

SCOPING REVIEW OPEN ACCESS

Planetary Health in Nursing: A Scoping Review

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ABSTRACT

Aim: To map the extent of the use of the term 'planetary health' in peer-reviewed nursing literature.**Design:** Scoping Review.**Data Sources:** CINAHL, ProQuest Nursing & Allied Health Premium, MEDLINE, APA PsycINFO, ProQuest Dissertations & Theses and Web of Science were searched in January and February 2024 for English and French-language publications. A follow-up search was conducted on 10 June 2024 to determine if additional literature was published.**Review Methods:** A scoping review was conducted using the Arksey and O'Malley methodology for scoping reviews. To be included the article had to explicitly use the term 'planetary health' and 'nursing' or 'nurses'.**Results:** Sixty-eight articles met the criteria for the scoping review and were included in this review, with the majority published between 2017 and 2024. Predominant literature included discussion papers, commentaries and editorials. A lack of original research is apparent. Most of the publications were calls to action for nurses to advance planetary health in nursing education, practice, research and advocacy work.**Conclusions:** Literature confirms that planetary health is a recent and an important topic in nursing, and nurses have a well-documented role to play in planetary health, given the numerous calls to action in nursing leadership, education, practice and research. There is a need to publish the essential work nurses are doing in planetary health in various nursing domains.**Impact:** This scoping review revealed a clear and urgent call to action for nurses to address planetary health. Given this finding, nurses have a responsibility to advocate for a planetary health approach in the profession and take action to contribute to planetary health through education, research, practice and advocacy.**No Patient or Public Contribution:** Not applicable, as no patients or public were involved.

1 | Introduction

According to Myers and Frumkin (2020) and the Planetary Health Alliance (2024), human activity has rapidly transformed Earth's ecosystems since the onset of industrialisation, disturbing natural processes and creating significant risks for planetary health. The term *Anthropocene*, introduced by atmospheric chemist Paul Crutzen in 2000, as cited by Albrecht (2019), describes our current geological epoch,

marked by the significant influence of human activities on Earth's geology and ecosystems. Crutzen's term highlights the profound ecological alterations caused by industrialisation, nuclear activities, deforestation and climate change, which now dominate environmental change and leave clear traces in the geological record (Albrecht 2019). These transformations, shaped by societal and economic frameworks, lead to climate instability, pollution, loss of biodiversity and alterations in biogeochemical cycles. These changes jeopardise air, water

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and food quality and increase exposure to diseases and natural disasters, affecting every facet of human health—physical, mental, social and cultural—and often precipitating displacement and conflict (Myers and Frumkin 2020).

As one of the largest health professions, nurses can be integral in advancing human and planetary health. Nurses are pivotal in confronting these issues due to their unique position and focus on addressing social justice issues leading to health inequities. Although adopting a planetary health perspective is crucial for nurses to grasp and mitigate the links between ecological disruptions and human health (Canadian Association of Nurses for the Environment [CANE] 2024; Canadian Nurses Association [CNA] and CANE 2024), little is known of how planetary health is incorporated into recent nursing literature. Thus, a scoping review was conducted to determine how the term ‘planetary health’ is incorporated into nursing and what has been published about planetary health in nursing literature.

2 | Background

The concept of a clean environment has always been central to nursing. Nightingale formally theorised the environment as the physical, social and psychological factors influencing sick individuals’ healing, including pure air, pure water, efficient drainage, cleanliness and light (Portela Dos Santos et al. 2023). The nursing metaparadigm, initially theorised by Fawcett (1984), characterised the environment as socio-cultural, political and economic conditions impacting human health (Deliktas et al. 2019) and as a central concept within which the person exists (Portela Dos Santos et al. 2023).

However, Portela Dos Santos et al. (2023) acknowledged that conceptualisation of the environment in direct relationship to individuals and their health limited the ability of nurses to visualise the importance of the environment to a broader level, and hindered nurses in understanding and articulating their professional roles in mitigating environmental health issues, such as climate change. Bender (2018) similarly believed that the environment is not an outcome for nursing, but rather a reality that nursing practice does not exist without the environment. Therefore, nurses’ confidence in Fawcett’s metaparadigm limits a comprehensive understanding of the interdependence of person, health, illness and the environment (Bender 2018).

These views were likewise expressed by Kalogirou, Olson, and Davidson (2020), who affirm that the conceptualisation of environment within the metaparadigm discourages nurses from abstracting the environment as something they can influence in their practice or merely a personal experience. Within the above-mentioned conceptualisations of the environment, the focus is on the individual rather than society (Thorne et al. 1998). The global perspective on the environment in public health nursing was not apparent until the mid-1990s (Thompson and Schwartz Barcott 2017). It was at this time that Hancock (1997) named planetary health as the most significant health determinant. Kleffel (1996) argued that nurses should transition from a human-centred or ego-centric approach to eco-centric,

acknowledging the environment as a living, interconnected entity indivisible from human existence.

The term *planetary health* has been used in mainstream narrative in the past decades, following the Rockefeller-Lancet Commission on Planetary Health (Whitmee et al. 2015), where the term was defined as ‘the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems—political, economic, and social—that shape the future of humanity and the Earth’s natural systems that define the safe environmental limits within which humanity can flourish’ (Whitmee et al. 2015, 1978). According to their definition, planetary health aims to achieve the highest possible standard of health, wellbeing and equity globally. This goal is pursued by carefully considering not only human systems (such as political, economic and social structures) but also Earth’s natural systems. These natural systems set the boundaries within which humanity can thrive safely.

Despite recent developments in planetary health action, the concept of planetary health is informed by Indigenous perspectives and is rooted in Indigenous ways of knowing (LeClair and Potter 2022; Prescott and Logan 2019). Recognition for Indigenous knowledge is necessary, where planetary health is viewed as a philosophy for life and a collective responsibility to safeguard the natural environment, passed down through generations (Ratima 2019). Indigenous perspectives recognise humans as interconnected with all life forms, emphasising our role as part of a complex web of existence (Redvers et al. 2022). The Planetary Health Alliance (2024) acknowledges that Indigenous knowledge is necessary for preserving and repairing Earth’s natural systems. Ultimately, planetary health underscores the vital link between our well-being and the health of natural ecosystems, urging us to care for both simultaneously.

A planetary health perspective calls on nurses to consider their professional mandate and value the interdependence of humans and the environment (Kalogirou, Olson, and Davidson 2020; Kurth 2017). Potter (2021) calls on every nurse to be knowledgeable in planetary health, and Astle et al. (2020) assert that nurses have a professional responsibility to ensure that the health of global citizens does not come at the loss of the planet’s health.

3 | Aim

Given that the term *planetary health* has only recently gained traction in published nursing literature, the purpose of this scoping review was to systematically map published literature to determine the extent to which the term has been used within nursing literature.

4 | Methods

Scoping reviews are an effective method to map literature, outline conceptual boundaries or understand key concepts, and are particularly useful for emerging topics (Arksey and O’Malley 2005; Levac, Colquhoun, and O’Brien 2010). Scoping reviews can assist researchers in determining gaps in the

literature and are beneficial in informing research, clinical and practice decisions and policy development (Peters et al. 2024); therefore, it was timely to conduct a scoping review on this topic. This scoping review was conducted following the framework originally identified by Arksey and O'Malley (2005) and further developed by Levac, Colquhoun, and O'Brien (2010). The authors also adopted selected approaches for reporting from the Joanna Briggs Institute (JBI) (Peters et al. 2024).

Inspired by these frameworks, the following steps were taken: (1) identifying the research question; (2) identifying relevant studies; (3) selecting appropriate studies; (4) charting data and (5) collating, summarising and reporting on the results. Additionally, the lead researcher met with a health sciences research librarian to help finalise the guiding questions, which include:

1. How is planetary health being used in nursing?
2. What are nurses publishing in the peer-reviewed literature about planetary health?

4.1 | Inclusion Criteria

This scoping review's overarching concept of interest was planetary health in nursing literature. The following inclusion criteria were used:

- a. Explicit inclusion of the term 'planetary health' in the title, abstract or full text.
- b. Explicit mention of the term 'nurse', 'nurses' or 'nurse practitioners' to ensure relevance to nursing and evidence of a nursing perspective.
- c. Literature including peer-reviewed research, scoping reviews, systematic reviews, commentaries, discussion papers, editorials and other relevant literature published by peer-reviewed nursing journals.
- d. Studies published in English or French

4.2 | Search Strategy

Search terms were identified through consultations among the research team and a review of the titles and abstracts of preliminary articles gathered by the lead researcher. Members of the research team have expertise in planetary health and are members of a national planetary health nurse educator interest group. The lead researcher also consulted a Health Sciences subject librarian to confirm and validate the search strategy before searching. The lead researcher searched CINAHL, ProQuest Nursing and Allied Health Premium, MEDLINE, APA PsycINFO, Web of Science and ProQuest Dissertations and Theses on 22 January 2024. Two bilingual coresearchers conducted the same search using the equivalent French terms the week of February 5th, 2024. A follow-up search was conducted by the lead researcher on 10 June 2024, to determine if additional literature had been published since the initial search, and five additional articles were included in the results.

When possible, subject headings from controlled vocabularies (e.g., MeSH, CINAHL subject headings) were used in the search. To increase sensitivity, concepts were also entered in the search string as keywords, with truncation (e.g., nurs* and planet*/inf* and planét*). Boolean operators connected subject headings and keywords. Results were limited to English and French; no publication date filter was applied to align with scoping review methodology as it was the authors' intent to map all published literature on the topic.

Search parameters for this scoping review consisted of existing peer-reviewed literature, including, but not limited to, original research studies, literature reviews, case reports, reviews, editorials, commentaries and evidence-based practice articles that could be retrieved by electronic database searching. The search was limited to full-text articles; results with no electronic abstract and full-text were excluded. The PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extensions for Scoping Reviews) flowchart was used (see Figure 1) to ensure transparency (Tricco et al. 2018).

4.3 | Search Outcomes

A total of 329 English results were returned from the six database searches. The bibliographic information (e.g., title, abstract, authors, publication information, subject headings) for English search results was imported into EndNote 21, where 141 duplicates were removed. The EndNote library of 188 items was then exported into Covidence for screening and extraction. Two researchers who are fluent in French also completed database searches, and an additional 97 French-language results were exported into Covidence for a total of 294 results. After 29 additional duplicates were removed in Covidence, 265 records remained for potential inclusion in the study and were reviewed independently by two reviewers following scoping review methodology.

