European Journal of Oncology Nursing 80 (2026) 103102

Contents lists available at ScienceDirect

European Journal of Oncology Nursing

journal homepage: www.elsevier.com/locate/ejon

Consensus research priorities for cancer nursing in Europe: A Delphi study

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ARTICLE INFO

Keywords:
Cancer
Delphi study
Nursing
Research agenda
Research priorities

ABSTRACT

Purpose: Identifying priority areas for cancer nursing research is essential for aligning research efforts with regional needs and improving outcomes for people affected by cancer. This Delphi study aimed to develop a strategic agenda of cancer nursing research priorities relevant to the European context.

Method: A panel of experts in cancer nursing practice, research, policy, and education participated in a three-round Delphi study. A total of 115 research topics across 11 thematic areas were pre-identified through a systematic review and consultation with cancer nurses. From September 2023 to March 2024, participants ranked the importance of each topic. Final prioritisation was based on weighted average rankings and an 80 % consensus threshold in round 3.

Results: Eighty-one cancer nursing experts participated in at least one round, with 57 completing all three rounds. In round 3, consensus was achieved for 73 of 123 items (59.3 %). The three highest-ranked thematic areas for future research were: 1) nurse-led care and models of cancer care, 2) unmet needs in cancer care, and 3) education, training, and professional development for nurses. The top three specific research priorities were: 1) understanding factors influencing recruitment, retention, and turnover within the European oncology nursing workforce, 2) evaluating the effectiveness of nurse-led interventions for people living with cancer, and 3) understanding risk factors for cancer diagnosis.

Conclusions: This study presents a consensus-based, regionally grounded research agenda for cancer nursing in Europe. The findings address urgent challenges in workforce sustainability, care models, and prevention, with implications for improving patient outcomes and guiding future nursing research.

1. Introduction

Cancer nurses play a pivotal role in shaping cancer care through education, research, policy, practice, and leadership (Drury et al., 2023b). Europe accounts for 25 % of global cancer cases, with 2.7 million new diagnoses annually in the EU and a projected 24 % rise in

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https://doi.org/10.1016/j.ejon.2026.103102
Received 17 July 2025; Received in revised form 5 January 2026; Accepted 8 January 2026
Available online 9 January 2026
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cancer mortality by 2035 (European Commission, 2021a; Eurostat, 2022). In response, the European Commission has launched major initiatives such as the European Beating Cancer Plan (European Commission, 2021a) and the EU Cancer Mission (European Commission, 2021b), recognising nurses, who comprise 50 % of the healthcare workforce (World Health Organisation, 2022), as central to these efforts.

The role of cancer nurses is multifaceted, spanning direct care, education, research, policy, leadership, and administration (World Health Organisation, 2020). As cancer care becomes increasingly complex, nurses must be equipped to support patients across the continuum, from diagnosis to survivorship and end-of-life care (Fuller and Hansen, 2019; Miller et al., 2022). Evidence-based practice is essential to ensure clinical decisions are grounded in robust data, improving outcomes and system efficiency (Campbell et al., 2017; Kelly et al., 2022). This complexity has driven the emergence of specialist and advanced practice roles (Bryant-Lukosius and Wong, 2022; Dowling et al., 2024).

Despite these advancements, cancer nursing faces persistent challenges. Workforce shortages, under-investment, and limited representation in decision-making bodies continue to hinder progress (Challinor et al., 2016). For example, recent Eurostat data highlight significant between-country variance in the nursing workforce, ranging from 100 nurses per 100,000 people in Romania to 1366 per 100,000 in Ireland in 2023. Several countries have recorded declines in nurse workforce since 2018, relying heavily on migration to address shortages (Eurostat, 2025).

Cancer nursing research has deepened our understanding of the lived experiences of cancer and informed interventions that enhance quality of life (Campbell et al., 2020; Lal, 2021). Yet, research engagement among nurses remains limited (Drury and Crockford, 2025; Drury et al., 2024a), despite its recognition as a core competence in nursing education and practice (European Oncology Nursing Society, 2019; Young et al., 2020). Cultivating a strong research culture is essential for advancing practice and improving outcomes.

To foster nurses' engagement with research, a systematically developed research agenda led by cancer nurses is needed. This agenda must align with clinical realities and anticipate emerging needs. Currently, the healthcare landscape is shifting, characterised by ageing populations (Haase et al., 2020), increasing prevalence of chronic diseases (Jones and Dolsten, 2024), digital health innovations (Kelly et al., 2022) and evolving professional roles (Dowling et al., 2024). A strategic research agenda tailored to regional cancer care needs is therefore vital.

European priority-setting exercises, such as those led by the European Oncology Nursing Society in the early 2000s, consistently identified research needs in symptom management, psychological distress, patient education, and professional development (Browne et al., 2002). A systematic review of 15 studies confirmed the persistence of these themes over nearly two decades, but also highlighted methodological limitations, including limited patient involvement and a lack of structured prioritisation (Cadorin et al., 2020).

More recent research priority-setting activities have identified emerging priorities related to digital health, culturally responsive care, financial toxicity, and workforce resilience (Dowling et al., 2023). These evolving themes are echoed across several recent studies that have sought to define cancer nursing research priorities in diverse contexts, including survivorship, equity, and workforce sustainability (Crawford-Williams et al., 2022; Jones et al., 2021; Morris et al., 2020; Zanville et al., 2021). However, many of these initiatives have been conducted outside Europe or within narrowly defined domains, underscoring the need for a regionally grounded and methodologically robust agenda.

In response, our team conducted a consultation with European cancer nurses to identify contemporary priorities in cancer nursing research (Bağçivan et al., 2025), forming the basis for the present study. This Delphi study aims to develop a strategic regional agenda of research priorities that responds to diverse cancer nursing research needs in Europe.

2. Methods

2.1. Study design

This study employed the Delphi technique, a structured method that leverages the collective expertise of a panel of experts to reach consensus via multiple rounds of voting (Barrett and Heale, 2020; McPherson et al., 2018). Following each round, the results from the preceding round are shared with the panel members, enabling them to observe patterns in consensus and modify their responses as needed (Avella, 2016). This study utilised a 3-round Delphi design, conducted between June 2023 and March 2024 (Fig. 1). The panel of Delphi experts were recruited between June and September 2023. The first round was conducted between September and October 2023, Round 2 between November 2023 and January 2024, and Round 3 between February and March 2024. Ethical approval for the study was obtained from the first author's University Research Ethics Committees (Reference: DCUREC/2023/98).

2.2. Sample and recruitment

An effective Delphi panel requires experts who have expertise and knowledge in the subject matter. As this study aimed to establish priorities in cancer nursing research in Europe, panel members must have identified as a nurse working in cancer care in a WHO Europe Country, or a health professional, academic or policymaker involved in cancer nursing research, leadership or governance in a WHO Europe Country. The study did not impose exclusion criteria for participation based on geography; however, as the study was conducted in English, participants were required to be able to read and write in English.

