent characteristics and academic productivity is presented in Table 3. In multivariable ordinal regression analysis, female respondents were 2.6 times more likely than males to report decreased academic productivity versus ‘No Change’ or ‘Yes, increased productivity’ combined (p -value = 0.028). Increased burden of administrative

tasks during the COVID-19 pandemic was independently associated with decreased academic productivity (OR 2.6, p -value = 0.038). Primary location of work, having children or elderly parents living at home, and change in hours of work per week were not associated with decreased academic productivity.

Overall, 72% of respondents reported increased feelings of burnout due to the impact of the COVID-19 pandemic. Analysis of respondent characteristics and change in career satisfaction is presented in Table 4. Female respondents were

Table 3 Association between Respondent characteristics and change in Academic Productivity

Do you feel that your academic productivity has changed during the COVID19 pandemic?	Yes, increased productivity No. (%)	No change	Yes, decreased productivity	Univariate ordinal regression OR (95% CI)	P value	Multivariable ordinal regression OR (95% CI)	P value
Gender							
Male	6(60)	26(67)	27(40)	Reference		Reference	
Female	4(40)	13(33)	40(60)	2.59 (1.24, 5.55)	0.013	2.62 (1.12, 6.35)	0.028
Do you consider yourself to be primary caregiver for dependents in the home?							
No	4(50)	12(50)	24(45)	Reference		Reference	
Yes	4(50)	12(50)	29(55)	1.2 (0.51, 2.85)	0.68		
Has the burden of administrative tasks in your job changed during the pandemic?							
No change	5(45)	20(49)	16(23)	Reference		Reference	
Yes, increased burden	6(55)	21(51)	53(77)	2.77 (1.33, 5.85)	0.007	2.6 (1.06, 6.5)	0.038
Have you taken on more responsibility for household management?							
No	8(73)	32(80)	31(45)	Reference		Reference	
Yes	3(27)	8(20)	38(55)	4.12 (1.88, 9.58)	0.001	1.86 (0.72, 4.99)	0.206

Statistically significant findings are highlighted in bold

Table 4 Association between Respondent Characteristics and Increased Burnout

Has the impact of the COVID19 pandemic on you and your job contributed to increased feelings of burnout?	No (N = 34) No. (%)	Yes, to a small degree (N = 46)	Yes, to a large degree (N = 41)	Univariate ordinal regression OR (95% CI)	P value	Multivariable ordinal regression OR (95% CI)	P value
Gender							
Male	23(72)	22(50)	14(35)	Reference		Reference	
Female	9(28)	22(50)	26(65)	2.98 (1.49, 6.07)	0.002	2.57 (1.16, 5.77)	0.022
Do you consider yourself to be primary caregiver for dependents in the home?							
No	14(64)	11(38)	15(44)	Reference		Reference	
Yes	8(36)	18(62)	19(56)	1.61 (0.73, 3.6)	0.238		
Has the burden of administrative tasks in your job changed during the pandemic?							
No change	18(53)	14(30)	9(22)	Reference		Reference	
Yes, increased burden	16(47)	32(70)	32(78)	2.77 (1.36, 5.76)	0.006	2.26 (0.98, 5.28)	0.057
Have you taken on more responsibility for household management?							
No	28(85)	27(59)	16(39)	Reference		Reference	
Yes	5(15)	19(41)	25(61)	4.18 (2.06, 8.73)	< 0.001	3.46 (1.41, 8.75)	0.007

Statistically significant findings are highlighted in bold

2.6 times more likely than males to report increased feelings of burnout “to a large degree” compared to “to a small degree” or “none” combined (p -value = 0.022), after adjusting for the covariates of interest. Increased responsibility with household management was independently associated with increased feelings of burnout (OR 3.5, p -value = 0.07). Increased burden of administrative tasks had a trending association with increased feelings of burnout (p -value = 0.057). Primary location of work, having children or elderly parents living at home, and change in hours of work per week were not associated with increased burnout. In univariate analysis, identifying as the primary caregiver was not associated with any of the outcomes considered: Change in career satisfaction, Change in academic productivity or Change in satisfaction with work-life balance.

Open-ended responses highlighted appreciation for acceptance of physicians working from home and tasks being complete remotely. A majority noted that virtual access to meetings and conferences has improved their attendance and ability to participate in education. Respondents report these changes have allowed for increased work flexibility, improving work-life integration. Loss of community and social interaction with blurring of the boundaries between work and home was commonly expressed as an aspect of work that is worse since the start of the pandemic. Exercise and finding a support system to connect with were strategies most frequently used to address isolation, stress and exhaustion during this time period.

