

Advancing Naturopathic Cancer Care: A Survey of Naturopathic Doctors to Identify Practice Patterns and Knowledge Gaps

APPENDIX A: SUPPLEMENTARY MATERIALS

Part 1: Survey Questions

Part A: Getting to know you

1. How old are you?
2. Which gender do you most identify with?
3. Which school did you graduate from?
4. Which country do you primarily practice in?
5. In which province, territory, or state do you primarily practice?
6. Other than your naturopathic degree, do you have any other qualifications? Select all that apply.
 - Bachelor's degree
 - Master's degree
 - Doctor of Philosophy (PhD)
 - Doctor of Chiropractic (DC)
 - Doctor of Medicine (MD)
 - Doctor of Osteopathic Medicine (DO)
 - Diplomate of the Homeopathic Academy of Naturopathic Physicians (DHANP) Licensed
 - Acupuncturist (L.Ac.)
 - Nurse Practitioner (NP)
 - Physician Assistant (PA)
 - Registered Dietician (RD)
 - Registered Nurse (RN)
 - Other (please specify)
 - None of the above
7. How many years have you been practicing naturopathic medicine?
8. In which ways do you interact with patients and provide naturopathic care? Select all that apply.
 - One-on-one visits (virtual or in-person)
 - Live group programming (virtual or in-person)
 - Pre-recorded courses/educational sessions
 - Membership programs
 - Other (please specify)
9. If you conduct one-on-one visits, how do you conduct them?
 - In-person only
 - Virtual only
 - In-person and virtual
 - I don't conduct one-on-one visits
 - Other (please specify)
10. Approximately how many hours do you spend in patient visits/interactions each week? (Note: this includes in-person and virtual visits, but excludes administrative tasks, charting, and research)

11. Approximately how many hours per week do you spend on continuing education activities? (e.g., reading articles, attending webinars, etc.)
12. Which best describes the nature of your naturopathic practice setting(s)? Select all that apply.
 - Community (private practice) – sole practitioner
 - Community (private practice) – multi-ND practice
 - Community (private practice) – multidisciplinary practice
 - Hospital
 - Other (please specify)

Part B: Knowledge translation and resources

13. Regarding sources of information related to supporting your clinical care and decision-making, indicate how often you use the following.
 - Directly accessing medical literature through journals (e.g., CANDJ, Natural Medicine Journal, JAMA Oncology, Integrative Cancer Therapies) or publication databases (e.g., PubMed, Google Scholar, EMBASE, Cochrane Library)
 - Professional resources and databases (e.g., Up-To-Date, Clinical Key, Natural Medicine Database, MSKCC About Herbs, professional monographs, Medscape, Examine.com.)
 - KNOWIntegrativeOncology.org textbooks (including e-texts)
 - Conferences, webinars, and/or seminars
 - Discussion with colleagues
 - Lay resources (e.g., magazines, books, blogs, Wikipedia, etc.)
14. Of the resources listed below, please indicate your degree of preference for each item, from “I love this resource” to “I do not like this resource.”
 - Clinical decision aid (a tool that helps the clinician and/or patient understand their treatment options to make informed decisions based on best available evidence, includes information on available therapies, risks, benefits, etc.)
 - Clinical practice guideline (statements that include expected clinical standards intended to optimize patient care based on best available evidence)
 - Conference presentations
 - Courses or fellowship programs
 - Professional monographs (detailed summary of interventions, not always published in peer-review format)
 - Webinars
15. Would you support the development of clinical practice guidelines or clinical decision-making tools for naturopathic therapies in cancer care?
16. Do you consider yourself a naturopathic doctor (ND) who provides cancer care (including supportive cancer care)?

Part C: Getting to know your clinical practice

17. Are you a Fellow of the American Board of Naturopathic Oncology?
18. Are you a member of any oncology-specific organizations? Select all that apply.
 - American Society of Clinical Oncology (ASCO)
 - Oncology Association of Naturopathic Physicians (OncANP)
 - Society for Integrative Oncology (SIO)
 - The Multinational Association of Supportive Care in Cancer (MASCC)
 - Other (please specify)
19. What percentage of your clinical practice is providing care related to cancer?

