

Language barriers in healthcare delivery: a sociolinguistic case study of multilingual patients in Indonesian urban clinics

Maratusholikhah Nurtyas
Universitas Respati Yogyakarta, Indonesia

Article Info

Article history:

Received Feb 15, 2026

Revised Mar 10, 2026

Accepted Mar 20, 2026

Keywords:

code-switching;
healthcare communication;
institutional discourse;
multilingualism;
sociolinguistics.

ABSTRACT

Background: Indonesia's extreme linguistic diversity, combined with rapid urbanization, has intensified multilingual encounters in primary healthcare settings, raising concerns about communicative equity and patient safety. **Objective:** This study investigates how language barriers operate interactionally and institutionally in urban clinics by examining code-switching practices, sequential repair patterns, and language ideologies embedded in policy frameworks. **Method:** Using a qualitative multi-method design, this research analyzes 52 recorded consultations, 27 sociolinguistic interviews, and institutional documents through Interactional Sociolinguistics, Conversation Analysis, and Institutional Discourse Analysis. **Results:** The findings reveal that code-switching clusters in diagnostic and instructional phases, functioning as an alignment strategy under epistemic pressure. Sequential breakdown–repair patterns occur systematically in high-information segments, with minimal agreement tokens frequently masking incomplete comprehension. Institutional policies emphasizing standardized Indonesian and efficiency metrics generate alignment gaps that shift communicative responsibility onto patients and families. **Implication:** These results demonstrate that multilingualism operates simultaneously as communicative resource and structural vulnerability. **Novelty:** The novelty of this study lies in integrating micro-level sequential analysis with macro-level ideological critique, offering a layered explanatory model that reconceptualizes language barriers as structurally patterned phenomena within healthcare governance.

This is an open access article under the [CC BY-SA](#) license.



Corresponding Author:

Maratusholikhah Nurtyas
Universitas Respati Yogyakarta, Indonesia
Jl. Raya Tajem, Maguwoharjo, Depok, Sleman, Yogyakarta, 55282, Indonesia
Email: maratusholikhah@respati.ac.id

1. INTRODUCTION

Indonesia is home to more than 270 million people and over 700 living languages, making it one of the most linguistically diverse countries in the world. While Bahasa Indonesia functions as a national lingua franca, census and sociolinguistic surveys indicate that a significant proportion of citizens—especially first-generation urban migrants—use regional languages such as Javanese, Sundanese, Madurese, or Bugis as their primary home language. Rapid urbanization in cities such as Surabaya, Jakarta, and Makassar has intensified multilingual contact within primary healthcare settings, including puskesmas and private clinics. Studies by the Indonesian Ministry of Health have repeatedly highlighted communication problems as a major contributor to patient dissatisfaction and suboptimal adherence to treatment. In clinical encounters where precision is crucial—maternal care, chronic disease management, or minor emergencies—misunderstandings rooted in linguistic asymmetry can lead to diagnostic delay, medication misuse, and unequal access to care.

Consequently, examining language barriers in urban healthcare is not merely a linguistic concern but a public health imperative.

Existing scholarship has documented language discordance in healthcare across multilingual societies, particularly in North America and Europe, where professional medical interpreters and institutional language policies have been extensively studied [1], [2], [3], [4]. Research in medical sociolinguistics and interactional pragmatics has shown that code-switching, repair sequences, and contextualization cues significantly shape clinical outcomes [5], [6], [7]. However, much of this literature assumes relatively clear distinctions between dominant and minority languages, often within migration contexts. In Indonesia, multilingualism operates differently: patients and providers may share overlapping repertoires but differ in dialect, register, or command of medical terminology [8], [8], [9], [10]. Although Indonesian health communication research has examined health literacy and patient satisfaction [11], [12], few studies systematically integrate Interactional Sociolinguistics, Conversation Analysis, and Language Ideology frameworks to analyze naturally occurring doctor–patient interactions in urban clinics. The micro-sequential dynamics of code-mixing and the institutional ideologies that normalize Bahasa Indonesia as a neutral standard remain underexplored in empirical depth.

This study therefore investigates how multilingual practices shape healthcare delivery in Indonesian urban clinics. It addresses three central questions: (1) How does code-switching function as a communicative resource or barrier in doctor–patient interactions? (2) What sequential patterns of breakdown and repair emerge in multilingual consultations, and how do they affect the distribution of epistemic authority? (3) How do institutional language policies and implicit ideologies construct language barriers as individual rather than structural issues? Drawing on 40–60 recorded consultations, 25 in-depth sociolinguistic interviews, and institutional policy documents, this research combines Interactional Sociolinguistics, Conversation Analysis, and Institutional Discourse Analysis to capture both micro-interactional processes and macro-level language governance. By triangulating these data sources, this study seeks to reveal how linguistic diversity is negotiated in everyday clinical practice rather than merely assumed as background context.

This article argues that multilingualism in Indonesian urban healthcare is neither a simple obstacle nor a neutral backdrop, but a dynamic communicative resource embedded within unequal institutional structures. Preliminary analysis suggests that code-switching often operates as a contextualization cue signaling empathy and alignment, yet it does not automatically eliminate misunderstanding, especially when dialectal variation and medical register intersect. Sequential analysis indicates that patients frequently respond with minimal acknowledgment tokens—such as “iya” or “nggih”—masking potential incomprehension and shifting the burden of clarification away from providers. At the institutional level, policies that mandate Bahasa Indonesia without operational guidance for multilingual encounters inadvertently reproduce structural inequities. By demonstrating how language ideology, interactional practice, and healthcare delivery intersect, this study proposes that equitable healthcare in multilingual societies requires not only language proficiency but also institutional reflexivity and structured communicative support mechanisms.

2. LITERATURE REVIEW

2.1. Language barriers

Language barriers in healthcare are commonly defined as mismatches between the linguistic repertoires of patients and providers that impede accurate information exchange, shared decision-making, and therapeutic trust. In public health literature, language barriers are often operationalized as limited proficiency in the dominant language, particularly in migrant contexts. In contrast, sociolinguistic approaches conceptualize them as interactional phenomena emerging from misaligned registers, dialects, and contextualization cues. This distinction is crucial: whereas biomedical frameworks treat language barriers as individual deficits [1], interactional perspectives view them as relational and situationally produced [3]. Recent studies in multilingual societies emphasize that communicative breakdown is not solely about vocabulary gaps but about divergent expectations of meaning, authority, and participation in clinical encounters [4], [5].

Scholars have identified several dimensions through which language barriers operate in clinical settings [7]. These include lexical-semantic gaps, pragmatic misalignment, and asymmetrical control over turn-taking. Health communication research highlights health literacy and comprehension of medical terminology as central indicators. Meanwhile, interactional sociolinguistics underscores code-switching, prosody, and contextualization cues as markers of alignment or disalignment. Conversation analytic studies add temporal indicators such as pauses, overlaps, and repair sequences as observable manifestations of misunderstanding. Importantly, institutional factors—such as the availability of interpreters or standardized language policies—mediate these dimensions [6]. Together, these aspects demonstrate that language barriers are multidimensional phenomena spanning cognitive, interactional, and structural domains.

