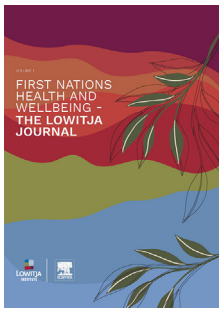

Original Research

Learning from COVID-19 communication with speakers of First Nations languages in Northern Australia: Yolŋu have the expertise to achieve effective communication

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Abstract

Purpose Achieving effective communication about COVID-19 was recognised as crucial from the earliest stages of the pandemic. In the Northern Territory, where most First Nations residents primarily speak an Aboriginal language and few health staff share their languages and cultural backgrounds, achieving effective communication is particularly challenging. It is imperative that speakers of First Nations languages, who best understand their challenges and solutions, inform future health communication policy and practice. This study was conducted with one First Nations language group – Yolŋu[1], from North-East Arnhem Land – to share their experiences of COVID-19 communication.

Methods Through a culturally responsive qualitative approach, a team of Yolŋu and other researchers engaged with Yolŋu community members and educators, and with Balanda[2] (non-Indigenous) staff who were involved in communicating about COVID-19 with Yolŋu. Data collection included in-depth interviews with 37 participants (27 Yolŋu, 10 Balanda) in their preferred languages, collaborative critical review of COVID-19 resources in Yolŋu languages, and documented researcher observations and reflections. The design was informed by extensive previous collaborative work in this context using culturally congruent methods.

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https://doi.org/10.1016/j.fnhli.2024.100033

[1]**Yolŋu:** First Nations people from the North-East Arnhem Land region of northern Australia.
[2]**Balanda:** one of the terms used by Yolŋu to refer to non-Indigenous people.

Main findings This study identified grave limitations in communication about COVID-19 with Yolŋu. COVID-19 communication was dominated by outsider prepared messages shared through social media and radio, often focusing on directives about what to do without explaining why. Inadequate engagement of Yolŋu in planning and implementation contributed to communication failure. Participants also identified how effective communication can be achieved: engaging local leaders and knowledge authorities at the outset to identify and implement locally relevant and feasible solutions; collaborative development of in-depth explanations matched to what Yolŋu want and need to know to make informed decisions; and face-to-face, ongoing communication in local languages by local educators, using communication processes aligned with Yolŋu cultural protocols and preferences.

Principal conclusions Yolŋu have cultural knowledge, authority and processes to respond to health crises and communication challenges. However, during the COVID-19 pandemic, dominant culture health communication processes and priorities were privileged. Persisting with communication approaches that are not informed by relevant and available evidence is unethical and ineffective. Sustained community led approaches to health communication, supported by health services and systems, are crucial to achieve effective health communication with speakers of First Nations languages beyond the COVID-19 pandemic.

Keywords: COVID-19; Yolŋu; Health communication; First Nations languages; Culture; Community led

Highlights

- Failure in communication about COVID-19 was experienced by all participants.
- Privileging hegemonic communication processes caused confusion and reduced trust.
- Community experts understand how to bring new knowledge into the Yolŋu system.
- Sustained, supported community-led health communication is an ethical imperative.

Introduction

Effective health communication is crucial during crisis situations such as the COVID-19 pandemic (Finset et al. 2020; WHO 2020; Kreps 2021). Effective health communication is also essential when addressing the ongoing crisis of extreme inequities in health outcomes for First Nations Australians. In colonised contexts where First Nations languages and cultures remain strong, opportunities and challenges in achieving effective communication are best understood by speakers of First Nations languages themselves (Lowell et al. 2021; Mitchell et al. 2021; Armstrong et al. 2023a). This study was collaboratively conducted by a team of Yolŋu (First Nations people of North-East Arnhem Land) and other researchers to learn from experiences of COVID-19-related communication with one First Nations language group. Insights from this lived experience can inform future policy and practice in all areas of health communication to improve health outcomes.

Complexities and considerations in health emergency communication, particularly across cultures and languages, have been well documented (Abraham 2011; Karidakis et al. 2022; Theunissen and Wolf 2022). To achieve communication that is both culturally and

linguistically responsive, the context, process and content of communication must be considered (Seale et al. 2022; Friemuth and Quinn 2004; Kerrigan et al. 2023). When community and institutional languages and cultures are different, community engagement throughout all stages of emergency communication is crucial to ensure culturally and linguistically responsive and trusted communication (Boyd and Buchwald 2022; Graham et al. 2022; WHO 2020; Ali et al. 2021).

Realising the potential for community strengths and knowledge to support contextually relevant and trusted health communication requires community led design and delivery; this is a key and recurrent recommendation in relevant literature (e.g. Airhihenbuwa et al. 2020; Gaborit et al. 2022; Graham et al. 2022; Yashadhana et al. 2020; Wild et al. 2021; Crooks et al. 2022; Graham et al. 2022; Allan et al. 2022; Burgess et al. 2021; Dudgeon et al. 2023). However, in the context of the wide and rapid spread of COVID-19, a top-down approach using government sanctioned messaging, often delivered through online platforms, was prevalent globally, including in Australia (White et al. 2021; Geurts et al. 2023; Theunissen and Wolf 2022). Urgency, inadequate policies and guidelines to support engagement of communities, and lack of funding for local initiatives have been identified as factors contributing to a predominance of top-down approaches (Gaborit et al. 2022; Crooks et al. 2022; Seale et al. 2022; Karidakis et al. 2022).

Approximately 30% of the population of the Northern Territory (NT) of Australia are First Nations Australians, the majority of whom speak one or more Aboriginal language(s) as their primary language (ABS 2021). Serious failures in health communication with speakers of First Nations languages in the NT have been consistently identified over decades. Few health staff share the languages and cultural backgrounds of their clients, systemic racism persists, and differences in cultural and conceptual knowledge and worldview add further complexity to communication (e.g. Cass et al. 2002; Anderson et al. 2008; Vass et al. 2011; Lowell et al. 2012; Kerrigan et al. 2021; Gray 2022).

