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of the ecosystem of evidence

Artificial intelligence and digital transformation
in research and healthcare

11th EBHC International Conference
Taormina, 21st – 24th October 2026

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Who does AI write for? Accountability, inclusivity, equity, and the future of evidence-based health communication

Adelaide University

JBI

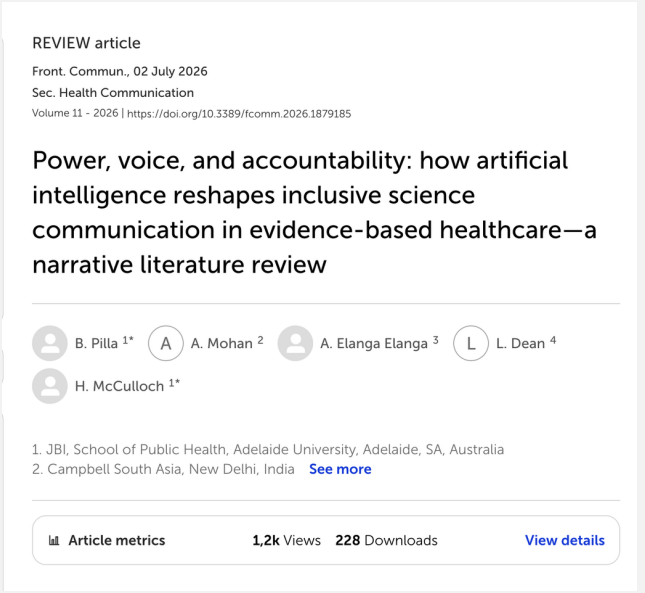
Bianca Pilla
JBI, ADELAIDE UNIVERSITY

30th 1996-2026 GIMBE EVIDENCE FOR HEALTH

Outline

- Introduction to Inclusive Science Communication
- AI Promise, Pitfalls and Practice
- Failure modes in AI-assisted health communication
- Next steps: guidance and validated taxonomy

Collaborators: Heather McCulloch (Australia), Ashima Mohan (India), Andrea Elanga (Cameroon), Lutffiya Dean (South Africa) Sonia Hines (Australia), Lynn Hendricks (South Africa), Mamuye Hadis (Ethiopia), Firmaye Bogale (Ethiopia)



REVIEW article

Front. Commun., 02 July 2026

Sec. Health Communication

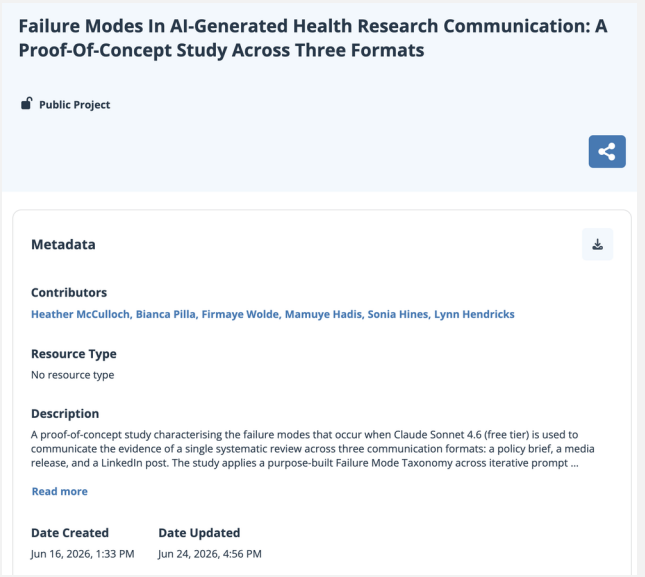
Volume 11 - 2026 | https://doi.org/10.3389/fcomm.2026.1879185

Power, voice, and accountability: how artificial intelligence reshapes inclusive science communication in evidence-based healthcare—a narrative literature review

B. Pilla [1*] A. Mohan [2] A. Elanga Elanga [3] L. Dean [4] H. McCulloch [1*]

1. JBI, School of Public Health, Adelaide University, Adelaide, SA, Australia
2. Campbell South Asia, New Delhi, India See more

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Failure Modes In AI-Generated Health Research Communication: A Proof-Of-Concept Study Across Three Formats

Public Project

Metadata

Contributors

Heather McCulloch, Bianca Pilla, Firmaye Wolde, Mamuye Hadis, Sonia Hines, Lynn Hendricks

Resource Type

No resource type

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A proof-of-concept study characterising the failure modes that occur when Claude Sonnet 4.6 (free tier) is used to communicate the evidence of a single systematic review across three communication formats: a policy brief, a media release, and a LinkedIn post. The study applies a purpose-built Failure Mode Taxonomy across iterative prompt ...

