



Establishing an integrative oncology service in the Australian healthcare setting—the Chris O’Brien Lifehouse Hospital experience

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Received: 28 May 2018 / Accepted: 4 September 2018 / Published online: 17 September 2018
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Abstract

Comprehensive cancer centres are on the rise as patients seek a more holistic approach to maintaining their wellbeing when living with a cancer diagnosis. Many cancer centres worldwide now incorporate a selection of evidence-based complementary therapies and qualified therapists into their offerings. The Chris O’Brien Lifehouse, a comprehensive cancer centre in Sydney, Australia, provides integrative oncology services including acupuncture, massage, reflexology, dietetics and exercise physiology for individual patients, along with group programmes, and an integrative and supportive care medical specialist. The purpose of this paper is to reflect on one model of integrative oncology service and approach to integration and team and service development.

Keywords Integrative oncology · Supportive care · Complementary therapy · Holistic care · Integrative medicine

Introduction

Cancer care worldwide is developing at a rapid rate. Treatments are becoming increasingly personalised, survival rates are improving and people are living longer with cancer as a chronic illness. With changes in cancer care, there has been an increased emphasis placed on the importance of excellent supportive cancer care. Patients expect to be treated in a more holistic and personalised manner. Cancer services are increasingly looking at developing strategies to improve the wellbeing of patients from the time of diagnosis, throughout the cancer journey and following cancer therapies in the survivorship space [1, 2]. As a result, many cancer centres both nationally and internationally are developing ‘Integrative Medicine’ or ‘Integrative Oncology (IO)’ services or ‘Wellness Centres’ or offering complementary therapies and exercise programmes

through already-established disciplines within the multidisciplinary team (e.g. psycho-oncology offering meditation) [1, 2]. The provision and integration of complementary therapies into established cancer practice varies significantly between centres nationally and internationally. In Australia, an estimated 65% of cancer patients use at least one form of complementary medicine and over half use complementary medicine (CM) in conjunction with conventional therapy [3, 4]. Cancer patients mostly use CM as an addition to conventional care. Many find CM useful in reducing symptoms and helping them to cope.

In Australia, despite the high CM use by patients with cancer, only 24% ($n = 71$) of 295 cancer centres provide CM therapies [1]. In contrast, most National Institute of Health designated cancer centres in the USA now have an integrative oncology programme [2]. There are many obstacles to establishing an integrative oncology service [5] including concerns over disrupting chemotherapy and other cancer treatments [6], and concerns over safety and efficacy of therapies offered.

Integrating complementary medicine into mainstream cancer care has been shown to improve therapeutic outcomes for patients and relieve symptoms that may not be relieved by conventional treatments [7–9]. Other identified reasons for use of CM by patients include the desire to contribute to improving wellbeing; manage treatment side effects and symptoms of cancer; enhance quality of life and holistic health; support mental health; and promote a sense of control and self-efficacy [10–12].

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This paper describes the IO service at the Chris O’Brien Lifehouse. Sharing lessons from the practical issues that arose in the establishment of an integrative oncology service may offer guidance to others. In understanding how the integrative oncology service was established, we have used an extended version of Donabedian’s structure-process-outcome model to outline the various aspects of service provision [13].

Description of the hospital

The Chris O’Brien Lifehouse (COBLH) in Sydney is a not-for-profit organisation, purpose-built 125-bed comprehensive cancer centre located in the inner western suburbs of Sydney, NSW, Australia and working in close affiliation with the local public hospital, Royal Prince Alfred, caring for cancer patients independent of their private or public healthcare status. The hospital opened its doors to outpatients in November 2013 and inpatients in February 2015. There are ten operating suites and procedure rooms, an intensive care unit, five linear accelerators and a dual-console robotic surgical system. The hospital provides a busy outpatient service and overall services approximately 60,000 patients per year. The hospital also houses a Clinical Trials Unit and a Psycho-oncology Research Unit of the local University, currently running over 160 clinical trials. The IO service was one of the first departments to open in the hospital. The vision of COBLH is to ‘Transform cancer treatment for Australian cancer patients through an environment thriving on discovery, research and uncompromising care.’

