Review

Oncologist COVID-19 Burnout Emergency Care Results Regarding Their Redeployment—A Scoping Review

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Oncologist COVID-19 Burnout Emergency Care Results Regarding Their Redeployment—A Scoping Review

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Abstract: Introduction: A top-four-article, March 2024 Google Scholar search of fourteen medical specialties regarding their burnout in COVID-19 redeployment to emergency care found no returns for oncologists. The aim is to investigate oncologist redeployment through a scoping review. **Method**: Web of Science, Scopus, PubMed, OVID, Google Scholar, and the Cochrane COVID-19 Study Register were searched with the keywords "burnout AND COVID-19 AND emergencies AND oncologists" to determine the resulting redeployment of oncologists to emergency care, the burnout response, and patient outcome. **Results**: Of the 17,848 search returns using the PRISMA scoping review process, the studies included for assessment were eight reports. The results found that there was a redeployment of oncologists to emergency care defined in various ways, that this redeployment caused oncologist burnout for several reasons, both internally and externally directed, and, together, these reasons negatively affected patient outcomes. Unique to oncologists among the medical specialties was that part of their burnout related to empathy for their patients in their increased risk of mortality and the diminished bond between the doctor and patient. **Conclusion**: The results of this study can inform oncologists and patients in maintaining the strength of their bond to improve patient outcomes in future pandemics.

Keywords: oncologists; burnout; COVID-19; emergency care; redeployment; patient outcomes

1. Introduction

In March 2024, this author investigated the response of medical specialties regarding redeployment from their usual appointment-based patient care to emergency care resulting from the 2020 [1]-2023 [2] COVID-19 pandemic. Initially, oncologists were among those medical specialties searched by the author through Google Scholar on 31 March. Considering only the top four cited articles returned, this limited search produced no oncologists redeployed to emergency care. The result was a June 2024 publication that did not include oncologists [3].

Pre-COVID-19, burnout in oncologists was recognized as a serious issue [4], with a systematic review and meta-analysis undertaken to investigate the extent of the problem [5]. Since then, COVID-19 increased the burnout in oncologists, reported in several studies [6–9], while producing different approaches to mitigate such burnout [10,11].

Concerning the redeployment of oncologists to emergency departments during COVID-19, to date, there have been systematic reviews of the redeployment of healthcare providers in general to emergency departments regarding intensive care that might include cancer patients [12] and the effects of COVID-19 on cancer care[13]. Also, there is a scoping review on the impact of COVID-19 on cancer care [14], plus a study of the perceptions of oncology professionals about emergency

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preparedness during COVID-19 [15]. However, this is the first scoping review on the redeployment of oncologists to emergency departments during COVID-19.

Such an investigation is valuable because of the high and growing [16] volume of patients with advanced cancer who visit emergency departments annually, the complexity of their treatments required, plus their frailty and the acuteness of their illness, requiring the specialized knowledge of oncologists for adequate care management [17]. This need for oncologists is evident, although emergency medical professionals are receiving increasingly specialized training in this regard [16], as significantly, cancer patients are often diagnosed initially from admittance to the emergency department [18]. What is also apparent is the awareness of oncologists that COVID-19 appreciably affected their cancer management [19].

This investigation aims to determine the redeployment of oncologists to emergency care during COVID-19. With a finding of redeployment, consideration is to the type of emergency they experienced and whether these oncologists had a burnout response [20–23]. The final consideration is the patient outcome from combining the redeployment emergency and the burnout response. Unlike the author's earlier publication [3] with a less extensive search of databases, this work does not additionally examine the coping strategies [24] used by oncologists who experienced burnout from their redeployment. This study has a more limited purview—one best fulfilled by undertaking a scoping review [25].

2. Materials and Methods

The searched databases are as follows: Google Scholar, the four most medically relevant databases (OVID, PubMed, Scopus, and Web of Science), and the Cochrane COVID-19 Study Register. Although questions regard the legitimacy of Google Scholar for academic searches because of its search inconsistency, concurrently, it is noted for its superior range as a database [26,27]. This range provides the reason for including Google Scholar among the searched databases. The search involves the Cochrane COVID-19 Study Register for its relevance regarding COVID-19-related research [28], and it reduces the manual screening workload needed for identifying COVID-19 research studies [29].