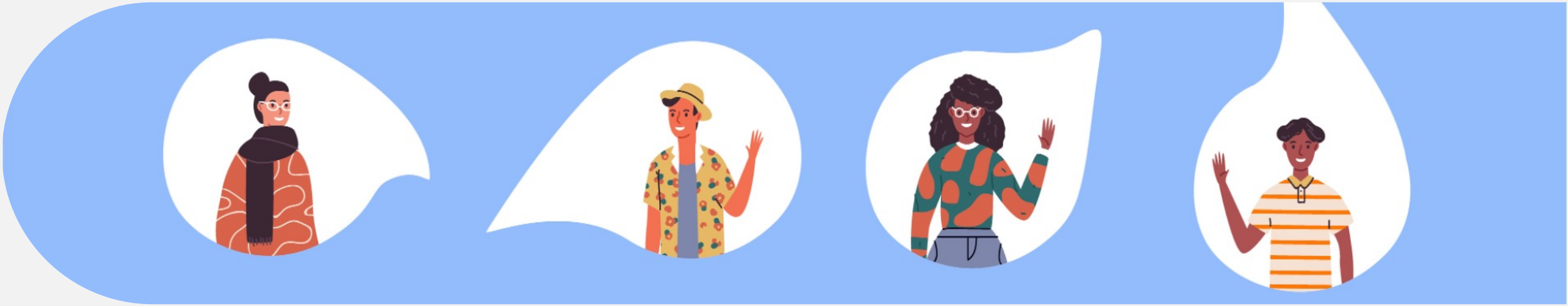
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Date Created Jun 16, 2026, 1:33 PM

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Positionality: Researcher, practitioner, patient

- **Researcher-practitioner** in science communication, knowledge brokering, and global health equity- leading science communication research and practice within JBI.
- **Lived-experience researcher** managing seven chronic & autoimmune conditions, both a researcher and an interest holder in inclusive health communication.
- **What this position affords:** heightened sensitivity to access, representation and power; commitment to consumer- and community-centred care.
- **Potential bias:** a predisposition toward frameworks that centre patient and community voice, and a Western, institutionally anchored vantage point—which intersectional, critically reflective inquiry obliges us to interrogate.



Inclusive Science Communication is about sharing knowledge in ways that everyone can understand, relate to, and trust. It values diverse perspectives, uses clear and respectful language, and builds genuine connections between science and the communities it serves.

The pillars of Inclusive Science Communication

- Intentionality
- Reflexivity
- Reciprocity

*"How we communicate evidence - **clearly, credibly, and inclusively** - matters as much as the evidence itself."*

Publication alone is insufficient to bring about the transfer or use of evidence. Without clear, inclusive, and trustworthy communication, knowledge often remains confined to academic journals while misinformation spreads widely.

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Why it matters for EBHC

Communication is not merely a means of disseminating evidence, it is fundamental to how evidence takes shape.

Communication choices determine:

Who can access evidence

And how uncertainty is understood and interpreted

Which knowledge is recognised as legitimate

Including lived experience, Indigenous knowledge, and community expertise

Whose voices shape health decisions

And how power is distributed in the communication process

The Paradigm Shift

FROM: Deficit Model

Top-down, one-way transmission of scientific information aimed at correcting deficits in public knowledge

TO: Participatory Approach

Two-way dialogue, co-creation of knowledge, and engagement with diverse interest holders

Four levels of EBHC communication

Communication in evidence-based healthcare works across four interconnected levels

01 Patients, carers and the public

- Plain-language summaries
- Information leaflets
- Decision aids
- Social and digital media content
- Patient stories and narrative formats

02 Clinicians and professionals

- Guidelines
- Evidence summaries
- Decision-support tools and information
- Podcasts and short video explainers
- Quick reference cards

03 Policy and government

- Media engagement
- Open-science outputs
- Policy/evidence briefs
- Policy dialogues, rapid reviews and HTA reports

04 Researchers and peers

- Journal articles
- Conference presentations
- Blogs
- LinkedIn posts
- Webinars/Seminars
- Research impact summaries