Through the initial review of the title and abstract information in the records, 175 items that did not meet the inclusion criteria were removed from consideration. Of the 90 remaining records, the full texts were gathered for the second, full-text review. After two team members independently reviewed items, a further 22 items were removed from consideration as they did not meet inclusion criteria. Conflicts were resolved through team discussion. Following exclusion of the remaining items, 68 items from the database search were included in the scoping review. Quality appraisal of the included papers was not conducted as it is usually not needed in scoping reviews (Aromataris and Munn 2020).

5 | Results

To accurately depict the findings of the scoping review, the extensive information is communicated in two ways. First, a discussion of the characteristics of included literature is presented below, along with a table of included literature. Second, after the study and analysis of the information obtained in the review, the main results were categorised by the research team using the following

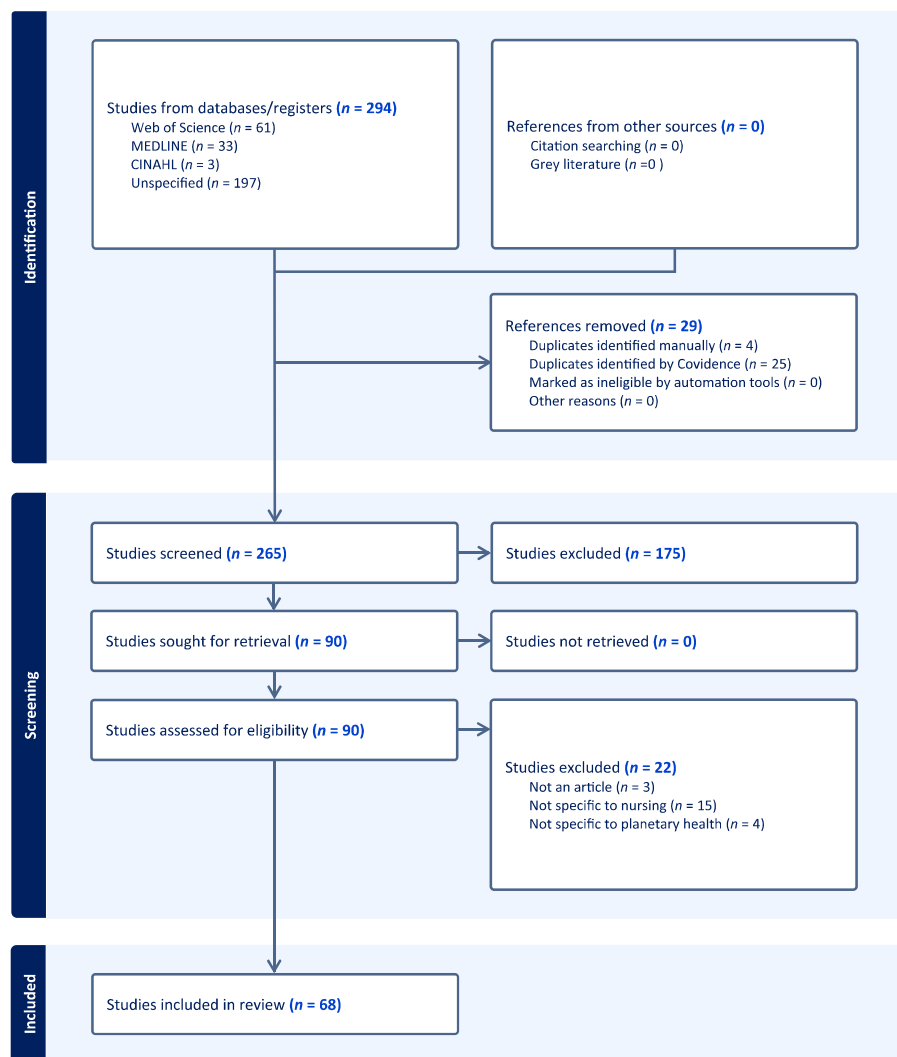


FIGURE 1 | PRISMA-ScR (preferred reporting items for systematic reviews and meta-analyses extensions for scoping reviews).

headings: limited original research, reviews, calls to action, nursing education, nursing practice and nursing research.

5.1 | Study Characteristics

A table of included literature is presented in Table 1. According to scoping review methodology, the following descriptors were included in the summary of each item: author(s), year of publication, country of origin, study aim(s)/purpose, study population and sample size, design and methods, study outcomes and key findings (Peters et al. 2024). Blank spaces in the summary table indicate either a lack of available information for the descriptor or the absence of original research.

A total of 68 items were included in this scoping review, with the majority published between 2017 and 2024, apart from an early article by Johnston and colleagues in 2005. Publication dates for included items are depicted in Figure 2. Articles were categorised according to the type of article assigned by the journal. If the journal did not assign a category, the research team determined the category based on the article's characteristics, as follows: 21 were categorised as discussion papers, 18 items were categorised as

editorials, 13 were categorised as commentaries, six were categorised as original research studies, six were categorised as reviews, three were categorised as position statements or guidelines and one was a practice initiative. Of the original research studies, five were quantitative, while one was qualitative (see Table 1).

Forty-five papers were published in the USA, nine in Canada, six in Australia, four in the United Kingdom, three in Europe and one in China. Most of the literature addressed nurses in general; however, four items specifically focused on the role of nurse practitioners concerning planetary health (Evans-Agnew and Aguilera 2023; Guthman, Kaldenberg, and Cook 2022; Kelly-Weeder 2023; Simmonds, Breakey, and Nicholas 2022), while one article focused on both nurses and midwives (Ho et al. 2024).

Several addressed a specific nursing practice area, such as school nurses (Reiner and Haas-Howard 2022), family nurses (Nersesian and Looman 2022), mental health nurses (Abebe, Bailey, and Radu 2023; Hallett et al. 2023; Park et al. 2023), holistic nurses (Bulbrook et al. 2021; Honegger Rogers 2021; Meyers 2023; Rosa, Dossey et al. 2019), nursing informatics (Austin et al. 2023) or nurses working in cancer care (McElean 2022). Furthermore,

TABLE 1 | Summary of literature included in scoping review.

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Abebe, Bailey, and Radu (2023), Canada	Film as a pedagogical tool for climate change and mental health nursing education	Practice initiative	Presents an educational project that utilised film and structured reflection to engage with planetary and mental health		More research is needed to better understand the mental health impacts of climate change and to explore novel approaches to education and advocacy about this topic	The authors created a documentary film that presents the relationship between mental health and climate change as well as an accompanying reflective toolkit to engage with topics of power, autonomy and action
Albrecht et al. (2023), Germany	Climate-specific health literacy in health professionals: an exploratory study	Original research	Assess healthcare professionals' knowledge about climate change and its impacts on health and assess their climate-specific health literacy	Cross-sectional questionnaire-based study with 142 participants	Ninety-three per cent considered climate change highly relevant to health but 12% were well informed on general impacts of climate change. Fifty-seven per cent had never addressed climate change with patients, but participants with more knowledge were more likely to address it. For barriers: 79% reported not enough information, 42% not enough information, 39% reported lacking materials	The current state of climate-specific health literacy differs between different groups of health professionals. There is a need to improve health professionals' levels of climate-specific health literacy and to increase the potential in interprofessional cooperation regarding planetary health
Álvarez-Nieto et al. (2022), Spain	Effectiveness of scenario-based learning and augmented reality for nursing students' attitudes and awareness towards climate change and sustainability	Original Research	Assess the environmental awareness and attitudes to climate change and sustainability of undergraduate nursing students	Time-series analysis. Ninety-six nursing students were surveyed over 3 years of their undergraduate nursing education	Attitudes and awareness increased significantly as education progressed. However, students felt incapable to apply sustainability in practice or challenge unsustainable practices in work environments. Recommendation: waste management and sustainable practice incorporated into education and training for nursing degrees	Students are aware of unsustainable practices within clinical experiences but without education feel unprepared to change those practices. Education should go beyond lectures and incorporate augmented reality, scenarios and case studies, which will increase environmental awareness and attitudes towards climate change among nursing students

(Continues)

TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Aronsson et al. (2022), England	Awareness and attitudes towards sustainability and climate change amongst students and educators in nursing: A systematic integrative review protocol	Review	Collect and analyse nursing student and educator current awareness and perceptions of sustainability and climate change	Systemic integrative review of literature in five stages: problem, literature search, data evaluation, data analysis, presentation	Findings will help guide nursing curriculum in relation to learning outcomes, as sustainability is largely absent from curricula worldwide	Synthesise the existing research related to the awareness of and attitudes towards sustainability and climate change among nurses and nurse educators. The findings of the review will be useful when planning nursing curricula on this topic
Astle (2021), Canada	Planetary Health in Nursing: A Transdisciplinary Equity-Centered Approach	Discussion	Discusses the Equity Commission's Conceptual Framework and the Planetary Health Education Framework		To act, it is important that a transdisciplinary equity-centred approach be incorporated if we are to address and be responsive to supporting equity-informed solutions for human vitality	Nursing must take up the challenge and responsibility to work alongside other disciplines to ensure the health of the global community and the protection of the planet
Austin et al. (2023), USA	Planetary Health and Nursing Informatics: Time for Action	Position Paper	Key priorities and opportunities for nursing informatics to take the lead to connect data silos to address planetary health impacts on health outcomes		Nurse informaticists take the lead to bridge the connections between environmental and human health to generate data-driven planetary health solutions, making this a highly effective unstoppable force	Nurse informaticists can develop environmental monitoring systems to track carbon reduction efforts; facilitate community engagement by creating digital platforms; prioritise digital tools and platforms to educate the community
Baid and Damm (2021), UK	Reducing critical care's carbon footprint with financial and social co-benefits	Editorial	Reducing critical care's carbon footprint		Seek out opportunities for collaborating with hospitals to improve their intensive care units' environmental sustainability	The Centre for Sustainable Healthcare's SusQI framework is a quality improvement model that integrates environmental, financial and social sustainability resource implications for initiatives to improve healthcare practice