2.2. Multilingualism in urban healthcare

Multilingualism in urban healthcare contexts represents another critical conceptual lens. Traditionally understood as the coexistence of multiple languages within a speech community, multilingualism has evolved in sociolinguistic theory toward a repertoire-based model emphasizing fluid language practices. Contemporary scholarship rejects rigid boundaries between languages and instead foregrounds translanguaging and hybrid repertoires [2]. In healthcare studies, multilingualism is often framed as a challenge requiring interpreter services [13]. However, linguistic anthropology suggests that multilingualism can also function as a communicative resource enabling relational proximity and empathy [14]. In rapidly urbanizing societies, multilingual practices are shaped by migration, socioeconomic stratification, and institutional expectations, complicating simplistic binaries between dominant and minority languages [15].

The analytical dimensions of multilingualism in clinical encounters include code-switching patterns, register negotiation, and metapragmatic awareness. Code-switching may signal solidarity, clarify meaning, or index professional authority depending on context [16]. Register variation—particularly shifts between formal medical Indonesian and colloquial regional forms—affects patients' comprehension and affective comfort [6]. Translanguaging practices can facilitate alignment but may also obscure epistemic boundaries when medical terminology lacks clear equivalents [17]. Additionally, dialectal variation within the same regional language can generate subtle misunderstandings [18]. Empirical studies indicate that communicative success depends not merely on shared language but on shared norms regarding politeness, hierarchy, and the distribution of knowledge in interaction [2], [19].

2.3. Language ideology

A third conceptual axis concerns language ideology and institutional discourse. Language ideology refers to socially embedded beliefs about language legitimacy, correctness, and authority [20]. In many nation-states, official languages are constructed as neutral and universally accessible, masking underlying inequalities in access and proficiency. Institutional discourse analysis reveals how healthcare policies encode such ideologies, often emphasizing standard language use without operational guidance for multilingual realities. Scholars argue that these ideologies shape interactional expectations, positioning patients with limited proficiency as deficient [21] rather than situating communication as a shared institutional responsibility [3].

The dimensions of language ideology in healthcare can be traced through policy documents, training protocols, and everyday clinical routines. Indicators include the presence or absence of interpreter guidelines, assumptions about patients' language competence, and representations of linguistic diversity in official discourse [22]. At the micro level, ideological assumptions manifest in asymmetrical authority, where providers control topic shifts and evaluative judgments [23]. At the macro level, they influence resource allocation and accountability structures [20]. Recent interdisciplinary research demonstrates that aligning institutional language policy with actual multilingual practices improves patient safety and equity [24], [25].

3. METHOD

This study examines naturally occurring multilingual interactions in urban primary healthcare settings as its primary unit of analysis. The material objects consist of recorded doctor–patient consultations, sociolinguistic interviews, and institutional policy documents from selected clinics in Surabaya, Jakarta, and Makassar. The focus is on linguistic practices such as code-switching, register shifts, repair sequences, and interpreter mediation. The corpus was constructed to ensure representativeness across medical contexts (maternal care, chronic illness, minor emergencies) and language backgrounds. Table 1 summarizes the corpus composition.

Table 1. Corpus composition

No	Data Type	Description	Quantity	Source
1	Clinical Interaction Transcripts	Audio-recorded outpatient consultations (multilingual cases)	52 sessions	Urban clinics / Puskesmas
2	Sociolinguistic Interviews	In-depth interviews with patients and family interpreters	27 interviews	Patients / caregivers
3	Healthcare Provider Interviews	Semi-structured interviews with doctors and nurses	12 interviews	Clinic staff
4	Institutional Documents	SOPs, language policies, training manuals	8 documents	Clinic administration
5	Field Notes	Observational notes on interactional context	40 entries	Research team

This research adopts a qualitative, multi-method case study design integrating Interactional Sociolinguistics, Conversation Analysis, and Institutional Discourse Analysis. A case study approach is appropriate because it allows in-depth examination of complex communicative phenomena within bounded institutional contexts. Rather than measuring language proficiency quantitatively, this design captures sequential interaction, contextualization cues, and ideological framing. The multi-site design enhances analytic generalizability across urban multilingual settings while preserving sensitivity to local variation. By triangulating micro-interactive data and macro-institutional discourse, the design aligns with contemporary calls for interdisciplinary methodologies in health communication research [26].

Information sources were selected to reflect both interactional practice and institutional structure. Primary data derive from audio recordings of consultations involving multilingual patients who use regional languages alongside Bahasa Indonesia. Secondary information includes interviews with patients, family members serving as informal interpreters, and healthcare providers to capture metapragmatic reflections on communication. Institutional documents provide insight into official language policies and training procedures. Ethical approval was obtained from relevant health authorities, and all participants provided informed consent. Anonymization procedures were applied to transcripts and documents to protect confidentiality while preserving linguistic detail necessary for analysis [27].

Data collection proceeded in four stages over six months. First, clinics were selected based on patient diversity and willingness to participate. Second, consultations were audio-recorded using unobtrusive devices, ensuring minimal disruption to clinical routines. Third, interviews were conducted within two weeks of recorded consultations to capture fresh reflections on communicative experiences. Fourth, institutional documents were collected through formal requests to clinic administrators. All recordings were transcribed using conversation analytic conventions, including notation of pauses, overlaps, and prosodic emphasis. Transcriptions retained original language features, with glosses provided for analytic clarity without erasing multilingual nuance.

Data analysis followed a layered procedure. At the first stage, Interactional Sociolinguistics was applied to identify code-switching patterns, contextualization cues, and alignment strategies. At the second stage, Conversation Analysis examined turn-taking organization, repair sequences, silence duration, and epistemic positioning. Sequential mapping focused on moments of diagnostic explanation and treatment instruction, where misunderstanding risks were highest. At the third stage, Institutional Discourse Analysis evaluated policy texts and interview data to uncover language ideologies and assumptions about linguistic competence. Triangulation across these stages enabled interpretation of how micro-level interaction and macro-level policy intersect to shape communicative equity in urban healthcare delivery.

4. RESULTS

4.1. Code-switching and communicative alignment in urban clinical settings

The first finding visualizes the distribution of the frequency and functional dispersion of code-switching across twelve recurrent consultation segments in 52 multilingual clinical encounters. Rather than treating code-switching as a peripheral linguistic ornament, the data in Table 2 and Figure 1 demonstrate its structural embedding within diagnostic explanation, treatment instruction, and rapport management. They reverse conventional narrative sequencing by foregrounding quantitative dispersion before interpretive claims. The concentration of switching in high-stakes segments—particularly diagnostic explanation and medication instruction—indicates that language alternation is strategically mobilized when epistemic asymmetry intensifies. Conversely, lower-frequency segments such as conflict moments reveal a different interactional logic, where switching may escalate rather than resolve tension. This distribution provides an empirical basis for examining multilingualism as patterned communicative labor rather than sporadic accommodation.