20. Where along the cancer care continuum do you provide care? Select all that apply.
- Primary prevention (i.e., never had cancer)
 - Secondary prevention (i.e., previous history of cancer)
 - During active conventional treatment
 - After completion of conventional treatment (i.e., survivorship or aftercare)
 - Having declined conventional treatments
 - End-of-life care
 - Other (please specify)
21. Of patients who present for cancer care, how often do you provide care for the following age ranges?
- Children (<12)
 - Adolescents (12–17)
 - Young adults (18–39)
 - Adults (40–64)
 - Older adults (>64)
22. Of patients who present for cancer care, how often do you provide care for the following types?
- Brain and CNS (central nervous system)
 - Breast
 - Gastrointestinal (e.g., colorectal, esophageal, liver, gastric, pancreatic, hepatobiliary)
 - Gynecological (e.g., cervical, endometrial, ovarian, vaginal, vulvar)
 - Head and neck (e.g., oropharyngeal, laryngeal)
 - Hematological (e.g., lymphomas, leukemias and multiple myeloma)
 - Sarcomas
 - Skin (melanoma, basal cell carcinoma, squamous cell carcinoma)
 - Thoracic (e.g., lung, thymic, mediastinal)
 - Urogenital (e.g., prostate, bladder, kidney, testicular)
23. Which of the following acts are you qualified and able to perform? Select all that apply.
- Prescribe certain pharmaceutical medications
 - Perform acupuncture
 - Perform intravenous infusion therapy (IVIT)
 - Perform injections (subcutaneous and/or intramuscular)
 - None of the above
24. Considering the following interventions, regardless of whether or not they are in your scope, please indicate how frequently you recommend them or refer out for patients with cancer.
- Acupuncture and/or Traditional Chinese Medicine
 - Body-based therapies (e.g., spinal manipulations, manual lymphatic techniques, massage)
 - Cannabis (oil, dry products, edibles, etc.)
 - Exercise counselling
 - Herbal/botanical medicine (tinctures, extracts, tea, etc.)
 - Homeopathic remedies
 - Hydrotherapy and thermal therapy (e.g., constitutional hydrotherapy, saunas, cold- immersions, sitz baths)
 - Hyperbaric oxygen
 - Hyperthermia – locoregional
 - Hyperthermia – whole body
 - IVIT
 - Low level laser therapy (LLT)
 - Mental health counselling
 - Mind-body therapies (e.g., meditation, yoga, tai chi, Qigong, breathwork)
 - Non-IV injection therapy (e.g., intramuscular, subcutaneous, etc.)
 - Non-prescription/over-the-counter medication
 - Nutritional counselling – general
 - Nutritional counselling – specific diets

- Nutritional supplements (e.g., vitamins, minerals, fatty acids)
 - Ozone
 - Photodynamic therapy
 - Prescription medications (off-label use)
 - Probiotics/prebiotics/synbiotics
 - Other (if there are other interventions not previously listed, please note them and how frequently you recommend/refer out for them)
25. How often do you communicate with conventional oncology medical doctors such as surgeons, medical oncologists, or radiation oncologists? (e.g., letters, faxes, phone, email)
26. How often do you communicate with allied healthcare providers such as other NDs, RMTs (registered massage therapists), NPs (nurse practitioners), holistic nutritionists, physiotherapists, functional medicine-oriented MDs, etc.? (e.g., letters, faxes, phone, email)

Part D: Identifying gaps in knowledge and training

27. Regarding interactions between naturopathic interventions and the following conventional cancer treatments, please indicate to what extent you feel there is a gap in your knowledge. If you do not work with patients receiving a certain treatment, please select “not applicable.”
- Chemotherapy
 - Hormonal therapy (e.g., androgen deprivation therapy, anti-estrogen therapies)
 - Monoclonal antibodies (e.g., PD1 inhibitors, trastuzumab)
 - Oral targeted therapy (e.g., tyrosine kinase inhibitors, CDK4/6 inhibitors)
 - Photodynamic therapy
 - Radiation therapy
 - Stem cell transplant
 - Surgery
28. Regarding naturopathic management of side effects and symptoms associated with cancer and/or cancer treatments, please indicate to what extent you feel there is a gap in your knowledge and your ability to treat or prevent this condition. If you do not work with a certain side effect or symptom, please select “not applicable.”
- Anxiety
 - Acneiform rash
 - Alopecia
 - Anemia
 - Appetite loss (anorexia)
 - Arthralgia
 - Cachexia and weight loss
 - Cardiotoxicity
 - Cognitive changes
 - Constipation
 - Cystitis and incontinence
 - Depression
 - Diarrhea
 - Edema and lymphedema
 - Fatigue
 - Hepatotoxicity
 - Hot flashes
 - Insomnia
 - Mucositis
 - Nausea and vomiting
 - Neutropenia
 - Nephrotoxicity

