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REVIEW ARTICLE

Well-being

Going to work sick: A scoping review of illness presenteeism among physicians and medical trainees

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Abstract

Background: Illness presenteeism (IP)—characterized by individuals working despite being sick—is a prevalent and complex phenomenon among physicians and trainees amidst competing priorities within medicine. The COVID-19 pandemic and growing attention to physician and trainee well-being have sparked renewed interest in IP. We conducted a scoping review to explore what is known about IP: more specifically, how IP is perceived, what approaches have been used to study the phenomenon and how it might have changed through the COVID-19 pandemic.

Method: The Arksey and O'Malley scoping review framework was used to systematically select and summarize the literature. Searches were conducted across four databases: Medline, Embase, PsycInfo and Web of Science. Quantitative and thematic analyses were conducted.

Results: Of 4277 articles screened, 45 were included. Of these, four were published after the onset of the COVID-19 pandemic. All studies framed IP as problematic for physicians, patients and health care systems. Dominant sociocultural drivers of IP included obligations towards patients and colleagues and avoiding the stigma of appearing vulnerable or even temporarily weak. Structural factors included heavy workload, poor access to health services and lack of sick leave policies for physicians. The pandemic does not appear to have affected IP-related causes or behaviours. Proposed solutions included both educational interventions and policy-driven changes.

Conclusions: Despite being viewed in the literature as largely negative, IP remains highly prevalent among physicians and trainees. Our review highlights that IP among physicians is fraught with tensions: while IP seemingly contradicts certain priorities such as physician wellbeing, IP may be justified by fulfilling obligations to patients and colleagues. Future work should examine IP through diverse theoretical lenses to further elucidate its complexities and inform nuanced individual and systems-level interventions to minimize the negative consequences of IP.

KEYWORDS
Wellness

1 | INTRODUCTION

Illness presenteeism (IP) is the practice of going to work while experiencing poor physical or mental health,[1] which can range in severity and acuity.[2] Health care workers are more likely than other professionals to engage in IP,[3–5] with some studies reporting a prevalence of up to 80–90% among physicians.[6,7] Engaging in IP risks the potential for contagion, medical errors, worsened physician-patient communication and decreased workplace productivity and efficiency.[3,8,9] Although IP seemingly conflicts with physicians' professional vow to 'do no harm', the high rates of IP among physicians make sense when viewed through both a practical and a sociocultural lens. In addition to navigating clinical work, physicians, residents and medical students may also have education, administrative, research and non-medicine-related responsibilities. Amidst these competing priorities, the medical profession centres patient care first and foremost. To illustrate this, the CanMEDS framework highlights the need to 'maintain a duty to care'[10] and the American Medical Association Code of Ethics states that physicians should 'regard responsibility to the patient as paramount'.[11] Because a motivation to serve is a driving factor for many entering the profession,[12,13] IP could be viewed not only as a pragmatic way to accomplish work-related tasks but also as an act of service that upholds the values of professionalism.

Although admirable and necessary in certain situations, it is important to recognize that a physician's duty to care is enacted within what some physicians describe as a professional culture of invulnerability,[12,14] where being 'superhuman' and self-sacrificing is lauded as noble and taking time off work risks being interpreted as weakness.[12,15] Moreover, physicians work within imperfect health care systems that are typically marked by a seemingly unending volume of work and issues with understaffing.[14,15] Policies within medical education may emphasize mandatory attendance and influence the decision to attend or miss curricular activities while sick.[15] Thus, while physicians and trainees might choose to engage in IP because of an internal sense of responsibility, they may also engage in it because of a myriad of external *pressures* that may not align with their internal motivations.

While IP is a longstanding practice in medicine, recent events have sparked renewed interest in this phenomenon. Physician health and well-being have accrued more attention in recent years, with a heightened focus on improving residency curricula and more research related to burnout prevention and wellness.[16,17] Additionally, the recent onset of the coronavirus disease 2019 (COVID-19) pandemic raised the stakes of transmitting a respiratory illness.[18,19] Indeed, during the height of the pandemic, policies were enacted that strictly forbade physicians and trainees from working when sick.[20] The pandemic has also exacerbated the burnout crisis among physicians and trainees[18,21] and with an increasing number desiring to leave the profession because of COVID-related experiences.[22]

Despite implications for physician and trainee health,[9,23] IP has largely been overlooked in reforms or interventions targeting the worsening well-being crisis in medicine. The pandemic was viewed as an opportunity to shift perspectives and behaviours about IP[20]; however, it is unclear whether COVID-19 policies significantly changed the practice of IP—either during the pandemic or once physicians and trainees began adapting to a new normal. While reviews on presenteeism among health care workers[1,3,24] exist and provide insights, they are either narrow in scope or have significant methodological limitations. Moreover, these reviews primarily highlight health care workers in general rather than focusing on specific factors about the professional culture of medicine. Although there are shared characteristics, professional cultures have distinct attributes that make it difficult to understand IP without accounting for sociocultural differences. Previous reviews also do not account for potential pandemic-related shifts in IP perceptions and behaviours.

IP in medicine demands renewed attention, but thoughtful and robust research depends on first understanding the current state of knowledge. Since a contemporary understanding of IP among physicians and medical trainees is lacking, the purpose of our research was to explore what is known about presenteeism among physicians, residents and medical students. A scoping review can effectively map the key concepts contained in the literature—their breadth, limits and features—and the primary sources and types of available evidence.[25] By summarizing this literature, we aimed to further understand and identify gaps in conceptualizations and implications of IP among physicians and physicians in training.