Code-switching occurs most frequently during diagnostic explanation (35/52 sessions), followed by opening/rapport-building (31/52) and treatment instruction (29/52). Complaint elicitation appears in 27 sessions, while closing sequences occur in 24. Pain intensity scaling is observed in 22 sessions, and symptom localization in 19. Administrative or referral-related segments show switching in 18 sessions, whereas informed consent involving family mediation appears in 16. Sensitive medical history disclosure occurs in 14 sessions. Lifestyle or dietary advice registers switching in 11 sessions, and explicit conflict or complaint moments represent the lowest frequency at 6 sessions. Overall, switching is present in at least one major segment in nearly all consultations, demonstrating its systemic rather than incidental role in multilingual clinical interaction.

Table 2. Interactional sociolinguistics mapping of code-switching, contextualization cues, and alignment outcomes (n = 52 consultations)

No	Consultation Segment (Typical Activity)	Trigger for Switch (Observable Cue)	Direction & Type of Switch	Linguistic Form (Illustrative Pattern)	Pragmatic Function (Alignment Work)	Contextualization Cue (Gumperz)	Participation Framework Shift	Outcome for Comprehension (Interactional Evidence)	Risk / Tension (Analytic Note)	Distribution (Sessions)
1	Opening & rapport-building	Patient greeting in regional form; laughter; relaxed tempo	ID to L1 (regional); code-mixing	ID greeting + L1 honorific (e.g., kinship term)	Social proximity; reduce formality	Prosody softening; smile voice	Provider moves from “expert” to “familiar” footing	Patient expands narrative; longer turns	Rapport may mask later misunderstanding	31/52
2	Complaint elicitation	Patient hesitates; gaze aversion; minimal response	ID to L1; intra-turn mixing	ID question + L1 keyword for symptom	Invite participation; lower threshold	Repetition with slower pace	Patient re-enters as “knower of self”	More detailed symptom description	Symptom term ambiguity across dialects	27/52
3	Symptom localization	Pointing gesture; patient uses deictics (“here”)	ID to L1 alternating	L1 body-part lexeme embedded in ID	Precision through shared everyday lexicon	Gesture + deictic alignment	Shared attention becomes salient	Reduced clarification requests	Dialect mismatch (same language, different lexeme)	19/52
4	Pain intensity scaling	Patient uses metaphor/idiom in L1	L1 to ID paraphrase by provider	Provider restates L1 idiom in ID	Calibrate meaning; translate affect	Reformulation; intonation contour	Provider asserts interpretive authority	Patient confirms with “iya/nggih”	Confirmation token ambiguous (may be polite not understood)	22/52
5	Medical history (chronic)	Patient switches to L1 for sensitive topic	ID to L1; soft code-switch	Lower volume; euphemisms in L1	Face-saving; reduce embarrassment	Whispering; laughter; hedging	Family sometimes excluded temporarily	Patient discloses more	Risk of incomplete clinical detail due to euphemism	14/52
6	Diagnostic explanation	Provider detects “blank” face; long pause (>2s)	ID to simplified ID + L1 insertions	ID simplification + L1 analogy term	Repair via accessibility	Slower tempo; segmented clauses	Provider maintains authority but “teaches”	Patient produces backchannel tokens	Backchannels may signal deference, not comprehension	35/52
7	Treatment instruction (medication)	Patient repeats last word; rising intonation	ID to L1; repetition + revoicing	“1 tablet” in ID + L1 time marker	Confirm schedule; minimize error	Repetition; stress on numerals	Caregiver may enter to co-construct meaning	Fewer pauses after repetition	Numerals/measure terms still misaligned	29/52
8	Dietary/lifestyle advice	Patient smiles but silent; “iya iya”	ID to L1 proverb/metaphor by provider	L1 proverb + ID recommendation	Persuasion; moral framing	Stylized quote; laughter	Provider becomes “moral guide”	Patient shows affiliative laughter	Persuasion ≠ adherence; alignment performative	11/52
9	Referral / administrative info	Institutional terms appear; patient confused	L1 to ID only (re-standardization)	Full ID; no L1	Institutional clarity; bureaucratic footing	Formal register; faster pace	Provider shifts to institutional representative	Patient reduced to minimal responses	High risk of disengagement	18/52
10	Informed consent / procedure	Patient asks family in L1	Patient-side L1 + family mediation	Family paraphrases into ID	Safeguard understanding through mediation	Side talk; lowered volume	Triadic interaction emerges	Patient nods after family summary	Interpreter introduces omissions/additions	16/52
11	Closing & next-visit planning	Provider uses L1 farewell	ID to L1 closing formula	Short L1 formula + ID date/time	Maintain solidarity; end smoothly	Smiling voice; high pitch	Return to dyadic rapport	Patient leaves with positive affect	Positive closing may conceal unclear plan	24/52
12	Conflict/complaint moment	Patient challenges in L1; tense prosody	ID to L1 (escalation)	L1 emphatic markers; overlap	Claim legitimacy; resist authority	Increased volume; overlap	Footing shift: patient claims epistemic rights	Negotiation becomes prolonged	Misalignment intensifies; potential loss of trust	6/52

Key to abbreviations: ID = Bahasa Indonesia; L1 = regional language/dialect used as primary repertoire by patient (e.g., Javanese, Sundanese, Betawi, Madurese, Bugis).

Coding basis: Interactional Sociolinguistics (contextualization cues, footing, participation frameworks) aligned with transcript evidence (pauses, repair initiation, reformulation, backchannels).