In the context of the COVID-19 pandemic in the NT, strategies to achieve effective communication were imperative: a high level of vulnerability of First Nations Australians in remote communities was predicted (Karacsonyi et al. 2021), amplified by the high prevalence of chronic conditions with associated increased risk of COVID-19 hospitalisation and death (Yashadhana et al. 2020). The urgency was recognised by government and other agencies early in the pandemic and many resources about COVID-19 were rapidly produced in Australian First Nations languages (Gaborit et al. 2022; Karidakis et al. 2023).

Learning from health communication challenges and successes is important to improve communication in future emergencies (Airhihenbuwa et al. 2020; WHO 2020). Health communication in First Nations languages is expanding but further research is needed to understand best practice from user perspectives (Gaborit et al. 2022). This study explored the experiences of COVID-19 communication with speakers of Yolŋu languages to identify communication challenges and key elements of effective communication.

Methods

Design

The research team for this qualitative study included Yolŋu[1] and Balanda[2] researchers with experience in a range of disciplines including linguistics, interpreting, health and allied health, social sciences, community engagement, and Indigenous language studies (see

author biographies for further details). Yolŋu members of the research team share the culture and language of Yolŋu participants and their culturally specific expertise was key to governance and implementation of the project according to Yolŋu protocols. Balanda researchers had pre-existing relationships and experience from collaborative, community-based research with Yolŋu over several decades. The team's diverse cultures, languages, experiences and skills enabled them to conduct this project using culturally responsive and accessible processes to engage with both Yolŋu and Balanda participants. Many community members discussed concerns about COVID-19 communication with the research team through extensive local networks; these discussions shaped the project aims. The research approach was informed by extensive previous research with Yolŋu (e.g. Lowell et al. 2003; Yalu' Marŋgithinyaraw 2012; Lowell et al. 2021; Armstrong et al. 2023b) implementing collaborative and iterative processes of data collection, analysis and generation of findings. Throughout the project, the research team engaged in collaborative, critical reflection that informed subsequent work. Methods in each stage priviliged Yolŋu preferences and protocols: these processes align with some elements of constructivist grounded theory (Charmaz 2014) that can be compatible with Indigenous methodologies (Wilson et al. 2021; Lyons et al. 2022).

Setting

This study was conducted in Darwin (the capital city of the Northern Territory of Australia) and one very remote coastal community in North-East Arnhem Land (520 km from Darwin). These study locations were selected because of researcher connections and local interest in the research topic. In the remote study community, most residents speak one or more Yolŋu language(s) as their primary language(s); for many, communication in English is uncommon in everyday life – less than 5% speak English at home (ABS 2021). However, as most service providers are not Yolŋu, English is the dominant language in interactions related to health and other services.

Participants

Participants included Yolŋu community members as well as both Yolŋu and Balanda organisational staff (Yolŋu language consultants and interpreters, Yolŋu and other health professionals, resource producers and health educators). Of the 37 participants, 27 were Yolŋu and 10 were Balanda. Twenty of the participants were female and 17 were male. Purposive sampling drew on the extensive networks of the research team. Invited participants included Yolŋu community members and knowledge holders from a range of age and clan groups who were interested in sharing their experiences of COVID-19 communication, and others (both Yolŋu and Balanda) involved in resource production and health education who worked for a variety of organisations. Most, but not all, participants were well known to the researchers through community, kinship and professional connections. These existing relationships supported participant openness to share experiences with researchers. Trust was facilitated through shared languages and communication protocols, shared understanding of contexts and time spent together. Written and oral explanations about the study were provided to potential participants in their preferred language before obtaining written or oral consent.

Data collection, analysis and dissemination

Methods used in data collection and analysis were guided and implemented by Yolŋu researchers in collaboration with other researchers when appropriate, ensuring that communication processes, timing and location were flexible and responsive to the context and participants in each research activity.

Culturally congruent conversations were conducted with individuals and groups, eliciting stories about experiences and perceptions rather than answering direct questions that shape and restrict the shared information. These conversations were conducted in participants' preferred languages, which included Yolŋu languages and English. To identify strengths and ideas for improvement, interested Yolŋu participants also engaged in a process of critical review of resources about COVID-19 that were available in Yolŋu languages during the study period. Reviewed resources included video, audio and written messages available on social media, websites, radio, posters and flyers. Observations and reflections from Yolŋu researchers, who shared valuable cultural and contextual insights, were recorded and included as data.

Data were collected by Yolŋu and Balanda researchers, usually working collaboratively, between February 2021 and August 2022. Data collection commenced after almost one year of information dissemination about COVID-19 by various organisations and individuals and continued during the vaccine roll-out and subsequent outbreak of COVID-19 in the study region. Thirty-one episodes of data collection were conducted with participants, either in a group or individually, depending on participant preference. Sixteen of these discussions were conducted face-to-face in the remote community, 10 were in Darwin, two were conducted over the phone and three using an online meeting platform (*Zoom*). Twenty-seven interviews were audio recorded, two were video recorded and two were recorded with written notes during phone conversations. After recording, interviews in Yolŋu languages were translated into English by Yolŋu researchers and transcribed and analysed by researchers working collaboratively. Data were securely stored and accessible only to the research team. As video and audio recorded data are identifiable, wider access was limited to synthesised findings and quotes that were approved for dissemination by relevant participants, according to culturally congruent data sovereignty protocols.

