

VOCAL BEATS

External Evaluation Report 2020

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Edited by Conni Rosewarne



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Introduction

Conni Rosewarne, rb&hArts Music Programme Manager

When considering our participatory music-making project Vocal Beats, it is fascinating to reflect on its development over the past 5 years and what has been possible in that time. Prior to the introduction of this initiative, while rb&hArts was delivering a dynamic programme for adult patients, activities specifically for young people were limited – and growing evidence both externally and internally suggested that we were missing a crucial opportunity. The programme started with a single musician singing lullabies one afternoon a week and has grown organically through collaboration across artistic, organisational and clinical areas; it is now delivering two afternoons of music activity per week with singing, beatboxing and ukulele on offer. In addition to this, 1-to-1 vocal coaching sessions are now offered to young people going through the often-challenging transition phase to adult services on cystic fibrosis and transplant wards, along with a YouTube channel co-produced by Youth Ambassadors and online music-making courses in the wake of the Covid-19 pandemic. This has all been greatly supported by fantastic partnerships and advocacy within the trust, including the paediatric play team, and respiratory physiotherapists who bridge access to patients and provide a deeper understanding of their experiences and needs. In the past year we developed a key partnership with The Royal Marsden NHS Foundation Trust, delivering music sessions to young cancer patients, and have been shortlisted for two prestigious awards.

Getting to this stage has not been without its challenges. Though we have been incredibly lucky to be supported by Youth Music, Coop Building Connections Fund, The Brompton Fountain and BBC Children in Need, sustainable long-term funding continues to be a concern in the current climate. In terms of programme delivery, finding the professional musicians required – with exceptional personal and musical skills including a diverse and adaptable repertoire – for the ever-changing contexts of hospital wards can be tricky to maintain on a weekly basis. In addition to this, we have had to overcome several barriers in order to reach older young people on adult wards, particularly those with cystic fibrosis – such is the nature of working within the parameters set by a needs-led practice. All in all, the project requires robust infrastructure lest it becomes too delicate a balance to manage. This has been compounded in recent months with services unable to continue on hospital wards through-out the pandemic, meaning musicians have had to quickly adapt to online delivery to serve young patients considered ‘extremely vulnerable’ and required to shield, with limited social opportunities or access to educational services.

These achievements and challenges are explored in this report by means of three distinct voices which represent arts organisations, artists’ working lives and clinical perspectives, with each well-respected and highly regarded in their respective fields. This overarching evaluation brings together three reports by Marion Friend MBE, Gráinne Hope and Charlotte Wells to present an external expert bird’s-eye view of the programme, via

independent review and analysis from triangulated perspectives. This evaluation approach reflects the challenge that artists face in embodying a complex interdisciplinary role and practice in healthcare and seeks to demonstrate how these interdependencies can come together to run an effective programme. We hope that the recommendations that arise from appraising the practice of Vocal Beats in this way, given at the end of this report, can offer practical solutions to issues often met in music in healthcare, whilst also identifying specific improvements to strengthen the Vocal Beats programme for the long term. Whilst this report was conceived prior to the uncharted territory of Covid-19, it still provides a crucial dialogue on how music in hospitals can best serve young patients which is pertinent as we begin to broach a tentative reintroduction to ward-based work in the coming months.

Likewise, we hope other NHS Trusts and acute settings will be inspired to share in our journey and gain a deeper understanding of what can be possible when developing this type of work for patients. We aim to advocate for a social model of health, applauding ‘softer outcomes’ that can have a huge impact on a patient’s journey through the healthcare system.

Finally, this report celebrates the massive achievements made by our musicians and everyone who has taken part in Vocal Beats since its inception in 2015. We look forward to the next five years of Vocal Beats and will be reporting the development of the programme in another external evaluation in 2025.

Context

Royal Brompton & Harefield NHS Foundation Trust

Royal Brompton & Harefield NHS Foundation Trust is the UK's largest specialist centre for the treatment of heart and lung disease. Working from two sites – Royal Brompton Hospital in Chelsea, London, and Harefield Hospital near Uxbridge – the Trust is internationally renowned for the expertise of its staff, high standard of care and research success. Experts at the Trust provide some of the most complex surgery and sophisticated treatments available anywhere in the world, to patients from all age groups who have heart and lung conditions.

Rose Ward & Paediatric Intensive Care Unit

The paediatric department, Rose Ward, is a national heart and lung referral centre for children, offering a full range of diagnostic and surgical interventions for patients from prenatal to 16 years old. Hospitalised children face a myriad of complex challenges which can be further affected by prolonged and/or recurrent stays in a hospital.

The Trust's Play Service supports patients and their families during their stay. It aims to ensure that every young person has the best possible hospital experience and is prepared for their clinical intervention, offering a range of fun and social activities in the playroom and at the bedside. In addition, the Chelsea Community Hospital School provides National Curriculum education for all young people at the Trust.

Foulis, Rowan & Fir Tree Wards and the Transition to Adult Services

Foulis Ward is located at Royal Brompton Hospital in Chelsea, and specialises in care for cystic

fibrosis. The Transplant Unit (Rowan and Fir Tree Wards) is based at Harefield Hospital, one of seven cardiothoracic transplant centres across the UK. Care at the unit includes assessment for transplantation of patients on the waiting list, as well as assessment following transplantation for readmissions and for patients who are fitted with a left ventricular assist device (LVAD).

At all three wards care begins from age 16, with the transition for patients from paediatric services carefully managed by interdisciplinary teams. This transition can be challenging for young patients and their families, especially as they may have been cared for by the same paediatric team for many years. Research has shown that transition processes can have adverse effects on young people's mental health and wellbeing if the appropriate level of care and support is not offered, and the trust has developed specialist transition pathways to ensure this can be done as comfortably as possible.

rb&hArts

rb&hArts is delivered through Royal Brompton & Harefield Hospitals Charity with 3.6 (FTE) staff members. It is charitably funded to bring the benefits of the arts to support inpatients and outpatients and the local communities surrounding each hospital. The arts programme aims to increase levels of wellbeing, enhance the patient experience and improve the healthcare estate through the arts. It began in 2002, and in a typical year now organises more than 500 interventions across arts, music, and participatory arts, working with 30 artists and recording over 6,500 participants. The core creative programme includes 3 weekly Singing for Breathing workshops for older people living with chronic obstructive pulmonary disease (COPD);

2 Musicians in Residence providing 6 hours of live music for adults per week; temporary exhibitions; and 'crafternoons' which offer 10 hours of participatory arts and crafts workshops per month.

Vocal Beats

Vocal Beats is a hospital-ward-based music project for children and young people aged 0-25 years old at Royal Brompton & Harefield NHS Foundation Trust. The weekly programme includes:

- Two afternoon sessions of singing, ukulele and beatboxing for children aged 0-16 years on Rose Ward and the Paediatric Intensive Care Unit (PICU);
- One evening session of vocal coaching for young adult inpatients with cystic fibrosis (CF) on Foulis Ward;
- One afternoon session of vocal coaching for young adult inpatients awaiting or recovering from cardiothoracic transplant.

These sessions range from performances for babies and toddlers to 1-to-1 teaching sessions for teenagers. Each session is tailored to the needs of the patient: whether to help with relaxation, offer an experience, or distract from discomfort, with active dynamic singing or beatboxing sessions. Performance-based sessions for younger children are tailored to include the children's favourite songs, as well as to encourage eye contact and participation by means of actions or clapping, movement and dancing. The singing and beatboxing sessions are individually tailored to each child, and alongside the main singing or beatbox teaching activity they include an active warm-up for body and voice, postural awareness and realignment, diaphragmatic breathing awareness and practice, and vocal exercises.

The project currently delivers over 900 hours of participatory music per year. It aims to increase levels of mental wellbeing by facilitating access to high-quality music-making opportunities for young people and their families, whilst also developing music skills and enhancing the patient experience.