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TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Bathish et al. (2022), USA	A Survey of Sustainability Efforts in Healthcare Simulation and Clinical Learning	Original Research	To assess sustainability efforts and waste reduction strategies in simulation centres	An electronic survey consisting of 26 questions was sent. Seventy-five institutions with simulation centres	Waste reduction efforts are underway in many simulation centres despite a lack of formal sustainability. Students are often engaged in the waste reduction work that is currently underway in simulation centres, but few are educated on the reasons and concepts behind these actions	Aspects of sustainability such as supply procurement, supply disposal and student education/involvement were lacking. Few simulation centres have formal plans for sustainability or carbon neutrality
Beck, Dossey, and Rosa (2018), USA	Florence Nightingale and the U.N.'s 17 Sustainable Development Goals: Her Keen Relevance for Our Times	Commentary	To acquaint nurses with the UN's Sustainable Development Goals and to challenge nurses to reflect and act upon these goals		The global community of nurses are grassroots activists and catalysts to achieve a healthy, civilised and prosperous world!	Relates all 17 UN SDGs to the work of Florence Nightingale for global health
Best et al. (2023), Australia	Rising to the climate challenge: integrating climate action in the undergraduate curriculum	Editorial	To call upon nursing departments in educational institutions in Australia, to incorporate planetary health education in their curricula		Planetary health should be incorporated into nursing education as a stand-alone subject	Higher education institutions are ideally positioned to incorporate planetary health education in their curricula. Currently, no Australian undergraduate nursing programmes include planetary health as a stand-alone subject. Nurses who are educated about planetary health, ready to incorporate climate change awareness into their practice and to influence future policy are needed

(Continues)

TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Bulbrook et al. (2021), USA	American Holistic Nurses association Position Statement Planetary Health	Position Paper	In this position statement, the American Holistic Nurses Association calls for nurses to address planetary health through practice, research, education and advocacy		Nurses address planetary health through key areas within their scope of practice such as: medical waste generated in acute care institutions; toxins in the acute care, community and home; the impact of environmental hazards on disease in patients; and the effective use of environmental interventions in improving health	Planetary health is within the scope of practice for holistic nurses given their responsibility to build a structured system of communication regarding the state of planetary health. The AHNA will partner and collaborate with nursing and scientific organisations to address planetary health
Bulbrook (2021), USA	Shining the Light on Planetary Health	Commentary	How nurses can effect planetary change with individuals and collective		Meditation exercise to discover a path to support climate, environmental, planetary and human/animal health	Spiritual multidimensional formula exemplifies heart-centred caring interconnectedness
Cook (2023), USA	Planetary Health	Editorial	Nurse educators need to become advocates for planetary health		The American Nurses Association released a new position statement titled 'Nurses' Role in Addressing Global Climate Change, Climate Justice, and Health'. This position statement is meant to provide guidance to nurses, nursing organisation and the healthcare sector on strategies and recommendations for mitigation and adaptation to climate change	Nurses have a professional obligation to: practice in an environmentally safe and healthy manner; participate in green teams, leading sustainability departments, or launching unit-wide initiatives and nurses must step into the role of planetary health advocates
Cygan et al. (2024), USA	Turning Concern into Confidence: Planetary Health Needs in Nursing Education	Original Research	To better understand the perceptions of nursing students and faculty on planetary health in nursing curricula	A survey sent to students ($n = 72$) and faculty ($n = 56$)	Responses showed that although they were concerned about climate change, they were not confident in preparation to climate change and its impact. Students and faculty shared perceptions about areas to be included in curricula	Nursing faculty must explore ways to intentionally integrate the concept of planetary health in current curriculum revision efforts, and administrators must provide faculty with the needed resources and training to support this important work

(Continues)

TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Davidson (2015), USA	Rockefeller Foundation-Lancet Commission report: A call to action for human health	Editorial	To shift focus from individuals to populations and consider the environment in the healthcare context		Recycle the multiple disposal items used in hospitals and healthcare settings and create healthier environments. Nurses must also provide a voice for those who are most vulnerable. Nurses should critically evaluate models of care to ensure that they address changing environmental factors	Raise awareness of the relevance and importance of the global environment to health, and to empower nurses and midwives to consider the environment in practice, participate in debate and contribute to policy-making that aims to reduce the burden of global climate change
Dillard-Wright, Walsh, and Brown (2020), USA	We Have Never Been Nurses: Nursing in the Anthropocene, Undoing the Capitalocene: Advances in Nursing Science	Discussion	Discussion of theoretical concepts from poststructuralist, posthuman and neoliberalism, the Anthropocene and its corollary the Capitalocene	Critical Analysis	Urge nurses to critically engage with the realities that shape our present and future on a deteriorating planet, decentring the primacy of humans as we engage with the world all around and assemble posthuman tools for our analyses	Nurses should be actively engaged in propping up the healthcare industrial complex, a so-called system in the United States that contributes to inequality and prioritises the profit of the few over the needs of the many. Nurses need to think about the world in different ways
Drake, Hayden, and Delkoski (2021), USA	Love the Food That Loves You Back: A Planetary Health and Women's Heart Health Partnership	Review	Review of research on the intersection of planetary health, nutrition and gender-specific disparities	Review and Discussion of Literature	Gender-sensitive research, including the reporting of sex-disaggregated data, is needed to better understand the health implications of planetary health threats, solutions and policies	Ensuring a healthy population and planet requires shifting to plant-based diet, improving food production and reducing food waste to create a sustainable world and future that is safer, cleaner and healthier

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TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Evans-Agnew and Aguilera (2023), USA	Climate Justice is Environmental Justice: System Change for Promoting Planetary Health and a Just Transition from Extractive to Regenerative Action	Commentary	Articulate the important role health promotion practitioners have in the struggle for climate justice		Provide several examples of actions for climate justice in health promotion across social, environmental, political, health and health professions categories	Health promotion practitioners will thrive in vital role in climate justice and will contribute to the goal of achieving a world where health is understood as a [w]holistic and an interconnected state of being and becoming a healthy planet
Evans-Agnew, LeClair, and Sheppard (2024), USA	Just-relations and responsibility for planetary health: The global nurse agenda for climate justice	Discussion	To present a Global Nurse Agenda for Climate Justice to promote nursing action for just relations and responsibility for planetary health		Guidance on how nurses can learn from and with First Nations and other Indigenous peoples for working together to solve such issues through Ksaultinej	Spark dialogue among nurses witnessing climate injustices on the frontlines of human and ecological experience. Included stories of nursing action across practice, education and research for consideration to help transform nursing towards just relations and responsibility for planetary health
Ferguson (2023), USA	An Environmental Call to Action: Nursing's Global Imperative to Care for the Planet	Commentary	To encourage nurses to lead the movement to protect the health of our patients, communities and the planet		Recommendations: (1) Demand climate action; (2) Join advocacy groups; (3) Reduce inequalities; (4) Transition to sustainable practices; (5) Shop locally; (6) Buy less plastic, recycle; (7) Reduce carbon footprint; (8) Join governing bodies; (9) Increase healthy transport systems; (10) Promote investment in renewable energy and (11) Increase accessible and affordable mental health services	Nurses and nursing leaders are at the intersection of health and climate position from which to exert influence. It is up to nurses to lead the movement to protect not only the health of our patients and our communities, but the health of our planet

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TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Flaten et al. (2023), USA	Planetary health in nursing curricula: How one school transformed nursing curricula as they integrated planetary health concepts with the 2021 AACN essentials	Commentary	To provide the case for the importance of planetary health in graduate and undergraduate nursing curricula and demonstrate one school's approach to integrating planetary health		Nursing education programmes must address the impacts of planetary health and human health to ensure health for all.	To explicitly include planetary health as a 9th concept for integration in nursing curricula. The Essentials: Core Competencies for Professional Nursing Education and the Planetary Health Education Framework provide opportunity for nursing programmes across the United States to have an impact on long-term health outcomes
Glaubergerman, Bray, and Freeman (2023) USA	Planetary Health and Nursing: A Call to Action	Editorial	A call to action for the nurses of Hawaii to explore the impact climate change has on communities, and to initiate change by addressing the planetary health crisis		Partner with community members, policy-makers and other health professionals to continue to explore the impact climate change has on the health of communities. Advocacy for policy change that prioritises climate solutions. Nurses must rally people in their communities to (1) decrease environmental footprint, (2) prepare for public health emergencies and (3) promote sustainability in healthcare delivery	With guidance from Native Hawaiian cultural practitioners, indigenous perspectives and practices can help to inspire future planetary health strategies Hawaii nurses must bring together teams that will work to address the crisis and take the lead to improve planetary health locally and globally. Planetary health should be integrated into nursing curriculum to help prepare nurses for the planetary health movement

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TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Goodman (2016), United Kingdom	Developing the concept of sustainability in nursing	Discussion	The purpose of this paper is to argue that sustainability in nursing can be better understood by accessing nonnursing and grey literature		There is not enough research into sustainability in the nursing literature, which provides nurses with a narrow understanding of sustainability. This understanding is based on the social and political determinants of health approach and the emerging domain of planetary health	A problem for nurses is the sheer scale of the literature and concepts that are involved with sustainability. The task for nursing scholars is to consider just what is feasible, useful and relevant as part of their scholarly development and curriculum work
Guthman, Kaldenberg, and Cook (2022), USA	Climate and Environmental Health: Education for Rural Communities	Discussion	Increase education in rural communities on the impact of climate change on their personal health		It is not possible to investigate how many people were provided education; however, the authors argue providing this kind of accessible information that is aimed at areas where gaps in knowledge may exist is still important	Nurses have an ethical responsibility to educate the public on the threats they face. Understanding where gaps in knowledge exist helps provide effective interventions and education, especially when those communities are also at increased risk for negative health effects from climate change
Hallett et al. (2023), United Kingdom	The role of mental health nurses in planetary health	Commentary	To critically explore the concept of planetary health and locate the role and identity of the mental health nurse within it		Robust leadership and education are necessary to ensure that MHNs are supported to develop greater understanding of the impacts of climate change on health, to meet the changing clinical needs of the public. Further exploration of considerations to support MHN to manage personal distress surrounding the impact of climate change would be beneficial	Mental health nursing value holism and the restorative capabilities of connection and belonging, employing skills to support the healing of suffering, trauma and distress, through relationships and education. This suggests that MHNs are well situated to provide the advocacy the planet requires