Data from all sources were entered into a data management program (QSR *Nvivo 12*) and collaboratively analysed through an inductive and iterative process. Initial codes were created using participants' words and phrases in Yolŋu languages and/or English. Codes were then grouped into conceptual categories through a process of focused coding and constant comparative analysis. Provisional codes and categories were generated, discussed and refined in collaboration with Yolŋu researchers through an oral interactive process, consistent with established research practice in this cultural context (e.g. Yalu' Marŋgithinyaraw 2012; Lowell et al. 2021; Armstrong et al. 2023b). At the time of obtaining consent, participants were given a choice of how they wanted to be identified if quotes from their interviews were used in reporting the findings. Quotes used in the final manuscript were then checked again in context with the relevant participants to confirm their approval and preferred form of identification. Findings were shared and discussed with local health staff, interested Yolŋu community members and organisations, generating ideas for further work to address the issues identified. Wider dissemination included written summaries and a conference presentation.

Ethics

Ethical approval was granted by the Charles Darwin University Human Research Ethics Committee (H20100). Senior Yolŋu members of the research team monitored and facilitated adherence to locally relevant ethical considerations throughout the study. Approval for the project was obtained from the East

Arnhem Regional Council Galiwin'ku Local Authority and researchers who were not from the remote community setting travelled with researcher work permits from the Northern Land Council.

Findings

Collaborative analysis of data from all sources revealed that communication about COVID-19 was commonly experienced as ineffective by those who primarily spoke Yolŋu languages. Ways in which effective communication can be achieved were also identified by participants. Key influences on communication with Yolŋu related to: who controlled the planning and implementation processes; who shared and received the messages; how, where and when communication occurred; and the form and content of COVID-19 communication. As well as expressing concern and frustration about their experiences of ineffective communication, participants shared clear and consistent ideas about how effective communication could be achieved to overcome the limitations they experienced in communication processes throughout the pandemic (see summary of key elements in Figure 1).

Bäyŋu ŋuli yuwalk marŋgikunhawuy dhawaṯthun – there was no effective education coming out

All Yolŋu participants in this study expressed concerns about ineffective processes for communicating about

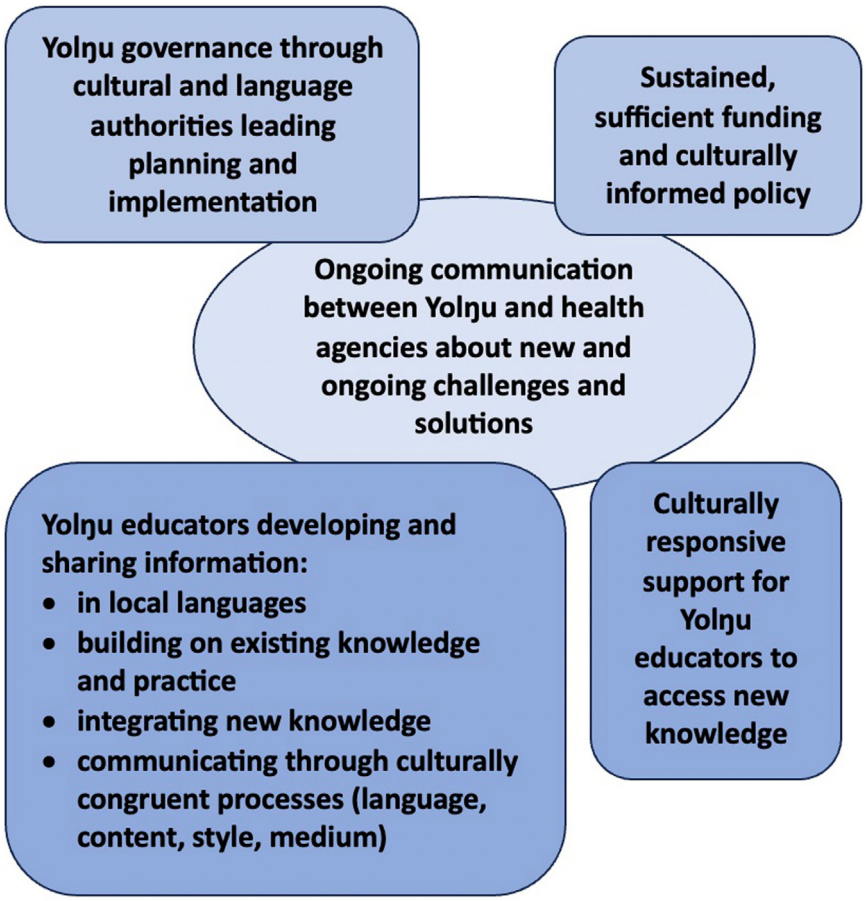


Figure 1: Critical elements for achieving effective health communication with Yolŋu.

COVID-19 from the earliest stages of the pandemic. For some, this was experienced as containment of information within stakeholder and workplace groups, rather than more widely sharing information among community members through culturally relevant processes:

> *They share the information among themselves but don't share the information outside to Yolŋu. They don't go and sit with people; they just hold on to the message inside the office. The information doesn't come out* (Yaŋgarriny Munyarryun, Waŋguri clan member).

Persisting failure in communication limited access to biomedical information that Yolŋu wanted and needed to make informed decisions about prevention and management of COVID-19. More than two years after the beginning of the pandemic, participants continued to express concerns:

> *It was little bits and bits of stories we were getting – not explaining or expanding on the whole story: how the sickness comes, how it affects us, how your body will feel it, how the sickness spreads from one person to other families... That hasn't been explained* (Bilinydjan, Yolŋu community member).
>
> *...the main story is still hiding there - especially Yolŋu don't understand the story about COVID - they are ignoring it* (Senior Yolŋu community member).
>
> *...that's why it's very important that we get the full story - presenting the full story straight - a helpful story so we can sort the information out and think 'ah, it's true'* (Galikali, Yolŋu community member).

