



Hospital practices for determining patient language proficiency: A systematic review

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Abstract

Language barriers can constitute a formidable hurdle to receiving adequate healthcare. Linguistically accessible healthcare is a crucial part of optimising health outcomes for hospitalised patients, and linguistic minority patients often face worse health outcomes than their majority peers. Against this background, this study asks how current literature reports that hospital staff determine a linguistic minority patient's language proficiency and identify the need for a multilingual communication strategy between the patient and their healthcare providers. This is done through a systematic literature review of 50 studies published between 2018 and 2023. Findings show that language proficiency determinations are widely overlooked and treated as if they were self-evident. Language proficiency determinations thus become an invisible process that is not clearly anchored in any recognized workflow. Where responsibility for determining a patient's proficiency in the institutional language and their need for a multilingual communication strategy is identified, it rests with hospital admission and triage staff. However, there is no reported widely accepted procedure or protocol that would guide admission staff members on how to perform this task in a way that will provide ongoing language support to patients for the entirety of their hospital stay. We conclude that the development of language determination policies and procedures is an urgent task to improve healthcare provision for linguistic minority patients.

Keywords: Limited English proficiency (LEP), culturally and linguistically diverse (CALD), hospital, health, healthcare, language barrier, interpreting, determination

Introduction

According to the 2022 World Migration Report, it is estimated that there were around 281 million transnational migrants across the world in 2020, making up 3.6% of the global population (International Organization for Migration, 2022). Transnational migration often brings into contact speakers of different languages when people move to a country where their primary language is not spoken widely. Such linguistic mismatches are particularly consequential when they create barriers to accessing institutional services (Piller, 2016). Language barriers can be particularly damaging when it comes to seeking and receiving healthcare (Terui, 2017), and language barriers between patients and hospital staff have been found to negatively affect health outcomes (Krampe et al., 2022). For example, compared to linguistic majority patients, hospitalised linguistic minority patients are at increased risk of paediatric emergency room revisits (Portillo et al., 2021), sepsis mortality (Jacobs et al., 2020), longer length of stay (Manuel et al., 2022), post-discharge difficulties (Malevanchik et al., 2021), lack of safe-discharge instructions (Choe et al., 2021), lessened likelihood of receiving comfort measures in the intensive care unit (ICU) (Barwise et al., 2018), unnecessary diagnostic testing (Schulson et al., 2018), receiving opioids (Dixit et al., 2020), and increased COVID-19 mortality (Quick, 2024).

To understand how hospitals approach communications with linguistic minority patients, we undertook a systematic review of the current literature and asked the following question; How does current literature report that hospitals determine a patient's language proficiency with the goal of determining their need for a language support service and then arrange for an interpreter? In the following, we will first note the methodology used for conducting this review. We will then show the quantitative results of our study, namely that 46% of the included studies did not make explicit statements about how language proficiency was determined. Those that did overwhelmingly pointed to hospital admission and triage staff, rather than doctors and nurses, as being responsible for determining language proficiency and booking a language support service such as an interpreter. We will then present a qualitative discussion about these results with implications for future research.

Background

In countries with laws, policies, and/or guidelines that mandate equal linguistic rights for all people, hospital staff are expected to provide medical care to patients that are not proficient in the institution's dominant language in a way that prioritises language-inclusive communication (Australian Commission on Safety and Quality in Health Care, 2020; Diamond et al., 2009; Martinez et al., 2021).

However, it remains unclear how staff are expected to know whether a patient has the required level of language proficiency or not. This is not a trivial problem as language proficiency is not an either-or proposition. While language proficiency is often imagined as static and clearcut—for example, one speaks English, or one does not (Pavlenko, 2024)—it is actually difficult to know whether a person has the level of proficiency needed to engage in a particular interaction (Bodis, 2021; Butorac, 2014). How then do healthcare providers and hospital staff determine the language proficiency of a patient? In other words, how exactly do hospitals determine that a patient needs a multilingual communication strategy and then act on that determination?

Healthcare providers have, of course, guidelines to draw on. For example, in 2000 in the USA, President Bill Clinton signed Executive Order 13166 which, in part, first popularised the term “limited English proficiency” (LEP), a term that is still widely used in the USA today (Ortega et al., 2021). In 2002, The Interagency Working Group on Limited English Proficiency, a division of the United States Department of Justice, officially defined “limited English proficiency”

as “individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English” (The Interagency Working Group on LEP, 2002, p. 1). While this seems clear enough on paper, in practice it can be quite unclear what “limited ability” means (Malevanchik et al., 2021).