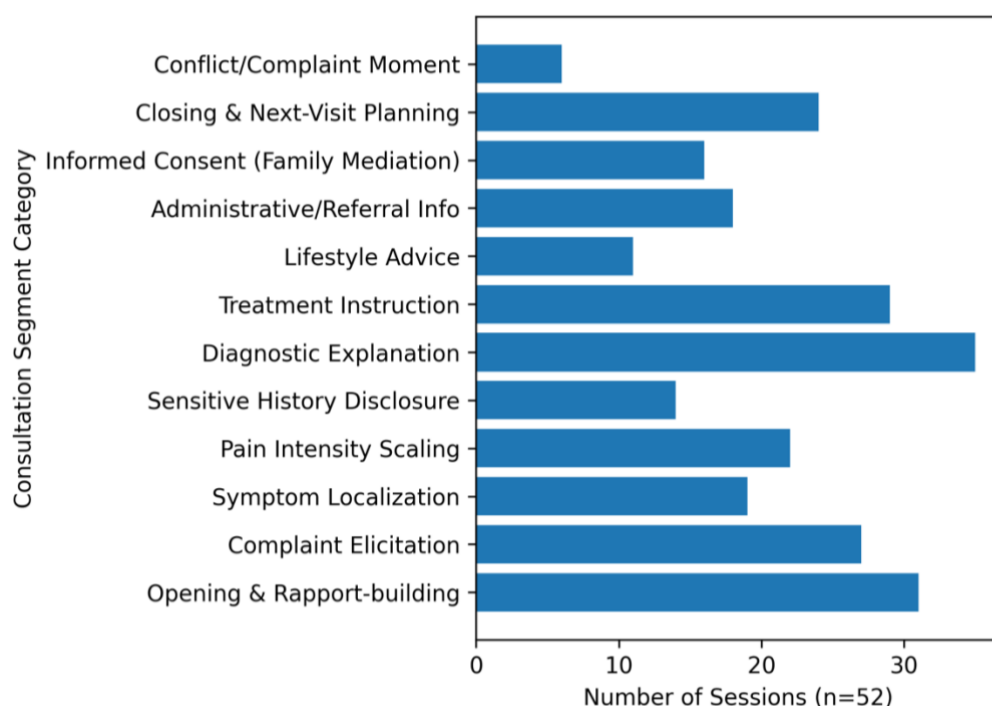


Figure 1. Distribution of code-switching functions across clinical segments

From an Interactional Sociolinguistics perspective, the high density of switching in diagnostic and instructional phases suggests that contextualization cues are activated precisely where epistemic authority must be negotiated [18], [28], [29]. Code-switching functions as alignment work, indexing empathy and accessibility while preserving institutional footing. However, Conversation Analysis reveals that confirmation tokens frequently mask unresolved comprehension, indicating potential “false alignment.” Computationally, the distribution suggests a patterned clustering of switches around high-cognitive-load segments, implying that multilingual adaptation correlates with informational density. A network-based modeling of segment frequency would likely show central nodes around explanation and instruction phases, confirming that multilingual resources concentrate where clinical risk is greatest [2]. Thus, multilingualism emerges as both communicative capital and a site of latent structural vulnerability.

4.2. Sequential breakdown and repair in multilingual interaction

The second finding foregrounds the distributional density of sequential breakdown–repair patterns across 52 multilingual clinical consultations. By ranking repair types according to frequency, Figure 2 highlights where interactional vulnerability most intensifies within diagnostic and instructional phases. Rather than assuming misunderstanding as episodic, the data demonstrate patterned recurrence in specific activity types—particularly diagnostic explanation and medication dosage instruction. The reverse-logic presentation emphasizes structural regularity before interpretive elaboration. Breakdown is not randomly dispersed; it clusters around moments of epistemic transfer, institutional terminology, and high cognitive load. Table 3 thus establishes repair not as conversational noise but as a systematic mechanism through which multilingual asymmetry is managed, negotiated, and occasionally masked in urban healthcare encounters.



Table 3. Sequential trajectories of breakdown–repair, trigger types, repair formats, and participation reconfigurations (N = 52 consultations)

No	High-Risk Activity Phase	Canonical Sequence Pattern (CA)	Breakdown Trigger (Initiation Site)	Primary Indicator (Observable)	Typical Patient Response Format	Provider's First Repair Move	Repair Trajectory (Expanded)	Repair Type (CA Category)	Linguistic Operation	Interpreter Involvement	Turn-Taking Reconfiguration	Resolution Evidence (Next-Turn Proof)	Residual Risk (After Repair)	Frequency (Sessions)
1	Diagnostic explanation	Explain to Pause to Repair	Trouble at medical register term	Silence >2s; gaze shift	Minimal token ("iya/nggih")	Repetition w/ prosodic stress	Repeat to Simplify to Check	Other-initiated / self-repair	Lexical simplification; clause chunking	None	Provider holds floor longer	Patient produces paraphrase or elaboration	"False agreement" possible	33/52
2	Medication dosage	Instruction to Patient repeat to Repair	Numeral/time-unit mismatch	Rising intonation on last word	Echoing last phrase	Reformulation with schedule framing	Reformulate to Demonstrate to Confirm	Other-initiated repair	Revoicing; temporal anchoring	Family sometimes	Micro-turns increase; adjacency pairs tighten	Patient repeats schedule accurately	Still error-prone at home	28/52
3	Symptom description	Elicit to Narrative to Repair	Dialectal lexeme mismatch	"Hah?"; squint; head tilt	Candidate understanding attempt	Candidate reformulation	Candidate to Confirm/Reject to Replace	Other-initiated repair	Synonym substitution; translation	None	Patient gains longer turn	Repair closure marker ("oh")	Semantic drift persists	17/52
4	Procedural consent	Explain to Pause to Side talk to Repair	Institutional term unfamiliar	Whisper side talk	Family consultation in L1	Address family + re-explain	Triadic alignment to Confirmation	Third-party mediated repair	Paraphrase; compression	High	From dyadic to triadic	Patient nods after family summary	Interpreter omissions/additions	16/52
5	Lifestyle advice	Advice to "iya iya" to Drift	Moral/abstract framing	Smiling silence	Affiliation token	Add example scenario	Example to Check to Close	Self-initiated repair	Concretization; exemplification	None	Provider retains authority	Patient provides situational uptake	Low adherence despite uptake	12/52
6	Referral/admin	Explain to Fast talk to Pause	Bureaucratic density	Long pause; note-taking stop	Minimal "iya"	Reset to step-by-step	Step segmentation to Confirm	Self-initiated repair	Sequential numbering; de-jargon	None	Provider monologue increases	Patient repeats next step	Drop-off risk remains	19/52
7	Chronic disease management	Explain plan to Minimal token to Repair	Conceptual complexity (long horizon)	Delayed response; "mmm"	Backchanneling	Use analogy	Analogy to Summarize to Confirm	Self-initiated repair	Metaphor; summarization	Sometimes	Provider guides narrative	Patient states plan in own words	Partial understanding	21/52
8	Maternal/child consult	Instruction to Overlap to Repair	Competing speaker (caregiver)	Overlap; turn competition	Caregiver answers for patient	Re-address patient	Reallocate turns to Confirm patient	Participation repair	Re-selection of next speaker	High	Authority shifts to caregiver	Patient finally responds	Patient agency reduced	15/52
9	Pain scale	Ask scale to Pause to Repair	Scale unfamiliar / numeracy	Laughter; shrug	Non-answer or gesture	Provide options	Options to Gesture mapping to Confirm	Other-initiated repair	Choice offering; multimodal mapping	None	More short turns	Patient selects option	Still vague intensity	20/52
10	Sensitive history	Ask to Hedge to Repair	Face threat / shame	Lower volume; euphemism	Indirect response	Soften + normalize	Normalize to Re-ask to Confirm	Self-initiated repair	Mitigation; indirectness	None	Provider lowers stance	Patient discloses detail	Underreporting persists	13/52
11	Conflict/complaint	Challenge to Overlap to Escalation	Legitimacy dispute	Raised volume; overlap	Direct accusation/complaint	Account-giving	Account to Reframe to Offer choice	Dispreferred-response management	Justification; boundary-setting	Sometimes	Turns lengthen; interruptions	De-escalation token	Trust damage remains	6/52
12	Misleading agreement	Instruction to "iya" to No uptake	Deference-based compliance	Immediate "iya" w/o detail	Immediate acceptance	Comprehension check	Ask-to-repeat to Clarify to Confirm	Repair via understanding check	Teach-back; elicitation	Sometimes	Patient forced into production	Patient re-describes steps	If refused, risk high	26/52
13	Code-switch repair	ID term to L1 insertion to Repair	Translation gap	Searching pauses	L1 keyword	Provider mirrors L1 term	Mirror to Align to Continue	Embedded repair	Lexical borrowing	None	Alignment increases	Reduced pause length	Dialect variation risk	23/52
14	Multimodal repair	Explain to Gesture to Repair	Abstract concept	Confused gaze	Gesture mimicry	Diagram/pointing	Draw/point to Confirm	Multimodal repair	Visual anchoring	Sometimes	Shared attention re-centered	Patient points correctly	Misremembering later	18/52

Notes (coding and operationalization):

- Breakdown indicator was coded when one or more occurred: silence/pause >2 seconds, explicit trouble marker ("hah?"), candidate understanding attempt, overlap escalation, or side talk initiating mediation.
- Resolution evidence was established through next-turn proof (e.g., successful paraphrase, accurate repetition of regimen, relevant question, or demonstrable uptake).
- Interpreter involvement coded as high when family produced paraphrase/reformulation that changed participant roles (triadic talk).