Discussion

This study aimed to assess the effect of the COVID-19 pandemic on levels of burnout, career satisfaction, and academic productivity among pediatric cardiologists in the Northeast United States. Given the mounting research demonstrating unique and disproportionate effects of the pandemic on the careers of women in science, engineering, and medicine, we anticipated that gender differences would emerge. The results of this study validate the observation that physicians have experienced unprecedented challenges in the past two years. Among this subset of pediatric subspecialists, respondents are feeling less satisfied with their careers, experiencing more burnout, and reporting decreased academic productivity. A majority have experienced increased administrative burden and half of respondents work more during “off hours.”

A striking 72% of respondents reported increased feelings of burnout. Prior to the COVID-19 pandemic high rates of burnout had been reported among physicians in nearly all medical specialties, with some studies reporting nearly 50% of physicians affected [1–4]. The mounting problem of physician burnout has historically affected pediatricians and

pediatric subspecialists as well, contributing to increased rates of turnover and threats to the workforce that predated the COVID-19 pandemic [10, 11]. Of note, particularly in light of the dramatic findings in this survey, female physicians have consistently been shown more likely to experience burnout, especially in the realm of emotional exhaustion [12–17]. And while physician burnout is inherently detrimental to the providers themselves, with physician suicide rates estimated to be six times higher than the general population, the negative effects of a dissatisfied healthcare workforce also extend to patients [18]. Physician burnout has been linked to increased patient safety events, poorer quality care and decreased patient satisfaction [18]. Thus, the added strain the COVID-19 pandemic placed on an already overburdened workforce is nothing short of a crisis for providers and patients alike.

While the overall trends in burnout rates, career satisfaction and academic productivity in our cohort are noteworthy, the gender disparities that emerged are alarming and merit repeating: When compared to male respondents, female pediatric cardiologists are 2.4 times more likely to report decreased career satisfaction (p = 0.027), 2.6 times more likely to report decreased academic productivity (p -value = 0.028), and 2.6 times more likely to report increased feelings of burnout “to a large degree” (p -value 0.022). Furthermore, female respondents are significantly more likely than male respondents to report considering leaving medicine for a different career path (35% vs. 14%, p -value = 0.004). In their recent study on the impact of the COVID-19 pandemic on pediatric cardiologists with dependent care responsibilities, Ferns et al. similarly found that female pediatric cardiologists were significantly more likely to scale back or discontinue work [19]. These trends highlight a serious potential threat to the pediatric work force. While the current work force of board certified pediatric cardiologists is comprised 62% males, there is an increasing pipeline of female physicians entering cardiology fellowship [9]. In 2019 women represented 70% of pediatric trainees and more than 50% of pediatric cardiology fellows [9]. In order to train and retain female pediatricians and cardiologists it is imperative that health care systems acknowledge the disparate experiences of female physicians, including the increased risk of burnout and career dissatisfaction.

It is worth highlighting that none of our outcomes was independently associated with having children, elderly or other dependents in the home. While women in our cohort were more likely to report being the “primary caregiver” in the home, attributing the increase in burnout and dissatisfaction to the stressors of caregiving alone would be an oversimplification. In fact, male and female respondents in our survey were equally likely to report that they had taken on increased responsibility for childcare, education of children in the home, and household management.

Notably, physicians who took on more household management responsibility were 4.4 times more likely to report decreased career satisfaction and 3.5 times more likely to report increased burnout. Demands at home should not be overlooked when designing strategies to address physician burnout, even if the drastic changes of the pandemic are only temporary.

We were surprised that women in our study were not more likely than men to report taking on increased responsibility with childcare, education and household management. This is in contrast to other studies of physicians during the pandemic, as well as pre-pandemic studies, that have demonstrated full-time employed female physicians with children spend more than 100 additional minutes per day on household activities and childcare than male physicians, even after adjustment for professional hours worked [20]. Soares et al. similarly demonstrated that in dual physician households women spent more time on household duties and childcare during the pandemic [21]. Female physicians were also more likely to report increased worry about their career and feeling more emotionally and physically drained [21]. Many studies have demonstrated disproportionate effects on working mothers and female physicians during the COVID-19 pandemic, but clearly the experiences are nuanced [8, 22–27]. Intangible or difficult-to-define stressors exist in the lives of female physicians, both within the hospital walls and beyond. Higginbotham and others have written that women in academic sciences frequently carry a disproportionate cognitive load in their personal and home lives [7]. Future research should identify the specific facets of life outside the hospital that are having outsized effects on female physicians.