Philosophy

Vision and origin of the hospital and the integrative oncology service

Lifehouse emerged as a vision of Professor Chris O’Brien, an Australian head and neck surgeon, oncologist and the director of the Sydney Cancer Centre at the Royal Prince Alfred Hospital in Sydney. In 2006, he was diagnosed with an aggressive brain tumour (glioblastoma multiforme). His experience gave him an insight into what it was like to be a cancer patient. He himself used CM during his treatment and credited them with reducing his pain and improving his functioning. During his journey, he experienced the challenges of going across ‘town’ from one treatment or therapist to another. Professor O’Brien’s vision was an integrated cancer treatment centre, where patients would not have to navigate their way through all the different elements of dealing with their illness alone. Part of this vision was to provide IO services in a dedicated, on-site centre. Professor O’Brien died in 2009 but left the Lifehouse in a secure, formative stage.

The overarching aim of the IO service is to integrate and research a broad range of CM therapies as well as exercise

therapies that are patient centred, individualised, safe and evidence-based. This is in keeping with similar services provided in international comprehensive cancer centres [14, 15]. The vision was that the IO service be part of the Lifehouse organisation’s corporate philosophy and fully integrated into the hospital’s operations.

Structure

To guide the establishment of the IO service, a Steering Committee was formed. Stakeholder representatives on the Committee included clinicians, national experts in the field of integrative healthcare, consumers and members from the Lifehouse Board and the Hospital. We sought advice from key research institutions, built relationships with global integrative medicine centres to inform our model, and consumers, patients and family. This process informed the design of the IO service and the modalities selected. Advice was also sought on legal and ethical issues relevant to integrative healthcare within a hospital setting. Literature on the establishment of integrative oncology services was sparse and, within an Australian context, almost non-existent.

The Lifehouse Living Room is the home of Supportive Cancer Care and Integrative Oncology. It is a purpose-built area located on the ground floor of the hospital where complementary therapies, exercise programmes, integrative medical consultations and treatments occur within a calm and comfortable environment. The Living Room has eight treatment rooms, a group therapy room, a gym, a medical consultation room, psycho-oncology consultation rooms, a wig library and is placed alongside the ‘Lounge Room’. The ‘Lounge Room’ is a relaxation area for patients and carers, which is clinician and practitioner free with a kitchen, bean bags, computers and quiet spaces. Complementary therapy treatments take place not only in the Living Room but also in the chemotherapy chairs in the Day Therapy suite, in the radiation department and at the patient’s bedside for inpatients.

Service model and governance

The IO service commenced with the intention of being wholly integrated in the hospital structure.

In 2015, a physician with a background in palliative and supportive care, experience in cancer care and interest in integrative oncology and whole person care commenced part-time. An aim of the position was to identify the holistic supportive care needs of patients and offer advice and support on CM choices and to improve the integration of the service into the wider hospital. The addition of the physician in the third year of the IO service was significant. The supportive care physician (SCP) has acted as a ‘door opener’ to other conventional physicians and nursing staff, a position highlighted in

other studies of IO centres [16, 17]. The SCP is part of both the integrative oncology and medical oncology teams as well as head of the Supportive Care Service, enhancing the formal and informal integration of the service. This model is similar to other major cancer services such as MD Anderson and Memorial Sloan Kettering Cancer Care (MSKCC) in the USA.

The IO service is directed by the SCP reporting directly to the chief medical officer and chief executive officer (CEO) and working closely with the service manager and the team. Governance of CM therapists is through contractual arrangements covering the scope of practice and mandatory requirements of operating within the hospital environment.

Selection of therapies

Therapies on offer are selected based on known safety and efficacy. Therapies fall into one of these four groups: A, Safe and helpful; B, Safe but not sure if helpful or not; C, Useful but with possible risk (e.g. some botanicals); and D, Harmful and no benefit established from research. Lifehouse, like most IO centres, focus on group A. These are therapies that have shown a good safety record and evidence of helpfulness and benefit to patients. If there is a lack of quality evidence on effectiveness, no known side effects or risks and low opportunity costs, the therapy could still be integrated [18]. The services available to both inpatients and outpatients are shown in Table 1. Each has a growing body of evidence to support their use in a cancer setting.

