Chronic respiratory disease is a leading cause of morbidity and mortality globally and disproportionately affects people in low-income settings. Pulmonary rehabilitation programs are an effective intervention available for people with chronic respiratory disease, and exercise training is a core component of these programs. Recent years have seen growing interest in integrating alternative forms of exercise training, such as yoga, Tai Chi, and dance into pulmonary rehabilitation programs to make them more engaging and enjoyable. Dance, in particular, is an effective form of exercise training demonstrated to improve motor function (balance, strength, exercise capacity), metabolic parameters, and quality of life in older patients and persons with movement disorders. As an intervention for respiratory patients, dance has been shown, in small studies, to improve 6-minute walk distance, balance (measured using the Brief Balance Evaluation Systems Test [BEST]), balance confidence (measured using the Activities-Specific Balance Confidence Scale [ABC Scale]), and Chronic Respiratory Disease Questionnaire-measured symptoms.

We have been working to design novel dance-based respiratory health programs for people affected by chronic respiratory diseases in low-resource settings. The first of these projects, DanceStrong, began in 2015 when one of the authors who was previously a dance teacher (K.P.) was working as the physician on a multidrug-resistant tuberculosis ward in a rural South African hospital in KwaZulu-Natal. Social isolation, depression, and physical deconditioning were all common, and there was no existing exercise training program. Given the importance of music and dance in South Africa and the psychosocial stress experienced by patients, starting dance sessions on the ward seemed logical and beneficial. For just under a year on the grass outside the inpatient multidrug-resistant tuberculosis ward, we ran twice-weekly 30-minute dance sessions and visited other local hospitals to bring music and dance to their multidrug-resistant tuberculosis wards. Music was selected by the participants, with discussion regarding where and when they enjoyed listening to these songs in their respective lives outside the hospital. The sessions included a warm up followed by group choreography, with participants each contributing their favorite dance moves that were joined together into routines.

The sessions were a great success with patients who enjoyed participating and anecdotally reporting physical benefits. The ward atmosphere and interpersonal relationships

Community dance session for people with chronic respiratory disease and their family members outside a rural clinic in the Kyrgyz Republic.
greatly improved, and staff and family members often joined in. These sessions have since evolved as local staff have taken full ownership of the approach, integrating music and dance into the exercise components of scheduled pulmonary rehabilitation activities rather than separate sessions.

The DanceStrong project led to the establishment of DanceAble, a collective of dance artists working in lung health, who, in collaboration with the Fresh Air research program at the University of Plymouth, have implemented lung health and pulmonary rehabilitation programs in Uganda, Kyrgyzstan, Vietnam, and Greece.

In each setting, the content of sessions, from dance moves to music choices, is selected by participants then shaped by a group leader into a dance session lasting 20 to 40 minutes. Jointly creating the sessions with participants and group leaders aims to increase participant control and ownership of the content, delivering a physically engaging activity that rehumanizes the healthcare environment so that participants are seen and see themselves as people with valued cultural, social, and personal selves.

In Uganda, patients with chronic obstructive pulmonary disease and posttuberculosis lung disease were keen to incorporate singing into the sessions. This was achieved using elements of the Singing for Lung Health program, developed in the UK and contextually adapted, delivered by Ugandan singing leaders, and using Ugandan songs selected by participants. These weekly sessions are delivered in the Kupuma House (Kupuma is Swahili for “breathing”) pulmonary rehabilitation center at the Makere Lung Institute in central Kampala. As in South Africa, the activities are integrated into existing weekly or twice-weekly pulmonary rehabilitation sessions rather than being separate or alternative elements. The music and dance components usually last 10 to 30 minutes and are used as an aerobic component of the rehabilitation program or as a group warm up. The ongoing work is led by local physicians and physiotherapists, with DanceAble available for consultation but very deliberately not involved in delivery or monitoring so as to facilitate sustainability through genuine local ownership.

In the Kyrgyz Republic, DanceAble ran dance and singing workshops for patients with chronic obstructive pulmonary disease contracted secondary to indoor biomass smoke exposure or tobacco use. These workshops were held in rural clinics, an ex-Soviet sanatorium, and an urban hospital in the capital, Bishkek. The sessions included traditional cultural dances such as the Kara Jorgu, with dance movements and gestures referencing equestrian cultural traditions. This is an ongoing project led by local respiratory physicians working with the Fresh Air team (Video).

Dance alone will not address the burden of chronic respiratory disease in resource-limited settings, but these projects suggest it could be a useful tool. Dance programs for people with respiratory disease provide a low-cost, assets-based, holistic intervention in many low-resource settings. Such programs have the potential to empower important clinical outcomes and also reconnect individuals with themselves and their communities, rehumanizing the clinical environment, and transform patients with diseases back into people with social, cultural, and artistic realities. In addition to what we conventionally consider health care resources, we should value and even utilize the personal, cultural, and societal resources that people can bring to their own healing.

Author Affiliations: National Heart and Lung Institute, Imperial College London, London, United Kingdom (Philo); Department of Behavioural Science and Health, University College London, London, United Kingdom (Philo); Makere Lung Institute, Makerere University, Kampala, Uganda (Katagira, Jones); faculty of Health, Plymouth University, Plymouth, United Kingdom (Jone).

Corresponding Author: Kate E., J. Philo, MRCPE, Mace Laboratory, National Heart and Lung Institute, Royal Brompton Campus, London SW3 6NP, United Kingdom (kate.philo@imperial.ac.uk).

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