





Original research

Audio innovation and songs to spur change in global health: evidence from a national crowdsourcing open call for youth social innovation in Malaysia

Rayner Kay Jin Tan ^{1,2} Ralph Mpofu,³ Pradheep Kay,³ Darien Sebastian,⁴ Djordje Novakovic,⁵ Ying-Ru Jacqueline Lo,⁶ Joseph D Tucker ^{1,7}

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For numbered affiliations see end of article.

Correspondence to
Dr Joseph D Tucker, University of North Carolina Project-China, Guangzhou, Guangdong, China; jdtucker@med.unc.edu

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ABSTRACT

Introduction Audio innovations remain an important medium to drive innovation in health, especially in low-resource settings. This article explores the role of audio innovation to spur change in the context of a crowdsourcing open call for youth (18–30 years old) in Malaysia.

Methods A crowdsourcing open call for youth in Malaysia was organised from March to June 2021 using standards from the WHO-TDR. The open call was called 'Imagine the World Anew' and submission categories included youth-led messaging, youth social innovation and youth strategic planning. We analyse open call submissions and provide a more detailed analysis of an audio submission.

Results A total 43 entries were submitted to the open call and 6 were selected for grand prizes. One of the two grand prizes in the youth messaging category was a song developed by a youth team. The song was called 'Rise Up' and was developed by Malaysian youth to demonstrate how youth have been critical agents for change during the COVID-19 pandemic. The audio format allowed the youth to directly speak to other Malaysian youth, leverage existing audio channels and democratise messaging during COVID-19. Building on the experience from this crowdsourcing open call, we also describe key considerations for open calls to incorporate audio innovations in low-resource settings.

Conclusion Audio innovations like songs can mobilise youth and other members of the public and amplify their voices. Audio messages may enhance dissemination of health messages in diverse low-income and middle-income country settings.

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ There is a long history of community radio to promote health in many low and middle-income countries.
- ⇒ COVID-19 has encouraged the development of audio podcasts, hotlines, and related audio resources for health.

WHAT THIS STUDY ADDS

- ⇒ Our data suggest that audio provides a strong platform for embedding social innovations in local communities.
- ⇒ A crowdsourcing open call for youth social innovation was organised and included audio submissions. A song was the top-ranked submission within the youth messaging category. This demonstrates how open calls can solicit audio innovations.
- ⇒ This study expands on the literature related to audio social innovation.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE AND/OR POLICY

- ⇒ Audio innovations may be able to reach people in remote areas (eg, community radio) and people with disabilities who may be reached less well by other methods of communication.
- ⇒ We provide practical strategies for organising open calls to identify audio innovations.

INTRODUCTION

Community radio stations in Ethiopia broadcast in more than 30 local languages that are not used by mainstream national and regional radio and television broadcasters. A total of 32 community stations reach an estimated 20 million people in the country, underlining the power of

audio communication in Ethiopia and many other low-income and middle-income countries (LMICs).¹ There a rich history of community media in LMICs, including community radio in Bolivian tin mining communities and educational radio from the Catholic church in Colombia.² More recently, the COVID-19 pandemic has ushered a renaissance of audio in the form of podcasts (a digital audio file used in audio broadcasting that is typically available as individual episodes or as an entire series or programme), community radio and related audio media.³ Approximately 83% of Americans aged 12 or older listened to non-digital radio in a given week in 2020, or 41% of such individuals listening to a podcast in the past month in 2021.⁴ Radio remains an important method for reaching remote areas, people with disabilities and many others.⁵

Audio media is particularly important in settings with limited internet bandwidth. Audiovisual components such as brief videos and infographics play an important role in health services.^{6,7} Audio telehealth helps address issues relating to access to healthcare that result from inequities in broadband access.⁸ One study suggested that telephone services have improved COVID-19 services, especially among low-income people.⁹ A review of the use of telephone to improve health behaviour and service delivery found that it has been useful in reducing logistic and system barriers while decreasing costs.¹⁰