Consequences of ineffective communication were extensive, causing confusion and undermining trust in health advice. From the early stages of the pandemic, there was a common perception that COVID-19 did not affect Yolŋu, which, in addition to widespread misinformation, contributed to slow uptake of vaccines. The impact of ineffective communication was amplified when COVID-19 reached the community in early 2022, with many unfamiliar terms and concepts being introduced without adequate explanations.

The first cases occurred when the Omicron variant was dominant – as a result, case numbers were very high but severe cases were far fewer than expected. As symptoms were often mild and familiar, many Yolŋu were convinced that the virus was 'just a flu'. Despite the ongoing impact of COVID-19 in the community in 2022, sharing of information about local case numbers did not continue after the initial outbreak and many participants were unaware of hospitalisations and deaths due to COVID-19 in the region:

> *...in the public announcements, they tried to have updates about how many people had COVID and how many had been evacuated to Howard Springs [quarantine facility] or to hospital, but that information dropped off and we didn't really have any insight as to how many people had recovered, or how many people were having serious illness* (Balanda remote community member).

Explanations about changes in impact due to different variants or the potential for long-term complications from COVID-19 were not made available in Yolŋu language resources. This also contributed to confusion about why COVID-19 had been presented as such a serious concern and further diminished trust in health advice.

Frequent changes in approaches to pandemic management, with community members and some organisations 'out of the loop' in decision-making,

caused additional confusion and distress when COVID-19 came to the community. For example:

> *the plan that we had developed where there would be full lockdown for the community with lots of supports provided to people's houses. That was all scrapped, everything that we had decided about that as a community was no longer relevant* (Balanda remote community member).

Yolŋu authorities leading Yolŋu processes, drawing on Yolŋu knowledge and practice

Study participants emphasised the crucial importance of Yolŋu leadership in local pandemic management to draw on existing Yolŋu strengths that are not recognised by Balanda:

> *Balanda are panicking because they don't realise we have our own ways of doing things properly. They are trying to put the fear into the Yolŋu... but they themselves are panicking and going to the supermarket to buy so many toilet papers. Balanda are panicking and calling Aboriginal people 'high risk' and 'very vulnerable', but we have our own internal power to tackle this [pandemic]* (Gawura Wanambi, senior cultural authority).

Engagement of Yolŋu authorities as well as cultural and language experts – from the beginning through all stages of the pandemic – was considered essential to achieving effective communication as well as feasible and relevant responses to COVID-19:

> *We have the clan leaders, Djirrikay and Dalkarra. They are already standing there, ready to display that leadership that is there. That is something that needs to be understood by the Balanda and the community and the younger Yolŋu* (Gawura Wanambi, senior cultural authority).

Limited spread of COVID-19 in the NT due to interstate border closures for almost two years allowed face-to-face engagement through most of this period. However, although efforts were made to consult with Yolŋu Elders and leaders by some of those leading the COVID-19 response, concerns that sufficient engagement did not occur from the earliest stages and throughout the pandemic were common:

> *They didn't come out and sit with Elders, leaders or landowners. Ask them for the pathway so they can take you through that pathway. But no – nothing!* (Bilinydjan, Yolŋu community member).

Without engaging Yolŋu with relevant expertise and authority in planning and leading the communication processes, effectiveness was compromised:

> *The Yolŋu already have those processes - they are just not implemented into the local policies around the communities on how messaging should be delivered... and when there is no policy change or implementation for this, it sends a non-verbal message to Yolŋu that they may think people don't care to send messages or they may say we didn't receive the message at all* (Dikul Baker, Yolŋu language consultant).

Control from outside the community over the ways in which messages were shared, when and by whom, as well as the style and content of messaging contributed to failures in communication experienced by Yolŋu.

Relying on technology did not really work

From the beginning of the pandemic there was a reliance on sharing messages through social media and radio:

> *...promoting stuff on video and radio - it didn't really work... so they relied on technology too much but they missed one component - you had to be there with your product that you generated - that's why it didn't work* (Stuart Yiwarr McGrath, Yolŋu health professional).

Although many resources were produced in Yolŋu languages to share medically approved information through radio and/or social media, most participants had accessed few, if any, of the available online resources. Despite extensive efforts to widely disseminate information as new resources were produced, many participants were unaware of what was available online and few people in the study community owned radios. Internet access in the community was also slow and inconsistent, and approved audio and video resources were often difficult to locate and download.

In contrast, misinformation spread widely, mostly through word of mouth: many participants reported hearing from friends and family about posts on social media. Common stories that were shared promoted views that Yolŋu would not be affected by COVID-19, for instance because they were living in a hot climate, protected by God or because it only affected Balanda. Misinformation about vaccines also spread rapidly:

> *… it was all based on what someone else heard and what someone else knows and then they feed off that information but there has been a lot of misinformed people and the versions of the story are many* (Yolŋu community member).

Discriminating between authentic health information and misleading or incorrect messages was reported as a key challenge: a clear and consistent 'branding like Nike' on resources was suggested as one strategy that could support Yolŋu to assess trustworthiness of information. However, others argued that this would not overcome diminished trust in information from official sources. Although health and other services attempted to exert control over content that was shared in resources, this also constrained opportunities for the development of locally and culturally relevant resources, as well as who was permitted to engage in education activities in the community.

Educating, not escalating the fear - Yolŋu sharing knowledge through Yolŋu languages and processes

The need to 'make the information clear' to Yolŋu leaders and educators who can then 'bring the story out' into the community, communicating with people in their own languages, was repeatedly emphasised. Communicating face to face – the right people going from group to group, sharing resources and answering questions – was widely proposed as the most effective process: education sessions conducted at a time and place that works best for individuals and groups, responding to different communication needs and preferences.

