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Epistemic justice and invisible clinical labour in South African audiology research

Significance:

Debates on research ethics have largely centred on plagiarism and guest authorship, with less attention to contributors whose labour underpins knowledge production. Using South African audiology as a case example, I argue that clinical audiologists are 'hidden contributors' whose work in generating, curating and interpreting clinical data is essential yet routinely under-recognised. Framing this exclusion as epistemic injustice, I argue that recognising clinical labour through contributorship, co-creation and *ubuntu*-informed relational ethics is essential for more equitable, contextually grounded and socially responsive research.

Introduction

Audiological science in South Africa depends on high-quality clinical data, yet the clinicians who generate, interpret and curate these data remain largely invisible in the scholarly record. Despite their central role in patient recruitment, diagnostic assessment, longitudinal care and stewardship of clinical databases, audiologists are frequently excluded from authorship and, at best, only acknowledged. This situation reflects entrenched hierarchies in which knowledge production is attributed to academic institutions, while the labour enabling it remains institutionally obscured. This Commentary is written from the perspective of clinician-researchers working across clinical practice, academia and research supervision. It is informed by longstanding engagement with collaborative audiology research in South Africa, where questions of recognition and authorship have emerged repeatedly in partnerships between universities and clinical services. The argument is therefore grounded in observed structural practices rather than on the assumption that all clinicians seek authorship.

Here I argue that such exclusion constitutes epistemic injustice[1], systematically devaluing clinical labour and reinforcing a false divide between 'intellectual' academic work and 'technical' clinical work, divides rooted in colonial and biomedical epistemologies. It also reflects the tensions inherent in Mode 2 knowledge production, where socially embedded, practice-based knowledge is generated collaboratively across institutional boundaries but continues to be recognised primarily through traditional academic authorship. By examining the International Committee of Medical Journal Editors (ICMJE) authorship criteria[2], alongside South African ethical guidelines and *ubuntu*-informed relational ethics[3], I identify structural drivers of this erasure. These drivers include the South African Department of Higher Education and Training (DHET) publication incentives, the absence of joint clinical–academic roles, and workforce pressures within a resource-constrained health system. Crucially, authorship inequity is not incidental but systemic. Evidence demonstrates widespread misuse of authorship, with higher prevalence outside the Global North[4], while institutional power differentials continue to shape patterns of exclusions[5]. Although these inequities occur internationally, they are intensified in South Africa by historical inequities, a fragmented health system, and funding structures that separate sites of clinical data generation from sites of academic reward. The marginalisation of clinical audiologists should therefore be understood as part of broader structural inequities in global knowledge production. In this Commentary, I advocate a shift from extractive research practices towards co-creation, arguing that equitable recognition is essential, not only for ethical integrity but also for producing valid, contextually grounded and socially responsive audiological science.

Relevance of the findings

This Commentary positions the exclusion of clinical audiologists as both a structural and an epistemological failure. Drawing on scholarship on invisible labour[6], global health inequities[7] and epistemic justice[1], I argue that authorship exclusion undermines not only fairness but also the validity, accountability and contextual relevance of research. These dynamics mirror 'parachute research', in which locally generated data are extracted without equitable recognition of contributors.[8] Calls for reform increasingly advocate mandatory, rather than symbolic, inclusion of local contributors[9], yet publication systems continue to normalise exclusion because few journals explicitly address authorship equity[10]. I therefore propose institutional reforms centred on the Contributor Roles Taxonomy (CRediT)[11], formal recognition agreements and *ubuntu*-informed relational ethics, recognising clinical data generation as intellectual labour essential for the decolonisation and sustainability of South African science.

The shadow workers of science

Scientific achievement is often framed as individual accomplishment, obscuring the collective labour that sustains knowledge production.[4,5] As Star and Strauss[6] argue, much of this work remains invisible because it is embedded within routine systems.[6] Recent debates on authorship and inclusion have similarly highlighted how recognition remains unevenly distributed across contributors to scientific knowledge, calling for greater scrutiny of who is recognised, who is excluded and on what basis.[9] Within South Africa, growing attention to 'hidden contributors' reflects an important epistemic shift toward recognising this obscured labour. Historical cases illustrate that such erasure is not accidental but structured by power. Figures such as Hamilton Naki and Charlotte Maxeke exemplify how black expertise was systematically marginalised under apartheid, while Rosalind Franklin's contributions illustrate the persistence of gendered exclusion within science.[12-14] These examples demonstrate that recognition is shaped by race, gender, institutional power and access to formal academic spaces.

