


A Scoping Review on the Concept of Physician Caring



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BACKGROUND: Physicians' interest in the health and well-being of their patients is a tenet of medical practice. Physicians' ability to act upon this interest by caring for and about their patients is central to high-quality clinical medicine and may affect burnout. To date, a strong theoretical and empirical understanding of physician caring does not exist. To establish a practical, evidence-based approach to improve health care delivery and potentially address physician burnout, we sought to identify and synthesize existing conceptual models, frameworks, and definitions of physician caring.

METHODS: We performed a scoping review on physician caring. In November 2019 and September 2020, we searched PubMed MEDLINE, Embase, PsycINFO, CINAHL, and CENTRAL Register of Controlled Trials to identify conceptual models, frameworks, and definitions of physician caring. Eligible articles involved discussion or study of care or caring among medical practitioners. We created a content summary and performed thematic analysis of extracted data.

RESULTS: Of 11,776 articles, we reviewed the full text of 297 articles; 61 articles met inclusion criteria. Commonly identified concepts referenced Peabody's "secret of care" and the ethics of care. In bioethics, caring is described as a virtue. Contradictions exist among concepts of caring, such as whether caring is an attitude, emotion, or behavior, and the role of relationship development. Thematic analysis of all concepts and definitions identified six aspects of physician caring: (1) relational aspects, (2) technical aspects, (3) physician attitudes and characteristics, (4) agency, (5) reciprocity, and (6) physician self-care.

DISCUSSION: Caring is instrumental to clinical medicine. However, scientific understanding of what constitutes caring from physicians is limited by contradictions across concepts. A unifying concept of physician caring

does not yet exist. This review proposes six aspects of physician caring which can be used to develop evidence-based approaches to improve health care delivery and potentially mitigate physician burnout.

KEY WORDS: caring; physician-patient relationships; burnout; wellness; purpose.

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INTRODUCTION

Physicians' interest in helping others, and their concern for others' health and well-being, call many to the field of medicine.^{1–4} In medical practice, caring for patients involves using expert biological, psychological, and social knowledge and skill to solve complex problems, and a commitment to improving a patient's health.^{5, 6} Caring for and about patients has given physicians a sense of meaning and purpose for generations.^{7–9}

Physicians' efforts to care for patients were challenged by organizational and technological changes in the twentieth century. Along with advancements in diagnosing, managing, and curing disease, modern health care delivery models had unintended negative effects on physician autonomy to act in patients' interests and physician-patient relationships. Examples which negatively affected physicians' ability to care include fragmented, rushed encounters,¹⁰ burdensome regulations, poorly designed information technology,¹¹ loss of trust between physicians and patients,¹² and diverging missions between physicians and health systems.^{3, 13, 14}

In the twenty-first century, economic drivers of change in health care delivery have intensified,¹⁵ and physicians' growing inability to care is temporally associated with the widespread problem of physician burnout.^{16, 17} Burnout is a work-related syndrome characterized by emotional exhaustion, depersonalization, and feelings of reduced personal accomplishment.¹⁸ Among physicians, burnout is associated with sub-

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optimal work performance,¹⁹ perceived medical errors,^{20, 21} decreased quality of care,^{22, 23} unprofessional behavior,²⁴ malpractice claims,²⁰ leaving medicine,²⁵ and suicidal ideation.^{26, 27} A suggested source of distress and burnout among primary care physicians is systems-level disregard for the professional values of caring for and forming relationships with patients.²⁸

In nursing, caring has been defined and conceptualized as a state of being, an affect, a behavior, an ability, and an interpersonal relationship.^{29–31} Additionally, nurses' ability to care is associated with job satisfaction.^{32–35} We hypothesize that a similar relationship between the ability to care and occupational well-being exists among physicians. However, the study of this potential relationship is limited by an absence, to our knowledge, of a strong theoretical and empirical understanding of caring (or care) among physicians. For example, the National Academy of Medicine's (NAM) framework of clinician burnout omits a definition of care, caring, or providing care.³⁶ To better understand physicians' attitudes, intentions, and goals when caring for patients, we performed a scoping review to identify existing models, frameworks, and definitions of caring in clinical medicine. The purpose of our scoping review is to propose a framework of physician caring that could direct efforts to improve health care delivery and reduce physician burnout.

METHODS

We performed a scoping review of literature about physician caring. Our objectives were to (1) identify existing research definitions, frameworks, and conceptual models of care and caring among medical practitioners; (2) describe studies and methods used to understand physician caring; (3) provide a synopsis of existing definitions and concepts of physician caring; and (4) propose a framework of physician caring to improve health care delivery and reduce physician burnout.

We followed an established, five-step scoping review process: (1) identify the research question, (2) identify relevant studies, (3), select the studies, (4) chart the data, (5) collate, summarize, and report the results.^{37, 38}

1. Identify the research question

The NAM Taking Action Against Clinician Burnout report includes a call for hypothesis-generating research to define optimal professional fulfillment and well-being.³⁶ Given that caring helps create a sense of purpose and meaning for physicians,²⁸ we adapted the NAM burnout framework to include caring (Appendix 1). Our research question was framed around a hypothesized relationship between physicians' inability to care and a growing problem of physician burnout.^{17, 28} To identify theoretical and empirical understanding of caring in clinical medicine, we posed the following research question, "What is the state of science around physician caring, and how has it been defined and conceptualized thus far?"

To direct our scoping review, we created a working definition of physician caring: "The act of having concern for or commitment to a patient's well-being, while using one's experience, skills and resources to promote the patient's health." This definition reflects works pertaining to care in medicine,^{5, 11, 14, 17} input from a multi-disciplinary group of peer colleagues (MD from medicine and surgery, RN, PT, OT, SLP), and iterative discussions among authors. We developed our preliminary framework as described above and working definition for the purpose of guiding our review and training reviewers.