> *The best way is for Yolŋu (to) come and sit with people and tell them what is the sickness and how will it affect them… Don't just tell the story from inside the office… come out and go to where people are. And tell them, sit and share it with them so they will understand* (Yaŋgarriny Munyarryun, Wanguri clan member).

Face-to-face education sessions did occur, particularly when vaccine uptake remained low in the community in late 2021. However, participants expressed frustration that such processes were not implemented early, widely or consistently and that there was no 'strategy for all of us to work as one'.

When the first cases of COVID-19 occurred in the community in early 2022, additional health staff from various organisations were flown in to provide support; there were 'Balanda on every corner' during this period. Systems to ensure effective communication through a collaborative approach were not always in place and availability of Yolŋu to work with visiting health staff was limited when COVID-19 cases were rapidly rising:

> *I didn't get any story, any full information about COVID from doctors... paramedics, flying doctor - they just fly in... and do their part and Yolŋu weren't sure - what was it, is it serious and everybody was frightened... Yolŋu not working with them... there should be Yolŋu telling us before they come in...* (Senior Yolŋu community member).

In both resources and face-to-face education, mixing English and Yolŋu languages or Balanda speaking in Yolŋu languages was sometimes a source of confusion and distraction:

> *So they listen to the mistakes of the speaker instead of the actual dhäwu (information)* (Dikul Baker, Yolŋu language consultant).
>
> *(He) was saying backwards and frontwards - we are confused...* (Yolŋu community member).

The opportunity for Yolŋu to understand the deep stories about COVID-19 so that they could then share more widely in their own languages was a common preference:

> *Yolŋu to Yolŋu is good – those Yolŋu who understand English will get the full story and tell the stories to Yolŋu who know less so they will know and speak – Yolŋu to Yolŋu... working alongside Balanda who have a heart for Yolŋu* (Yolŋu community member).
>
> *They just need to find those people within all clans, bring them in and then take them through... the deep stories... Those are the people who will receive [the information] and deliver back to the clan... And that way it will strengthen Yolŋu, give them power, encourage them.* (Yolŋu community member).

Räl-manapanirr djäma – a collaborative approach between Yolŋu and Balanda, recognising Yolŋu authority and expertise with support from Balanda – was repeatedly advocated as essential to establish a strong, sustainable and effective communication process. Supporting Yolŋu to achieve the understanding that they need to share meaningful information requires Balanda and Yolŋu to work collaboratively:

> *Don't just come here and do the work and go back. Both Balanda and Yolŋu... find a way together that is best* (Rosemary Gundjarranbuy, Yolŋu community member/researcher).

The information was not enough – we need the full story

The dominant approach in COVID-19 communication was short and simple messaging, but Yolŋu participants repeatedly expressed a need for more understanding about COVID-19 – the origins, transmission, variants, impact on children, symptoms and consequences of the virus. When vaccines became available, Yolŋu expressed a need for in-depth explanations about vaccines, for example: the ingredients, safety for people with chronic conditions, access for children, adverse effects and allergic reactions.

> *...if you really want to help Yolŋu to understand the story, well, some of the information is not enough - and Yolŋu don't understand how and what, what is causing and what are things that will help Yolŋu... First we have to share the message so Yolŋu understand the full story* (Rosemary Gundjarranbuy, Yolŋu community member/researcher).

A common concern was the negative impact of health communication focused on instructions about what to do or not to do – without explaining the 'why behind the what'. For example, social distancing directives were widely received but were perceived by many

participants as undermining cultural practice and identity: 'dismantling the kinship system'. Participants reported distress and confusion about directives to maintain 1.5 metre distance from others:

> *Are they trying to make us like Balanda... by telling us not to be with our family?... having the right messaging at the start... would have reduced those kinds of thoughts* (Dikul Baker, Yolŋu language consultant).

For many people, social distancing was also impossible to achieve in the context of severe and widespread household overcrowding. Yolŋu commonly interpreted messaging as a directive to maintain distance within households, even though this was never official health advice before COVID-19 cases occurred in the community. Directives about isolation of positive cases were also perceived as unachievable and unclear communication about relevant and feasible strategies was distressing:

> *How will we help people sitting alone - who will bring them food and water... I was crying every time I heard the word 'coronavirus', crying, crying... when they said don't sit close... sit far away - from my grandchildren, children, cousins... kinship is from way, way back created by Waŋarr (spiritual beings)... We are situated in that law - our body is governed and embedded in land and maḏayin (sacred law)* (Roslyn Malŋumba, Yolŋu Homeland resident).

Yolŋu have traditional cultural systems for understanding and enacting distancing through avoidance practices and understand the ways in which communication can align to uphold relations of kin and place:

> *It's a common thing for Yolŋu because it's already in our foundation, embedded in our culture - so it's like our rumaru (respectful avoidance) system. We're automatically engaging in this but now it's applying to all of the kinship system to help. So it's not a new thing to be distancing - Yolŋu already have that concept* (Yolŋu community member).

Although some participants did access information in Yolŋu languages through a variety of media – including workplace discussions, television, radio, social media, posters and videos played on screens at the community shop – many reported that they did not receive the information they felt they needed. However, in-depth explanations were effective in countering misinformation when they did occur, for example: one participant and her family immediately arranged to get vaccinated after receiving support to access detailed online information in both Yolŋu languages and English about vaccines that addressed her questions and concerns:

> *before I saw that (information) - I thought it would affect my DNA - but it wasn't a true story - they were telling a lie story... (when) I understood the story, the full story... it made me willing to go and get that injection - I encouraged my own family... (and) helped other Yolŋu - passing the message on to family and friends so they won't feel the fear* (Rosemary Gundjarranbuy, Yolŋu community member/researcher).

