Taylor & Francis
Taylor & Francis Group

Arts & Health

An International Journal for Research, Policy and Practice

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rahe20

Live music in hospital oncology settings: environmental, interpersonal, and personal outcomes for staff, patients, and carers

Kristy Apps & Naomi Sunderland

To cite this article: Kristy Apps & Naomi Sunderland (2021): Live music in hospital oncology settings: environmental, interpersonal, and personal outcomes for staff, patients, and carers, Arts & Health, DOI: 10.1080/17533015.2021.1946110

To link to this article: https://doi.org/10.1080/17533015.2021.1946110

ARTS & HEALTH
https://doi.org/10.1080/17533015.2021.1946110

Taylor & Francis
Taylor & Francis Group

Live music in hospital oncology settings: environmental, interpersonal, and personal outcomes for staff, patients, and carers

Kristy Apps[a] and Naomi Sunderland[b]

[a]B Social Work (Honours), Accredited Social Worker AASW, Griffith University, Meadowbrook, Australia; [b]Griffith University, Meadowbrook, Australia

ABSTRACT

Background: This paper explores the environmental, interpersonal, and personal outcomes of music performance in a hospital oncology setting. An original, qualitative research study examined the impact of live music for staff, patients, and carers.

Methods: Data were collected using a multi-method approach of observations and semi-structured interviews and were analysed using inductive and theory-driven theming that was shaped by a determinants of health framework.

Results: The research found that live music promoted stronger relationships and calmer environments, among other environmental, social and individual outcomes. Improved communication between staff through the creation of a more supportive environment was a pertinent finding of the research. No negative effects were reported.

Conclusions: We discuss research findings in the context of relevant literature and suggest recommendations for future hospital-based live music programs. Results of this study indicate that live music interventions impacted individual, interpersonal, social and environment factors that led to health and wellbeing outcomes for participants.

ARTICLE HISTORY
Received 22 December 2020
Accepted 14 June 2021

KEYWORDS
Live music; community music; oncology; oncology hospital staff; oncology patients; carers

The purpose of this paper is to explore outcomes of an oncology live music performance programs in one Australian hospital. The link between music, health and well-being is a growing area of inquiry in health contexts worldwide. Researchers and health practitioners increasingly recognise the ways that health, disease, and associated treatments can interact with the "whole" person, including physical, emotional, mental, and spiritual wellbeing components (Harrop-Allin et al., 2017). Likewise, researchers and health practitioners are examining new ways of supporting holistic health and wellbeing for patients, carers, and staff involved with serious illness such as cancer.

Existing research indicates that cancer oncology wards in hospital can be perceived as places of death, dying, danger, shame, and stigma (Browall et al., 2013; Edvardsson et al., 2006; Høybye, 2013). Factors such as the busyness and sound of the environment, uncertainty of prognoses, death, trauma, and the nature of cancer treatments can

CONTACT Kristy Apps kristyapps@gmail.com

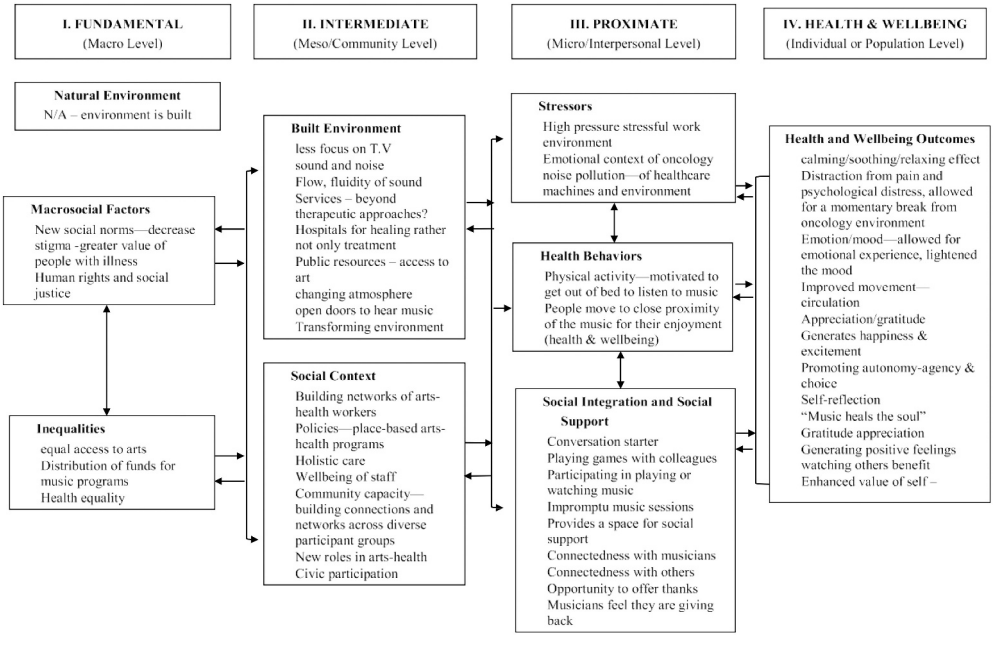

Figure1. SDOH framework for live performance in an oncology setting. Adapted from "Social Determinants of Health: Implications for Environmental Health Promotion," by (Schulz & Northridge, 2004). Copyright 2004 by SAGE.

contribute to making the oncology environment a stressful environment (Partlak Günüşen et al., 2019). Hence, patient, carers and staff can experience compounded cancer related distress as a result of the oncology ward environment. (Partlak Günüşen et al., 2019). This is significant because cancer patients' risk of psychological distress is almost twice that of the general population. Patients report that fear, anxiety, and worry are common experiences during diagnosis and treatment (Chatterton et al., 2016; Manana et al., 2015; Nightingale et al., 2013). Other impacts of cancer include reduced quality of life, premature death, and social isolation (Edvardsson et al., 2006; Lyle et al., 2017). Loss of productivity and employment, and out of pocket medical costs often result in economic hardship and loss of identity and purpose (Edvardsson et al., 2006; Lyle et al., 2017).