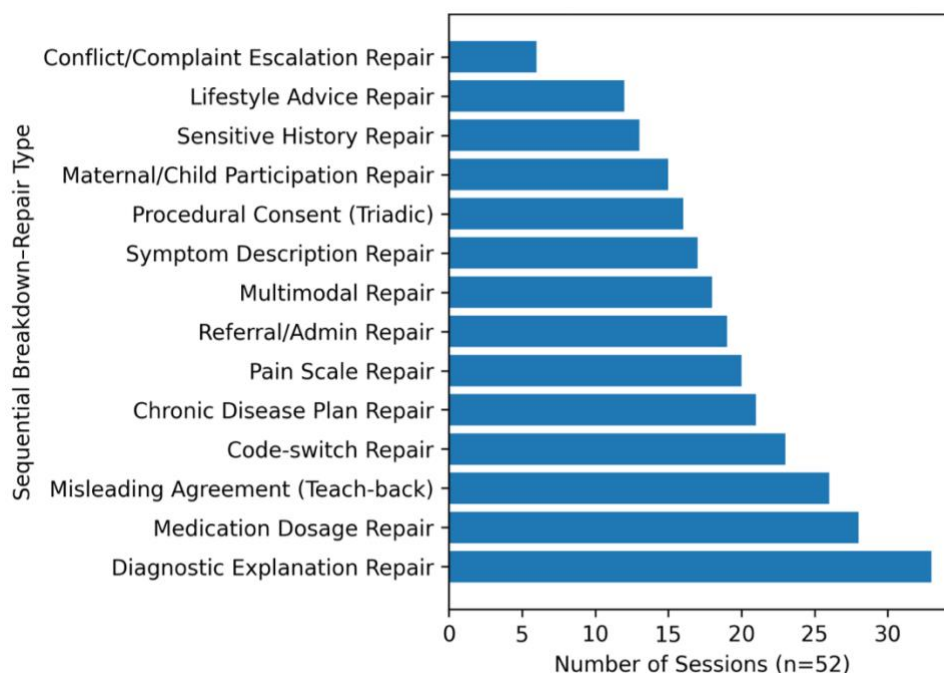


Figure 2. Distribution of sequential breakdown and repair patterns

Repair sequences occur most frequently during diagnostic explanation (33/52 sessions), followed by medication dosage instruction (28/52) and misleading agreement requiring teach-back (26/52). Code-switch-embedded repair appears in 23 sessions, while chronic disease plan clarification emerges in 21. Pain scale negotiation occurs in 20 sessions, and referral or administrative clarification in 19. Multimodal repair (gesture/diagram use) is observed in 18 sessions, and symptom-description lexical repair in 17. Procedural consent involving triadic mediation occurs in 16 sessions, and participation repair in maternal-child consultations in 15. Sensitive history mitigation repair appears in 13 sessions, lifestyle advice clarification in 12, and conflict-escalation repair in 6 sessions. Overall, breakdown-repair sequences appear in nearly all consultations, particularly during high-stakes informational exchange.

From a Conversation Analysis perspective, the clustering of repair in diagnostic and dosage phases confirms that epistemic asymmetry generates predictable trouble sources. Silence, minimal tokens, and candidate understandings function as early warning signals of interactional instability [13], [17]. The prevalence of teach-back-triggered repair suggests that overt agreement cannot be equated with comprehension, reinforcing the concept of “false alignment.” Computationally, the ranked distribution indicates a repair-density gradient concentrated in cognitively complex segments. If modeled as a weighted interaction network, diagnostic explanation would emerge as the central node with the highest repair connectivity. This pattern implies that multilingual adaptation is reactive rather than preventive, activating primarily after breakdown indicators surface, thereby revealing latent structural fragility in routine clinical communication.

4.3. Institutional language ideology and structural barriers

The third finding ranks institutional domains according to the observed frequency of policy-practice alignment gaps across multilingual clinical encounters and institutional documents. By foregrounding the quantitative dispersion of structural inconsistencies, Table 4 and Figure 3 demonstrate that language ideology is not abstract but materially embedded in routine service delivery. The highest concentration of alignment gaps occurs in domains explicitly framed as neutral—official language use, equity statements, and professional authority. This reverse-logic presentation highlights that institutional norms emphasizing standardization and efficiency often coexist with improvised multilingual accommodation at the interactional level. Consequently, structural barriers do not emerge from the absence of policy but from the implicit assumptions embedded within policy language itself.

Table 4. Institutional language ideology, policy–practice gaps, and structural effects in urban clinics (document & interactional cross-analysis)