2. Identify relevant studies

In November 2019, we searched primary literature from all years in PubMed MEDLINE, Embase (embase.com), PsycINFO (Ebsco), CINAHL (Ebsco), and CENTRAL Register of Controlled Trials (Wiley). We defined search terms for use in PubMed (D.B., L.O.), and adapted the terms (L.O.) for other databases (Appendix 2). We constructed our search terms to identify articles that included a term from each of the following domains: (1) conceptual models and frameworks, (2) caring and related constructs, and (3) physicians and clinicians. We did not use date limits. We reviewed articles that were available in English. We assessed review articles separately. We reviewed the bibliographies of relevant review articles and screened the abstracts of relevant references.

3. Select the studies

We used Rayyan software (Doha, Qatar) to perform a pilot screen of a random sample of 499 out of approximately 5600 articles from PubMed. A team of four reviewers (D.B., F.S., A.P., N.R.) each reviewed all titles and abstracts in the pilot screen to ensure the appropriateness of our research question, search strategy, scope of literature, preliminary eligibility criteria (described below), and training procedures.

After completing the pilot screen, all titles and abstracts from our search queries were uploaded to Covidence (Melbourne, Australia). One reviewer (D.B.) and one of three reviewers (F.S., A.P., N.R.) independently screened each title and abstract.

We screened titles and abstracts using eligibility criteria, which we updated iteratively, to identify articles for full-text review (Appendix 3). Articles met eligibility criteria for full-text review if the title and abstract focused on caring in clinical medicine, was conceptually similar to our preliminary framework, or mentioned a conceptual model, framework, definition, or theory of physician-patient relationships. We excluded articles on patients' experience of caring, as this review has already been performed.³⁹ We also excluded articles which fit into established constructs (e.g., shared decision-making, professionalism, etc.) if the title and abstract did not mention caring.

We achieved > 90% agreement on which articles met criteria for full-text review. Of the remaining conflicts, one

author (D.B.) reviewed titles and abstracts to include seminal works, and two authors (F.S., A.P.) reconciled the remaining conflicts.

During our review, we identified additional articles via literature searches from related research efforts, and from recommendations from experts in caring from other fields.

We organized the articles as theoretical (perspectives, viewpoints, critiques, and narrative reviews; full texts reviewed by D.B. and F.S.) or empirical (employing quantitative or qualitative research methods; full texts reviewed by D.B. and A.P.). Our primary inclusion criterion for data extraction was full texts which had a conceptual model, framework, or definition of care or caring in clinical medicine.

During full-text review, we observed saturation of content among theoretical articles and therefore excluded a few theoretical articles with content that had already been captured elsewhere in our review (see Fig. 1).

4. Chart the data

Data extraction from articles that met our inclusion criteria occurred openly and in parallel until there was agreement on extracted data. We extracted the title, author, year of publication, population studied or discussed, and type of article or method used.

We extracted and summarized the model, framework, or definition noted in each article using a descriptive-analytical approach.³⁷ To broadly identify possible conceptualizations of caring, we classified rich descriptions of caring as frameworks. We assessed whether the model, framework, or definition came from existing literature or had been a novel concept derived from or for the article. We also extracted and summarized the author's main points and/or key results of studies.

We reviewed reference lists during full-text review and included articles that met our primary criterion for data extraction. To update our search, one reviewer (D.B.) performed steps 2–4 as described above in September 2020.

5. Collate, summarize, and report the results

To provide a synopsis of physician caring, we performed numerical description, content summary, and thematic analysis of the models, frameworks, and definitions in our extraction chart.

We performed a content summary to compare existing concepts of caring in clinical medicine. Our content summary involved searching text for recurring words and themes to identify consistencies, meanings, and relationships within and across concepts and definitions of caring.

We performed thematic analysis to synthesize the contents of all identified concepts and definitions. Thematic analysis involves discovering common themes through cross-case analysis.⁴⁰ One author (D.B.) used inductive analysis to generate a list of descriptive codes from the findings in our data chart until saturation was reached. D.B. then used an iterative inductive approach to organize codes into an initial set of

themes,⁴⁰ after which all authors provided feedback. We used MAXQDA 2020 (VERBI Software, 2019) for our thematic analysis.

Finally, we created a conceptual framework of physician caring based on our preliminary framework of clinician burn-out and our findings through an iterative process of group consensus among authors.

RESULTS

We reviewed a total of 11,776 articles: 310 met criteria for full-text review; 297 were available and reviewed in full. We included 1 article from a reference list.⁴¹ We identified 3 additional articles through other searches and recommendations.^{42–44} Sixty-one articles met our inclusion criteria based on full article review (Fig. 1).^{17, 41–100}