Audio media have been useful as a way of driving innovation in teaching and health promotion. In teaching, podcasting has been found to be helpful in differentiating forms of learning, providing additional support to students who have specific learning needs, and also foster a sense of inclusivity and belonging to a learning community.¹¹ The use of audio media has also been beneficial for instructors by cutting down on the time needed to provide feedback for students.¹² In the context of health promotion, audio interventions can directly improve health outcomes. Past work has shown that audio interventions such as natural sounds may improve stress recovery,¹³ while podcasting and radio can promote weight loss¹⁴ and mindfulness.¹⁵ Audio interventions also provide us a way of storytelling and centring the voices of those who are marginalised. For example, Rx Radio in South Africa uses radio to amplify the voices of children who have been affected by COVID-19.¹⁶ Another crowdsourced podcast invited people to anonymously share stories of assault, abuse and harassment.¹⁷

Stable radio transmission requires extensive equipment and capital¹⁸ and, therefore, the development of radio programmes have typically been driven and monopolised by privately owned commercial broadcast stations and public service broadcasters.^{19,20} While community radio stations have played an important role in developing and disseminating ground-up content, they still face barriers to scaling up such as

licensing and regulatory challenges.^{21,22} However, less research has been done to consider how audio innovations can be used in participatory health processes, especially in LMICs. In response to these challenges, we organised a crowdsourcing open call in Malaysia that included the opportunity for youth to submit text-based, visual and/or audio innovations to contribute to national and regional health policies on COVID-19. A systematic review on crowdsourcing in health and medical research found that such approaches broaden public engagement in research, and can help reduce costs.²³

We focus on audio media given its relevance to health, and given that limited work has been conducted on the role of radio or podcasting in science.²⁴ Perhaps more importantly, in the context of the pandemic, overuse of videoconferencing has contributed to a collective sense of zoom fatigue.²⁵ This suggests the need to provide alternative methods for communication to spur innovation. This study describes a crowdsourcing open call for youth, focusing on a description of one audio innovation and its development.

METHODS

Objectives and participants of the Imagine the world anew open call

The ITWA Malaysia Youth Open Call 2021 was a collaboration between Impact Hub Kuala Lumpur, Social Entrepreneurship to Spur Health (SESH), the Social Innovation in Health Initiative (SIHI) and was supported by the WHO Western Pacific Region Office and the WHO Representative office to Malaysia, Brunei Darussalam and Singapore. The call was organised with the main objective to mobilise large numbers of youth in Malaysia, and through their voices, inform and contribute to the formulation of national and regional health policies related to COVID-19.

The open call accepted submissions from 23 March 2021 to 7 May 2021 (see online supplemental table 1). The entire open call process was guided by the practical guide on crowdsourcing in health and health research that was developed by WHO/TDR (the Special Programme for Research and Training in Tropical Diseases) and SESH in collaboration with SIHI²⁶ and the SIHI consensus statement on open calls.²⁷ In the open call, Malaysian youth aged 18–30 years old were invited to submit entries in English or Bahasa Malaysia. Participants could submit entries as an individual or a group of up to four members, and multiple unique submissions per individual were permitted. Calls for submission were advertised through Malaysian university networks, community radio, online social media ads and youth networks. The posts had reached 40860, 5618 and 6848 individuals through advertisements run on Facebook and Instagram, Twitter and LinkedIn, respectively.