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TABLE 1 | (Continued)

Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Hawkins, Mousa, and Eviza (2023), USA	Reducing the Carbon Footprint of Our Health Care Systems While Lowering Costs: A-Z	Discussion	To share strategies from A-Z that save money and lower the carbon footprints of healthcare institutions	Successful strategies that have been used in healthcare to reduce carbon emissions while lowering costs will assist nurses in implementing similar approaches in their organisations are presented using each letter of the alphabet	Nurse leaders are well positioned to minimise the carbon footprint of healthcare systems. Implementing environmentally friendly practices in healthcare saves money	
Ho et al. (2024), China	Nursing and midwifery in a changing world: Addressing planetary health and digital literacy through a global curriculum.	Editorial	To highlight the importance of global curricula for planetary health and digital literacy in nursing and midwifery education	Variation exists in how nurses and midwives are educated across the world, and considerations of how global issues might impact their work or influence global practice change are needed	The increasingly global nature of nursing and midwifery suggests the need for a new global approach to the development of curriculum standards that reflect globally relevant practice and promote global action	
Honegger Rogers (2021), USA	Planetary Health & Holistic Nursing: A Natural Partnership	Commentary	To encourage holistic nurses to engage in planetary health action.	Actions holistic nurses can take include: (1) Learn about environmental issues; (2) Apply knowledge to practice; (3) Become 'models' of resiliency; (4) Translate the interconnected understanding of human and environmental health into advocacy and action; (5) Address pollution and climate change	To advocate for a future where humans live in reciprocity with the natural world, and where all life on earth can flourish. We understand intrinsically how our human health is dependent on our planetary health. We know that if we do what is good for the planet, we will reap great benefits ourselves	

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Johnston et al. (2005), Canada	Global and planetary health: Teaching as if the future matters	Discussion	This article describes teaching and learning in a course that situates health in a global and environmental context and applies it to personal lives		The authors were interested in supporting students to become engaged in addressing global questions and understanding choices. Nurses should be able to critique national and international health policies and be equipped to address global and planetary dimensions of health	Students were able to think deeper and think about ways they can be more socially and environmentally responsible
Jones and Avanthay Strus (2022), Canada	Developing Nursing Geography: Ecologizing the Spaces and Places of Community Health Nursing in Canada	Discussion	The authors propose community health nursing as a promising context for ecologically inclusive and place-sensitive nursing practice		Community health nursing in Canada is grounded in social justice and health equity and can promote environmental justice and planetary health, challenging harmful biomedical models of health	The authors present 'environmental nursing geography', which contains Henri Lefebvre's ideas about social space. Lefebvre's ideas provide tools to ecologise and further the efforts of community health nurses to support the health of all people and the planet through justice and equity
Kalogirou, Olson, and Davidson (2020), Canada	Nursing's metaparadigm, climate change and planetary health	Discussion	The authors offer a theoretical discussion on why the nursing profession has had a delayed response to climate change		A planetary health perspective is advised as a theoretical basis for nursing education, research and practice, which could help nurses move the healthcare system towards a climate-resilient future	Nursing's professional mandate, the metaparadigm and grand theorists' conceptualisations of environment and the nurse-patient environment have encouraged nurses to conceptualise the environment in terms of the individual patient, and not from a broader perspective. Nurses have had a delayed response to climate change, and it may not be viewed as a professional concern

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Kelly-Weeder (2023), USA	Preparing Nurse Practitioners to Address Planetary Health and Climate Change	Editorial	To highlight the necessity to prepare nurse practitioners to address planetary health and climate change		Nurses are well equipped to take a primary role in building a health-resilient healthcare system. Integrating climate change concepts and planetary health into undergraduate and graduate nursing programmes will help prepare students for these roles	Future NPs must provide comprehensive, high-quality care to individuals across the lifespan. Current advanced practice RN students do not have a strong background in environmental health or climate change, and nurses should receive foundational knowledge on the impact of climate change on human health, and this can be built into clinical diagnosis courses
Kuehnert et al. (2022), USA	Defining the social health for nursing action to achieve health equity: A consensus paper from the American Academy of Nursing	Discussion	Seeks to establish conceptual clarity for what social determinants of health mean for nursing, with emphasis on health policies that advance planetary health equity		Nursing actions can support health policy changes that focus on upstream factors in six key areas to improve population health (economic stability, education access and quality, healthcare access and quality, neighbourhood and built environment, social and community context and planetary conditions)	A conceptual framework was developed that describes how the social determinants of health can be addressed through nursing roles and actions at the individual, family and population levels with a particular focus on the role of health policy
Kurth (2017), USA	Planetary Health and the Role of Nursing: A Call to Action	Review	To discuss the drivers of planetary health, responses and the role of nursing in making health systems more resilient	Literature Review	It is critical that nurses consider the multiple effects of ecosystem strain on human health and anticipate population health and health system planning and response	Nurses are key to achieving sustainable development goals that focus on environmental sustainability and human health. Nurses contribute to resilient health systems, as advocates and changemakers impacting the world

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Kurth and Potter (2022), USA	The Public Health Crisis Is Planetary and Nursing Is Crucial to Addressing It	Commentary	To call nurses to action to proactively contribute to global prevention of harm and aid in the transition to a sustainable, resilient and healthy world		An agenda for public health and nursing in the Anthropocene must include addressing mitigation and adaptation strategies, emphasising prevention and including a strong focus on equity. For nurses, this includes a continuation of the shifting emphasis from illness care to broader population health using planetary health	We must work to adequately protect structurally vulnerable populations. Public health must be universally recognised as the first line of defence if we are to have a sustainable healthcare system. Policies need to ensure equitable access to resources to protect structurally vulnerable populations. Public health messaging must convey a sense of urgency. We need to take mitigation steps and promote adaptation and resilience to climate change
LeClair (2021), USA	Building Kincentric Awareness in Planetary Health Education: A Rapid Evidence Review	Review	A rapid evidence review on kincentric approaches to planetary health education, to help align with the framework of Indigenous Knowledge Systems	Rapid review	Further research is necessary to develop kincentric approaches to lead transformational practices that advance planetary health. Scholars and educators must decolonise their work by being open to critical discourse on historical practices that perpetuated the marginalisation of traditional Indigenous knowledge	No studies explored explicit kincentric approaches in planetary health education. Openness to traditional Indigenous perspectives may allow educators and students to gain a better understanding of the interconnection with nature
LeClair, Luebke, and Oakley (2021), USA	Critical Environmental Justice Nursing for Planetary Health: A Guiding Framework	Discussion	The authors propose the Critical Environmental Justice Nursing Framework for Planetary Health		Nurses need to centre human and more-than-human health in planetary health. We can prepare nurses now for the interdisciplinary science and practice of planetary health and the ontologies and epistemologies of regeneration and transformation	The Critical Environmental Justice Nursing Framework for Planetary Health utilises critical theory to understand alternative relational pathways that challenge injustice. We can prepare nurses now for the interdisciplinary science and practice of planetary health

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
LeClair, Watts, and Zahner (2021), USA	Nursing strategies for environmental justice: A scoping review	Review	To describe types of strategic actions nurses can take to promote environmental justice (EJ) through research, education, advocacy and practice	Scoping Review	Establishes an understanding of the extent of nursing knowledge and research in EJ and lays the groundwork for further research on effective EJ nursing strategies. The authors discuss EJ strategies for research, advocacy, practice and education	Articles in the sample highlighted the importance of authentic community partnership and represented diversity of nursing strategies that addressed a range of environmental exposures and subsequent health and racial inequities. Climate justice is a recent focus in professional nursing
LeClair, Evans-Agnew, and Cook (2022), USA	Defining Climate Justice in Nursing for Public and Planetary Health	Editorial	The purpose of this editorial is to propose a definition of climate justice in nursing		The authors provide this recommended definition of climate justice: 'Climate justice in nursing addresses the social, racial, economic, environmental, and multispecies justice issues of the climate crisis through centering the experiences and ways of knowing in frontline and fenceline communities and safeguarding the rights of Nature to achieve planetary health' (p.257)	The article summarises the climate justice movement, climate justice frameworks, a definition of climate justice in nursing and implications for nursing roles in climate justice through research, education, advocacy and practice. As climate injustices increase, PHNs will need to be prepared in planetary health to better understand how to protect the environment

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
LeClair and Potter (2022), USA	Planetary Health Nursing	Discussion	The authors explore planetary health and address implications for planetary health in nursing research, education, advocacy and practice		Demonstrate benefits of interprofessional partnerships to enhance sustainability. Centre the priorities of marginalised populations in decision-making processes. Embed planetary health and environmental justice concepts in nursing curricula. Engage policymakers and put forth position statements related to planetary health. Take collective action with scientific and Indigenous knowledge holders. Promote a more inclusive ethic of environmental, animal and human interdependence	The authors provide a discussion of planetary health, where disruption of the Earth's natural ecosystems due to human overconsumption; disregard for sustainable practices and the domination of other humans, species and natural systems has led to an urgent moment in which humans must act to preserve these ecosystems
Leffers et al. (2017), USA	Mandate for the Nursing Profession to Address Climate Change Through Nursing Education	Discussion	This article examines the calls to action, the status of climate change in nursing education and challenges and recommendations for nursing education related to climate change and human health		Nurses and nursing students lack adequate education and preparation regarding the health impacts of climate change. There is a need for national nursing organisations and educational programmes to integrate climate change content into nursing curricula. The integration of climate change into nursing education is essential so that knowledge, skills and insights critical for clinical practice are incorporated into curricula, practice and research	An ecological framework is valuable for nursing education regarding climate change through its consideration of political, cultural, economic and environmental interrelationships on human health and the health of the planet. Knowledge of climate change is important for integration into basic and advanced nursing education, as well as professional education for nurses to address adverse health impacts, climate change response policy and advocacy roles