Materials were obtained by following the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for scoping reviews [30], providing the flow diagram for the conducted searches and checklist (**Supplementary S1**). The 24 August 2024 searches were of the keywords "burnout AND COVID-19 AND emergencies AND oncologists". The order of the searches was Web of Science, Scopus, PubMed, OVID, Google Scholar, and the Cochrane COVID-19 Study Register.

The inclusion criteria are that all keywords must be in the report. The exclusion criteria are no duplicates, not peer-reviewed, and the keywords are not in the publication.

The creation of a Word document followed each search, becoming the supplementary documents of this study. These documents include the keywords, the number of returns, and a color-coded system indicating exclusions made: Red—duplicates, purple—no oncologist, blue—no emergencies, and orange—no burnout.

For Web of Science (**Supplementary S2**), there were three returns—duplicates of other database searches—either to Google Scholar (in two instances) or to Scopus and PubMed (in one return). Thus, all returns were color-coded red.

The Scopus database search (**Supplementary S3**) returned four articles. Two were duplicates—one in Web of Science and Pub Med, the other in Google Scholar. These are color-coded red. Another, color-coded purple, did not mention oncologists in the text, although it mentioned oncologists in the references. The last excluded (but first returned) did not discuss emergencies and is color-coded blue.

The PubMed search (**Supplementary S4**) counted the one reference that was a duplicate of a return from both the Web of Science and Scopus search. The one represents the only return of the five reports included. An exclusion of four followed an investigation finding that none concerned emergencies. Consequently, all of these are color-coded blue.

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With 36 returns, the OVID search (**Supplementary S5**) was the first to return more than a handful of articles. However, only nine of the articles returned are included in the supplementary document because twenty-six lack peer review. There was an immediate report exclusion because the article title demonstrated it was not oncology-related. Of the nine, three are color-coded red—they are duplicates—all of Google Scholar returns. Two are color-coded purple. Although concerning oncology, they did not mention oncologists. Four reports remain included.

The Google Scholar search (**Supplementary S6**) returned orders of magnitude more than the other searches, with 17,800 returns. Since Google Scholar is a crawler-based search engine, returning the most relevant articles first [26], consideration was to the Google Scholar returns until a page listing ten returns did not include at least one relevant article. This process involved returns from eighteen pages, equaling 180 studies, excluding 17,620 records. Of these, it was clear that 128 did not concern oncologists from the title alone, and two were not in peer-reviewed journals. A manual investigation of the remaining 51 returns found that four were not regarding oncologists and color-coded purple. Of the 41 that did not concern emergencies, color-coded blue, two are the duplicates mentioned from Web of Science and Scopus. The only search that returned reports lacking burnout—they numbered three and are color-coded orange. Most returns were excluded, with only three included. The medically-related databases did not return these three, and this is notable.

The search of the Cochrane COVID-19 Study Register produced no returns. Therefore, there is no supplementary file.

The grouping of the supplementary files regarding the searches is one document: **Supplementary S2-S6: Search Results of Each Database Conducted on 24 August 2024 in Order of the Performed Search**. The entries provide all details of the searches, including those omitted from following the guidelines for the PRISMA recording process regarding the flow of information.

This study is preregistered at https://doi.org/10.17605/OSF.IO/G9HZU.

3. Results

The search process following PRISMA guidelines [30] is represented in the PRISMA flowchart of Figure 1.