Family and caregivers of cancer patients may also experience high rates of anxiety and depression (Lai et al., 2012). Studies have shown that family members can experience levels of psychological distress that can exceed that of a loved one living with the disease (Chatterton et al., 2016). Caregiver stress can lead to adverse physical health outcomes for family members, who may put their own health and wellbeing needs last (Lai et al., 2012). In recent years, the role of family members has shifted from that of bystander to membership in the healthcare team. Family members hence often take on responsibilities of appointment scheduling, sourcing accommodation, symptom management, treatment monitoring, and emotional support (Rha et al., 2015).

Alongside cancer patients and carers, Hospital oncology staff report higher stress levels than staff in other departments, chronic compounded grief, secondary trauma, burnout, and compassion fatigue (Ko & Kiser-Larson, 2016; Naholi et al., 2015;

O'Callaghan & Magill, 2009; Partlak Günüşen et al., 2019; Ploukou & Panagopoulou, 2018). Stressful environments and work pressures can lead to increasing burnout for hospital staff. Oncology nursing is a highly skilled and complex speciality area that requires a breadth of medical knowledge and emotional resilience. Patients' safety and care depends on hospitals retaining experienced oncology nurses; valuing nurses by providing interventions that nurture and support them has the potential to improve staff retention and their well-being (Ko & Kiser-Larson, 2016). Given the level of stressors that patients, families, and staff experience, promoting supportive healing and working environments should be a priority within health-care contexts (Ansdell & DeNora, 2012; Swijghuisen Reigersberg, 2017).

Background

Existing research indicates that artworks depicting landscapes, and pleasurable sounds in the form of music or soundscapes can assist in bringing about positive mood and experiences in oncology wards (Edvardsson et al., 2006; Huisman et al., 2012). Researchers have found that music, in particular, can offer patients connection to positive memories, and illicit feelings of hope (Batt-Rawden & Tellnes, 2011; Edvardsson et al., 2006). Iyendo (2016) describes music intervention in healthcare as having a "positive effect on patients" emotions and recuperating processes'. He explains further that "hospital spaces have the potential to reduce anxiety and stress, and make patients feel comfortable and secure" (p. 82). Additional research suggests that music reduces anxiety by suppressing the sympathetic nervous system and amygdala mediation reduces pain and enhances mood (Bradt et al, 2015). Cognitively, music provides a distraction from the reality of illness and can elicit a calming, soothing effect (Bradt et al, 2015).

Hence, music has demonstrated health-promoting benefits in oncology settings. Yet, relatively little research has explored the health and well-being effects of live music performance across a participant group that includes patients, families, and hospital staff. Live music performance is often facilitated by community arts organisations that are equipped to provide arts activities in health (Arts Health Network Queensland, 2018). Preliminary studies in healthcare suggest that live music performance can offer unique benefits, such as humanising hospital environments through personal connection and social interactions (Harrop-Allin et al., 2017; Toccafondi et al., 2017). Musicians' ability to read audiences and adjust their performances according to positive and negative affect of the listener are another example of the ways musicians can respond to, and thus humanise, the environments where they perform (Harrop-Allin et al., 2017; Toccafondi et al., 2017). Reflexive practices are highly valued in dynamic healthcare settings, highlighting the unique benefits of live music in particular (Harrop-Allin et al., 2017; Morley & Macfarlane, 2014; Moss et al., 2007).

Conceptual framework

While many arts–health studies have investigated music as a tool to influence individual experiences such as anxiety, depression, and pain (Harrop-Allin et al., 2017), this study used a social and environmental determinants of health and well-being framing to highlight the interplay between personal, interpersonal, and group or community level social

processes, and the built environment. Extending on existing arts–health scholarship (Harrison, 2013; Sunderland et al., 2015, 2018), we selected Schulz and Northridge (2004) Social and Environmental Determinants of Health (SDOH) framework to map and understand the health promoting role of live music in oncology. That framework specifies a continuum of SDOH, including individual factors such as hope and mental health. Micro-interpersonal factors include environmental stressors, health behaviours, and social integration and support (Schulz & Northridge, 2004). Next, at the meso-community level, factors relate to the built environment, such as the impact of space and the practices within it, and to social contexts, such as what programs are delivered, what approaches to care are used, and what policy and capacity building is in place. Finally, the macro-fundamental factors include the macrosocial (e.g. human rights and social justice, changing social norms, social and cultural institutions) and issues of inequality (e.g. access to arts and activities, distribution of funds and health inequalities). Table 1 shows how all results of this study were mapped in Schulz and Northridge's (2004) SDOH model.

We further conceptualised live music performance as a place-based health initiative. Place-based health initiatives are collaborations between governments, healthcare professionals, and communities to meet community needs (Ehrlich & Kendall, 2015; Howell et al., 2016; Rushton, 2014; Sunderland et al., 2012). Hospital-based interventions that use place-based collaborative approaches are shown to provide benefits to diverse populations (Ehrlich & Kendall, 2015; Howell et al., 2016; Sunderland et al., 2012). The "place" of this study was a government run and owned hospital in a major urban city in Australia. We hence conceptualised the hospital as a place-based community and health promoting initiative which experienced shared narratives and daily experiences (Murray & Lamont, 2012).

Research approach and methodology

This study employed a qualitative multi-method research design (Creswell, 2014; Roller & Lavrakas, 2017). The qualitative multi-method design was appropriate given the need to explore relatively unknown phenomena surrounding live music performance in hospital oncology settings (Carey, 2009).