Table 1 Submissions guidelines for submission tracks

Track	Submissions guidelines
Youth-led social innovations in health	Any youth-led social innovations in health with proposals, ideas, concepts and prototypes to address problems or challenges brought by COVID-19 pandemic in a small or large-scale community; innovations can be in any of the two types: <ul style="list-style-type: none"> ▶ Innovations to address direct COVID-19 health problems (eg, management of COVID-19 cases, prevention and control of the spread of the virus, contact tracing practices) ▶ Innovations to address indirect COVID-19 health problems (eg, mental health) Application format: Text (descriptions of novel solutions), Image, Video and Digital Apps
Youth messaging	Any youth-focused messages, communication and engagement strategies which can reach and engage young people to encourage the adoption of healthy and safe behaviours, be aware of how individual actions can contribute to collective health, and empower others to protect themselves and their loved ones from COVID-19. These messages could be in the form of the following: <ul style="list-style-type: none"> ▶ Text (short story/poem) ▶ Images (photographs, drawings, paintings) ▶ Videos ▶ Music and/or spoken word Application format: text (short story/poem), images, videos, music and/or spoken word
Futures thinking and strategic planning (future of health)	Create a vision of how you perceive the year 2050 will look. The vision may consider how a living arrangement in a city or other community would look like in 2050 after the COVID-19 pandemic. The vision may highlight key issues in youth lives (eg, work, education, family, health) including future-oriented ideas on the problems or concerns that would emerge in youth lives out of the COVID-19 pandemic. <p>The vision that you create will feed into how countries and local communities must strategically plan for the future to ensure that they are resilient against future changes and adversity.</p> Application format: Text (descriptions of novel solutions), Image, Video and Digital Apps

Call for submissions

Following the opening of submission, an online event was held on 7 April 2021 to promote the open call to Malaysian youth, and was conducted in conjunction with Minggu Sains Negara (Malaysia Science Week). Participants were given the option to submit their entries to one of three submission tracks, which included Youth-Led Social Innovations in Health, Youth Messaging, and Futures Thinking and Strategic Planning (Future of Health). Overall, submissions were accepted as text (maximum 1000 words), images (maximum file size) of 10 MB, with text to explain the image), videos and music (maximum length of 2 min, maximum file size) of 200 MB) or digital applications (can be demoware or trial version, with text to explain the application). [Table 1](#) summarises the submission guidelines and acceptable application formats for each track.

Steering committee, selection of entries and judging

A steering committee was set up and comprised 15 individuals who represented youth groups in Malaysia, policy-makers, communications experts, as well as representatives from WHO, SESH, SIHI. The steering committee was tasked to provide strategic advice and guidance on the entire open call process, including reviewing the mentorship processes, supporting the judging and selection of finalists, and planning for events like the final national showcase and the designathon.

A judging panel was also convened to judge entries for the open call, and comprised health professionals, researchers, youth community leaders and partners in health and social innovation organisations. Two rounds of judging were conducted, the first to select

15 finalists and the second to identify the grand finalists that were announced at a national showcase event. All entries were assessed based on predefined judging criteria (online supplemental table 1). Following the closure of the top 15 finalists were selected.

Mentoring support session and online designathon

All finalists were invited to attend both a mentoring support session and an online designathon. Designathons are a multistep process that brings together a multidisciplinary diverse group of individuals to solve a problem in small teams.²⁸ The mentoring session was held over a 3-hour session and provided opportunities for the finalists to introduce their projects to mentors, and receive personalised feedback on their respective projects. Finalists then participated in a designathon event in June that was held over 2 days. The designathon was divided into three sprints, delivered over 2 days. Each sprint had its own goals and activities which provided the participants with a deeper understanding on the issues they are tackling and to use design tools and approaches to broaden their perspectives so that they can refine their ideas or solutions. The participants were divided according to their thematic tracks, working together using collaborative digital tools like *Google Jamboards* to map out their ideas or solutions.

Data analysis

We conducted descriptive analysis of submissions received through the open call to assess the distributions of submissions across each track, geographical representation, as well as gender and age distribution of participants. We conducted a case-study analysis, as such an approach allows for in-depth and multifaceted

explorations of issues or processes in real-life settings.²⁹ Case study approaches typically use multiple sources of data for analysis, and in this case, we focused on the main song submission by the winning audio innovation in the youth messaging track, alongside other audio and visual materials submitted throughout the open call process by the winning team, as well as interviews conducted with the team members.