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Levett-Jones, Catling, et al. (2024)	Achieving consensus on the essential knowledge and skills needed by nursing students to promote planetary health and sustainable healthcare: A Delphi study	Original Research	To achieve consensus on the knowledge and skills that undergraduate/prelicensure nursing students require to steward healthcare	Phase 1 included creating knowledge and skill statements. Phase 2 consisted of a real-time Delphi survey from a panel of 42 international experts	Created a framework of knowledge and skill statements that will be beneficial to educators, the future nursing workforce individuals and communities whom nurses serve	The knowledge and skills statements that emerged can serve as a guide for incorporating planetary health, climate change and sustainability into nursing education programmes
Levett-Jones, Bonnamy, et al. (2024), Australia	Celebrating Australian nurses who are pioneering the response to climate change: a compilation of case studies	Discussion	To profile Australian nurses who are leading initiatives designed to champion planetary health and promote sustainable practice	Series of eight case studies derived from interviews conducted in October and November 2023	Empowering nurses to design and implement sustainability and planetary health initiatives can build the capacity of the workforce to respond to the impacts of climate change and mitigate further impacts, ultimately improving the health of individuals and communities	The case studies demonstrate that appointment of more nurses with climate and sustainability expertise will accelerate the implementation of responsive strategies that target waste management, emissions reduction and climate resilience across healthcare organisations
Lewis-Hunstiger (2021), USA	Nursing the Planet	Editorial	An overview of articles in this issue that address planetary health and its implications for nursing education and practice		Creative Nursing 2021 addresses issues around planetary health from various authors	The various articles address planetary health calls to action with a focus on the PHEF, SDGS, nurses' mission to the UN, transdisciplinary equity-centred approaches and integrating Indigenous ways of knowing

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Lokmic-Tomkins et al. (2023)	“You cannot be what you cannot see”: we need visible nursing role models shaping a healthier planetary future for all	Editorial	To determine how nurses are leaders in planetary health initiatives, highlighting real-life examples		Nursing leaders are needed to raise the profile of the nursing profession. For this reason, we need every nurse to be on board, and it can begin with simply using our RN titles in our signatures	Many nurses are working on planetary health projects, but do not explicitly identify themselves as nurses or mention their RN titles. The authors mention that this can hinder the recognition of this field as a vital aspect of the nursing profession
Longo (2023) USA	Planetary Health Nursing	Editorial	To increase our understanding of the impacts of global changes on human health and to encourage nurses to act		Outlines 10 principles that nurses can use in practising planetary health nursing: (1) develop a planetary lens; (2) recognise urgency and scale; (3) be policy-oriented; (4) communicate; (5) think system level; (6) understanding inequality and inequity; (7) be aware of bias; (8) expect to be surprised; (9) check the facts; (10) be a global citizen and nurse	Nurses need to gain an understanding of planetary health. We need to educate ourselves and our patients on these topics
Martin et al. (2024), Australia	Embedding planetary health in nursing education: Exploring the barriers and enablers to implementing changes in undergraduate Bachelor of Nursing curriculum	Review	This rapid review identifies the barriers and enablers to implementing planetary health into the undergraduate Bachelor of Nursing curriculum	Databases were searched for relevant studies between 2013 and 2023. Seven papers were eligible for review	Identified enablers that can be leveraged to successfully integrate planetary health into the undergraduate nursing curriculum, preparing nurses who are working in a practice environment impacted by climate change	The studies demonstrated that adequate knowledge, skill development, social support, a supportive organisation and access to adequate resources were required to embed changes into the curriculum

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
McCaughey, Waters, and Monsen (2022), USA	Nursing and Public Health Special Issue	Editorial	The articles in this edition showcase nursing responses to public health challenges		We urge nurses to lead, innovate and advance public health now, more than ever	Numerous articles in this special edition focus on planetary health. Kurth & Potter, LeClair et al. and Watts & Brugger are highlighted as authors in this edition
McElean (2022), Australia	Guest editorial: Planetary health, carbon zero healthcare and cancer nursing	Editorial	Links between promoting health of individuals and its adverse impacts on planetary health, carbon-zero healthcare and cancer nursing		The well-being of people relies on the well-being of the Earth. Nurses should be equally concerned with the treatment and care of our planet as we are for our cancer patients	Recommendations are to monitor the carbon footprint of healthcare, include environmental data, develop evidenced-based guidelines to improve public health and preventative care, remove carbon-intensive food, reduce food waste, source food products from sustainable agriculture, increase virtual care to provide care where patients live, reduce paper usage, increase recycling
Meyers (2023), USA	Holistic Nursing Perspective on Health and Water Resources in the Anthropocene	Commentary	Water as one of the domains of planetary health and how holistic nurses can support its sustainable use to connect environmental and human health		In practice, nurses can include water in health and community assessments. Nurses can be prepared in water-related disaster preparedness. Nurses can help to reduce water pollution. In education, nurses can instruct staff and students on planetary health concepts, including water-related earth changes and consequential health effects. Within policy, nurses can volunteer to address climate vulnerability in their region and support national and global policy efforts	A position statement from the American Nurses Association calls upon nurses to be informed about climate change, recognising it as a critical public health issue where nurses can work towards mitigation and adaptation. Nursing students have three things that can help them in their personal and professional role to advocate for planetary health: their voice, their willpower and their purchasing power

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Nersesian and Looman (2022), USA	Global Climate Change and News of Difference: Collective Action for Planetary Health and Family Health	Editorial	Uses a planetary health lens to analyse the impacts of environment on families and young children		Family nurses to use collective voice to advocate for action on impacts on climate and planet. Personal education to understand complex interactions between family structures and environment and how planetary health can expand that knowledge	Planetary health must be incorporated into existing frameworks for understanding family systems. There is personal responsibility for nurses to expand their knowledge on these matters and use it in patient care and advocacy as well as collective pressure for policy change
Park et al. (2023), Canada	Planetary health and mental health nursing: What will you do?	Editorial	This special edition addresses the relationship between nurses and the planet, and to consider the planet		Personally, mental health nurses can be leaders in modelling proenvironmental behaviours. Professionally, mental health nurses can evaluate where and how we can incorporate planetary health into our practice. We can begin to build the connection between human health and nature by including nature in mental health practice. Politically, we can add our collective voice to efforts focused on building community, national and global hope	Mental health nurses are skilled in communication, and therefore, they are skilled to address the urgent condition of the planet. The Planetary Health Education Framework provides an opportunity for mental health nurses to incorporate their knowledge and experience with relational practice and collaboration to develop and strengthen our relationship with the planet
Portela Dos Santos et al. (2023), Europe	Climate Change, Environmental Health, and Challenges for Nursing Discipline	Commentary	To use a historical approach to explore nursing's place in climate change mitigation and adaptation		Nurses must combine their leadership roles in environmental health, health advocacy and health interventions to raise the population's awareness of environmental threats. Environmental health should be incorporated into nursing education in a manner that integrates both the ecological and social determinants of health	Nurses are strategically placed to respond to the impacts of climate change through their practice, research and training in developing, implementing and sustaining innovation towards climate change mitigation and adaptation

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Potter (2019), USA	Planetary Health: The Next Frontier in Nursing Education	Discussion	This article discusses the emerging interdisciplinary field of planetary health and the potential impact of nursing leadership		The Planetary Health Alliance proposes 12 principles of planetary health education, which include: a planetary health lens, urgency and scale, policy, organising and movement building, communication, systems thinking and transdisciplinary collaborations, inequality and inequity, bias, governance, unintended consequences, global citizenship and cultural identity and historical and current global values	A planetary health lens should not be a stretch for nurses and nurses should step up and play a significant leadership role in renewing planetary health. Nursing care does not need to change, but rather applied to a larger entity—the planet
Potter (2021), USA	Planetary Health: An Essential Framework for Nursing Education and Practice	Editorial	To promote planetary health as an essential framework for nursing education and practice		Planetary health needs to be a core component of nursing education and practice. Nurses are prepared to promote and lead transformative actions to renew planetary health	The Future of Nursing 2020–2030: Charting a Path to Achieve Health Equity report includes an urgent need to address climate change. The American Association of Colleges of Nursing support a revision of nursing curricula to include planetary health. The recent publication of the global transdisciplinary framework (PHEF) for planetary health education offers a blueprint for nursing education and practice
Quinn Griffin et al. (2022), USA	Incorporating climate change into Doctor of Nursing Practice curricula	Editorial	The purpose of this article is to describe how planetary health content could be integrated into Doctor of Nursing Practice (DNP) programmes		Competencies outlined by the AACN Essentials can be considered as a scaffold to integrate climate change concepts in the DNP curricula	Through raising awareness and introducing climate change initiatives within the curricula DNP students will learn how to develop an strategies to provide an optimal and timely impact on our global climate

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Reiner and Haas-Howard (2022), USA	Essential Strategies for School Nurses to Move Upstream in Support of Healthy Students and a Healthy Planet	Discussion	This article aims to raise school nurse awareness regarding environmental degradation, implications to the health of children, and promote evidence-based actions to positively influence the trajectory		School nurses are called to support student mental health and resilience because of climate change. School nurses are also called to support education sector involvement to address the planetary health crisis through mitigation, education and adaptation. School nurses can take personal action by advocating for planetary health and support healthy and safe schools	Children are vulnerable to climate change impacts, such as respiratory conditions, cardiovascular disease, injuries, heat-related illness, malnutrition, etc. The Framework for 21st Century School Nurse Practice advocates a practice model that is student centred and provides a mindset for school nursing to approach the topic of planetary health
Rempel et al. (2024), Canada	Understanding nurses' experience of climate change and then climate action in Western Canada	Original Research	To understand nurses' experiences with the heat dome, drought and forest fires of 2021 and how those events impacted their perspectives on climate action	Naturalistic inquiry with qualitative description with 12 nurses from British Columbia, Canada	Nurses' challenges with enacting environmentally responsible practices in their workplace highlight the need for engagement throughout institutions in supporting environmentally friendly initiatives	Three themes arose from the findings: health impacts, climate action and system influences. These experiences contributed to nurses' beliefs about climate change, how to act and challenges enacting change in their practice settings
Rosa (2017), USA	A Call for Planetary Thinking in Theory and Knowledge Development	Editorial	Nurse scientists have a moral obligation to develop language driven by planetary thinking and guide health initiatives through a lens of planetary health		Planetary health offers possibilities for nursing to adapt with caring attendance to the needs of the planet. The concept of healing should be revisited through a planetary health lens. Nurses should align their thinking with the SDGs and planetary thinking, to create innovations and strategies that will invite evidence-based solutions in practice	Watson's theory of human caring can become the foundational pillar for planetary caring. Parse's human-becoming connects with planetary being-becoming. Newman's health expands beyond human centred to include the planet. Roger's theory of unitary human beings can move human beings to a space of praxis with the planet