Figure 1 Heather McClelland leading instrumental group sessions © Nik Read

Staff and Roles Within the Programme

Staff Member	Job Title	Role description
Karen Taylor	Interim Patient & Public Engagement Programme Manager & Arts Lead	Strategic lead for Arts at the Trust. Formerly Head of Arts.
Karen Janody	Interim Head of Arts	Oversees and manages rb&hArts programme delivery and fundraising.
Conni Rosewarne	Music Programme Manager, formally Project Coordinator	Project management of Vocal Beats and Musicians in Healthcare Mentoring Programme. Lead for evaluation.
Heather McClelland	Lead Musician in Residence	Overseeing ward-based music activities with critical input. Delivering singing and ukulele sessions for patients aged 0-16 on Rose Ward and 1-to-1 vocal coaching for cystic fibrosis patients aged 17-25.
Stac Dowdeswell	Musician in Residence	Maternity cover for singing and ukulele sessions for patients aged 0-16. Now delivering 1-to-1 vocal coaching for transplant patients aged 17-25.
Bellatrix	Beatboxer in Residence	Delivering beatbox performance and facilitation for patients aged 0-16.
MC Zani	Beatboxer in Residence	Delivering beatbox performance and facilitation for patients aged 0-16.

Timeline of Vocal Beats

A need for live music in paediatric wards was identified following the publication of the *Bi-Annual Children and Young People's Survey* (Care Quality Commission, 2016), which highlighted that young inpatients felt they did not have enough creative activities or opportunities for engagement while staying in hospital. Simultaneously, a growing body of evidence indicated significant benefits from access to live music in healthcare for young patients – particularly with regard to mental and physical wellbeing, relaxation, and distraction.

2015

Thanks to initial funding from hospital charity The Brompton Fountain, Heather McClelland was recruited into post as Musician in Residence delivering bedside singing and ukulele lessons one afternoon a week on Rose Ward. This work was successful, most notably with younger patients and their families, however there was a demonstrable gap in engagement with teenage boys. McClelland developed good relationships with clinical staff in this initial stage, including physiotherapist Charlotte Wells who had previously supported and advocated for musicians on Singing for Lung Health projects. Together McClelland and Wells began discussing and sharing resources for ways that vocal exercises could potentially support health outcomes in respiratory patients, particularly those with CF. The book *This is a Voice* (Kayes et al., 2016) became a pivotal text, inspiring the idea of using beatboxing as a way to address the identified gap in engagement whilst also promoting further lung health. A relationship with the UK Ukulele Kids Club was also developed, and it began to supply ukuleles for young people to keep after discharge from hospital.

2016

rb&hArts successfully applied to the Youth Music charity for Fund A support to expand the project to two days a week, for provision led by McClelland and with professional beatboxers on both days.

2017

Youth Music and The Brompton Fountain continued to fund Vocal Beats, with rb&hArts successfully applying to BBC Children in Need to create a part-time Project Assistant post to support effective evaluation of the project. rb&hArts hosted the annual National Alliance of Musicians in Healthcare (NAMIH) conference at Royal Brompton Hospital, organised by OPUS Music CIC.

2018

Youth Music increased funding to the project. This supported the expansion of provision to include young adults with CF transitioning from paediatric to adult care and young adult transplant patients, as well as going towards the development and start-up of the rb&hArts Musicians in Healthcare Mentoring Programme. Mentees were recruited with a musician-led induction day. Vocal Beats musicians delivered presentations at Sound Connections Early Years and NAMIH conferences. A shared-practice day was held by rb&hArts, hosting musicians, *Singing for Lung Health* practitioners, music therapists and respiratory physiotherapists for a chance to share knowledge and develop networks across the UK.

2019

5 mentees completed the mentoring programme and published reflective essays on the Youth Music Network. Charlotte Wells led training sessions for Vocal Beats musicians in respiratory health. rb&hArts successfully applied to Youth Music Fund B to begin delivering additional music sessions for young cancer patients aged 0-25 at The Royal Marsden NHS Foundation Trust, commencing in September. Vocal Beats was registered as a service evaluation at Royal Brompton & Harefield NHS Foundation Trust to formalise evaluation, gathering publishable evidence to be concluded in 2021. The project was shortlisted for the Youth Music Social Action Award and the Royal Society of Public Health's Arts in Health Award.

Methodologies

This report is made up of standalone assessments by three external evaluators with different specialisms. This approach seeks to create a multi-faceted overview of the project from key perspectives that are separate but interlinked, to highlight the project's successes and potentials and to provide learnings for both rb&hArts and for the wider 'music in hospitals' sector. The commissioning brief for the report was informed by the Youth Music *Do, Review, Improve* 2017 quality framework, which is a tool that music practitioners and organisations can use to support planning, reflection and evaluation.

All three evaluators applied qualitative methods to generate thinking, feedback and recommendations for the future of the Vocal Beats project as well as for other 'music in hospitals' programmes that may be looking to replicate similar models of practice.

The review looks at practice delivered at Royal Brompton & Harefield NHS Foundation Trust only, and does not include sessions being delivered at Royal Marsden NHS Foundation Trust as these are still in their infancy.

Marion Friend MBE has held senior positions in prestigious international cultural organisations for over twenty-five years, including Director of Junior Trinity at Trinity Laban Conservatoire of Music and Dance, and posts at Wigmore Hall, BBC Television Music and Arts, and the Philharmonia Orchestra. Marion now works as a coach, mentor, facilitator and consultant. Her review examines Vocal Beats' organisational structure and capacity for progression, focussing on learning and development outcomes for participants and music leaders.

Friend's methodology includes:

- Individual face-to-face interviews with the team of four professional musicians and with one mentee participating in the Musicians in Healthcare Mentoring Programme
- In-person and telephone interviews with Conni Rosewarne, Project Co-ordinator

- Telephone interviews with Jennifer Raven, Deputy Director Sound Connections and with Caroline Moore Arts Manager, Great Ormond Street Hospital
- Observation of four sessions in Rose Ward and Foulis Ward, Royal Brompton Hospital
- Attendance at Rowan Ward Harefield Hospital
- Informal conversations with patients, parents and carers during observations (permission status granted)
- Desk and podcast research
- Drawing on relevant experience including attendance and 1-to-1 coaching at Sound Connections Early Years / Arts Health and Wellbeing Conference February 2018

Gráinne Hope is a professional cellist and the founder and Artistic Director of Kids' Classics, which delivers a music programme in Ireland's children's hospitals. She was chosen to represent Ireland to become a trainer of Musicians in Healthcare Settings as part of a pioneering European programme led by Musique et Santé (France). Her evaluation of Vocal Beats is from an artist peer review perspective.

Gráinne's section of the review applies a qualitative approach to the methodology, which includes informal interviews and a focus group with three Vocal Beats musicians, as well as observed visits in Harefield Hospital and on Rose Ward at Royal Brompton Hospital.

Topic guides for the interview and focus groups were developed from research, personal experience developing programme partnerships, managing and training professional musicians working in healthcare settings, and with reference to the *Engaged Passions, Searches for Quality in Community Contexts* publication by respected researcher and writer Peter Renshaw. Questions were kept open-ended to allow participants to offer more details, personal insights and knowledge.

Charlotte Wells is a Highly specialist respiratory physiotherapist with over fifteen years' experience specialising in respiratory services including cystic fibrosis, bronchiectasis, emphysema, primary ciliary dyskinesia and asthma, as well as working within sleep and ventilation teams. She is currently in post as a specialist paediatric respiratory physiotherapist working within a tertiary service managing children with difficult-to-control asthma and exercise-induced laryngeal obstruction (e-ILO) at Royal Brompton Hospital.

Charlotte has just completed her NIHR Masters in Clinical Research. Prior to being appointed for this report, Charlotte contributed to the Vocal Beats programme by educating musicians on respiratory conditions and working with them to develop vocal facilitation techniques that complement respiratory physiotherapy. She has a unique perspective in terms of paediatric respiratory conditions and the accompanying clinical and social contexts, which makes her input to this triangulated evaluation invaluable.

Charlotte's section reviews published literature to better understand how music, singing and beatboxing could be beneficial for cardio-respiratory health; she offers commentary on clinicians' experiences of hospital-based singing programmes (*Singing for Lung Health*); and explores the potential benefits of collaborative sessions between Vocal Beats and the physiotherapy team.

The data from all three reports is incorporated in an overall conclusion with discussion of interlinking themes at the end of this document. This is accompanied by a set of recommendations to be used by rb&hArts and other professional individuals and organisations delivering music in healthcare programmes.

Section 1: Programme Structure and Artistic Interventions

Marion Friend MBE

The weekly musical activity within the Vocal Beats programme is developmental, as many patients return regularly for specialist treatment and some are there on a longer-term basis.