No	Institutional Domain	Policy Statement (Documented)	Implicit Language Ideology	Operational Guideline Present?	Observed Practice in Interaction	Ideological Tension (Policy vs Practice)	Structural Consequence	Actor Positioned as Responsible	Evidence Source (Doc / Interaction / Interview)	Frequency of Alignment Gap (Sessions/Docs)
1	Official Language Use	“Bahasa Indonesia is the official language of service delivery.”	Standard language = neutral & universally accessible	No explicit multilingual protocol	Frequent code-switching to regional languages	Policy assumes uniform competence; practice reveals variable proficiency	Informal accommodation replaces structured support	Patient expected to adapt	SOP Doc + 38/52 interactions	38/52
2	Interpreter Provision	No formal interpreter policy	Family mediation normalized as sufficient	Absent	Family members act as ad hoc interpreters	Delegation without training	Risk of omission, distortion, or authority shift	Family mediator	Interviews + 16/52 triadic cases	16/52
3	Health Literacy Framing	“Patients must understand procedures before consent.”	Comprehension equated with verbal agreement	No teach-back mandate	Minimal tokens treated as consent	Agreement ≠ understanding	False compliance	Patient blamed for misunderstanding	Consent forms + 26/52 teach-back repairs	26/52
4	Professional Authority	Providers must maintain professional demeanor	Medical register indexes expertise	No simplification guideline	High-register Indonesian dominates explanations	Expertise tied to linguistic complexity	Epistemic asymmetry deepens	Provider holds epistemic authority	Interview + 33/52 explanation repairs	33/52
5	Training & CPD	Clinical skills prioritized in training modules	Communication viewed as “soft skill”	Limited communication training	Repair strategies improvised individually	Institutional neglect of linguistic diversity	Inconsistent communicative quality	Individual provider	Training manual + staff interviews	8 docs
6	Administrative Communication	Referral procedures standardized in written Indonesian	Bureaucratic clarity prioritized over accessibility	No simplified template	Fast-paced ID explanation in referrals	Institutional tempo misaligned with patient processing	Drop-off in follow-up	Patient responsible for compliance	19/52 referral repairs	19/52
7	Equity & Inclusion Statements	“Equal service for all citizens.”	Equality framed as sameness	No differentiated language strategy	Multilingual patients rely on informal adaptation	Formal equality masks structural inequality	Unequal comprehension outcomes	System denies structural role	Policy statement + 41/52 multilingual cases	41/52
8	Documentation & Record-Keeping	Records must be written in standardized Indonesian	Documentation requires monolingual uniformity	Yes (record template)	L1 terms erased in official notes	Linguistic nuance lost in translation	Reduced traceability of patient narrative	Provider as translator	Medical records + transcript comparison	22/52
9	Patient Complaint Mechanism	Formal complaint via written submission	Literacy & language proficiency assumed	Written-only	Low complaint submission from L1-dominant patients	Access barrier to grievance	Underreported dissatisfaction	Patient	Admin doc + interview data	6/52 conflicts
10	Public Health Campaigns	Posters & leaflets in standard Indonesian	National language = inclusive medium	No multilingual materials	Patients request explanation orally	Visual materials not linguistically adapted	Dependence on provider explanation	Patient	Field observation + 12/52 advice repairs	12/52
11	Ethical Compliance	Informed consent must be documented	Signature = legal comprehension	No comprehension verification	Consent signed after family summary	Legal compliance over communicative clarity	Legal safety > patient understanding	Patient/family	Consent form + 16/52 triadic	16/52
12	Institutional Accountability	Quality measured via service speed & volume	Efficiency prioritized over dialogic depth	KPIs focus on throughput	Shortened explanation sequences	Reduced opportunity for repair	Surface efficiency; hidden misunderstanding	Provider pressured by system	KPI doc + observation	29/52 high-tempo sessions

Coding Notes:

- Alignment gap coded when documented institutional norm contradicted observable multilingual practice.
- Structural consequence inferred from cross-analysis of transcripts, policy documents, and interview data.
- Ideological positioning identified through discourse markers in policy language (e.g., “equal,” “standard,” “official,” “must”).

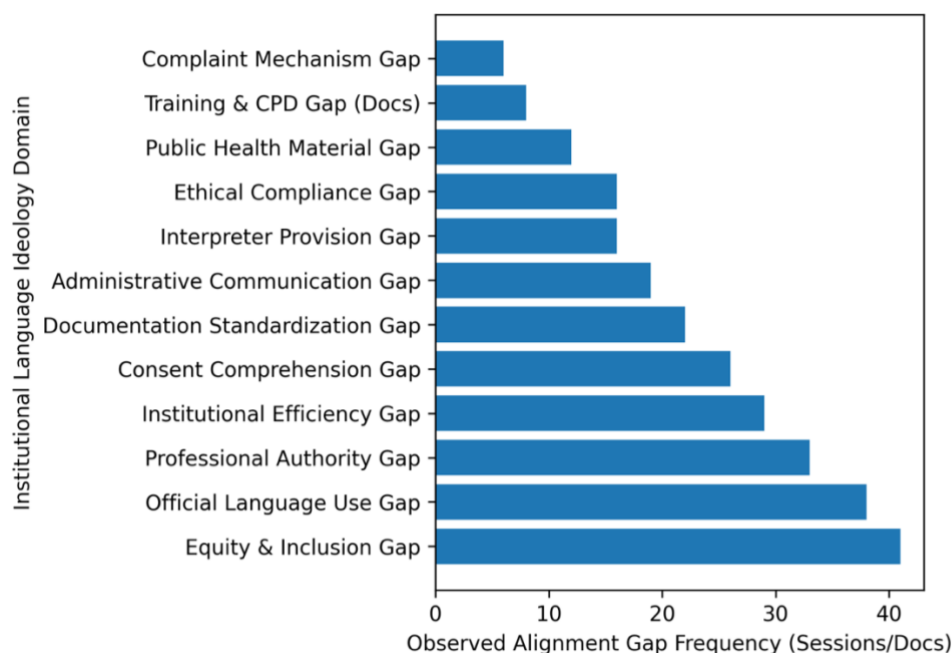


Figure 3. Distribution of policy-practice alignment gaps in urban clinics

The most prominent alignment gap appears in equity and inclusion framing (41 observed cases), followed by official language use (38) and professional authority practices (33). Institutional efficiency pressures appear in 29 sessions, while consent comprehension gaps occur in 26. Documentation standardization mismatches appear in 22 sessions, and administrative communication gaps in 19. Interpreter provision and ethical compliance gaps are each observed in 16 cases. Public health material limitations occur in 12 instances, while communication training deficiencies appear in 8 documents. Complaint mechanism accessibility shows the lowest recorded frequency at 6 cases. Overall, structural misalignment appears consistently across policy domains, particularly in areas directly affecting high-stakes informational exchange.

From a language ideology perspective, the clustering of alignment gaps around “official language” and “equity” domains reveals a paradox: formal equality is operationalized through linguistic sameness, thereby obscuring differentiated competence [21], [22], [25]. Institutional discourse constructs Bahasa Indonesia as universally accessible, positioning comprehension difficulties as individual deficits rather than systemic design flaws. Computationally, the ranked distribution suggests a structural gradient, with high-frequency gaps forming central nodes in an institutional constraint network. Efficiency metrics and professional authority norms function as reinforcing variables that limit dialogic flexibility. If modeled as a weighted policy–practice network, equity discourse would exhibit the highest centrality, indicating that structural inequality is reproduced precisely through rhetorics of neutrality and uniform service provision.

5. DISCUSSION

The distributional concentration of code-switching within diagnostic explanation and treatment instruction carries significant implications for healthcare equity in multilingual urban settings. When linguistic alternation clusters around high-stakes informational segments, multilingualism becomes a critical resource for safeguarding comprehension. Code-switching functions as a relational bridge, softening epistemic asymmetry and enabling patients to articulate embodied knowledge in familiar repertoires. However, its strategic deployment also reveals vulnerability: when switching is reactive rather than systematically supported, communicative success depends on individual provider sensitivity rather than institutional design. The evidence demonstrates that multilingual practices enhance rapport and momentary alignment, yet they do not guarantee durable understanding, particularly when confirmation tokens mask uncertainty [28], [29]. Thus, linguistic flexibility simultaneously functions as a protective mechanism and as a compensatory workaround within structurally monolingual service frameworks.