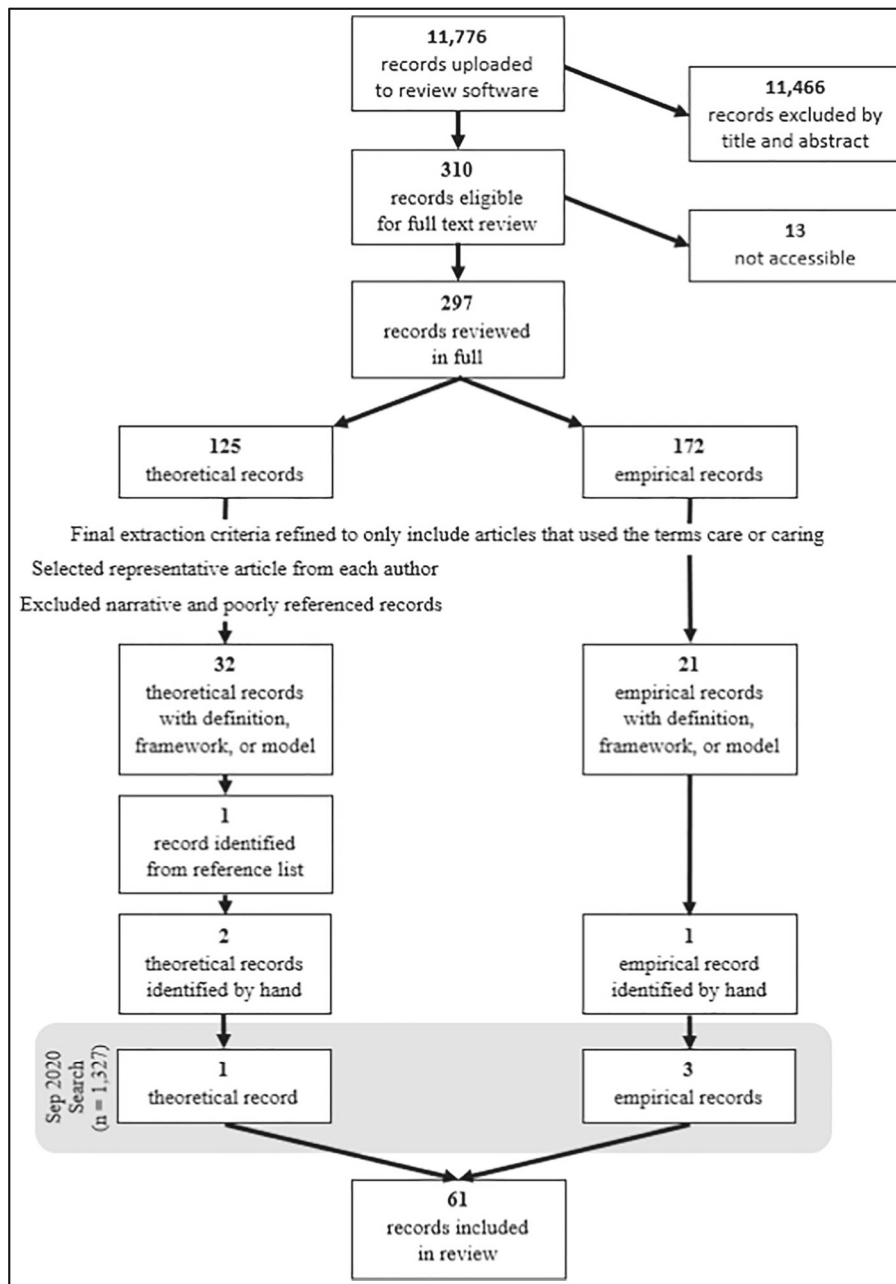
Individual Concepts and Definitions

Theoretical Literature. We identified 36 theoretical articles on caring in clinical medicine.^{17, 41–43, 45–76} Articles discussed physicians in general,^{17, 41–43, 45–61} medical education or residency training,^{62–69} primary care,^{70, 71} primarily non-patient facing medical specialties (e.g., radiology,⁷² pathology⁷³), and multidisciplinary practice.^{74–76}

Among theoretical articles, we found 3 seminal concepts of caring (Table 1). In bioethics, caring is defined as an emotional commitment and willingness to act on behalf of persons with whom one has a significant relationship.⁴² Caring—or *being caring*—is viewed as a virtuous trait which is fundamental in health care. Second, many works give homage to Francis Peabody's words, “for the secret of the care of the patient is in caring for the patient.”^{17, 48, 49, 63, 73} These works portray caring in medicine as acts which involve sympathy, trust, patient-centeredness, humanism, and artistry. Third, the ethics of care predominantly emphasizes the role of empathy, compassion, and taking responsibility in developing physician-patient relationships.^{45–47, 62} Other concepts of caring involve distinctions between caring for and about patients,^{58, 74} and moral action and virtue.⁷²

We identified 7 articles which included caring as a component of a related topic: communication,⁵⁹ narrative medicine,⁶⁰ social psychology,⁷⁶ medical professionalism,⁶⁸ trust,⁶¹ learning theory,⁶⁹ and quality and safety.⁴³ (Appendix 4). Fifteen articles used novel models and frameworks of physician care or caring (Appendix 5).^{50–57, 64–67, 70, 71, 75}

Empirical Literature. In the 25 empirical articles,^{44, 77–100} the participants were physicians in primary care or general practice,^{44, 77–80} medical specialties^{81, 82} and surgical specialties,^{83, 84} medical students or residents,^{85–97} medical educators,^{98, 99} and physician researchers.¹⁰⁰ In addition to the medical practitioners sampled, 7 studies involved multidisciplinary practitioners^{44, 81, 83, 85–88} and 3 studies involved patients.^{81, 83, 84} Thirteen studies used qualitative



We initially considered articles eligible for data extraction if the article fit our working definition of physician caring, or if the article specifically used the terms “care” or “caring.” During full text review, we refined this extraction criterion to only include articles that specifically used the terms “care” or “caring.” Foreign language articles are included among records that were not accessible.

We observed saturation of content during full text review of theoretical articles. If multiple theoretical articles had been written by the same author on a single concept, we chose one representative article for inclusion based on richness of content or relevance to our working definition of caring. We also excluded narrative articles that lacked references or had narrative content that did not add new insights on care or caring.

Figure 1 Article Selection

Table 1 Summaries of Concepts from Theoretical Articles Which Used Existing Concepts of Care or Caring