2 | METHOD

We used the Arksey and O'Malley[26] scoping review framework with additional insights from Levac et al.,[27] adopting the iterative approach in study selection and charting the data. We also followed the PRISMA-ScR checklist for reporting scoping reviews.[28] We followed the steps outlined by our study protocol.[29]

2.1 | Step 1: Identifying the research question

We began with a broad research question[27]: 'What is known about illness presenteeism among physicians, residents, and medical students?' Through preliminary searches, several relevant articles—including those since the pandemic—were identified.[20,30,31] Following team review and discussion, we developed the following specific questions to guide our data extraction:

1. How has IP been defined, problematized and perceived?
2. What methods and approaches have been used to study the phenomenon of IP among physicians and physicians in training?
3. Have conceptualizations, perspectives and implications of IP changed since the pandemic?

2.2 | Steps 2 and 3: Identifying relevant studies and article selection

Our review included all English-language articles published from any geographical region (context), which directly addressed the concept of IP (concept) among physicians, residents and/or medical students (participants).

Several pilot searches were completed by an information specialist after which we developed our final search strategy (Appendix S1). This was then peer-reviewed by another librarian using the Peer Review of Electronic Search Strategies (PRESS) checklist.[32] Since we were interested in articles published both before and during the pandemic, no date limits were applied. Databases searched included Medline (Ovid), Embase (Ovid), APA PsycInfo (Ovid) and Web of Science. Our search was completed on 29 May 2023.

Using preliminary inclusion and exclusion criteria, each team member reviewed a random sample of 20 titles and abstracts to pilot the screening process after which iterative refinements to the inclusion and exclusion criteria were made.[27] Thereafter, paired team members reviewed abstracts and titles arising from the search and applied the finalized inclusion/exclusion criteria (Appendix S1) with any conflicts being resolved by a third team member. The same process was done for full-text articles.

We included English language articles from any year, original research or review articles available in full text, studying only physicians, residents and/or medical students, and related directly to working while physically or mentally ill. We excluded conference proceedings, protocols, study proposals, theses, books, grey literature, commentaries, editorials and letters to the editor. We excluded articles that included other non-physician workers in their population. We note that this final inclusion criteria deviates somewhat from our original protocol.[29] Our original inclusion criteria was made to ensure a broad overview of the literature. As we became more familiar with the literature during the review process, we recognized that the breakdown of participants from various health care groups was not always clear in the articles. Therefore, we decided to include articles that focused only on physicians and medical trainees avoid any ambiguity. We also decided to exclude articles that were not primary research articles or review articles. Title and abstract screening and full-text reviews were done using Covidence software (Veritas Health Innovation Ltd., Melbourne, Australia).

2.3 | Step 4: Charting (extracting) the data

We developed a preliminary data extraction form based on our review of the literature. This was refined iteratively as outlined by Levac et al.[27] until the research team agreed with the final extraction form. The form collected demographic information including publication year, journal, country of origin and type of article. In addition, we gathered information regarding physician level of training, specialty, practice setting (e.g., academic vs. non-academic and inpatient vs. outpatient) and illness type. Information regarding how IP was defined, why studying IP was thought to be important, contributors to IP, the consequences of IP and potential solutions to IP were extracted. Thereafter, one team member completed the data extraction form with a second independent member providing verification. Our finalized data extraction tool can be found in Appendix S2.

2.4 | Step 5: Collating and reporting findings

We performed quantitative analyses including a descriptive numerical summary analysis of demographic data. We performed qualitative thematic analyses of included papers to summarize key findings from the review and to answer the research questions we had outlined.[33] Initial themes were developed by the primary investigator (LM) and were discussed and refined over several team meetings. As the analysis progressed, all co-authors reviewed and refined the themes to ensure they were representative of the data.

2.5 | Reflexivity

WY, JC, LM and SH are clinicians spanning the spectrum of training from medical student, senior internal medicine resident, junior internal medicine attending physician and senior attending physician in Rheumatology several years into academic practice, respectively. Our collective clinical experience includes personal experiences with IP, both engaging in it and covering for colleagues who are sick, giving us a first-hand view of IP being a complex phenomenon. KAL is a PhD qualitative researcher whose previous work on well-being issues among physicians influenced our interest in the sociocultural drivers of IP. MD is an information specialist who developed the search strategy for the team.

3 | RESULTS

We identified 4286 articles; of these, 156 articles qualified for full-text review and 45 articles[2,6,9,12,13,15,23,34–71] met criteria for data extraction (Appendix S3). This process is outlined in the PRISMA flow diagram (Figure 1).

3.1 | Demographic data

The 45 articles included were published between 1997 and 2023. Detailed demographics are found in Table 1. Twenty-seven (60%) studies were conducted in Europe, seven (15.6%) in North America, six (13.3%) in Asia, 5 (8.9%) in Australia/Oceania and one (2.2%) in South America. Twenty-two (48.7%) articles focused on attending physicians, 7 (15.6%) articles on residents, 3 (6.7%) on medical students and 13 (28.9%) were mixed studies including attending physicians and trainees. Most of the papers either did not specify a specific physician specialty or included a variety of specialties without