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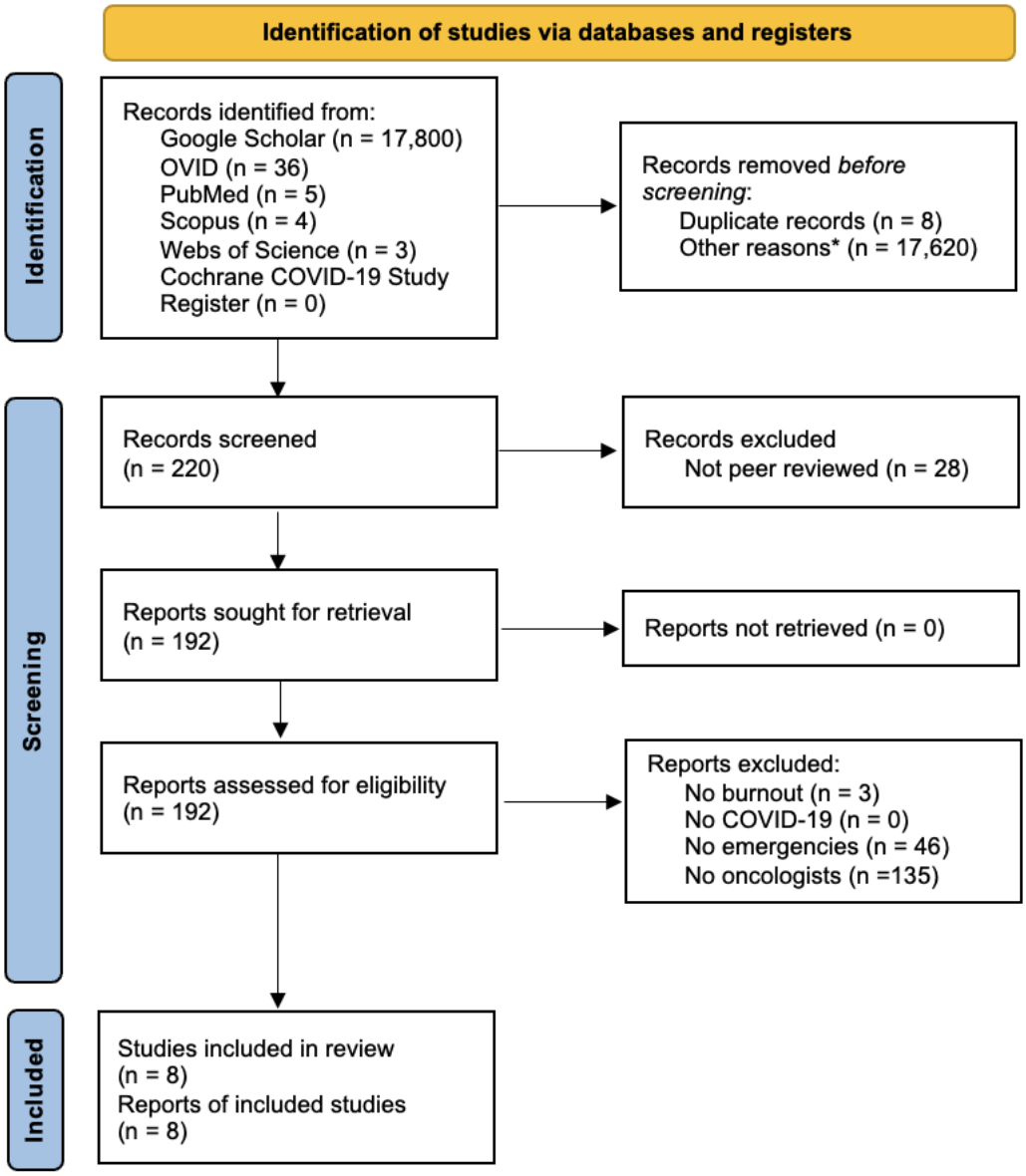

Figure 1. The PRISMA Flow of Information Chart for scoping reviews [30] of a search of the keywords "burnout AND COVID-19 AND emergencies AND oncologists" on 24 August 2024, of Web of Science, Scopus, PubMed, OVID, Google Scholar databases, and the Cochrane COVID-19 Study Register listed in order of the most results to the least.