Concept	Domains/elements	Features and definitions
Bioethicists' views on caring ^{41, 42}	Compassion Discernment Trustworthiness Integrity Conscientiousness Helping	A "prelude to caring"; focuses on others' pain, suffering, and misery Sensitive insight, astute judgment, and understanding to bear on action Confident belief in and reliance on moral character and competence Objectivity, impartiality, and fidelity in adherence to moral norms The motivation and due diligence to do what is right Doing for others what they cannot do for themselves
Peabody's secret of care ^{*17, 48-49, 65, 73}	Interpersonal skills Scientific knowledge and competence Judgment Morality Self-knowledge and self-regard	Sympathy, neutral empathy, compassionate detachment, the golden rule, listening, knowing the person, humanism, the art of caring Science of medicine, history taking, analytical tasks, conscientiousness Art of medicine, wisdom, adapting to patients' needs, life-changing diagnoses Obligations of the [medical] covenant, the privilege of caring for others Knowledge of one's self, equanimity
Ethics of care ^{45-47, 62}	Reciprocity Empathy Uniqueness Partiality Morality Mutuality and reciprocity Self-knowledge and self-regard	The act of caring is regenerative, affirming, and satisfying for physicians Engrossment, receptivity, sympathy & compassion Sensitivity to context and the other's situation Doing and caring more about some [patients] than others, proximity Relationship awareness, taking responsibility, trust, goodwill Mutual responsiveness, deliberation, reciprocal goodwill, interconnectedness Balanced care, self-regulation
Caring for and caring about ^{58, 74}	Caring about Caring for	Concern for patients' best interests, the manner in which activities are carried out, not necessarily visibly apparent, motivation, authentic impulse and desire Skill, activities which are carried out, necessarily visibly apparent, capacity to understand patient's experience, responding to patient's needs, awareness of situational complexities, technical and ethical competence Giving time, information, and kindness
Moral intuitionist model of virtuous caring ⁷²	Generosity Mindfulness Empathetic compassion Neuroticism and burnout	Coping with stress, focused attention, self-monitoring Listening, understanding, respect, relief of suffering Likelihood to experience feelings of anxiety, worry, and fear; syndrome of emotional exhaustion, depersonalization, feelings of reduced personal accomplishment

*All articles in this grouping discuss Peabody's famous words, "the secret in the care of the patient is in caring for the patient," which we classified as a definition in our data extraction chart. The listed domains and elements shown are primarily based on Blumgart's essay, which expands upon Peabody's original 1927 remarks

methods,^{44, 77-79, 81, 82, 84, 85, 88-91, 98} 11 used questionnaires,^{80, 83, 86, 87, 92-97, 99} and one used mixed methods.¹⁰⁰

Ten studies used existing concepts or theories of physician care or caring: The Ethics of Care;^{79, 85, 90, 91} Jecker's caring for and about model;⁷⁸ Leffel's Moral Intuitionist Model of Virtuous Caring;^{92, 93} Watson's Theory of Transpersonal Relationships;⁸³ Leininger's Transcultural Nursing;⁸¹ and one study with several influences including Heidegger, Szewczyk, Roach, Mayeroff, and Pellegrino⁸⁸ (Table 2). Notable findings include that caring can be difficult because of time constraints, emotional burden, and aspects of care which are outside of the physician's traditional scope of responsibility (e.g., needing support to address patients' social needs);⁷⁸ caring involves having a meaningful role and emotional care experiences engender compassion in medical students;⁹⁰ and sociocultural considerations are important for equitable care.⁸¹ One study of nursing and medical students identified 9 main categories of care: compassion, commitment, competence, conscience, courage, patience, confidence, communication, and support.⁸⁸

Seven studies used novel frameworks and definitions of care or caring (Table 3). One study analyzed how the terms care and caring can have different meanings, such as trying to keep someone healthy or a deliberate act to sustain relationships.⁴⁴ One analysis of surgical consultations resulted in a definition of authentic caring as "the surgeon's conscientious

execution of their role."⁸⁴ Other studies focus on caring attitudes,⁹⁹ clinical tasks and behaviors,⁷⁷ clinical research,¹⁰⁰ regulating emotions,⁸² and competence.⁸⁹

Other studies included caring as a component of values in medical education,⁹⁸ medical professionalism,⁹⁵ performance in medical education,⁹⁶ physician attributes,⁸⁷ and professional-patient boundaries⁸⁰ (Appendix 6).

Content Summary: Comparing Concepts and Definitions

Our content summary broadly suggests that physicians' care is given for patients' benefit and to improve patients' health.^{43, 46, 49, 51, 55, 58, 75, 89, 95} Across concepts, consistent distinctions have been made about the differences between "caring for" and "caring about" patients.^{41, 46, 65, 74}

Some contradictions exist among concepts. For example, some concepts describe caring as an attitude or value,^{72, 81, 86, 91, 99} an emotion or affect,^{82, 94} or a behavior,^{48, 52, 55, 58, 66, 70, 73, 79, 80, 83, 95, 97, 101} while other concepts describe caring as a combination of attitudes, emotions, and behaviors.^{42, 45, 46, 57, 64, 65, 69, 74, 75, 84, 92, 93, 96} Additional contradictions exist for the roles of competence, medical expertise, and curing, which has been described as part of caring in some models^{49, 58, 70, 73, 84, 88} and separate from caring in other models.^{41, 61, 62, 78, 85-87, 89, 94, 99}

Table 2 Results of Empirical Studies Grounded in Existing Concepts of Care or Caring