While the USA uses “LEP” to describe patients with language support needs, Australia often uses the term “CALD”, or “culturally and linguistically diverse” (Australian Institute of Health and Welfare, 2018). This term covers not only a person’s cultural behaviours, beliefs and values, but also their preferred language of communication, and it has been recognized that CALD communities often require “particular focus in public communication and in health communication specifically” (Macnamara & Camit, 2017, p. 95). While this phrasing may seem to be operating from less of a language deficit model than the term LEP, the term encompasses a wide range of linguistic proficiencies (Piller, 2014), and it is not used consistently (Pham et al., 2021). In the realm of healthcare specifically, various departments have attempted to explain how to identify those who need language support. A policy directive of the Australian New South Wales (NSW) government states that anyone who is “not fluent in English” must be granted access to interpreter services when engaging with public sector agencies (including hospitals) and defines “not fluent in English” as having “hesitation or difficulty in understanding and communicating in English” (NSW Health, 2017, p. 4). However, “hesitation” or “difficulty” are not further defined, and it is obvious that “hesitation or difficulty in understanding and communicating” may manifest in a wide range of forms and be indicative of a wide range of issues, including, but not limited to, language proficiency. The Australian Charter of Healthcare Rights recommends that linguistic minority patients request an interpreter if they have “difficulty speaking or understanding English” (Australian Commission on Safety and Quality in Health Care, 2020, p. 20), but again the vagueness of “difficulty” persists. The Charter does not give instructions on how to tell if a person is having “difficulty speaking or understanding English”.

The Australian Centre for Culture, Ethnicity and Health provides more in-depth guidance on how an interpreter may be needed when a person “requests it; speaks English as a second language and is in a stressful, complex or unfamiliar situation; is difficult to understand; responds only in a limited way; relies on family or friends to interpret; wishes to communicate in his or her preferred language; or cannot grasp or respond to questions in English” (2014, p. 1). While this definition covers most situations in which an interpreter might be needed, it is not clear how staff would use this guidance to make a language needs determination, particularly as having English as a second language does not necessarily mean that an interpreter is needed, and attending hospital as a patient may constitute a “stressful, complex or unfamiliar situation” for anyone.

While these definitions can be useful, they do not explicitly instruct hospital staff how to identify a patient who is in need of language support. This lack of clarity on how to turn language policy into day-to-day working practice may severely undermine the quality of language services actually available to a patient because the very first step in receiving language support may be flawed. It may mean that linguistic minority patients who need language support may go unrecognised in a protocol-based environment like a hospital. To discover how patients’ language proficiency is determined in hospitals and how the mandated policies of providing language-inclusive healthcare are translated into practice, we conducted a systematic literature review.

Materials and Methods

This study is part of a broader systematic literature review (SLR) of studies published from 2018 to 2023 that examined how hospitals manage linguistic diversity among patients and staff

on a day-to-day basis. This approach was chosen because the data gathered through an SLR can provide a baseline from which to identify gaps in the literature and conduct future research to narrow those gaps (Mulrow, 1994). In addition, an SLR allows a researcher to view data within a restricted time period, and this aspect was important as this study aims to examine hospitals’ contemporary practices. This was accomplished by restricting the searched studies to only those that have been published during the time period of 2018–2023. We aimed to examine how recent literature reports on hospital language support services and identifies emerging practices during this period due to factors such as the COVID-19 pandemic, advances in technology, and changes in staffing.

Databases, Search Terms, and Search Criteria

As summarised in Table 1, we carried out an SLR using two databases according to PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) guidelines. Data was collected for a total of four research questions as part of a larger study, but this paper specifically

Table 1. *Databases, search terms, search inclusion criteria, and search exclusion criteria used when searching the literature*

Databases	Search terms	Inclusion criteria	Exclusion criteria
PubMed	“limited English proficiency hospital” “linguistically diverse hospital”	Study examines at least ONE (1) of the research questions ¹	Study does not examine at least ONE (1) of the research questions ¹
		Study is in English	Study is, itself, a systematic review or meta-analysis Study is not peer-reviewed
Google Scholar	“limited English proficiency hospital” “language barrier, healthcare access” ²	Study is peer-reviewed	Study is not available as a full text for open access or through University Library
		Study has been completed and was published between 2018 and 2023	Study is not available in English
			Study is ongoing
			Study is a part of a student’s thesis Study does not take place in a hospital Study only describes training received by hospital staff

¹ The other research questions (not covered here) were: What types of language barriers exist between patients and staff in hospitals? What current tools/strategies do hospitals use to overcome these barriers and provide inclusive communication? What are the advantages and disadvantages to using these tools?
² Slightly differing search terms were employed for the two databases in order to capture as many eligible studies as possible in the initial round of screening.

addresses the following research question: How do hospital staff determine a patient’s language proficiency and need for a multilingual communication strategy? This was the question that guided the creation of the inclusion and exclusion criteria used for this review.

Paper Screening

Figure 1 shows our paper screening process. A total of 542 references were found in the initial database searches. After screening, 50 studies remained for inclusion in the systematic review. A full list of the selected studies, including their countries of origin and relevant search terms, can be found in the Appendix.

Data Extraction and Coding

Data for each study was extracted and compiled using Covidence, an online systematic review management program. The responses to our research question did not require coding but rather quantitative reporting.