Panel members self-selected, and were recruited via an advertisement on the social media platforms X and LinkedIn. The study advertisements incorporated a link to the participant information leaflet;

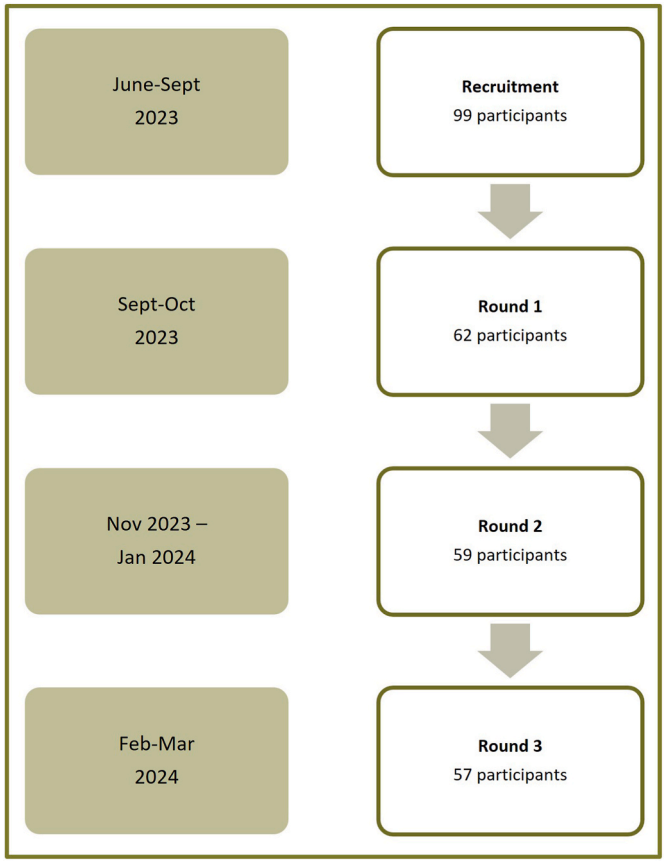


Fig. 1. Delphi study design.

prospective panel members were invited to register their interest by completing the study consent form. To maintain confidentiality, participants were instructed to generate a unique identifier for the study, which was used to link questionnaire responses throughout each phase of the Delphi study. Those who expressed interest in participating were invited to participate in the Delphi study in September 2023, November 2023 and February 2024.

2.3. Data collection

The initial Delphi questionnaire was developed based on a rapid review of research priorities identified by nurses for cancer care delivery between 2019 and 2022 (Dowling et al., 2023), and a consultation with European cancer nurses (Bağçivan et al., 2025). All research topics identified in these studies were independently coded and grouped thematically to reduce duplication and enhance clarity. This process was conducted collaboratively by the lead authors and analysts of each study (MD, GB, AD, SCL), with iterative consultation to ensure consistency and fidelity to the original data. The initial list of topics was derived from the coded content of the consultation study (Bağçivan et al., 2025) and rapid review (Dowling et al., 2023). The resulting list and its thematic organisation were reviewed against the raw data by all co-authors, who represent clinical, academic and policy experts in cancer nursing from across Europe. Revisions to phrasing and structure were made following team feedback to ensure clarity, relevance, and accessibility. The final questionnaire was reviewed and approved by all authors prior to distribution, resulting in a list of 115 research priorities spanning 11 thematic areas (Table 1).

The Delphi questionnaire included two sections. Section 1 was designed to collect data on respondents' demographic and professional attributes. The subsequent section required respondents to independently assess the relevance of 115 research priorities spanning eleven thematic areas (Table 1). In addition, the first round of the survey incorporated an open-text field, enabling participants to propose additional research priorities. These proposed priorities were integrated into the following rounds. In instances where new proposed priorities overlapped with pre-existing priorities, they were integrated with the existing priority in rounds 2 and 3, with information about the proposed priority to clarify the scope and meaning of the topic. In rounds 2 and 3, the questionnaire included an additional section which asked participants to identify and rank the five research themes (Table 1) they believed to be of the highest priority for future research, and to identify and rank the ten research topics they believed to be the highest priority for future research (round 3 only).

In the initial two rounds, each research priority was rated on a Likert scale of nine points. The interpretation of the scale was as follows: scores of 1–3 indicated 'Not important', 4–6 represented 'Unsure', and 7–9 signified 'Important'. Consensus was reached when over 80 % of respondents agreed on the importance of an item as a research priority, that is, they scored it 7, 8, or 9. A consensus of disagreement was determined when more than 80 % of participants did not consider an item a research priority, i.e., they scored it 1, 2, or 3. During the second and third rounds, the proportion of experts who agreed that the item was a research priority was presented to respondents. Respondents were asked to consider the previous round results when re-rating the item in round 2, and to determine whether an item was a research priority in round 3 (response: yes/no).

2.4. Data analysis

Sample characteristics and consensus for each research priority were evaluated using descriptive statistical methods for each round, encompassing frequencies and proportions. Ranking the priority of research themes was based on the proportion of participants who believed the research theme to be within the five highest priority areas for future research in rounds 2 and 3. The top ten research priorities ranked in Round 3 were evaluated based on the weighted ranking of each item. Descriptive statistics presenting the proportional representation of items in the top ten research priorities are also presented.

Two forms of stability were evaluated to assess the consistency of participant responses across Delphi rounds. Per-item stability was calculated as the proportion of participants whose responses remained unchanged between successive rounds, providing a measure of intra-rater consistency over time. In addition, inter-rater reliability was assessed using Cohen's Kappa to quantify the level of agreement between rounds at the group level, adjusting for chance agreement.

3. Results

3.1. Sample characteristics

The participant information leaflet received a total of 214 unique views. Ninety-nine people expressed interest in participating in the initial Delphi study, and 81 responded to one or more rounds (response rate: 81.8 %). Sixty-two participants responded to round 1 (76.5 %), fifty-nine responded to round 2 (72.8 %), and 57 responded to round 3 (70.4 %). Thirty-seven participants (70.4 %) responded to all three rounds of the Delphi. Twenty-three participants responded to two rounds (28.4 %). Twenty-one participants responded to one round only (25.9 %), of whom 13 responded to the first round only, three responded to round 2 only, and five responded to the final round only. While 19 participants who expressed interest did not respond to the first round, eleven completed rounds 2 and 3, three completed round 2, and six completed round 3 only. Seventeen participants who completed round 1 did not complete round 2; of these, thirteen did not complete any further rounds (76.4 %), while the remaining four completed the third round following invitation (23.5 %).

The demographic characteristics of participants from rounds 1, 2 and 3 of the Delphi are presented in Table 2. Nurses working in cancer care constituted the majority of the sample in each round (67.8–80.6 %). Academics (10.5–15.3 %), health professionals (6.5–15.3 %) and policymakers (1.6–1.8 %) involved in cancer nursing research, leadership or governance constituted the remainder of the sample for each round. In all three rounds, participants were primarily resident in Ireland (40.7–43.9 %), the United Kingdom (12.3–22.6 %) and Portugal (6.5–10.5 %). In each round, most participants were registered nurses

Table 1
Thematic areas derived from the analysis of older adults' views on priorities for future cancer research (adapted from Dowling et al. (2023) and Bağçivan et al. (2025))

1. Epidemiology
2. The Needs of Family Members and Informal Caregivers
3. Education, Training and Professional Development for Nurses
4. Inequities in Cancer Care
5. Nurse-Led Care and Models of Cancer Care
6. Professional Issues in Cancer Nursing
7. Cancer Nursing Role Recognition and Definition
8. Cancer Nursing Workforce Issues
9. Research Culture and Capacity in Nursing
10. Supportive Care and Palliative Care in Cancer
11. Technology in Cancer Care

Table 2
Sample characteristics.