Author, year	Concept	Study design and objectives	Findings
Konkin, 2012 ⁹⁰	Ethics of care (Branch)	Design: • Phenomenologic study of 25 (out of 33 invited) medical students' experiences during a longitudinal integrated clerkship Objective: • Explore the development of an ethic of caring	<ul style="list-style-type: none"> • Caring involves having a meaningful role • Receptivity and responsibility are inter-related • Participating in patient's emotional experiences engenders compassion • There is a need for students to feel that all that could have been done, had been done
Self, 2003 ⁹¹	Ethics of care (Kohlberg and Gilligan)	Design: • Interviews of 20 (out of 48 eligible) graduating medical students who described a "real-life" (i.e., non-clinical) moral conflict • Care issues were identified from transcripts by a trained author Objective: • Describe the moral orientation of medical school graduates	<ul style="list-style-type: none"> • Care issues were recognized by the author in 90% of moral conflicts • Care (as opposed to justice) predominated as the organizing principle or framework for resolution of the conflict in 55% of dilemmas • Care was the preferred mode of resolution of the conflict for students in 25% of cases
Bamberg, 1992 ⁷⁹	Ethics of care (Gilligan)	Design: • Discourse analysis of a conversation between research participants and an interviewer who acted as a clinician and researcher Objective: • Highlight different orientations ("voices") and values within a given individual while seeking health care	<ul style="list-style-type: none"> • The voice of research is most likely to be interpreted by the patient within a framework of curing, not caring
Peter, 1994 ⁸⁵	Ethics of care (Gilligan, Kohlberg)	Design: • Survey of 119 nursing and medical students on an open-ended real-life non-clinical dilemma and a hypothetical clinical dilemma Objective: • Examine whether "caring" uniquely reflects the moral orientation of nursing students	<ul style="list-style-type: none"> • In non-clinical dilemmas, nursing students (all female) used more care considerations than male but not female medical students • In the hypothetical dilemma of a dying patient's request for lethal medication, there were no significant differences in care considerations among nursing and medical students
Apesoa-Varano, 2011 ⁷⁸	Caring for and caring about (Jecker)	Design: • Semi-structured interviews of 40 (of 73 eligible) PCPs Objective: • "Explore how PCPs approach the care of patients with Alzheimer's disease"	<ul style="list-style-type: none"> • Primary care physicians acknowledged the limits of the cure paradigm, and articulated a caring, more holistic model of clinical care • Caring is difficult because of time constraints, emotional burden, and aspects of care that are not perceived as the physician's responsibility
Leffel, 2017 ⁹²	Moral intuitionist model of virtuous caring	Design: • Survey of 500 US medical students who were asked to indicate the degree to which items on the survey accurately described them Objective: • Test the relationship between moral intuition and caring virtues	<ul style="list-style-type: none"> • Students reported stronger preferences for the care/harm moral intuition (i.e., empathy and compassion) over other moral intuitions: fairness and reciprocity, ingroup and loyalty, authority and respect, purity and sanctity
Leffel, 2018 ⁹³	Moral intuitionist model of virtuous caring	Design: • Nationally representative survey of 499 US medical students Objective: • Validate the moral intuitionist model of virtuous caring to promote physician character development in medical education	<ul style="list-style-type: none"> • "Virtuous students were recognized by their peers to be exemplary doctors, and they were more likely to have higher ratings on measures of student well-being" • "Virtues predicted prosocial behavior more than personality traits alone"
Flynn, 2016 ⁸³	Watson's theory of transpersonal caring	Design: • Survey of 37 (out of 50 eligible health care professionals; 10 physicians completed the survey) and 22 (out of 50 eligible) patients using the Caring Behaviors Inventory Objective: • To understand the perceptions of caring from both patient and orthopedic health care professional perspectives	<ul style="list-style-type: none"> • Patient and physician groups agreed on 3 of 10 most important caring items: "Appreciating the patient as an individual," "Demonstrating professional knowledge and skill," and "Appreciating the patient as a human being" • The order of rankings varied between groups • "Responding quickly to the patient's call," was ranked lowest in the physician group
Pergert, 2007 ⁸¹	Leininger's transcultural nursing	Design: • Focus groups (4 nurses, 1 physicians) of 35 nurses and physicians Objective: • Explore the "situation" of families with an immigrant background while they are seeking health care	<ul style="list-style-type: none"> • Obstacles to transcultural caring relationships exist in four categories, (1) linguistic, (2) cultural and religious, (3) social, and (4) organizational • Failure to recognize obstacles in transcultural caring relationships results in inequity in care for families with an immigrant background
Dobrowolska, 2014 ⁸⁸	Several influences: Heidegger, Szewczyk, Roach, Mayeroff, Pellegrino	Design: • Open-response survey of 102 (out of 140) 1st- and 2nd-year nursing and medical school students before and after their first practicum • Analyzed using phenomenological descriptive methodology Objective: • Learn how nursing and medical students understand and define care, and how their views on caring change during training	<ul style="list-style-type: none"> • Main categories defining care: compassion, commitment, competence, conscience, courage, patience, confidence, communication, support • Two basic dimensions of care: emotional and practical • Communication is an aspect of competence • Some students reported caring for patients "only when there was nobody else to do it, or when they were asked to do it"

Table 3 Empirical Works Involving Novel Concepts and Definitions of Care or Caring Derived A Priori or from the Results of the Study

Author, year	Framework or definition	Model, framework, or definition	Study design and objectives	Findings
Lown, 2007 ⁹⁹	Novel definition of caring attitudes derived a priori through a consensus process	“Caring attitudes are feelings and opinions arising from values that affirm the importance of understanding others as individuals with unique needs... Behaviors that reflect caring attitudes: demonstrating empathy, communicating sensitively in response to patients’ and families’ histories and needs, engaging in mutual decision making, committing to ongoing self-regulation, and welcoming feedback for continued personal and professional growth”	Design: • Survey with 26 quantitative questions and 1 open question of 73 (of 134) medical curriculum leaders Objective: • Survey associate deans and curriculum leaders about teaching and assessing caring attitudes in their medical schools	<ul style="list-style-type: none"> • 73% agreed that caring attitudes are difficult to teach if students do not possess them upon entering medical school • 33% thought caring attitudes are emphasized less than scientific knowledge • The most frequently reported organizational symbol of caring attitudes was faculty awards for humanism • Three barriers to teaching caring attitudes were time and productivity pressure, lack of faculty development and expertise, and the perception that faculty believed current teaching was adequate.
Hall 1987 ⁷⁷	Novel framework of task versus socioemotional behaviors derived a priori	The conceptual framework used was one in which both instrumental and affective behaviors are integrated. Instrumental behaviors were defined as technically based skills used in problem solving, which compose the base of “expertness” for which the physician is consulted. The socioemotional dimension is defined as all face-to-face provider behavior	Design: • Qualitative study of 43 primary care physicians with trained standardized patients to assess communication and information content Objective: • Investigate associations among physicians’ task-oriented and socio-emotional behaviors	<ul style="list-style-type: none"> • Physicians adopted an approach to task performance that was either patient oriented (information giving and counseling) or physician oriented (giving directions and asking questions) • Physicians who were more medically informative spent less time making socioemotional utterances and had more interested and anxious voices; thus, they may be compensating for that neglect
Easter, 2006 ¹⁰⁰	Novel framework distinguishing care from research derived a priori	“To speak directly to normative debate about care in research, we begin with the most basic categories of that debate - care and research - in order to see if the people involved in research also understand the situation in those broad terms”	Design: • Interviews of 82 investigators, study coordinators, and patients Objective: • To assess what clinician-researchers perceive their role to be, as well as how patient-participants understand the care they receive in clinical trials	<ul style="list-style-type: none"> • “While researchers and subjects often view care and research as conflicting activities, both parties tend to see research as a way of caring for patients” • No relationship was found for “subjects’ perception of care-giving by researchers and the tendency to misunderstand that they are in a research study”
Salmon, et al. 2011 ⁸⁴	Definition of authentic caring derived from the results	“These findings suggest a definition of authentic caring – i.e. what the participants felt was genuine and valuable: the surgeons’ conscientious execution of their role”	Design: • Audio-recorded encounters in addition to interviews of 9 breast surgeons and 20 patients • Within-case qualitative analysis Objective: • Recognize authentic, caring clinical relationships	<ul style="list-style-type: none"> • “For both patients and surgeons, the clinical relationship was emotional in that it went beyond technical care and encompassed surgeons’ personal character and emotional support of their patients” • “In the face of their own sense of vulnerability, patients were comforted by surgeons’ expertise, and surgeons tried to comfort them by displaying expertise”
Wong, 2020 ⁸²	Framework of “bounded caring” derived from the results	“‘Bounded caring’ represents [the clinician’s] practice of being (emotionally) engaged with their patients but are (sic) simultaneously required to maintain clear (emotional) boundaries - a dialectic relation between engagement and boundedness”	Design: • Phenomenological analysis of interviews of 22 oncologists Objective: • Explore the experience and meaning of physicians’ emotions and emotional labor in medical	<ul style="list-style-type: none"> • Changes in the profession (e.g., “box ticking” and “rushing patients out”) were seen as detrimental to physicians’ ability to perform emotional labor • Physicians described the need to construct a boundary between them and their patients while caring for and connecting with patients (i.e., “bounded caring”)