Although invisible scientific labour is recognised across disciplines, including the chemical sciences and health research[15,16], its consequences are particularly pronounced in South African audiology because of historical

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inequities, workforce shortages and the dependence of research on routine clinical data generated outside universities. This pattern persists through a clinical–academic divide in which audiologists generate and interpret the clinical evidence underpinning research, including diagnostic assessments, longitudinal registries, hearing conservation data, hearing aid verification and patient-centred interventions, yet remain positioned as data providers rather than knowledge producers. Their work requires contextual interpretation, adaptation and ethical judgement in linguistically and resource-constrained settings, constituting intellectual rather than merely technical labour. The systematic exclusion of clinicians from authorship can therefore be understood as a form of authorship parasitism[8]: whereby clinical data and contextual expertise are appropriated without equitable recognition. This mirrors broader extractive logics in which knowledge generated within clinical settings is revalorised through academic institutions. Rather than representing isolated ethical lapses, these practices reflect enduring structural inequities that continue to determine whose labour is recognised as knowledge and whose remains invisible.

Audiology in South Africa: Service and research

Audiology in South Africa is situated within a highly unequal and fragmented health system. The public sector, serving approximately 80% of the population, is characterised by resource constraints, high patient volumes and limited access to specialised services such as universal newborn hearing screening[17,18], while the better-resourced private sector is accessible to a minority. Severe workforce shortages, with clinician-to-population ratios of approximately 1 in 15 000–18 000 in some regions[17], leave audiologists simultaneously overburdened and indispensable. These conditions have direct implications for research. Clinical audiologists are the principal custodians of the data underpinning audiological research, yet heavy clinical workloads and the absence of protected research time limit their participation in manuscript preparation and other traditional academic outputs. Consequently, dominant authorship models privilege scholarly writing over the intellectual work embedded in clinical practice.

Importantly, the classification of clinical labour as 'technical' reflects a false epistemic hierarchy. In multilingual, resource-constrained settings, data collection is inherently interpretive. Clinicians adapt protocols, navigate linguistic and cultural complexities, and ensure diagnostic validity under non-ideal conditions. These activities involve continuous judgement and ethical decision-making, constituting contextual epistemic labour. The outputs of this labour – patient records, screening registries, diagnostic data sets, intervention outcomes and longitudinal clinical databases – form the empirical foundation of much audiological research. Yet the intellectual work embedded in generating and maintaining these data is seldom recognised as a scientific contribution in its own right.

Routine clinical data as a scientific asset

Routine clinical data are often treated as passive by-products of service delivery, yet their production requires sustained intellectual, organisational and ethical labour. In contexts in which digital systems remain unevenly implemented, clinicians generate, curate and safeguard data sets while ensuring data integrity and adapting documentation to local realities. As Star and Strauss argue, such work becomes invisible precisely because it is embedded within routine systems.[6] Across audiology, clinicians maintain longitudinal early hearing detection and intervention registries, monitor occupational noise-induced hearing loss, perform hearing aid verification, deliver patient-centred tinnitus care and maintain comprehensive clinical records. These activities require interpretation, contextual adaptation and continuous professional judgement, from ensuring protocol adherence in neonatal services to maintaining data quality for future research. Rather than being purely technical or administrative, they represent forms of data stewardship that can constitute intellectual contributions to research, particularly where clinicians also contribute to study design, interpretation or contextualisation.

Failure to recognise this labour reflects a broader undervaluation of data stewardship as scientific work. In data-scarce environments, these contributions are foundational rather than ancillary to knowledge production. This phenomenon may be understood as 'clinical ghosting' – the systematic exclusion of contributors whose expertise underpins research. Unlike guest authorship, which concerns inappropriate inclusion, clinical ghosting concerns inappropriate exclusion. Where clinicians are responsible for generating, interpreting and safeguarding research data, their omission from appropriate recognition undermines transparency, accountability and the traceability of scientific knowledge.

Ethical and legal frameworks

Despite the intellectual nature of clinical labour, South Africa's ethical and legal frameworks remain largely silent on equitable contributor recognition. The *National Health Act* (2003) and the National Health Research Ethics Council guidelines emphasise justice, beneficence and respect, but primarily in relation to research participants rather than contributors.[19] Likewise, recent developments aligned with open science prioritise data sharing and transparency while giving limited attention to ownership, recognition and equitable participation in knowledge production.[20] The result is a regulatory asymmetry in which participant rights are robustly protected, whereas contributor recognition, particularly for clinicians, remains largely discretionary.