Variable	Response	Round 1 (*n* = 62)		Round 2 (*n* = 59)		Round 3 (*n* = 57)	
		n	%	n	%	n	%
Are you a:	Nurse working in cancer care in a WHO Europe Country	50	80.6 %	40	67.8 %	44	77.2 %
	Academic involved in cancer nursing research, leadership or governance in a WHO Europe Country	7	11.3 %	9	15.3 %	6	10.5 %
	Health professional involved in cancer nursing research, leadership or governance in a WHO Europe Country	4	6.5 %	9	15.3 %	6	10.5 %
	Policymaker involved in cancer nursing research, leadership or governance in a WHO Europe Country	1	1.6 %	1	1.7 %	1	1.8 %
Country	Ireland	26	41.9 %	24	40.7 %	25	43.9 %
	United Kingdom	14	22.6 %	10	16.9 %	7	12.3 %
	Portugal	4	6.5 %	5	8.5 %	6	10.5 %
	Spain	2	3.2 %	5	8.5 %	4	7.0 %
	Netherlands	2	3.2 %	3	5.1 %	3	5.3 %
	France	3	4.8 %	1	1.7 %	3	5.3 %
	Malta	2	3.2 %	3	5.1 %	2	3.5 %
	Denmark	2	3.2 %	2	3.4 %	2	3.5 %
	Belgium	2	3.2 %	1	1.7 %	–	–
	Austria	1	1.6 %	1	1.7 %	1	1.8 %
	Germany	1	1.6 %	1	1.7 %	1	1.8 %
	Greece	1	1.6 %	1	1.7 %	1	1.8 %
	Italy	1	1.6 %	1	1.7 %	1	1.8 %
	Sweden	1	1.6 %	1	1.7 %	1	1.8 %
Age	18–34	10	16.1 %	9	15.3 %	4	7.0 %
	35–49	27	43.5 %	25	42.4 %	28	49.1 %
	50–65	25	40.3 %	25	42.4 %	23	40.4 %
	65+	–	–	–	–	2	3.5 %
Gender	Female	54	87.1 %	50	84.7 %	49	86.0 %
	Male	6	9.7 %	7	11.9 %	7	12.3 %
	Other	1	1.6 %	1	1.7 %	0	0.0 %
	Prefer not to say	1	1.6 %	1	1.7 %	1	1.8 %
Occupation/Role	Registered Nurse	53	85.5 %	52	88.1 %	51	87.7 %
	Education/Academic	3	9.7 %	3	8.5 %	2	5.3 %
	CNS/ANP	4	6.5 %	3	5.1 %	3	5.3 %
	Management/Practice Development	2	8.1 %	1	5.1 %	1	8.8 %
Primary Focus of Role	Clinical	42	67.7 %	35	59.3 %	34	59.6 %
	Research	7	11.3 %	12	20.3 %	12	21.1 %
	Education	6	9.7 %	7	11.9 %	5	8.8 %
	Administration	6	9.7 %	4	6.8 %	5	8.8 %
	Policy	1	1.6 %	1	1.7 %	1	1.8 %
Reports any primary or secondary responsibility for	Clinical	53	85.5 %	51	86.4 %	47	82.5 %
	Research	38	61.3 %	37	62.7 %	35	61.4 %
	Education	46	74.2 %	46	78.0 %	37	64.9 %
	Administration	22	35.5 %	17	28.8 %	20	35.1 %
	Policy	21	33.9 %	17	28.8 %	13	22.8 %
Treatments worked with	Chemotherapy	47	75.8 %	47	79.7 %	44	74.6 %
	Surgery	19	30.6 %	18	30.5 %	12	20.3 %
	Radiotherapy	19	30.6 %	16	27.1 %	13	22.0 %
	None of the above	9	14.5 %	8	13.6 %	10	16.9 %
	Immunotherapy	4	6.5 %	5	8.5 %	2	3.4 %
	Targeted Therapies	3	4.8 %	3	5.1 %	5	8.5 %
	Stem Cell Transplant	3	4.8 %	2	3.4 %	2	3.4 %
How often would you say you work with people affected by cancer?	Daily	46	74.2 %	44	74.6 %	40	70.2 %
	Weekly	7	11.3 %	5	8.5 %	10	17.5 %
	Monthly	3	4.8 %	3	5.1 %	2	3.5 %
	Once in a while	5	8.1 %	5	8.5 %	4	7.0 %
	Never	1	1.6 %	2	3.4 %	1	1.8 %
Area of Practice	Medical oncology	22	35.5 %	23	39.0 %	25	43.9 %
	Haematology	7	11.3 %	7	11.9 %	10	17.5 %
	Other	8	12.9 %	5	8.5 %	6	10.5 %
	Supportive Care	9	14.5 %	6	10.2 %	3	5.3 %
	Surgical oncology	6	9.7 %	6	10.2 %	5	8.8 %
	Academic	3	4.8 %	3	5.1 %	3	5.3 %
	Research	2	3.2 %	4	6.8 %		0.0 %
	Paediatric/AYA Oncology	2	3.2 %	2	3.4 %	2	3.5 %
	Radiation oncology	2	3.2 %		0.0 %	2	3.5 %
	Palliative Care	1	1.6 %	3	5.1 %	1	1.8 %
Qualifications	Undergraduate Degree (e.g. Bachelors)	23	37.1 %	23	39.0 %	13	22.8 %
	Diploma/Certificate	22	35.5 %	22	37.3 %	16	28.1 %
	Postgraduate Diploma	22	35.5 %	22	37.3 %	17	29.8 %
	Masters Degree (taught)	19	30.6 %	19	32.2 %	23	40.4 %
	Masters Degree (research)	12	19.4 %	12	20.3 %	12	21.1 %
	PhD	13	21.0 %	13	22.0 %	11	19.3 %
	Professional/Clinical/Taught Doctorate	2	3.2 %	2	3.4 %	1	1.8 %

(*continued on next page*)

Table 2 (*continued*)

Variable	Response	Round 1 (*n* = 62)		Round 2 (*n* = 59)		Round 3 (*n* = 57)	
		n	%	n	%	n	%
Level of Education	UG	35	56.5 %	32	54.2 %	21	36.8 %
	PG	45	72.6 %	42	71.2 %	44	77.2 %
	Doctorate	10	16.1 %	14	23.7 %	12	21.1 %
Highest Level of Education Completed	Undergraduate	8	12.9 %	7	11.9 %	5	8.8 %
	Postgraduate	39	62.9 %	36	61.0 %	40	70.2 %
	Doctorate	10	16.1 %	14	23.7 %	12	21.1 %
Researcher Category	Research Enabler	26	41.9 %	24	40.7 %	18	31.6 %
	Research Assistant	6	9.7 %	3	5.1 %	6	10.5 %
	Early-Stage Researcher	19	30.6 %	15	25.4 %	18	31.6 %
	Experienced Research Team Member	8	12.9 %	11	18.6 %	10	17.5 %
	Independent Researcher	3	4.8 %	6	10.2 %	5	8.8 %
Research part of current role?	Yes	37	59.7 %	34	57.6 %	42	73.7 %
	No	25	40.3 %	25	42.4 %	15	26.3 %