Co-located with the IO service are psycho-oncology and Arterie. Arterie is an innovative inter-disciplinary model of art in healthcare practice, delivering four bespoke modes of engagement: mobile art studio delivered in treatment and waiting spaces; artist in residence programme; workshops; and lectures. The hospital also has music therapists and a spiritual care coordinator.

Unlike some IO services, the exercise physiologist, lymphoedema therapist and outpatient physiotherapy are an

integral part of the supportive care and integrative oncology service. The exercise-based services are a core element of the IO service offering. Exercise oncology literature has dramatically grown over the last three decades and has established the efficacy of exercise in this area [19]. A continued focus on translational research is now necessary to implement these services as standard of care [20]. Whilst not traditionally seen as part of a complementary therapies programme, these services are often an initial touch point to the IO programme for patients with the exercise physiologist taking on the role of integrative oncology service manager for some years. As a result, research programmes have included holistic medical, exercise assessment and nutritional assessments in combination with CM as standard of holistic care offerings.

Referral to service

Although patients may self-refer, those with complex needs are encouraged to undergo initial holistic medical assessment by the SCP. Following this assessment, a multidisciplinary care plan is formulated. Most referring doctors refer to the service via an initial referral to the supportive care specialist (see Fig. 1). Importantly, referral to the service may facilitate a dialogue between referring specialists and patients over their supportive care needs, their current CM use and developing holistic strategies including conventional medicine, evidence-based CM, nutrition and exercise to address their symptoms, wellbeing and looking-toward-future strategies to keep them living well with their cancer diagnosis.

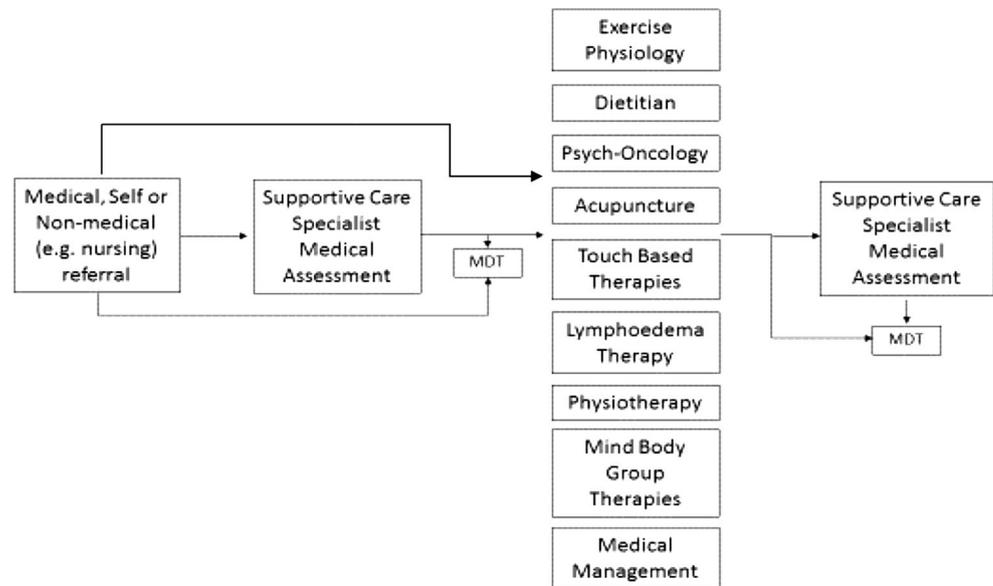
Patients, family, carers, and staff from outside the hospital may also self-refer to any of these services or be referred by their treating specialist or be referred via the supportive care medical specialist.