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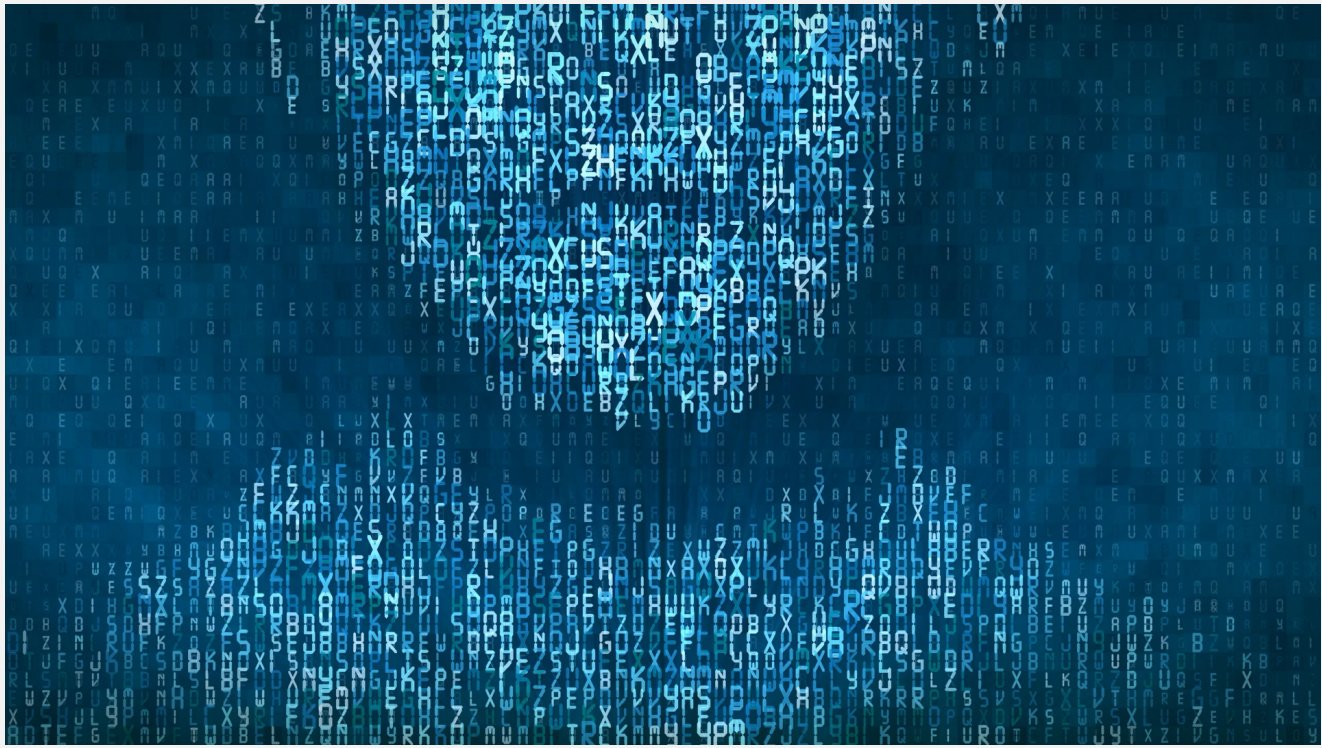
Communication Dissemination Translation Uptake



- Determine & involve your target audience
- Communicate the relevance to your target audience
- Use plain language
- Structure the content with important messages upfront
- Present your findings in more than one way
- Specify the type of study/review and the PICO elements
- Avoid misleading presentations & interpretations
- Describe the certainty of the evidence
- Controversial topics or disappointing results? Handle sensitively
- Use relevant images, icons or infographics
- Don't forget hashtags
- Lean on your community to share/ disseminate

Enter Generative AI...

If inclusive science communication is about who gets to shape knowledge and how it's shared, *what happens when a machine starts doing the communicating*?



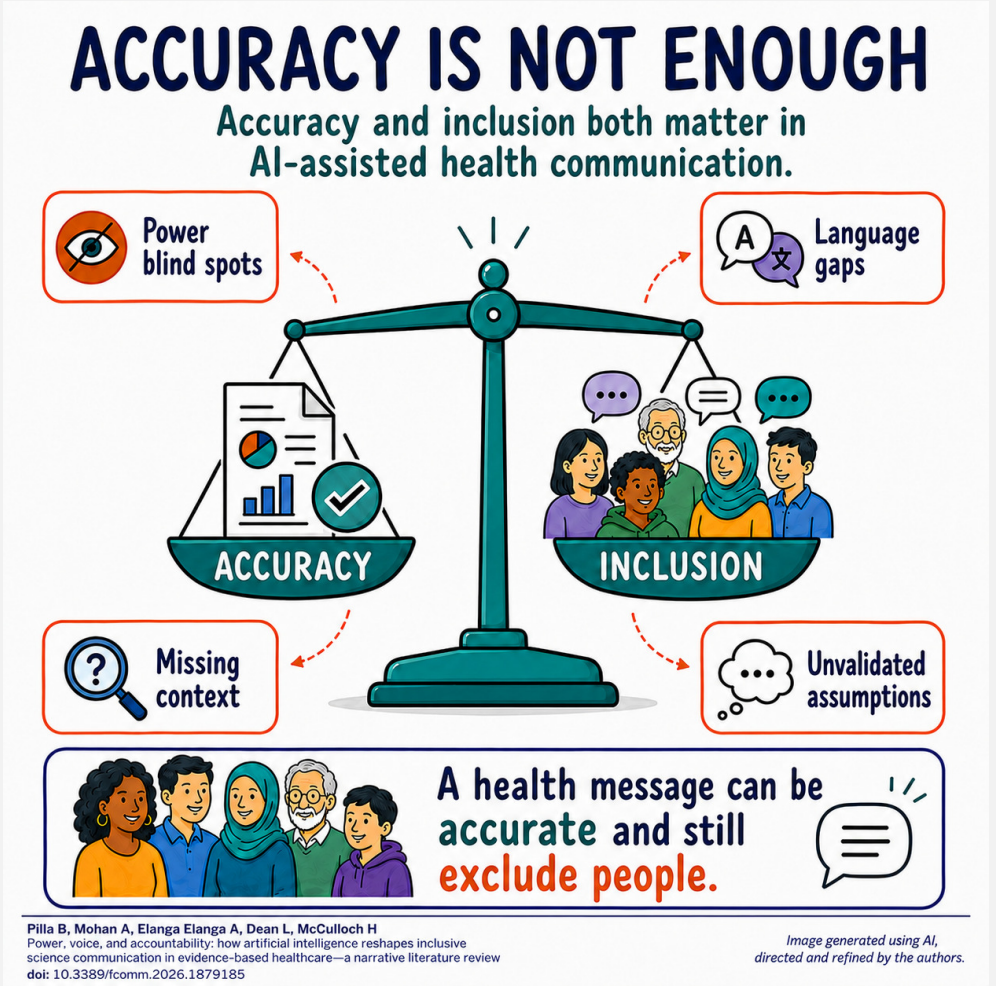
AI in Science Communication: Promise, Pitfalls, and Practice