The focus of the study was *The Stairwell Project* (The Stairwell Project Community, 2020), a place-based health initiative that brings live music to people in a hospital-based cancer-care community. *The Stairwell Project* is a collaboration between arts facilitators, professional/community musicians, and hospital executives and staff. Musicians perform for patients, families, and hospital staff in multiple locations of the oncology departments at the Royal Brisbane Women's Hospital (RBWH) in Brisbane. At the time of study, *The Stairwell Project* was running implemented one day per week, in five locations in the hospital consecutively. Primarily musicians had studies at a tertiary music institution however, this was not a requirement of the project. Musicians were chosen by their interest in community performance and the appropriateness of their musical repertoire. This was decided in a collaborative process between musicians and director of the Stairwell Project and key stakeholders within the hospital. All musician undertook a mandatory induction from key stakeholders prior to being added to the playing schedule. Primary instruments used in the project were the harp, flute, guitar, piano accordion, keyboards, and hand pan. Most musicians performed solo or in duo format. Collaborations with patients and families also occurred in moments of spontaneous sing-

alongs, requests for songs, or community participation. Musicians were located in positions where participants had autonomy in their decision to engage to mitigate risks of music induced harm. For example, Musicians were located in waiting areas outside of the reception area as to not interrupt those wanting to read or watch T.V. Nurses attended to any requests for patients who asked for their doors to be closed and communicate with musicians if any changes to their performances were required when situated on the ward. Musicians had opportunity to debrief with each other and with the director of the project after each session to discuss any potential risks. Open communication between hospital executives, staff, program director and musicians assisted in identifying and mitigating potential risks.

Sites of research

The research was conducted at the RBWH in Herston, a central, inner-city suburb of Brisbane, Australia. The hospital provides care to diverse communities within Queensland. Observations took place in the five areas in the hospital where musicians played; four areas were specific to oncology, and the other was the hospital entrance/foyer. Locations included 2Hospital Wards, a Patient Lounge; Outpatient Waiting Area: Walkway to Oncology unit; and the Hospital Foyer.

Research participants

The aim of the research was to explore the health and well-being impacts of live music across diverse participant groups within an oncology hospital community, including hospital staff, patients' families, and musicians. The research included participant observations of people who were in the vicinity of the live music performances within the Oncology Department at the RBWH, and interviews with both musicians who performed and oncology staff. Cancer patients and their family members were not formally interviewed due to multiple factors. Firstly, in-depth interviews with staff and musicians provided an insider perspective the phenomenon and its observed impacts on patients and families. Secondly, researcher 1 used unobtrusive casual conversations during researcher observations, to provide opportunity for patient and family narratives to be captured. Further to this, considering time limitations associated with the projects, ethics approval for this level of inquiry exceeded deadlines. Finally, interviewing patients was determined to be outside of the scope of this study due to the exploratory nature of the study.

Recruitment and selection

Eight participant observations were conducted near where the musicians were playing, over a 12-week period. Observation dates and spaces were negotiated between the first author and the Musical Director of the Stairwell Project in order to capture a range of performances and performance spaces.

The first author recruited staff and musicians for in-depth interviews by collaborating with the Nurse Unit Manager (NUM) and the Stairwell Project Director. The NUM organised staff invitations and scheduling to ensure limited disruption for the ward roster. Criteria for hospital staff was that they had exposure to the music performances and

agreed to be interviewed. The Stairwell Project Director invited and scheduled musician interviews, and inclusion criteria for this group were that they had over six months of experience in the project. After consulting with the NUM and Stairwell Project Director, eight key informants were identified and available for interview.

Data collection

Data collection included participant observations and in-depth interviews.

Participant observations

The purpose of participant observations was to gather independent observations on how all participants reacted to live music performance (Jorgensen, 1989). Author 1 attended eight musical performances over 12 weeks and completed a semi-structured observation template, recording notes and reflections in a field diary. Observations occurred on three occasions in the Walkway to Oncology Units and Outpatient Waiting Area, on two occasions in the Patient Lounge, and once in the Hospital Foyer. Questions on the observation template included: *Who is in the area? Do people stop, walk slower, or sit down when they hear the music? Are people expressing any emotion?* In addition to recording observations of others' reactions to the music, Author 1 took note of any casual conversations they had with other participants in the space. Author 1 also recorded personal reflections on the experience as an informed arts-health participant (musician and social worker) that were later checked with other participants as part of a feedback loop. Observations lasted between one and two hours.

In depth interviews

Author 1 conducted eight in-depth interviews with key informants including three hospital staff, three professional musicians, the NUM, and the Musical Director of the Stairwell Project. The purpose of the interviews was to gain insight into participants' ideas, thoughts, and feelings about the live music (Malagon-Maldonado, 2016). Interviewees were asked to share their impressions of the impact of music performances for staff, musicians, patients, and family members. Interview questions included; *What are the self-reported and observed individual health and well-being outcomes? What are the self-reported and observed collective health and well-being outcomes? How do health and well-being outcomes compare between participant groups e.g. between staff, patients and family members? Tell me if and how the music program has impacted your work environment? Have you noticed any changes to the hospital environment when the music is playing?* The interviews enabled participants to entertain and share different vantage points and perspectives on the effects of music performances to contrast with researcher participant observations (Malcolm, 2009). Interviews were audio recorded (with participant permission) and transcribed verbatim for analysis.

Data analysis

Data analysis included inductive data driven and deductive theory driven coding supported by NVIVO 12™ software. The analysis was conducted in two waves to ensure an accurate and respectful interpretation of participant data and experience. The first was an

inductive "bottom-up" thematic coding, and the second was a theory-driven deductive thematic coding using Schulz and Northridge's SDOH framework. The purpose of this wave of analysis was to privilege and respect participants' lived experiences by coding according to "ground up" themes. The inductive analysis was used to identify, summarise and make meaning of generated themes in the data (Clarke & Braun, 2017). Themes were identified based on frequency – i.e. repetition across data – and intensity i.e. themes that were particularly intense or salient in one or more data sources (Clarke & Braun, 2017). Major themes that emerged during this wave of analysis included: calming, soothing, and relaxing; gratitude and appreciation; emotion; distraction; accessibility, agency, choice, autonomy; value of self; physical activity; social integration and support; and built environment.