The programme's success is predicated on a small team of hugely dedicated professional musicians. Excellent relationships have been built; the musicians have identified potential and supported participants in developing their musicianship, often with gratifying outcomes.

Through demonstrably productive and mutually supportive working relationships with clinicians, the play teams and rb&hArts management, the musicians have found their place at the 'heart' of the hospital. An understanding has developed; they have assimilated into the culture of an acute clinical environment and are constantly learning how their musical interventions can dovetail, interlink and enhance the patients' emotional and physical development and progression.



Figure 2 Singing sessions with families in the Royal Brompton Hospital play room © Elam Forrester

There's a constant dialogue between performers, play team and clinicians. It's very holistic. It's integrated and you get to know everyone well and build relationships, for example with Charlotte Wells, physiotherapist. So music isn't separate from the overall experience. The hospital has a close relationship with the arts, and music's presence is natural. Feedback from the team is welcome and ideas are nurtured.

Heather McClelland

The Vocal Beats programme demands skilled commitment and conviction from the small cohort of professional musicians involved, all of whom have active lives as performers in the UK and overseas. Sensibly, the policy is to have one singer and one beatboxer in each session, which means that continuity can be maintained even if one performer has to put in a deputy on occasion. That said, it can be challenging to find a suitable deputy with the skills, experience and sensitivity for the specialist hospital environment at Royal

Brompton & Harefield. One solution has been the introduction of the Musicians in Healthcare Mentoring Programme delivered by rb&hArts and Sound Connections, as discussed later.

Management of the wide-ranging and innovative arts programme at Royal Brompton & Harefield NHS Foundation Trust is undertaken by a small team led by Karen Janody, Head of Arts, with strategic overview from Karen Taylor, Patient & Public Engagement Programme Manager & Arts Lead, previously Head of Arts launching Vocal Beats in 2015. The team is hugely committed but at capacity given the strategic, fundraising and operational functions required to run its range of activities encompassing visual art, craft, commissions, exhibitions and the pioneering *Singing for Breathing* weekly workshops for adults which are now celebrating their tenth anniversary.

The main regular point of contact for the professional musicians on the Vocal Beats programme is the rb&hArts Project Co-ordinator. This job title may not adequately communicate to those outside the department the extent of the responsibilities in this role (since updated to 'Music Programme Manager'). They include acting as an intermediary between the musicians and Royal Brompton & Harefield NHS Foundation Trust; communicating to the wider staff community; supporting the understanding of the work and its role in the trust; and undertaking research and evaluation in liaison with the musicians. Recent evaluation work includes the comprehensive *Vocal Beats Year 2 End of Year report 2018-19*, and the Project Co-ordinator is currently involved in a service evaluation for the programme which will continue until 2021.

Contractual Agreements

The four professional musicians who deliver the Vocal Beats programme are employed on a freelance session basis, with time for

preparation, evaluation and reflection factored into the fee. Given the nature of the work and the unpredictability of interactions with patients, there is very limited time at the end of a session for the musicians to evaluate, debrief and share reflections, and there is often no suitable quiet space in which to do so. If the programme is to continue evolving and aiming for best professional practice, there may be a requirement to formalise these elements. The status of the freelance contracts could be reviewed to become part-time salaried roles – particularly for the lead musician, if appropriate. Notwithstanding the increased fundraising challenge this would entail, such a move could consolidate the status of Vocal Beats and enable further development of the programme as a national and international role model, by incorporating research and integrated practice.

Professional Development

Continuing Professional Development (CPD) is valued and encouraged at Royal Brompton & Harefield NHS Foundation Trust, and the project team and core team of musicians have had access to a range of opportunities. However, the complexity of the work means that there is a continual impetus to develop knowledge exchange, training and networks; this is discussed further in Part 2 of this report.

Internal to the Vocal Beats programme, the range of expertise, skills and knowledge in the team gives rise to ongoing opportunities to learn from one another. The commitment of physiotherapists and other clinicians has been crucial to the impactful development of Vocal Beats. There is currently academic research being conducted into the synergies between the arts and the healthcare sectors (*Intersectoral action: the arts, health and wellbeing, Synergy between sectors: the arts as a tool to improve health and well-being, strengthening the link between health and the*

arts, World Health Organisation, Sept 2019) and it is uplifting to observe this being put into practice with the inter-disciplinary knowledge exchange that takes place between the clinicians and the musicians. In particular, physiotherapist Charlotte Wells has observed the musicians at work and contributed to their training and knowledge with the aim of developing a greater understanding of the clinical aspects of respiratory conditions. The *Singing and Beatboxing condition information sheet* peer-to-peer document that she produced describes the clinical conditions and their symptoms in detail, and suggests ways that singing and beatboxing techniques can impact on patient welfare.

As a salaried employee, Project Co-ordinator Conni Rosewarne is able to access local Kensington and Chelsea Council training opportunities, evaluation

External training programmes completed by various Vocal Beats musicians include:

- OPUS Music (opusmusic.org)
- Snape Maltings: MOT Musicians working in challenging settings (snapemaltings.co.uk/music/residencies/mot)
- Vocal Process (vocalprocess.co.uk)
- LEAP Talent Development Programme (serious.org.uk)
- Pulse Arts (pulsearts.co.uk)

Within Royal Brompton & Harefield NHS Foundation Trust the musicians have access to:

- A designated and evaluated induction programme
- Shared reflection sessions
- Supervision
- Opportunities for sharing good practice and sector knowledge with physiotherapist Charlotte Wells

and social media training for charities, and statutory training within Brompton & Harefield Trust including safeguarding, palliative care, equality and diversity, and human rights. She was also supported to attend an arts and health research intensive programme led by Daisy Fancourt at Snape Maltings earlier in 2019.

Knowledge exchange and professional dialogue are considered mandatory in the specialist area of arts in healthcare, which is a relatively new field particularly for participatory arts programmes in hospitals. There is ongoing research into the benefits and impact of the work, and its interface with a range of clinical and creative disciplines. rb&hArts contributes to this research and is a member of valuable specialist and wider arts networks including London Arts and Health Forum, National Alliance of Musicians in Healthcare, Cultural and Wellbeing Alliance and NHS National Performance Advisory Group (NPAG). Notwithstanding that rb&hArts is a sector leader, the possibility for the very small team to attend meetings and conferences can be limited, owing to capacity as well as access to funding.

Musicians in Healthcare Mentoring Programme

The Musicians in Healthcare Mentoring Programme was launched in 2018 and is delivered by rb&hArts in partnership with Sound Connections and supported by Youth Music. There were five early-career musicians on the programme 2018/19, and a second cohort has been selected from January 2020. A similar innovative music mentoring project was recently completed at Alder Hey Children's NHS Foundation Trust in collaboration with Live Music Now <https://alderhey.nhs.uk/services/arts-for-health>, also funded by Youth Music.

The objectives for rb&hArts are to offer the musicians professional development opportunities by giving them insights into clinical settings with

the benefits of shadowing and 1-to-1 mentoring. Sound Connections is involved with the induction process and offers individual development needs analysis (DNA) to each mentee at the end of the programme, helping to identify further professional objectives.

The extracts below are taken from interviews and reflective essays, of which the latter are a requirement of the programme. These quotes illustrate the quality of the recruitment and the insights that the mentees gained from being immersed in the rb&hArts environment.

Everyone is engaged with the same aims on the wards. You learn to create a space and build your sensitivity to situations. I appreciate music a lot more now.

Nicola Tagoe, mentee

Nicola has undertaken training with Pulse Arts, and this mentorship has inspired her to expand her portfolio with work in Early Years settings. She has recently been successful in receiving a Developing your Creative Practice Arts Council England award.

Heather [McClelland] had so many different techniques that she used to work with to keep the young people engaged and not feeling embarrassed; she was always encouraging and let them make the final decisions. She also checked in with them constantly to make sure that they were ok with what was happening. After reflecting on Heather's practice, I identified several points that will be really important in my own practice:

- **Identifying the end goal and working out with small steps what we can do to get there**
- **Believing in yourself and your ability, in order to hold the space so that you can check everyone understands and that whatever the outcome that is ok**
- **It's ok to make mistakes; learn from them and carry on**
- **Being confident enough so that they trust you and go with what you are trying to do**

Sasha Mattock, mentee, extract from reflective essay

Over the course of the programme my confidence increased as I became more used to the ward. And it was incredibly rewarding work. But it calls for a high degree of resilience. I was extremely impressed with the musicians' ability to enable musical sessions that delivered

positive experiences for all the patients. And again having the benefit of an experienced mentor to discuss the issues with was very helpful. This allowed us to work through the emotions that came up during the sessions and reflect on how the music would have benefited the patients.