- AI tools used for drafting content, translation, and personalisation can make communication faster and more accessible.
- Evidence shows **AI can simulate diverse audiences** or patients but **struggles with nuance**, context, and inclusivity.
- **Bias, hallucinations**, and **lack of algorithm transparency** remain major risks; marginalised groups often receive poorer outputs.
- **Human oversight is *essential***: critical review, contextual framing, and ethical reflection safeguard quality.
- Future-ready practice combines **AI's efficiency** with **reflexive, inclusive, equity-centred communication habits**.

Accuracy is not enough

A message can be accurate and still exclude the people it was written for.

- **Power blind spots** — whose perspective is treated as the neutral default?
- **Language gaps** — register, jargon, and the assumption of English
- **Missing context** — findings presented as if setting/context does not change them
- **Unvalidated assumptions** — about access, literacy, trust, and capacity to act



Pilla, B., Mohan, A., Elanga Elanga, A., Dean, L., & McCulloch, H. (2026). Power, voice, and accountability: How artificial intelligence reshapes inclusive science communication in evidence-based healthcare – A narrative literature review. Frontiers in Communication, 11, 1879185.

**** This image was generated by AI and was reviewed and refined by authors.**

The doctor the machine drew first

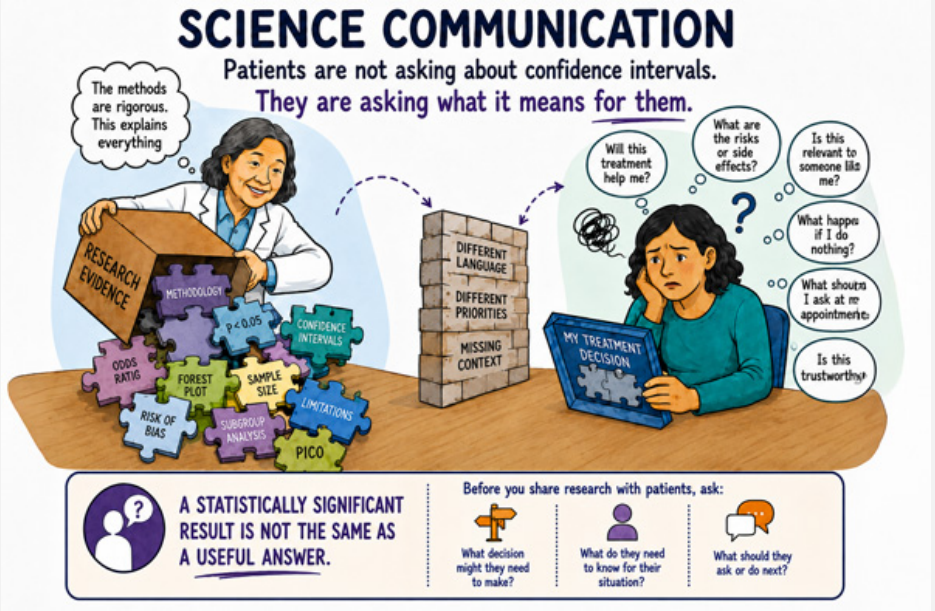
I asked a generative model for an image of a doctor explaining evidence to a patient.

It drew a white, bespectacled, male expert; An overwhelmed elderly patient; and far to much clutter to make the message understandable

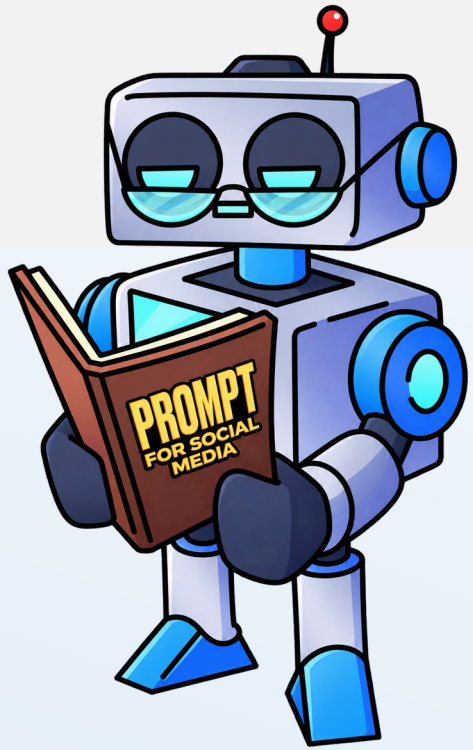
The question is not whether the machine was wrong. It is: **who and what did it not draw? And, would you have noticed?**