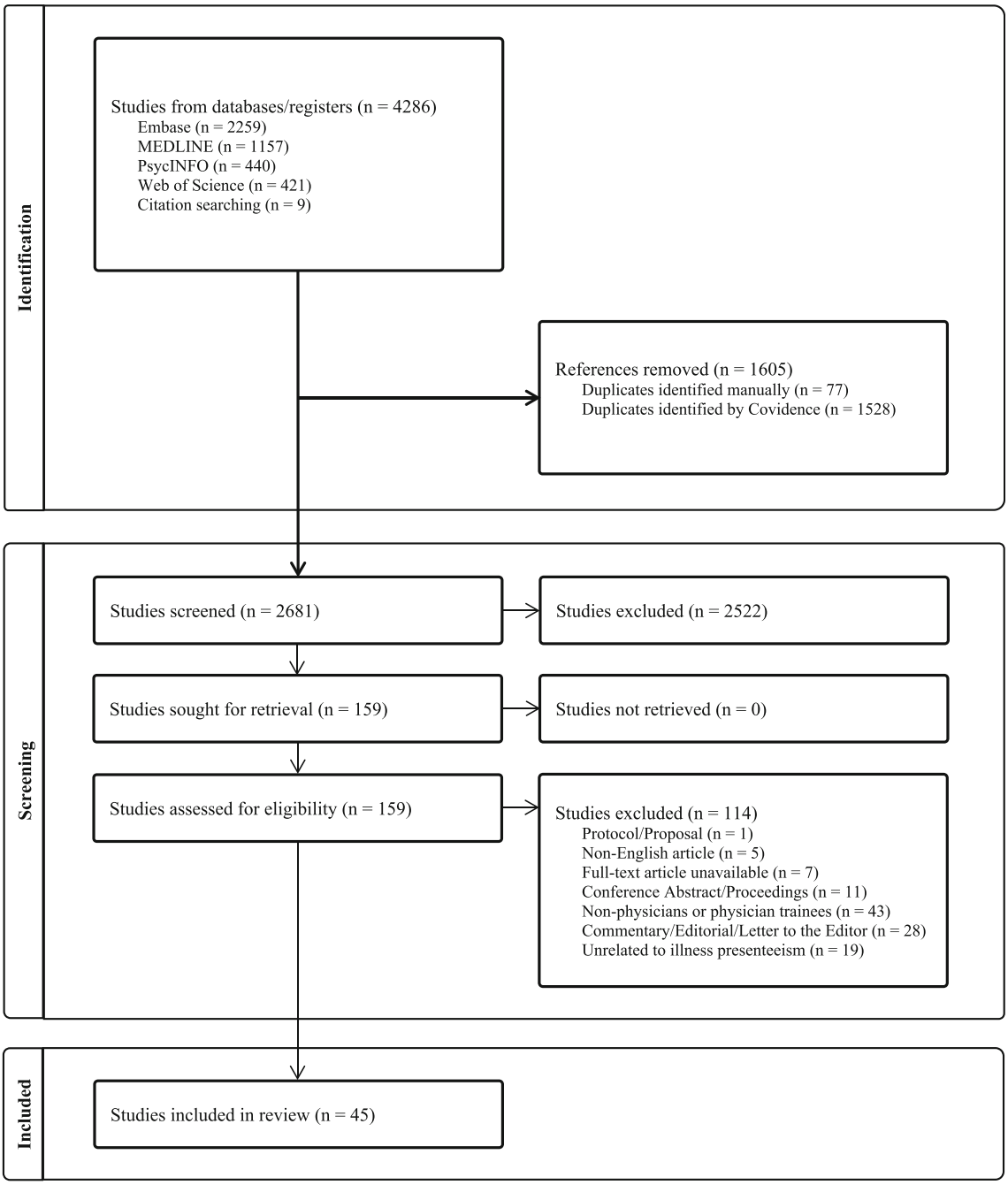

FIGURE 1 PRISMA flow diagram illustrating the process for study selection for the scoping review on illness presenteeism among physicians and medical trainees

accounting for specialty-specific differences. Sixteen (35.6%) studies were done in settings affiliated with an academic institution or teaching hospital, and five (11.1%) were conducted in non-academic settings—however, this information was often not reported.

Most articles were quantitative studies (64.4%) using survey-based methodology. Qualitative studies comprised 12 (26.7%) of the articles, including 9 interview-based studies[2,13,36,37,44,45,62,63,66] and 4 studies using textual analysis of open-ended survey questions.[52,61,69] The remaining articles consisted of a realist review[38] and a literature review.[12] Only two studies were informed by theory: Giaever and Lovseth[13] conducted their qualitative study through the lens of job crafting, and Teoh et al.[65] used the Job Demands-Resources model to inform the hypotheses for their multilevel structural equation modelling.

3.2 | How IP is defined

IP was consistently defined in the literature as attending work or learning environments while ill. Some added specific caveats such as

TABLE 1 Demographic data from articles included in scoping review

Characteristics of articles ($n = 45$)	No. of articles	Percentage of articles
Continent of origin		
Africa	0	0
Asia	6	13.3
China	3	
Israel	1	
Japan	2	
Australia/Oceania	4	8.9
Australia	4	
New Zealand	1	
Europe	27	60.0
United Kingdom	11	
Sweden	5	
Norway	6	
Italy	3	
Finland	1	
Germany	1	
Iceland	1	
Ireland	1	
Lithuania	1	
Netherlands	1	
Switzerland	1	
North America	7	15.6
Canada	2	
United States of America	5	
South America	1	2.2
Brazil	1	
Type of article		
Original investigation	43	95.6
Review	2	4.4
Type of illness		
Physical illness	6	13.3
Mental illness	10	22.2
Mixed	10	22.2
Not specified	19	42.2
Pre/post-pandemic		
Pre-pandemic	41	91.1
Post-pandemic	4	8.9
Methods used		
Quantitative	29	64.4
Cross-sectional study	28	
Prospective longitudinal study	1	
Qualitative	12	26.7
Interview study	8	
Analysis of survey data	4	
Review	2	4.4
Mixed	2	4.4

(Continues)

TABLE 1 (Continued)

Characteristics of articles ($n = 45$)	No. of articles	Percentage of articles
Role of presenteeism in study		
Outcome	25	55.6
Exposure	4	8.9
Incidental	9	20.0
Exposure and outcome	7	15.6
Physician level of training		
Attendings	22	48.9
Residents	7	15.6
Medical students	3	6.7
Mixed	13	28.9
Physician specialty		
Medical specialties[a]	9	20.0
Surgical specialties[b]	2	4.4
Mixed	15	33.3
Not specified	15	33.3
N/A	4	8.9
Practice setting		
Academic	16	35.6
Non-academic	5	11.1
Mixed	8	17.8
Not specified	14	31.1
N/A	2	4.4

[a]Medical specialties refer to family medicine, internal medicine and its subspecialties, and paediatrics and its subspecialties.
[b]Surgical specialties refer to urology, general surgery, neurosurgery, orthopaedic surgery, vascular surgery, obstetrics and gynaecology, thoracic surgery, plastic surgery and otolaryngology.

going to work '[even if] you would have recommended a patient to stay at home',[42,46,47] 'despite not feeling well enough to perform your duties'[64,65] and 'despite feeling that one really should have taken sick leave'.[56] Cohidon et al.s'[39] study defined IP as a 'hesitancy to take sick leave'.