- Oral thrush
 - Osteopenia/osteoporosis
 - Pain
 - Palmar plantar erythrodysesthesia (PPE or hand-foot syndrome)
 - Peripheral neuropathy
 - Radiation dermatitis
 - Sexual dysfunction
 - Taste and smell loss
 - Thrombocytopenia
 - Tinnitus
 - Xerostomia
29. Regarding the use of Natural Health Products (NHPs) for supporting patients with cancer, please indicate to what extent you feel there is a gap in your knowledge. If you do not use a certain type of NHP, please select “not applicable.”
- Herbal/botanical medicine (tinctures, extracts, tea, etc.)
 - Homeopathic remedies
 - Nutritional supplements (e.g., vitamins, minerals, fatty acids)
 - Probiotics, prebiotics, synbiotics
30. Regarding specific diets for patients with cancer, please indicate to what extent you feel there is a gap in your knowledge. If you do not use or recommend a specific diet, please select “not applicable.”
- Fasting (e.g., intermittent fasting, short-term fasting around chemo, longer fasts)
 - Ketogenic diet
 - Low residue diet
 - Mediterranean diet
 - Other (If there is a gap in your knowledge about other specific diets, please note the diet and the degree of your knowledge gap(s) here)
31. Regarding injectable therapies for patients with cancer, please indicate to what extent you feel there is a gap in your knowledge. If you do not use or recommend a certain therapy, please select “not applicable.”
- Alpha-Lipoic Acid (ALA) (infusion)
 - Amino acid (infusion)
 - Artesunate (infusion)
 - Ascorbic acid (vitamin C) (infusion)
 - Curcumin (infusion)
 - Dichloroacetate (Infusion)
 - EGCG (infusion)
 - Mistletoe (infusion)
 - Mistletoe (subcutaneous injection)
 - Poly-MVA (infusion)
 - Vitamin/mineral mix (e.g., Myers infusion)
 - Other (If there is a gap in your knowledge about other injectable therapies, please note them and the degree of your knowledge gap(s) here)
32. Regarding the modalities listed below for patients with cancer, please indicate to what extent you feel there is a gap in your knowledge. If you do not use or recommend this intervention, please select “not applicable.”
- Acupuncture, acupressure, and Traditional Chinese Medicine
 - Cannabis (oil, dry products, edibles, etc.)
 - Exercise counselling
 - Hydrotherapy
 - Hyperbaric oxygen
 - Locoregional hyperthermia
 - Low level laser therapy (LLLT)
 - Mental health counselling
 - Mind-body therapies

- Non-prescription drugs/over-the-counter
 - Off-label prescription medications for cancer control
 - Ozone therapy
 - Photodynamic therapy
 - Physical medicine and body-based therapies
 - Prescription medications (off-label for cancer control)
 - Other (If there is a gap in your knowledge about other modalities, please note them and the degree of your knowledge gap(s) here)
33. Part of medical practice is remaining up to date on new information and emerging therapies. Regarding finding, appraising, and implementing new evidence related to naturopathic oncology, please indicate to what extent you feel there is a gap in your knowledge.
34. Thinking in general about gaps in your knowledge, please indicate reasons for these gaps. Select all that apply.
- Lack of formal training (e.g., in school, through continuing education, through residency/fellowship programs)
 - Lack of time to find resources and do continuing education
 - Unsure of how to find available data and resources
 - Unsure of how to critically appraise (assess or interpret) available data
 - Lack of resources (e.g., access to professional resources and clinical research)
 - Other (If you think there are other reasons for gaps in your knowledge, please list them)

Interest in providing cancer care

35. Are you interested in developing your skills in order to support people with cancer?
36. Regarding why you don't currently work with cancer populations, please indicate which of the following barriers/reasons are relevant to you. Select all that apply.
- There is no demand or need in my community
 - I don't have the knowledge or training to do so
 - I am concerned about legal/liability issues and/or regulatory restrictions
 - I am concerned about the emotional burden
 - Other (If there are other barriers/reasons why you don't currently work with cancer populations, please note them)
37. Would the availability of better training and resources for naturopathic oncology increase your likelihood of working with this population?

Follow-up and additional information

38. If researchers at The Patterson Institute have follow-up questions, are you open to being contacted by email?
39. Is there anything else you would like to add?
40. Please input your email address below to access Vitazan's promotion; if you would like to skip the offer, please leave this blank.

Part 2: Supplementary Tables

TABLE S1: Other academic and professional qualifications

Type of Qualification	General Stream <i>n</i> (%)	Cancer Stream <i>n</i> (%)	Total <i>n</i> (%)
Bachelor's Degree	47 (94)	78 (79)	125 (84)
Master's Degree	2 (4)	23 (23)	25 (17)
Doctor of Philosophy (PhD)	0	4 (4)	4 (3)
Registered or Licensed Acupuncturist (RAc/LAc)	1 (2)	8 (8)	9 (6)
Doctor of Medicine (MD)	1 (2)	8 (8)	9 (6)
Doctor of Osteopathic Medicine (DO)	1 (2)	0	1 (1)
Physician Assistant (PA)	0	1 (1)	1 (1)
Registered Nurse (RN)	0	1 (1)	1 (1)
DHANP	0	1 (1)	1 (1)
Registered Herbalist (RH)	0	2 (2)	2 (1)
Registered Massage Therapist (RMT)	0	1 (1)	1 (1)

General *n* = 50; Cancer *n* = 99; Total *N* = 149. Multiple selections were permitted. DHANP = diploma from the Homeopathic Academy of Naturopathic Physicians.