Sara Fawcett, mentee, extract from reflective essay

Youth Voice

The strategy for the highly distinctive Vocal Beats programme has been to create a current and contemporary offering that appeals to young people. There are several established programmes for participatory arts aimed at children and young people in hospital that share these aims, and each has its own identity depending on circumstances, clinical specialisms and settings. Two exemplary programmes in London are at Great Ormond Street Hospital (<https://www.gosh.nhs.uk/wards-and-departments/departments/gosh-arts>) and Bethlem and Maudsley Hospital School (<https://bethlem-maudsleyschool.org.uk>), where City of London Sinfonia (<https://cityoflondonsinfonia.co.uk/wellbeing/wellbeing-projects>) is currently undertaking a three-year residency.

The introduction of beatboxing to the Vocal Beats programme two years ago has been particularly successful, because as well as being fun and entertaining, it provides physical exercise for respiratory patients; it can also interest boys who may initially be reluctant to sing.



Figure 3 Bellatrix leading beatboxing sessions © Elam Forrester

Many of the young patients who need to return to Royal Brompton Hospital on a regular basis are given ukuleles to take home and are encouraged to continue their musical activity and learning. They are also given resources as appropriate, including recordings of their favourite songs and work sheets with 'beatboxing homework'.

'Mum don't forget to pack my ukulele'

The mother of a 14-year-old patient related the importance of her daughter knowing that the team of musicians would be waiting to make music together on her return to hospital.

Patients are given choice – there is nothing fixed or rigid. Trust builds up and the patients absorb the experience from afar even when they're not inpatients

Stac Dowdeswell

Young people feel heard – it's not 'teachery' though learning is taking place. It allows freedom – it's the young person's session

Conni Rosewarne

Musical Progression

It is evident from observing several sessions on the wards and talking to the team of musicians that the patients' musical progression is a priority, even though continuity is inevitably fragmented. However, consideration could be given to setting up pilot networks supporting motivated patients to create individual pathways or learning plans, in order to sustain their musical activity between hospital visits, in their own locality. With the permission of patients and their families/carers, there could be liaison between designated Vocal Beats core musicians and with school or college music departments or non-formal networks to support musical progression, similar to specialist clinicians in hospitals being in contact with GPs. Given the introduction of social prescribing opportunities there might be possibilities for this provision to be sourced and funded. The initiative would seem timely given the recent launch of the National Academy of Social Prescribing partnership with Arts Council England and NHS England (<https://www.gov.uk/government/news/social-prescribing-new-national-academy-set-up>).

In many cases musical potential has been discovered, unleashed and nurtured, and it seems vital to maintain and develop this potential for the benefit of patients' skills, wellbeing, creativity and self-esteem. There is perhaps an inevitable irony in the fact that many young patients are only accessing music provision when they return to Royal Brompton Hospital for regular clinical stays.

The recent introduction of the **Vocal Beats Youth Ambassador programme** for those aged 17-25 will enable young people to access further resources online and to create a musical network; this is an imaginative peer-to-peer strand with patients working alongside the team of professional musicians and a film-maker to address the isolation that they may experience given that many are unable to make music together in person.



Figure 4 Vocal Beats Youth Ambassadors; Mia, Skye, Eleanor and Bethinn © Alex Hyndman

As the initiative takes shape it could be a priority to extend musical networks and share inspiration with external peer group organisations such as the award-winning Beatbox Academy at Battersea Arts Centre (bac.org.uk).

rb&hArts recognises the benefits of introducing Arts Awards accreditation to the programme. Though it was hoped that the Vocal Beats ambassadors could undertake this, it has so far not been feasible given the logistics and intermittent contact with the young people involved. There is impetus to move forward however, and to explore it for the future, as accreditation can provide a useful structure if implemented sensitively in partnership with the patients. In addition, individual learning plans as referred to earlier could be introduced and created jointly by patients and professional musicians. 'Individual' plans could also incorporate 'buddy' plans for ensemble work and for recording compositions and performances online or in person.

Given that most patients are given the opportunity to play the ukulele on the wards, some may wish to explore accreditation by taking an exam; there is no requirement to read notated music (<http://rgt.org/exams/ukulele-exams.php>).

Consideration could be given to:

- Developing a 360° pilot pathway scheme for patients to continue their musical activity in their own locality between hospital stays
- Researching how the new National Academy for Social Prescribing could benefit the Vocal Beats programme
- Supporting Vocal Beats Ambassadors in developing wider peer networks
- Researching a range of accreditation models that may be relevant to Vocal Beats participants

The Profile of Vocal Beats

The Vocal Beats programme with its youth-led ethos has received recognition in the form of several award nominations including:

- Finalist in Society of Public Health Awards Arts in Health category (www.rsph.org.uk)
- Vocal Beats Youth Ambassadors Programme was shortlisted for Youth Music Social Action Awards (<https://www.youthmusic.org.uk/awards>)
- Karen Taylor rb&hArts Lead was awarded a Royal Brompton & Harefield Hospitals Staff Champion Award in recognition of her work on the Vocal Beats programme

Heather McClelland was invited to join a Singing on Prescription 'creative think-tank' at Snape Maltings recently, alongside leading practitioners, researchers, policy-makers and clinicians. This is a valuable opportunity for knowledge exchange within a broad 'music in healthcare' forum and for raising the profile of Vocal Beats. Furthermore – notwithstanding the constraints of time and funding – the programme is now on the cusp of further exciting initiatives so it may be an opportune moment to share good practice more extensively with a wider range of stakeholders; these could include professional and amateur music ensembles with whom there is an artistic synergy; commercial and corporate organisations; and a range of trusts and foundations who may wish to become more familiar with the programme.

Section 2: The Artists' Perspective

Gráinne Hope

One of the key aims of this section of the report is to review the artistic quality outcomes in Vocal Beats. This involved interviewing the artists on the subject of their lived experience as professional musicians working in healthcare and how this correlates to and/or impacts their professional role outside the healthcare setting.

Several themes for consideration emerged from the data collected through the discussions and observations, with related sub-themes:

- The Professional Musician in Healthcare:
 - Role of a musician in hospital/artistic outcomes
 - Competencies / appropriate skillset
 - Challenges as an artist working in the setting
- Relationships of:
 - Musicians and staff
 - Musicians and patients
 - The musicians as a team
- Artist Support:
 - Reflection
 - Journaling
 - 'Music in Healthcare' training

Defining or creating a framework for measurement of quality outcomes in the arts is recognised as a challenging task, and is something that has always been open to debate. Nonetheless, there seems to be an understanding shared by many arts organisations that outcomes are specific to each programme and context, and should be underpinned by how the work engages with its audience.

In his *Supporting Excellence in the Arts* review commissioned by the Department of Culture, Media and Sport, Brian McMaster wrote:

For something to be excellent it has to be relevant, and for it to be relevant it has to be continually reinterpreted and refined for and by its audience.

When looking at artistic outcomes several important considerations come to mind, of the

musical, personal and professional competencies of the musicians facilitating the musical engagement, who are central to the success and quality of any programme.

Professional Musicians in Healthcare and Their Role

The musicians engaged in the Vocal Beats programme were drawn to the role for many different reasons. Some became involved by responding to an open call by the hospital for an Artist in Residence, another was invited to cover a maternity post, and several of the musicians had been professional colleagues prior to starting in this role.

When asked what motivations drew them to this role, the two main reasons that emerged were: a love of music and working with children. One musician added 'it made sense' (the role).