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Rosa, Dossey, et al. (2019), USA	The United Nations Sustainable Development Goals: The Ethic and Ethos of Holistic Nursing	Discussion	This article provides a background of the sustainable development goals (SDGs), a discussion of their relevance to holistic nursing and an explanation of the nature of partnerships in attaining the goals		Holistic nursing practice must continue to consider broader population-based opportunities. Holistic nursing education must integrate both human and planetary theories. Holistic nursing research should expand its scope further to explore the human and planetary connection. Holistic nursing policy initiatives should advocate the uptake of environmental conservationist approaches to further the SDG targets	The authors link the discussion of the SDGs directly to the American Holistic Nurses Associations' Core Values and identify implications for practice, education, research and policy. The SDGs provide a transformational opportunity for nurses to achieve planetary health
Rosa, Kurth, et al. (2019), USA	Nursing and midwifery advocacy to lead the United Nations Sustainable Development Agenda	Discussion	This article offers information on the 2030 Agenda as it relates to nursing and midwifery and the opportunities for nurses to collaborate to achieve these goals		Planetary health provides an expanded scope of practice for nurses, through action on the SDGs. Nurses should also be prepared to act as global citizens and incorporate the SDGs and social justice in nursing curricula	The SDG framework is naturally aligned with the foundational philosophy and purpose of the nursing profession. Other associations also reference the SDGs in their current priorities (AAN, AACN, ANA, ICN)
Rosa and Upvall (2019), USA	The case for a paradigm shift: from global to planetary nursing	Discussion	The purpose of this paper is to propose a paradigm shift from global to planetary nursing, to engage worldwide health initiatives more effectively		Knowledge regarding the planet systems, species, ecosystems and myriad environmental dimensions must be integrated throughout nursing education to be translated to practice and social justice initiatives. Nursing research must evolve to contribute to the goal of planetary health for the next generation and beyond	To sustain the health and of individuals and populations, nurses must become proponents of sustainability amid planetary unpredictability. The authors call for a shift towards One Mind, One Health, One Planet to move the disciplinary stance from one of global nursing to planetary nursing in alignment with initiatives to promote and sustain planetary health

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Rosa (2020), USA	Nurses as Global and Planetary Citizens	Commentary	A call for a vision of interconnectedness for nurses		Nurses must redefine the meaning of health at a planetary level and seek to support the systems that sustain us. Planetary citizenship encourages us to consider our interconnectedness as humans with a vibrant planet	Nurses are called to promote health and protect human dignity, but also consider global citizenship and the world in terms of 'us'. Planetary citizenship is a more inclusive notion than global citizenship. It incorporates the idea that human health is tied to those of other animal species and the environment at large
Schenk (2019), USA	Environmental Stewardship in Nursing: Introducing the "WE ACT- PLEASE" Framework	Discussion	This article introduces a framework for environmental stewardship in nursing practice, the WE ACT- PLEASE framework		This framework provides structure and guidance to help nurses decrease harm from practice, meet professional obligations and create a healthier world	The WE ACT framework identifies six key professional elements: Professional Obligation, Leadership, Education, Accountability, Science and Engagement (PLEASE). The framework is positioned within a global context of planetary health and planetary-level environmental harm
Simmonds, Breakey, and Nicholas (2022), USA	Educating Nurse Practitioners About Climate Change, Health, and Climate Justice	Discussion	This article describes one nursing schools' experience incorporating climate change and climate justice concepts into nurse practitioner curricula		Nurse practitioners must be prepared to care for people affected by climate change and to advocate climate justice through policies to mitigate its harm. Examples are provided of how they are integrating climate change curriculum	To date, efforts to integrate climate change and health concepts into health professions education are lacking. Students are eager to learn how this looming threat to human and planetary health applies to their future clinical practice. Climate change and climate justice can easily be woven into existing curricular content

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Tyagi et al. (2024), Australia	Planetary health and person- centred healthcare practice	Commentary	Explores ways that healthcare practitioners can act on the principles of person-centred practice to enrich their role as advocates for human and planetary health		There are opportunities for healthcare practice to evolve by explicitly including planetary health as a necessary feature of healthful cultures	The Person-Centred Practice Framework provides an appropriate professional and strategic lever for climate action and healthcare sustainability. There are opportunities to use the principles of person- centredness to achieve healthful cultures while meeting the requirements for planetary health
Vandenberg (2023), Canada	Preparing Nursing Students for the Future	Discussion	To advocate for the necessity that a planetary health approach is integrated into nursing education		Recommendations for nursing education are presented within the five domains of the Planetary Health Education Framework. Future nurses are called on to be exemplary planetary health communicators, educators, advocates and leaders. The Planetary Health Education Framework promotes nursing leadership in practice and in advocating for a climate-resistant future	Curricular modifications, using the Planetary Health Education Framework, are presented, which will promote awareness and understanding of climate health among future nurses. The framework is grounded in equity, which is well suited to nursing education, and can be readily adapted into current nursing curricula

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Author(s), year, country	Title	Article/ Document type	Study aim(s)/purpose	Design and methods	Study outcomes/ recommendations	Key findings
Watts and Bruggen (2022), USA	Paleofire Data for Public Health Nursing Wildfire Planning: A Planetary Perspective	Commentary	To discuss paleofire data for public health nursing wildfire planning through a planetary perspective		As the climate crisis continues, there will be an increased need for rapid implementation of local adaptation strategies against wildfires to protect future population health. With public health nurses being well positioned to understand population health needs and planetary health public health nurses can improve wildfire adaptation planning and services by understanding historical perspectives from past fires	Planetary health is also a cross-disciplinary social and scientific movement that aims to protect and improve the health of the planet and all its inhabitants. Understanding past wildfire events can help determine effective adaptive strategies for future public health nursing services that support planetary health

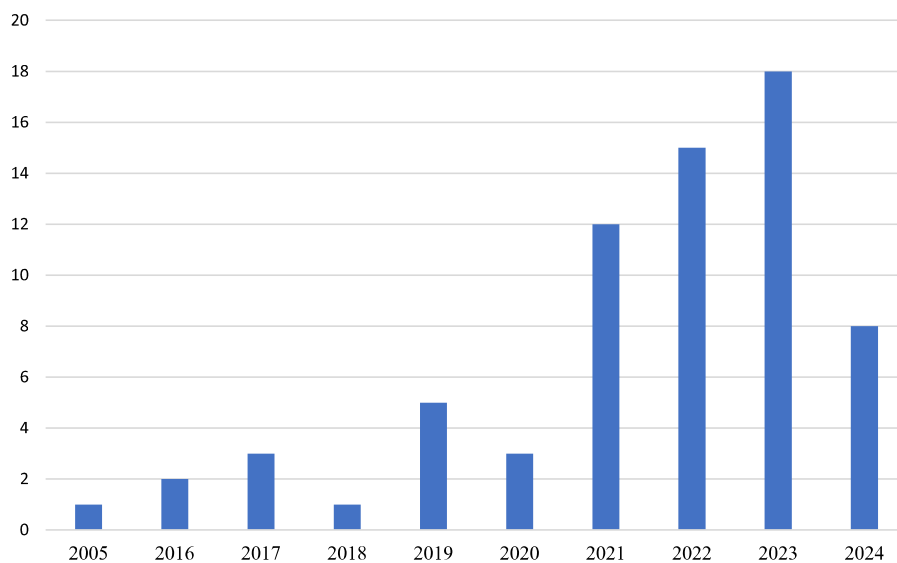


FIGURE 2 | Publication dates of included items.

numerous articles were specific to nursing education (Álvarez-Nieto et al. 2022; Best et al. 2023; Cygan et al. 2024; Flaten et al. 2023; Quinn Griffin et al. 2022; Leffers et al. 2017; Levett-Jones, Catling, et al. 2024; Potter 2021; Quinn Griffin et al. 2022; Vandenberg 2023).

5.2 | Limited Original Research

Only six original research studies were included in this scoping review. Rempel et al. (2024) conducted a naturalistic inquiry of 12 nurses' experiences with climate change and climate action in Western Canada to understand nurses' personal and professional experiences with the heat dome, drought and forest fires of 2021 and how these events impacted their perspectives on climate action. The authors found that nurses face challenges enacting environmentally responsible practices in their workplaces, which highlights the need for engagement throughout institutions to support environmentally friendly initiatives (Rempel et al. 2024).

Albrecht et al. (2023) conducted a quantitative study using a cross-sectional questionnaire with 142 nurses and physicians at a hospital in Germany. The authors were interested in assessing healthcare professionals' knowledge about climate change and its impacts on health and climate-specific health literacy. They found differences in knowledge and climate health literacy between health professionals and recommended improving climate literacy to address planetary health challenges (Albrecht et al. 2023). Similarly, Cygan et al. (2024) conducted a quantitative survey, which included the Six Americas Super Short Survey and an adaptation of the Planetary Health Report Card, which was emailed to nursing students and faculty at the Rush University College of Nursing. Student ($n = 72$) and faculty ($n = 56$) responses revealed a concern about climate change despite a lack of confidence in preparedness to address climate change. Additionally, both students and faculty found that opportunities for integrating planetary health content into nursing curriculum are essential, and faculty members were receptive to new ways of incorporating planetary health into nursing curricula (Cygan et al. 2024).

In their quantitative time-series analysis of 96 undergraduate nursing students in Spain, Álvarez-Nieto et al. (2022) were interested in exploring environmental awareness and attitudes to climate change and sustainability. The authors found that attitudes and awareness increased significantly as education progressed. However, students felt incapable of applying sustainability in practice or challenging unsustainable practices in work environments due to a lack of confidence and resistance to change. The authors recommend incorporating augmented reality, scenarios and sustainable practice case studies into nursing education (Álvarez-Nieto et al. 2022). In a similar study, Levett-Jones, Catling, et al. (2024) aimed to achieve consensus on the knowledge and skills that nursing students require to promote sustainable healthcare using a two-phase Delphi study. Phase 1 included generating knowledge and skill statements on planetary health and climate change, while Phase 2 consisted of a Delphi survey to determine consensus on proposed statements supported by experts. Levett-Jones, Catling, et al. (2024) affirm that the statement which emerged from this study can assist nursing educators in incorporating planetary health, climate change and sustainability into nursing programmes to ensure future nurses are environmentally responsible.