Our findings are concerning for the current state for female cardiologists; however, they must also be taken within the context of the greater gender inequities that have existed historically in medicine. Even prior to the pandemic women were less likely to be promoted to the rank of associate or full professor [28]. Women have held far fewer roles in leadership and academic scholarship [28]. And female physicians continue to be paid significantly less [29]. A recently published study estimates that female physician in the US make 25% less than male physicians over the course of a career. This discrepancy amounts to female physicians earning, on average, over \$2 million dollars less than male physicians [29]. Inequity in compensation has been similarly demonstrated among pediatric cardiology electrophysiologists, even among those physicians with similar academic rank and leadership positions [30]. The COVID-19 pandemic will likely amplify these discrepancies. Ferns et al. demonstrated that during the COVID-19 pandemic, among pediatric cardiologists with dependent care responsibilities, female physicians disproportionately reported a salary cut

[19]. In our cohort, female pediatric cardiologists report significantly decreased academic productivity during the pandemic, which is likely to impact the trajectory of promotion for many. If women continue to be paid less money, promoted less frequently, and relied upon more to be primary caregivers or household managers, how will female physicians make up ground that was lost during the pandemic? How will longstanding gender gaps in compensation, scholarship, and leadership be addressed? Hospitals and medical institutions must take notice of these disturbing trends as they face a changing and potentially dwindling pediatric work force while striving to promote and improve equity.

Practical solutions to improve the administrative load for physicians should be considered at all institutions. Mentorship, peer support groups, and physician coaching must be further explored as techniques to address and combat physician burnout [31]. Organizational-level approaches and resources to reduce barriers to academic productivity and decrease administrative burden must be implemented [32–34]. Alternative career paths, including options for part-time work or flexible pathways to promotion, must be explored. Women's representation in leadership is critical for closing equity gaps in medicine. Energy and effort must be directed towards increasing female presence at the leadership level in pediatric cardiology and beyond.

Despite the challenges presented, the open-ended survey responses suggest that the pandemic has had unexpected "silver linings" for many physicians. Respondents appreciate the flexibility of being able to work remotely for administrative days or to perform virtual visits. Several references were made to a perceived culture shift within institutions due to acceptance that remote work allows physicians to reasonably and efficiently accomplish work at home without the guilt of needing to appear to be first in the office each morning or the last person leaving the hospital at night. Many report improved attendance at meetings and conferences, particularly in the early morning when commuting or household demands would otherwise make attendance challenging. Decreased travel time and commuting was a recurrent theme. Many also noted that they felt more "present" in their children's lives. Some noted that remote work allowed increased time for exercise, which was also identified as one of the most common strategies used to manage feelings of isolation, stress, and exhaustion that came with the pandemic. Meditation, mindfulness practice, and connecting with friends and family were also identified as strategies used by many to manage stress during the COVID-19 pandemic.

Limitations of this study include the relative effect of recall bias and the impact of the timing of survey collection. Surveys were distributed in September 2021, but the impact of the subsequent COVID-19 surges would not have

necessarily been reflected in responses. The survey for this study was developed by the authors. Use of more formal tools to specifically investigate burnout could be considered in future investigation. Our response rate of 26% is higher than average survey response rates but may still only represent a narrow perspective. Furthermore, only pediatric cardiologists in the New England states plus New York and Pennsylvania were included in this study. The experience of physicians from other regions may have differed in important ways. Future studies could expand to include a nationwide survey. Lastly, although presumably our findings would be reflected in other medical subspecialties, our cohort was compromised of a relatively narrow physician demographic. In order to be more broadly applicable additional physicians could be included.

Our study highlights the profound negative impact of the COVID-19 pandemic on career satisfaction, academic productivity, and burnout amongst pediatric cardiologists in the Northeast United States. Female pediatric cardiologists report dramatic and disproportionate effects. Interventions to reduce burnout and improve productivity and career satisfaction are urgently needed, with particular emphasis on understanding and improving the experience of female physicians. By magnifying these pronounced gender differences, a potential positive effect of the pandemic may be to serve as a catalyst for increased awareness, deeper investigation, and continued progress towards gender equity in medicine.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s00246-022-02934-9>.

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Declarations

Conflict of interest All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors have no relevant financial or non-financial interests to disclose.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study has been approved by the institutional committees of Boston Children's Hospital and University of Massachusetts Medical School.

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