When the discussion turned to what keeps them working in this role one musician commented,

...it's really fun and it's like a real privilege. It is intense and it's not for everyone, there are big challenges, but – it is also like, it does gives you a sense of purpose

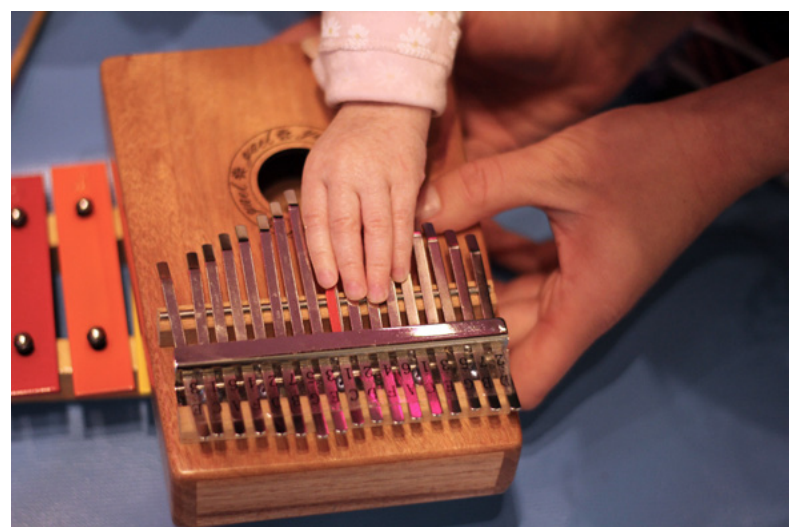


Figure 5 Baby with kalimba © Elam Forrester

It is worth noting that the professional musicians facilitating the Vocal Beats programme are all highly skilled professional singer/songwriters and champion beatboxers, and they all have a lot of experience working with music and children in education and community contexts that predates their involvement in Vocal Beats.

During the focus group there was some interesting discussion around the additional skills and competencies the musicians felt were necessary for a hospital musician role; these included the need for flexibility, adaptability, communication, the ability to think under pressure, to be sensitive to and generous with letting the music be patient-led, and the need to be emotionally intelligent.

They agreed that it can be challenging when, with some patients who you see regularly and form relationships with, something happens to them – that it can be hard to ‘block it out’.

In both the interviews and the focus group, the artists engaged with exploring their different roles as professional musicians and as professional musicians in healthcare, and the impact that each role has on the other. One musician commented that the amount of collaboration and improvising required in the hospital setting meant that their level of musicianship had gone up, and they had also become more vocally fit. Another musician observed that they have now become more acutely aware of situations outside the hospital setting, and are better at reading a room (audience) as a direct result of their role as a musician in hospital. Another impact shared by the musicians was that they are now more aware of what people are going through and that this sometimes comes through in their song-writing.

One musician commented that it is very easy for them not to hold the two roles in equal regard, but that it remains nonetheless important for them as facilitators to remember that they are



Figure 6 Music-making app ThumbJam on iPad © Nik Read

also performing artists: while the roles can feed into each other, it is important to make space for each one.

The musicians revealed a number of personal and professional challenges they face in their role, including in finding balance between being an artist and their practice in the hospital. One musician said that they felt that being an artist in a hospital involved a really fine dance: people love to hear them perform and hear about their professional music lives outside that setting. Another musician shared that it can also be a challenge musically, as someone will always ask you to play something that you do not know, and all musicians acknowledge that you can never be prepared for every situation. There was a consensus around the particular challenge for a musician to keep evolving and adding to their repertoire with work that is relevant to the young patients.

When the musicians were asked how they measure the success of a musical engagement one said, ‘everyone is so different, a success for one person is so different to another person’; another musician noted the importance of ‘recognising this context is very specific’ and also ‘what’s already there’. The same musician added a comment which illustrates that progression and success look different in ‘in-the-moment’ contexts:

We are very lucky that little tiny things that might not be considered like a successful session in an

education establishment, like someone smiling or a baby tapping their foot, that's an incredibly successful session in a subtle way

The musicians noted that the training they had received to improve their understanding of cystic fibrosis and the physical components of breathing, alongside writing arts observations had helped them to recognise what a success might look like in this context. One musician went on to say,

You have to develop a language to understand that [observation]

Relationships

The Vocal Beats musicians have developed strong relationships with the play team on Rose Ward. There is a handover from the play team before the musicians head out around the ward, and a play specialist sometimes accompanies them if there is a complex case, to make introductions if needed.

During observation of musicians on their music visits, it was clear they were very comfortable navigating the hospital setting and finding opportunities to start a musical engagement or conversation about instruments with patients and families.

One musician commented that they felt the nurses recognise the value of what they are doing and would sometimes ask the musicians to continue while the nurses carry out a small procedure.

Later in discussions, the potential to consider implementing a further pastoral support for designated staff handovers in all adult wards where the programme takes place - but does not benefit from the presence of the paediatric play team - emerged. It was felt that identifying an individual or team who would be able to fully brief the musicians on each young person would enable the musicians to better tailor the session to meet the

patients' individual needs. This would be especially valuable in more challenging circumstances on adult wards and would certainly help aid the impact of the musical session.

One interesting topic that came up during the focus group and interviews concerned the extent of information about a patient that musicians need to facilitate a session. They agreed that a balance was needed; one musician commented that they would forgo having any knowledge about a patient's background, and would rather just go to that patient to offer the choice and opportunity to engage or not engage.

Another expanded further on this, talking about the importance of offering young patients the choice to take part in a music session

I can offer them a choice, and I have learnt quite recently that that is a humongous part of why I think what we do is so important – because they don't get to choose that many things [in hospital] ...and for them to say yes ...I love that you can say no to me as well, I want to offer you something you can say no to, but also you can say yes, and if you choose to participate then it's a little bit of normality I think, and a little bit of escapism, and giving that to someone is just magic ... it's a real privilege to be able to do that, I feel very lucky.

When one musician was invited to share what drew them to this role, they commented that, 'I think as humans what we all crave is connection'. They went on:

For some reason beatboxing really does that. It is always being seen

as a party trick, as a novelty; it's more than that, it's an art form and it is a language and it transcends everything. It transcends culture, style, age, sex, it's just expression. And anyone can do it ... it doesn't matter about whether you're the best or not. It's whatever sound you make, every sound is a good sound, it doesn't matter: it can be a whistle, a click, a word, but every sound is a form of their expression... It gives everyone a blank slate to start on

The Vocal Beats programme was being delivered by an individual musician when it first commenced; it has now grown to be a programme that supports music being delivered individually and in pairs. The participating musicians' previous professional relationships and friendships that existed before working with the Vocal Beats programme have certainly helped them become a solid musical and supportive team. As one musician commented, 'it's a joy to collaborate with other exceptional musicians'.

Artist Support

A recent research report by visual artist Nicola Naismith entitled *Artists Practising Well* focuses on support for artists and recognises the role that the artist, manager, funder, commissioner and policy makers have in supporting the wellbeing of artists, and also looks at the fact that this wellbeing is essential for them to be able to produce quality work.

All the musicians interviewed acknowledged and were very grateful for the support they currently receive from rb&hArts and the opportunities for continued training and supervision that they are offered.

The musicians felt that their current involvement in programme documentation has helped create more awareness of their role, and that the arts observations they do have helped them to observe more details of the music's impact during every visit. They acknowledged that while the evaluation processes could at times seem complicated, they were always evolving. Nonetheless, a common understanding among the team would be beneficial to the way they approach the documentation and the potential in turn to gather deeper and richer data.

The musicians recognised the need to reflect individually and also with their team partner. One musician noted that 'on your own it's quite lonely, so good to reflect [as a team]'.

Journaling is a more recent addition to the musicians' practice in the Vocal Beats programme. The musicians acknowledged that it has been very helpful as a form of reflection and in supporting their writing of case studies, but also highlighted that it can be somewhat complicated to figure out the evaluation process. They felt it was important for them to more clearly understand what they are documenting and the different forms of documentation (e.g. for the purposes of data, feedback or their own reflections).

None of the Vocal Beats musicians had any specific 'music in healthcare' training prior to starting the role with Vocal Beats, although two had observed another musician in the team before commencing. One of the musicians has undertaken some training with Opus Music since they began with Vocal Beats and all received a hospital induction.

All the Vocal Beats musicians have taken part in CPD training relating to respiratory diseases and they confirmed this has helped them understand more of the physical and medical challenges of patients they meet, and has also helped to inform the music activities that they facilitate during musical engagements.

Section 3: Clinical Perspective

Charlotte Wells

This section briefly reviews the published literature to better understand how music, singing and beatboxing could be beneficial for cardio-respiratory health; it reviews clinicians' experiences of hospital-based singing programmes (*Singing for Lung Health*); and explores the potential benefits of collaborative sessions between Vocal Beats and allied health care professional teams.

Why Analyse this Intervention from a Clinical Perspective?