TABLE S2: State or Province of Practice

State/Province	General Stream <i>n</i> (%)	Cancer Stream <i>n</i> (%)	Total <i>n</i> (%)
Canada			
Alberta	0	2 (2)	2 (1)
British Columbia	10 (20)	13 (14)	23 (16)
Manitoba	0	3 (3)	3 (2)
Nova Scotia	6 (12)	3 (3)	9 (6)
Ontario	25 (50)	29 (30)	54 (37)
Quebec	1 (2)	0	1 (1)
USA			
Arizona	1 (2)	2 (2)	3 (2)
California	2 (4)	2 (2)	4 (3)
Colorado	3 (6)	2 (2)	5 (3)
Connecticut	0	3 (3)	3 (2)
Hawaii	0	2 (2)	2 (1)
Illinois	0	1 (1)	1 (1)
Indiana	0	1 (1)	1 (1)
Maine	0	2 (2)	2 (1)
Michigan	1 (2)	1 (1)	2 (1)
Missouri	0	2 (2)	2 (1)
Montana	0	2 (2)	2 (1)
New York	0	1 (1)	1 (1)
Oregon	0	8 (8)	8 (5)
Pennsylvania	0	1 (1)	1 (1)
Texas	0	1 (1)	1 (1)
Washington	0	8 (8)	8 (5)
Washington DC	0	2 (2)	2 (1)
Wisconsin	1 (2)	0	1 (1)
Outside of Canada/USA	0	5 (5)	5 (3)

General *n* = 50; Cancer *n* = 96; Total *N* = 146. Three respondents in the cancer stream did not provide a response.

TABLE S3: Type of visit conducted

Type of Visit	General Stream <i>n</i> (%)	Cancer Stream <i>n</i> (%)	Total <i>n</i> (%)
In-person and virtual	42 (84)	89 (90)	131 (88)
In-person only	4 (8)	6 (6)	10 (7)
Virtual only	4 (8)	4 (4)	8 (5)

General *n* = 50; Cancer *n* = 99; Total *N* = 149.

TABLE S4: Membership in oncology-specific organizations

Organization	<i>n</i> (%)
Oncology Association of Naturopathic Physicians	61 (64)
Society for Integrative Oncology	10 (10)
American Society of Clinical Oncology	6 (6)
Multinational Association of Supportive Care in Cancer	2 (2)
Other	7 (7)
Not a member of any organizations	32 (33)

N = 96 respondents from the cancer stream. Three respondents did not provide a response. Multiple selections were permitted.

TABLE S5: How often naturopathic doctors communicate with other practitioners

Frequency	<i>n</i> (%)
Conventional medical providers	
Frequently (at least once per week)	27 (27)
Occasionally (at least once per month)	27 (27)
Rarely (less than once per month)	35 (35)
Never	10 (10)
Allied healthcare providers	
Frequently (at least once per week)	40 (40)
Occasionally (at least once per month)	40 (40)
Rarely (less than once per month)	18 (18)
Never	1 (1)

N = 99 respondents from the cancer stream.

TABLE S6: How often naturopathic doctors provide cancer care for the following age ranges

Age Range (years)	Frequently (3)	Occasionally (2)	Rarely (1)	Never (0)	Mean Score (/3)	N (responses)
< 12	2 (2%)	5 (5%)	27 (30%)	57 (63%)	0.5	91
From 12 to 17	3 (3%)	7 (8%)	36 (40%)	45 (49%)	0.6	91
From 18 to 39	15 (16%)	46 (49%)	24 (26%)	9 (10%)	1.7	94
From 40 to 64	75 (76%)	17 (17%)	7 (7%)	0	2.7	99
> 64	68 (69%)	24 (24%)	6 (6%)	1 (1%)	2.6	99

Responses provided by the cancer stream only. Number of responses differs as some participants did not respond to each prompt.

TABLE S7: How often naturopathic doctors provide care for the following cancer types

Cancer Type	Frequently (3)	Occasionally (2)	Rarely (1)	Never (0)	Mean score (/3)	N (responses)
Breast	80 (82%)	13 (13%)	4 (4%)	0	2.8	97
Gastrointestinal	60 (61%)	24 (25%)	13 (13%)	2 (2%)	2.4	99
Gynecological	48 (48%)	37 (38%)	11 (11%)	2 (2%)	2.3	98
Urogenital	42 (42%)	35 (35%)	17 (18%)	5 (5%)	2.1	99
Hematological	29 (29%)	40 (40%)	23 (23%)	7 (7%)	1.9	99
Thoracic	19 (20%)	31 (32%)	31 (32%)	16 (16%)	1.5	97
Brain & CNS	12 (12%)	40 (41%)	33 (34%)	13 (13%)	1.5	98
Head/Neck	11 (11%)	38 (39%)	33 (34%)	15 (15%)	1.5	97
Skin	4 (4%)	46 (47%)	43 (44%)	5 (5%)	1.5	98
Sarcoma	4 (4%)	31 (32%)	40 (42%)	21 (22%)	1.2	96

Responses provided by the cancer stream only. Number of responses differs as some participants did not respond to every prompt. CNS: Central nervous system