The theory-driven deductive analysis used Schulz and Northridge (2004) SDOH framework. Following Sunderland et al. (2015), we conducted a second wave of analysis to theme data according to the existing levels of Schulz and Northridge's SDOH continuum, including: individual health and well-being; micro-interpersonal – including stressors, health behaviours, and social integration and support; meso-community – including built environment and social context; and macro -social factors – including rights and inequalities. The purpose of that theming was to discern the degree to which participant experiences aligned – or not – with the SDOH continuum and categories. This was done to determine the degree of "fit" for the SDOH model for hospital oncology settings and ensure researchers were identifying a range of themes relevant to holistic and place oriented health and wellbeing approaches.

At the conclusion of the second wave of analysis, Author 1 and 2 discussed the outcomes of both waves and checked if themes could be logically combined within the SDOH framework. Author 1 then allocated all of the inductive codes developed during the first wave of analysis to discrete levels of the SDOH framework as reflected in Table 1.

Trustworthiness and rigour

Several methods were used to ensure trustworthiness and rigour in the research. First, during participant observations, Author 1 acted as an independent observer to experience the music and environment alongside self-report data from patients, carers, and staff. The research team did not have any prior relationships with or ties to the music program or hospital ward involved in the study outside those required to plan and approve data collection. Participant observations provided an informed outsider's perspective in the data alongside that of staff, musicians, and carers. Author 1's background as a musician and social worker were seen to be subjective assets that would sensitise and inform observations. Second, observations were conducted across a diversity of locations in the hospital and on differing days and times of performance hence ensuring maximum variation in audiences attending, and settings for, performances. Third, following each observation session, Author 1 conducted a participant feedback loop to discuss observations with participating musicians, staff, or the NUM to ensure accuracy of events and interpretation (Jorgensen, 1989). Any additional data collected during that feedback was added to the NVIVO project for analysis. Fourth, the research team consulted with a range of hospital and music program staff and volunteers to recruit volunteers for interview. The researchers placed posters advertising the research around the hospital in plain sight for

carers, staff, and musicians hence ensuring that interview participants were not limited to those referred or encouraged by the NUM or music program director. Hence, no single party or stakeholder was able to influence the range and diversity of in depth interview participants. Finally, Authors 1 and 2 collaborated on the coding approach for analysis and conducted inter-rater checking prior to full data coding and analysis. The inclusion of both inductive data driven and deductive theory driven analysis ensured that interpretation was not restricted to existing frameworks.

Worldwide view and biases

Authors of this paper are both musicians themselves imposing a potential risk of bias to find positive outcomes towards music programs. However, author 1 is a qualified Social Worker and member of the Australian Association of Social Work (AASW) bound by the AASW Code of Ethics. This code is underpinned by ethical principles that ensures participants need, and wellbeing were central to this research design (Australian Association of Social Workers, 2010). Author 2 has worked as a health and music researcher for over 20 years across a range of interdisciplinary projects and settings. Being researchers who are also musicians sensitises researchers to both the potential benefits and limitations of live music performance in health and wellbeing settings. In this case, researchers were able to collect and work with data from the performing musicians', audience members', and onlookers' perspectives which offered a rich palette of experiences.

Ethics considerations

The research protocol was approved by the RBWH Human Research Ethics Committee and Griffith University Human Research Ethics Committee. All interviewee participant data were de-identified by giving each interviewee a number in their respective participant category. Observation participants were only described using age, gender and hospital staff/other. The research observer (first author) displayed A4 signs notifying hospital community members that research observations were taking place at the time of observed music performances. The researcher wore a red [name of university] University T-shirt at the time of observations to ensure that participants could identify the researcher, ask questions, and/or share concerns regarding the research. Due to the public nature of the observations, it was not feasible to gain consent from every participant. Therefore, consent was waived for the observation by the RBWH and [name of university] Ethics Committees. Printed Participant Information Sheets were available at the observation sites for participants who wanted further information. If, after receiving that information, participants requested to be excluded from the research, the first author was to remove observations regarding that person. No observation participants indicated that they had concerns or wished to be excluded from the research, however. The first author ensured that observations were unobtrusive by only taking observation field notes in-between songs and at break times.

Interview participants were given information and consent forms before participating in in-depth interviews. In-depth interviews with patients and families were not attempted or approved by the RBWH ethics committee due to factors associated with patient and family members' potential distress and vulnerability. Instead, we received ethics approval

to conduct casual conversations during participant observations of music performances in order to provide an opportunity for patient and family narratives to be included in the data collection. The absence of patient and carers voices is viewed by researchers as an ethical and human right issues within itself. While outside of the scope of this study we recognise the importance of limitation and provide further information on this issue in the Limitation and Recommendation section of this paper.

Results

Major themes and subthemes that emerged from the study analysis are outlined below under the SDOH headings of environmental, interpersonal, and personal effects of live music in oncology settings. Table 1 summarises and maps all study results in accordance with Schulz and Northridge (2004) SDOH model.

Environmental effects of live music performance

Built environments in an oncology setting include sounds and noises, furniture, hospital design, smells, and atmosphere. Participants referenced the built environment a total of 23 times: hospital staff, $n = 10$; musicians, $n = 3$; and observations, $n = 10$. As predicted by existing literature, music impacting the soundscape was a common theme. One participant discussed the unique attributes of live music and how it impacts the soundscape:

> It's one thing to listen to music on TV but it's another thing to listen to live music, it fills the environment with the music and resonates throughout the ward . . . (Hospital Staff Member 2, In-Depth Interview)

Other examples of how live music impacted the built environment included comments about ways to intensify engagement with it:

> We open the office door so that we can hear the music better. Even when it is in 5C, we can hear it drift down into level 5 . . . For patients, it's a break in their week, time to open the door and turn the TV off. (Hospital Staff 1, In-Depth Interview)

Observer reflections provided another perspective on this topic:

> Music began to add texture to the atmosphere, and it lightened the space. As people walked in it was the first thing they commented on. It provided a social atmosphere in an otherwise noiseless space. (Observation Data, 5C Patient Lounge)

These perspectives suggest that changes musicians brought to the built environment altered how participants related to the space, indicating that the music had a multifaceted impact, from changes of structure and sound to changes of emotion, mood, and socialising.