**** These images were AI-generated and reviewed and refined by Bianca Pilla.**





Worked example: LinkedIn Post



SYSTEMATIC REVIEW

Effectiveness of conditional cash transfers for uptake and retention in HIV prevention of mother-to-child transmission services in low- and middle-income countries: a systematic review and meta-analysis

Mamuye Hadis[1,2,3] • Tesfaye Dagne[1] • Sabit Ababor[1,2,3] • Dagmawit Solomon[1,3] • Samson Mideksa[1] • Zelalem Kebede[1,2,3] • Yosef Gebreyohannes[2,3] • Firmaye Bogale[1,2,3]

[1]Knowledge Translation Division, Ethiopian Public Health Institute, Addis Ababa, Ethiopia, [2]Center for Evidence-synthesis, Support and Development in Africa (CESDA), Addis Ababa, Ethiopia, and [3]JBI Ethiopian Knowledge Translation Center for Health and Development, Center for Evidence-synthesis, Support and Development in Africa (CESDA), Addis Ababa, Ethiopia

ABSTRACT

Objective: The objective of this systematic review was to synthesize the best available evidence on the effectiveness of conditional cash transfers for the uptake and retention in prevention of mother-to-child transmission (PMTCT) services among pregnant and/or breastfeeding women with HIV in low- and middle-income countries (LMICs).

Introduction: Regardless of the effectiveness of PMTCT services, uptake and retention in such services remains low in LMICs. Conditional cash transfers are considered an important strategy to improve the uptake of preventive services in pregnant women and children. This review evaluated the effectiveness of conditional cash transfers for improving uptake and retention in PMTCT services for pregnant and/or breastfeeding women with HIV infection.

Eligibility criteria: Eligible studies that compared the impact of conditional cash transfers on uptake and retention in PMTCT services with standard care or with another intervention among pregnant and/or breastfeeding women with HIV. The primary outcomes were retention and uptake in PMTCT programs, reported as the percentage of pregnant and/or breastfeeding women with HIV enrolled in antiretroviral therapy and the number of facility-based deliveries. The secondary outcomes included the percentage of infants completing postexposure HIV testing at 4 to 6 weeks after birth or early infant diagnosis; the percentage of infants exposed to HIV who tested positive for HIV; and the percentage of infants exposed to HIV with health defects (eg, neural tube defects, heart defects, major limb malformations).

Methods: This review was conducted in line with the JBI methodology for systematic reviews of effectiveness. Databases searched included the Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Embase (Ovid), and CINAHL (EBSCOhost). Sources of unpublished studies/gray literature included ProQuest Dissertations and Theses, OpenGrey, WHO International Clinical Trials Registry Platform, and ClinicalTrials.gov. Studies published in English since 2000 were considered. The JBI Critical Appraisal Checklist for Randomized Controlled Trials was used to assess the methodological quality of the included studies. Data were extracted from the included studies and the studies were pooled in a statistical meta-analysis. Effect sizes were presented as odds ratios (ORs) and CIs (95%) were calculated. The standard χ^2 and I^2 tests were used to assess heterogeneity statistically. Statistical analyses were conducted using fixed effects based on established guidance.

Results: Two randomized controlled studies were included in this review with a total of 950 participants. Two outcomes were pooled and assessed for the effects of conditional cash transfers: facility-based delivery and early infant diagnosis of HIV. Conditional cash transfers have a significant positive effect on both outcomes compared to standard care. The OR for facility-based delivery was 1.53 (95% CI, 1.15–2.04; P=0.004) and the OR for early infant diagnosis was 1.89 (95% CI, 1.38–2.59; P<0.001). Heterogeneity (I^2) was 0% for facility-based delivery and 30% for early infant diagnosis.

Correspondence: Mamuye Hadis, mamuye.hadis@gmail.com

The authors declare no conflicts of interest.

Supplemental Digital Content is available for this article. Direct URL citations are provided in the HTML and PDF versions of this article on the journal's website, www.jbievidencesynthesis.com.

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Simple Prompt vs Prompt Design- Claude Sonnet 4.6