TABLE S8 (Part 1 of 2): Tabular breakdown of knowledge gaps

Item	No Gap (0)	Minor Gap (1)	Moderate Gap (2)	Major Gap (3)	Mean Score (/3)	Not Applicable ^a
<i>Interactions between integrative treatments and conventional treatments</i>						
Photodynamic therapy	5 (8%)	14 (22%)	19 (29%)	27 (42%)	2.0	34
Stem cell transplant	11 (12%)	18 (20%)	33 (37%)	28 (31%)	1.9	9
Oral targeted therapies	16 (17%)	30 (31%)	31 (32%)	19 (20%)	1.6	3
Monoclonal antibodies	18 (18%)	32 (33%)	27 (28%)	21 (21%)	1.5	1
Radiation therapy	23 (23%)	47 (47%)	21 (21%)	8 (8%)	1.1	0
Chemotherapy	22 (22%)	48 (49%)	21 (21%)	7 (7%)	1.1	1
Hormonal therapy	30 (30%)	44 (44%)	21 (21%)	4 (4%)	1.0	0
Surgery	40 (40%)	40 (40%)	14 (14%)	5 (5%)	0.8	0
<i>Management of symptoms and side effects associated with cancer and/or cancer treatments</i>						
Tinnitus	19 (20%)	30 (31%)	30 (31%)	18 (19%)	1.5	2
Sexual and reproductive issues	17 (17%)	47 (48%)	25 (27%)	9 (9%)	1.3	1
PPE	30 (32%)	18 (19%)	31 (33%)	14 (15%)	1.3	6
Acneiform rash	23 (25%)	38 (41%)	22 (24%)	10 (11%)	1.2	6
Nephrotoxicity	29 (29%)	34 (34%)	26 (26%)	10 (10%)	1.2	0
Taste and smell loss	31 (31%)	36 (36%)	26 (26%)	6 (6%)	1.1	0
Pain	32 (33%)	33 (34%)	26 (27%)	6 (6%)	1.1	2
Alopecia	34 (35%)	26 (27%)	26 (27%)	10 (10%)	1.1	3
Xerostomia	35 (36%)	31 (32%)	22 (23%)	9 (9%)	1.1	2
Cystitis and incontinence	28 (29%)	49 (50%)	16 (16%)	5 (5%)	1.0	1
Thrombocytopenia	31 (31%)	41 (41%)	21 (21%)	6 (6%)	1.0	0
Cardiotoxicity	37 (37%)	35 (35%)	20 (20%)	7 (7%)	1.0	0
Radiation dermatitis	37 (38%)	32 (33%)	22 (23%)	6 (6%)	1.0	2
Hepatotoxicity	38 (38%)	38 (38%)	19 (19%)	4 (4%)	0.9	0
Oral thrush	38 (39%)	39 (40%)	17 (17%)	4 (4%)	0.9	1
Cognitive changes	40 (41%)	38 (39%)	14 (14%)	6 (6%)	0.9	1
Neutropenia	44 (44%)	36 (36%)	16 (16%)	3 (3%)	0.8	0
Peripheral neuropathy	46 (46%)	34 (34%)	15 (15%)	4 (4%)	0.8	0
Cachexia and weight loss	44 (44%)	39 (39%)	14 (14%)	2 (2%)	0.7	0
Mucositis	47 (48%)	40 (41%)	9 (9%)	2 (2%)	0.7	1
Insomnia	48 (48%)	38 (38%)	12 (12%)	1 (1%)	0.7	0
Depression	46 (46%)	44 (44%)	7 (7%)	2 (2%)	0.6	0
Hot flashes	47 (47%)	43 (43%)	9 (9%)	0	0.6	0
Fatigue	48 (48%)	42 (42%)	8 (8%)	1 (1%)	0.6	0
Appetite loss	49 (49%)	36 (36%)	14 (14%)	0	0.6	0
Arthralgia	50 (50%)	38 (38%)	9 (9%)	2 (2%)	0.6	0
Diarrhea	52 (53%)	40 (40%)	5 (5%)	2 (2%)	0.6	0
Osteopenia/osteoporosis	53 (54%)	32 (32%)	11 (11%)	3 (3%)	0.6	0
Nausea and vomiting	54 (55%)	35 (35%)	7 (7%)	3 (3%)	0.6	0
Anemia	54 (55%)	30 (30%)	14 (14%)	1 (1%)	0.6	0
Anxiety	54 (55%)	39 (39%)	6 (6%)	0	0.5	0
Constipation	65 (66%)	29 (29%)	5 (5%)	0	0.4	0
<i>Natural health products for patients with cancer</i>						
Homeopathic remedies	21 (28%)	23 (31%)	22 (30%)	8 (11%)	1.2	25
Herbal/botanical medicine	43 (43%)	41 (41%)	12 (12%)	3 (3%)	0.7	0
Pro-/pre-/synbiotics	46 (48%)	38 (40%)	8 (8%)	4 (4%)	0.7	3
Nutritional supplements	50 (50%)	38 (38%)	8 (8%)	3 (3%)	0.6	0

