

When Health Information Travels: What Shapes Trust, Verification, and Change in Cape Flats WhatsApp Networks

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The Reach Alliance

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Note: Authors are listed alphabetically with the faculty mentors listed last.

Cover photo: View from Philippi Village of the surrounding township of Philippi on the Cape Flats of Cape Town, South Africa (photo by Shannal Pillay, edited according to AI guidelines)



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Generative AI tools were used to support grammar and language editing during the preparation of this report. Generative AI was not used to develop the study’s research content, analysis, or interpretation. All research content, analysis, interpretation, and final written material were developed and verified by the research team, who retain full responsibility for the accuracy and integrity of the content.

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Contents

Executive Summary.....	1
Why Health Information Networks Matter in the Cape Flats.....	2
Hard to Reach: Access to Appropriate and Trustworthy Health Information...	3
Listening for How Information Moves, Changes, and Gains Trust.....	9
Navigating Health Information on WhatsApp in Cape Flats Communities...	10
Strengthening Trusted Health Information Pathways in Cape Flats Communities.....	16
Lessons Learned: Researcher Reflections.....	20



Executive Summary

Health information increasingly travels through digital and social networks, where messages can be shared, interpreted, questioned, and changed across multiple communication spaces. In Cape Flats communities in Cape Town, South Africa, WhatsApp forms part of this wider information environment, connecting people to family, friends, community networks, healthcare workers, institutions, and other sources of health information. This study explored how community members navigate health information as it moves through these networks and whether their experiences reflected selected mechanisms of the Multiplex Misinformation Dynamics Model (MMDM).

We conducted interviews with ten community members from several Cape Flats communities, recruited through the Bertha Centre's Health Entrepreneurship Programme at Philippi Village. Participants described real experiences of encountering health information through WhatsApp and related digital spaces and responded to short hypothetical scenarios involving uncertain health information. This allowed us to examine not only how information travelled but also how people interpreted, verified, shared, questioned, and responded to it.

The findings showed that receiving, believing, sharing, and acting on health information were distinct decisions. People did not rely on WhatsApp alone when assessing information. They drew on healthcare workers, clinics, trusted friends, institutional websites, news sources, other digital platforms, and lived experience. Repetition and wide circulation could increase the visibility of a message but did not consistently make it more credible.

The interviews provided evidence consistent with MMDM mechanisms examined in this study: broadcast influence, groupthink blending, and bridge-node bottlenecks. Broadcast influence

was most consistently visible, particularly through influential health professionals and formal institutions, while groupthink blending and bridge-node bottlenecks appeared more conditionally. The findings also suggest that information does not simply degrade as it travels. Messages could lose detail or source clarity, but they could also remain intact, gain useful context, or become amplified. We therefore understand information movement as a process of transformation, rather than degradation alone.

Knowing that information should be checked was not the same as having an accessible and trusted way to check it. Participants differed in their access to healthcare workers, clinics, knowledgeable contacts, digital resources, and institutional sources. These differences shaped how they navigated uncertainty.

The study therefore points toward a shift in health communication: the goal should not simply be to put better information into communities, but to strengthen the pathways through which people can recognize, question, verify, discuss, and act on the information they encounter. This includes making verification easy to access, designing messages for how they will travel, strengthening trusted community and health networks, creating spaces for questions and collective sense-checking, and ensuring corrections reach the networks where misinformation circulated.

Overall, the Cape Flats case demonstrates that understanding health misinformation requires attention to both how information moves through digital networks and the social and institutional resources people can draw upon when deciding what to trust, share, challenge, or correct.



Figure 1. Navigating health information through digital networks

Why Health Information Networks Matter in the Cape Flats

Reliable health information helps people decide how to prevent illness, when to seek care, and how to respond to health risks.¹ But when inaccurate, misleading, or unsupported claims circulate as credible information, these decisions become harder. Digital communication has also changed how people encounter health information. Messages can now move quickly through social media, messaging

platforms, families, friendships, and community networks. WhatsApp is particularly important because people can encounter the same information across family groups, friendship circles, workplaces, churches, and community organizations, as well as through direct messages and status updates.² The challenge, therefore, is not only whether health information is accurate, but how it is understood, trusted, shared, and changed as it moves through social and digital networks.

A Global Health-Information Challenge

Health misinformation is a global public health concern. It became particularly visible during the COVID-19 pandemic. The World Health Organization's description of an "infodemic" captured the challenge of navigating an overwhelming volume of health information,

¹ Isabella Starvaggi, Clare Dierckman, and Lorenzo Lorenzo-Luaces, "Mental Health Misinformation on Social Media: Review and Future Directions," *Current Opinion in Psychology* 56 (2024). [↗](#)

² Chidindu C. Mmadu-Okoli and Ifeanyi M. Nsofor, "WhatsApp, COVID-19 Related Misinformation in Africa and the Need for Continuous Infoveillance," *HPHR Journal*, no. 39 (2021). [↗](#)

including both accurate and inaccurate claims, during a period of considerable uncertainty.³ Health misinformation can shape people's perceptions of risk, influence their confidence in health guidance, and affect decisions about seeking and managing care. The COVID-19 pandemic demonstrated how quickly health claims could spread across digital networks, including false claims about treatments, cures, and vaccines.⁴ These experiences showed us that understanding misinformation requires more than identifying whether a claim is true or false. We need to understand how it moves through the networks in which people communicate. Increasingly, research has therefore focused on the social and network processes through which health information gains visibility, is repeated and interpreted, and how it can ultimately acquire credibility and influence.

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How Information Changes As It Travels

Health information often moves through several people and communication spaces before reaching its eventual audience. As these messages move, they may be discussed, shortened, expanded, re-worded, localized, or combined with personal experiences and interpretations. These interactions can alter the clarity of the original source, the meaning or urgency

of the message, and how easily it can be verified. However, information does not only change through communication. Social interactions can also preserve its meaning, clarify uncertainty, or add useful context.

Hard to Reach: Access to Appropriate and Trustworthy Health Information

The Cape Flats is a low-lying area in Cape Town, South Africa, situated southeast of the iconic Table Mountain and extending toward False Bay.⁵ It is a broad, relatively flat area within the Cape Town metropolitan region, bordered by the northern and southern suburbs, the Helderberg region to the east, and the Cape Peninsula to the southwest (Figure 2).