SIMPLE PROMPT	PLANNED PROMPT (v3)
Please create a LinkedIn post for the attached systematic review	**Your Role:** You are an expert science communicator specialising in social media engagement. **Your Task:** Write a professional, engaging LinkedIn post designed to disseminate key information from the systematic review titled, "Effectiveness of conditional cash transfers for uptake and retention in HIV prevention of mother-to-child transmission services in low- and middle-income countries." Your goal is to inform your audience about the systematic review's key findings, practical implications, and create a compelling reason to read the systematic review. The posts must drive traffic to the published article at https://journals.lww.com/jbisrir/fulltext/2025/09000/effectiveness_of_conditional_cash_transfers_for.3.aspx **Your audience:** Global Health Funders and NGOs, Public Health Researchers, and Healthcare Practitioners in Low- and Middle-Income Countries (LMICs) and the general public in LMICs. Your audience has a wide range of educational backgrounds and health literacy levels. Most do not have statistical training. The audience wants to quickly understand: 'what is it about? What does it mean? Why does it matter?' **Your tone**: Conversational but professional. **Structure:** • Compelling opening hook (question, finding, or challenge) • The evidence (what was studied, where, what was found) • What it means practically (why this matters to the audience) • Brief context (where evidence comes from, that it's emerging, and how confident we can be in these findings) • Strong call-to-action with specific value proposition followed immediately by the URL • Required elements: @JBIEBHC, #HealthEquity, #HIV **Writing instructions:** • Word count: The body of the text (excluding the URL and hashtags) must be between 100 and 200 words for each option. Aim for around 150 words for optimal LinkedIn engagement. • Be accurate: The post must be 100% accurate, based exclusively on the attached systematic review, including the level of confidence or certainty in the findings (e.g., "moderate confidence," "limited confidence," or "emerging evidence"). CONTINUED.....

Simple Prompt vs Prompt Design- output

SIMPLE PROMPT OUTPUT

🎉 Big news for mothers and babies affected by HIV!

A new JBI systematic review and meta-analysis of randomised controlled trials, led by researchers at the Ethiopian Public Health Institute and Addis Ababa University, shows that conditional cash transfers (CCTs) increase facility-based delivery and early infant diagnosis among HIV-positive mothers in LMICs:

- FBD: women who received CCTs were 53% more likely to give birth in a health facility (OR 1.53, 95% CI 1.15–2.04)

- EID at 6 weeks: uptake nearly doubled (OR 1.89, 95% CI 1.38–2.59)

Why it matters: this is a simple, low-cost incentive that works for every mother living with HIV, whether newly diagnosed or long established on treatment, and it may significantly reduce vertical transmission. Remove the cost barrier, and women will come.

📄 Read the review for details on methods and implications.

*Certainty of evidence ranged from moderate to low (GRADE). More research is needed.

#GlobalHealth #HIV #PMTCT #MaternalHealth #LMICs #HealthSystems #CashTransfers #EvidenceSynthesis #JBI

PLANNED PROMPT OUTPUT (v3)

Women living with human immunodeficiency virus (HIV) attend clinic visits to keep HIV from passing to their babies. Could cash payments help them give birth in a health facility and get their babies tested early?

Mamuye Hadis and colleagues at the Ethiopian Public Health Institute examined this in a systematic review in JBI Evidence Synthesis. A systematic review searches widely for studies on one question and combines their results using reproducible methods.

The team combined two trials from Nigeria and the Democratic Republic of the Congo. Both enrolled pregnant women who learned at pregnancy check-ups that they were living with HIV. Women earned cash payments, called conditional cash transfers, by attending clinic visits and using services.

📍 Payments probably increase the number of women who give birth in a health facility.

🩺 Payments may increase the number of mothers who get their babies tested for HIV around six weeks after birth. The review is more confident in the first finding than the second.

⚠ The evidence is small: two trials, 950 women, two countries, and one trial added phone and text reminders. These findings therefore reflect cash plus reminders, not cash alone. Neither trial kept secret who would get cash, which can skew results.

The Nigerian trial made three larger payments, while the Kinshasa trial paid small, rising sums each visit. The authors note that results depend on local health services and on whether cost is the main barrier to care. So results may differ elsewhere.

The abstract is also available in Amharic and Afaan Oromo.
https://doi.org/10.11124/JBIES-24-00099

#GlobalHealth #HealthEquity #HIV #EBHC

Simple Prompt vs Prompt Design- comparison

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#GlobalHealth #HealthEquity #HIV #EBHC

Overstates certainty	Stigmatising framing	Plain language	Certainty conveyed
Unexplained jargon	Unsupported claim	Person-first language	Caveats in place