The titles of the eight returned reports in order of their searched return on 24 August 2024 are as follows, from the PubMed search (**Supplementary S4**): "Burnout, coping and resilience of the cancer care workforce during the SARS-CoV-2: A multinational cross-sectional study" [31] published in 2023. The OVID search (**Supplementary S5**) returned four reports, one from each of the four years associated with COVID-19. They included "Bio-ethical issues in oncology during the first wave of the COVID-19 epidemic: A qualitative study in a French hospital" [32], "The role of telehealth in oncology care: A qualitative exploration of patient and clinician perspectives" [33], "Victoria (Australia) radiotherapy response to working through the first and second wave of COVID-19: Strategies and staffing" [34], and "Ethical and practical considerations on cancer recommendations

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during COVID-19 pandemic" [35]. The final group of returns is from the Google Scholar search (**Supplementary S6**): "Burnout among oncologists, nurses, and radiographers working in oncology patient care during the COVID-19 pandemic" [36] from 2023, "Oncology workload in a tertiary hospital during the COVID-19 pandemic" [37] published in 2022, and "Scientia potentia est: how the Italian world of oncology changes in the COVID-19 pandemic" [38] an Italian publication from 2020 when COVID-19 was particularly severe in that country [39] (see Table 1).

Table 1. Citation number, report title, and year of publication of included articles returned on 24 August 2024 regarding searches of the keywords "burnout AND COVID-19 AND emergencies AND oncologists" for three databases: PubMed, OVID, and Google Scholar listed in order of their return.

Citation #	Report Title	Database	Year
[31]	Burnout, coping and resilience of the cancer care workforce during the SARS-CoV-2: A multinational cross-sectional study	PubMed	2023
[32]	Bio-ethical issues in oncology during the first wave of the COVID-19 epidemic: A qualitative study in a French hospital	OVID	2023
[33]	The role of telehealth in oncology care: A qualitative exploration of patient and clinician perspectives	OVID	2022
[34]	Victoria (Australia) radiotherapy response to working through the first and second wave of COVID-19: Strategies and staffing	OVID	2021
[35]	[Comment] Ethical and practical considerations on cancer recommendations during COVID-19 pandemic	OVID	2020
[36]	Burnout among oncologists, nurses, and radiographers working in oncology patient care during the COVID-19 pandemic. Radiography	Google Scholar	2023
[37]	Oncology workload in a tertiary hospital during the COVID-19 pandemic	Google Scholar	2022
[38]	Scientia potentia est: how the Italian world of oncology changes in the COVID-19 pandemic	Google Scholar	2020

For each report included, the text was examined for three results: (1) the emergency experienced by the oncologists, (2) their burnout response to the emergency, and (3) the outcome for patients contending with the emergency and with the burnout of their oncologist. The results are presented in Table 2.

Table 2. Citation number, report title, and year of publication of included articles returned on 24 August 2024 regarding searches of the keywords "burnout AND COVID-19 AND emergencies AND oncologists" for three databases: PubMed, OVID, and Google Scholar listed in order of their return.

#	Emergency Experienced	Burnout Response	Patient Outcome
[31]	Delay of critical surgeries, suspension or reduction of chemotherapy treatments and change of chemotherapy regimens, increased workload	There were increased levels of burnout, posttraumatic stress, anxiety, and depression, 35% of oncologists raising to 49% at follow up	66% of oncologists reported an inability to perform their job effectively for patients in comparison with pre-COVID-19
[32]	Patients have high COVID-19-associated mortality rates and decreased survival	Increased concern for patients is viewed as part of the increase in burnout	Prohibition of infected patient family visits implicated in increasing patient mortality
[33]	Inability to meet with patients in person, telehealth required for meetings	Experienced ethical distress over their poor performances in breaking bad news on telehealth	Faced decreased intimacy and familiarity previously formed from care pre-COVID-19
[34]	Remote working strategies expanded, and additional telehealth supports were quickly adopted	Over half of the respondents indicated that they often or always felt worn out at the end of the working day	Contact of 90% of new and returning patient clinic reviews was by Internet video or telephone