Additionally, Bathish et al. (2022) completed a quantitative study assessing sustainability efforts and waste reduction strategies in simulation centres in the USA. Seventy-five institutions responded to the electronic survey, and results indicated that simulation centres can impact healthcare waste reduction; however, only 18% of centres had a formal sustainability plan. Aspects of sustainability, such as supply procurement, supply disposal and student education/involvement, were lacking (Bathish et al. 2022).

5.3 | Reviews

Six reviews were included in the search results. A review by Martin et al. (2024) identified the barriers and enablers to implementing planetary health into undergraduate nursing

curriculum. The seven eligible articles demonstrated that adequate knowledge, skill development, social support, a supportive organisation and access to adequate resources were required to embed changes into the curriculum. The remaining five reviews focused on specific aspects of planetary health, such as climate change, environmental justice and sustainability, rather than planetary health in nursing specifically (Martin et al. 2024). Kurth (2017) completed a literature review to discuss the drivers of planetary health, responses and the role of nursing in making health systems more resilient in an era of increasing stress. Nurses are vital in achieving the sustainable development goals that, like the planetary health framework, focus on environmental sustainability and human well-being. Nurses contribute to resilient health systems as trusted leaders, providers of health-care and advocates and changemakers impacting the world (Kurth 2017).

Drake, Hayden, and Delkoski (2021) completed a review of research on the intersection of planetary health, nutrition and gender-specific disparities and advocated for plant-based diets and food-waste reduction. They state that nurses play an important role in assessing patients' food security and educating patients about the benefits of healthy and sustainable food choices (Drake, Hayden, and Delkoski 2021). LeClair, Watts, et al. (2021) conducted a scoping review on environmental justice nursing strategies among nurses. The articles retrieved represented a diversity of nursing strategies that addressed a range of environmental exposures and subsequent health and racial inequities. LeClair (2021) also completed a rapid evidence review on kincentric approaches to planetary health education to help align with the framework of Indigenous Knowledge Systems. The author found that no studies explored explicit kincentric approaches in planetary health education and supports a paradigm shift to the kincentric to better align with nursing, which recognises human beings' health as emerging from the environment (LeClair 2021). Aronsson et al. (2022) presented their review protocol for an integrative review related to the awareness of and attitudes towards sustainability and climate change among nurses and nurse educators.

5.4 | Calls to Action

Most of the publications analysed were calls to action, primarily appearing since 2017. These publications advocate for a broad redefinition of health concepts to encompass planetary health and citizenship (Kuehnert et al. 2022; LeClair and Potter 2022; Rosa 2017; Rosa, Dossey, et al. 2019; Rosa, Kurth, et al. 2019; Rosa and Upvall 2019; Rosa 2020). These authors collectively emphasise the ethical imperative to cultivate a language infused with planetary thinking to steer health initiatives. Kalogirou, Olson, and Davidson (2020) and LeClair and Potter (2022) suggest that a planetary health perspective is necessary as the theoretical basis for nursing education, research and practice, which could help nurses move the healthcare system towards a climate-resilient future.

Potter (2019) explores the new, interdisciplinary field of planetary health, emphasising the potential role of nursing leadership. Potter's (2019) paper introduces 12 guiding principles for nursing leadership in planetary health. These principles cover

viewing issues through a planetary health perspective, recognising the urgency and scale of challenges, focusing on policy, promoting organising and movement building, enhancing communication, employing systems thinking and engaging in transdisciplinary collaborations, addressing inequality and inequity, acknowledging bias, considering governance, being aware of unintended consequences, fostering global citizenship and cultural identity and reflecting on historical and current global values (Potter 2019).

Special issues of journals, such as the *American Journal of Public Health Nursing and Public Health* and *Creative Nursing*, present today's urgent public health challenges and the need for leadership and innovation considering the climate crisis (Lewis-Hunstiger 2021; McCauley, Waters, and Monsen 2022). Davidson (2015) asserted that the significant challenges for nurses in the changing environment are firstly, to raise awareness of the relevance and importance of the global environment to health, and secondly, to empower nurses to consider the environment, participate in debate and contribute to policy-making that aims to reduce the burden of global climate change. A comment by Lokmic-Tomkins et al. (2023) draws attention to the fact that nurses need more visible role models for planetary health. Nurses contribute to planetary health projects but are not necessarily identified as nurses in publications (Lokmic-Tomkins et al. 2023).

LeClair, Luebke, and Oakley (2021) propose the Critical Environmental Justice Nursing Framework for Planetary Health to deconstruct and disrupt dominant discourse through proactive and strategic environmental justice nursing inquiry into patterns of domination, violence and health, highlighting the root causes of environmental injustices that threaten planetary health and the toxic relationships between them. In 2022, LeClair, Evans-Agnew and Cook proposed a definition of climate justice in nursing given that it is necessary to restore planetary health and rights for all life. Evans-Agnew, LeClair, and Sheppard (2024) present a Global Nurse Agenda for Climate Justice to promote nursing action for just relations and responsibility for planetary health. Furthermore, Evans-Agnew and Aguilera (2023) call for health promotion practice to engage in system change and action in the struggle for climate justice by adopting a planetary health perspective.

In their commentary, Portela Dos Santos et al. (2023) highlight the critical need for nurses to engage more deeply in addressing climate change by integrating their roles in environmental health, advocacy and interventions to raise environmental awareness. They argue for incorporating environmental health into nursing education to enhance eco-literacy and prepare nurses to consider both ecological and social determinants in their practice. They stress that population health and health policy should guide the nursing discipline in adapting to these challenges while leveraging nurses' expertise (Portela Dos Santos et al. 2023). This is echoed by Bulbrook (2021) and Cook (2023) who discuss how nurses must make an impact through action within the healthcare sector, the education system and through policy changes. Similarly, Ferguson (2023) encourages nurses to lead the movement to protect the health of our patients and communities through calls to action, such as shopping locally, buying less and joining advocacy groups and governing bodies.

Watts and Brugger (2022) discuss how nurses can understand the consequences of forest fires on the health of their communities. They must demonstrate leadership by helping implement adaptation strategies that will reduce the impacts of forest fires on the health of their communities (Watts and Brugger 2022). Meyers (2023) also considers the Anthropocene, where there have been detrimental impacts involving water, resulting from the effects of human-induced climate change reflecting human disregard for the environment. According to Meyers (2023), within practice, nurses can include water in health and community assessments and be prepared in disaster preparedness and crisis intervention. Nurses have three valuable attributes that can assist them in their personal and professional role to advocate for planetary health: their voice, their willpower and their purchasing power (Meyers 2023).

Additionally, there is a pressing need to reorient nursing practices towards incorporating the sustainable development goals (SDGs) and planetary perspectives, aiming to foster innovations and strategies that encourage evidence-based solutions in healthcare practice (Beck, Dossey, and Rosa 2018; Kurth 2017; Rosa 2017; Rosa, Dossey, et al. 2019; Rosa, Kurth, et al. 2019). Kurth and Potter (2022) call on nurses to proactively contribute to global prevention and mitigation of the climate crisis, shifting from illness care to broader population and planetary health. Dillard-Wright, Walsh, and Brown (2020) suggest that nurses need to reconceptualise the link between human and environmental health. They critique that human health still takes precedent over environmental health in nursing and call on nurses to think about the world in different ways.

Several articles present a call to action for nurses working in specific practice areas, such as families and young children (Nersesian and Looman 2022), rural nursing (Guthman, Kaldenberg, and Cook 2022) or Honegger Rogers (2021) who encourage holistic nurses to engage in planetary health action. Additionally, Hallett et al. (2023) and Park et al. (2023) explore the planetary health concept and discuss mental health nurses' role within it, given their value of holism and restorative capabilities of connection and belonging. Mental health nurses are well situated to provide the advocacy the planet requires by actively promoting connecting communities to the natural world around them.

5.5 | Nursing Education

While most of the retrieved literature was published in the last 5 years, an article by Johnston and colleagues was published in 2005. As nurse educators, the authors were interested in supporting students in becoming fully engaged in addressing global questions and understanding choices. They also affirmed that nurses should be able to critique national and international health policies and be equipped to address global and planetary dimensions of health. The authors advocate for changes to nursing curricula to ensure students are socially and globally minded (Johnston et al. 2005). This call was echoed by more recent authors, where Best et al. (2023), along with Glauberman, Bray, and Freeman (2023), assert that there is a need for national nursing organisations and education programmes to integrate climate change and planetary health content into curricula.

Flaten et al. (2023) calls for the inclusion of planetary health into the essential core competencies for professional nursing education. Cygan et al. (2024) advocate for widespread curricular change in nursing education and offer insight into integrating climate change and planetary health into nursing curricula. Kelly-Weeder (2023), Quinn Griffin et al. (2022) and Simmonds, Breakey, and Nicholas (2022) seek to integrate climate change and health content into advanced practice, nurse practitioner and doctoral education to prepare both future and current nurse practitioners to address climate threats to human and planetary health.

While Potter (2021) maintains that planetary health is an essential framework for nursing education, Aronsson et al. (2022) analysed nursing student and educator current awareness and perceptions of sustainability and climate change to inform curriculum. Similarly, Reiner and Haas-Howard (2022) called for integrating planetary health into nursing education, particularly children's vulnerability to climate change. The Ecological Planetary Health Model is a framework that can guide and inform planetary health content so that future nurses are well equipped to become leaders and advocates for the health of the planet and their communities (Leffers et al. 2017).

Astle (2021) and Vandenberg (2023) recommend integrating the five domains of the Planetary Health Education Framework into nursing education, given that it is grounded in health equity and well suited for prelicensure nursing curricula to promote nursing leadership in practice in advocating for a climate-resilient future. This is echoed by several other publications by the same first author (Rosa 2017; Rosa, Dossey, et al. 2019; Rosa, Kurth, et al. 2019; Rosa and Upvall 2019; Rosa 2020), indicating that nursing and education should encompass knowledge of planetary systems, species, ecosystems and environmental dimensions to effectively inform practice and social justice efforts, while nursing research needs to advance and promote planetary health for future generations. In essence, this education would allow the advancement of nursing and midwifery to engage as global and planetary citizens in worldwide health initiatives more effectively, such as the United Nations 2030 Agenda for Sustainable Development.