Patient and public involvement

Key stakeholders for the innovation call were involved from the planning stages of the open call through participation in the steering committee. This meant that submission pathways, outcomes, evaluations,

commendation and overall design of the open call were guided by the public alongside researchers in this study.

RESULTS

Submissions from the open call

A total 43 entries were submitted to the open call, of which all were eligible for evaluation. Of these, 57.1%, 22.9% and 20.0% were submissions made to the submission tracks of youth-led social innovations, youth messaging and futures thinking and strategic planning, respectively. Most submissions originated from the states of Selangor (44.1%), Johor (17.6%) and Sabah (11.8%), but also drew submissions from

Table 2 Description of Finalists' projects

S/N	Team name	Description
1	Sexual Health Yes!	The team 'Sexual Health Yes!' were the winners of this thematic track, with their fun and educational card-game called GROW UP. GROW UP is a card game that helps parents to kickstart sexual health conversations with children. The game is designed to empower parents with the knowledge needed to discuss the taboo subject of sex.
2	SLED (Student-Led Action Towards Evidence-Based Drug Politics)	SLED addresses the rising use of illicit drugs among the youth in light of the COVID-19 pandemic. SLED aims to normalise and de-stigmatise drug education in order to improve the well-being of Malaysian Youths. The SLED Agenda: Extend allyship grounded in harm reduction and treatment approaches with youth using drugs.
3	Team UM	Designed for Malaysians of all ages, this mobile app monitors a user's mental health. Additionally, the app serves as a valuable resource that connects users to a network of loved ones and licensed mental health professionals
4	UNTUK Malaysia	#UntukMalaysia (For Malaysia) is a movement focused on education regardless of ideology. It is an initiative by Pertubuhan Rejuvenasi Pendidikan. Their solution seeks to address issues around Post-Pandemic Illiterate Children.
5	NENO Malaysia	Neno is a Mobile Healthcare Service and On-Demand healthcare platform tackling Healthcare Accessibility for senior citizens and people with disabilities. Neno brings all healthcare services close to the community via outreach initiative and home-visits.
6	Save The Seas Malaysia	The Uncovify App is a social networking app centred around helping the people who are struggling during the COVID-19 pandemic as well as to help individuals be more aware of their whereabouts and surroundings during the pandemic for cluster prone areas.
7	The Voices	The Quarantine User Tracking App is one of the applications which is made for those who have been quarantined from being screened from coronavirus and able to monitor and track quarantine user using the web-based application.
8	Peluang Kedua	The ThinkThrough App is a mobile app that focuses on nationwide Malaysian Fresh Graduates to provide psychological assistance. ThinkThrough app focuses on detect, assess and link, in which we assess the user's well-being through questionnaires and we link them to Psychology First Aid hotlines that are available in Malaysia.
9	Save The Seas Malaysia	The team from 'Save the Seas Malaysia' created an inspiring song to empower youths to rise up amidst the challenges that they face such as bullying and sexual abuse and they believe that music is the best platform to help youths and provide them with a voice and to also let the youths know that their voices are being heard.
10	Moonyy Story	A poem that addresses the feelings of depression and loneliness experienced among youth by imparting a message of hope, togetherness, and honesty. 'I am no longer afraid to keep breathing.' This poem is constructed story by story so that the readers could link them together logically. Therefore, the readers could easily follow and imagine the story scenes one by one and have a deep connection with my feelings.
11	COVID-19 & Youths	A poster that speaks directly to the youth of Malaysia, compelling them to fight COVID-19 by completing their education and achieving their dreams. The poster seeks to address the issue regarding online learning during COVID-19 pandemic.
12	AGROZONIA	The team 'AGROZONIA' created a mobile platform that allows users to participate in a digitally implemented urban agriculture programme using hydroponic systems. Customers can choose vegetable plots, monitor their crops and have their harvest safely delivered to their home through AGROZONIA's platform
13	KOMOREBI	An automated system of deployable modular units that uses air space to serve as floating public streets and pocket spaces for families and individuals. KOMOREBI is powered by a renewable energy and driven by swarm intelligence. (KO)LLECTIVE - (MO)BILE - (RE)SPONSIVE - (BI)OMIMICRY.
14	Brand New Malaysia	A mobile app designed to help small to medium retailers and micro enterprises expand their businesses to a host of online platforms. Eligible new merchants can receive a full subsidy for their online startup costs including product listings and delivery services. Additionally, consumers can access the app's e-wallet for cashless transactions via their mobile devices.