(continued on next page)

Table 3. (continued)

Author, year	Framework or definition	Model, framework, or definition	Study design and objectives	Findings
MacLeod, 2011 ⁸⁹	Definition of discourses of caring derived from the results	“Discourses of caring focus on the social aspects of medicine” (e.g., the non-technical aspects of medicine). It includes the language of relationships, attitudes, emotions, interpersonal engagement, and innate qualities of persons; not a language of knowledge and facts”	Design: • A discourse analysis of medical education curriculum documents, observations of small group experiences, and interviews of 5 medical students and 9 educators Objective: • Explore how professional identities are developed within competing discourses of competence and caring	<ul style="list-style-type: none"> • Discourses of competence, which involve the technical aspects of medicine (i.e., knowledge and skills), are displayed in professional identities of confidence, capability, and suitability • Discourses of caring (i.e., the social, non-technical aspects of medicine) are displayed in professional identities of benevolence and humbleness • Caring and compassion were articulated in various psychological, sociological, and political configurations • Caring has been described as a deliberate act that creates and sustains relationships, and as a behavior that can be observed and judged • Caring also involves self-care and can be an aspect of professional identity
Stergiopoulos, 2019 ⁴⁴	Framework for uses of the term “caring” derived from the results	The term caring has been used as intentional (e.g., attending and listening to others), observed performance (e.g., caring behaviors included in assessments), self-care, an identity (e.g., to help trainees understand... their professional identity), in patient-centered care and in person-centered care	Design: • A critical discourse analysis of archived texts to analyze core terms: care/caring and compassion Objective: • Explore uses and implications of terminology associated with humanistic medicine	<ul style="list-style-type: none"> • Caring has been described as a deliberate act that creates and sustains relationships, and as a behavior that can be observed and judged • Caring also involves self-care and can be an aspect of professional identity

Many concepts and definitions involve physicians’ mission and purpose,^{53, 69, 84, 90} quality of care or health care delivery,^{43, 44, 48, 50, 56} and discussed caring in relation to physician burn-out.^{17, 52, 54, 55, 82, 92, 93} Several concepts emphasized meeting patients’ needs or understanding patients as unique individuals.^{45, 49, 50, 59, 60, 62, 66, 67, 71, 74, 81, 90, 97, 99} A few concepts frame the psychosocial aspects of medical practice as caring.^{78, 87, 89}

Thematic Analysis: Synthesizing Concepts and Definitions

Our thematic analysis—to synthesize all concepts and definitions in our review—revealed six aspects of physician caring: (1) relational aspects, (2) technical aspects, (3) physician attitudes and characteristics, (4) agency, (5) reciprocity, and (6) physician self-care (codes listed in Appendix 7).

Relational aspects involve the interpersonal and emotional elements of caring, much of which is encompassed by the physician-patient relationship. Examples of relational aspects of caring include connection, trust, commitment, empathy, compassion, warmth, kindness, healing, understanding, socio-cultural awareness, respect, recognizing individuality and illness narratives, providing comfort, whole-person care and love. Technical aspects primarily involve medical knowledge, competence, and execution of care plans. Physician attitudes and characteristics pertain to physicians’ individual views, strengths, skills, and approaches to caring. For example, while some physicians prioritize compassion and empathy,^{62, 75, 96} others prioritize conscientiousness⁸⁴ and communication,⁷³ and a minority most value medical expertise.⁸⁷

Agency involves physician autonomy to act on behalf of patients’ interests, as well as physicians’ interactions with patients, technology, other health care professionals, and the

health system.^{17, 41, 44, 62, 63, 70, 75} Reciprocity means that—while medical professionalism dictates that physician behavior is in the patient’s interests—physicians get something in return. Examples from our review include experiencing fulfillment,^{59, 65} satisfaction,^{17, 55, 56, 70} meaning,^{51, 63, 82, 90} gratitude,⁶⁴ feeling valued,⁵² and validation.⁵⁴ Physician self-care involves maintaining one’s physical, mental, and social health to enhance and sustain caring.^{53, 54}