Creative approaches to education are suggested by Abebe, Bailey, and Radu (2023), who promote film as a pedagogical tool for climate change and mental health education in nursing. Ho et al. (2024) highlight the importance of planetary health and digital literacy in nursing and midwifery education and advocate for a new global approach to developing curriculum standards that reflect contemporary and globally relevant practice and promote global action, given the increasing emergence of global issues. Likewise, Austin et al. (2023) highlight opportunities for nurse informatics to contribute to environmental monitoring systems to track carbon reduction efforts, facilitate community engagement by creating digital platforms and prioritise digital tools and platforms to educate the community.

5.6 | Nursing Practice

According to Schenk (2019), the healthcare sector generates significant pollution, and nurses are obligated to address this concern. Their conceptual framework, WE ACT—PLEASE, includes five domains that guide the assessment of pollution

in the workforce and direction on the appropriate actions that need to be taken to move towards an environmentally safe workplace (Schenk 2019). Baid and Damm (2021) advocate for reducing critical care's carbon footprint, using a framework that integrates environmental, financial and social sustainability resource implications for initiatives to improve healthcare practice. Similarly, Hawkins, Mousa, and Eviza (2023) share strategies for nurses from A to Z that save money and lower the carbon footprint of healthcare systems, from adopting green lighting to zero emissions. Longo (2023) suggests that nurses need to gain an understanding of planetary health and educate patients on this important topic. Additionally, Longo (2023) recommends that nurses in practice are policy-oriented, aware of biases and be a global citizen.

Drawing from a foundation in social justice and health equity, Jones and Avanthay Strus (2022) propose that Canadian nurses possess the capacity to establish a distinct realm within nursing research and practice—one that prioritises environmental justice and planetary health. By doing so, they actively question prevailing anthropocentric and biomedical health models. Moreover, community health nurses contribute to the well-being of both individuals and the planet by championing justice and equity (Jones and Avanthay Strus 2022).

Davidson (2015) and Bulbrook et al. (2021) suggest that nurses continue to shift from a focus on individuals to that of communities and populations, while also considering the environment in the healthcare context. McElean (2022) shares how nurses can impact how the healthcare sector contributes to the climate crisis. Suggestions include having healthcare settings that utilise natural lighting, providing electric vehicles for patient transport and sourcing food products from sustainable agriculture (McElean 2022). Cook (2023) advocates for environmentally safe nursing practice and encourages nurses to participate in green teams, lead sustainability departments and launch unit-wide initiatives. Finally, Levett-Jones, Bonnamy, et al. (2024) profile Australian nurses who lead initiatives designed to champion planetary health and promote sustainable practice, including strategies that target waste management, emissions reduction and climate resilience across healthcare organisations.

5.7 | Nursing Research

A discussion of the included original research studies is presented earlier in the Results section; however, several researchers appear to be in the beginning stages of research, such as Aronsson et al. (2022), who developed a systematic integrative review protocol to synthesise the existing research related to awareness and attitudes towards sustainability and climate change among nurses and nurse educators. Goodman (2016) discussed how research is lacking on sustainability in nursing, and without this knowledge and understanding, nurses miss the link between sustainability, climate change and health. According to Goodman (2016), these concepts are not seen as relevant to nursing, and therefore, journals are reluctant to publish such articles. Nurses should resort to searching for non-peer-reviewed and web-based articles to locate articles on sustainability (Goodman 2016).

6 | Discussion

The primary aim of this scoping review was to determine the extent of published literature using the term 'planetary health' in nursing. Our inclusion criteria were broad with the term 'planetary health', regardless of whether the term was mentioned only once in the abstract or title or discussed more fully in the article. This may have contributed to the large number of 68 articles included in the final review. Another contributing factor may have been the extensive editorials/commentaries included in our review; however, these items were retrieved from the database search, given that they were published in peer-reviewed journals, and therefore, included.

The literature summarised above suggests that nurses have a well-documented and significant role to play in planetary health, given the numerous calls to action for nursing leadership within nursing education, practice, advocacy and through research. During the last 3 years in particular, the term 'planetary health' appears to have become a 'buzz word' such that some articles used the term without providing substantiated arguments to the integration of this concept into nursing practice. Nursing, as a profession, may have moved from other terms, including 'climate change' and 'environmental health' to 'planetary health'. It was apparent that several nurse authors did not differentiate between climate change and planetary health. Perhaps this indicates a desire in nursing literature to acknowledge the importance of planetary health and an attempt to be consistent with this new terminology.

Although authors agreed that planetary health aligns with the nursing role, many also highlighted nurses' lack of understanding and uptake in all aspects of the nursing discipline, profession and practice. One such inquiry could be about nursing's understanding of the environment (or planetary health) as part of Fawcett's (1984) metaparadigm contributing to a slow uptake of the concept. The environment is not simply an outcome or goal for nursing but rather an inextricably linked reality such that nursing practice does not exist without the environment (Bender 2018). Bender (2018), Kalogirou, Olson, and Davidson (2020) and Portela Dos Santos et al. (2023) have noted that nursing's ongoing reliance on the metaparadigm to explain nursing's role limits a meaningful understanding of the interdependence of person, health and the environment.

While a clear nursing role in planetary health action was recognised in the literature, there was scant original research on planetary health. The lack of current original research studies on planetary health in nursing is a significant gap in the literature. The six original research studies included in this scoping review focused on single aspects of planetary health, namely, climate change and sustainability. Furthermore, Indigenous-led nursing research on planetary health is absent, and a lack of recognition of Indigenous knowledge as the foundation for planetary health within the published literature was apparent. There were only a few authors who discussed the importance of learning from Indigenous peoples (Evans-Agnew, LeClair, and Sheppard 2024; Glauberman, Bray, and Freeman 2023; LeClair 2021; LeClair and Potter 2022; Lewis-Hunstiger 2021).

Given the inclusion of 68 peer-reviewed articles in the literature, it is apparent that nurses, to some extent, have been

discussing planetary health for 20 years. In addition, this scoping review does not capture the extent of the labour nurses have done regarding planetary health in political and social contexts, such as the advocacy work done by the Canadian Association of Nurses for the Environment (2024). However, it is important to note that although this scoping review reflects that activities are happening for and by nurses in planetary health, the work is just beginning. It is time to lean into the momentum by taking up research, influencing organisations and public policies, integrating competencies and sharing practical examples of success.

6.1 | Implications

The literature retrieved in this scoping review revealed a clear and urgent call to action for nurses to address planetary health. Given this finding, nurses are responsible for advocating for a planetary health approach in the profession. This is supported by a recently released position statement by the Canadian Nurses Association on planetary health (2024), outlining nurses' ethical responsibility to advocate for equitable policies and support planetary health principles. Recommendations for action in education, research, advocacy, policy, practice and leadership are presented (CNA 2024).

Many researchers articulated the importance of a planetary health perspective in nursing education; however, more research is needed to explore curriculum content on this topic to facilitate the preparedness of nursing graduates for practice. No current original research exists on integrating planetary health into nursing curricula, and additional research is needed to explore the current curriculum context to provide a more accurate picture of planetary health in nursing education.

Furthermore, nurses should be practising with a planetary health mindset. As one of the largest, and most trusted, groups of healthcare professionals, nurses could assume leadership roles in planetary health action and engage in policy advocacy. Nurses should extend their views of the environment and consider the health of the planet in conjunction with health promotion for their patients. Despite a well-documented nursing role within planetary health recognised and supported in the literature, this scoping review revealed gaps in published original research on planetary health in nursing, prompting the need for additional research to be conducted and published. Nurse researchers must advance planetary health research to enhance the nursing perspective in preventing and addressing these complex challenges. Indigenous-led nursing research is needed and should highlight the role of Indigenous nurse leaders and the importance of Indigenous perspectives within nursing research.

6.2 | Limitations

Items were presented in this review as they were retrieved using the described search strategy, according to scoping review methods. A range of literature categories was retrieved, including original research studies, editorials, discussion articles, position papers and commentaries; however, a potential limitation is that

the search strategy dictated that included articles must include the term 'planetary health', which may have been too broad. Hence, many articles (68) are included in this scoping review. Additionally, nurses might be part of broader research teams, where the focus may not necessarily be nursing, and the work of these nurse researchers may have potentially been excluded from this scoping review, given that the work may not have been published in nursing-specific literature.

6.3 | Conclusion

This scoping review revealed that there is an abundance of recent literature on planetary health in nursing; however, the literature primarily includes calls to action within commentaries, editorials and discussion papers. Given that planetary health is a relatively new term, particularly in nursing, and it is an emerging field, there is acknowledgement in the published literature of the need to adopt planetary health within the profession. With the increased trajectory of publications in planetary health nursing over the past 5 years, nursing is well positioned to build on the momentum of establishing a unique nursing voice in the discourse on planetary health. There is a need to publish the important work nurses are doing in planetary health in education, practice, research and advocacy to answer the calls to action presented in the retrieved results to integrate planetary health into the profession to ensure nurses continue their critical role in caring for patients and the planet.

Authors Contribution

Shannon Vandenberg was involved in conceptualisation, project administration, supervision, formal analysis (lead), investigation (equal), methodology (lead), validation (equal), visualisation, writing – original draft preparation (lead), writing – review and editing (lead). **Jack Avanthay Strus** contributed to formal analysis (supporting), mentorship, methodology (supporting), investigation (equal), resources, writing – original draft preparation (supporting), writing – review and editing (supporting). **Andrea Chircop** was involved in formal analysis (supporting), investigation (equal), resources, writing – original draft preparation (supporting), writing – review and editing (supporting). **Amanda Egert** contributed to formal analysis (supporting), investigation (equal), resources, validation (equal), writing – original draft preparation (supporting), writing – review and editing (supporting). **Julie Savard** was involved in formal analysis (supporting), investigation (equal), resources, writing – original draft preparation (supporting), writing – review and editing (supporting).

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Ethics Statement

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

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The authors have nothing to report.

Peer Review

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