From a distributive justice perspective, this imbalance is difficult to justify. Clinicians assume the responsibility for data generation, stewardship and ethical accountability, while universities and researchers accrue the primary benefits of publication, funding and career advancement. As Thaldar et al.[21] argue, South African health research governance continues to operate within a gap between legal compliance and relational justice, leaving contributor recognition insufficiently addressed.[21] The *Protection of Personal Information Act* (POPIA) further intensifies this paradox. Clinicians act as custodians of sensitive health information, assuming significant legal and ethical responsibilities, yet frequently remain excluded from recognition. Where responsibility is shared but recognition is not, authorship becomes more than a matter of professional courtesy, it becomes a question of justice.

This tension is particularly important within African research contexts, where knowledge production is inherently relational. Studies of consent and community engagement research highlight collective participation rather than purely individual contribution, while African ethical scholarship argues that procedural compliance alone cannot achieve relational accountability.[22] Current authorship frameworks therefore sit uneasily within African epistemologies, privileging individual intellectual ownership over collaborative knowledge production. The exclusion of clinicians should consequently be understood not simply as an ethical oversight, but as an expression of deeper epistemic bias embedded within research governance systems.

Authorship criteria versus clinical reality

The ICMJE defines authorship using four criteria: substantial contribution to the work; involvement in drafting or critically revising the manuscript; approval of the final version; and accountability for the published work.[2] While intended to ensure accountability, these criteria can reinforce exclusion in structurally unequal contexts. Contributors outside academic institutions are systematically disadvantaged because[5] manuscript drafting remains the principal marker of 'intellectual contribution', privileging those with access to protected research time, mentorship and institutional resources.[4,5]

In South African audiology, each criterion presents challenges for clinicians. Data acquisition is often regarded as a technical activity despite requiring diagnostic expertise, contextual interpretation and ethical judgement in multilingual, resource-constrained settings. Opportunities to contribute to manuscript drafting are limited by clinical workloads and the absence of protected research time, while clinicians are frequently excluded from manuscript revision and final approval once data collection has concluded. Ironically, they remain accountable for the integrity of the underlying clinical data while being excluded from formal scholarly recognition. This creates a structural disconnect between responsibility and credit. CRediT as a taxonomy offers a more inclusive alternative by recognising contributions such as investigation, data curation, methodology and project administration.[11] However, CRediT does not imply automatic authorship for everyone involved in data collection. Rather, it provides a transparent mechanism for recognising those clinicians whose contributions extend beyond routine service delivery to include meaningful intellectual input

into the research process, consistent with accepted authorship standards. However, without a broader shift in epistemic values that recognises practice-based expertise alongside scholarly writing, even contributorship models risk reproducing existing inequities.

The DHET subsidy and authorship erasure

Authorship exclusion is further reinforced by the DHET subsidy system, which links institutional funding to publication outputs generated by higher education institutions. Although it has been highly successful in increasing South Africa's research productivity, the system has inadvertently created disincentives for recognising clinicians who work outside universities. Clinical sites become providers of data without equitable participation in the academic or financial rewards derived from those data. This dynamic mirrors 'parachute research', in which locally generated knowledge is extracted without equitable recognition of those who produced it.[8] Universities benefit from publication subsidies, institutional promotion, publication funding and open-access agreements, whereas clinicians are evaluated primarily on service delivery and generally lack protected research time or research infrastructure. Consequently, clinical expertise is treated as an institutional input, while the intellectual ownership and financial benefits of research remain concentrated within academia.

Addressing this imbalance requires more than encouraging collaborative authorship. Institutional mechanisms should support reciprocal research partnerships, recognise diverse forms of scholarly contribution, and explore funding or subsidy models that reward meaningful clinical participation in research and knowledge dissemination, including outputs beyond traditional journal publications.