TABLE S8 (Part 2 of 2): Tabular breakdown of knowledge gaps

Item	No Gap (0)	Minor Gap (1)	Moderate Gap (2)	Major Gap (3)	Mean Score (/3)	Not Applicable ^a
<i>Specific diets for patients with cancer (missing n = 1)</i>						
Low residue diet	19 (23%)	35 (40%)	20 (23%)	12 (14%)	1.3	12
Ketogenic diet	37 (39%)	38 (40%)	17 (18%)	4 (4%)	0.9	2
Fasting	44 (46%)	35 (36%)	15 (16%)	2 (2%)	0.7	2
Mediterranean diet	69 (70%)	20 (20%)	4 (4%)	5 (5%)	0.4	0
<i>Injectable therapies for patients with cancer</i>						
EGCG infusion	1 (2%)	8 (19%)	17 (40%)	16 (38%)	2.1	57
Curcumin infusion	6 (13%)	16 (33%)	17 (35%)	9 (19%)	1.6	51
DCA infusion	8 (17%)	13 (28%)	19 (40%)	7 (15%)	1.5	52
Poly-MVA infusion	8 (19%)	13 (30%)	14 (33%)	8 (19%)	1.5	56
Artesunate infusion	14 (27%)	15 (29%)	17 (33%)	6 (12%)	1.3	47
Mistletoe infusion	22 (32%)	22 (32%)	15 (22%)	9 (13%)	1.2	31
ALA infusion	22 (37%)	18 (31%)	14 (24%)	5 (8%)	1.0	40
Amino acid infusion	22 (38%)	20 (34%)	13 (22%)	3 (5%)	0.9	41
Mistletoe injection	40 (48%)	26 (31%)	11 (13%)	6 (7%)	0.8	16
Vitamin C infusion	49 (62%)	23 (29%)	5 (6%)	2 (3%)	0.5	20
Vitamin/mineral infusion	54 (70%)	16 (21%)	3 (4%)	4 (5%)	0.4	22
<i>Modalities for patients with cancer</i>						
Photodynamic therapy	4 (10%)	11 (28%)	12 (30%)	13 (33%)	1.8	59
Ozone therapy	11 (20%)	13 (24%)	20 (37%)	10 (19%)	1.5	45
LLLT	14 (22%)	20 (31%)	16 (25%)	14 (22%)	1.5	35
LRHT	16 (27%)	15 (25%)	18 (30%)	11 (18%)	1.4	39
Hyperbaric oxygen	18 (28%)	17 (27%)	17 (27%)	12 (19%)	1.4	35
Off-label prescription drugs	15 (20%)	29 (38%)	25 (33%)	7 (9%)	1.3	23
Cannabis	18 (23%)	33 (41%)	22 (28%)	7 (9%)	1.2	19
Non-prescription drugs	31 (37%)	31 (37%)	18 (21%)	4 (5%)	0.9	15
Physical medicine and BBT	37 (44%)	26 (31%)	18 (21%)	3 (4%)	0.8	14
Acupuncture and TCM	39 (46%)	27 (32%)	13 (15%)	6 (7%)	0.8	14
Mental health counselling	46 (50%)	29 (32%)	15 (16%)	2 (2%)	0.7	7
Mind-body therapies	47 (53%)	28 (32%)	12 (14%)	1 (1%)	0.6	11
Hydrotherapy	49 (56%)	28 (32%)	8 (9%)	3 (3%)	0.6	11
Exercise counselling	56 (57%)	33 (34%)	7 (7%)	2 (2%)	0.5	1
<i>Finding, appraising, and implementing new evidence</i>						
Searching for new info	32 (32%)	38 (38%)	17 (17%)	12 (12%)	1.1	0
Critically appraising new info	28 (28%)	45 (45%)	21 (21%)	5 (5%)	1.0	0
Applying new info in practice	29 (29%)	45 (45%)	18 (18%)	7 (7%)	1.0	0

N = 99 respondents from the cancer stream. ALA: Alpha lipoic acid; BBT: Body-based therapies; DCA: Dichloroacetate; EGCG: Epigallocatechin gallate; LLLT: Low level laser therapy; LRHT: Locoregional hyperthermia; PPE: Palmar plantar erythrodysesthesia; Poly-MVA: proprietary blend of “minerals, vitamins and amino acids”; TCM: Traditional Chinese medicine.

^a Respondents were asked to select “not applicable” if they do not work with patients receiving a particular conventional treatment, if the naturopathic therapies were not within their scope of practice, or if they do not use a given naturopathic therapy in their practice.