The selection and screening process involved a number of steps to decide on the studies that would be included in this systematic literature review. As seen in the PRISMA flow chart in Figure 1, the keyword searches yielded a total of 542 studies. Of these studies, 182 were excluded based on their titles alone (usually because the titles were describing studies that only looked at medical contexts and had nothing to do with language or multilingual communication). The remaining 360 studies were imported into Covidence, an online screening and

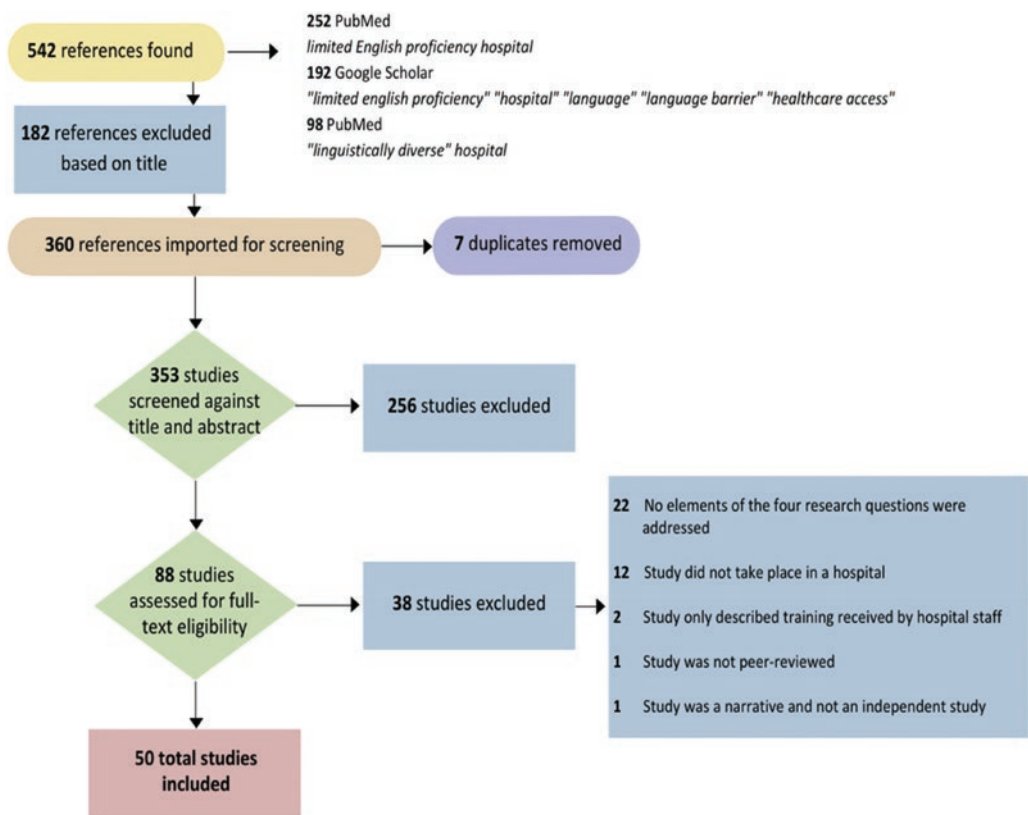


Figure 1. PRISMA flow chart showing the paper screening process

data extraction platform used by researchers who are conducting systematic literature reviews, which automatically removed seven duplicates. Two hundred and fifty-six studies were then excluded based on a lack of eligibility criteria (or an addition of exclusion criteria) found in these studies' abstracts, and the 88 remaining studies were assessed for full-text eligibility. Of those, 38 studies were excluded because no element of the four research questions were addressed ($n = 22$), the study did not take place in a hospital ($n = 12$), the study was not peer-reviewed ($n = 1$), or the study was a narrative and not an independent study ($n = 1$). This left 50 total studies for inclusion in the systematic review.

A full list of these 50 studies, including year of publication and country of origin, can be seen in the Appendix. The majority of included studies were conducted in the USA (30) followed by Australia (10). Along with two studies from Canada and one from England, the overwhelming majority of included studies are thus based in English-dominant contexts. The remaining seven studies come from Norway (2), Switzerland (2), and one each from Austria, Ethiopia, India, and South Africa (the total of this list is 51 because one study was comparative and included Austria and Norway).

Results

In this section, we begin with an overview of the quantitative results before discussing what these results mean in terms of the language determination practices that occur in hospitals on a daily basis.

Of the included studies, 46% ($n = 23/50$) did not state how hospital staff determine a patient's language proficiency, as seen in Figure 2. Of the studies that did note that some kind of a determination took place, 59% ($n = 16/27$) explicitly noted that this happened upon hospital admission or triage. 22% ($n = 6/27$) of the studies with some form of language determination noted that the patient's language preference was listed in the electronic medical health record, but no details were given as to who entered that information. 19% ($n = 5/27$) mentioned that a health-care provider most likely identified or was expected to identify a patient's need for language services.