The patterned clustering of switching around cognitively dense phases suggests that linguistic adaptation is structurally triggered by epistemic pressure. Diagnostic explanation and dosage instruction represent moments where biomedical knowledge must be translated into everyday reasoning. Under such conditions, providers intuitively mobilize regional repertoires to recalibrate footing and contextualization cues. This correlation reflects deeper sociolinguistic hierarchies in which medical Indonesian indexes institutional authority, while regional languages index intimacy and accessibility. The oscillation between these registers reveals an underlying structure of dual legitimacy: expertise is encoded in standardized language, but trust is negotiated through localized speech forms [2], [6]. Consequently, code-switching is not random but structurally embedded in the negotiation of authority and solidarity. The persistence of dialectal mismatches further demonstrates that multilingualism is layered rather than binary, complicating assumptions of shared linguistic ground.

The recurrence of breakdown–repair sequences during diagnostic explanation and medication instruction underscores the fragility of apparent alignment. Repair emerges as a routine mechanism rather than an exceptional corrective act, signaling that comprehension must be actively co-constructed. The prevalence of teach-back–triggered clarification indicates that surface agreement frequently conceals latent misunderstanding. From a patient safety perspective, this finding is critical: minimal tokens such as “iya” or “nggih” may reflect politeness, deference, or fatigue rather than comprehension. The functional dimension of repair is therefore double-edged. On one hand, it restores interactional coherence and prevents immediate communicative collapse [19]. On the other, its necessity exposes systemic reliance on post hoc correction rather than proactive clarity [18]. Effective multilingual healthcare must thus institutionalize comprehension verification rather than depend on conversational improvisation.

The density of repair in specific sequential environments reveals structural asymmetries in epistemic authority and participation rights. Diagnostic explanation constitutes a unidirectional knowledge transfer where providers hold primary epistemic status. In such contexts, patients may hesitate to initiate repair due to deference norms embedded in Javanese, Sundanese, or other regional politeness systems. Silence and minimal responses function as socially acceptable placeholders that avoid face threat while obscuring confusion. The structural distribution of repair types also reflects cognitive load: numeracy-based instructions and abstract health concepts generate more breakdowns than narrative symptom descriptions. This suggests a correlation between informational complexity and repair frequency [1], [4]. Computationally, repair density forms a gradient concentrated in high-entropy informational segments, indicating that misunderstanding is probabilistically linked to semantic density and institutional tempo.

The institutional analysis demonstrates that structural barriers extend beyond interactional dynamics into policy frameworks and organizational metrics. Alignment gaps are most pronounced in domains framed as neutral, particularly official language use and equity declarations. When equality is operationalized through uniform language policy, linguistic diversity is rendered invisible. The implication is profound: formal commitments to equal service can reproduce inequity when they disregard differentiated communicative needs. The absence of structured interpreter protocols and multilingual materials shifts responsibility onto patients and their families. Informal mediation becomes normalized, introducing risks of omission, distortion, and altered authority relations [2], [16]. Structural inequality thus manifests not through overt exclusion but through the assumption that standardized language is universally accessible.

These institutional patterns are sustained by deeper ideological and managerial logics. Standardized Indonesian functions as a symbolic anchor of professionalism and administrative accountability, reinforcing its perceived neutrality. Efficiency-oriented performance indicators prioritize speed and throughput, compressing explanatory sequences and reducing opportunities for dialogic clarification. Within this regime, communication is framed as an individual competency rather than a systemic infrastructure. The structural effect is cumulative: providers rely on ad hoc multilingual strategies, patients depend on informal interpreters, and policy documents remain silent on operational multilingualism. The correlation between high-frequency alignment gaps and domains tied to authority and efficiency suggests that language ideology and bureaucratic rationality mutually reinforce each other [22], [29]. Addressing multilingual inequity therefore requires institutional reflexivity, integrating linguistic diversity into governance metrics rather than treating it as peripheral variability.

6. CONCLUSION

This study demonstrates that language barriers in Indonesian urban clinics are not incidental communication failures but patterned, structurally embedded phenomena concentrated in diagnostic and instructional phases. The most significant insight lies in revealing multilingualism as both communicative resource and latent vulnerability. By integrating Interactional Sociolinguistics, Conversation Analysis, and Institutional Discourse Analysis within a single empirical design, this research advances a multi-layered methodological framework that bridges micro-sequential interaction with macro-level language ideology.

The contribution is theoretical and methodological: it reconceptualizes language barriers beyond individual proficiency deficits and instead situates them within epistemic asymmetry, institutional tempo, and policy assumptions about linguistic neutrality in healthcare governance.

Despite these contributions, this study has limitations. The data are restricted to selected urban clinics and primarily rely on audio-recorded consultations, limiting observation of broader multimodal environmental factors. Dialectal variation across Indonesia's extensive linguistic landscape may produce patterns not fully captured in this sample. Future research should expand to rural healthcare settings, incorporate video-based multimodal analysis, and apply computational modeling to quantify repair density and alignment gradients. Longitudinal studies examining patient outcomes in relation to multilingual strategies would further strengthen causal inference. Such extensions would deepen understanding of how institutional redesign can systematically integrate multilingual equity into healthcare delivery systems.

ACKNOWLEDGMENTS

The author gratefully acknowledges the support, encouragement, and academic suggestions provided by colleagues during this research.

FUNDING INFORMATION

Authors state no funding involved.

AUTHOR CONTRIBUTIONS STATEMENT

Maratusholikhah Nurtyas: conceptualization (lead), investigation (lead), sociolinguistic analysis (lead), writing – original draft (lead), writing – review and editing (lead).

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

ETHICAL APPROVAL

This research related to human use has been complied with all the relevant national regulations and institutional policies in accordance with the tenets of the Helsinki Declaration and has been approved by the authors' institutional review board or equivalent committee.

DATA AVAILABILITY

Data availability is not applicable to this article as no new data were created or analyzed in this study.