(85.5–88.1 %), working in clinical settings (59.3–67.7 %), and involved in the care of people receiving chemotherapy (74.6–79.7 %), cancer surgery (20.3–30.6 %) and radiotherapy (22.0–30.6 %). Most participants worked with people affected by cancer daily (70.2–74.6 %), in medical oncology (35.5–43.9 %) and haematology (11.3–17.5 %) settings. The majority of participants held a Postgraduate Diploma or Master's Degree (71.2–77.2 %). In all rounds, most participants had a primary focus in clinical practice (59.3–67.7 %); however, between 61.4 % and 62.7 % of participants had a primary or secondary focus on research within their roles. The majority of participants self-identified as a research enabler (31.6–41.9 %) or an early-stage researcher (25.4–31.6 %) (See Table 3) (Terrés et al., 2019). Across the three rounds, the proportion of participants who reported research being part of their role ranged between 57.6 % and 73.7 %.

3.2. Delphi results

Table 4 shows a summary of the Delphi items for each of the eleven research priority thematic areas. The proportion of statements achieving consensus declined for each theme from round 1 to round 3 (Table 4).

3.2.1. Round 1 (n = 62)

In Round 1, 84 questionnaires were returned. Following the removal of eight duplicate and fourteen incomplete responses, the final sample comprised 62 unique participants. Of the 115 items presented, consensus was achieved for 106 items (92.2 %) (Table 4).

Consensus was reached across all items within six of the eleven thematic categories:

- "The Needs of Family Members and Informal Caregivers",
- "Professional Issues in Cancer Nursing",
- "Cancer Nursing Workforce Issues",
- "Research Culture and Capacity in Nursing",
- "Supportive Care and Palliative Care in Cancer",
- "Technology in Cancer Care".

In contrast, the lowest levels of consensus were observed in "Epidemiology", where the only item presented did not reach consensus (0.0 %), and "Education, Training and Professional Development for Nurses", where five of nine items met the threshold for consensus (55.6 %) (Table 4).

The highest levels of agreement were recorded for three items:

- "Research to evaluate the effectiveness of nurse-led interventions on the outcomes of people living with cancer" (100 %),
- "Research to support the development, implementation and/or evaluation of interventions to support people living with cancer to manage adverse effects of cancer treatment" (98.4 %) and
- "Research to support the recognition of cancer nursing as a specialist role throughout Europe" (98.4 %).

Round 1 participants also suggested additional priorities for consideration. Nineteen respondents proposed twenty-six new topics, of which nineteen were integrated into existing items (including two

Table 3
Definitions of the five levels of research experience (adapted from HSE (2019)[3,8].

Research Level	Characteristics
Research Enabler	• I do not actively participate in the collection, analysis or reporting of data • I generate research ideas identify research needs and appropriate people to undertake this body of work • I have contributed to research design and research grant applications when requested • I commission research
Research Assistant	• I contribute to a wider research team by carrying out data collection • I organise access to data • I clean and prepare data for use in analysis • I conduct literature searches
Early-Stage Researcher	• I carry out research under supervision, demonstrating the ability to collect, analyse and interpret data • I can critically evaluate and synthesize new information • I have excellent communication skills and am able to communicate the outcomes of my research
Experienced Research Team Member	• I design and implement research studies • I present my research at conferences either orally or by poster • I manage a research project and contribute to grant applications • I have produced a substantial body of work that merits publication in peer-reviewed journals
Independent Researcher	• I design and implement research as part of a wider research programme • I apply for research grants • I manage and supervise a team of research staff • I mentor research staff and contribute to articles in high quality peer-reviewed journals • I present research nationally/internationally

Table 4
Summary of grouped Delphi statements by Thematic Research Area.

Theme	Number of statements in each thematic area			Proportion of statements where consensus was achieved					
	Round 1	Round 2	Round 3	Round 1		Round 2		Round 3	
	n	n	n	n	%	n	%	n	%
Epidemiology	1	1	1	0	0.0 %	0	0.0 %	1	100.0 %
The Needs of Family Members and Informal Caregivers	5	5	5	5	100.0 %	5	100.0 %	5	100.0 %
Education, Training and Professional Development for Nurses	9	9	9	5	55.6 %	5	55.6 %	4	44.4 %
Inequities in Cancer Care	10	10	10	9	90.0 %	9	90.0 %	7	70.0 %
Nurse-Led Care and Models of Cancer Care	16	17	17	14	87.5 %	15	88.2 %	11	64.7 %
Professional Issues in Cancer Nursing	10	11	11	10	100.0 %	10	90.9 %	8	72.7 %
Cancer Nursing Role Recognition and Definition	8	9	9	7	87.5 %	8	88.9 %	4	44.4 %
Cancer Nursing Workforce Issues	2	2	2	2	100.0 %	2	100.0 %	2	100.0 %
Research Culture and Capacity in Nursing	7	7	7	7	100.0 %	7	100.0 %	2	28.6 %
Supportive Care and Palliative Care in Cancer	42	47	47	42	100.0 %	46	97.9 %	25	59.5 %
Technology in Cancer Care	5	5	5	5	100.0 %	5	100.0 %	4	80.0 %
Total	115	123	123	106	92.2 %	112	91.1 %	73	59.3 %

revisions), and eight were added as new items for subsequent rounds (Table 5).

3.2.2. Round 2 (n = 59)

Following the revision of topics at the end of Round 1, a total of 123 items across eleven thematic areas were presented for rating in Round 2. Of the 75 questionnaires returned, eleven duplicate and five incomplete responses were excluded, resulting in a final sample of 59 unique participants (Table 4; Supplementary Appendix 1). Consensus was achieved for 112 of the 123 items (91.1 %), reflecting a high level of agreement among the panel (Table 4).

The distribution of consensus across themes remained largely consistent with Round 1. However, changes in the proportion of items reaching consensus were observed within specific themes, primarily due to the inclusion of new items. These additions occurred in:

- "Nurse-Led Care and Models of Cancer Care" (n = 1),
- "Professional Issues in Cancer Nursing" (n = 1),
- "Cancer Nursing Role Recognition and Definition" (n = 1), and
- "Supportive Care and Palliative Care in Cancer" (n = 5).

As a result, the percentage of items reaching consensus within "Professional Issues in Cancer Nursing" (n = 10, 90.9 %) and "Supportive Care and Palliative Care in Cancer" (n = 46, 97.9 %) declined slightly compared to Round 1. Notably, all items that did not reach consensus in these themes were newly introduced following Round 1 (Supplementary Appendix 1).

Two of the three items that received the highest levels of agreement in Round 1 remained among the top-rated priorities in Round 2. However, the item "Research to support the recognition of cancer nursing as a specialist role throughout Europe" showed a modest decline in agreement (93.2 %). The item with the highest level of consensus in Round 2 was "Research to characterise and define the scope of practice for advanced nurse practitioner roles in cancer care in Europe" (100 %).