Treatment plans for patients may be developed based on the patient preference for a particular therapy, the evidence for that therapy given the patient's presentation and the clinician's experience. Indications for different therapies are also derived from available guidelines [9, 21–23] and research. The IO

Table 1 Lifehouse Living Room services

Individual services	Group-based services	Associated services
Holistic medical consultation by SCP	Mindfulness meditation	Psycho-oncology
Acupuncture	Yoga	Art programme (Arterie)
Oncology massage therapy	Qi Gong	Music therapy
Reflexology	Exercise classes	Spiritual care
Exercise physiology	Survivorship exercise, education and nutrition programme	Social work
Physiotherapy	Rehabilitation and prehabilitation programmes	Dietitian
Lymphoedema therapy		
1 on 1 yoga therapy		
1 on 1 meditation sessions		
Telehealth programmes for rural and remote patients		

Fig. 1 Process of care. MDT, multidisciplinary team meeting



team holds monthly journal club meetings where latest evidence is presented and reviewed. Contraindications for particular therapies are guided by guidelines, where available [24].

Selection of the practitioners/therapists

Obstacles to an IO service development have historically included ethical and legal issues such as regulations and credentialing [6, 25]. Lifehouse has sought to select therapists who are highly qualified and experienced in their field of practice. All selected therapists teach in their field of expertise and have experience working with cancer patients. The group class facilitators have all worked with patients at all stages of their cancer treatment and recovery. Accreditation and registration with the Australian Health Practitioner Regulation Authority (AHPRA), where appropriate, and professional associations is a mandatory requirement to practice at the Lifehouse. Scope of practice for therapists is tightly defined and therapists are required to sign off on this at the start of their contracts. The credentialing process undertaken for each practitioner covers qualifications, expertise, vaccinations and police checks. Practitioners are also required to complete modules on privacy, hand hygiene and other standard hospital training.

Integration: communication and building the team

There were two parallel aspects of integration that have needed to occur when establishing the multidisciplinary complementary therapies team in the hospital setting.

Firstly, the team needed not only to understand the strengths and weaknesses of each modality in supporting a cancer patient, but also to understand the complexities of the patient, their disease, the disease-modifying treatments being

received and emerging potential toxicities associated. This process has been enhanced by the introduction of weekly multidisciplinary meetings of the IO team, bimonthly journal club and research meetings to encourage a culture of research and self-reflection. The team multidisciplinary team (MDT) meetings provide space for structured communication, discussion of patients' medical concerns and team building and reinforce the importance of what each therapist brings to patient care. Opportunities are provided for each team member to offer up the potential for their modality to support different patient cases or to provide insights into research on their modality. At the structured weekly IO meetings, new and/or complex patient cases are introduced and treatments discussed. The meetings enhance integration, monitor patient progress and identify risks and complexities. What happens before and after meetings also helps to build connection and relationships. These relationships between the team underpin the supportive care offered to our patients.

Secondly, the team of CM therapists and their therapies needed to be integrated into a western medicine model of care. A paradigm shift was required by hospital staff to embrace a more holistic approach to patient wellbeing. This 'merging of two cultures' cannot be rushed, but nor will it just 'happen', rather thoughtful facilitation is most helpful [17]. Shifting the focus from CM therapies as being 'separate' or 'outside' of usual care to being an integral component of standard care has also aided integration. The supportive care physician attends senior administrative and hospital-wide MDT meetings advising and supporting other members of the cancer team on therapies, which might help for certain symptoms or difficult patients. The IO team often presents at hospital journal clubs. In-service education for nursing staff is also conducted and draws attention to the evidence and utility of the therapies offered.

Shared electronic medical records have been vital to the integration of the service. All medical consultations are recorded in shared electronic records. Letters dictated to attending specialists are distributed widely, summarising the consultations and therapies recommended and received. All therapists are required to maintain notes in the shared electronic management record (EMR). The documentation of encounters for all therapies includes the patient-completed outcome measures: Measure Yourself Concerns and Wellness (MYCAW) questions, the Edmonton Symptom Assessment Score (ESAS), a patient history or update and details of the treatment given. For specific modalities, clinicians document typically using a SOAP (subjective, objective, assessment, plan) format or notes covering a systems review. Working within a hospital EMR, we have modified the system to include data entry for the ESAS and free text for clinician data.