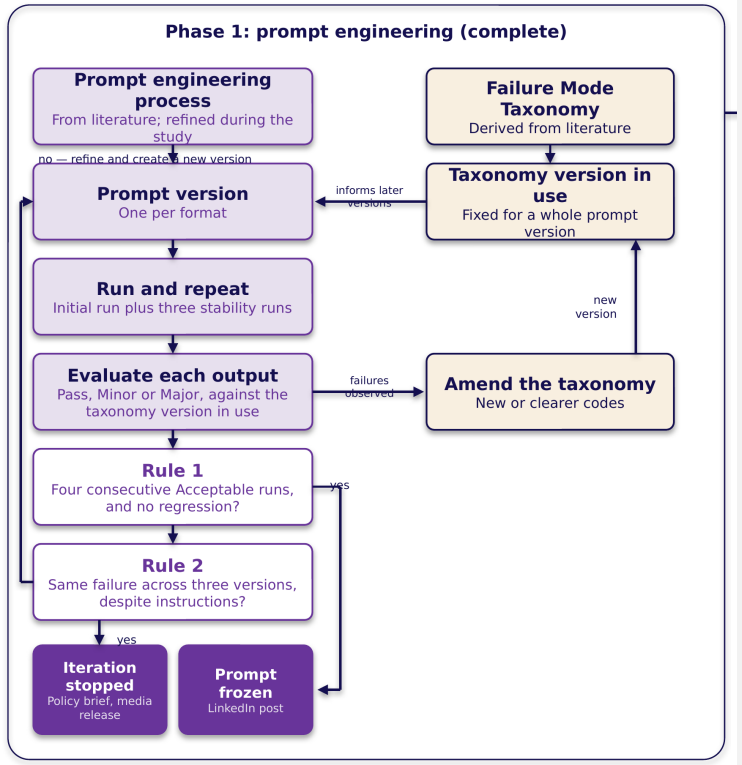
Simple Prompt vs Prompt Design- Review

Criterion	SIMPLE PROMPT OUTPUT	PLANNED PROMPT OUTPUT
Accuracy & Integrity	⚠ Partial- overstates certainty, unsupported claims	☑ Strong*
Clearly states limitations	⚠ Partial	☑ Explicit (2 studies, methodological issues)
Avoids oversimplification	⚠ Partial	☑ Yes
Plain language	⚠ Technical	☑ Yes
Jargon explained	✗ No	☑ Mostly
Audience-appropriate length	☑ Yes	☑ Yes
Key message clear	⚠ Partial	☑ Yes
Maintains accuracy while tailoring	⚠ Partial	☑ Yes
Format matches channel	⚠ Too Academic	☑ Strong
Equity & inclusion	⚠ Stigmatising framing ('HIV-positive mothers' vs 'women with HIV')	☑ Good framing

** Single run, illustrative criteria*

JBI

Failure mode taxonomy



Evidence fidelity F1–F5

- **F1** Accuracy or verification error
- **F2** Certainty misrepresentation
- **F3** Unsupported claim
- **F4** Omission or selective emphasis of a limitation or caveat
- **F5** Context or population over-generalisation

Clarity and accessibility F6–F7

- **F6** Clarity, concise prose and scan-ability failure
- **F7** Format non-compliance

Audience appropriateness F8–F9

- **F8** Tone and register misalignment
- **F9** Stigmatising or exclusionary framing

Source: McCulloch H, Pilla B, Wolde F, Hadis M, Hines S, Hendricks L. Failure modes in AI-generated health research communication: a proof-of-concept study across three formats. OSF; 2026. doi:10.17605/OSF.IO/M39Q5

Why guidance is needed

Good habits are necessary. **They are not enough without validated, evidence-based guidance.**

Outputs are unstable	Identical prompts, run in identical conditions, produced different results. One acceptable output is not evidence that a prompt works. Guidance has to define what “stable” means and how to test for it.
Accurate is not the same as acceptable	Stigmatising framing and missing context can pass an accuracy check. Quality criteria must treat equity and audience fit as failures in their own right, not as matters of style.
“Good” means different things to different reviewers	Experienced reviewers did not agree on what counted as a failure until the criteria were refined and tested together. Without shared, tested criteria, human review comes down to opinion.
Prompting has limits	Word limits resisted instruction, and two of three formats never stabilised. Guidance has to say where prompting stops, where human editing starts, and who is accountable for the final output.

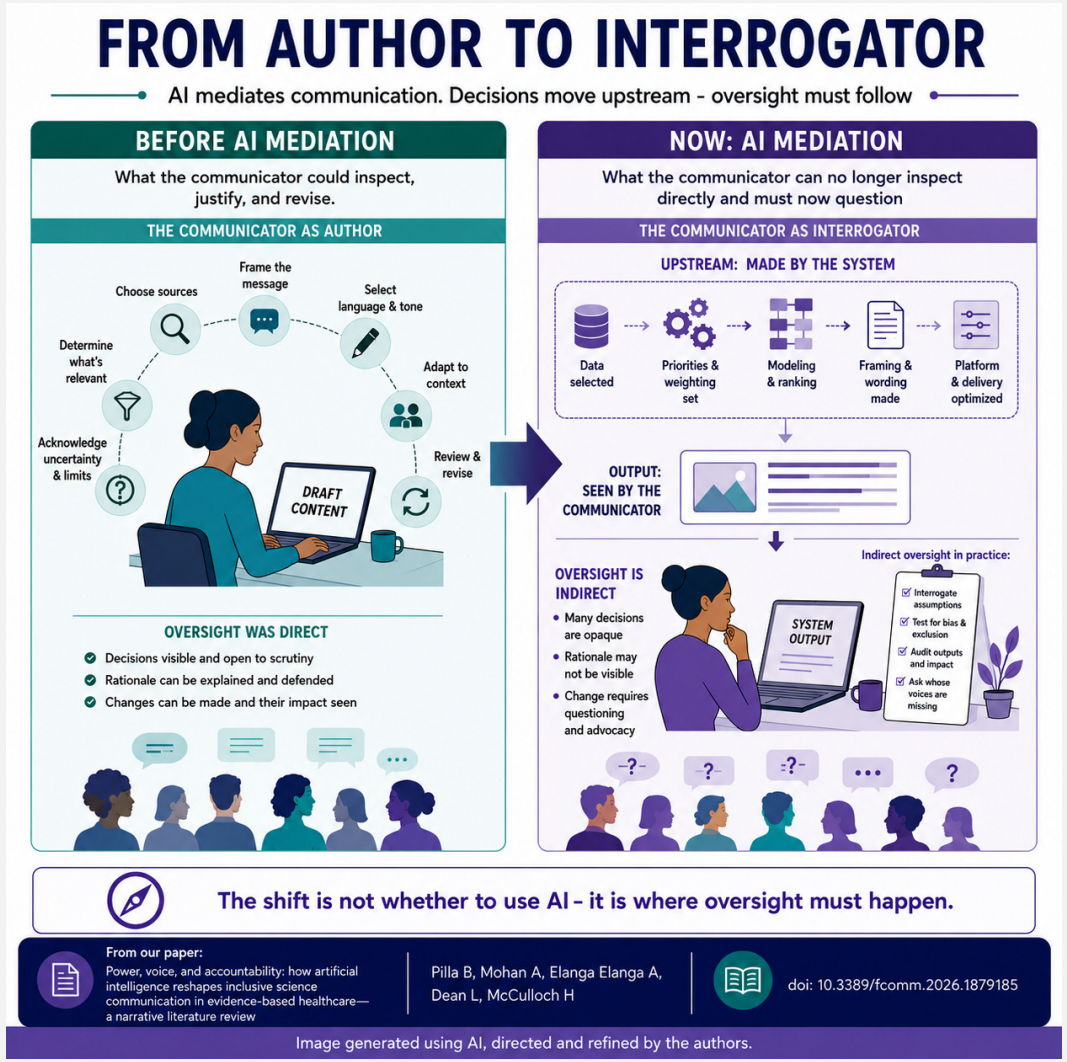
What validated guidance gives us: a failure mode taxonomy with tested reliability, a documented stopping rule, and a defined point of human oversight.