Several items demonstrated notable shifts in consensus between rounds. The largest decreases were observed for:

- "Research to understand and/or evaluate the impact of COVID-19 on nursing student training (e.g., restrictions, delays, and modifications in training quality), and the implications for the oncology nursing workforce" (−33.2 %),
- "Research to understand and/or evaluate the impact of COVID-19 on clinical/research doctorate training (e.g., restrictions, delays, and modifications in training quality), and the implications for the oncology nursing workforce" (−25.0 %),
- "Research to determine the capacity of existing models of cancer support to address the needs of people living with and after cancer" (+14.4 %), and
- "Research to understand barriers and facilitators of patient and public involvement in cancer nursing research" (+14.3 %).

In addition to rating individual items, participants were asked to rank the five thematic areas they considered highest priority for future research (Table 6). The most frequently selected themes were:

- "Nurse-Led Care and Models of Cancer Care" (*n* = 29, 50.9 %),
- "Education, Training and Professional Development for Nurses" (*n* = 24, 42.1 %) and
- "Unmet Needs in Cancer Care" (*n* = 21, 36.8) (Table 6).

3.2.3. Round 3 (n = 57)

In Round 3, 90 questionnaires were returned. Following the removal of 25 duplicate and eight incomplete responses, the final sample comprised 57 unique participants. Of the 123 items presented, consensus was achieved for 73 items (59.3 %) (Table 4).

Consensus was maintained across all items in the themes "The Needs of Family Members and Informal Caregivers" and "Cancer Nursing Workforce Issues". An increase in consensus was observed in the theme "Epidemiology", where the only item reached consensus. In contrast, the proportion of items reaching consensus declined across the remaining themes. The most substantial decreases occurred in:

- "Research Culture and Capacity in Nursing" (−71.4 %),
- "Cancer Nursing Role Recognition and Definition" (−44.4 %) and
- "Supportive Care and Palliative Care in Cancer" (−38.3 %).

Compared to round 2, one of the three research priority topics which achieved the highest level of consensus for prioritisation remained the same "Research to evaluate the effectiveness of nurse-led interventions on the outcomes of people living with cancer", with the highest level of consensus (98.2 %). Two additional items maintained high levels of agreement:

- "Research to characterise and define the scope of practice for advanced nurse practitioner roles in cancer care in Europe" (93.0 %) and
- "Research to support the development, implementation and/or evaluation of interventions to support people living with cancer to manage adverse effects of cancer treatment" (93.0 %).

The second and third highest-rated items in Round 3 were:

- "Research to determine the capacity of existing models of cancer support to address the needs of people living with and after cancer" (96.5 %) and

Table 5
Summary of research priority items proposed by experts in round 1.

Thematic area	Topic Proposed	Action for Round 2	Item
Access, Navigation and Decision-Making in Cancer Care	Paediatric Survivorship (n = 1)	New item added	Research to understand access to cancer follow-up care and survivorship services for paediatric, adolescent and young adult cancer survivors in different European contexts
Access, Navigation and Decision-Making in Cancer Care	Palliative Care (n = 1)	Integrated to existing item	Research to understand the outcomes of early/integrated palliative care for people living with and after cancer
Access, Navigation and Decision-Making in Cancer Care	Service Navigation (n = 3)	Integrated to existing item	Research to support the development, implementation and evaluation of interventions to optimise cancer patients' and survivors' navigation of healthcare services
Cancer Workforce Issues	Workforce retention (n = 4)	Integrated to existing item	Research to support understanding of factors influencing recruitment, retention and turnover within the oncology nursing workforce in Europe
Development, Implementation and Evaluation of Cancer Nursing Roles	Acute Oncology (*n* = 2)	Integrated to existing item	Research to support the development, implementation and evaluation of nursing roles in acute oncology
Development, Implementation and Evaluation of Cancer Nursing Roles	Community Oncology Nursing (n = 1)	Integrated to existing item	Research to support the development, implementation and evaluation of nursing roles in community oncology
Development, Implementation and Evaluation of Cancer Nursing Roles	Integrative Oncology (n = 1)	New item added	Research to support the development, implementation and evaluation of nursing roles in integrative oncology
Nurse-Led Care and Models of Cancer Care	Nurse/Patient Ratio (n = 2)	Existing item revised	Research to evaluate the impact of nurse-patient ratios in ambulatory care settings on the outcomes of people living with cancer
Professional Issues in Cancer Nursing	Climate Change (n = 2)	New item added	Impact of climate change on cancer development and cancer service provision
Professional Issues in Cancer Nursing	Oral anti-cancer medications (n = 1)	Integrated to existing item	Research to support the development, implementation and/or evaluation of interventions to support cancer nurses and patients regarding oral anti-cancer treatment
Professional Issues in Cancer Nursing	Safe Administration of Systemic Anti-Cancer Treatment (n = 1)	Existing item revised	Research to support the development, implementation and/or evaluation of interventions to support cancer nurses regarding safe management of intravenous cancer chemotherapy
Professional Issues in Cancer Nursing	Venous Access Devices (n = 1)	Integrated to existing item	Research to support the development, implementation and/or evaluation of evidence-based clinical practice related to central venous access devices
Research Culture and Capacity in Nursing	Leadership Outcomes (n = 1)	New item added	Research to understand the effects of nurse leadership on organisational performance indicators and patient outcomes
Supportive and Palliative Care Interventions	Patient Reported Experience (n = 1)	New item added	Research to develop and implement patient reported experience measures in clinical practice
Supportive and Palliative Care Interventions	Patient Reported Outcomes (n = 1)	New item added	Research to develop and implement patient reported outcome measures in clinical practice
Technology in Cancer Care Priority Topics	Artificial Intelligence (*n* = 1)	Integrated to existing item	Research to understand the role of emerging technologies in assessment and support of people living with and after cancer
Understanding Cancer- and Treatment-Related Effects and their Impact	Peripheral Neuropathy (n = 1)	New item added	Research to understand and better manage specific treatment-related effects: Chemotherapy-induced peripheral neuropathy
Unmet Needs in Cancer Care	Adolescent and Young Adult Needs (*n* = 1)	Integrated to existing item	Research to understand and address the specific unmet needs of adolescents and young adults living with and after cancer

- "Research to understand the impact of social determinants of health (physical, social & economic) on cancer-related outcomes of people living with and after cancer" (94.7 %).

Relative to Round 2, 117 items showed a decline in the proportion of participants recommending them as priority topics. Fifteen items experienced a reduction of more than 20 % in agreement (Supplementary Appendix 1). The largest declines were observed for:

- "Research to support the development, implementation and evaluation of interventions to optimise the use of personal protective equipment safely and effectively by oncology nurses in various care settings" (−32.6 % agreement),
- "Research to support the development, implementation and evaluation of nursing roles in cardio-oncology" (−30.6 % agreement) and
- "Research to support the development, implementation and/or evaluation of evidence-based clinical practice related to central venous access devices" (−30.1 % agreement).

Consistent with Round 2, the three most frequently ranked thematic priorities were:

- "Nurse-Led Care and Models of Cancer Care" (*n* = 37, 71.2 %; weighted mean = 31.3),
- "Unmet Needs in Cancer Care" (*n* = 23, 44.2 %, weighted mean = 19.3) and
- "Education, Training and Professional Development for Nurses" (*n* = 19, 36.4 %, weighted mean = 16.6) (Table 6).