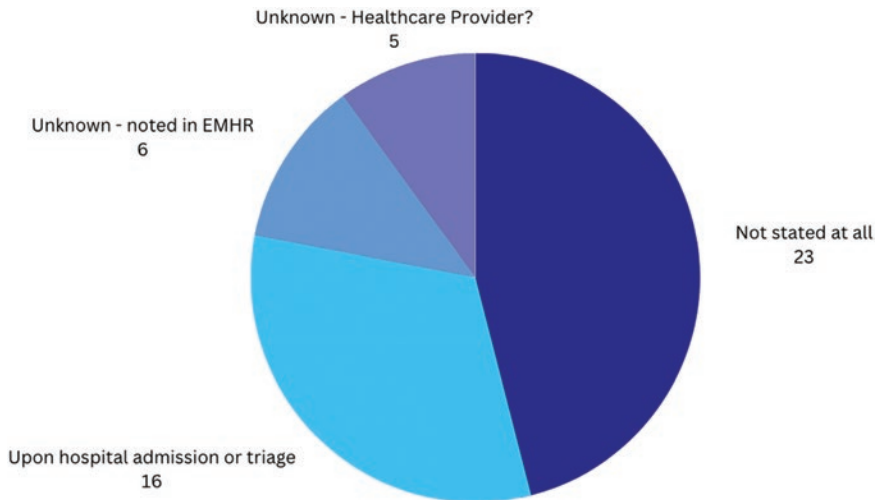


Figure 2. How patient language proficiency determination is reported in the literature

Discussion

The Black Box of Language Determination

One of the most notable findings of this SLR was that almost half of the examined studies did not comment at all on how a patient's language proficiency is determined and how the need for a multilingual communication strategy is determined. This may mean that these language determination practices may seem obvious to researchers and practitioners or that they are under-studied, under-reported, and non-standardized. Either way, they render everyday processes of language determination a black box and hence a weak point in multilingual service provision for patients with low levels of English (or other dominant language) proficiency.

This finding echoes earlier research such as Karliner et al.'s (2007) systematic literature review, which found no consistent data on how hospital staff detect and report a patient's need for language services. Karliner et al.'s research is based in the U.S. context and sought to understand how the need for a professional medical interpreter was determined. Our similar findings 15 years later with more recent studies demonstrate that this is an area that continues to need more attention, as confirmed by Karliner in interview (Quick, 2025).

Frontline Staff Making Language Determinations

If a study in this SLR noted that there had been some kind of determination of a patient's language proficiency, this notation fell within one of three categories: a hospital receptionist made the observation, a healthcare provider potentially made the observation (though this was not always explicitly stated), or the notation appeared in the patient's electronic medical health record without stating who entered it. Six studies in this SLR noted that there was a language preference in the electronic medical health record (EMHR), but it was unclear who was responsible for entering that information, as seen in these examples:

All but one respondent reported that their hospital has a mechanism to ensure that information about a patient's preferred language is available to hospital staff throughout the continuum of care (e.g. a flag in the electronic medical record). (Davis et al., 2019, p. 4)

Patients in the study cohort were defined as having LEP if they met both of the following criteria: (1) self-reported "preferred language" other than English and (2) having the "interpreter needed" variable (in the EMHR) indicating "yes". (Jacobs et al., 2020, p. 142)

Bilingual-bicultural research assistants identified eligible patients daily by reviewing the floor census lists and preferred language in the medical record. (Lee et al., 2018, p. 26)

Patients were identified as having English or Spanish language preference based on their response to the question "What is your preferred language to receive healthcare information?" in the medical record. (Molina, 2022, p. 2)

Language in this study is defined as the preferred language listed in the patient's electronic health record. (Payvandi et al., 2022, p. 2)

While a notation about a patient's language needs in the EMHR may seem like a solution to identifying patients that need a language service, the fact that a determination has been made and the notation *exists* does not always mean that a designated staff member then follows up on *booking* a language service. As can be seen in the following example, despite a patient's EMHR containing consent forms in Spanish, the admitting nurse from this study had to do their own investigating to find out if a patient needed a language service:

As soon as I bring them back one of the first things I look at is how did they sign their consents like for treatment not consents for the procedure but consents for treatment in the hospital. They're in Spanish, that's a clue right there that their (sic) Spanish speaking.
(Villanueva, 2022, p. 6)

What is noticeably absent from this example is an interpreter. If the patient's EMHR was updated to reflect a need for Spanish language services, why did the nurse not see an interpreter with the patient upon bringing them "back"? Presumably, the function of a language needs notation being made in the EMHR is to ensure that the patient has access to language services from the beginning and for the duration of their hospital stay. However, as can be seen from the above example, even with some kind of record in the EMHR, successfully determining a patient's language need does not always translate into ensuring that the patient then gains access to the needed language service. Of course, it needs to be acknowledged that such findings reflect patterns reported in the reviewed literature rather than direct observation of clinical practice. The practice that healthcare providers themselves potentially needed to identify a patient's language needs repeatedly and at each new point of contact appeared in five of this SLR's studies (Feiring & Westdahl, 2020; Hwang et al., 2022; Plocienniczak, 2022; White et al., 2018; Wurth et al., 2018). As can be seen from the following examples, there was often no clear protocol that the providers followed in order to a) actually determine a patient's language proficiency and b) book a language service:

There was consensus that the need for an interpreter was determined by staff perceptions of needs rather than patient expressed needs. In many instances patients were transferred to the ward outside of business hours and admitting clinicians undertook admission and orientation of the patient to the ward without use of a common language or interpreter.
(White et al., 2018, p. 7)

Requests for interpretation are made by patients or at a provider's discretion if any communication difficulties arise, and this is documented in the patients' charts.
(Plocienniczak, 2022, p. 1242)

Physicians' approaches to assessing their patients' LP (language preference) and comprehension included patients' facial expression and body language, adequacy of their responses, presumptions about patients' intellectual capacity, and their individual demeanor.
(Wurth et al., 2018, p. 1887)

The majority of studies in this SLR that *did* note that a patient's need for language services had been identified stated that it was the responsibility of hospital admission or triage staff to notice and report this language need. However, these studies usually did not note *how* a language service was called for and booked if a receptionist recognised that a patient had a need for one:

LEP patients identified at hospital admission as needing an interpreter.
(Blay et al., 2019, p. 820)

When initially registering at the hospital, patients are asked their preferred language, and this is recorded in the medical record and used to determine if a patient requires an interpreter for their care.
(Schulson et al., 2018, p. 2114)

Registration workers asked each patient their preferred language and whether they would like an interpreter.... The exact question asked by the registration worker was 'What is your preferred language?'. If the response was anything other than English, the follow up question was 'Would you like an interpreter during your visit today?'.
(Taira & Orue, 2019, pp. 1-2)

Language barriers were defined as a primary language other than English as recorded in our health network administration database. These data were collected and documented by a hospital clerk at the time of admission.
(Rezania, 2021, p. 2)

When a patient is registered in the ED, the following question is asked to screen for LEP: 'What is your preferred language for care?' The answer to this screening question is recorded in the patient electronic medical record at each encounter. Registration can occur any time during an ED visit, but usually occurs near the beginning of the visit.
(Hartford et al., 2019, p. 3)

These excerpts suggest that reception staff members may often be the people who are expected to determine a patient's language proficiency, but they may not have a clear, supportive protocol that would enable them to reliably detect and report patients' language needs. Across the studies synthesised here, the most commonly reported way that a receptionist determines language proficiency is by asking them, in the majority language, what their preferred language of care is. However, this does not take into account the fact that a patient might not understand that question in the majority language at all and might not be able to respond to it in a way that the receptionist will understand. Furthermore, even if a preferred language other than English is entered into the record, this is not always taken as indicating the need for an interpreter and there seems considerable leeway whether a record of preferred language other than English triggers any language support processes. There is no documentation of what occurs *after* the language question is asked of a patient. Beyond recording the patient's response in the EMHR, does the receptionist then call an interpreting service to arrange an interpreter immediately? Does the notation in the EMHR only act as a notification to the healthcare providers who will

then be expected to make their own language proficiency determination and call for an interpreter themselves once the patient is ready to be seen? What are the actual operational steps that are taken to secure an interpreter once the EMHR has been updated? These questions were not answered by any of the studies in the SLR.

Furthermore, asking a patient if they need an interpreter does not guarantee that the patient will respond by stating the language that they need. Two studies in this SLR noted that sometimes a patient believed their level of majority language proficiency to be sufficient for a medical encounter, only to discover later that the patient could not understand everything that was being communicated without the support of a language service (Buser et al., 2022; Wurth et al., 2018). The linguistic minority patients in these studies were at risk of not receiving the language support they needed because the person determining their language proficiency did not accurately gauge their level of comprehension.

There is one exception to this pattern (Buser et al., 2022) which does mention a protocol called the “ABC Tool”, originally developed in the Western Sydney Local Health District in Australia, that was made to assist receptionists in gauging and determining a patient’s language proficiency. This tool is a flowchart that can be used by admission staff (and, presumably, other hospital staff if necessary) and provides a 3-step process to determining language needs as well as booking and confirming a language.

The authors discuss adapting this tool for a Swiss hospital, and it is certainly a protocol that could be easily adapted to specific hospitals. The fact that it is not used or referenced in any of the other studies shows its limited reach, though.