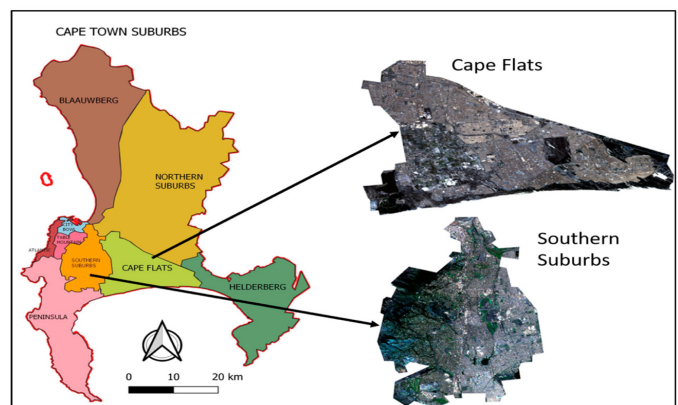


Figure 2. Geographic location of the Cape Flats within the City of Cape Town, South Africa (adapted from Lefulebe, Van der Walt, and Xulu, “Classification of Urban Land Use”)

3 “An Ad Hoc WHO Technical Consultation: Managing the COVID-19 Infodemic: Call for Action,” World Health Organization, 2020. [↗](#)

4 Ibid.

5 Bosiu E. Lefulebe, Adriaan Van der Walt, and Sifiso Xulu, “Classification of Urban Land Use and Land Cover with K-Nearest Neighbour Classifier in the City of Cape Town, South Africa—Cape Flats Case Study,” *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* 48 (2023): 967–74; R.S. Hill and J.N. Theron, *Silica Sand of the Cape Flats*. Geological Survey of South Africa Bulletin 69 (Pretoria: Government Printer, 1981).

The demographic and spatial character of the Cape Flats has been profoundly shaped by South Africa's apartheid history, particularly the forced removal of Black and Coloured communities from areas designated for white occupation and their relocation to peripheral townships across the region.⁶ Today, the Cape Flats encompasses diverse communities, such as Philippi, Khayelitsha, Mitchells Plain, Gugulethu, Nyanga, and Manenberg, with considerable variation in socioeconomic conditions. These communities continue to experience inequalities in socioeconomic conditions, public infrastructure, and access to essential services, contributing to persistent health inequities across Cape Town.⁷

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Structural and institutional barriers can make it difficult for people to access health services and reliable health information through formal channels.

In the Cape Flats, being “hard to reach” does not necessarily mean that communities are geographically isolated. Rather, structural and institutional barriers can make it difficult for people to access health services and reliable health information through formal channels. Research on health inequities in Cape Town, particularly the Cape Flats, has demonstrated differences in health status and the socioeconomic determinants of health across the city's health subdistricts, while work in

public clinics in the Western Cape has documented persistently long patient waiting times in high-volume urban primary care facilities.⁸ These barriers can make formal healthcare pathways difficult to navigate, particularly for people who face constraints related to time, transport, cost, or access to services.

Being hard to reach in this context can also mean being difficult to reach with appropriate and trustworthy health information. Where formal healthcare pathways are difficult to navigate, people may draw on alternative sources of information and support, including healthcare workers, family and community relationships, digital platforms, lived experience, and existing knowledge. Research in Cape Town, for example, has shown that women seeking abortion care sometimes relied on social networks for information, referrals, and endorsements when they did not access formal healthcare services. The study demonstrates how institutional and societal barriers can shape not only whether people access healthcare, but also the sources of information and advice on which they rely.⁹

Health information can move through a combination of formal and informal networks. Community-based approaches to addressing health inequities in Cape Town have highlighted the importance of community structures and participatory approaches in responding to unequal access to health and other essential services.¹⁰ This means that reaching an underserved community is not simply a matter of delivering information to people; it also involves understanding the networks through which information is encountered, interpreted, trusted, challenged, and acted upon.

Within this environment, WhatsApp can extend existing social networks by allowing health information to circulate rapidly between family members, friends, and community members. This

6 Nikiwe Solomon, “Urban Metabolisms: What Makes for Habitability in the Cape Flats Critical Zone, in Cape Town, South Africa,” paper presented at the EGU General Assembly 2026, no. EGU26-23148, Copernicus Meetings, 2026.

7 Ibid; Vera Scott, Ruth Stern, David Sanders, Gavin Reagon, and Verona Mathews, “Research to Action to Address Inequities: The Experience of the Cape Town Equity Gauge,” *International Journal for Equity in Health* 7 (2008): 6. [↗](#)

8 Ibid; E.M. Thomson and S. Myrdal, “Attitudes to the Provision of Primary Health Care at the Day Hospitals in Cape Town,” *South African Medical Journal* 67, no. 2 (1985): 58–61; A. Sastry, K. Long, A. de Sa, et al., “Collaborative Action Research to Reduce Persistently Long Patient Wait Times in Two Public Clinics in Western Cape, South Africa,” *The Lancet Global Health* 3, no. S1 (2015): S18. [↗](#)

9 Jane Harries, Kristen Daskilewicz, Tshegofatso Bessenaar, and Caitlin Gerdt, “Understanding Abortion Seeking Care Outside of Formal Health Care Settings in Cape Town, South Africa: A Qualitative Study,” *Reproductive Health* 18 (2021): 190. [↗](#)

10 Scott et al., “Research to Action to Address Inequities,” 6.

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The same networks that enable information to reach people can therefore also **influence which information is trusted** and how uncertainty is resolved.



Figure 3. Misinformation can spread via mobile application

connectivity can help overcome some barriers to accessing information, particularly where people cannot easily access formal sources. It can also create new challenges: information might reach people through trusted social relationships without mechanisms for verification, correction, or accountability. The same networks that enable information to reach people can therefore also influence which information is trusted and how uncertainty is resolved.

The Cape Flats consequently provides an important setting for understanding what it means to reach underserved communities with health information. It highlights that the challenge is not only whether information reaches people, but how it reaches them, who delivers or endorses it, what sources people can use to verify it, and whether they have accessible pathways for correcting uncertainty. Examining these dynamics can help illuminate how globally relevant health misinformation processes unfold within an unequal urban information environment, and why understanding the pathways

through which information reaches underserved communities is central to improving the reach and reliability of health information.

Why WhatsApp Provides a Useful Lens

WhatsApp is the dominant messaging platform in South Africa, with approximately 30 million users. Because it is affordable and accessible it is particularly prevalent in lower-income and underserved communities.¹¹ This widespread use makes WhatsApp an important lens through which to understand how health information moves through everyday social networks.

The platform forms part of routine communication across families, friendships, workplaces, communities, religious groups, and program networks, allowing people to encounter and exchange health information within relationships they already use and trust. Its group chats, direct

¹¹ “WhatsApp Is a Growing Customer Relations Enabler,” *Business Day*, 15 October 2025. [↗](#)

messages, and status features allow the same information to appear across different social contexts, while messages can also move between WhatsApp, other digital platforms, and formal health or institutional sources. As information moves between these overlapping spaces, it can be repeated, reinterpreted, questioned, verified, and redistributed.

WhatsApp therefore provides more than a channel through which health information travels. It offers a window into the social and network processes through which information is interpreted, and its credibility is established, challenged, or changed. This is particularly relevant to understanding health misinformation, since the same network characteristics that facilitate the rapid circulation of useful health information can also enable misinformation to reach multiple audiences quickly.