Participants were also invited to rank the ten items they considered highest priority for future research (Table 7; Supplementary Appendix 2). The top ten items reflected a broad range of thematic areas, including Cancer Workforce Issues (n = 2), Nurse-Led Care and Models of Cancer Care (n = 3), Epidemiology (n = 1), Technology in Cancer Care (n = 1), Cancer Nursing Role Recognition and Definition (n = 1), Professional Issues in Cancer Nursing (n = 1), and Development, Implementation and Evaluation of Cancer Nursing Roles (n = 1).

Based on weighted mean rankings, the five highest-priority items were:

- "Research to support understanding of factors influencing recruitment, retention and turnover within the oncology nursing workforce in Europe" (4.22),
- "Research to evaluate the effectiveness of nurse-led interventions on the outcomes of people living with cancer" (3.45)
- "Research to understand risk factors for cancer diagnosis" (3.31)
- "Research to support the development, implementation and evaluation of interventions to enhance recruitment and retention within the oncology nursing workforce in Europe" (3.25), and
- "Research to understand the role of emerging technologies in self-management of cancer-related effects among people living with and after cancer and their caregivers" (3.04)

Table 6
Frequency and weighted ranking of thematic research areas in rounds 2 and 3.

Thematic Area	Round 2 ($n = 46$)			Round 3 ($n = 52$)		
	n	%	Weighted Ranking	n	%	Weighted Ranking
Epidemiology	2	4.3 %	1.6	0	0.0 %	0
The Needs of Family Members and Informal Caregivers	13	28.3 %	10.5	12	23.1 %	9.9
Education, Training and Professional Development for Nurses	24	52.2 %	19.1	19	36.5 %	16.6
Inequities in Cancer Care	13	28.3 %	10.1	14	26.9 %	11.3
Research involving people from underrepresented groups as participants	7	15.2 %	5.3	9	17.3 %	6.7
Nurse-Led Care and Models of Cancer Care	29	63.0 %	25.6	37	71.2 %	31.3
Development, implementation and evaluation of cancer nursing roles	14	30.4 %	11.5	14	26.9 %	10.8
Professional Issues in Cancer Nursing	9	19.6 %	7.3	5	9.6 %	3.6
Cancer Nursing Role Recognition and Definition	16	34.8 %	12.0	14	26.9 %	10.4
Workforce Issues	12	26.1 %	10.1	12	23.1 %	9.9
Research Culture and Capacity in Nursing	11	23.9 %	8.7	9	17.3 %	6.8
Access, Navigation and Decision-Making in Cancer Care	9	19.6 %	6.9	9	17.3 %	7.2
Unmet Needs in Cancer Care	21	45.7 %	16.8	23	44.2 %	19.3
Understanding Cancer- and Treatment-Related Effects and their Impact	19	41.3 %	15.5	14	26.9 %	10.9
Supportive and Palliative Care Interventions	14	30.4 %	10.6	12	23.1 %	9.4
Technology in Cancer Care	17	37.0 %	12.4	17	32.7 %	11.9

Each of these five items achieved consensus agreement exceeding 80 % in Round 3, reflecting strong and sustained endorsement by participants.

3.2.4. Stability and consistency of participant responses

Of the 123 research topics evaluated across three Delphi rounds, intra-rater consistency ranged from 0.56 to 0.98, with 87.0 % of items demonstrating high consistency (≥0.80), indicating that most participants maintained stable responses across rounds (Supplementary Appendix 3).

Inter-rater stability, assessed using Cohen's Kappa, revealed variable levels of agreement between rounds. Between Rounds 1 and 2, Kappa values ranged from −0.110 to 0.785, with 69 of 115 items (60 %) achieving fair to good agreement. Between Rounds 2 and 3, agreement ranged from −0.142 to 0.778, with 73 of 123 items (59.3 %) reaching fair to good levels of inter-rater stability (Supplementary Appendix 3).

Items with lower inter-rater agreement between Rounds 2 and 3 demonstrated high intra-rater consistency, ranging from 0.711 to 0.978, with 45 of 48 items exceeding 0.80. Among the 73 research topics retained as priorities following Round 3, intra-rater consistency remained high, ranging from 0.622 to 0.978 (Supplementary Appendix 3).

4. Discussion

This Delphi study engaged cancer nurses across 14 European countries to identify and refine research priorities through three iterative rounds. A total of 73 research topics reached the threshold for consensus, forming a strategic, regionally grounded agenda to guide future cancer nursing research in Europe. The findings signal a shift from the historically symptom-centred emphasis documented in earlier European exercises (Cadorin et al., 2020; Dowling et al., 2023) toward system-aware questions of workforce sustainability, role enactment, and equitable service delivery.

The changes in agreement across rounds reflect a purposeful refinement of priorities based on structured feedback, a defining feature of consensus-building methods, such as Delphi voting (Barrett and Heale, 2020; McPherson et al., 2018). This kind of structured feedback tends to elevate research questions that have strategic relevance and broad applicability across Europe. As participants reviewed the results from earlier rounds, they refined their responses, focusing more on system-level issues, including workforce sustainability, nurse-led care, and digital self-management rose. These priorities reflect the evolution of the field since the pandemic. Systematic reviews of research priorities conducted prior to the pandemic often focused on symptom management, education, and professional development, but paid less attention to system design, role clarity, and equity (Cadorin et al., 2020). More recent reviews highlight digital health, culturally responsive care, financial hardship, social determinants of health, and the well-being and scope of oncology nursing practice as priorities. The current study builds on these trends and adapts them to the regional context.

Examining how consensus shifted across thematic priority areas helps clarify how participants distinguished between enduring priorities and time-sensitive concerns. The reduced agreement on COVID-19-specific topics in later rounds likely reflects a shift in focus as health services stabilised and more evidence became available. Rather than concentrating on immediate pandemic responses in the current study, the panel redirected attention toward structural challenges with long-term relevance. This does not diminish the value of pandemic-era innovations; instead, it suggests a desire to embed those lessons, such as telehealth and remote symptom support, into sustainable nurse-led care models, and to evaluate their impact beyond initial feasibility (Dowling et al., 2023; Hanlon et al., 2017). Similarly, items tied to specific procedures or sub-specialities, particularly those shaped by national service models or regulatory frameworks, were less likely to reach consensus in later rounds. This does not necessarily reflect a lack of clinical importance, but rather the need for a European research agenda to prioritise questions that are broadly applicable and capable of informing policy, education, and service design across diverse contexts.

Workforce-related priorities featured prominently in the final agenda and must be considered within the context of Europe's workforce capacity and retention. Evidence of nursing shortages, burnout, and inconsistent recognition of specialist roles was well-documented prior to the COVID-19 pandemic and has since intensified (Buchan et al., 2022; Challinor et al., 2016; World Health Organisation, 2020). While research on turnover intention has proliferated over the past decade (Shapiro et al., 2022; Squires et al., 2017), the current agenda signals a shift toward translational research, focused on developing and testing interventions that improve recruitment, retention, and career progression, and that are scalable across diverse regulatory and educational systems.

