

# Integrative oncology

## Improving survival odds in breast cancer

Cancer can affect a person's body, mind, and spirit, and there is growing evidence of the beneficial effects of complementary and lifestyle therapies in combination with conventional treatments – known as integrative oncology – to treat the whole person. A thought-provoking study by Terri Crudup and colleagues at IQVIA, in collaboration with the Samueli Foundation, USA, demonstrates the value of integrative oncology in improving both the quality of life and the five-year survival of those with breast cancer. Importantly, it sheds light on patients' awareness of and access to integrative therapies as well as their therapy needs, perceptions, and beliefs.

The detrimental effects of cancer on a person are widespread, affecting not only their physical body but also their mental and spiritual wellbeing. With such complex manifestations, holistic treatment approaches personalised to meet the unique needs of individuals warrant consideration and research. Integrative oncology is a multipronged approach combining conventional cancer treatment with what is known as complementary or lifestyle therapies (herein referred to as complementary therapies).

### DEFINING INTEGRATIVE ONCOLOGY

Integrative oncology is defined as 'a patient-centred, evidence-informed field of cancer care that utilises mind-body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments' (Witt et al, 2017). Studies demonstrate patient benefits in terms of helping with managing treatment side effects and improving clinical outcomes, including survival. The Society of Integrative Oncology (SIO) has published guidelines recommending integrative therapies to breast cancer patients to help with stress, anxiety, and depression and to improve quality of life.

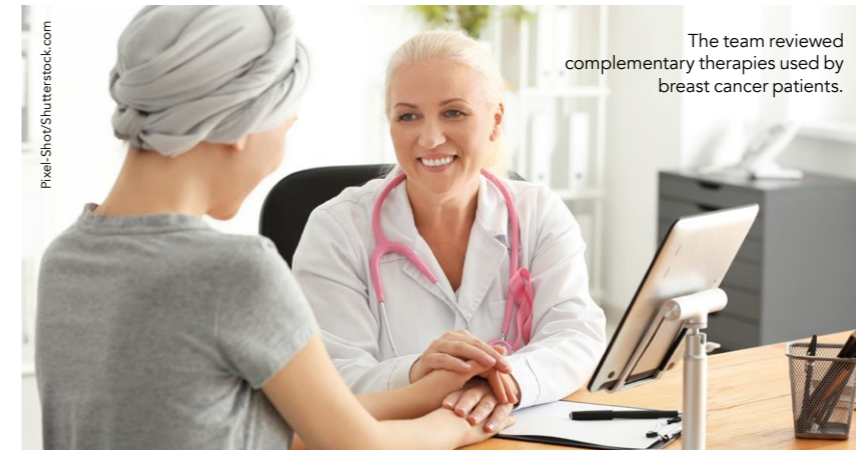
Despite increasing data supporting benefits to cancer patients, patients are often not aware of, do not have access to, or cannot afford these therapies. Worldwide, breast cancer is the most prevalent malignant disease in women, with cases expected to rise. Crudup and her team therefore investigated the utility and benefits of integrative oncology using complementary and lifestyle therapies in breast cancer. Specifically, they focus on understanding both how the

level of integrative oncology involvement in institutions affects patient survival and the awareness, access, and perceived impact of these therapies among patients and oncologists.

There were two main arms of this important study. One employed multivariate modelling to understand the relationship between the level of integrative oncology involvement at institutions and survival of breast cancer patients treated at those institutions. The second arm used surveys to determine the gap between patients and healthcare professionals in their awareness of complementary therapies. It then identified the therapies that breast cancer patients want to use. Lastly, it aimed to establish what patients and oncologists perceive as the benefits of such therapies.

For the survival and integrative oncology involvement level analysis, as there is no standard way to measure this level in an institution, the team began by reviewing the complementary therapies used by breast cancer patients and identified 12 therapies for use in the study. The therapies were psycho-oncology support, acupuncture/acupressure, meditation/mindfulness, nutrition counselling, spiritual services, yoga, patient support groups, Tai Chi/Qi Chong, massage therapy, exercise consultation, Reiki or therapeutic/healing touch and music/art therapy.