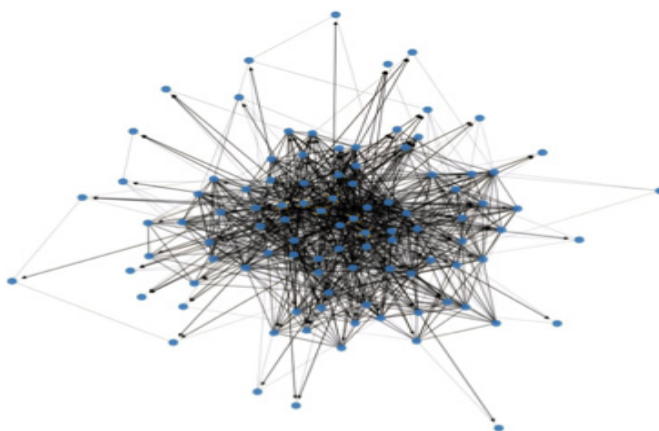
The platform's importance to health communication was particularly visible during the COVID-19 pandemic. WhatsApp enabled users across Africa to share information rapidly during public health emergencies, but the app's ease and speed of information sharing also created opportunities for health misinformation to circulate. Researchers highlight both the usefulness of WhatsApp for communicating during public health emergencies and the risks associated with the rapid spread of COVID-19-related misinformation through the platform.¹² Evidence from across sub-Saharan Africa similarly demonstrates the prevalence of COVID-19 misinformation and the challenges it posed for public health communication.¹³

The Model Guiding the Study

To understand what happens to health information as it moves through WhatsApp networks, our study was guided by the Multiplex Misinformation Dynamics Model (MMDM). The model asks what happens to the quality and accuracy of information as it moves from person to person. In our study, we refer to this as *information fidelity*: how much of the original

information, including its accuracy, meaning, and important details, is retained as it is shared.

The MMDM recognizes that people do not communicate in only one way. On WhatsApp, for example, someone might have a private conversation with a friend, participate in a group chat, or receive information through a broadcast. These different communication channels can affect how information is understood and how much of the original message is retained. This is represented in Figure 4.



Notes: Information can move through different communication channels and interactions within and between these channels can influence information fidelity. Nodes/dots represent users, while edges represent communication relationships. Thin undirected edges represent private one-to-one chats; dense patches represent group-chat cliques; and black-rimmed nodes represent broadcasters.

Figure 4. Visual representation of the MMDM model

The MMDM helps us understand several ways (mechanisms) in which information can change. *Linear forgetting* refers to what happens when people gradually forget details of information they have received. *Nonlinear* describes how more detailed or complicated information can lose important details when it is shortened, simplified, or compressed.

The way people communicate with one another can also affect information. *Private conversations* (one-to-

¹² Mmadu-Okoli and Nsofor, "WhatsApp, COVID-19 Related Misinformation in Africa."

¹³ Uchekchukwu L. Osuagwu, Ngozi Chinedu, Charbel El Bcheraoui, Timothy Chinedu, and Nwabuogo Chinedu, "Misinformation about COVID-19 in Sub-Saharan Africa: Evidence from a Cross-Sectional Survey," *The Model Guiding the Study* 19, no. 1 (2021): 44–56.

one chats) allow information to move between two people and are described by the model as slower, relatively high-fidelity exchanges, particularly where there is trust between people. Group conversations, on the other hand, can cause people to move toward a shared understanding of information. This is described as *groupthink blending*. If an inaccurate claim becomes accepted within a group, it can become part of the group's shared understanding.

Information can also move between different groups through people who belong to more than one group. These people can act as *bridge nodes*, connecting otherwise separate groups. Because information from different groups passes through them, information can become mixed or diluted as it moves between communities. The model describes this as a *bridge-node bottleneck*. Importantly, this is not necessarily something the individual is intentionally doing; rather, it can emerge from their position within a network of multiple groups.

Finally, *broadcast channels* provide a one-way pathway through which information from an authoritative or influential source can reach many people. In the model, these broadcasts can act as a source of higher-fidelity information entering the network and can help reinforce accurate information.

These processes can happen at the same time. For example, a person might receive detailed health information from a healthcare professional, forget some of the details, simplify the information when explaining it to a family member, and then share it in a WhatsApp group where other members add their own interpretations. Someone who belongs to several groups may then carry that information into another community. At the same time, a trusted healthcare professional or institution may provide information through a broadcast channel that reinforces or corrects what people have heard. In this way, the model helps us think about not only whether health information reaches people, but what happens to it along the way.

Importantly, the MMDM does not suggest that these processes are unique to underserved communities. Rather, they are mechanisms that can occur across different communication environments. Our interest was in understanding how these mechanisms might

appear within the everyday information environment of communities in the Cape Flats, where access to trusted health information and opportunities to verify information may not always be equal.

Our study tested the MMDM by examining whether the experiences described by community representatives reflected these mechanisms proposed by the model. However, given the small sample size, we could not quantitatively test the relationships proposed by the model. Instead, the model provided a lens for understanding what community members told us about how health information moves through their networks. We looked at how people receive information, who they trust, how they discuss and share it, when they question it, and how it may change as it moves between people, WhatsApp groups, other platforms, and trusted sources.

This helped us move beyond the question of whether people believe particular health claims. Instead, we could ask a broader question: what happens to health information after it reaches a community? Understanding these pathways can help identify where information is being strengthened, where it may be changing or losing detail, and where opportunities exist to support people in verifying and correcting health information.

Who Shared Their Accounts

Ten community members joined the study through the Bertha Centre for Social Innovation and Entrepreneurship's Health Entrepreneurship Programme at Philippi Village. They lived across several Cape Flats communities, including Philippi, Delft South, Nyanga, Gugulethu, and Khayelitsha. The program provided an existing community-based entry point for the research team, connecting us with people involved in local community initiatives and familiar with the networks through which health information circulates.

We used purposive recruitment to identify community representatives who could speak about their experiences of receiving, sharing, questioning, and navigating health information. We conducted interviews both in person and online, with each

lasting approximately 45 to 60 minutes. Participants who preferred to communicate in isiXhosa were interviewed in isiXhosa by a translator, who subsequently translated the interviews into English for our analysis. This allowed participants to communicate in their preferred language while ensuring that the interview data could be analyzed consistently across participants.

Although the community members shared some characteristics, their patterns of WhatsApp use varied considerably. While all owned their own phones, their daily WhatsApp use ranged from approximately 1 to 11 hours. Group membership ranged from one current group to more than ten, and cross-group sharing ranged from none to very frequent. Their exposure to health information also varied: some encountered health information regularly, while others actively sought it out rather than receiving it passively.

This variation gave us a range of experiences of WhatsApp connectivity, exposure, and information sharing. It helped us see how different communication patterns shaped the ways people encountered, interpreted, verified, and moved health information through their networks.

Of course, how we recruited participants also shapes how we interpret the findings. Because the study involved a small, purposively selected group connected to the Health Entrepreneurship Programme, the participants do not represent all Cape Flats residents statistically. Instead, their accounts provide an in-depth view of how community members experienced and navigated health information within their everyday social and digital networks.