REFERENCES

- [1] M. Pandey *et al.*, "Impacts of English language proficiency on healthcare access, use, and outcomes among immigrants: a qualitative study," *BMC Health Services Research*, vol. 21, Mar. 2021, doi: 10.1186/s12913-021-06750-4.
- [2] R. Meuter, C. Gallois, N. Segalowitz, A. Ryder, and J. Hocking, "Overcoming language barriers in healthcare: A protocol for investigating safe and effective communication when patients or clinicians use a second language," *BMC Health Services Research*, vol. 15, Sep. 2015, doi: 10.1186/s12913-015-1024-8.
- [3] A. Kwame, "Achieving Universal Healthcare Coverage in a Multilingual Care Setting: Linguistic Diversity and Language Use Barriers as Social Determinants of Care in Ghana," *Qualitative Health Research*, vol. 35, pp. 1219–1230, Nov. 2024, doi: 10.1177/10497323241298886.
- [4] A. B. Olani, A. Olani, T. B. Muleta, D. H. Rikitu, and K. G. Disassa, "Impacts of language barriers on healthcare access and quality among Afaan Oromoo-speaking patients in Addis Ababa, Ethiopia," *BMC Health Services Research*, vol. 23, Jan. 2023, doi: 10.1186/s12913-023-09036-z.
- [5] H. S. A. Shamsi, A. Almutairi, S. S. A. Mashrafi, and T. S. A. Kalbani, "Implications of Language Barriers for Healthcare: A Systematic Review," *Oman Medical Journal*, vol. 35, Mar. 2020, doi: 10.5001/omj.2020.40.
- [6] A. Taylor and P. Kazembe, "Assessing language barriers in health facilities in Malawi," *BMC Health Services Research*, vol. 24, Nov. 2024, doi: 10.1186/s12913-024-11901-4.
- [7] A. Squires, L. Gerchow, Chenjuan, E. Liang, M. Trachtenberg, and S. Miner, "A multi-language qualitative study of limited English proficiency patient experiences in the United States," *PEC Innovation*, vol. 2, Jun. 2023, doi: 10.1016/j.pecinn.2023.100177.
- [8] W. Kusumastuti, E. Yunila, and S. P. Arso, "Legal Review of Informed Consent: Role and Implementation Challenges in Improving Hospital Health Services in Indonesia," *BIO Web of Conferences*, Jan. 2025, doi: 10.1051/bioconf/202519300027.
- [9] H. Sofyana, K. Ibrahim, I. Afriandi, and E. Herawati, "The implementation of disaster preparedness training integration model based on Public Health Nursing (ILATGANA-PHN) to increase community capacity in natural disaster-prone areas," *BMC Nursing*, vol. 23, Feb. 2024, doi: 10.1186/s12912-024-01755-w.
- [10] A. P. Kristiawan, "KEDUDUKAN HUKUM INFORMED CONSENT DALAM PEMENUHAN HAK PASIEN DI RUMAH SAKIT," vol. 19, pp. 1–15, Apr. 2021, doi: 10.36356/hdm.v19i1.2161.
- [11] A. Sosiawan, V. R. Sushanty, D. Wahjuningrum, and F. Setiawan, "A case study of informed consent in Indonesian Law Number 29, 2004," *Dental Journal (Majalah Kedokteran Gigi)*, Jan. 2023, doi: 10.20473/j.djmk.v56.i1.p1-6.

- [12] C. Wahyuni, B. Laskarwati, and N. M. A. Qulub, "Informed Consent in Health Services: How are the Patients' Rights Protected?," *Journal of Law and Legal Reform*, vol. 1, pp. 591–604, Jul. 2020, doi: 10.15294/jllr.v1i4.39891.
- [13] B. Schouten *et al.*, "Mitigating language and cultural barriers in healthcare communication: Toward a holistic approach.," *Patient education and counseling*, May 2020, doi: 10.1016/j.pec.2020.05.001.
- [14] S. Rao, "Linguistic dimensions of the crimmigration regime: Language ideological working conditions in US Immigration Court," *PoLAR: Political and Legal Anthropology Review*, Jul. 2024, doi: 10.1111/plar.12574.
- [15] K. Belarbi and L. Belaid, "Multilingual Practices in the Linguistic Landscape: Insights into Linguistic Repertoires and Language Policy," *International Journal of Multilingual Education*, May 2025, doi: 10.22333/ijme.2025.9075.
- [16] M. Wang and J. Zhou, "Multilingual Healthcare Landscapes at a China's Border Hospital," *Asian Social Science*, May 2025, doi: 10.5539/ass.v21n3p39.
- [17] S. Twilt, K. Neijenhuis, J. T. Thije, and R. De Graaff, "Multilingual communication in Speech Language Therapy," *Dutch Journal of Applied Linguistics*, Sep. 2023, doi: 10.51751/dujal15520.
- [18] A. Cox and K. Maryns, "Multilingual consultations in urgent medical care," *The Translator*, vol. 27, pp. 75–93, Jan. 2021, doi: 10.1080/13556509.2020.1857501.
- [19] R. Delli, J. Kaur, S. M. P. Lai, and F. Dumanig, "Self-Repair Practices in Pharmacist-Patient Interaction and their Role in Preventing Misunderstanding and Maintaining Medication Safety," *Respectus Philologicus*, Apr. 2022, doi: 10.15388/respectus.2022.41.46.107.
- [20] B. Maseko and P. Matunge, "Language Ideologies and Language Practices in Health Services: Patients'Experiences in Post-Colonial Zimbabwe," *Alternation Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa*, Dec. 2020, doi: 10.29086/2519-5476/2020/sp36a14.
- [21] Y. Peled, "Language Barriers and Epistemic Injustice in Healthcare Settings," *NursingRN eJournal*, Jul. 2018, doi: 10.1111/bioe.12435.
- [22] A. Kreienbrinck, S. Hanft-Robert, and M. Mösko, "Usability of technological tools to overcome language barriers in health care: a scoping review protocol," *BMJ Open*, vol. 14, Mar. 2024, doi: 10.1136/bmjopen-2023-079814.
- [23] L. Escobedo, L. Cervantes, and E. Havranek, "Barriers in Healthcare for Latinx Patients with Limited English Proficiency—a Narrative Review," *Journal of General Internal Medicine*, vol. 38, pp. 1264–1271, Jan. 2023, doi: 10.1007/s11606-022-07995-3.
- [24] Y. Wu and R. E. Silver, "To cure sometimes, to relieve often, to publicise always: a case study of linguistic medicine landscapes in a (post)pandemic era," *Language Awareness*, vol. 34, pp. 169–194, Jul. 2024, doi: 10.1080/09658416.2024.2378853.
- [25] I. Valen-Sendstad, "Competing language ideologies of health literacy," *Language, Culture and Society*, Sep. 2024, doi: 10.1075/lcs.23003.val.
- [26] X. Li and Q. Shen, "Spatial Justice in Health Communication: Exploring Affective Responses to the Linguistic Landscape in a Shanghai International Hospital," *International Journal of Applied Linguistics*, Dec. 2024, doi: 10.1111/ijal.12671.
- [27] L. Chan, P. McGarey, and J. A. Sclafani, "Using Large Data Sets for Population-Based Health Research," in *Principles and Practice of Clinical Research*, 2018, pp. 293–302. doi: 10.1016/B978-0-12-849905-4.00020-4.
- [28] S. Chen, "A 'code-switching' model for healthcare communication," *Healthcare Management Forum*, vol. 38, pp. 391–394, Mar. 2025, doi: 10.1177/08404704251327095.
- [29] N. Wood, "Departing from Doctor-Speak: a Perspective on Code-Switching in the Medical Setting," *Journal of General Internal Medicine*, vol. 34, pp. 464–466, Dec. 2018, doi: 10.1007/s11606-018-4768-0.

BIOGRAPHY OF AUTHOR



Maratusholikhah Nurtyas    is affiliated with Universitas Respati Yogyakarta, Indonesia. Her academic studies concern on language, education, or health-related communication fields. Her research include sociolinguistics, multilingualism in healthcare, patient-provider interaction, communication barriers, and inclusive health services. Her work explores how linguistic diversity influences access, understanding, and quality of care in Indonesian clinical settings. She can be contacted at email: maratusholikhah@respati.ac.id