Using questionnaires completed by oncologists, these therapies were then assessed across the three core areas of 'educate, support and provide' to determine a composite integrative oncology involvement score for each institution. Based on these scores, the institutions were divided into four categories: low, low-mid, mid-high and high levels of integrative oncology involvement. Using patient claims



The team reviewed complementary therapies used by breast cancer patients.

data, breast cancer patients diagnosed between 2013–2014 were mapped to the surveyed institutions, and an established algorithm was run to check for patient death in the five years following diagnosis. The data from a total of 173 breast cancer patients treated by 103 oncologists at 103 institutions was used in a multivariate model to determine how these levels of integrative approaches affected five-year survival rates. For the survey analysis, across the USA, 164 breast cancer patients and 115 oncologists completed online surveys assessing the same 12 complementary therapies.

### NEEDS, PERCEPTIONS, AND BENEFITS

The team's white paper on the survey analysis describes the results in terms of perception, access, and impact of the therapies. Oncologists had more awareness of complementary therapies than patients did, although oncologists report discussing these therapies with only 55% of breast cancer patients. Recommendation of therapies by healthcare professionals influences patient use of them, highlighting the importance of such discussions.

Of the 12 therapies, patients were most aware of access to nutrition consultation and patient support groups, with these also receiving the most funding. Most of patients didn't know if their institution offered access to any of the other ten therapies. The survey also revealed the difference between patients and oncologists in terms of which therapy

they felt was the most important or impactful. For example, a significantly higher percentage of patients ranked meditation/mindfulness as the most important therapy compared to

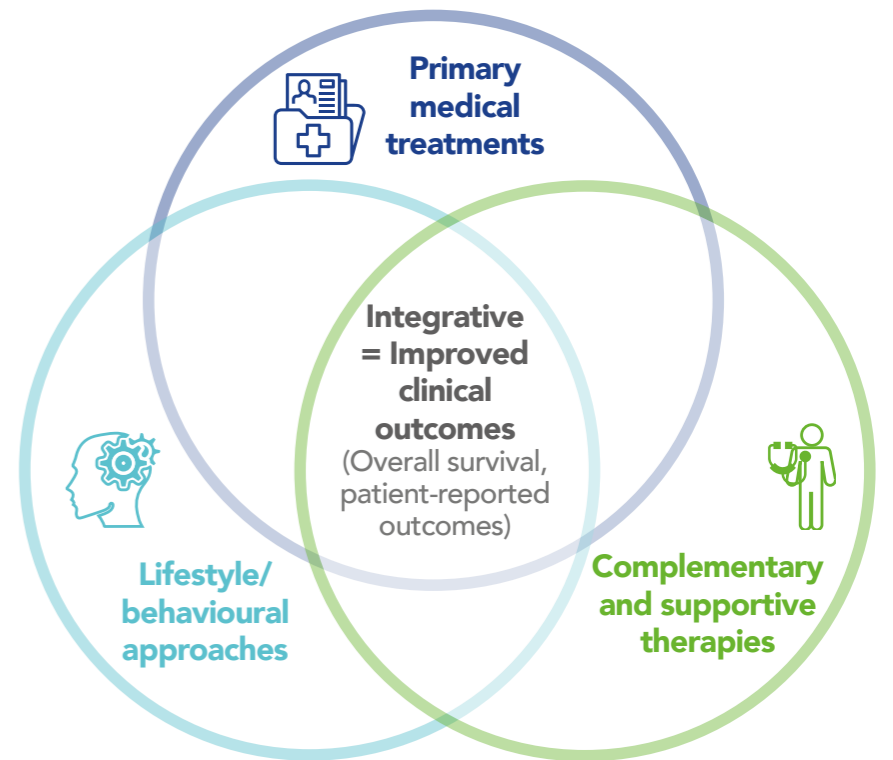
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oncologists. Other differences included half of oncologists believing in the importance of psycho-oncology support while half of patients believed spiritual