A Proposed Conceptual Framework of Physician Caring

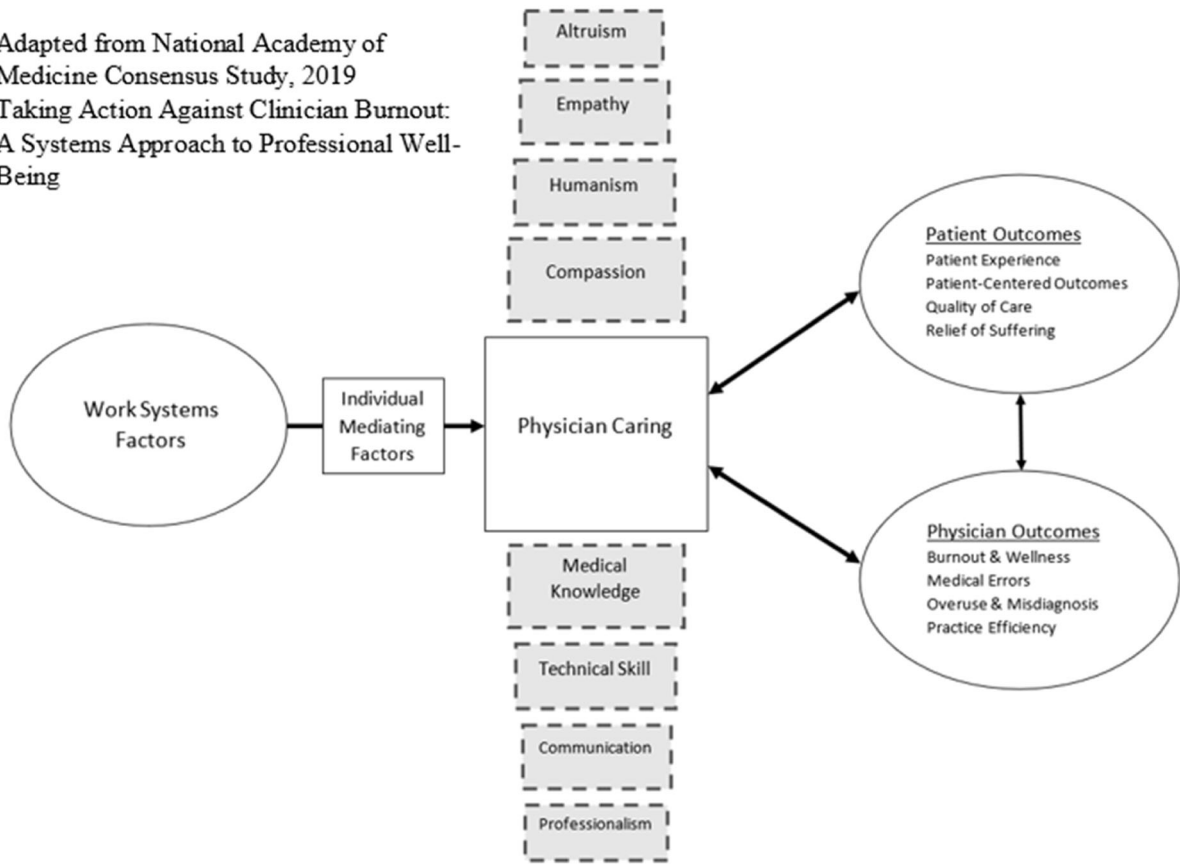
The 6 aspects of caring may altogether have bidirectional relationships with quality of care and professional well-being (Fig. 2).

DISCUSSION

The purpose of our review was to understand the existing state of the science of caring in clinical medicine and to describe how physician caring has been defined and conceptualized. Leading concepts of caring among physicians emanate from the view that caring is a virtue,^{42, 68} references to Francis Peabody’s lecture on caring for the patient,⁷ and the ethics of care.^{102, 103} Many studies clarify caring, or a commitment to care, as a responsibility of physicians.^{59, 78, 82, 87, 95, 98} We found conceptual contradictions, such as whether caring is an attitude,⁹⁹ emotion,⁸² behavior,⁴⁸ or some combination;⁶⁵ whether caring involves technical aspects of medical practice;^{41, 49} and the extent to which caring involves relationship development.^{62, 84} Scientific understanding of caring in clinical medicine is limited by the lack of a unified conception of physician caring.

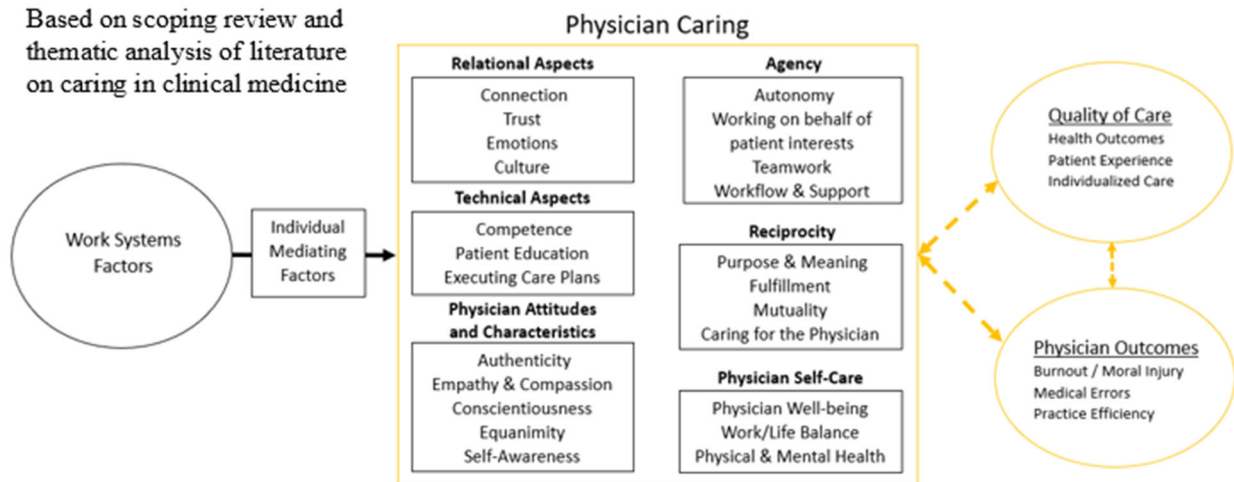
Preliminary Conceptual Framework of Physician Caring Used to Guide Review