Closely linked to workforce sustainability is the prioritisation of nurse-led models of care, including specialist and advanced practice roles. Despite their expansion, implementation remains inconsistent across Europe (Dowling et al., 2024; European Oncology Nursing Society (EONS), 2020). To support adoption in countries where these roles are still emerging, future research must generate comparative and cost-effectiveness evidence grounded in clearly defined scopes of practice, competencies, and educational preparation (Dowling et al., 2023; Piazza and Drury, 2023). This will ensure that findings are transferable and can inform policy and workforce planning across jurisdictions.

Education, training, and professional development are modifiable factors influencing workforce retention (Cosgrave et al., 2018; Mazzella

Table 7
Frequency and weighted ranking of the top 25 research topics in round 3.

Thematic Area	Topic	Weighted Ranking Analysis		Proportional Ranking Analysis			Round 3 Consensus Results	
		Weight Mean Ranking	Ranking Position	n	%	Ranking Position	Yes	No
Cancer Workforce Issues	Research to support understanding of factors influencing recruitment, retention and turnover within the oncology nursing workforce in Europe	4.22	1	27	49.1 %	2	91.1 %	8.9 %
Nurse-Led Care and Models of Cancer Care	Research to evaluate the effectiveness of nurse-led interventions on the outcomes of people living with cancer	3.45	2	24	43.6 %	3	98.2 %	1.8 %
Epidemiology	Research to understand risk factors for cancer diagnosis	3.31	3	27	49.1 %	1	80.7 %	19.3 %
Cancer Workforce Issues	Research to support the development, implementation and evaluation of interventions to enhance recruitment and retention within the oncology nursing workforce in Europe	3.25	4	23	41.8 %	4	92.9 %	7.1 %
Technology in Cancer Care Priority Topics	Research to understand the role of emerging technologies in self-management of cancer-related effects among people living with and after cancer and their caregivers	3.04	5	20	36.4 %	6	90.6 %	9.4 %
Cancer Nursing Role Recognition and Definition	Research to support the recognition of cancer nursing as a specialist role throughout Europe	3.01	6	20	36.4 %	5	91.2 %	8.8 %
Nurse-Led Care and Models of Cancer Care	REVISED ITEM: Research to evaluate the impact of nurse-patient ratios in cancer care settings on the outcomes of people living with cancer	2.87	7	17	30.9 %	14	94.7 %	5.3 %
Nurse-Led Care and Models of Cancer Care	Research to characterise and evaluate models of nurse-led care in cancer, including specialty, location and scope of practice	2.72	8	18	32.7 %	9	91.2 %	8.8 %
Professional Issues in Cancer Nursing	Research to support the development, implementation and/or evaluation of interventions to promote person-centred cancer care	2.72	9	19	34.5 %	8	82.5 %	17.5 %
Development, Implementation and Evaluation of Cancer Nursing Roles	Research to support the development, implementation and evaluation of nursing roles in acute oncology	2.65	10	18	32.7 %	10	87.7 %	12.3 %
Inequities in Cancer Care	Research to understand the influence of inequities in cancer care on access to care and services throughout the cancer trajectory	2.55	11	17	30.9 %	12	89.5 %	10.5 %
Inequities in Cancer Care	Research to support the development, implementation and evaluation of interventions to address the health literacy needs of people living with cancer	2.55	12	19	34.5 %	7	91.2 %	8.8 %
Education, Training and Professional Development for Nurses	Research to support the development, implementation and evaluation of education and training programmes to support the development of cancer nurses' leadership skills	2.46	13	16	29.1 %	15	93.0 %	7.0 %
Education, Training and Professional Development for Nurses	Research to support the development, implementation and evaluation of education and training programmes about the diagnosis, treatment and nursing care of people with specific types of cancer	2.38	14	0	0.0 %	122	94.7 %	5.3 %
Technology in Cancer Care Priority Topics	Research to understand the role of emerging technologies in assessment and support of people living with and after cancer	2.32	15	15	27.3 %	20	86.8 %	13.2 %
Professional Issues in Cancer Nursing	Research to support the development, implementation and/or evaluation of interventions to support cancer nurses and patients regarding oral anti-cancer treatment	2.25	16	16	29.1 %	16	87.7 %	12.3 %
Unmet Needs in Cancer Care	Research to understand and address the specific unmet needs of people receiving new or emerging cancer treatments (e.g. immunotherapies, targeted therapies)	2.2	17	14	25.5 %	27	87.5 %	12.5 %
Nurse-Led Care and Models of Cancer Care	Research to determine the capacity of existing models of cancer support to address the needs of people living with and after cancer	2.15	18	14	25.5 %	23	96.5 %	3.5 %
Technology in Cancer Care Priority Topics	Research to understand the preferences and needs of people living with and after cancer for the use of new technologies to support self-management of cancer-related effects	2.15	19	15	27.3 %	21	92.5 %	7.5 %
Research Involving People from Underrepresented Groups as Participants	Research to support the development, implementation and evaluation of nurse-led services supporting people from underrepresented groups requiring cancer care	2.13	20	17	30.9 %	13	89.5 %	10.5 %
Education, Training and Professional Development for Nurses	Research to understand nurses' and patients' experiences of communication and clinical relationships during cancer diagnosis, treatment and survivorship	2.12	21	17	30.9 %	11	94.7 %	5.3 %
Supportive Care and Palliative Care in Cancer	Research to support the development, implementation and evaluation of interventions to support people living with and after cancer to self-manage cancer-related effects	2.10	22	14	25.5 %	28	92.7 %	7.3 %
Unmet Needs in Cancer Care	Research to understand and address the specific unmet needs of cancer survivors	2.06	23	15	27.3 %	19	82.1 %	17.9 %
Development, Implementation and Evaluation of Cancer Nursing Roles	Research to support the development, implementation and evaluation of nursing roles in prehabilitation in cancer care	2.05	24	15	27.3 %	17	71.9 %	28.1 %
Professional Issues in Cancer Nursing	Research to support the development, implementation and/or evaluation of interventions to support people living with cancer to manage adverse effects of cancer treatment	1.96	25	15	27.3 %	18	93.0 %	7.0 %

Ebstein et al., 2019). Access to high-quality postgraduate education is consistently associated with job satisfaction and career advancement (Kelly et al., 2020, 2022), yet significant disparities persist in the availability of specialist cancer nursing programmes and in the implementation of advanced practice roles. Online and hybrid learning models offer potential to expand access, particularly in regions with limited infrastructure (Drury et al., 2023c; Ramsden et al., 2021; Rouleau et al., 2019). While specialist postgraduate education remains the cornerstone of advanced practice in cancer nursing (Klemp et al., 2011), further research is needed to evaluate which delivery models most effectively support workforce development and improved patient outcomes.