From a clinical perspective music provision is seen as an alternative ‘intervention’ which acts as an adjunct to the other pharmacological and non-pharmacological treatments. It aims to positively impact on a child or young person’s experience during their hospital stay and to support the efforts of the clinical team. It is also hoped that these sessions with each patient will have an impact beyond their stay and ignite the possibility of exploring music and all its health and wellbeing benefits at home and in the community. This idea is supported by Goldenberg’s (2018) literature review which looked at the current body of evidence concerning the effect of singing lessons for respiratory health, and which included all experimental research designs. She identified 17 studies that involve singing interventions in chronic obstructive pulmonary disease (COPD), asthma, cystic fibrosis, Parkinson’s, cancer and quadriplegia. Goldberg’s findings identified improvements in physical functioning, quality of life, mood, breathing control and trends towards improved respiratory function and respiratory muscle strength, with reductions in perceived sense of breathlessness, fear and mental pain. This suggests there is a need to further explore the potential benefits of vocal music-making in respiratory healthcare settings.

How Might the Intervention Work?

For children and young people with cardio-respiratory conditions, the respiratory muscles play an important role in maintaining lung health. Airway clearance, breathing control, respiratory muscle strength through exercise and breathing patterns: these are common themes in health management for people with a variety of heart and lung conditions. The strength of the muscles involved in breathing is important and can affect many outcomes for children staying on the wards

at Royal Brompton & Harefield NHS Foundation Trust, including, for example:

- how quickly children successfully come off ventilator support after surgery
- how effectively children can clear their chest of excess sputum
- how able children are to exercise effectively without severe breathlessness (Enright, 2004; Reid, 2008; Chang, 2006; and Widdicombe, 2006).



Figure 7 Active Cycle of Breathing Techniques (ACBT) developed by Pryor and Webber

Studies have shown that singing requires regulation of air flow and encourages the use of a greater lung capacity (Collyer, 2009, Sundberg, 1987). Encouraging a larger tidal volume through better lower thoracic breathing mimics how some airway clearance techniques within physiotherapy interventions work. The active cycle of breathing techniques (ACBT) developed by Pryor and Webber describe how the larger tidal volumes attained in this technique are thought to help recruit or open areas in the lungs where sputum has blocked an airway, helping to mobilise and clear the secretions. Goldenberg (2018) suggests that the shearing forces and oscillating pressures generated in the lungs during singing could help mobilise secretions,

hydrate the airway surface liquid and reduce the viscoelastic properties of the sputum, making it easier to clear. On this basis, we suggest that both exercise and singing sessions could act in a similar way as an adjunct to airway clearance for respiratory patients, mobilising secretions and thereby making it easier to clear sputum. Benefits of singing include that it does not require any devices, patients can do it on their own, and the element of fun and enjoyment helps reduce treatment burden (Raskin, 2009).

Both physiotherapy techniques and singing techniques focus on the importance of posture, diaphragmatic breathing and breath control. Although various techniques exist, the one most commonly used in both physiotherapy and singing involves descent of the diaphragm on inspiration, leading to the lateral movement of the lower ribs in a 'bucket handle' motion which together push the abdominal wall outwards just below the xiphisternum; followed by either passive relaxation on expiration in normal resting breathing ; or, during airway clearance such as Autogenic Drainage (Agostini and Knowles, 2007), Forced Expiratory Techniques (FETs) in ACBT and in singing sessions, the contraction of abdominal muscles to control an 'active expiration' that pushes the abdominal viscera back up against the relaxing diaphragm. Within physiotherapy breathing control sessions, pursed-lip breathing is commonly taught as a method that creates resistance to the exhalation in order to maintain some positive expiratory pressure, thereby reducing the possibility of airway closure. This can help breath control on activity and exercise. Goldenberg (2018) suggests that, 'the lengthened airway, positive expiratory pressures and long sustained phrases required in singing can theoretically inhibit the collapse of airways' in a similar way to pursed lip breathing. Both can help reduce the sensation of breathlessness, empower patients with the ability to control their breath

whilst moving, and reduce the risk of over-breathing or disordered breathing patterns.

Both physiotherapy and singing sessions encourage postural realignment to achieve normal spinal curvature, engagement of core stabilising muscles and pelvic floor, as well as relaxation around the neck and shoulders. In the context of physiotherapy interventions this is to achieve better airway clearance techniques, a more effective cough, improve the breathing pattern and reduce stress incontinence; in singing, on the other hand, it is for the purposes of better breath control to achieve longer sustained phrases and better coordination between muscles. Although the purposes behind the use of the intervention in physiotherapy and singing are different, the outcome is the same, and both interventions can improve posture and strengthen core muscles, which will in the long term benefit the patient and reduce their risk of injury, long-term back pain, and stress incontinence caused by chronic coughing due to the child's respiratory condition and repeated chest infections.



Figure 8 Singing for Breathing warm up for vocal sessions using fricatives and pursed-lip breathing exercises © Elam Forrester



Figure 9 Singing for Breathing perform 'The Singing Hospital' at Royal College of Physicians, 2019 © Elam Forester

Through re-establishing diaphragmatic breathing and good postural alignment, both physiotherapy and singing interventions also focus on re-establishing a 'normal' or 'good' breathing pattern. By this we mean changing clavicular or apical breathing to diaphragmatic breathing, establishing a good rhythm and flow to the breathing pattern to enable the participant to either exercise without the discomfort of excessive breathlessness or, in singing practice, to achieve longer phrases and better breath control. The studies in singing for lung health by Lord et al. (2010) found that better breathing patterns and control were seen after the six weeks of singing sessions. This is hugely important as dysfunctional breathing has been found to be a significant cause of breathlessness symptoms, anxiety and morbidity in patients with respiratory conditions (Veidal et al., 2017). Treating dysfunctional breathing and re-establishing a 'normal' breathing pattern can help reduce reliance on reliever inhalers, and hospital admissions as well as improve symptoms for children (Barker and Everard, 2014).

Music and singing sessions are often individually tailored at the bedside, which makes measuring the intervention, dose and outcome fraught with challenges. What is the 'right' outcome that will capture a child or young person's experience? Perkins et al. (2018) encountered this issue when they were unable to demonstrate the beneficial impact of a single music session on pain in children post-surgery. They highlighted the need to create a tool that is able to explore the observable impact of music on children's emotions and behaviours.

Review of Clinicians' Experiences of Singing Projects Within Healthcare

One of the leading projects at rb&hArts and in the wider sector is *Singing for Breathing* (or *Singing for Lung Health*), which provides weekly singing classes for older adults living with COPD. This

programme has been enormously influential in its approach and successes, providing inspiration for critical thinking and building the evidence for Vocal Beats from a health perspective. To review the impact *Singing for Breathing* has had on both participants and clinicians, Victoria Hume conducted a series of interviews on its 10-year anniversary both with people who had participated in a *Singing for Breathing* group and clinicians who worked within Royal Brompton & Harefield NHS Foundation Trust. This work led to the composition of 'The Singing Hospital' and its performance at the Royal College of Physicians *Catch Your Breath* exhibition. Victoria has kindly allowed me to read and analyse those interview scripts from the clinicians' experiences of this singing project within Royal Brompton Hospital; these include the lead consultant and a research physiotherapist who were involved in the project from its inception, and doctors who have worked with singing projects since it has been established. Overall the project was described as a hugely joyful experience, which successfully supported ability and reduced the social isolation so often seen with progressive respiratory conditions. Themes which emerged from across all three interviews were:

- Dynamic physicality of the sessions
- Practical focus on breath
- Non-threatening to a medical paradigm
- Scientific evidence

Dynamic Physicality of Singing Sessions

Each person interviewed commented early on that the surprising thing that was most notable about a class-based singing session in respiratory health was the physicality of it; the activity and energy levels were much higher than expected from such a class.

I saw that there was more to it than a sing-song quite quickly, just from the warm-ups that she was doing.

The warm-ups and vocal exercises were active and applicable to the physiotherapy classes for exercise-based rehabilitation:

I was nearly immediately taking things on: how can I use this in PR [pulmonary rehabilitation]?

Practical Focus on Breath

Throughout the interview transcripts there was consideration of how breath control was attended to in the sessions, in a way that was very different from traditional breathlessness management:

Well I think it's a very deliberate physical activity. You have to hold yourself in a particular way, you have to control your breathing. And... you know, the output of that is very obvious: if you're singing effectively or not.