Interpersonal effects of live music performance

Interpersonal results illustrate the ways that participant experiences of live music performance in oncology affect a range of relationships and, in turn, health and well-being for members of the place-based community. In total, 47 references were made to this SDOH

Table 2. (Micro-Interpersonal Results).

NVIVO Micro-interpersonal results			
Theme	Description	sources	References
Micro-stressors	stress generated from oncology environments	3	4
Micro-health behaviours	Interpersonal health behaviours	5	6
Micro-social integration & suport	References that linked social integration and/or support with live music performances	14	37

level: from musicians, $n = 18$; hospital staff, $n = 18$; and observations, $n = 11$. These results are outlined in Table 2

A key finding from staff interviews suggests there was an impact from the live music on interpersonal communication highlighting that people speak quieter, as one participant said:

> It [the music] takes the edge off, hard to explain, everyone talks quieter people act calmer, people don't bite each other's heads off, it's like a chill pill. If people come in a try and be moody or stressful and the whole environment sends a message that that won't wash today. (Hospital Staff Member 2, In-Depth Interview)

Hospital Staff Member 3 elaborated, "Even if it's really busy on the ward or there's some yukky stuff going on, it just brings it down a notch and makes people calmer". Sounds were reported as especially stressful for patients and families who spend long periods of time in hospital wards, as Hospital Staff Member 4 reflected, "Patients and families are always listening to the sounds of the ward; the music makes it less sterile and intense".

Team collaboration between nurses and musicians was also a strong theme in the data. Multiple comments referred to the skills and abilities of hospital musicians as professionals within this environment. Their professional skill and sensibility were clearly valued by healthcare professionals, as one nurse said, "The musicians watch everything, and they know if they need to change anything" (Hospital Staff Member 2, In-Depth Interview). Such comments highlight the degree to which live music performance affected social integration and support for this place-based community. Data suggest that participants highly valued live music as a mechanism to connect with others, viewing it as a unique opportunity for social connection and support. By developing and strengthening human connections in oncology settings, music may, then, decrease social isolation and promote supportive environments.

Personal effects of live music performance

The individual or personal level of the SDOH framework includes mental health, physical health, and cancer. The SDOH framework specifies experiences such as hope, despair, life satisfaction, psychological distress, happiness, and disability as individual SDOH. The key personal health and well-being themes that emerged in this study included: appreciation and gratitude; calming, relaxing, and soothing; emotion and mood; distraction; agency and autonomy; benefit from others' happiness; connection to self and self-reflection; value of self; and participant movement. Table 3 explains the nine personal themes that generated from the data.

Table 3. Table of results Individual Health and Well-Being.

NVIVO Table of result individual Health and well-being			
Theme	Description	sources	References
Appreciation/ Gratitude	Acts/comments of Appreciation about music	12	29
Calming/Relaxing/ soothing	Individual physical and psychological outcome	12	28
Emotion/mood	Relating to the gamut of emotions and mood typically related to live music.	8	22
Distraction	When live music provided a distraction from oncology	12	21
Agency/Autonomy	Having a choice of music as an activity, and whether to praticipate or not	6	6
Benefit from others' Happiness	Postive affect associated with watcing other participant groups benefit from music performances	5	6
	How live music helps pepole connect more deeply with their inner self.	4	5
Value of self perceived value	How live musicians made participants feel valued_how participants made musicians feel valued	2	3
Particular movement	Assisting the physical health of patients	1	1

Appreciation and gratitude was the most frequently referenced theme at the individual level. In total, 36 references were grouped into this theme from hospital staff, $n = 13$; musicians, $n = 9$; and observations, $n = 14$.

Hospital Staff Member 1 reflected, "[t]he patients talk about how much they love the music". That sentiment was echoed by Hospital Staff Member 2: "For patients particularly, I often hear patients" comment saying, isn't that beautiful, and they sit on the couch'. Hospital Staff Member 4 stated, "[w]e do get feedback about having the music – always positive – it's so nice that you have music played here. Musicians are always getting compliments and thanks from patients and families". Musicians also discussed their feelings of gratitude, as Musicians 2 and 3 reflected, "I feel very honoured and privileged to be a part of the project". Musicians received many positive comments from participants, as Musician 2 stated:

> One thing that comes to mind is an email from a surgeon I received. The surgeon mentioned that he came into the hospital wound up after a stressful surgery and the email said thank you so much for the music, it has made my day.

During observations, the first author heard numerous compliments and expressions of gratitude toward the musicians. For example, observation notes describe a general sense of appreciation of the music performances, such as:

> Smiling, acknowledging their gratitude through words. One man walked past and said, 'That is beautiful mate,' giving the thumbs up. A group of workmen walked by, and one said, 'Wow they have got musicians everywhere, that's awesome.'

Participants feelings of calmness, relaxation, and being soothed was another personal effect of the music performances. Within the context of this study, those words were often used interchangeably. When discussing themes of mood and emotion, data indicated that participants did not necessarily desire happy or positive moods from music participation; however, they did identify that they felt a sense of "realness" when the emotion of the music reflected their mood, suggesting that it enabled freer expression of emotion, and that emotional congruence provided comfort and emotional support. Staff also viewed the emotional element as highly valuable, not only for enhancing positive feelings but

also for allowing negative ones to come to the fore. They acknowledged that sad and happy moments allowed for deeper connection and understanding between patients, staff, families, and musicians. We argue that the music created a supportive environment wherein participants felt safe to acknowledge a range of emotions associated with oncology.