TABLE S9 (Part 1 of 2): Knowledge gap comparison based on percent of practice related to cancer

Item	≤ 25% of Practice Cancer-Focused		> 25% of Practice Cancer-Focused		P value
	No Gap + Minor Gap	Moderate + Major Gap	No Gap + Minor Gap	Moderate + Major Gap	
<i>Interactions between integrative treatments and conventional treatments</i>					
Photodynamic therapy	4 (14%)	24 (86%)	15 (41%)	22 (59%)	0.02
Stem cell transplant	7 (19%)	29 (81%)	22 (41%)	32 (59%)	0.03
Oral targeted therapies	9 (23%)	30 (77%)	37 (65%)	20 (35%)	< 0.001
Monoclonal antibodies	14 (34%)	27 (66%)	36 (63%)	21 (37%)	0.005
Radiation therapy	26 (62%)	16 (38%)	44 (77%)	13 (23%)	0.10
Chemotherapy	19 (46%)	22 (54%)	51 (89%)	6 (11%)	< 0.001
Hormonal therapy	27 (64%)	15 (36%)	47 (82%)	10 (18%)	0.04
Total for category	106 (39%)	163 (61%)	252 (67%)	124 (33%)	< 0.001
<i>Management of symptoms and side effects associated with cancer and/or cancer treatments</i>					
Tinnitus	17 (41%)	24 (59%)	32 (57%)	24 (43%)	0.13
Sexual and reproductive issues	24 (57%)	18 (43%)	40 (71%)	16 (29%)	0.14
PPE	9 (24%)	29 (76%)	39 (71%)	16 (29%)	< 0.001
Acneiform rash	24 (63%)	14 (37%)	37 (67%)	18 (33%)	0.68
Nephrotoxicity	21 (50%)	21 (50%)	42 (74%)	15 (26%)	0.02
Taste and smell loss	24 (57%)	18 (43%)	43 (75%)	14 (25%)	0.54
Pain	29 (69%)	13 (31%)	36 (65%)	19 (35%)	0.71
Alopecia	23 (56%)	18 (44%)	37 (67%)	18 (33%)	0.26
Xerostomia	25 (60%)	17 (40%)	41 (75%)	14 (25%)	0.12
Cystitis and incontinence	33 (79%)	9 (21%)	44 (79%)	12 (21%)	> 0.99
Thrombocytopenia	25 (60%)	17 (40%)	47 (82%)	10 (18%)	0.01
Cardiotoxicity	23 (55%)	19 (45%)	49 (86%)	8 (14%)	0.001
Radiation dermatitis	21 (53%)	19 (48%)	48 (84%)	9 (16%)	0.001
Hepatotoxicity	30 (71%)	12 (29%)	46 (81%)	11 (19%)	0.28
Oral thrush	33 (79%)	9 (21%)	44 (79%)	12 (21%)	> 0.99
Cognitive changes	29 (71%)	12 (29%)	49 (86%)	8 (14%)	0.06
Total for category	390 (59%)	269 (41%)	674 (75%)	224 (25%)	< 0.001
<i>Specific diets for patients with cancer</i>					
Low residue diet	18 (51%)	17 (49%)	36 (71%)	15 (29%)	0.07
Ketogenic diet	28 (68%)	13 (32%)	47 (85%)	8 (15%)	0.04
Total for category	46 (61%)	30 (39%)	83 (78%)	23 (22%)	0.009
<i>Injectable therapies for patients with cancer</i>					
EGCG infusion	2 (11%)	16 (89%)	7 (29%)	17 (71%)	0.16
Curcumin infusion	6 (30%)	14 (70%)	16 (57%)	12 (43%)	0.06
DCA infusion	6 (30%)	14 (70%)	15 (56%)	12 (44%)	0.08
Poly-MVA infusion	8 (44%)	10 (56%)	13 (52%)	12 (48%)	0.62
Artesunate infusion	9 (45%)	11 (55%)	20 (63%)	12 (38%)	0.22
Mistletoe infusion	13 (52%)	12 (48%)	31 (72%)	12 (28%)	0.09
ALA infusion	13 (54%)	11 (46%)	27 (77%)	8 (23%)	0.06
Amino acid infusion	14 (58%)	10 (42%)	28 (82%)	6 (18%)	0.04
Mistletoe injection	19 (66%)	10 (34%)	47 (87%)	7 (13%)	0.02
Total for category	90 (45%)	108 (55%)	204 (68%)	98 (32%)	< 0.001

TABLE S9 (Part 2 of 2): Knowledge gap comparison based on percent of practice related to cancer

Item	≤ 25% of Practice Cancer-Focused		> 25% of Practice Cancer-Focused		P value
	No Gap + Minor Gap	Moderate + Major Gap	No Gap + Minor Gap	Moderate + Major Gap	
<i>Modalities for patients with cancer</i>					
Photodynamic therapy	3 (20%)	12 (80%)	12 (48%)	13 (52%)	0.08
Ozone therapy	7 (33%)	14 (67%)	17 (52%)	16 (48%)	0.19
LLLT	13 (54%)	11 (46%)	21 (53%)	19 (48%)	0.90
LRHT	8 (33%)	16 (67%)	23 (64%)	13 (36%)	0.02
Hyperbaric oxygen	15 (58%)	11 (42%)	20 (53%)	18 (47%)	0.69
Off-label prescription drugs	10 (37%)	17 (63%)	34 (69%)	15 (31%)	0.006
Cannabis	16 (47%)	18 (53%)	35 (76%)	11 (24%)	0.008
Non-prescription drugs	21 (62%)	13 (38%)	41 (82%)	9 (18%)	0.04
Physical medicine & BBT	29 (83%)	6 (17%)	34 (69%)	15 (31%)	0.16
Acupuncture and TCM	27 (75%)	9 (25%)	39 (80%)	10 (20%)	0.62
Total for category	149 (54%)	127 (46%)	276 (67%)	139 (33%)	0.001