'Illness' was not defined in detail and included both physical and mental illness. Six (6%) articles focused on physical illness, 9 (20.0%) on mental illness, 10 (22.2%) included a mix of physical and mental illness and 21 (46.6%) were unspecified (Table 2). Infectious illnesses were specifically highlighted in several articles, given the disease spread implications for patients.[6,15,34,35,53,54] For example, one study from 2017 among paediatric residents noted that 97% of study participants who experienced potentially infectious respiratory illnesses came to work while sick, with 87% of these voluntarily using some form of personal protective equipment.[35]

Fox et al.[44] noted that certain illnesses were more 'legitimate' as worthy of taking time off, whereas others (including chronic and mental illnesses) were not. While the literature notes shame and stigma present for all types of illnesses, stigma towards mental illness (e.g., depression and substance use) appeared to be highlighted more prominently.[37,45,69]

3.3 | How IP is perceived and problematized

The study authors' motivation for researching IP was driven by three main factors, mostly related to the negative consequences of IP for patients, physicians and the health care system. In some studies, IP was also used to gauge the status of related phenomena including burnout, mental health, workplace quality and the effectiveness of different workplace policies.

3.4 | How IP has changed through the pandemic

Four (8.9%) of the included studies were conducted during the pandemic era and included studies from Australia, New Zealand, Japan, Switzerland and the United Kingdom.[37,39,50,63] Each study showed that even in the first 2 years of the pandemic, physicians continued to engage in IP. Physicians who were most involved in caring for patients with COVID-19 were most likely to engage in IP.[50] Both the stigmatization of mental health and mental health issues associated with IP also remained prevalent,[37,63] through the pandemic.

TABLE 2 Definitions of illness leading to presenteeism in included studies

Study	Year	Mental illness	Physical illness
Bradfield et al.[37*]	2023	Depression, alcohol use disorder, other substance use, psychosis, personality disorder, mood disorder	Physical health condition (not specified)
Ishimaru et al.[50*]	2023	Unspecified	Unspecified
Cohidon et al.[39*]	2022	Existing chronic psychiatric illness (such as depression, anxiety, bipolar disorder)	Existing chronic physical illness (such as cardiovascular disease)
Tawse and Demou[63*]	2022	Mental illness (including depression and anxiety)	N/A
Zhou et al.[71]	2022	Unspecified	Unspecified: "illness where you would have recommended a patient to stay home"
de Oliveira et al.[41]	2022	Mental, behavioural or neurodevelopmental disorders	Many disease mentioned but top 3 included diseases of the respiratory system, certain infectious or parasitic diseases, diseases of the circulatory system
Teoh et al.[65]	2021	Unspecified	Unspecified
Carrieri et al.[38]	2020	Mental ill-health	N/A
Giæver and Løvseth[13]	2019	Unspecified	Unspecified
Fitzpatrick et al.[43]	2020	Unspecified	Unspecified
Morishita et al.[12]	2020	Unspecified	Unspecified
Pei et al.[9]	2020	Unspecified	Unspecified
Teoh et al.[64]	2020	Unspecified	Unspecified
Xi et al.[70]	2020	Unspecified	Unspecified (feeling that you should have taken sick leave because of your state of health?)
Xi et al.[23]	2019	Mental illness (depression and anxiety)	N/A
Grant et al.[45]	2019	Mental illness (symptoms of anxiety, depression, and psychosis)	N/A
Cowman et al.[40]	2019	N/A	Influenza-like illness
Kaldjian et al.[15]	2019	N/A	Infections 'colds and influenza, but also vomiting, diarrhoea'
Hayes et al.[48]	2019	Unspecified	Unspecified
Thun et al.[67]	2018	Unspecified	Unspecified
Rosen et al.[58]	2018	Depression	N/A
Mitchell and Vayalumkal[35]	2017		Infectious illness including cough, rhinorrhea, sinus pressure or congestion, fever, sore throat, vomiting and/or diarrhoea disease
Spiers et al.[62]	2017	Mental distress (defined as anxiety, depression, stress and/or burnout);	Unspecified
Winter et al.[69]	2017	Mental health illness talked about in general terms.	N/A
Rostad et al.[59]	2017	Unspecified	Unspecified
Giæver et al.[2]	2016	Illness refers to the onset of an acute, episodic or chronic 'health event' that involves severe, and less severe, well as psychological conditions such as depression	Physical conditions such as heart disease and stomach flu
Smith et al.[61]	2016	Mental health problems	Physical (e.g., shoulder injury and bowel perforation)
Veale et al.[34]	2016	N/A	Infectious illness (fever, sore throat, cough, runny nose, malaise, headache, myalgia, vomiting, diarrhoea, rash, open or draining wound and pink eye)
Gustafsson Senden et al.[47]	2016	Unspecified	Unspecified
Khalaila et al.[51]	2016	Unspecified	Unspecified
	2016	Unspecified	Unspecified

(Continues)

TABLE 2 (Continued)