Furthermore, the ABC Tool still lacks specific information that would allow a language service need to be identified and met consistently across the duration of the patient’s hospital stay. Steps 1–3 under “Assess” instruct the admitting staff member to ask a patient a series of questions to gauge their level of language proficiency. However, as has already been established by several studies in this SLR, patients may have enough majority language proficiency to “get by” in answering basic questions, but they are then often unable to understand more complex medical information without an interpreter (Cheng et al., 2021; Hartford et al., 2019; White et al., 2018). A patient may not know the name of their language in the hospital’s majority language and therefore may not be able to provide the necessary information for Step 1 of “Book”. In Step 2 of that same category, the admission staff member is directed to either ask the patient (or make the judgement call themselves) if on-site, video, or phone interpreting is needed. It is unclear how the patient would know which method is most appropriate, and this tool does not specifically tell the admission staff member when each different type of interpreting service should be utilised and requested. Step 3 “Confirm” states that Health Care Interpreter Services will confirm the booking with the admission staff member, but it does not specify if it is this staff member’s responsibility to provide continuous follow-up requests for multiple interpreting events once the patient has been admitted to a ward. In addition, this tool is only for the first point of contact and does not specify who oversees arranging for translated discharge papers or post-discharge phone call check-ins for the patient at the end of their hospital stay. While the tool is not necessarily problematic in and of itself, it is unknown how it could be applied throughout the duration of the patient’s hospital stay.

The fact that this was the only study in this SLR to include a specific language proficiency determination protocol (beyond asking a patient to state their preferred language for care) is indicative of the need for greater understanding of how this crucial language determination step actually plays out in hospitals. Without accurate and consistent language needs determinations, patients are at risk for not receiving the language support they need and potentially suffering negative health effects for it.

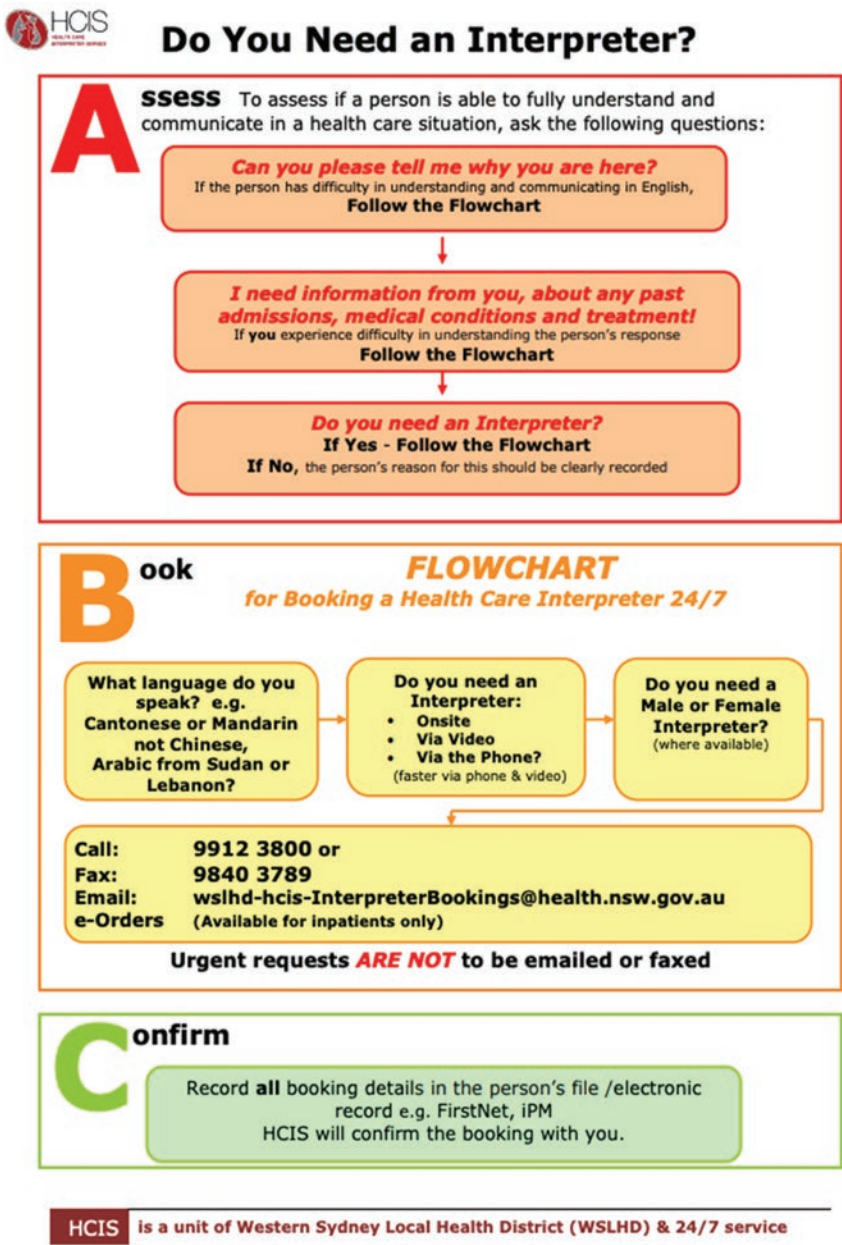


Figure 3. ABC tool – Western Sydney local health district

Conclusion

Before we begin to set out our conclusions, we start by explicitly acknowledging that our methodology of a systematic literature review necessarily relies on secondary reporting. This means that our findings are derived from a synthesis of published literature. Our findings show what is reported by other researchers about hospitals' communication practices. Our key finding then is that the literature does not consistently report who within hospitals is responsible for determining patients' language proficiency and suggests a clear need for a communication