Table 1. Community sample demographics summary

Sample characteristic	Summary
Community representatives	10
Age range	20 to 35 years
Mean age	~27 years
Gender	8 women; 2 men
Geographic spread	Philippi (5), Delft South (1), Nyanga (1), Gugulethu (1), Khayelitsha (2)
Education	All completed Grade 12 or had additional/post-high-school qualifications
Phone access	All owned their own phones
WhatsApp use	Approximately 1 to 11 hours per day
WhatsApp group membership	From 1 current group to more than 10
Cross-group sharing	Ranged from none to very frequent
Health-information exposure	Ranged from rare to frequent; some actively sought health information rather than receiving it passively

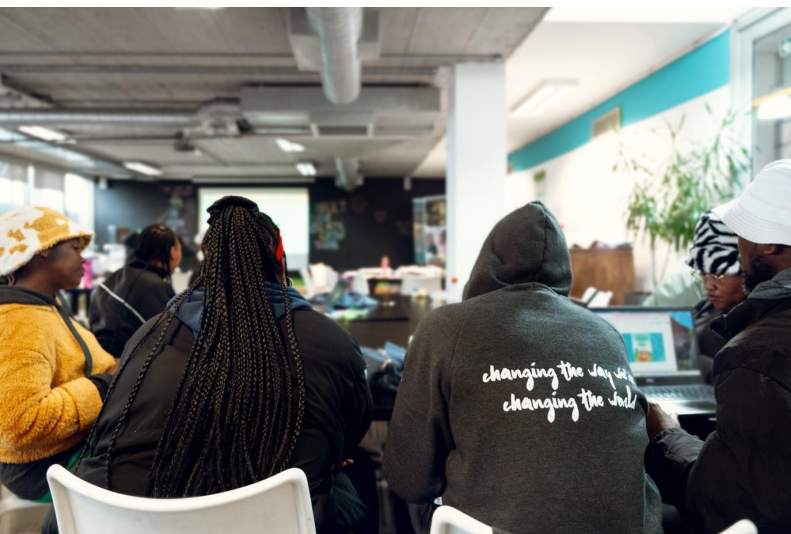


Figure 5. Delegates from the Health Entrepreneurship Academy programme at UCT Bertha Centre at UCT Philippi Village, with whom Reach researchers engaged

Listening for How Information Moves, Changes, and Gains Trust



Figure 6. Reach researcher, Shannal Pillay, consulting her interview guide during an interview with a Cape Flats community member

We asked community members to recall health information they had encountered through WhatsApp groups, direct chats, status updates and, where relevant, other digital platforms. Their responses traced where information came from, how it moved between people and communication spaces, who appeared influential in its circulation, and what happened to messages as they travelled.

The interviews also explored what made health information seem credible or questionable, how group discussions shaped interpretation, how people checked uncertain information, and what happened when information was challenged or corrected. This allowed us to understand not only where information travelled, but how people made sense of it along the way.

To explore these processes more consistently across interviews, we used short, fictional flu-related WhatsApp scenarios that presented every community participant with the same hypothetical communication situations. The scenarios explored source credibility, repeated exposure, group agreement, sharing decisions, message change, and correction. They created a common basis for comparison while allowing community representatives to explain how they would reason through each situation. The following is an example of a scenario:

Local clinics have reported an increase in flu cases over the past few weeks. Health workers are encouraging older adults and people with chronic conditions to receive the free flu vaccine. Please contact your nearest clinic for further information.

Together, the two approaches provided complementary insights. Recalled examples captured experiences that community members had encountered in their everyday lives, while the scenarios showed how they reasoned through comparable situations involving uncertain health information. This helped us to focus on how people navigate, interpret, verify, and respond to health information rather than independently determining whether individual messages were true or false.

Making Sense of the Accounts

For analysis, we organized the accounts across three connected areas: how health information moves through WhatsApp networks; how people, relationships, and platform dynamics shape trust and sharing; and how health information changes, persists, or is corrected as it circulates. Within the third area, we brought together message change and information verification or correction, allowing us to examine how information could be altered, maintained, checked, or corrected as it moved through the network. We looked for recurring patterns while also paying attention to differences and contradictory accounts, so that variation between community representatives remained visible rather than being reduced to a single pattern.

When considering what had occurred in practice, we gave greater interpretive weight to participants' recalled experiences than to their responses to hypothetical scenarios. The scenarios instead helped us compare how community members reasoned through similar situations involving uncertain health information.

Although the MMDM proposes multiple ways in which information can change, we focused on individual conversations (one to one chats), groupthink blending, bridge-node bottlenecks, and broadcast influence because these mechanisms were most directly observable through participants' accounts of social interaction, cross-group sharing, and influential sources.

We then used these multiplex ways as an interpretive lens to examine whether the communication patterns described by community members were consistent with the processes proposed by the model. We considered how they contributed to information degradation, including changes in the accuracy, clarity, consistency, or meaning of health information as it moved through a network.

Alongside these model-informed patterns, the interviews revealed an important contextual dimension. Community participants often valued verification, but differed in the trusted people, institutions, and reliable information sources available to them. This led us to consider

verification capability as an important part of the Cape Flats information environment and informed the verification capability model presented in the findings. This was an emergent contextual finding rather than a component of the MMDM.



Figure 7. Reach researcher, Andre Mofolo, interviewing a Cape Flats community member

Navigating Health Information on WhatsApp in Cape Flats Communities

Trust Is Built Through People, Proof, and Experience

Across the ten accounts, receiving health information, believing it, sharing it, and acting on it emerged as separate distinct decisions. Rather than simply accepting what they encountered, community members described navigating health information across multiple communication spaces and sources. Information circulated through WhatsApp groups, direct chats, and status updates, but people also

moved beyond WhatsApp to consult clinics, healthcare workers, news outlets, institutional websites, and other social media platforms when deciding what to believe. WhatsApp was therefore part of a wider information environment in which people encountered, compared, and evaluated health information.

The extent to which information circulated did not necessarily determine whether it was trusted. Repetition and wide circulation could increase the visibility of a health message without reliably increasing its credibility. One community participant was explicit about this distinction when they told us “Things go viral ... so that wouldn’t change me into thinking that it’s trustworthy information because it’s been shared so many times” [CR2].

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The extent to which information circulated did not necessarily determine whether it was trusted. Repetition and wide circulation could increase the visibility of a health message without reliably increasing its credibility.

Other interviewees described how repetition could sometimes make information more convincing, particularly when repeated versions appeared consistent or when people observed others accepting or acting on the information. Repeated exposure could therefore influence how information was perceived, but its effect depended on the wider context in which people encountered and interpreted the message.

This variation was also reflected in the communication patterns described by the MMDM. The accounts provided evidence consistent with

the model’s private chats, groupthink blending, bridge-node bottlenecks, and broadcast influence, although their effects varied according to the source of the information, social relationships, previous experience, message characteristics, and opportunities for verification. The findings therefore support the relevance of the MMDM while showing that these network dynamics do not operate in isolation. Instead, they are shaped by the wider social and information environments in which people use WhatsApp.

Taken together, the findings point to five connected dimensions of how community members navigate health information: how credibility is built; how information changes as it moves; how groups influence interpretation; how people verify uncertain information; and what happens when information must be corrected. Examining these processes allows us to look beyond whether information simply reaches people to understand how its meaning, credibility, and potential influence can change as it moves through everyday networks.

Messages Can Lose, Gain, or Change Meaning as They Travel

Community members described how health information changed as it moved through forwarding, retelling, screenshots, added captions, localization, and personal interpretation. These changes did not always alter the basic topic of a message, but they could change its urgency, specificity, source clarity, or implied meaning.