Study	Year	Mental illness	Physical illness
Pit and Hansen[56]			
Pranckeviciene et al.[57]	2016	Unspecified	Unspecified
Kotter et al.[52]	2015	Unspecified	Unspecified
Eneroth et al.[42]	2014	Suicidal ideation	N/A
Wall et al.[68]	2014	Suidical ideation	N/A
Pit and Hansen[55]	2014	Unspecified	Unspecified
Gustafsson Senden et al.[46]	2013	Unspecified	Unspecified
Heponiemi et al.[49]	2013	Unspecified	Unspecified
Fox et al.[44]	2011	A variety of illnesses including mental and physical—with some chronic. Few specific illnesses are specified, aside from depression	A variety of illnesses including mental and physical—with some chronic. Few specific illnesses are specified, aside from cancer.
May et al.[53]	2010	N/A	Influenza like illness (ILI was defined as fever or feverishness plus one of the following: cough, stuffy or runny nose, headache, body aches and/or fatigue)
Schaufeli et al.[60]	2009	Unspecified	Unspecified
Perkin et al.[54]	2003	N/A	Physical illness—diarrhoea and/or vomiting, URTI, skin infection and other infectious illness
Rosvold et al.[6]	2001	Mental health related (depression, exhaustion/stress)	Physical (influenza, RTIs, GI infections, other infections, fever, vomiting, MSK, headache, pregnancy related diseases, cardiovascular diseases, other)
Thompson et al.[66]	2001	Mental illness (psychiatric illnesses, not specified)	Physical (e.g., broken leg)
McKevitt and Morgan[36]	1997	Thirty-four doctors reported a psychiatric disorder, mostly depression but also two cases of addiction. The remaining four doctors had both a physical and a psychiatric disorder.	Thirty-six doctors had a physical illness or disorder. These included cases of cancer, multiple sclerosis, glandular fever and sports injury.

*Denotes studies that were completed after the onset of the COVID-19 pandemic.

3.5 | Contributors to and consequences of IP

Contributors to IP (Table 3) included demographic factors such as female sex, younger age and those conducting research. Two studies[15,48] reported resident physicians were more likely to engage in IP than attending physicians while another study had the opposite finding.[51] Sociocultural factors appeared to be a major driver. Shame and stigma related to missing work and the fear of appearing weak were implicit[13,44] yet prevalent in different settings. For learners specifically, IP was partly driven by fears about repercussions towards their education or evaluations.[15,34] For instance, medical students reported feeling pressured to attend class even when sick because many classes are mandatory, and they learned early on that 'as a doctor, one is not allowed to be sick because one must heal the sick'.[52] IP seemed further perpetuated by observing other physicians come to work sick.[36] Moreover, there were strongly perceived obligations to patients and colleagues that motivated IP. We also identified workplace-related factors such as administrative barriers, heavy workload and a lack of access to specific health services.

The consequences of IP are summarized in Table 4. IP was associated with increased job dissatisfaction,[71] stress, future absenteeism,[45] burnout, depression and increased suicidal ideation.[42,68] Using previously published cost estimation methods, Rosen et al.[58] found that depression-associated IP correlated with increased health care system costs including decreased work performance and overall productivity.[58] Repeated or prolonged IP was also associated with increased disability,[45] prolonged time away from work once individuals eventually take sick leave[45] and disciplinary action from regulatory bodies.[37] Notably, physicians and trainees were aware of the potential problems of IP and yet knowingly participated in it,[40,45] even in the first 2 years of the pandemic when public health policies explicitly prohibited IP. Only one study suggested that IP could have positive short-term gains for physicians, including a positive sense of self and professional identity due to accomplishing specific relational aims at work.[13] While many of the studies problematized patient safety as a concern, none of the articles studied this as an outcome nor were patient perspectives included in the studies.