Hospital staff from 6A South offered insight into how it might feel for families and patients whose loved ones are in palliative care:

There's an isolated room where many people are at the end of life stage. When that is happening, people gather in that area (near live music) and I imagine it would be quite soothing. For me I would find it quite beautiful and comforting, giving the circumstance, like a magical element. (Hospital Staff 3, In-Depth Interview)

Discussion and implications

This study found that *The Stairwell Project* influenced personal, interpersonal, and environmental SDOH (Schulz & Northridge, 2004) at RBWH oncology. No negative outcomes of the live music were reported or observed. Musicians impacted the built environment, transforming it from "stressful and fearful" to "soothing and relaxing" (In-Depth Interviews).

Musicians primarily reported impacts relating to themes of emotion and mood highlighting how music could lighten the mood and/or reflect the more difficult emotions that can be associated with cancer care. They also rated highly in the appreciation and gratitude theme both when they reflected on the gratitude, they felt by being a part of such meaningful work but also in the gratitude they received daily by participants. This was reflected in observations that noted continuous messages of appreciation through verbal language and gestures of thanks.

Comparatively, Hospital Staff indicated that themes related to soothing and calmness were ranked highly at both a personal level and from their observations of others, how they noticed it impacted patients and families. Staff valued the relief, relaxation, and focus they gained from live music. Similar to musicians, they reflected that the live music changed the emotion and mood in the hospital, leading to, at times, improved communication and support from staff to staff and nurse to patients. Nurses also appreciated that the live music helped share the emotional load of the environment making it easier to focus on tasks.

These interprofessional collaborations between nurses and musicians were a significant unexpected outcome. Hospital Staff reported that *The Stairwell Project* provided opportunities for professional musicians to work alongside healthcare staff as valued arts-in-healthcare professionals.

Patients, carers, hospital staff and musicians all commented on how the live music made the environment more social, making it easier to informally interact with each other for the first time (in-depth interviews and observation data). This was particularly pertinent in observation data in the Patient Lounge where families/carers and patients often gather for respite. Data from in-depth interview with Hospital Staff and Musicians reflected that they observed patient's moods, significantly lift and expression of their excitement were visible on the day of the live music performances. It was also observed that music provided a calmness to patients and carers as reflected by requests from carers and patients to perform by patient bedsides before an operation or when in palliative care.

Framing *the Stairwell Project* as a placed-based health initiative and community highlights the importance of intersectoral partnerships. Formalising the partnership between hospital/government, arts organisations, and health professionals would promote efficiency by providing ways to diversify, secure, and implement scarce health resources. Rushton (2014) explains that "in health, the imperatives to partner are driven by the need to address multiple determinants of health, many of which reside outside the health care sector" (p. 101). Funding security for this program is paramount for its sustainability.

Throughout the research, only three references were made to staff or patients not liking the music that was played. When asked if there had been any known adverse effects or distress caused by the music, all participants said they had never heard of or seen any negative impact. To our knowledge, every participant who did not want to participate or listen to the live performances was able to choose opt out. Ensuring participants have a complaints/feedback mechanism and have ways to disengage or not listen to music is an important consideration in this vulnerable space.

It is notable that musicians brought unique skills to the healthcare environment and were valued there as professionals in their own right. Future research to develop guidelines and training opportunities to assist musicians working in healthcare is a key recommendation of this study. Short courses nationwide would assist professional musicians to enter healthcare spaces. The United Kingdom, Canada, and Europe are leading the world in training for professional musicians coming into healthcare environments (Moss et al., 2007). The status of community musicians in healthcare is in infancy, but global movements are pushing for education in community music at university level (Preti & Welch, 2013).

Limitations and suggestions for future research

There were several limitations to this study. Firstly, patients' voices are important to this research and would have added depth given that the program focuses on live music as a support for oncology patients themselves. Therefore, the exclusion of their voices is problematic and should be viewed as both an ethical issue and a human right issue. Further perpetuating this issue was our inability to distinguish between outpatients and family members during participant observations in public hospital spaces. That limitation affected the analysis of effects for discrete participant groups. We strongly suggest that to build on this research, future research needs to include in-depth patient and carer accounts highlighting the impotence of their experiences in this area.

Secondly, the research did not significantly illuminate macro-level outcomes according to Schulz and Northridge (2004) SDOH model. A broader scope would be required to capture data relating to macro level impacts. Future research should elicit participant experiences of macro-level changes in SDOH such as, for example, improving accessibility to music as a human right and decreasing fear and stigma discourses that surround cancer environments.

Finally, previous studies suggest that sounds in hospitals are often seen as being stressful and negative (Iyendo, 2016). In terms of live music making an impact on this, further considerations are required for people who experience music as stressful or negative; these would need to include provisions for opting out of music participation programs, with no impact on relationships, environment, or care (Iyendo, 2016). While researchers have found links between attributes of music and feelings of security, it is

essential to note that this will not be everyone's experience (Iyendo et al., 2016; O'Callaghan et al., 2014). Some participants may find particular music difficult to listen to due to preference of music styles or associating it with a memory (Iyendo et al., 2016). Further research exploring music induced harm would be beneficial for this field. This study assessed negative or harmful experiences of participants by including a direct question in the in-depth interviews regarding displeasure and/or harmful outcomes of staff, patients, and families. However, the absence of patient voices is reinforced here as a further limitation in understanding potential harmful impacts of live music. Participants in this study suggested that people who disliked listening to music still received a level of enjoyment from the presence of live musicians in the space. A distinction was made between recorded music and live music, with participants stating that live music offers a valuable experience.