Ubuntu and the ethics of co-creation

Addressing these structural inequities requires a shift from procedural to relational ethics. *Ubuntu*, commonly understood as the philosophy that 'a person is a person through other persons', views knowledge as relational, collective and co-created rather than individually owned.[23,24] This perspective aligns closely with participatory and co-creation approaches that strengthen both ethical integrity and contextual relevance.[25] By foregrounding relational accountability, *ubuntu* challenges dominant assumptions about ownership, authorship and intellectual labour.[26]

Within an *ubuntu*-informed framework, clinicians, researchers and participants are recognised as interconnected contributors to a shared epistemic project. Research therefore becomes collaborative across its entire life cycle – from identifying clinically relevant research questions, through data generation and contextual interpretation, to dissemination of findings. Recognition shifts from discretionary acknowledgement towards equitable attribution based on meaningful contribution. This perspective also exposes an important limitation of existing ethics frameworks: while procedural ethics emphasise regulatory compliance, they often fail to capture the relational obligations inherent in collaborative research. This gap is reflected in authorship systems that undervalue the contextual, interpretive and practice-based labour underpinning scientific knowledge.

Emerging models of *ubuntu*-informed data governance reinforce this argument by conceptualising data as a collectively generated resource requiring shared responsibility and shared benefit.[27] In practical terms, this may include clinicians serving as co-investigators, contributing to interpretation of findings, co-authoring clinical implications, or being recognised through transparent contributorship statements, where appropriate. Excluding clinicians from recognition is therefore not only inequitable but conceptually inconsistent, separating knowledge from the community that produces it. Reframing audiology research in this way supports a transition from extractive research towards collaborative knowledge ecosystems in which clinicians are recognised as epistemic partners. Although developed within South African audiology, this framework has wider relevance for other health disciplines that rely on clinician-generated routine data, particularly in resource-constrained settings.

Invisible labour and recognition erasure

Authorship exclusion also has affective consequences. Invisible labour is not only unrecognised but emotionally taxing, particularly in feminised professions.[6,28] Evidence shows that women are less likely to receive authorship credit despite equivalent contributions, reflecting broader patterns of gendered labour devaluation.[28] In audiology, where the workforce is predominantly female, this dynamic intersects with professional hierarchies to further entrench invisibility. Clinical practice involves sustained emotional, cognitive and ethical engagement, which involves navigating complex patient interactions, cultural sensitivities and resource constraints, yet this labour is rarely acknowledged in research outputs. Its erasure contributes to moral distress, professional disengagement and erosion of identity. Over time, these effects extend systemically, reducing clinicians' willingness to support research and ultimately compromising data quality and research integrity.

Toward a restorative recognition framework

Addressing these structural, ethical and affective inequities requires coordinated institutional reform. Key actions should include:

- *Mandating contributorship models:* Journals should adopt CRediT to formally recognise roles such as investigation and data curation, ensuring clinicians' contributions meet authorship thresholds.[11]
- *Formalising recognition agreements:* Pre-study memoranda between academic institutions and clinical sites should define roles, authorship expectations, reciprocal benefits and mechanisms for shared ownership of research outputs.
- *Creating joint appointments:* Partnerships between the Department of Health and universities should enable clinical–academic roles with protected research time.
- *Reforming research incentive systems:* The DHET publication subsidy model should be reviewed to incentivise equitable clinical–academic collaboration, including recognition of non-university partners and alternative scholarly outputs such as policy briefs, clinical guidelines, implementation reports and other forms of knowledge mobilisation.
- *Extending ethics review:* Research ethics committees should evaluate recognition plans to ensure alignment with distributive justice.
- *Building capacity through mentorship:* Academic researchers should actively include clinicians in writing and analysis as part of collaborative knowledge production.

Collectively, these measures shift recognition from discretionary practice to institutional responsibility.

Conclusion

Clinical audiologists in South Africa are central epistemic agents in the production of hearing health knowledge, yet remain systematically excluded from authorship. This exclusion reflects entrenched structural inequities that undermine both ethical integrity and scientific validity. Treating clinicians as data sources obscures the interpretive, contextually situated expertise required to generate meaningful evidence. Addressing this requires a reconfiguration of how knowledge, labour and recognition are distributed. Positioning clinicians as co-creators, supported by contributorship models and *ubuntu* offers a pathway toward restoring epistemic visibility and professional dignity. Equitable recognition is therefore not only a matter of fairness, but also a prerequisite for the sustainability, validity and contextual relevance of audiological research in South Africa.

Although this Commentary is situated within audiology, the issues it raises extend to many clinical and practice-based disciplines in which routine data generation, service delivery and contextual expertise remain undervalued within conventional authorship systems. Reframing recognition through contributorship and relational accountability therefore has relevance far beyond audiology and contributes to broader debates on equitable knowledge production.

Declarations

I have no competing interests to declare. I have no AI or LLM use to declare.

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