TABLE 3 Factors associated with greater illness presenteeism

Demographic factors		References
Sex	Female sex	Gustafsson Senden et al.,[46,47], and Rostad et al.[59]
Age	Younger age (30–39 vs. 60–69)	Rosvold and Bjertness[6]
	Age ranges (40–49, 50–59)	Xi et al.[23,70]
Specialty	High specialization	Giæver et al.[2]
Education	PhD	Xi et al.[23,70]
Stage of training	Residents (vs. consultants or faculty)	Kaldjian et al.[15] and Hayes et al.[48]
	Physicians (vs. Residents)	Khalaila et al.[51]
Practice setting	Outside hospital alone	Rosvold and Bjertness[6]
	In small settings	Rosvold and Bjertness[6]
State of health	Low physical activity	Pit and Hansen[56]
	Medical treatment in last 3 years	Rosvold and Bjertness[6]
Family factors	Parent with two or more children	Xi et al.[23,70]
Sociocultural factors		References
Mental health	Recent suicidal ideation	Wall et al.[68]
	Increased depression severity	Rosen et al.[58] and Xi et al.[23]
Burnout	General burnout	Pei et al.[9]
	Emotional exhaustion/cynicism	Pranckeviciene et al.[57]
	Decline in empathy	Giæver and Løvseth[13]
Stigma	Stigma towards vulnerability and illness	Bradfield et al.,[37] Carrieriet al.[38], Fox et al.,[44] Grant et al.,[45] Tawse and Demou,[63] Thompson et al.,[66] and Winter et al.[69]
Financial concerns	Money loss	Gustafsson Senden et al. [47]
	Low compensation for work-related absences	Rostad et al.[59]
Medical culture	Normalization of presenteeism	Carrieri et al.,[38] Winter et al.,[69] and Fox et al.[44]
	Culture of invulnerability	Morishita et al.,[12] Fox et al.,[44] and Giæver and Løvseth[13]
	Social pressures to love the job	Grant et al.[45] and Khalaila et al.[51]
	Concerns of falling behind	Fox et al.[44]
	Obligation to patients	Morishita et al.,[12] McKevitt and Morgan,[36] Cohidon et al.,[39] and Gustafsson Senden et al.[47]
	Obligation to colleagues	Giæver et al.,[2] McKevitt and Morgan,[36] Perkin,[54] Spiers et al.,[62] and Thompson et al.[66]
Cognitive factors		References
Denial/ lack of insight	Reluctance to admit illness	Thompson et al.[66] and Bradfield et al.[37]
	Lack of insight	Bradfield et al.[37]
Illness perception	Minimization of symptoms	McKevitt and Morgan,[36] Cohidon et al.,[39] Giæver and Løvseth,[13] Pranckeviciene et al.,[57] May et al.,[53] and McKevitt and Morgan[36]
	Indecisiveness in evaluation of symptoms	Giæver et al.[2] and Giæver and Løvseth[13]
	Self-management of illness	Cohidon et al.[39] and Gustafsson Senden et al.[46]
Physician vs. patient identity	Association of physician health as indicator for physician wellness	Gustafsson Senden et al.[46]
	Separation of physician and patient identities	Thompson et al.[66] and McKevitt and Morgan[36]
Organizational factors		References
Heavy workload	Higher unreasonable illegitimate task load	Thun et al.[67]
	Increasing patient load and job demands	Ishimaru et al.,[50], and Teoh et al[64,65].
Multiple physician roles	Conducting research	Gustafsson Senden et al.[46] and Rostad et al.[59]
	Taking on teaching roles	Gustafsson Senden et al.[46]
Workplace shortages	Lack of physicians	Khalaila et al.,[51] Spiers et al.,[62] and Xi et al.[23,70]
	Difficulty accessing locum coverage	Spiers et al.[62]
	Lack of ease of replacement	Giæver et al.[2] and Xi et al.[23,70]
Administrative barriers	Poor organizational structure and policy	Giæver et al.[2] and Gustafsson Senden et al.[46]
	Lack of flexibility in school schedules or opportunity to catch up on missed work	Winter et al.[69]
	Difficulty seeking accommodations	Fox et al.[44]
	Lack of paid sick leave policy	Rostad et al.[59]
Knowledge deficiency	Lack of knowledge about outbreak protocols, transmission, personal protective equipment	Cowman et al.[40]
Access to care	Barriers to mental health access	Grant et al.[45] and Tawse and Demou[63]
	Limited time and/or difficulty to seek help	Morishita et al.[12] and Smith et al.[61]
Impact of COVID-19		References
Type of health care worker	Front-line and second-line	Ishimaru et al.[50]
Workload	Burdening colleagues with extra work during staff shortages	Tawse and Demou[63]

(Continues)

TABLE 4 Consequences of illness presenteeism

Consequences to physicians		
Positive	Fosters positive sense of self and professional identity	Giæver and Løvseth[13]
	Achieves relational aims (i.e., with supervisors)	Giæver and Løvseth[13]
Negative	Decreased wellness	Bradfield et al.[37] and Carrieri et al.[38]
	Decreased quality of life	de Oliveira et al.[41]
	Increased suicidal ideation	Eneroth et al.[42] AND Wall et al.[68]
	Increased emotional exhaustion/burnout	Fitzpatrick et al.,[43] Hayes et al.,[48] Giæver et al.,[2] Pranckeviciene et al.,[57] AND Zhou et al.[71]
	Increased job dissatisfaction	Zhou et al.[71]
	Increased stress	Kotter et al.[52]
Consequences to the system		
Negative	Increased costs to the health care system	Rosen et al.[58]
	Increased rates of absenteeism in the long-term	Grant et al.[45]
	Reduced workforce retention	Carrieri et al.[38]
	Earlier retirement	Pit and Hansen[55]

3.6 | Solutions proposed

Authors discussed and proposed both education and policy-driven interventions (Table 5). Educational interventions included proposals to augment curricula related to wellness and infection control and education initiatives that promote a more compassionate workplace environment at the managerial level. Proposed policy-driven interventions include creating formal absence policies, improving access to mental health and occupational health, increasing the physician pool to cover ill physicians and paid sick leave models. Only one study directly assessed the effectiveness of an intervention on reducing IP. Rostad et al.[59] found that in comparing three countries (Sweden, Norway and Italy) with different paid sick leave policies, those with higher economic compensation for illness-related absences were associated with lower scores of IP.

4 | DISCUSSION

Our review sought to summarize what is known about IP among physicians, residents and medical students. The articles included in our review highlighted a variety of associated contributors and consequences to IP. While the potential points of discussion are many, we focus on how our results highlight a need to approach IP through a

TABLE 5 Proposed solutions for illness presenteeism

Education driven interventions		References
Educating physicians/trainees		
Formal curriculum	Integrating personal wellness and work-life balance into formal curricula	Giæver et al.,[2] Giæver and Løvseth,[13] May et al.,[53] Thompson et al.,[66] and Pranckeviciene et al.[57]
Workshops	Emphasizing implications of IP for patient safety	Kaldjian et al.[15]
	Encouraging trainees to seek counsel from supervisors to properly inform IP decision-making	Kaldjian et al.[15]
	Promoting disclosure of illness sooner	Fox et al.[44]
	Teaching about personal health & illness, self-care strategies	Giæver et al.[2] and Giæver and Løvseth[13]
	Developing educational campaigns and infection guidelines	May et al.[53] and Cowman et al.[40]
Role-modelling	Role modelling illness behaviours from leaders	Cowman et al.[40]
Educating workplace management		
Wellness initiatives	Monitoring measures of workplace well-being	Hayes et al.[48]
	Facilitating positive workplace relations to improve mental health	Carrieri et al.[38]
	Screening for workaholism using questionnaires	Schaufeli et al.[60]
Policy-driven interventions		References
Removing administrative barriers	Using sustainable employability guidelines to guide management	Fitzpatrick et al.[43]
	Removing the need for a signed physician's note to take a sick day	Veale et al.[34]
	Streamlining illness reporting	Cowman et al.[40]
Remuneration	Adjusting the remuneration system to match workload/effort	Xi et al.[70]
	Implementing paid sick leave	Rostad et al.[59]
Formal absence policy	Granting short-term leave for physicians	Pei et al.[9] and Xi et al.[23]
	Providing personal days to medical students	Veale et al.[34]
	Providing coverage and accommodations for sick doctors	Smith et al.[61] and Kaldjian et al.[15]
Access to mental health	Clarifying career implications of	Tawse and Demou[63]