Therapists have access to all specialist consultations notes, imaging studies and pathology results to ensure that the treatments planned are appropriate and safe. This integrates care within the team and across the hospital. All practitioners in the service use patient-reported outcome measures (PROMs) and these are recorded in the EMR. The incorporation of PROMs in the electronic medical record is being considered for introduction as a hospital-wide initiative.

Financial viability

One of the greatest challenges to the development and sustainability of an IO service is financial viability. A decision to create a sustainable financial model early on by the hospital executive has led to a mixed model. Therapists operate on a fee-for-service basis with the exception of the physician, allied health staff, the exercise physiologist and the dietitian. The hospital supports a limited number of hours per week for therapies to be provided to those in distress, particularly on the wards and in day therapy or allocated to those who have financial constraints. Research funding, hardship funds and donations support access to those in need of therapies, to improve equity of access for patients. Exercise, physiotherapy, dietetics, medical and psycho-oncology services receive rebates from the national public medical system (Medicare), and many health funds partially rebate most CM therapies for those insured.

Future research will investigate the indirect financial benefits of operating an IO service within the hospital. Cost savings in other studies have been found to include shorter stays, less use of medication, improved patient health outcomes (less pain, nausea and anxiety), better compliance with cancer treatments and importantly, higher patient satisfaction and a marketing edge for the hospital [26, 27]. This may influence funding models in the future of the service.

Growth of the service

Between January 2015 and April 2017, a total of 1506 new patients attended the Living Room. The majority of patients were female (66%), with patients aged between 51 and 70 years (51%) with a mean average age of 57.5 years. Presenting patients had a diagnosis of breast cancer (26%), head and neck cancer (8%), gynaecological cancer (8%) and colorectal cancer (5%). The majority of patients (68%) live within a 10-km radius of the hospital. This population is continuing to change over time with increasing numbers of patients with lung, haematological and upper GIT cancers and sarcoma using the service with changes to cancer therapies and growth of the hospital services being offered.

Occasions of service have continued to increase over time with a 200% increase over the past 18 months and a median of 600 occasions of service per month. The changing perception of CM as part of ‘supportive care’ services has resulted in a significant growth of referrals. Figure 2 shows that the most frequently used service was exercise physiology, followed by acupuncture and massage therapy. This also reflects the availability of these services, and overall, most individual CM service providers are currently working over 80% capacity and medical and exercise physiologist (EP) at capacity with waiting lists resulting in increase of staffing in recent months. The number of visits per patient ranged between 1 and 144 and the median was 2 visits. The majority of patients (60%) visited more than once and used one service only (65%).

Outcomes

Research

Multidisciplinary research by the service is conducted in collaboration with local universities, allied health providers and oncologists. This further enhances integration, increases patient referrals and improves access to services the IO team provide.

Research priorities for CM in cancer in Australia include examining the effects of selected and holistic multimodal integrative approaches on quality of life, symptom management, patient self-efficacy as well as the safety and efficacy of selected herbal medicines and supplements commonly recommended to cancer patients [28]. Current research funding is supporting studies of selected programmes provided by the service for patients, and the identification of unmet supportive care needs. The identification of ‘effectiveness gaps’ where there is unmet supportive care needs is key to the research programmes established now and in the future. CM, exercise and holistic medical interventions are believed to potentially play an increasingly important role in the management of commonly reported symptoms related to cancer and cancer treatment and survivorship such as fatigue,