The benefits and applications of this form of breathing control and focus on breath pattern were considered by both the physiotherapist and consultant. The idea that it is important to prepare your body to breathe for singing, just as for exercise, and the potential application of this concept into the lives of the participants could be what enables better function.

...there are likely to be many psychological benefits... but I think having an activity that is also physical in people who have a physical impairment, who are breathless and have detrained, become physically deconditioned because of their breathlessness.

Singing for Breathing classes were seen as a hugely positive group activity that focused on ability rather than respiratory difficulties.

Breathlessness is something that people have in their heads. It's a sensation. So it's made up of the physical inputs that are coming back from the breathing, combined with what the person thinks their breathing is going to be like and what they're expecting, so you start with people who expect to be breathless, they expect to be limited, they expect to be distressed, they're fearful of breathing and breathlessness; so techniques that can overcome that, which may be something that you do as a different behaviour around breathlessness, may well be helpful.

Non-threatening to the Medical Paradigm

The success of an arts programme within a healthcare or hospital setting often requires support from lead or influential consultants, with whom the overall responsibility for patients' health lies. It is therefore inescapable that there may need to be support and endorsement from consultants for an arts project to gain a foothold within the hospital

setting. We are encouraged, then, that the lead consultant who was fundamental in the Singing for Breathing research projects comments within the hospital notes:

It's not challenging any kind of medical paradigm for me, it just seems like a perfectly normal, sensible thing, which you know is either useful or not for some or loads of people, and you know I think will take its place as a useful activity and something that we can recommend.

Furthermore, another clinician describes it as;

...personalised medicine, you know? In the same way that we're personalising things based upon people's genetics and genomics, we should be personalising them on their human experience of culture and family – these are all just as much integral to creating personalised medicine...

Scientific Evidence

All three interviews add a note of caution about our current knowledge level concerning the theory and impact of singing interventions. They all describe the good level of qualitative evidence and experimental evidence, but as we have already highlighted, there is a need for randomised controlled trials before this type of intervention would be widely accepted as an adjunct to medical care.

Thinking about it from a scientific point of view, there are going to be some things about it which are going to be true or not true so in terms of advocating for it, I think it's important not to run ahead of the evidence.

Collaboration Work

Collaborative working between singing teachers and physiotherapists has been recorded before in literature and within this hospital trust. Lord et al. (2010 and 2012) documented it in their singing study intervention; and beginning with a 30-minute session with a senior physiotherapy on breathing control, the natural evolution of the Vocal Beats team was supported by the paediatric physiotherapists. Having a healthcare professional within the ward and team you are working on can be helpful for facilitating acceptance of the singers into the ward environment, to integrate practices, to learn and develop knowledge of the health/disease conditions with which the singers are working and to help them identify what success might look like within a singing session. Given that singing and physiotherapy are working towards some common aims, it is natural that this alliance often exists.



Figure 10 1-to-1 Vocal coaching session © Nik Read

Following work and shared sessions between physiotherapist and singers, some formal teaching sessions were arranged for the whole Vocal Beats team. Four half-day sessions were arranged. Session one was on the pathophysiology, medical management, and physiotherapy aims for each cardio-respiratory condition they may encounter at Royal Brompton and Harefield. Session two addressed non-pharmacological therapeutic aims and theory common to physiotherapy and singing interventions for cardiorespiratory health, Session three focused on theoretical development of singing interventions and sessions tailored to each cardiorespiratory condition. Session four was a practical session split between ward-based observation of tailoring sessions and developing reflective practice. The aim of the sessions was to empower the Vocal Beats team to create personalised sessions taking into consideration the child's health condition yet still maintain the artistic element of their work. Developing the singers understanding of both health conditions and the physiology behind healthcare interventions enabled them to better understand and recognise what improvements participants were making and how significant they can be to their overall health. This type of education – which would always be recommended for any singing intervention, whether it be *Singing for Lung Health* or a local hospital project – is what sets the programme apart from a community choir: it gives the singers the ability to create a targeted therapeutic intervention by way of an artistic outlet. Ensuring regular reflective practice is essential for the singers to learn how to identify what 'success' might look like in the clinical area they are working in, to better understand their own practice and maintain their own health and wellbeing. Reflective practice can be done as an individual but better guided with a supervisor or as a team and allows musicians to process what they have noticed within sessions, finding significance in things possibly overlooked in the moment.

It can allow increased awareness of patterns and responses leading in time to a better understanding of breath and singing.

Goldenberg (2018) concludes her literature review by saying:

The singing teacher who teaches a patient with respiratory disease should seek out information about the particular disease to understand the nuances of a student's needs and, if possible, collaborate with the appropriate medical care team. Further studies of the impact singing has on respiratory disease and health are warranted.

It was also noted in the 'The Singing Hospital' interviews, in relation to how *Singing for Breathing* leaders need appropriate training prior to taking on a group:

We're treating people's voice, right? And there's a whole profession – speech and language therapists – they should really be involved in this work as much as possible, because there's a bit of evidence to suggest that if we improve dysphonia then we improve the amount of obstruction in their lungs. [But for] undiagnosed voice problems, singing incorrectly damages the voice [and] risks harm. Different leaders with different levels of expertise ... need to pick out really, really technical aspects of delivery.

Conclusion with Recommendations for rb&hArts and Other 'Music in Hospitals' Programmes

At the heart of the Vocal Beats programme lies a core belief in the value of supporting, developing and enhancing the patient experience through creative music-making and learning. The following organisations form the foundation without which rb&hArts would not be able to deliver this work:

- Royal Brompton & Harefield NHS Foundation Trust
- Royal Brompton & Harefield Hospitals Charity
- The Brompton Fountain

A belief in the efficacy of the Vocal Beats programme appears to permeate the ethos of hospital life in the wards at every level, engendering knowledge exchange, collaboration and support. This is evidenced by the quality of the work which has been recognised externally and particularly in the vital financial support given by Youth Music and other funders.

Though this report reviews the programme from three distinct professional perspectives, there are overlaps worth noting. Each contributor recognises the dedication of the musicians and the high standards they espouse in every aspect of their work at Royal Brompton & Harefield Hospital. There is also a consensus regarding the importance of ongoing dialogue between the Vocal Beats team and the clinical team, in terms of sharing their specialist knowledge for the benefit of the young patients.

The musicians are constantly developing their practice in hospital settings and as individual leading performers and songwriters with high-profile careers, and it is evident that they consider both aspects as priorities. Operationally this can be challenging, not only in terms of diary clashes, but also risk-taking as artists, in pursuit of their goal for patient-led musical interventions based on collaboration, improvisation, and, from this, innovation. However, it also validates them and

brings a broad stimulating presence to their work on the wards.

In 2015 there was one Musician in Residence in Rose Ward, and now there are four musicians who offer singing, beatboxing and ukulele on a weekly basis, and also work with young adults on the Royal Brompton and Harefield sites. This success story has evolved according to participant need and by seeing the potential to grow the programme as it embeds in hospital life, thereby enhancing and deepening the patient experience. The addition of 1-to-1 music sessions for young adults in 2018 is an example of the team's care and awareness in addressing the social isolation experienced by many patients with cystic fibrosis.

As the *Creative People* chapter of *Everyone can develop and express creativity throughout their life* (Let's Create, Arts Council England Strategy 2020-2030) states:

Children and young people talk passionately about the pleasure they get from creative activities (many of which they undertake in their own time, and often online) and how they use them to express themselves and develop their skills and confidence. They also talk about the important role that creative activities can play in helping them deal with anxiety, stress and social isolation.

The Vocal Beats programme embraces these aspirations by offering patients choice and the opportunity to develop their music-making, building their skills to realise their potential. For many patients the hospital setting at Royal Brompton and Harefield may be the only place where they can do this, and the report recommends building partnerships externally to extend the opportunities and share practice.



Figure 11 Participant playing the kalimba © Nik Read

The areas of research and robust evaluation in this specialist clinical context are also highlighted in the report. It is recommended that these should be further developed in order to share learning across a wider healthcare forum and to provide evidence for securing funding and developing new partnerships across sectors. Of particular importance is an investigation into the impact and effect of the most common singing or beatboxing techniques used within the Vocal Beats team, so that we might be able to better understand and unpick the efficacy of these techniques for children with heart and lung conditions. Analysis should focus on singing and beatboxing techniques from a physiological and vocal coaching perspective. Once we have deepened our knowledge and evidence for why and how these singing techniques might work and the benefits they may offer, we can then more widely recommend their use in a variety of settings.

rb&hArts is well placed to be at the forefront of current thinking regarding personalised medicine and social prescribing in the work they undertake with patients, in collaboration with clinicians.