The interviews provided several examples of how this happened. In some cases, information accumulated new claims as people repeatedly shared it. Participant CR10, for example, recalled COVID-19 vaccine information gaining additional claims about trackers, infection risk, and side effects: “People kept on spreading, adding like other side effects.” In other cases, information changed as people interpreted and retold it in their own way. For example, CR7 told us, “I explain it to her the way I interpreted it.” CR9 similarly described how people could add to and change a message as it circulated: “They are contributing and changing the story.” Together, these accounts show that messages

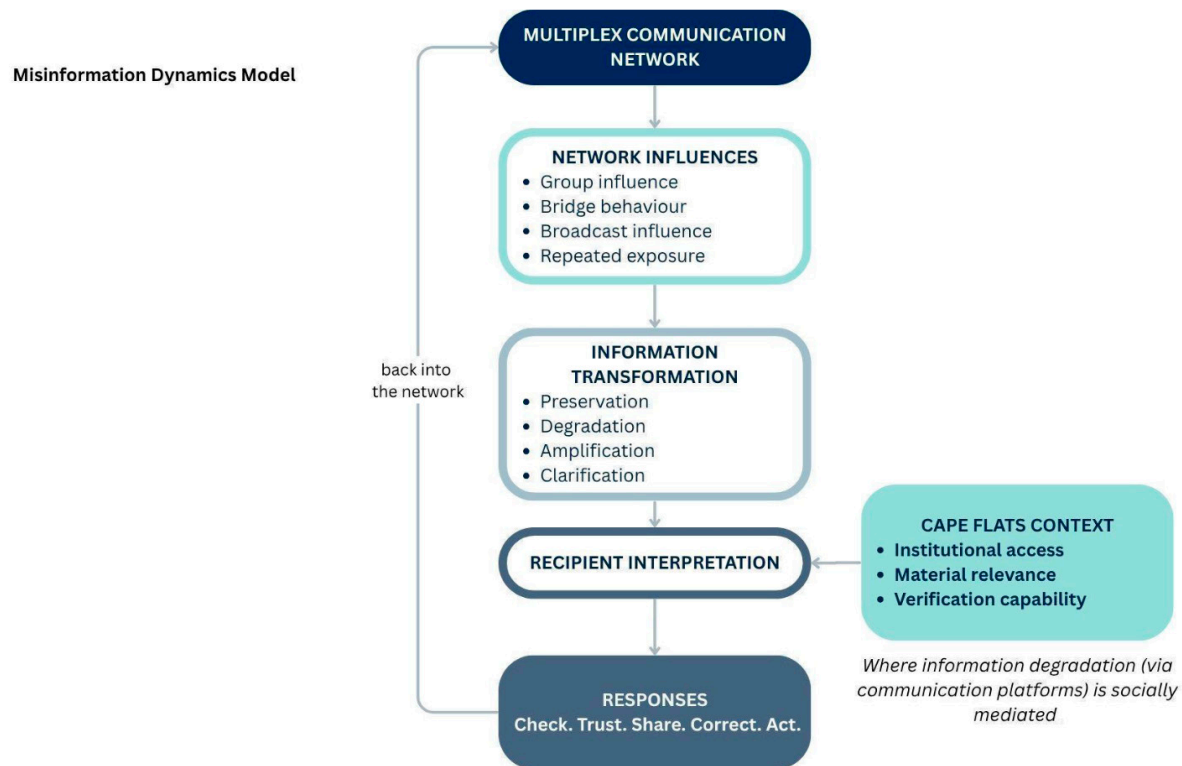


Figure 8. Professor Jeff Murugan’s Multiplex Misinformation Dynamics (MMDM) (theoretical model guiding the study, and primary analytical frame) with the Cape Flats context presenting moderating conditions

can change not only through the information people added, but also through how they interpreted and communicated it to others.

These changes were particularly visible when community members responded to the second flu vignette (fictional scenario). Across several interviews, they perceived the altered version as more urgent, broader, and less specific than the original. They noticed that details about who was particularly at risk and where to seek further information had been removed, while calls to share the message widely had been added. CR7 said the altered message “seemed like a rumour,” partly because it had lost specific information and gained wording that encouraged wider circulation.

Source clarity could also weaken as information travelled. CR10 described repeatedly forwarded information like this (altered scenario): “You don’t know where it comes from.”

As the original source becomes less clear, people have less information with which to assess the message’s credibility. Information change was not

always harmful, however. Some accounts showed that added detail could improve usefulness or help people interpret information more accurately. CR4 described group discussion around a home remedy that provided a missing practical detail, while another example showed additional clinic and access information making a health message more useful without fundamentally changing its meaning. CR7 also described a health event message that remained consistent across several senders because the original information was clear and specific.

The interviews showed that information can follow different pathways as it circulates. A message can remain substantially intact, lose important detail or source information, become more urgent or emotionally amplified, or gain useful clarification and context.

These accounts broaden how information degradation can be understood in practice. While the MMDM draws attention to the ways information can lose accuracy, clarity, consistency, or meaning as it moves through networks, participants’ accounts showed that circulation does not always result in

degradation. The movement of health information is therefore better understood as a process of information transformation in which network interactions can produce both loss and gain of meaning.

This interpretation remains consistent with the MMDM's emphasis on how network processes alter information, while extending the focus beyond degradation alone. Rather than treating information change as uniformly negative, the findings suggest that whether a message loses, retains, or gains meaning depends partly on the social relationships, interpretations, and opportunities for clarification that surround its movement.

The Ability to Verify Depends on Who and What People Can Access

Across the interviews, community members recognized the value of checking uncertain health information. They described using clinics, nurses, doctors, health departments, trusted news sources, institutional websites, Google searches, and knowledgeable family or community contacts to verify what they encountered. However, not everyone had the same verification pathways. Some individuals could access health professionals through family or personal networks, while others relied more heavily on clinics, digital sources, or formal media. CR6 described choosing between digital and in-person verification according to the resources available: "If I don't have data ... I can just go to the clinic."

Access to a trusted source could also shape how people assessed information. CR7 trusted the first flu message partly because it provided a direct route to verification: "That is where you actually know if it's true or not." CR10 relied on a former-nurse grandmother, clinic pages, and a doctor, while also noting that limited personal experience with local clinics made it harder to assess claims about the services they offered.

These accounts highlight an important distinction: knowing that information should be verified is not the same as being able to verify it. Verification

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These accounts highlight an important distinction: knowing that information should be verified is not the same as being able to verify it.

depends partly on access to credible people, health services, digital tools, institutional knowledge, and reliable sources of information.

WhatsApp can extend these existing networks by making information and trusted contacts easier to reach. At the same time, it can reveal differences in who can readily access credible sources for verification and correction. In the Cape Flats communities in this study, credibility and verification were therefore embedded in wider networks of family, health professionals, community actors, lived experience, and existing knowledge.

This variation in verification capability helps explain why the same communication process did not produce the same outcome for everyone. Repetition, group agreement, or an urgent message could influence people differently depending on whether they could readily check a source, contact a trusted health worker, compare information, or reach an institution that could confirm or challenge a claim. The ability to navigate uncertain health information therefore depended not only on what people encountered, but also on the verification pathways available to them.