Submission numbered 1–8 were from the youth-led innovations submission track, while submissions numbered 9–11 and 12–14 were from the youth messaging, and futures thinking and strategic planning tracks, respectively.

states across the country. Among participants who had submitted entries, a majority of participants in the top 15 teams included female representatives (76.9%). The average age of participants was 23 years old, with a range of 18–29 years old.

Selection of finalists and winners

A total of 15 finalists were selected out of the 43 submissions based on the top-ranking scores that were assigned by the judges. This included nine submissions from the youth-led social innovations track, and three submissions each to the youth messaging and futures thinking and strategic planning track. Finalists were then recognised and celebrated at an open videoconference. A total of 86 people joined the videoconference. The associated Twitter promotion resulted in 5618 impressions, 158 engagements, 18 retweets and 21 likes. On Facebook and Instagram, the post had a reach of 40 850, including 10 500 engagements, 35 shares and 189 likes. On LinkedIn, the post reached 6848 individuals, resulting in 56 reactions and 20 shares. A summary of the project descriptions for all finalists is in [table 2](#).

Case study on project: rise

Among the 43 submissions made to the ITWA Malaysia Youth Open Call 2021, only one entry proposed an audio innovation. Project: Rise, by the team Save The Seas Malaysia, focused on developing an inspiring song (Rise Up) to empower fellow Malaysian youth to rise up amidst challenges that they face, such as bullying, sexual harassment and violence. The song centred the voices of those who are vulnerable. This submission was the top ranked in the youth messaging category, and the song resonated with judges and youth participants. The song was ranked higher than two other finalists that proposed a poem (text based) that focused on promoting mental health of youth and a poster (visual) that spoke to the issues associated with education and online learning during the pandemic.

The song focuses on empowering youth, especially vulnerable youth, to rise up against COVID-19 adversity. The team drew on their lived experiences of adversity:

The silenced ones: The youth with issues; the youth that is lonely; the youth that is too scared to come forth and speak; also, for those who have the activism in their heart, but doesn't have the platform to move forward. We want them to rise, and make a change. (Excerpt from Save The Seas' submission video for judging)

The team chose to focus on developing a song based on their understanding of how music has become a way of bringing diverse individuals together regardless of age, race, gender, nationalities or religion. With this in mind, the team felt that a song was the most appropriate outlet to let people know that 'every voice

Box 1 Lyrics of rise up by Save the Seas Malaysia

Rise Up

Project: Rise by Save The Seas Malaysia <https://www.youtube.com/watch?v=Ut7bZgWuXcs>

Verse 1

I know it's driving us crazy
The way the sickness showed up at our front door
And now our vision is hazy
Bigger problems that we can't ignore
But we still got our voices
Gotta make the right choices
I will not be silenced

Prechorus

And if the world is falling down
We will come runnin' to the ground
To hold the future on our shoulders
The youth with always be around
It's our choice to make a sound
To make a change
For the better days, better days

Chorus

Rise up, rise up
There nothing, nothing that we can't do
Rise up
Our voices are invincible

Verse 2

Volunteer and propagate
Let's share and appreciate
Our world, our world
Start a movement for our future
Something different, something newer
Let's make a change in our community

Prechorus

And if the world is falling down
We will come runnin' to the ground
To hold the future on our shoulders
The youth with always be around
It's our choice to make a sound
To make a change
For the better days, better days

Chorus

Rise up, rise up
There nothing, nothing that we can't do
Rise up
Our voices are invincible

matters, and that youth need to be heard, and that youth need to rise up.' The team's songwriter explains:

Why did I decide to submit a song? It's simple really. It's the most out of the box thing I could think of. Given that the Youth Messaging thematic track usually involve posters or poems, I told myself - why not make a song instead? (Quote from Save The Seas Songwriter)

Table 3 Considerations for future Innovators in fostering audio submissions for crowdsourcing events

Contest stages	Potential barriers	Potential solution
Organising	Steering committee members may not comprise experts who have experience in audio interventions and may privilege 'traditional' modes	Ensure representation by individuals who appreciate and can provide expert input on audio interventions.
Soliciting	Instructions may not give participants the impression that audio interventions are accepted and encouraged. Barriers to entry for song-writing competitions may be high, which may privilege audio ideas or entries with high production value	Traditional song-writing or poetry competition instructions should be incorporated into the present open call instructions. Ensuring that submission criteria focus largely on a low common denominator (eg, lyrics or script/poem, alongside a sample of recorded segment)
Promoting	Participants may not be aware that songs, spoken word, podcasts and radio-friendly submissions are acceptable modes of submitting entries.	Other crowdsourcing activities have adopted specific music categories that have helped market innovation challenges to communities of songwriters or artists.
Judging	It may be tough to judge music submissions or audio submissions against visual art or other forms of text-based submissions. Guidelines for judging audio submissions may not be clear or may not align with traditional judging criteria for audio submissions	To create a separate category for judging based on audio submissions. Ensure that an expert panel of judges is organised that can provide input on audio submissions
Mentorship and capacity-building	Designathons may focus largely on full health intervention proposals, but have focused less on building capacity for individuals who have submitted audio entries	Ensure that capacity-building sessions are relevant to participants in an audio category
Sharing	Dissemination channels typically leverage on academic or research-focused platforms. Lack of engagement from commercial entities (eg, record labels or broadcasting platforms) to assist with further dissemination of song and audio submissions.	Ensuring that audio submissions are provided with opportunities to showcase their work on appropriate platforms (eg, audio streaming services, creating lyric videos for online video platforms). Ensuring that commercial entities, such as broadcasting channels, record labels, songwriters, or artistes are engaged early on to commit to dissemination of such innovations to a wider audience

The song, Rise Up, serves as a rallying call for youth in Malaysia, as the team mentions in their submission video:

The outcast, the bullied, the broken; we are here to encourage you to speak, to voice out. We want you to know that people are listening. We are listening – Rise up – we have each other (Excerpt from Save The Seas' submission video for judging)

The pandemic posed challenges to the traditional song writing process, as the team had to write the song online. Nevertheless, the team sought innovative solutions, such as the use of online platforms, to collaboratively work on the submission within a limited time frame:

The song-writing process was fairly tough as we were doing it online. My partner and I connected via Discord [a voice over IP, instant messaging and digital distribution platform] where we wrote the second verse and melody. Nonetheless all though it wasn't a normal experience, we didn't let it stop us. Thankfully, we were able to finish Rise in a short span of two days. (Quote from Save The Seas Songwriter)

A link to the lyric video, and lyrics to the song may be found in [box 1](#). The audio file to the song has been attached as online supplemental material. The team received assistance from open call mentors in Malaysia to pitch and market the song to commercial musicians and artistes for greater exposure. The guest-of-honour for the national showcase, a high-level health policy-maker in Malaysia, was inspired by the efforts of the

team and the song, and following the national showcase, offered to assist with this process.

DISCUSSION

This crowdsourcing open call lifted up the voices of Malaysian youth to create messages, develop social innovations and inform strategic planning. The song submission was of higher quality based on the assessment of independent judges. Our findings on youth social innovation are consistent with other crowdsourcing open calls focused on youth social innovation.³⁰ This study expands the literature by examining an open call that included audio submissions, providing a case study on song development, and highlighting key considerations for organising open calls for audio in LMIC settings.