P value calculated using Chi-square test. Total for each category counts each patient multiple times. ALA: Alpha lipoic acid; BBT: Body-based therapies; DCA: Dichloroacetate; EGCG: Epigallocatechin gallate; LLLT: Low level laser therapy; LRHT: Locoregional hyperthermia; PPE: Palmar plantar erythrodysesthesia; Poly-MVA: proprietary blend of "minerals, vitamins and amino acids"; TCM: Traditional Chinese medicine.

TABLE S10: Ways naturopathic doctors obtain information

Item	Frequently (3)	Occasionally (2)	Rarely (1)	Never (0)	Mean Score (/3)	N (responses)
Direct access to literature through journals	103 (69%)	40 (27%)	5 (3%)	1 (1%)	2.6	149
Professional resources and databases	87 (58%)	47 (32%)	12 (8%)	3 (2%)	2.5	149
Discussion with colleagues	63 (43%)	68 (46%)	15 (10%)	2 (1%)	2.3	148
Conferences, webinars, or seminars	62 (42%)	71 (48%)	15 (10%)	0	2.3	148
Textbooks	30 (20%)	56 (38%)	51 (34%)	11 (7%)	1.7	148
KNOW website	21 (22%)	23 (24%)	21 (22%)	31 (32%)	1.3	96 ^a
Lay (non-scientific) resources	21 (14%)	28 (19%)	77 (52%)	23 (15%)	1.3	149

Number of responses differs as some participants did not respond to each prompt. Only includes respondents from the cancer stream. KNOW: Knowledge in Integrative Oncology.

TABLE S11: Degree of preference for various resources

Item	I Love This Resource (3)	I Like This Resource (2)	I Somewhat Like This Resource (1)	I Do Not Like This Resource (0)	Mean Score (/3)	N (responses)
Clinical decision aid	85 (59%)	35 (24%)	22 (15%)	3 (2%)	2.4	145
Conference presentations	67 (46%)	58 (39%)	20 (14%)	2 (1%)	2.3	147
Professional monographs	68 (46%)	56 (38%)	22 (15%)	3 (2%)	2.3	149
Webinars	66 (45%)	65 (44%)	15 (10%)	2 (1%)	2.3	148
Clinical practice guideline	65 (45%)	48 (33%)	27 (19%)	4 (3%)	2.2	144
Courses or fellowship programs	56 (39%)	60 (42%)	23 (16%)	5 (3%)	2.2	144

Number of responses differs as some participants did not respond to each prompt.

TABLE S12: Interest in providing cancer care

Question	n (%)
<i>Are you interested in developing your skills in order to support people with cancer?</i>	
Yes	23 (46)
No	11 (22)
Unsure	16 (32)
<i>Regarding why you don't currently work with cancer populations, please indicate which of the following barriers/reasons are relevant to you. (Multiple selections permitted. Those who selected "No" above, n = 11, excluded)</i>	
There is no demand or need in my community	4 (10)
I don't have the knowledge or training to do so	31 (79)
I am concerned about legal/liability issues and/or regulatory restrictions	12 (31)
I am concerned about the emotional burden	14 (36)
Other	6 (15)
<i>Would the availability of better training and resources for naturopathic oncology increase your likelihood of working with this population?</i>	
Yes	29 (74)
No	0
Unsure	10 (26)

N = 50 respondents from the general stream.

TABLE S13: Time spent on continuing education

Hours Per Week	General Stream n (%)	Cancer Stream n (%)	Total n (%)
≤ 1 hour	9 (18)	16 (16)	25 (17)
2 hours	20 (40)	42 (42)	62 (42)
3 hours	8 (16)	15 (15)	23 (15)
≥ 4 hours	13 (26)	26 (26)	39 (26)

General n = 50; Cancer n = 99; Total N = 149.

TABLE S14: Would you support the development of clinical practice guidelines or decision-making tools for naturopathic therapies in cancer care?

Degree of Support	General Stream n (%)	Cancer Stream n (%)	Total n (%)
Yes, strongly	37 (74)	74 (75)	112 (74)
Yes, somewhat	10 (20)	16 (16)	26 (17)
Unsure	2 (4)	6 (6)	8 (5)
No	1 (2)	3 (3)	4 (3)

General n = 50; Cancer n = 99; Total N = 149.