From author to interrogator

When an AI model drafts content or images, your job shifts from author to interrogator.

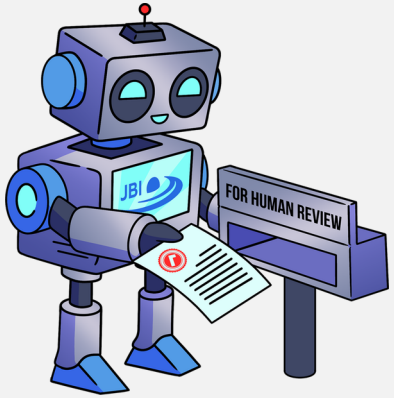
What that means in practice

- **Interrogate the assumptions** the model made that you did not specify
- **Test for bias and exclusion** deliberately — it will not surface on its own
- **Audit the output** against the source, not against your memory of the source
- **Ask whose voices are missing** from the framing it produced



** This image was generated by AI and was reviewed and refined by authors.

Key Insights



- **AI is a double-edged tool**:
  - Can enhance efficiency, accessibility, and personalisation
  - But risks hallucinations, embedded biases, and equity gaps (e.g., worse outcomes for marginalised groups/ stigmatising language)
- **Human oversight is non-negotiable:** AI lacks socio-political nuance, emotional resonance, and empathetic framing
- **"Good working habits"** are essential**:** Training in critical reflection, iterative prompting, and ethical practice (transparently reporting your use of AI)

Closing reflection

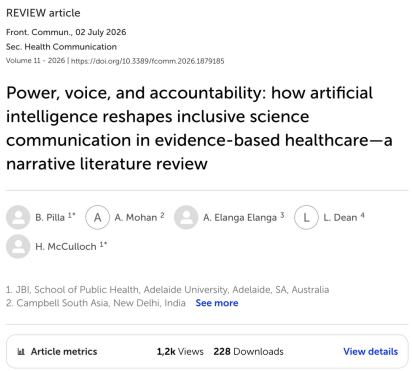
Can health communication be evidence-based and unjust?

Yes, until ***accessibility, inclusion and equity*** *count as measures of quality, held to the same standard as accuracy and rigour, judged by* ***the people the evidence is meant to serve.***

Bianca Pilla | EBHC Conference 2026

Learn More

STUDY 1 · Narrative Literature Review



REVIEW article

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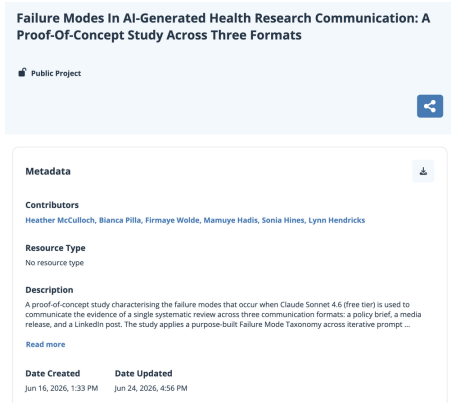
1. JBI, School of Public Health, Adelaide University, Adelaide, SA, Australia
2. Campbell South Asia, New Delhi, India See more

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Power, voice and accountability: AI and inclusive science communication

STUDY 2 · Proof of Concept Study



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