Adapted from National Academy of Medicine Consensus Study, 2019
 Taking Action Against Clinician Burnout:
 A Systems Approach to Professional Well-Being



Proposed Conceptual Framework of Physician Caring

Based on scoping review and thematic analysis of literature on caring in clinical medicine



Our preliminary conceptual framework of physician caring was adapted from the NAM Consensus Study, 2019, Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. In our proposed framework, the gold lines indicate changes that are informed by findings from our review. In the Physician Caring box, we used codes from our thematic analysis to characterize each aspect of physician caring. We posit that physician caring involves each of the six aspects at least to some degree, and the six aspects presented are not necessarily independent. We derived the contents of the Quality of Care and Physician Outcomes circles from our results section and associated appendices. We used dashed lines to indicate that the posited relationships between Physician Caring with Quality of Care and Physician Outcomes are hypothetical.

Figure 2 Comparison of preliminary and proposed frameworks of physician caring based on findings from scoping review and thematic analysis.

Our thematic analysis suggests that physician caring involves: (1) relational aspects, (2) technical aspects, (3) individual physician attitudes and characteristics, (4) agency, (5) reciprocity, and (6) physician self-care.

Proposing a Single Concept of Caring Among Physicians

As with concepts of caring among nurses,^{30, 31} and other psychosocial constructs in medicine,^{101, 104, 105} arriving at a single, agreed-upon conception of caring in medicine is challenging.⁴⁴ Therefore, this review aims to establish a proposed framework for a single concept of caring, which can be used to develop systems-level strategies to promote physicians' ability to care for patients,⁴⁹ thereby reducing burnout.^{17, 28}

As depicted in our proposed framework, we hypothesize that improving physician caring will improve patient experience,^{39, 50, 106} patient outcomes, quality of care,^{43, 48, 70} and reduce patient suffering.^{65, 66, 107} The purpose of this review is not necessarily to inform individual physicians of attitudes or behaviors which individual physicians may emulate if they wish to be perceived as caring³⁹ or care more effectively.⁶⁵

Linking Caring with Burnout

According to Expectancy Theory, motivation is affected by individuals' beliefs about whether their actions would be likely to achieve a desired outcome.¹⁰⁸ In the clinical environment, systems-level constraints can cause physicians to believe that they are unable to act in patients' interests.^{36, 109} As a result, physicians experience moral distress and potentially moral injury, which reduces motivation and portends burnout.^{55, 110} Our proposed framework clarifies physician beliefs about caring^{17, 52, 62, 63, 70, 82} so that systems-level changes can be made to support physicians' actions to care for patients.^{28, 43, 56} Future work in this domain will be needed as measures and models of moral injury are developed and implemented.¹¹¹

The Six Aspects of Caring in Clinical Practice

In our framework, caring can be seen as a willingness, interest, and ability of physicians to use their knowledge and skill to help solve patients' problems and improve patients' health.^{1, 5, 42, 49, 84} Caring physician-patient relationships involve commitment,^{5, 65, 66, 76, 88, 95} connection,^{52, 62, 90, 112} and trust.^{12, 42, 54, 61, 63, 76, 97, 113} Because individual physician attitudes about relationship development vary,^{62, 84} our proposed framework gives individual physicians leeway in how they assume emotional and social roles in patients' lives.^{7, 68, 80, 106, 114} All physicians should be motivated to continually develop expert medical knowledge and skill for patients' benefit.⁴ From an organizational standpoint, physicians can advocate for greater agency—defined as how patient welfare is served by physicians' knowledge and concern¹¹⁵—to drive changes in the clinical environment which promote their autonomy to act in patients' interests.⁷⁰

As caregivers, physicians have needs that must be met, such as appreciation, respect, safety, and professional satisfaction.¹¹⁶ Many of the reciprocal needs of physicians are met directly from patients,^{59, 71} yet it is also important for physicians to feel “cared for” by the health system. As the COVID-19 pandemic has demonstrated, examples of organizational or societal obligations to physicians include providing personal protective equipment and adjusting medicolegal standards of care.¹¹⁷ Last, physicians can continue to develop their own self-care techniques, given that the responsibility of caring for patients has the potential to negatively affect physicians' emotional, psychological, physical, and social health.^{54, 116, 118, 119} The relationships between each of the 6 aspects of physician caring are an area for future study.

LIMITATIONS

Our study has limitations. A more developed concept of physician caring will require validation, input from diverse stakeholder groups, primary qualitative data, and expert contributions. Most of our thematic analysis was performed by a single author. Our review was motivated by a hypothesized link between caring and burnout, which may have been a source of bias with respect to our inductive methodological approach.

We may have missed some relevant models, frameworks, or definitions of caring in clinical medicine in our search. Many articles from established bodies of literature including palliative care, communication, humanism, and others were ineligible for full-text review if the title and abstract did not clearly focus on care/caring or the clinician (i.e., focused on patients' needs, rather than what the physician needs or can give). We were unable to obtain foreign language translation of some articles. We used a review team of physicians and physician trainees only. We did not review gray literature. A few articles from our search were not available.

CONCLUSIONS

Care is foundational in health professions, yet a unified concept of physician caring is absent from the medical literature. Our review identified at least six aspects of physician caring: (1) relational aspects, (2) technical aspects, (3) physician attitudes and characteristics, (4) agency, (5) reciprocity, and (6) physician self-care. We propose a framework that includes these aspects of caring and posits relationships to patient and physician outcomes.

Looking ahead, we hypothesize that clinical systems and work environments which improve physician caring will improve quality of care and could eventually lead to reduced physician burnout. This work is intended to support local and systems-level initiatives that seek to improve physicians' likelihood of retaining their motivation and ability to care for and about their patients.

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