Our open call data suggest that youth can develop high-quality audio submissions in Malaysia. Audio can be a powerful tool for spurring behaviour change. Studies in the field of music therapy suggest that music can facilitate behaviour change.³¹ Experimental studies have found that listening to music may have a positive impact on one's emotional state, social well-being and stress levels.^{32–34} Other audio submissions in the form of spoken word, radio and podcasting should also be considered, based on their benefits and ability to reach youth across a wide range of settings.

Our open call received relatively few audio submissions despite promotion through community radio. This may reflect a lack of structural support for creating audio content rather than the lack of interest among local youth. Based on our experience with the open call, we provide several considerations for those organising

open calls that include audio submissions (table 3). These considerations are organised according to standard WHO/TDR/SIHI/SESH stages.²⁶

Our study has several limitations. First, all open call activities were online because of COVID-19 restrictions. This likely led to the exclusion of individuals, such as individuals who do not have sufficient broadband. This problem could be overcome by partnerships with community radio stations, in-person activities and the use of chat-based apps like WeChat or WhatsApp.³⁵ WhatsApp has been used in other open calls to spur participation in low-bandwidth areas.³⁵ Establishing a simple telephone line for audio submissions¹⁷ and partnering with community radio stations³⁶ have been used effectively in other crowdsourced audio open calls. Second, our analysis only examined data from a single open call. There have been many open calls during the pandemic.³⁷ At the same time, this open call was organised in partnership with several national health, youth and science organisations and used WHO/TDR standards. Third, given that the open call described in this article was conducted entirely online with relatively few audio submissions, we recommend that future open calls may potentially focus on audio-only submissions with activities that support audio-only approaches, to gather further research insights on the benefits of audio submissions in spurring social innovations.

Our participatory crowdsourcing open call provided a structured mechanism to amplify the voices of youth in Malaysia. Open calls for audio submissions could help to identify excellent ideas in diverse LMIC settings. The use of audio to identify community-led health interventions may also be useful for the larger mission of decolonising global health.³⁸ Many have suggested that our current systems privilege research-based knowledge formation³⁹ and as Eurocentric conceptions of knowledge^{40 41} over lived experiences of provincial knowledge. Open calls for audio innovation could be one small step in the larger project of creating more equitable, decolonised modes of participation and knowledge production.

Author affiliations

¹University of North Carolina Project-China, Guangzhou, Guangdong, China

²Saw Swee Hock School of Public Health, National University of Singapore and National University Health System, Singapore

³Impact Hub Kuala Lumpur, Kuala Lumpur, Malaysia

⁴Save The Seas Malaysia, Kuala Lumpur, Malaysia

⁵WHO Representative Office to Malaysia, Brunei Darussalam and Singapore, Kuala Lumpur, Malaysia

⁶WHO Representative Office to Lao People's Democratic Republic, Vientiane, Lao People's Democratic Republic

⁷Clinical Research Department, School of Hygiene and Tropical Medicine Faculty of Infectious and Tropical Diseases, London, UK

Twitter Rayner Kay Jin Tan @raynerkjtan, Ying-Ru Jacqueline Lo @loyingru and Joseph D Tucker @JosephTucker

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Contributors RKJT cleaned and analysed the data, drafted and revised the paper. RM initiated the collaborative project, designed the data collection tools, monitored data collection for the project, implemented the project, cleaned and analysed the data, and revised the paper. PK initiated the collaborative project, designed the data collection tools, monitored data collection for the project, implemented the project, cleaned and analyzed the data, and revised the paper. DS implemented the project and revised the paper. DN implemented the project and revised the paper. Y-RJL implemented the project and revised the paper. JDT initiated and obtained funding for the collaborative project, supervised the project, designed the data collection tools, monitored data collection for the project, cleaned and analysed the data and revised the paper.

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ORCID iDs

Rayner Kay Jin Tan <http://orcid.org/0000-0002-9188-3368>
Joseph D Tucker <http://orcid.org/0000-0003-2804-1181>

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