(Continues)

TABLE 5 (Continued)

	disclosing mental health problems	
	Improving access to free and confidential mental health treatment	Rosen et al.,[58] Xi et al.,[23] and Spiers et al.[62]
	Encouraging early treatment [of mental illness] to prevent regulatory consequences	Bradfield et al.[37]
Access to occupational health care	Implementing policies on IP, regular health screenings, organizational care for employee health and well-being	Gustafsson Senden et al.[46]
	Improving access to occupational health unit	Grant et al.[45] and Perkin[54]
	Securing personal health care for physicians	Thompson et al.[66]
	Creating a specific branch of health care delivery for physicians	Cohidon et al.,[39] Gustafsson Senden et al.,[46] and Rosvold and Bjertness[6]
Interventions to lighten workload	Implementing organizational changes to decrease workload stresses and increase work efficiency	Spiers et al.,[62] Tawse and Demou,[63] Zhou et al.,[71] Ishimaru et al.,[50] Pranckeviciene et al.,[57] Rosen et al., and Thun et al.[67]
	Using systems-level interventions to decrease work-related demands and increase work-related resources	Teoh et al.[64,65]

more nuanced lens, connect this with broader conversations on wellness and conceptualizations of illness, highlight implications and potential solutions and consider future directions of study.

4.1 | Nuancing the narrative on IP

The literature on IP among physicians and trainees unequivocally frames presenteeism as a problem, with most research identifying multifactorial contributors and associated consequences. However, when we examine this negative framing closely, it does not fully capture the complexity of IP. Our results highlight how IP among physicians and trainees is fraught with tensions: while IP seemingly contradicts certain priorities such as physician wellbeing, IP also appears to uphold professional responsibilities towards patients and colleagues. Amidst underresourced systems and a culture that stigmatizes appearing weak, physicians cite motives that could be characterized as adaptive or altruistic. Amidst the undeniably negative associations with IP, there were signals that IP may provide certain gains for physicians who pursue it.[13] By suggesting that IP might serve a variety of functions in different contexts, the health-performance framework (HPF) of presenteeism may provide a nuanced lens for critically examining IP in medicine and medical education.[72]

In the HPF, Karanika-Murray and Biron[72,73] conceptualize IP as an adaptive and dynamic process that serves the purpose of balancing health constraints and performance demands. Depending on the context, IP can be *functional* (optimal adjustment to health constraints and performance demands, thus sustainable), *dysfunctional* (poor health and poor performance), *therapeutic* (improves personal wellbeing even amidst poor performance at work) or *over-achieving* (performing at work at the expense of health).[72,73] To achieve and maintain functional presenteeism, individuals need both *internal resources* afforded by and dependent on the nature of the illness and *flexible work resources* available within the immediate work/psychosocial environment and in organizational policies.[72] However, to preserve health, preserve performance and thus maintain functional presenteeism, individuals must also have *agency* to choose how to use these resources.[72] For example, the study by Giæver and Løvseth[13] suggested that IP can provide short-term gains such as improved relations with others and a positive sense of self and professional identity, potentially reflecting a functional IP or over-achieving IP. In other studies, we see potential examples of dysfunctional IP, such as those who continue to work despite illnesses that significantly undermines patient care to the point of requiring disciplinary action.[37]

We were interested in how the COVID pandemic impacted IP. With the heightened concerns about spreading respiratory infections at the onset of the pandemic, we had expected an observable change in practices related to IP.[20] However, while the number of articles published during the pandemic era was limited, our findings notably showed that IP remained unaffected. In the context of both a physician's duty to care and sociocultural and systemic pressures, these findings were not overly surprising. Congruent with our findings, one study on presenteeism among various health care workers during the pandemic showed that 49.8% of participants came to work while testing positive for COVID-19, with 47% of these coming to work while they had active symptoms.[30] These findings demonstrate how, when used in isolation, policies are insufficient in mitigating IP.

Through the lens of HPF, pandemic-related IP behaviours were likely a response to both increased performance demands within a strained health care system and a medical culture that continued to value a 'superhuman' professional identity—including the counterproductive narrative of the 'health care hero' that lauded health care workers' sacrifices without providing sufficient resources to address the additional workload of the pandemic.[74,75] The HPF invites us to recognize and consider how pandemic-related behaviours may also reflect functional, therapeutic or over-achieving IP. For instance, physicians pursued various ways to adapt care for patients and alleviate the strain of the pandemic on colleagues amidst trying circumstances.[29] HPF contends that functional presenteeism can only be maintained for a short period of time as both health and work flexibility as resources

are finite. Therefore, a disproportionate reliance on any form of IP to maintain health care may further worsen the long-term consequences resulting from both system constraints and increasingly dysfunctional IP. Staffing shortages and burnout[14,59,63,67] that worsened during the pandemic[75] may hint at this phenomenon, with a shift from functional to dysfunctional presenteeism.