Dhuwurrmirryanha ga gakalmirryanha – Yolŋu have the cultural knowledge and skills for effective communication

Yolŋu educators explained that they have the skills and understand the cultural guidelines – 'dhuwurrmirryanha ga gakalmirryanha' – for how to communicate in a way that is meaningful and appropriate. While acknowledging that it is important to share accurate information, the need for messages to be carefully worded in Yolŋu languages was emphasised. When the style of communication is not culturally informed, rejection of the message or fear

can result, for example: if messages were 'too sharp' (direct and confronting) they would not be well received.

> *It was 'sharp' stories - that is not culturally appropriate to Yolŋu. That was sort of being looked at very carefully and worked out how that message will be given out in another way, in a sensitive way, not in a sharp, straightforward way* (Gawura Wa**n**ambi, senior cultural authority).

The impact of communication processes that incorporate these key elements was demonstrated, for example: in high levels of vaccine uptake when information was shared face-to-face in local languages by trusted people with local knowledge and authority going out to homes and homelands, to community gatherings outside, and with family groups at home:

> *After questions and sharing information they understood... so story first and then get the vaccine. Then it is the Yolŋu's own will to say yes or no to the vaccine... After they receive the full information then they fully agree and go along* (Yolŋu community member).

When COVID-19 came to the community, Yolŋu activated their own cultural system and knowledge. Production and sharing amongst families of traditional treatments for respiratory symptoms such as *gaḏayka* (eucalyptus tetrodonta) flourished:

> *only Yolŋu medicine we were using - all of us in (the community)* (Senior Yolŋu community member).
>
> *that's how (the community) got out of COVID, through that - gaḏayka was very famous* (Galikali, Yolŋu community member).

This was described as a cultural healing process encompassing not just physical but spiritual and psychological healing to restore wellbeing in all ways.

Dhäwu gurrupan bitjan bili yaka gul'yun – ongoing education, not stopping

Participants particularly emphasised the need for ongoing, scaffolded communication and education to help people get prepared for future stages of the pandemic as well as other health challenges 'so Yolŋu will be alert... before the sickness arrives' (Yolŋu community participant):

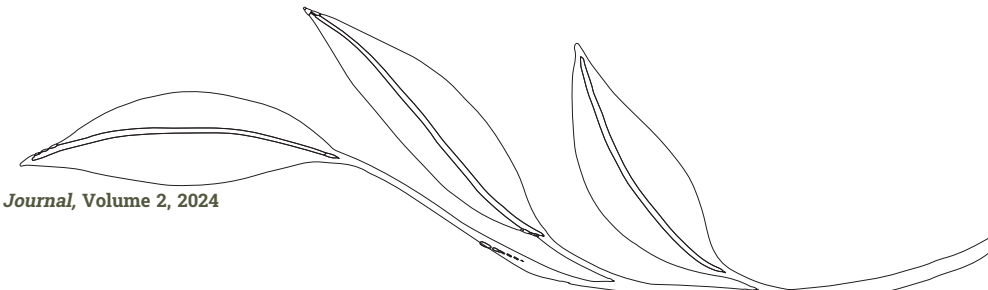
> *I want them to learn now, tomorrow and later - to learn and understand about this sickness... one day one story, the next day another story, the next day another story* (Rosemary Gundjarranbuy, community member/ researcher).

Sustained and effective approaches to health communication in the community can be achieved when Yolŋu are engaged and supported to lead the process:

> *Not bringing someone from outside that flies here - find Yolŋu on the ground here that has that concept already in place, who knows how to deliver messages to people - all they need is just the information and they can share it* (Yolŋu community member).

Participants asked for an ongoing approach that works for Yolŋu – recognising and responding to their right to understand 'their whole health':

> *...an ongoing process, giving the information... So we (community) will know. And so we can prepare ourselves... - so don't hold on to that information - come out, like that* (Wamut, Yolŋu community member).



I want to know because I want to have an understanding about my whole health, that is my every right... (When) is the true education going to begin that is understandable? Real education so we can understand (Bilinydjan, Yolŋu community member).

Discussion

Genuine access to meaningful health information is a human right, and effective communication with consumers at individual, service and system levels is crucial to progress equity in health outcomes (Northern Territory Government 2016; Australian Commission on Safety and Quality in Health Care 2017; WHO 2023). Inequity in health outcomes between First Nations and other Australians is greatest in remote regions of Australia where First Nations languages and cultures remain strong: the region in which this study was conducted has the highest rate of avoidable mortality in Australia (Australian Institute of Health and Welfare 2019). Challenges in communication between speakers of First Nations languages and their healthcare providers have been documented over decades (Cass et al. 2002; Anderson et al. 2008; Lowell et al. 2012; Mitchell 2017; Kerrigan et al. 2021; Armstrong et al. 2023c). The COVID-19 pandemic amplified these known communication challenges.

Predominance of top-down, hegemonic approaches perpetuate community exclusion and disempowerment, and fail to recognise valuable and diverse community resources (McPhail-Bell et al. 2015; Ali et al. 2021; Dutta et al. 2022). The findings of this study align with evidence from other studies that translating messages developed in other contexts and assuming communication follows a straight, one-way pathway from government and outside experts to passive community members is ineffective and disempowering (Ali et al. 2021; Crooks et al. 2022; Dutta et al. 2020; McPhail-Bell et al. 2015). Participants in this study identified Balanda control over COVID-19 communication as a key source of communication failure. Participants also identified ways in which effective communication can be achieved. Their experiences and insights about COVID-19 communication illustrate challenges and solutions for achieving effective health communication that have relevance to all areas of health and wellbeing.

Centring local cultural and language expertise

Failures in COVID-19 communication could have been prevented through genuine engagement of Yolŋu in decision-making from the beginning and throughout all stages of the pandemic. The opportunity for health agencies to recognise and build on existing Yolŋu knowledge, protocols, systems and practice was missed. The consequences of ineffective communication included frustration with perceived containment of information that was not effectively shared with the wider community as well as confusion and diminished trust in health advice. Importantly, there may be long-term consequences from the erosion of trust in health advice through ineffective communication during the pandemic (Crooks et al. 2022).