strategy. Of the studies that do report this, admission and triage staff are most often cited as being responsible for this task, as also confirmed by recent empirical research by the authors of this paper (Quick et al., 2025). However, there is no widely accepted protocol or procedure that instructs admission staff members on how to perform this task in a way that will provide ongoing language support to patients for the entirety of their hospital stay. While most hospitals are expected to abide by laws or guidelines that mandate language services for linguistic minority patients, there is no standardized way of transforming this language policy into actual language practice and integrating that practice into a reception/admission team's workflow. Therefore, we suggest the need for targeted, empirical investigations of language determination practices across healthcare settings. Future research pathways include examining the processes and protocols by which hospital admission and triage staff determine a patient's language proficiency. Further studies can also examine how this determination process leads to the booking of a language service for the duration of the patient's hospital stay. We conclude that the development of robust language determination policies and procedures that can be easily integrated into a hospital admission team's workflow is an urgent task to improve healthcare provision for linguistic minority patients.

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Appendix
Included SLR Studies

Authors	Title	Year published	Keywords searched	Country
Ali, P.A. & Watson, R.	Language barriers and their impact on provision of care to patients with limited English proficiency: Nurses' perspectives	2018	"limited English proficiency hospital"	England
Alkhaled, T., Rhode, G., Lie, B. & Johannessen, B.	Navigating the care between two distinct cultures: A qualitative study of the experiences of Arabic-speaking immigrants in Norwegian hospitals	2022	"limited english proficiency" "hospital" "language" "language barrier" "healthcare access"	Norway
Barreto, E.A., Guzikowski, S., Michael, C., Carter, J., Betancourt, J.R., Tull, A., Tan-McGrory, A. & Donelan, K.	The role of race, ethnicity, and language in care transitions	2021	"limited English proficiency hospital"	USA
Blay, N., Ioannou, S., Seremetkoska, M., Morris, J., Holters, G., Thomas, V. & Bronwyn, E.	Healthcare interpreter utilisation: analysis of health administrative data	2018	"limited English proficiency hospital"	Australia
Blay, N., Seremetkoska, M., Morris, J., Holters, G., Ioannou, S., Thomas, V. & Everett, B.	Interpreter provision and hospital-associated outcomes within the limited English proficiency population: Analysis of administrative data	2019	"limited English proficiency hospital"	Australia
Buser, S., Gessler, N., Gmuender, M., Feuz, U. Jachman, A., Fayyaz, J., Keitel, K. & Brandenberger, J.	The use of intercultural interpreter services at a pediatric emergency department in Switzerland	2022	"limited English proficiency hospital"	Switzerland

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Authors	Title	Year published	Keywords searched	Country
Cheng, J., Wang, C., Jhaveri, V., Morrow, E., Li, S. & Rosenthal, J.	Healthcare provider practices and perceptions during family-centered rounds with limited English-proficient families	2021	“limited English proficiency hospital”	USA
Choe, A., Unaka, N., Schondelmeyer, A., Bignall, W., Vilvens, H. & Thomson, J.	Inpatient communication barriers and drivers when caring for limited English	2019	“limited English proficiency hospital”	USA
Chonde, D.B., Pourvaziri, A., Williams, J., McGowan, J., Moskos, M., Alvarez, C., Narayan, A.K., Daye, D., Flores, E.J. & Succi, M.D.	RadTranslate: An artificial intelligence–powered intervention for urgent imaging to enhance care equity for patients with limited English proficiency during the COVID-19 pandemic	2021	“limited English proficiency hospital”	USA
Davis, S., Rosenberg, J., Nguyen, J., Jimenez, M., Lion, K.C., Jenicek, G., Dallman, H. & Yun, K.	Translating discharge instructions for limited English-proficient families: Strategies and barriers	2020	“limited English proficiency hospital”	USA
Douglass, K., Narayan, L., Allen, R., Pandya, J. & Talib, Z	Language diversity and challenges to communication in Indian emergency departments	2021	“limited English proficiency hospital” “language” “language barrier” “healthcare access”	India
Feiring, E. & Westdahl, S.	Factors influencing the use of video interpretation compared to in-person interpretation in hospitals: A qualitative study	2020	“limited English proficiency hospital”	Austria & Norway