The model positions verification capability as a contextual condition that shapes how misinformation dynamics are experienced, rather than as a replacement for the MMDM. The same platform mechanism can therefore produce different outcomes depending on whether a community member can readily check a source, contact a trusted

Cape Flats Information Environment

The challenge of uncertain health information on WhatsApp is partly a question of who people can turn to when uncertainty arises. In Cape Flats communities represented in this study, credibility and verification are embedded in networks of family, health professionals, community actors, lived experience, and existing knowledge. WhatsApp can extend those networks, but it can also expose differences in who has access to credible verification and correction.

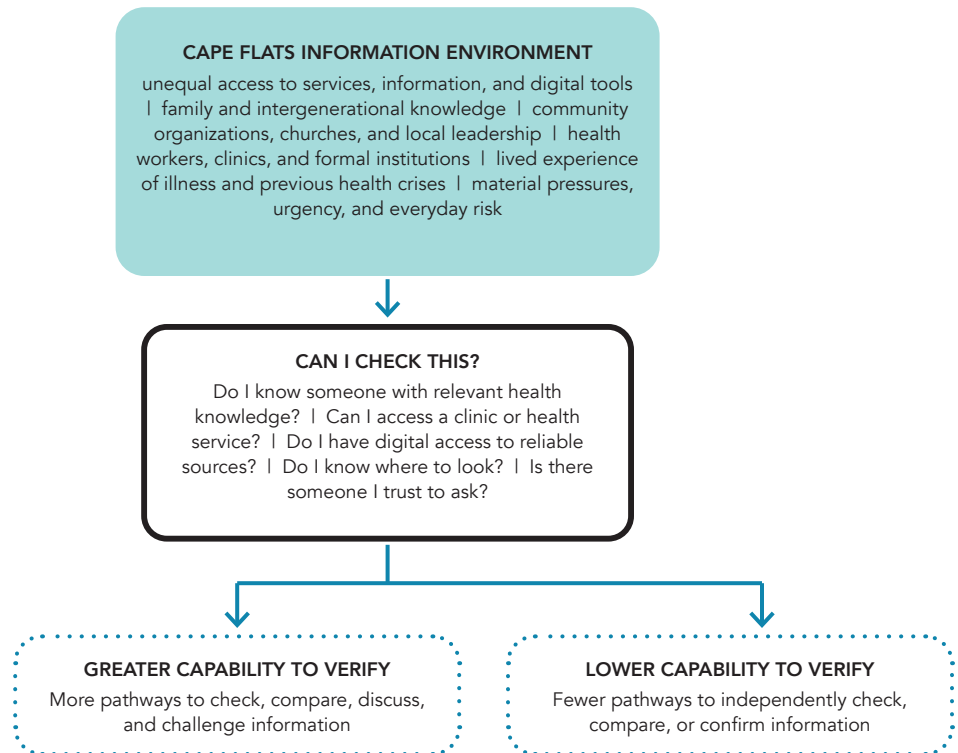


Figure 9. Conceptual framework illustrating how the Cape Flats information environment shapes individuals’ capability to verify health information shared on WhatsApp

health worker, compare information, or access an institution that can confirm or challenge a message.

This helps explain why repetition, group agreement, or message urgency did not have uniform effects across the interviews. Their influence depended partly on whether people could draw on trusted relationships, health services, and reliable information sources to assess what they encountered. In Cape Flats contribution misinformation dynamics are experienced within a unique information environment where people have different levels of access to the relationships, institutions, and resources that help them assess uncertainty.

Correction Has to Travel Through the Network Too

Correcting misinformation involved more than simply replacing one message with another. People judged corrections according to the authority of

the source, the evidence provided, the quality of the explanation, and whether they could trace the correction to a credible institution. CR9, for example, said that an institutional correction required transparency: “There has to be a good explanation.” CR6 similarly prioritized evidence when deciding whom to trust in a correction: “The one who has a proof one.”

The reach of a correction also varied. Some community members believed corrections travelled more slowly than the original information, while CR8 believed corrective information could spread quickly when people feared that an incorrect message might harm the community. CR10 described COVID-19 corrections as relatively quick, although “the original message had already spread widely.”

The interviews therefore do not support a simple conclusion that corrections always travel more slowly. Instead, the reach of a correction depended on when it entered the network, who received it, whether the source was trusted, whether people felt responsible

for sharing it, and whether those who had previously shared the information were willing to revisit what they had circulated.

Willingness to recirculate a correction could itself be shaped by social concerns. CR7 identified a potential barrier, explaining that people might hesitate to reshare corrected information because “they don’t want to seem like untrustworthy person” and may keep the correction to themselves “to try and protect their dignity.” Correcting misinformation therefore involved more than deciding whether new information was credible; it could also require people to acknowledge that something they had previously shared was wrong.

Correction could also affect trust in the institution that provided the original information. CR10 accepted a corrected clinic message but initially reacted by saying: “I would probably never trust anything.” In other words, a correction can resolve an immediate information problem while also creating a wider question of whether the source itself can still be trusted.

A successful correction therefore needs to do more than update the immediate claim. It needs to reach the networks that encountered the original message, provide enough evidence and explanation to be credible, and give people a reason and a socially acceptable way to pass it on. Correction is consequently a network, credibility, and relationship process.

The Model in Practice: What the Cape Flats Case Revealed

Three mechanisms in the MMDM were visible across the interviews, but their effects were conditional rather than uniform. Broadcast influence was the most consistently visible mechanism, particularly through the influence of health professionals and formal institutions. Groupthink blending appeared through group agreement, visible uptake, and discussion, although groups could also challenge claims, introduce new information, and prompt further verification. Bridge-node bottlenecks were less consistently evident. Community representatives

moved information between communication spaces, but highly connected users were not necessarily active bridges. The interviews therefore provided limited evidence of a consistent bridge-node bottleneck.

The findings also extend the model’s emphasis on information degradation, which was evident through added interpretation, loss of source information, increased urgency, and missing detail. However, some accounts showed information being preserved or gaining useful clarification as it travelled. The findings therefore suggest a broad process of information transformation in which social circulation can degrade, preserve, amplify, or sometimes improve a message.

The Cape Flats case adds an important contextual dimension to these network mechanisms. People do not experience platform dynamics in isolation; they navigate them through the relationships, institutions, and information resources available to them. Their ability to question, verify, interpret, or act on a message therefore depends partly on the verification pathways they can access when uncertainty arises.

The result is an integrated picture: network dynamics shape how health information moves and changes, while the wider information environment shapes how people interpret, verify, and respond to what they encounter. This helps explain why the same pattern of repetition, group influence, or message change can produce different outcomes across people and contexts.



Figure 10. A member of the Cape Flats community and contributor to this case study

Strengthening Trusted Health Information Pathways in Cape Flats Communities

Community participants already use a range of strategies to question, check, and discuss uncertain health information. They turn to healthcare workers, clinics, trusted people, digital sources, their own experiences, and the communication spaces they use every day. Our findings therefore suggest that public health responses should not treat communities as passive recipients of information. Reaching communities with health information

requires strengthening the pathways through which people already encounter, recognize, verify, discuss, and correct health information. Rather than relying solely on one-way dissemination, public health responses should work through existing social and digital networks to ensure that credible information can reach communities in ways that are accessible, trusted, and responsive to local information needs.