Notably, several education-related items did not reach consensus in later rounds, including leadership development, student training disruptions during the COVID-19 pandemic, and the impact of virtual meetings on continuing education. Their exclusion may reflect a shift in panel focus from short-term or context-specific concerns to scalable structural reforms. While these items may not have been considered a priority for future research in Europe, emerging initiatives to enhance recruitment and retention of cancer nurses are leveraging nursing education pathways from undergraduate level. This is evident in the large number (n = 29) of cancer nursing competency, capability, education and career frameworks internationally (Thamm et al., 2025). The UK Aspirant Cancer Career and Education Development (ACCEND) programme (ACCEND, 2022) is one example, designed to transform career pathways and education for nurses and allied health professionals involved in cancer care. The ACCEND framework provides clear guidance on routes into cancer care, the core knowledge and skills required at each stage, and the learning and development opportunities needed for progression. While this framework standardises expectations and supports access to pre- and post-registration education, it aims to strengthen workforce capacity, improve care quality for people affected by cancer, and promote staff well-being and career advancement. However, variations exist in cancer nursing frameworks internationally, which contribute to the challenges of developing relevant frameworks for all (Thamm et al., 2025).

Research priorities related to unmet needs and digital self-management represent an evolution rather than a departure from longstanding concerns in cancer nursing. For over two decades, symptom management and quality-of-life research have been central to the field (Cadorin et al., 2020). The current agenda builds on this foundation by emphasising equity of access, the needs of underserved populations, and the integration of digital technologies that support patient-reported monitoring and coaching beyond clinical settings. The proliferation of digital consultations during COVID-19 had variable effects on self-management confidence and information needs (Dowling et al., 2022; Smith et al., 2022; White et al., 2022), underscoring the need for robust evaluations that assess reach, outcomes, and differential effects across populations. However, the lack of attention to digital capabilities in cancer nursing frameworks is surprising and needs addressing (Thamm et al., 2025).

Patient and public involvement (PPI) occupies a nuanced position within the agenda. Although widely endorsed and often mandated by funders, differences in experiences of PPI awareness among doctoral cancer nurses are reported (Tanay et al., 2023). PPI-specific research questions were not highly ranked in this study. For example, items focused on understanding barriers to involvement or exploring patient and public perspectives on cancer nursing research did not reach consensus. This mirrors findings from other priority-setting exercises in geriatric oncology (Drury et al., 2024b), and may reflect a view that PPI should be embedded as a design principle rather than treated as a standalone topic.

Nonetheless, two persistent evidence gaps remain. First, marginalised groups continue to be under-represented in PPI activities, raising concerns about equity and inclusivity. Second, there is limited evaluation of the impact of PPI on research quality, relevance, and outcomes (Brett et al., 2014; Colomer-Lahiguera et al., 2023). While research to advance PPI may not have been prioritised in this Delphi, its value remains clear and early adoption of PPI among novice researchers is a priority (Tanay et al., 2023). Meaningful involvement of patient and public partners has been shown to enhance the relevance, responsiveness, and quality of research outputs (Health Service Executive Research and Development, 2021; Pizzo et al., 2015). Future studies must therefore continue to embed effective PPI practices and evaluate their impact with the same rigour applied to clinical endpoints, particularly in addressing equity and representation.

5. Limitations

While this study presents a comprehensive list of priorities, generated through engagement with the international literature and input from cancer nurses, it is not without limitations. Participants were from fourteen European countries; however, most respondents across all rounds were from English-speaking contexts (Ireland and the UK), which may limit the generalizability of the findings across Europe. This reflects a broader challenge in European research, where English-language instruments may inadvertently exclude non-English-speaking professionals, particularly from non-Anglophone regions (Drury et al., 2023a; Diez de los Rios de la Serna et al., 2023). Although translation of the questionnaires could enhance inclusivity, this was not feasible within the scope and resources of the current study.

Recruitment was conducted primarily via professional networks and social media platforms (X and LinkedIn), which may have introduced selection bias. This approach likely favoured digitally active individuals and may have excluded older or less tech-engaged professionals, potentially limiting the representativeness of the Delphi panel. Furthermore, the self-selection of participants, while appropriate for Delphi methodology, may have resulted in a panel that is more engaged, research-active, or opinionated than the broader population of cancer nurses. These factors should be considered when interpreting the generalizability of the findings.

While the length of the questionnaire utilised in this study may be considered a shortcoming of this study, the process of development, including a systematic review (Dowling et al., 2023) and consultation (Bağçivan et al., 2025), and the scope for Delphi participants to propose further topics ensures that the breadth of research topics proposed for consideration represents the current landscape of cancer nursing in Europe. Furthermore, few priority-setting studies in the field of cancer nursing attempt to rank prioritised research topics (Cadorin et al., 2020; Corner et al., 2007; Moorcraft et al., 2016). In the absence of a prioritisation or ranking process, consensus studies may produce an array of research topics for inclusion in a research agenda, but the agenda may lack focus and structure to drive a cohesive research agenda in the field.

6. Implications for practice

The priorities identified in this Delphi study provide a strategic framework to guide cancer nursing research and service development across Europe. Addressing workforce recruitment and retention will require intervention studies that test strategies to improve working conditions, strengthen professional recognition, and support transparent career pathways. Designing these studies for scalability and adaptability will be crucial to account for diverse regulatory and educational systems.

Evaluation of nurse-led models of care, including specialist and advanced practice roles, should move beyond clinical outcomes to examine cost-effectiveness, service efficiency, and system-level impact. Evidence that defines scope of practice, core competencies, and educational requirements can inform policy and support the spread of these roles in countries where they remain limited or undefined.

Ensuring equitable access to specialist education is another pressing need. Online and hybrid programmes may widen participation,

particularly in regions with constrained training capacity, but their impact on workforce development and patient outcomes warrants rigorous evaluation before broad implementation.

Finally, embedding meaningful patient and public involvement (PPI) across research programmes will help ensure that evidence remains relevant and inclusive. Particular attention should be given to reaching underserved populations and assessing how PPI influences research quality, equity, and applicability.

7. Conclusions

This Delphi study establishes a comprehensive, regionally informed agenda for cancer nursing research, derived from expert consensus across 14 countries. The priorities reflect enduring concerns such as symptom management and professional development, while also signalling a shift toward system-level challenges, including workforce sustainability, role standardisation, and equitable access to care. By integrating emerging themes, digital self-management, nurse-led models of care, and determinants of workforce recruitment and retention, the agenda aligns with broader trends in oncology and health-systems research. It identifies key areas for future inquiry that advance strategic goals for nursing, including evaluating educational delivery models, operationalising advanced practice roles, and ensuring the meaningful involvement of underserved populations. Although grounded in the European context, the methodology and findings offer a transferable framework for other regions seeking to set research priorities in cancer nursing. This agenda provides a foundation for researchers, educators, and policymakers to coordinate funding, design targeted interventions, and build a cohesive research programme responsive to evolving clinical and workforce demands.

CRediT authorship contribution statement

Amanda Drury: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Maura Dowling:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization. **Sara Colomer-Lahiguera:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Nikolaos Efstathiou:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Cherith Semple:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Paz Fernández-Ortega:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Karin Brochstedt Dieperink:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Eva Pape:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Grigorios Kotronoulas:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Susana Miguel:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Gülcan Bağçivan:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization.

Data availability statement

The datasets generated during and/or analysed during the current study are not publicly available. Excerpts of data are available from the corresponding author upon reasonable request and following a signed data sharing agreement.

Funding

This study did not receive any funding.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ejon.2026.103102.

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