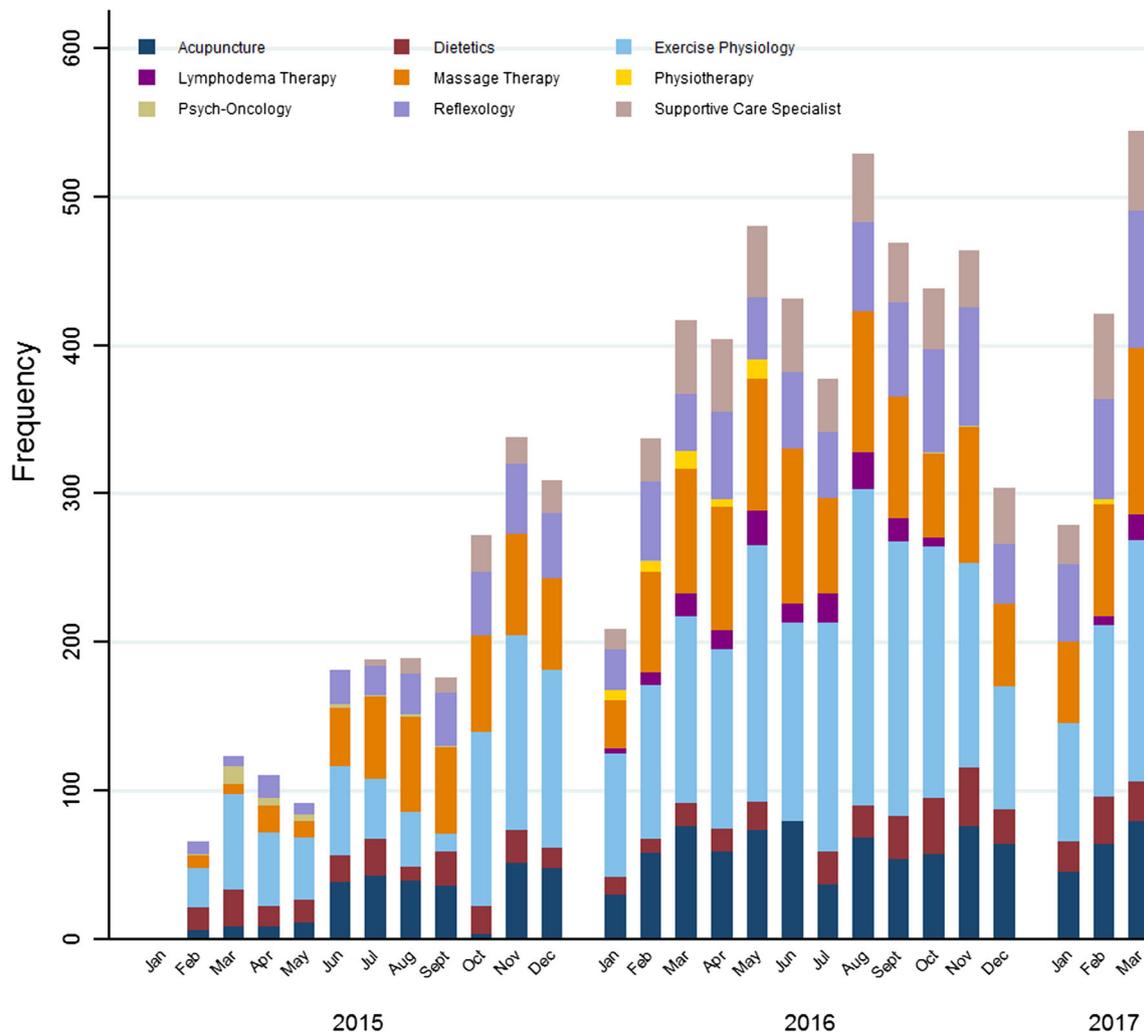


Fig. 2 Occasions of service by therapy provided. Occasion of service refers to a one-on-one visit with one of the IO service practitioners

nausea, insomnia, anxiety, cognitive impairment and neuropathy [29].

With the service model being established and capacity-building strategies in place, research will be the focus for the coming years. A 3-year strategic research plan has been established with a strong focus on patient-reported outcome measures (PROMs) and intervention studies. The model and framework within which the IO service operates will continue to undergo evaluation. The routine collection of longitudinal observational data, including patient-reported outcomes and symptom monitoring, will help provide diverse information about a range of holistic health outcomes [30–32]. An economic evaluation will also be considered with the aim to consider the patient's perception of whether the benefits of care reflect its cost and to measure the wider holistic benefits [33, 34].