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Reaching communities with health information requires strengthening the pathways through which people already encounter, recognize, verify, discuss, and correct health information.

This means strengthening both the quality of information being shared and people's access to credible sources when uncertainty arises.

Make Verification Easy to Find and Easy to Use

People should not have to build a verification pathway from scratch every time they encounter a questionable health message. Health messages should identify their original source and provide a clear, immediate route for checking the information. Depending on the message, this could include links to official health channels, clinic contact details, healthcare workers, or other recognized health services.

Verification should become part of the message itself, rather than something people must do afterward. This is particularly important on WhatsApp, where messages can quickly lose their original context as people forward or screenshot them. Wherever possible, the source and verification information should remain attached to the message so that people who encounter it later can still identify where it came from and where they can confirm it.

Public health organizations should also make verification routes familiar before people encounter uncertainty. If community members already know which clinic, healthcare worker, official website, or trusted health channel they can approach, they can act more quickly when questionable information appears. Community health initiatives could therefore identify the sources people currently use to verify information and assess where these pathways are weak, inaccessible, or poorly understood.

Digital-health education should complement these efforts by focusing on practical verification skills, including how to recognize credible sources, trace information back to its origin, compare claims across sources, and identify where reliable health information can be confirmed. Make verification as easy to access as sharing. When people encounter uncertain health information, they should already know where to look, who to ask, and how to check it.

Design for Sharing, Not Just for Publishing

Making verification accessible is useful only if the information people receive remains understandable and traceable as it travels. Health organizations should therefore design health messages for the journey they are likely to take, rather than only for the platform or audience where they are first published. Our findings show that messages can move through forwarding, screenshots, status updates, direct messages, and retelling, often reaching people who never saw the original post or its accompanying context. A message that is clear in its original setting may therefore become harder to interpret once it travels.

To reduce this risk, messages should carry the information people need to understand and verify them wherever they encounter them. This includes the original source, date, intended audience, essential health guidance, and a clear route to further information. Although messages should remain concise and accessible, communicators should avoid simplifying them to the point where important qualifications or conditions disappear. Technical language should be limited when it creates unnecessary barriers to understanding, while information that affects how a claim should be interpreted should remain visible.

On WhatsApp, this means placing source and verification information within the message itself, rather than relying on links, captions, or surrounding context that may disappear when a message is forwarded or screenshot. Health communicators should also test how messages are understood when they are copied, forwarded, separated from their original post, or retold by someone else. Health communicators should pay attention to wording that could become more urgent, broader, or less specific as people relay it.

In other words, it's best to design for the journey, not just the first destination. Health information should remain understandable, traceable, and verifiable even after it moves beyond the original sender.

Strengthen Trusted People and Community Networks as Verification Pathways

People do not navigate uncertain health information alone. They often turn to healthcare workers, clinics, organizations, and people they already know and trust. These relationships can provide an important bridge between formal health knowledge and everyday community conversations. Public health communication should therefore strengthen the trusted networks that people already use to interpret and verify health information, rather than relying only on formal channels to distribute messages.

Healthcare workers and health institutions should remain visible and accessible sources of credible information within community communication networks. At the same time, community organizations, churches, family networks, and other locally trusted actors can help connect people to reliable information where those relationships already exist. Health organizations should equip these trusted actors with current health information and clear pathways for referring questions they cannot answer themselves.

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Relationships that already connect people to nurses, clinics, healthcare workers, or other knowledgeable individuals can provide particularly valuable pathways when uncertainty arises.

Health communication partnerships should prioritize people who combine community trust with access to credible health knowledge. Their role should extend beyond simply forwarding health messages. They can create spaces where people feel comfortable asking questions, discussing uncertainty, checking

claims, and being directed toward appropriate sources. Relationships that already connect people to nurses, clinics, healthcare workers, or other knowledgeable individuals can provide particularly valuable pathways when uncertainty arises. Credible health information becomes more accessible when people can reach formal health knowledge through the relationships they already use to make sense of their world.

Create Space for Questions and Collective Sense-Checking

Trusted relationships do more than connect people to information; they create spaces where people can ask questions, compare experiences, and make sense of uncertainty together. WhatsApp groups and interpersonal networks provided opportunities for community members to challenge claims, discuss health information, and compare what they heard with the experiences of others. These conversations did not always lead to agreement. Sometimes discussion reinforced an existing belief; in other cases, disagreement prompted people to search for more information, seek clarification, or consult a trusted source. Uncertainty therefore created a need for conversation, not simply more information.

Public health communication should therefore treat dialogue as part of verification. Rather than assuming that providing a correct message will automatically resolve uncertainty, communicators should create spaces where people can ask, discuss, compare, and verify.

Plan Corrections for the Networks They Need to Reach

Correcting misinformation requires more than publishing an accurate replacement message. The correction needs to travel through the networks that encountered the original information. Corrections should therefore use the same types of communication spaces through which the original message circulated, including WhatsApp groups, direct chats, status updates, and community networks.

Corrective messages should clearly explain what was incorrect or has changed, provide the accurate information, and make the source easy to verify. When an institution corrects its own earlier communication, it should explain what changed and why. Corrections should also remain concise and easy to forward so that people can share them without losing the information needed to understand or verify the correction.

People may also have to navigate the social implications of acknowledging that something they previously shared was incorrect. As we heard from CR7 earlier, people may fear losing face by sharing a correction. With this in mind, correction strategies should therefore consider not only the credibility and reach of the corrected message, but also the social context in which people are asked to pass it on.

Timing also matters. Even a rapid correction can arrive after the original message has already reached multiple groups and contacts. Public health organizations should therefore plan for both the credibility and circulation of corrective information.

Strengthen Verification Capability Before Uncertainty Arises

Verification depends not only on whether people want to check information, but also on whether credible options are available when they need them. Our interviews showed that community members drew on different combinations of healthcare workers, family members, clinics, internet searches, news sources, and other information resources. These differences highlight the importance of strengthening the wider environment in which verification takes place.

Community health initiatives should strengthen the visibility, accessibility, and connections between these verification resources across the communication environments people already use. This includes making sure people know where to find credible health information, who they can approach with health questions, and how they can confirm information circulating through WhatsApp.

No single source will work for everyone. Rather than prescribing one “trusted source,” public health efforts should expand the range of credible options available to communities and strengthen the connections between them. This could mean improving links between community organizations and health services, ensuring trusted intermediaries can access current information, or making official health resources easier to find and understand.

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Rather than prescribing one “trusted source,” public health efforts should expand the range of credible options available to communities and strengthen the connections between them.

Strengthening verification capability also supports community agency. When people have accessible resources for checking information, they can question, compare, interpret, and correct health information using tools and relationships already embedded in their everyday lives.

Taken together, these recommendations recognize community members as active interpreters of health information, not passive recipients of health messages. WhatsApp can increase the reach of both credible and uncertain information, but what happens after a message arrives depends on the wider communication around it. Strengthening trusted health-information pathways therefore requires more than producing accurate messages. It means designing messages for how they will travel, making verification easy to access, strengthening trusted intermediaries, creating space for questions, and planning corrections that can move through the same networks as the original information.