Conclusion

With hospital environments becoming more under pressure and under-resourced for complementary healthcare, place-based collaboration could provide effective practice partnerships for oncology communities. This study has identified links between live music performance and the SDOH. The multifaceted interplay between these connections suggests that place, social experience, individual outcomes, and community context cannot be looked at in isolation when exploring the impact of music. Community music interventions in oncology settings have potential as an affordable, holistic, and practical approach to health- care and offer a variety of health and well-being benefits to oncology communities.

Acknowledgments

We thank and acknowledge all participants in this research. We acknowledge and thank our research partners, Peter Breen, the Director of *The Stairwell Project* and Dr Glen Kennedy, Executive Director of Cancer Care Services RBWH. In addition, we acknowledge the work of Dr Pat Dorsett in initiating and supporting this research project and Kylee McDonagh who has provided copyediting and proofreading support.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Ansdell, G., & DeNora, T. (2012). *Musical flourishing: Community music therapy, controversy, and the cultivation of wellbeing*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199586974.003.0008

Arts Health Network Queensland. (2018). *Connect, Create and Collaborate: A vision and action plan for the arts health network Queensland 2018-2020*. Australian Government, Calalyst Culture and Art Fund

Australian Association of Social Workers. (2010). *Code of ethics: Australian association of social workers: 2010*.

Batt-Rawden, K., & Tellnes, G. (2011). How music may promote healthy behaviour. *Scandinavian Journal of Public Health*, *39*(2), 113–120. https://doi.org/10.1177/1403494810393555

Bradt, J., Potvin, N., Kesslick, A., Shim, M., Radl, D., Schriver, E., & Komarnicky-Kocher, L. T. (2015). The impact of music therapy versus music medicine on psychological outcomes and pain in cancer patients: A mixed methods study. *Supportive Care in Cancer*, 23(5), 1261–1271. https://10.1007/s00520-014-2478-7

Browall, M., Koinberg, I., Falk, H., & Wijk, H. (2013). Patients' experience of important factors in the healthcare environment in oncology care. *International Journal of Qualitative Studies on Health and Well-being*, *8*(1), Article 20870–10. https://doi.org/10.3402/qhw.v8i0.20870

Carey, M. (2009). *The social work dissertation: Using small-scale qualitative methodology*. McGraw-Hill /Open University Press.

Chatterton, M. L., Chambers, S., Occhipinti, S., Girgis, A., Dunn, J., Carter, R., & Mihalopoulos, C. (2016). Economic evaluation of a psychological intervention for high distress cancer patients and carers: Costs and quality-adjusted life years. *Psycho-Oncology*, *25*(7), 857–864. https://doi.org/10.1002/pon.4020

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *12*(3), 297–298. https://doi.org/10.1080/17439760.2016.1262613

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE.

Edvardsson, D., Sandman, P. O., & Rasmussen, B. (2006). Caring or uncaring—Meanings of being in an oncology environment. *Journal of Advanced Nursing*, *55*(2), 188–197. https://doi.org/10.1111/j.1365-2648.2006.03900.x

Ehrlich, C., & Kendall, E. (2015). Integrating collaborative place-based health promotion coalitions into existing health system structures: The experience from one Australian health coalition. *International Journal of Integrated Care*, *15*(4), Article e047. https://doi.org/10.5334/ijic.2012

Harrison, K. (2013). Music, health, and socio-economic status: A perspective on urban poverty in Canada. *Yearbook for Traditional Music*, *45*, 58–73. https://doi.org/10.5921/yeartradmusi.45.2013.0058

Harrop-Allin, S., Hume, V., Fabian, J., Etheredge, H., & McCallum, M. (2017). 'Humanising healthcare spaces': Report on the development and impact of a music collaboration between community music and Donald Gordon Medical Centre at the University of the Witwatersrand, Johannesburg, South Africa. *Muziki*, *14*(2), 55–80. https://doi.org/10.1080/18125980.2017.1379884

Howell, G., Higgins, L., & Bartleet, B.-L. (2016). Community music practice: Intervention through facilitation. In R. Mantie & G. D. Smith (Eds.), *The Oxford handbook of music making and leisure* (pp. 601–618). Oxford University Press.

Høybye, M. T. (2013). Healing environments in cancer treatment and care. relations of space and practice in hematological cancer treatment. *Acta Oncologica*, *52*(2), 440–446. https://doi.org/10.3109/0284186X.2012.741323

Huisman, E., Morales, E., Van Hoof, J., & Kort, H. S. M. (2012). Healing environment: A review of the impact of physical environmental factors on users. *Building and Environment*, *58*, 70–80. https://doi.org/10.1016/j.buildenv.2012.06.016

Iyendo, T. O. (2016). Exploring the effect of sound and music on health in hospital settings: A narrative review. *International Journal of Nursing Studies*, *63*, 82–100. https://doi.org/10.1016/j.ijnurstu.2016.08.008

Iyendo, T. O., Uwajeh, P. C., & Ikenna, E. S. (2016). The therapeutic impacts of environmental design interventions on wellness in clinical settings: A narrative review. *Complementary Therapies in Clinical Practice*, *24*, 174–188. https://doi.org/10.1016/j.ctcp.2016.06.008

Jorgensen, D. L., & SAGE Publications. (1989). *Participant observation: A methodology for human studies*. Newbury Park, Calif: Sage Publications.

Ko, W., & Kiser-Larson, N. (2016). Stress levels of nurses in oncology outpatient units. *Clinical Journal of Oncology Nursing*, *20*(2), 158–164. https://doi.org/10.1188/16.CJON.158-16

Lai, H., Li, Y., & Lee, L. (2012). Effects of music intervention with nursing presence and recorded music on psycho-physiological indices of cancer patient caregivers. *Journal of Clinical Nursing*, *21*(5–6), 745–756. https://doi.org/10.1111/j.1365-2702.2011.03916

Lyle, G., Hendrie, G., & Hendrie, D. (2017). Understanding the effects of socioeconomic status along the breast cancer continuum in Australian women: A systematic review of evidence. *International Journal for Equity in Health*, *16*(1), 182. https://doi.org/10.1186/s12939-017-0676-x

Malagon-Maldonado, G. (2016). Retrospective Preevaluation-Postevaluation in Health Design. *HERD: Health Environments Research & Design Journal*, *10*(1), 13–22. https://doi.org/10.1177/1937586716665032

Malcolm. (2009) . *The Social Work Dissertation: Using Small-Scale Qualitative Methodology*. Open University Press.