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[35]	Reduced number of treatment sessions than initially presented to patients with distinctions based on age criteria and level of emergency	More stressful working conditions than usual, resulting in augmented fatigue and less patience—additional accidents a possibility	Distressed cancer patients—feel they are being put aside and neglected by their oncologist, despite an increased mortality risk
[36]	Contending with COVID-19 in association with on-call duties and inappropriate communication techniques	Increased depersonalization and emotional exhaustion, particularly for males and those working more than 50h per week	Mishandling of patient emotions by their oncologists became overwhelming for patients during the pandemic's progression
[37]	The proportion of emergency department admissions to medical oncology increased	The risk of fatigue resulting from the increased workload, leading to poor personal health	A decrease in elective admissions, postponement of non-essential clinic appointments
[38]	Required to redefine clinical organization and patient management	Very high perception of risk and concern of infectious danger for their family members	Clash between treatment for patients with cancer and COVID-19 management requirements

3.1. Emergency Experienced

The emergency experienced by the oncologists, according to the records returned noted in Table 2, can be grouped by topic. Table 3 provides these groupings in order of their return on the searches performed. The first type of emergency experienced is oncologist-centered and regards a change in the work routine of the oncologists [31,35,38]. That these changes produced an emergency in oncology clarifies that oncologists had not previously prepared for these emergencies during COVID-19, unlike nephrologists [40,41]. The second type of emergency is also oncologist-centered and concerns the increased workload experienced by the oncologists [31,36,37]. Similar to the changes in the work schedules, this change was the first returned emergency from the search and also appeared later in the search process. The emergency following is other-centered, and the detail concerns patients [32]. The emergency is an increase in mortality and decreased survival time. Significantly, only one report considered the emergency to relate to a concern for the patient. The final topic covers the other-centered relationship between the oncologist and the patient [33,34,36]. This topic became evident because of the required use of telehealth during COVID-19—also necessitated in several other medical specialties as a result of the pandemic, including cardiologists [42], dermatologists [43], gastroenterologists [44], and, most successfully, in psychiatrists [45]—which was considered inappropriate for this relationship by both the oncologist and the patient when having to relay bad news, visually inspect the progress of the disease (as with dermatologists [43]), or show empathy.

Table 3. Citation number, report title, and year of publication of included articles returned on 24 August 2024 regarding searches of the keywords "burnout AND COVID-19 AND emergencies AND oncologists" for three databases: PubMed, OVID, and Google Scholar.

Citation #	Topic	Topic Details
[31,35,38]	Oncologist-centered	Delay of critical surgeries, suspension or reduction of chemotherapy treatments, and change of chemotherapy regimens
[31,36,37]	Oncologist-centered	Increased workload
[32]	Other-centered	Patients have high COVID-19-associated mortality rates, decreased survival
[33,34,36]	Other-centered	Inability to meet with patients in person, telehealth required for meetings

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3.2. Burnout Response

Similar to the emergency experienced, burnout responses by oncologists found in Table 2 are groupable into two topics—oncologist-centered and other-centered in Table 4. The majority of the burnout responses by oncologists [31,34–37] concerned increasing their burnout regarding escalating personal symptoms associated with burnout [22] that have been found particularly evident in physicians [23]. The other-centered concerns leading to increased burnout in oncologists are of three different types. (1) Those regarding patients, (2) ethical dilemmas stemming from a decrease in quality care, and (3) worries about infecting family members. The evidence is that highly empathetic physicians are the ones who developed pronounced burnout during COVID-19, leading to abandoning the profession [32]. However, unlike oncology nurses [36], abandoning the profession was not an outcome displayed by oncologists concerning the burnout they experienced from empathy for patients during COVID-19. Burnout produced by ethical distress [33] is associated with oncologists, given their role in delivering serious news and end-of-life decision-making—the pandemic produced moral strain, distress, and injury in delivering serious news and end-of-life decision-making [46]. Telehealth decreased the ability of oncologists to provide empathetic care, presenting a form of burnout distinct to oncologists by producing compassion fatigue [47]. Concern for infecting family members [38] was not unique to oncologists and was found most evidently in those physicians specializing in internal medicine [48] and neurology [49]. Early in the pandemic, this worry was reported by all physicians in contact with COVID-19 patients internationally [50].

Table 4. Citation number of included records and the burnout response by oncologists grouped by topic and topic details of included articles returned on 24 August 2024 regarding searches of the keywords "burnout AND COVID-19 AND emergencies AND oncologists" for three databases: PubMed, OVID, and Google Scholar.