In contexts of cultural and linguistic complexity, such as in the NT, community-driven approaches that incorporate local strengths and knowledge are essential to ensure contextually relevant health communication (Bulloch et al. 2019; Haynes et al. 2019; Bulkanhawuy et al. 2020; Lowell et al. 2021). Participants in this study strongly asserted that local cultural and language authorities understand how to 'bring the story into the Yolŋu system', integrating and connecting with existing Yolŋu knowledge and practice both in constructing and sharing messages in ways that are relevant and meaningful.

It was also considered important for Yolŋu and other experts in healthcare and health communication to work together from the beginning and throughout all stages of COVID-19 communication planning and implementation. Such collaboration is essential to find ways to communicate new information through linking to culturally relevant metaphors, concepts and language (Armstrong et al. 2023a). It is also essential to ensure that existing Yolŋu knowledge and practice are respected, recognised and utilised (Haynes et al. 2019; Bulkanhawuy et al. 2020; Lowell et al. 2021; Mitchell et al. 2021; Armstrong et al. 2023c). This approach draws on and recognises strength and resilience that is enacted by Yolŋu authorities and is present within Yolŋu collective life, rather than assuming deficit models of engagement and COVID-19 management (Crooks et al. 2022). However, during the COVID-19 pandemic, systems, funding and human resources were not in place to form and sustain the integrated communication networks needed for effective communication.

Beyond availability of information

Accessibility of information depends on more than availability – the way that information is constructed and shared must be culturally congruent, contextually relevant and feasible, and create conditions of trust (Kerrigan et al. 2021; Boyd and Buchwald 2022; Graham et al. 2022). Participants in this study emphasised that Yolŋu did not receive the information that they wanted and needed about COVID-19. Government communication strategies during the pandemic privileged Western communication styles and language, and many resources in First Nations languages used direct translations of messages developed for the majority Australian population (Gaborit et al. 2022; Karidakis et al. 2023). This process precludes consideration of differences in cultural and conceptual knowledge, beliefs, attitudes and behaviours related to health as well as the historical and socio-political context (Seale et al. 2022; Wild et al. 2021; Crooks et al. 2022; Kerrigan et al. 2023). Although many Indigenous and other organisations recognised and acted on the need for culturally tailored resources, their efforts were under-resourced (Finlay and Wenitong 2020; Kerrigan et al. 2021; Dudgeon et al. 2023).

The dominant approach in COVID-19 communication also focused on key messages – predominantly directives on what to do or not do – without explanation about the reasons underlying this health advice. This approach assumes a shared understanding of foundational concepts, such as germ theory, without considering crucial differences in health knowledge and worldview that influence interpretation of health information (Vass et al. 2011). Simplistic messages are also unresponsive to the strong preference expressed by First Nations Australians in this and other studies for in-depth explanations to enable informed decisions (Anderson et al. 2008; Lowell et al. 2021; Crooks et al. 2022). For example, participants in this study asserted that in-depth explanations were essential to assess the credibility of new information and to establish relevance of health advice for Yolŋu. However, following the surge of communication activity associated with the vaccine roll-out there appears to have been no further development of COVID-19-related resources in First Nations languages. Those who primarily speak an Australian First Nations language do not have sustained access to important information, for example about the emergence and significance of variants, the nature and impact of long COVID, or antiviral medications.

The predominantly directive form of messaging was also incompatible with cultural protocols. In the

cultural context of this study, directive forms of communication were avoided to respect individual autonomy (Lowell et al. 2021). Without an explanation about disease transmission, directives about behaviour to reduce COVID-19 transmission were interpreted as Balanda attempts to control Yolŋu, generating resistance to what was perceived as part of an ongoing agenda of assimilation. Simplistic, directive messages from a biomedical worldview do not meet Yolŋu learning needs and do not consider the ongoing impacts of colonisation and the fact of knowledge and worldview differences.

Dissemination strategies also must be responsive to context. Health information in Yolŋu languages was primarily made available through radio, social media and websites. Although use of mobile phones is high in the study region, access to radios and internet is limited: few participants in this study were aware of, or had accessed, the available resources. A strong preference for the right people communicating directly with community members in their own languages was strongly advocated. The positive impact of trusted people sharing health information face to face in local languages has repeatedly been demonstrated in previous studies (Marika et al. 2018; Mitchell et al. 2018; Shield et al. 2018; Lowell et al. 2021). There was ample opportunity for face-to-face communication in the NT due to almost two years of interstate border closures that minimised transmission of COVID-19 until late 2021; however, this approach was not widely utilised, even though it was effective when it did occur (Bulkanhawuy et al. 2020).

Achieving equity in and through health communication

Understanding ways that communication about a new topic can connect to existing knowledge, establish relevance, and align with cultural communication preferences, priorities and protocols is crucial to ensure equity of access to health information (Vass et al. 2011; Airhihenbuwa et al. 2020; Wild et al. 2021). In this and other cultural contexts, community-led approaches that centre control with cultural and language authorities are known to be fundamental to framing and implementing effective responses that enhance agency and informed decisions (Airhihenbuwa et al. 2020; Dutta et al. 2020; Ali et al. 2021; Loewenson et al. 2021; Lowell et al. 2021; Gaborit et al. 2022; Hajek et al. 2022). In contexts where First Nations leadership was enacted, it was repeatedly identified as a crucial element of successful responses during the pandemic (e.g. Dudgeon et al. 2023; Mulder et al. 2023; Poirier et al. 2023).