The goal is not simply to put better information into communities. It is to strengthen the pathways



Figure 11. Reach researchers, Andrew Mofolo and Shannal Pillay, accompanied by translator, Thandiwe Goxo

through which people can recognize, question, verify, discuss, and act on the information they encounter.

Lessons Learned: Researcher Reflections

We began this study with the Multiplex Misinformation Dynamics Model (MMDM) as a way of understanding how health information might move, gain influence, and change through WhatsApp networks. The model helped us identify patterns in how information travelled between people and groups. However, listening to community interviewees showed us that these patterns do not operate in isolation. Trust, relationships, lived experience, and access to credible sources all

shaped how people interpreted and responded to the information they encountered.

The strongest shift in our thinking was from seeing misinformation mainly as a question of how information circulates to understanding it as a question of how people interpret, check, and respond to information within their everyday networks.

Our Assumptions Became More Nuanced

We entered the field expecting group sharing, repetition, and highly connected users to play a strong role in how misinformation spread. However, the interviews revealed a more complex picture. Repetition did not just have a single effect. For some community members, seeing the same information repeatedly increased familiarity and confidence. For others, repeated exposure increased suspicion or simply made the information more noticeable. Similarly, highly connected WhatsApp users did not necessarily act as predictable bridges

between groups. These experiences challenged our assumption that greater exposure or connectivity would automatically produce greater influence. Instead, their effects depended on the people involved, the relationships between them, the information being shared, and the ways individuals evaluated what they encountered.

Community Members Were Active Navigators of Information

We initially approached community members as people who could help us understand how misinformation moved through WhatsApp networks. But they were not simply recipients at the end of those networks. They described questioning messages, comparing sources, consulting healthcare workers and trusted contacts, and drawing on their own experiences before making decisions. Receiving, believing, sharing, and acting on information emerged as separate decisions, rather than steps that automatically followed one another.

This reinforced the importance of recognizing existing community agency when designing responses to health misinformation. People were already developing their own ways of navigating uncertainty. The challenge was not simply to teach them to verify information, but to strengthen the resources and relationships they could draw upon when doing so.

Verification Became a Question of Access

We entered the field thinking about whether people verify information. We left thinking more carefully about whether people have accessible and trusted ways to verify it. We also initially thought about verification mainly as an individual decision: would someone check whether a message was true? The interviews shifted our thinking toward a different question: does someone have an accessible and trusted way to check it?

Some community members could turn directly to healthcare workers, knowledgeable family members, or familiar health services. Others relied on clinics,

internet searches, news sources, or combinations of these. These differences showed us that verification is not only an individual skill. It also depends on the people, institutions, and information resources available when uncertainty arises. We therefore came to understand verification capability as an important contextual layer in understanding misinformation dynamics in the Cape Flats.

What This Changed for the Team

The MMDM remained useful for helping us identify how information moves and changes. However, the interviews showed us that these mechanisms operate within wider social and institutional environments. Our understanding shifted from a mainly platform-centred view of misinformation toward one that also considers trust, relationships, lived experience, and access to verification. The fieldwork reinforced the value of listening to community experience before designing responses to health misinformation.

Theoretical models helped us identify patterns in how information moves. Listening to community representatives helped us understand what those patterns mean in practice.

What This Means for Health Communication in Cape Flats Communities

Reliable health information matters because people increasingly encounter, discuss, and assess health messages through digital and social networks, including WhatsApp. Our study found that community members actively interpreted the information they encountered. They questioned messages, compared sources, consulted trusted people and institutions, and drew on their lived experience before deciding what to believe, share, or act upon.

The interviews showed patterns consistent with three MMDM mechanisms we examined. Broadcast influence was particularly visible, while groupthink blending and bridge-node bottlenecks appeared more conditionally and depended on the wider communication context. These findings suggest that

the mechanisms proposed by the MMDM can help explain how health information moves through social networks, while also showing that their effects are not uniform or deterministic.

The Cape Flats case also extends this understanding by showing that information does not simply degrade as it travels. Messages could lose detail or source information, but they could also remain intact, gain useful clarification, or become amplified through interpretation and repetition. Information movement is therefore better understood as a process of transformation in which network interactions can produce both loss and gain of meaning.

Strengthening health communication requires more than producing accurate information. Public health efforts should consider how messages travel, who people turn to when they are uncertain, where they can verify information, and how corrections can reach the networks that encountered the original message.

Most importantly, health communication should build on the agency and existing verification practices already present within communities. Rather than treating community members as passive recipients of health information, public health responses can strengthen the relationships, institutions, and communication spaces through which people already make sense of what they encounter.

Understanding health misinformation in Cape Flats communities therefore requires attention to both how information moves through digital networks and the social and institutional pathways people can draw on when deciding what to trust, share, challenge, or correct.

Research Team



Andrew Mofolo is a medical doctor and master of public health (health economics) student at the University of Cape Town, where he is a Mandela Institute for Development Studies (MINDS) Scholar. He has a background in clinical medicine and public health, with experience spanning clinical practice, community health initiatives, and health systems research. As a student researcher with the Reach Alliance, Andrew contributes to research exploring health misinformation and barriers to accessing reliable health information and healthcare services in underserved communities. His interests include health economics, health systems strengthening, evidence-based resource allocation, and understanding how research can inform practical solutions to improve health outcomes and equity across Africa.



Shannal Pillay is a medical technician and final year master of public health student specializing in epidemiology and biostatistics at the University of Cape Town. She has a background in medical science, laboratory systems, and research, with experience spanning clinical laboratory environments, academia, and public health research. As a student researcher with the Reach Alliance, Shannal contributes to research exploring barriers to health misinformation and service access in underserved communities. Her interests include epidemiology, data analysis, health information, and understanding how evidence can be translated into practical solutions that improve health outcomes.



Natasha Haffajee is a Reach Alliance alumna and consultant with the Bertha Centre for Social Innovation and Entrepreneurship at the University of Cape Town (UCT) Graduate School of Business, where she served as co-mentor and research production lead for this research. An interdisciplinary social science researcher, Natasha has conducted and led qualitative and mixed-methods research with a particular focus on Cape Town's Cape Flats, a historically disadvantaged urban area shaped by apartheid spatial planning and persistent socioeconomic inequality. She holds an MPhil in inclusive innovation from UCT, awarded with distinction, and lectures on topics related to diversity and inclusion and contextual studies. She is currently developing doctoral research on participatory governance and how unequal urban conditions shape people's ability to influence decisions affecting their daily lives



Jeff Murugan is professor of mathematical physics in the Department of Mathematics and Applied Mathematics at the University of Cape Town (UCT). Former acting deputy vice-chancellor and deputy dean of the Faculty of Science, he was also a Simons Associate at the International Centre for Theoretical Physics in Trieste, Italy, a former member of the School of Natural Sciences at the Institute for Advanced Study in Princeton, and a current member of the Academy of Science of South Africa. Murugan's research interests are primarily in understanding emergent phenomena, from spacetime itself to the properties of quantum matter and information. He is also a recipient of a distinguished teacher award and a Fellow of the College of Fellows at the University of Cape Town.



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