4.2 | Nuancing conceptualizations of wellness and illness

While the present literature suggests that the current status quo of IP is unsustainable, it would be simplistic to assume eliminating IP is either feasible or justifiable. Bynum, Varpio, and Teunissen contend that developing an impaired state of wellness may be unavoidable for trainees and physicians. Consequently, aiming to 'cure' all forms of impaired wellness may undermine efforts to create constructive coping mechanisms.[76] Similarly, aiming to eliminate IP as a whole is likely unrealistic and may inadvertently undermine and ignore some individual's attempts to optimize their well-being by engaging in functional IP. Rather, we propose developing interventions that optimize functional forms of presenteeism and minimize the prevalence and consequences of dysfunctional forms of presenteeism.

Our review covered a broad set of physical and mental illnesses. However, what constituted 'illness' lacked clarity in almost half the studies we identified and was usually self-reported by study participants. Better defining illness among physicians would allow a more nuanced definition of IP and improve our ability to focus interventions. In addition to our biomedical understanding of illness, a constructionist orientation to illness may provide additional insights. It asserts that while the disease is a biological process, the illness *experience* is socially constructed.[77] Particularly in the articles related to mental health-related IP, we see that different disease states can have sociocultural implications and meanings.[77] Further exploring what counts as illness, how it is experienced and how it is perceived in the work community can help identify internal and external resources (or barriers) for individuals to engage in more functional presenteeism.

4.3 | Implications for medical education

Drawing on HPF, it would be important to provide flexible work resources for physicians and trainees who become sick. Several articles in our review identified education- and policy-driven interventions that address IP. The impact of these heterogeneous proposals are unclear, with only one providing clear outcome measures.[59] As we draw on potential interventions based on articles in our scoping review, we highlight that these also align with interventions within the broader IP literature outside of medicine.[3] We echo calls from previous authors to work towards providing trainees the flexibility to miss school or work when they are unwell.[15] This is given that trainees may be particularly pressured to engage in IP because of their position within the medical hierarchy. Implementing and raising awareness of local illness-related policies that reinforce this may be helpful. Implementing formal backup schedules for trainees and attending physicians does appear prudent in ensuring adequate staffing and providing additional flexibility.[35] The advent of virtual care might be one way to provide work-related flexibility for some physicians and residents. For example, those with mild infectious symptoms may choose to work or attend class virtually and may minimize the personal stress of missing work or cancelling patient appointments (maintaining performance), reduce the physical stress of coming to work in-person and eliminate the potential for infectious spread to patients. Given that a sense of agency is an important aspect of functional presenteeism, interventions should work towards developing systems and expectations that enhance rather than hinder agency.[78]

Additional work resources at the systems level include having adequate staffing, providing paid sick leave and instituting remuneration models that do not pressure individuals to come to work sick because of a loss of significant amounts of income.[59,64] We recognize that systems-level change is seemingly beyond the scope of medical educators. However, authors like Do and Annan[79] assert that creative solutions to these problems will likely need to be addressed through the intersection of medical education and health policy leadership.

4.4 | Future directions

Future research on IP should frame it as a complex phenomenon, meaningfully drawing on theory to understand the multidimensional contributors and consequences of IP. Specifically, it would be helpful to elucidate how physicians and trainees weigh different resources in their decision to present to work sick and how they process the experience of illness as they consider whether to be present or absent at work. In line with Karanika-Murray and Biron's[72] call for more person-centred research on IP, future work can apply related theories such as the Conservation of Resources Theory that posits that individuals behave as a function of resources (including the resources outlined previously) as well as self-determination theory—which might provide a lens to explain how different motivations and agency contextualize physicians and trainees' decisions to go to work sick.

Finally, we highlight that IP may be a signal of inequity in medicine and medical education. For example, the literature suggests that certain groups (e.g., female physicians, trainees vs. attending physicians) are more likely to engage in IP. Additionally, as the profession seeks to improve accessibility in medicine, it would be important to explore how physicians and trainees with disabilities and chronic illnesses navigate the aforementioned pressures related to IP. To date, studies on IP lack robust intersectional demographic data or considerations; thus, it is unclear if or how IP may relate to systemic inequities.

4.5 | Limitations

Our study had several limitations. We explored English-language articles, which likely explains why most articles were situated in

Western (European) countries. Even in Western countries, practice variations within each context may limit the translatability of the findings. Moreover, while we summarize contributors and consequences to IP, these may have limited generalizability because of the breadth of contexts and methodologies encapsulated by our review. We limited our review to published manuscripts thus potentially missing other sources. Given the rapid proliferation of COVID-specific scholarship in medical education, our team deemed it reasonable to scope the IP literature with COVID in mind. And yet, the paucity of COVID-era articles pertaining to IP might suggest we may have posed this question too soon and our findings should be interpreted with caution. However, the few articles we identified were compelling and provided fodder for critical reflection and future research directions.

5 | CONCLUSIONS

IP in medicine is complex and is fraught with tensions amidst external pressures and internal motivations. HPF and other theoretical frameworks can provide an insightful lens to capture the complexity of IP and should be applied to future work on this topic. These can then guide the development of thoughtful interventions at individual, organizational and system levels that minimize the detrimental effects of IP.

AUTHOR CONTRIBUTIONS

Lorenzo Madrazo: Conceptualization; data curation; writing—original draft; writing—review and editing; methodology; formal analysis; validation; project administration; investigation. **Jade Choo-Foo:** Formal analysis; writing—original draft; writing—review and editing; investigation. **Wenhui Yu:** Writing—review and editing; formal analysis; investigation. **Kori A. LaDonna:** Conceptualization; writing—review and editing; formal analysis; investigation. **Marie-Cécile Domecq:** Validation; methodology; data curation; writing—review and editing. **Susan Humphrey-Murto:** Conceptualization; writing—review and editing; methodology; data curation; formal analysis; project administration; investigation; supervision.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

This research does not contain any human subjects.

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