The findings of this study confirm the critical elements for achieving effective health communication with speakers of First Nations languages (see Figure 1), repeatedly identified through previous research in the region where this study was conducted (e.g. Haynes et al. 2019; Lowell et al. 2021; Mitchell et al. 2021). Many teams endeavoured to implement culturally congruent approaches to health communication in First Nations languages within the constraints of time pressures, limited resources, and rapidly changing and competing messages. However, the current findings demonstrate that existing evidence of what works in health communication with speakers of First Nations languages was not reflected in the dominant approaches to communication during the pandemic. Urgency is not justification for ignoring existing evidence. Indeed, health emergencies are a crucial time to draw on the combined cultural knowledges and strengths to 'find a way together that is best'. Systems and resources to support effective health communication with speakers of Australian First Nations languages remain limited or absent; the consequences are starkly illustrated by the failure in

communication during the pandemic experienced by participants in this study.

Continuing to privilege top-down, Western-centric approaches in health communication policy and practice are unethical and perpetuate health inequity between First Nations and other Australians. Sustained funding and policy and practice guidelines, informed by community experts and existing evidence, are needed to support and embed culturally congruent health communication governance and implementation beyond the pandemic (Airhihenbuwa et al. 2020; Gaborit et al. 2022; Crooks et al. 2020). The findings shared in this paper can be used to inform policy change to support more effective health communication systems and practice. Addressing the challenge of translating research evidence into changes in policy and practice must be a key element of future work. A project aiming to progress an approach that shifts control to cultural and language experts in health communication is being developed in response to community priorities and aspirations identified through this study and other related research. Further action is also needed to explore how evidence-based change can be expanded, resourced and sustained; this is crucial to progress health equity for speakers of Australian First Nations languages.

Limitations

This study was conducted with one First Nations language group to enable an in-depth exploration of COVID-19 communication that was feasible with limited time and resources. It cannot be assumed that the findings of this study reflect the experiences of speakers of other First Nations languages. However, the communication challenges and opportunities identified in this context can be considered for relevance by other groups from diverse cultural and language backgrounds.

Conclusions

Inadequate and ineffective processes for communicating about COVID-19 with Yolŋu were a serious concern for all participants in this study and may erode trust in future health advice. Communication failure compromised the opportunity for Yolŋu to make informed decisions related to COVID-19 and opportunities to build on existing Yolŋu knowledge and practice were missed. Yolŋu have the knowledge and authority to ensure that communication is meaningful and acceptable. Effective communication with speakers of First Nations languages can be achieved with sufficient and sustained support for community-led communication processes collaboratively implemented with local and other experts. Evidence-based changes in health communication policy and practice beyond COVID-19 are vital to meet the needs of First Nations language speakers. Persisting with ineffective approaches is unethical and perpetuates the health inequity disproportionately experienced by speakers of First Nations languages. Established and sustained culturally congruent health communication policy and systems are vital to address ongoing and future health emergencies experienced by First Nations language speakers.

Declaration of interests

No conflict of interest was reported by any of the authors.

Author contributions

A. Lowell: conceptualisation, methodology, investigation, formal analysis, writing - original draft preparation, project administration.

R. Dikul Baker: investigation, formal analysis, writing - review and editing.

R. Gundjarranbuy: conceptualisation, methodology, investigation, formal analysis, writing - review and editing.

E. Armstrong: investigation, formal analysis, writing - original draft preparation, writing - review and editing.

A. Mitchell: investigation, writing - original draft preparation, writing - review and editing.

B. Muthamulawuy: investigation, formal analysis, writing - review and editing.

S. Yiwarr McGrath: formal analysis, writing - review and editing.

M. Spencer: investigation, writing - review and editing.

Sean Taylor: conceptualisation, writing - review and editing.

E. Läwurrpa Maypilama: conceptualisation, methodology, formal analysis, writing - review and editing, supervision.

Funding

This project was funded by Charles Darwin University through a Rainmaker Readiness Grant.

Acknowledgements

We wish to acknowledge the invaluable contribution to this research made by Dr. Cathy Bow, who tragically passed away before completion of this manuscript. The contribution of Anna Kwan in reviewing relevant literature is also gratefully acknowledged. We also wish to sincerely thank all those who generously shared their time and knowledge with the research team.

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Emily Armstrong is a non-Indigenous researcher who works on collaborative projects with First Nations partners. Her research focus is intercultural communication. She is a speech pathologist with experience across a wide range of services in early childhood, health, disability, education and higher education fields. Emily grew up on Gamilaraay Country in Tamworth, New South Wales and her family, descended from convicts and white settlers, has been in Australia for eight generations.

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Brenda Muthamuluwuy is a senior Birrkili Gupapuyŋu woman ancestrally from Luŋgutja (Hardy Island) and originally from Galiwin'ku in North-East Arnhem Land. In 2012, she was invited to take on the role of coordinator of the *Mawul Rom* Masters program at CDU and since then has served on the Mawul Rom Pty Ltd Board of Directors and graduated with a Masters of Indigenous Knowledge of Mawul Rom. She is currently employed as a lecturer of Indigenous Languages in the Faculty of Arts and Society at Charles Darwin University, where she is the main Yolŋu lecturer for the Yolŋu Studies students.

Stuart Yiwarr McGrath is a Gumatj man from the Yolŋu nation and NT Young Australian of the Year 2021. He is an Aboriginal Health Practitioner and a researcher and recently became the first Yolŋu to complete a Bachelor of Nursing. Yiwarr co-produced the multi-award winning podcast Ask the Specialist: Larrakia, Tiwi and Yolŋu stories to inspire better healthcare and promote cultural safety. This includes seven short podcasts in which Larrakia, Tiwi and Yolŋu leaders, who also have personal experience at Royal Darwin Hospital, answer the questions doctors struggle with when working with Aboriginal patients.

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