Citation #	Topic	Topic Details
[31,34–37]	Oncologist-centered	Posttraumatic stress, anxiety, depression, and fatigue
[32]	Other-centered	Increased concern for patients' health
[33]	Other-centered	Ethical distress for requiring telehealth
[38]	Other-centered	Concern for family members

3.3. Patient Outcome

Grouping the patient outcomes by oncologist-centered and other-centered from Table 2 by topic in Table 5, the detrimental change to the patient's relationship with their oncologist that was the most significant outcome was a decrease in their level of care [31,35–37] to the extent that patients felt the emergency experienced by oncologists and their burnout response put their own life in danger [32]. In a study of oncology patient perceptions of their care during COVID-19, concerns regarding dying from COVID-19 gained one of the most "agreed" and "strongly agreed" responses to questions [51]. The loss of intimate contact with the oncologist [33,34,36] was primarily a result of necessitating telehealth and what patients witnessed as institutional decisions coming between them and their oncologist [38]. During COVID-19, there was an association between feelings of social isolation of oncology patients and a higher incidence of death [51]. Of these concerns, the most numerous regarded what patients saw as the decreased level of care provided, producing oncology patient mistrust in the healthcare system during COVID-19, recognized in a qualitative analysis of patient experiences [52]. Although most patients did not equate this decrease in care to the possibility of their increased mortality, and, in a qualitative study, oncology patients did not see COVID-19 as a barrier to continuing their in-person care [53], noting the decrease in care as the outcome means this decrease might lead to that result. Oncologists anticipated this concern by patients early in the pandemic regarding the possibility of increased litigation resulting from the COVID-19 imposed changes [54,55].

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Table 5. Citation number of included records and the patient outcome of the emergency experienced by oncologists with their burnout response grouped by topic and topic details of included articles returned on 24 August 2024 regarding searches of the keywords "burnout AND COVID-19 AND emergencies AND oncologists" for three databases: PubMed, OVID, and Google Scholar.

Citation #	Topic	Topic Details
[31,35–37]	Oncologist-centered	Poor care from the oncologist
[32]	Oncologist-centered	Increased risk of mortality from oncologist burnout
[33,34,36]	Oncologist-centered	Loss of intimate contact with oncologist
[38]	Other-centered	Patient concerns contrasted with institutional decisions

4. Discussion

Unlike the limited review results of [3] that found none, this scoping review results in eight reports of oncologists redeployed to emergency care during the COVID-19 pandemic.

Compared with other medical specialties, oncologists were less effective in managing their burnout than nephrologists because they had not developed emergency care procedures before the pandemic [40,41]. Furthermore, unlike psychiatrists [45], they had not found a way to successfully incorporate telehealth into their emergency care to improve patient care. In contrast, their telehealth experience was similar to dermatologists finding this type of contact with patients provided ineffective care [43]. Although, early in the pandemic, oncologists had focused on the increased possibility of augmented litigation resulting from COVID-19, these worries did not appear—as they did for physicians in gastroenterology [56] and physicians specializing in internal medicine [57]. It may be because the litigious environment did not evolve as it did for these other specialties that oncology did not observe mass resignations resulting from the COVID-19 redeployment of these specialists to emergency care.

Oncology has a well-established focus on empathy as patients with cancer experience significant emotional distress to the extent that oncologists aim to reduce patient emotional distress after a consultation [58]. This specialty focus on empathy provides the foundation for identifying a concern for the compromised health of the patient and the reduced intimacy in the doctor/patient relationship as a cause of oncologist burnout [32,33]. Burnout in other specialties did not result from this remarkable patient and relationship empathy [3]. What was similar among oncologists [38] and other specialties [43,49,56,59,60] was their concern about infecting their families due to redeployment to emergency care during COVID-19.