Outcome measures commonly used in IO services elsewhere in the world (such as Israel, the UK and the USA) are being collected by our IO service and integrated into electronic medical records [35]. These include the Edmonton Symptom Assessment Score (ESAS), Measure Yourself

Concerns and Wellness (MYCAW) and QOL measures, which have been used in research projects. Patient empowerment tools such as the Patient Activation Measure (PAM) [36] and other self-efficacy measures may also be relevant in determining the impact of CM in cancer care. Written patient feedback is frequently sought throughout the hospital including in our IO service. To date, we have not analysed the data specific to our service.

Collaborative research plans are ongoing to benchmark services and outcomes alongside established IO centres around Australia and worldwide. Presentation of our research nationally, internationally and in peer-reviewed journals is taking place [11, 18, 37, 38].

Marketing, social media and local champions

The strategies we have undertaken at Lifehouse have led to a steady increase in the number of referrals. Initiatives to improve integration include the provision of some free services,

short clinics, education, open days, presence at tumour-specific MDTs and on the wards and key involvement in staff wellness programmes.

Local champions such as the patient advocate, nursing unit managers, psycho-oncology team members, social workers, and care volunteers are helpful to identify patients who benefit from a treatment due to the complexity of their disease or situation.

Popular programmes the IO team provide include a short morning clinic of free reflexology in the radiotherapy treatment area and the establishment of a free reflexology and acupuncture clinic to patients whilst receiving chemotherapy. This brings awareness to patients and nursing staff of the availability and potential benefit of these therapies.

Facilitators and barriers

The IO service was always an envisioned part of the hospital. The physical structure and infrastructure was in place from day one. Despite this, the IO service had to become part of the flow of clinical care if it was to be of most help to patients. Whilst attitudes of clinical staff to CM at our hospital have not been evaluated, it is likely they reflect those found in other studies, ranging from a lack of knowledge of CM to scepticism to passive acceptance to full realisation of value [39, 40]. Common in many of these studies is that healthcare professionals express a desire for more knowledge and education about CM [11]. Barriers to the integration of CM into supportive cancer care reflect this discrepancy. In summary, barriers have included the following:

- Low complementary medicine literacy in the hospital, resulting in a lack of knowledge of what services might be best for which patient and what symptom
- Poor understanding of value of IO services, reluctance to refer particularly to a fee for service therapy
- Referral process unclear to clinicians and IO service not fully integrated into clinical care or supportive care processes
- Cost of IO services. Despite offering the IO service at below market rate, and capacity to provide free services to certain patient groups, there is still a perception by some nurses and patients that the cost may not be too high

In addressing barriers, the following initiatives have helped:

- Improving CM literacy through staff in-service, journal club, presentations and other opportunities to articulate value
- Providing free CM services to select patient groups using philanthropy and other means

- Seeking opportunities to integrate CM service into clinical processes, such as during chemotherapy or establishing a referral mechanism for inpatients
- Seek to educate hospital staff through experiential learning
- Conduct research, involve other hospital staff and share this with hospital staff and management.

Conclusion

The challenges experienced in setting up the Chris O'Brien Lifecare supportive care and IO service are similar to those experienced by other IO services [30, 41]. Whilst the service is structurally integrated within the wider hospital, the strategic incorporation of the medical specialist and IO service as part of the supportive care services of the hospital has led to improved acceptance by specialists and nursing staff. There continues to be a slow cultural shift toward understanding the benefits of CM for patients by oncologists, nurses, surgeons and other staff. The multidisciplinary integrative and supportive care weekly meetings are key to creating a strong, cohesive team. Education, multidisciplinary research and provision of in-services provide hospital staff and specialists insight into evidence, safety and patient benefits. The IO service at the Chris O'Brien Lifecare is, to our knowledge, the most comprehensive centre on offer in Australia. The service provides an example of health service delivery which seeks to meet the high use and demand by cancer patients for CM in a safe, evidence-based manner.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflicts of interest.

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