Whilst recognising issues regarding capacity and fundraising imperatives, it is hoped that the Vocal Beats programme will grow in profile and gain further recognition; though this will in turn benefit Royal Brompton & Harefield NHS Foundation Trust, it will primarily benefit the young patients who everyone agrees are the top priority.

Summary of Recommendations from the Three Sections of this Evaluation:

- Standardise evaluation processes for the team of musicians to gain a common understanding and to enable the gathering of deeper and richer data. The musicians would also welcome clarification of the types of documentation required.
- Further integrate the practices of the musicians and the healthcare professionals to identify what success within a creative music session might look like.
- Amend the status of the freelance musicians' contracts to part-time salaried roles, particularly for the lead musician – if appropriate, and subject to funding.
- Continue to expand musicians' knowledge by attending CPD opportunities, namely workshops, conferences and/or exchange programmes or collaborations with other leading programmes nationally and internationally.
- With reference to the Musicians in Healthcare Mentoring Programme:
 - Develop a standardised approach to mentor-mentee relationships
 - Consider whether the mentors would benefit from tailored mentorship training
 - Identify and clarify the role of the mentees during sessions
 - Facilitate the observation and review of mentees in some capacity, creating and leading an intervention where appropriate
 - Invite some of the 'alumni' mentees back to work in sessions with the Vocal Beats musicians with the aim

of becoming deputy musicians in the future

- Consider the introduction of an apprentice scheme
- Create an online forum or further meeting opportunities for mentees during the course of the programme
- Develop a 360° pilot pathway scheme for patients to continue musical activity in their own locality between hospital stays.
- Consider the introduction of 'individual' learning plans that also incorporate 'buddy' plans for ensemble work and composition online or in person.
- Research how the new National Academy for Social Prescribing could benefit the Vocal Beats programme.
- Support Vocal Beats Ambassadors in developing wider peer networks and organisations.
- Research a range of accreditation models that may be relevant to Vocal Beats participants.
- Share evidence and good practice more extensively with a wider range of stakeholders; these could include professional and amateur music ensembles with whom there is an artistic synergy; commercial and corporate organisations; and a range of trusts and foundations who may wish to become more familiar with the programme.
- Further explore the potential benefits of vocal music-making in respiratory healthcare settings through formalised research.
- Seek opportunities for further clinical staff buy-in; by presenting to physiotherapy teams, for example.
- Create a tool to explore the observable impact of music on children's emotions and behaviours.
- Embed structured reflective practice into the musician's work to develop experiential learning and self-supervision.

Additional Information Resources

Cystic Fibrosis Trust (<https://www.cysticfibrosis.org.uk/what-is-cystic-fibrosis>)

Standards of Care and Good Clinical Practice for the Physiotherapy Management of Cystic Fibrosis (<https://www.cysticfibrosis.org.uk/the-work-we-do/resources-for-cf-professionals/consensus-documents>) British Lung Foundation (<https://www.blf.org.uk>)

Asthma UK (<https://www.asthma.org.uk>)

Primary Ciliary Dyskinesia (<https://www.blf.org.uk/support-for-you/primary-ciliary-dyskinesia-pcd>)

British Heart Foundation (<https://www.bhf.org.uk>)

Further Reading

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BBC Children in Need (www.bbcchildreninneed.co.uk)

Bethlem and Maudsley Hospital School (www.bethlem-maudsleyschool.org.uk)

The Brompton Fountain (www.thebromptonfountain.org.uk)

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City of London Sinfonia (www.cityoflondonsinfonia.co.uk/wellbeing/wellbeing-projects)

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Foulis, Rowan and Fir Tree Wards

GOSH Arts (www.gosh.nhs.uk/wards-and-departments/departments/gosh-arts)

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APPENDIX: Description of Conditions

Listed below are details of the main heart and lung conditions that the children and young adults who are inpatients at Royal Brompton & Harefield Hospitals may have. These details are provided to give context to the Vocal Beats work and the people they may be working with.

Cystic Fibrosis

Cystic fibrosis (CF) is a genetically inherited life-limiting condition that affects all the major organs of the body, such as the lungs, pancreas, bowel, liver and kidneys. In brief, it occurs because an altered cystic fibrosis transmembrane regulator (CFTR) gene causes the cells in the body to have an imbalance of sodium and potassium, which leads to membranes becoming dehydrated and sticky. Thick mucus builds up everywhere in the body but particularly in the lungs and digestive system: the airways produce thick mucus which is hard to clear and makes people with CF more susceptible to lung infections. Repeated infections in the airways lead to irreversible damage (Irons et al., 2019). The management of CF can involve a complex daily treatment programme that usually includes airway clearance techniques, physical exercise, pancreatic enzymes and other medications, as well as hospital admissions. Such an intensive treatment regimen may have a negative psychosocial impact on children and adolescents (Glasscoe, 2008), particularly adolescents (D'Auria, 2000). Previous studies have found that individuals with CF may have poor quality of life (QoL) (Quittner, 2008).

Bronchiectasis

Bronchiectasis is diagnosed through identification of 'irreversible dilation of peripheral airways' on a CT scan. These damaged airways cause over-production of mucus, however, the same damage means the airways are unable to clear these secretions, which leads to an ongoing cycle of infection and further lung damage. These exacerbations frequently require hospitalisation

for treatment. The management of bronchiectasis involves maintaining respiratory health, clearing the airways and physical exercise to maintain physical function.

Asthma

Asthma affects the airways in the lungs of children, young people and adults, and can change over the course of a lifetime. Typical symptoms of asthma may include breathlessness, difficulty breathing, tight airways, coughing and wheezing; these symptoms can be persistent or intermittent, and may change as a child grows up (GINA, 2018). The aim of asthma management is to minimise symptoms, exacerbations and hospital admissions; to find the minimum dose of effective medication to avoid adverse effects; to maintain 'normal' pulmonary function; and to enable a child to participate fully in physical activity (GINA, 2018). Asthma management uses inhalers and medications to treat inflammation and infection in the airways, as well as non-pharmacological interventions which may include psychology to help with anxiety and adherence to medications, and physiotherapy to help with exercise, airway clearance, symptom differentiation, breath control and breathing pattern retraining (Veidal et al., 2017).

Primary Ciliary Dyskinesia

Primary ciliary dyskinesia (PCD) is a rare inherited disease that affects cilia, which are tiny, hair-like structures that line the airways. Cilia move in unison in wave-like motions, carrying mucus toward the mouth to be swallowed, coughed or sneezed out of the body. The mucus contains inhaled dust,

bacteria, and other small particles. If the cilia are not working well, bacteria will remain in the airways, which can cause breathing problems, cycles of infection, and other disorders. PCD mainly affects the sinuses, ears, and lungs. Some people who have PCD have breathing problems from the moment of birth. The management of PCD involves airway clearance techniques, sinus rinsing, maintaining lung health and physical fitness. Treatment of infections frequently requires hospitalisation.

Post-Cardiothoracic Surgery

A wide range of cardiac and thoracic surgeries are performed at Royal Brompton Hospital & Harefield Hospital. These include measures from correction of congenital malformation of the heart, to lung transplants. Once surgery is completed, recovery can take from as little as 5 days up to several months before returning to full function and discharge home. Different surgeries require varying incision sites, which can mean the child's chest may

have been opened via the sternum or ribs. After surgery children spend time on the intensive care unit which can be noisy and frightening for them; they often need to have intravenous medication, chest drains and lines in and on their bodies. They may need to undergo painful procedures; although moving around after surgery may also be painful, it is an important step for ensuring the child's recovery. After a lung transplant time in isolation may also be required depending on each patient's immune system and their body's acceptance of the new organ. Nerves can be cut or bruised during surgery, and this can alter the patients' ability to 'feel' their breathing. Once recovered and moved to high dependency units and the general ward, fewer lines, drips, drains and medication are needed and the children are freer to move and play. Depending on the surgery and incision site, children will be given advice on what they can and can't do until fully healed over the next 6 weeks to 3 months at home.

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