The cherished relationship between patient and oncologist supports why the patient outcome was generally negative regarding the redeployment of oncologists to emergency care, exacerbating their burnout because of a compromised relationship. Patients were unhappy about the effect of oncology burnout on their health [31,35–37] and its increasing risk of mortality [32], as well as the breakdown in the patient/oncologist relationship [33,34,36]. This relationship focus for patient outcomes regarding oncologists was not evident for other specialties [3]. What was similar among oncologists [38], gastroenterologists [56], nephrologists [61], obstetricians [62], and plastic surgeons [63] is that patients considered the administrative changes instituted at hospitals to compete with their best interests.

The strengths of this analysis are that (1) evidence has been provided from the most likely databases to contain reports from peer-reviewed sources that redeployment of oncologists to emergency care during COVID-19 was evident during COVID-19, and (2) the analysis following the PRISMA requirements for scoping reviews was of the type to answer the emergency experienced, that burnout was the result, and the patient outcome.

There are several limitations regarding the method selected for the review. In choosing a scoping review, the author did not select to follow a PRISMA systematic review with a meta-analysis. Such systematic reviews answer narrow clinical questions in the PICO (population, intervention, comparison, and outcome) format [64]. As the intent of this examination is not direct guidance of clinical decision-making, the delivery of care, or policy development [65], a systematic review and

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meta-analysis is inappropriate. The aim instead corresponds with a PRISMA scoping review [65,66]. Ensuring the quality of the included studies with the performance of a risk of bias assessment is therefore not recommended [67]. What this study does as a scoping review is identify and highlight research gaps suggesting further investigation [68].

That one researcher accomplished the work undertaken is another method limitation. As the interpretation of the results might have been affected by misreading the results [69] or an unrecognized cognitive bias [70], documenting all processes is the most effective way to eliminate bias in such circumstances. By providing extensive detail regarding the PRISMA scoping review process undertaken—more than required by [30] — and submitting the results as supplementary documents, other researchers may examine the method and results for veracity.

The paucity of relevant results for several database searches, especially the Cochrane COVID-19 Study Register yielding no results, is an additional limitation. This lack of returns questions the chosen keywords for inclusion, as studies with added depth or contrast to the results might be missing. However, limiting the keywords in this manner eliminated many irrelevant articles [71]. Another limitation regarding the small number of returns is a reduction in the generalizability of the findings [72]. Finally, by including Google Scholar—a supplementary database—as one of the searched databases, the importance of its search results overshadowed those of some of the primary databases (Scopus and Web of Science). The Google Scholar search results were successful because this database is the most comprehensive, explaining it as the number one search engine academics use [26]. Consequently, it is reasonable to select it for this search and that it would provide more returns than some primary databases.

In restricting the consideration to the redeployment of oncologists to emergency care during COVID-19 in a scoping review, this study did not make recommendations regarding coping strategies that may have been effective during the pandemic regarding emergency oncology care. Had this study extended to coping strategies, it might have provided ways to support oncologists in future pandemic situations. Already, there is extensive research on means of burnout reduction in oncologists in [10] and [11]. Furthermore, in the publication that prompted this scoping review [3], the author conducted a substantial analysis of coping strategies for physicians redeployed to emergency care. Duplication of this analysis is unnecessary and not permissible as a scoping review [68].

5. Conclusions

Based on previous research on the redeployment of medical specialties to emergency care during the pandemic, whether there was such redeployment of oncologists from their usual appointment-based care was unknown. This scoping review determined there was a redeployment of oncologists. Additionally, there was an identification of the emergency they encountered. With the recognition of the emergency, the determination was that, for various reasons, this type of redeployment for oncologists always resulted in burnout. Together, their emergency care redeployment and burnout negatively affected patient outcomes. How it affected patient outcome was in some ways similar to other medical specialties, but because of the intimate relationship developed between the oncologist and patient, oncologists were more empathetic towards their patients, and the forced changes to the relationship—usually the result of institutional requirements—intensified oncologists' burnout and diminished patient outcomes.

The results of this research may help oncologists and their patients recognize the importance of their doctor/patient bond to improve their health and navigate future pandemic situations when the redeployment of oncologists is again to emergency care.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org, **Supplementary S1: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist**; **Supplementary S2-S6: Search Results of Each Database Conducted on 24 August 2024 in Order of the Performed Search**.

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