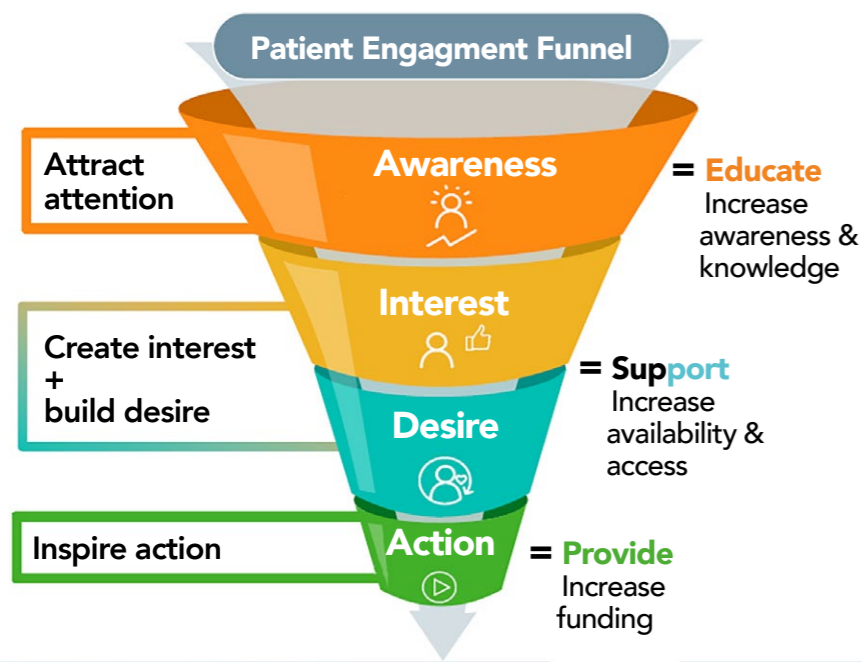
services are important. However, about 40% or more of both oncologists and patients agreed that patient support groups as well as nutrition and exercise consultation were some of the most important therapies. Of significance, over 62% of patients and oncologists believe integrative oncology improves patient quality of life and wellbeing, with 60% of patients believing integrative approaches also improve treatment outcomes.

### INTEGRATIVE ONCOLOGY AND CANCER SURVIVAL

The survival analysis published in the *Journal of Oncology* revealed variation in integrative oncology services between treating institutions. These ranged from fundamental services such as nutrition and psycho-oncology consultation to less frequently used services such as massage or reiki. For all involvement categories except for low-level institutions, awareness of these fundamental services was raised with patients at least 80% of the time. Regarding survival rates, although not statistically significant, patients treated by institutions in the low level of integrative oncology involvement



The components of integrative oncology.



To realise the survival benefits of integrative oncology, institutions should provide assistance at each stage of patient engagement with complementary therapies.

had lower five-year survival rates than those in the higher-level categories. In the multivariate model analysis, patients treated at an institution with a low-mid category of integrative oncology involvement had three-fold higher odds of five-year survival than those treated at a low-level institution and patients treated at a mid-high level institution had 48% higher odds of five-year survival.

Of interest, survival odds of patients at the high level were neutral and the researchers suggest a possible reason could be that patients treated at high-level institutions may have more severe disease and thus sought institutions with integrative oncology approaches. Predictors of higher five-year survival

odds were treatment at a low-mid and mid-high level integrative oncology involvement institution, non-metastatic disease, being between 66 and 76

## There is mounting evidence of the beneficial effects of this holistic approach in terms of patient wellbeing and survival.