Manana, S. S., Talwar, V., & Lone, I. M. (2015). Knowledge of cancer diagnosis and the experience of distress. *Annals of Oncology*, *26*(Suppl.9), ix111–ix124. https://doi.org/10.1093/annonc/mdv531.41

Morley, C., & Macfarlane, S. (2014). Critical social work as ethical social work: Using critical reflection to research students' resistance to neoliberalism. *Critical and Radical Social Work*, *2*(3), 337–355. https://doi.org/10.1332/204986014X14096553281895

Moss, H., Nolan, E., & O'Neill, D. (2007). A cure for the soul? The benefit of live music in the general hospital. *Irish Medical Journal*, *100*(10), 634–636. PMID: 18277736.

Murray, M., & Lamont, A. (2012). Community music and social/health psychology: Linking theoretical and practical concerns. In MacDonaldR., KreutzG., & MitchellL. (Eds.), *Music, health & well-being* (pp. 76–86). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199586974.001.0001

Naholi, R. M., Nosek, C. L., & Somayaji, D. (2015). Stress among new oncology nurses. *Clinical Journal of Oncology Nursing*, *19*(1), 115–117. https://doi.org/10.1188/15.CJON.115-117

Nightingale, C. L., Rodriguez, C., & Carnaby, G. (2013). The impact of music interventions on anxiety for adult cancer patients: A meta-analysis and systematic review. *Integrative Cancer Therapies*, *12*(5), 393–403. https://doi.org/10.1177/1534735413485817

O'Callaghan, C., & Magill, L. (2009). Effect of music therapy on oncologic staff bystanders: A substantive grounded theory. *Palliative & Supportive Care*, *7*(2), 219–228. https://doi.org/10.1017/S1478951509000285

O'Callaghan, C., McDermott, F., Michael, N., Daveson, B. A., Hudson, P. L., & Zalcberg, J. R. (2014). 'A quiet still voice that just touches': Music's relevance for adults living with life-threatening cancer diagnoses. *Supportive Care in Cancer*, *22*(4), 1037–1047. https://doi.org/10.1007/s00520-013-2059-1

Partlak Günüşen, N., Üstün, B., Serçekuş Ak, P., & Büyükkaya Besen, D. (2019). Secondary traumatic stress experiences of nurses caring for cancer patients: Secondary traumatic stress and cancer care. *International Journal of Nursing Practice*, *25*(1), Article e12717. https://doi.org/10.1111/ijn.12717

Ploukou, S., & Panagopoulou, E. (2018). Playing music improves well-being of oncology nurses. *Applied Nursing Research*, *39*, 77–80. https://doi.org/10.1016/j.apnr.2017.11.007

Preti, C., & Welch, G. F. (2013). Professional identities and motivations of musicians playing in healthcare settings: Cross-cultural evidence from UK and Italy. *Musicae Scientiae*, *17*(4), 359–375. https://doi.org/10.1177/1029864913486664

Rha, S. Y., Park, Y., Song, S. K., Lee, C. E., & Lee, J. (2015). Caregiving burden and health-promoting behaviors among the family caregivers of cancer patients. *European Journal of Oncology Nursing*, *19*(2), 174–181. https://doi.org/10.1016/j.ejon.2014.09.003

Roller, M., & Lavrakas, P. (2017). *Applied qualitative research design: A total framework approach*. Guilford Press.

Rushton, C. (2014). Whose place is it anyway? Representational politics in a place-based health initiative. *Health & Place*, *26*, 100–109. https://doi.org/10.1016/j.healthplace.2013.12.006

Schulz, A., & Northridge, M. E. (2004). Social determinants of health: Implications for environmental health promotion. *Health Education & Behavior*, *31*(4), 455–471. https://doi.org/10.1177/1090198104265598

Sunderland, N., Bristed, H., Gudes, O., Boddy, J., & Da Silva, M. (2012). What does it feel like to live here? Exploring sensory ethnography as a collaborative methodology for investigating social determinants of health in place. *Health & Place*, *18*(5), 1056–1067. https://doi.org/10.1016/j.healthplace.2012.05.007

Sunderland, N., Istvandity, L., Lakhani, A., Lenette, C., Procopis, B., & Caballero, P. (2015). They [do more than] interrupt us from sadness: Exploring the impact of participatory music making on social determinants of health and well-being for refugees in Australia. *Health, Culture and Society*, *8*(1), 1–19. https://doi.org/10.5195/HCS.2015.195

Sunderland, N., Lewandowski, N., Bendrups, D., & Bartleet, B. L. (2018). *Music, health and well-being: Exploring music for health equity and social justice*. Palgrave Macmillan. https://doi.org/10.1057/978-1-349-95284

Swijghuisen Reigersberg, M. E. (2017). Collaborative Music, Health, and Wellbeing Research Globally: Some Perspectives on Challenges Faced and How to Engage with Them. *Journal of Folklore Research*, *54*(1–2), 133–159. https://doi.org/10.2979/jfolkrese.54.2.06

The Stairwell Project Community. (2020). *The stairwell project: Musicians in hospitals*. Facebook. https://www.facebook.com/thestairwellproject/

Toccafondi, A., Bonacchi, A., Mambrini, A., Miccinesi, G., Prosseda, R., & Cantore, M. (2017). Live concerts reduce cancer inpatients' anxiety. *European Journal of Cancer Care*, *26*(6), 6. https://doi.org/10.1111/ecc.12590