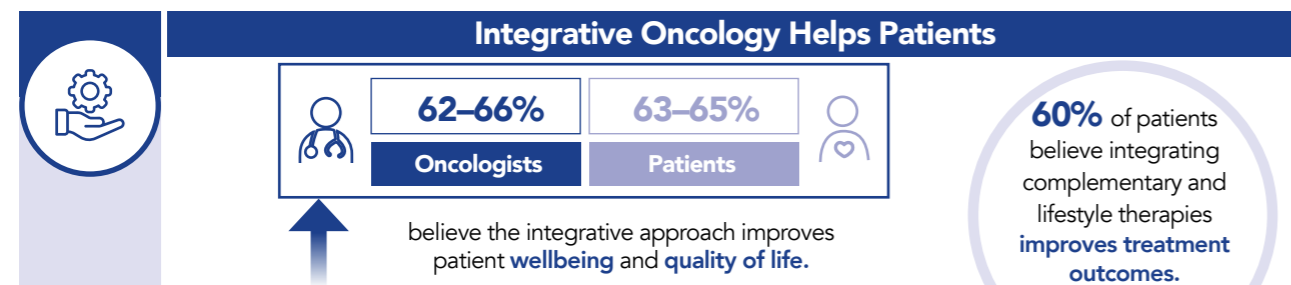
years old at diagnosis, treatment at an academic institution, and possession of a preferred provider organisation (PPO) insurance plan.

### IMPLICATIONS AND RECOMMENDATIONS

Oncologists are pivotal in the awareness and adoption of integrative oncology. Raising awareness of integrative services, oncologist endorsement of them, and making them available at a patient's usual

treatment centre appear crucial for patient uptake. Cost of such therapies can be a barrier to uptake and the researchers highlight the role of charities and foundations in educating and sometimes funding complementary and lifestyle therapies. Of the 12 therapies, exercise and nutrition consultation, patient support groups, chaplain services/spiritual services and psycho-oncology support were the most common. However, the researchers recommend the addition of meditation/mindfulness as a sixth therapy to create a core set of services which address what they describe as the physical, mental, social, and spiritual needs of patients. Such a set also offers choice to patients, empowering them to choose what they think suits them best as they fight cancer for survivorship. Crossing the threshold from low-level involvement to higher levels could be achieved by educating patients about the six proposed therapies and offering free access to at least three of the core recommended therapies at their treatment centre. The establishment of on-site nutritional, exercise and psychological support services may be key in fostering integrative oncology involvement.

The team calls on patients, healthcare professionals, institutions, payers (health insurers) and pharmaceutical companies alike to realise the importance of these therapies. They also advocate for improvements in awareness, access and funding of therapies. There is mounting evidence of the beneficial effects of this holistic approach in terms of patient wellbeing and survival which may be further recognised with increased availability and use of complementary and lifestyle therapies. It is vital to remember, acknowledge, and treat the human aspect of cancer.



Study figures reveal huge support for and faith in integrative oncology, among both patients and oncologists.



# Behind the Research

## Terri Crudup

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### Research Objectives

Terri Crudup explores the vital importance of integrative oncology for those with breast cancer.

### Detail

#### Address

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#### Bio

Terri Crudup is an integrative oncology researcher, author, patient advocate – and two-time breast cancer survivor. She is passionate about increasing patient access to integrative therapies and has been published through ASCO and in the *Journal of Oncology*. Terri has 20 years of experience as a researcher and consultant to pharmaceutical companies.

#### Funding

This study was funded by IQVIA and the Samueli Foundation which each provided

personnel to conduct the survey research and data analytics. IQVIA provided honoraria to survey respondents.

#### Collaborators

Thanks to the team at Samueli Foundation, who provided their counsel and expertise in the research design and analysis – Dr Wayne Jonas, Jennifer Wright Dorr, Doug Cavarocchi, and Dr Alyssa McManamon.

Thank you also to Chris Nickum of IQVIA for supporting and providing the funding for the study, and to Dr Linna Li, a study co-author and radiation oncologist.

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Note: All patient data are de-identified and analyses meet the Healthcare Insurance Portability and Accountability Act (HIPAA) requirements

### References

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### Personal Response

#### Are there plans to extend this research to include other cancer types?

Yes; we are in the design phase for a prospective validation study investigating level of institutional involvement with integrative oncology and patient usage of complementary therapies, as well as how that usage relates to outcomes across several cancer types. The patients we expect to include are those affected by the following: breast, prostate, non-small cell lung, and colorectal cancer, as well as non-Hodgkin lymphoma and multiple myeloma.