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Authors	Title	Year published	Keywords searched	Country	
Freyne, J., Bradford, D., Pocock, C., Silvera-Tawil, D., Harrap, K., & Brinkmann, S.	Developing digital facilitation of assessments in the absence of an interpreter: Participatory design and feasibility evaluation with allied health groups	2018	“linguistically diverse hospital”	Australia	
Garcia, M.E., Mutha, S., Napoles, A.M., Malevanchik, L., Williams, M., & Karliner, L.S.	“Long overdue”: Nurse and resident physician perspectives on implementation of dual-handset interpreter phones in the inpatient setting	2022	“limited English proficiency hospital”	USA	
Gutman, C.K., Cousins, L., Gritton, J., Klein, E.J., Brown, J.C., Scannell, J. & Lion, K.C.	Professional interpreter use and discharge communication in the pediatric emergency department	2018	“limited English proficiency hospital”	USA	
Hagan, S., Hunt, X., Kilian, S., Chiliza, B. & Swartz, L.	Ad hoc interpreters in South African psychiatric services: Service provider perspectives.	2020	“limited English proficiency hospital”	South Africa	
Hartford, E.A., Anderson, A.P., Klein, E.J., Caglar, D., Carlin, K. & Lion, K.C.	The use and impact of professional interpretation in a pediatric emergency department	2019	“limited English proficiency hospital”	USA	
Herzberg, E., Barrero-Castillero, A. & Matute, J.	The healing power of language: caring for patients with limited English proficiency and COVID-19	2021	“limited English proficiency hospital”	USA	
Hwang, K., Williams, S., Zucchi, E., Chong, T.W.H., Mascitti-Meuter, M. & LoGiudice, D., Goh A.M.Y., Panayiotou, A., Batchelor, F.	Testing the use of translation apps to overcome everyday healthcare communication in Australian aged-care hospital wards - An exploratory study	2022	“limited English proficiency hospital”	Australia	
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Authors	Title	Year published	Keywords searched	Country
Jacobs, Z., Prasad, P., Fang, M., Abe-Jones, Y. & Kangelaris, K.	The association between limited English proficiency and sepsis mortality	2019	“limited English proficiency hospital”	USA
Kamara, D., Weil, J., Youngblom, J., Guerra, C. & Joseph, G.	Cancer counseling of low-income limited English proficient Latina women using medical interpreters: Implications for shared decision-making	2018	“limited English proficiency hospital”	USA
Kucirek, N., Thomas, N., Normal, J., Athavale, P., Jaradeh, K., Hsiang, E. & Malevanchik, L.	Stories from COVID-19 reveal hospitalized patients with limited English proficiency have always been uniquely prone to social isolation	2021	“limited English proficiency hospital”	USA
Kwok, M.M.K., Chan, R.K., Hansen, C., Thibault, K., Wong, H.Y.	Access to Translator (AT&T) project: Interpreter on Wheels during the COVID-19 pandemic	2021	“limited English proficiency hospital”	Canada
Lara-Otero, K., Weil, J., Guerra, C., Cheng, J.K.Y., Youngblom, J. & Joseph, G.	Genetic counselor and health interpreter perspectives on the role of interpreters in cancer genetic counseling	2018	“limited English proficiency hospital”	USA
Lee, J.S., Napoles, A., Mutha, S., Perez-Stable, E.J., Gregorich, S., Livaudis-Toman, J., Karliner, L.	Hospital discharge preparedness for patients with limited English proficiency: A mixed methods study of bedside interpreter-phones	2018	“limited English proficiency hospital”	USA
Lion, K.C., Gritton, J., Scannell, J., Brown, J.C., Ebel, B.E., Klein, E.J. & Mangione-Smith, R.	Patterns and predictors of professional interpreter use in the pediatric emergency department	2021	“limited English proficiency hospital”	USA
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Authors	Title	Year published	Keywords searched	Country
Lion, K.C., Kieran, K., Desai, A., Hencz, P., Ebel, B.E., Adem, A., Forbes, S., Kraus, J., Gutman, C. & Horn, I.	Audio-recorded discharge instructions for limited English proficient parents: A pilot study	2019	“limited English proficiency hospital”	USA
Malevanchik, L., Wheeler, M., Gagliardi, K., Karlner, L. & Shah, S.J.	Disparities after discharge: the association of limited English proficiency and postdischarge patient-reported issues	2021	“limited English proficiency hospital”	USA
Molina, R.L., Adams, E., Aguayo, R., Truong, S. & Hacker, M.R.	Disparities in comprehension of the obstetric consent according to language preference among Hispanic/Latinx pregnant patients	2022	“limited English proficiency hospital”	USA
Mulpur, E. & Turner, T.	Reducing barriers to language assistance during a pandemic	2021	“limited English proficiency hospital”	USA
Nápoles, A.M., Santoyo-Olsson, J., Chacón, L., Stewart, A.L., Dixit, N., Ortiz, C.	Feasibility of a mobile phone app and telephone coaching survivorship care planning program among Spanish-speaking breast cancer survivors	2019	“limited English proficiency hospital”	USA
Olani, A.B., Olani, A.B., Muleta, T.B., Rikitu, D.H. & Disassa, K.G.	Impacts of language barriers on healthcare access and quality among Afaan Oromoo-speaking patients in Addis Ababa, Ethiopia	2023	“limited english proficiency” “hospital” “language” “language barrier” “healthcare access”	Ethiopia

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Authors	Title	Year published	Keywords searched	Country	
Panayiotou, A., Gardner, A., Williams, S., Zucchi, E., Mascitti-Meuter, M., Goh, A.M.Y., You, E., Chong, T.W.H., Logiudice, D., Lin, X., Haralambous, B. & Batchelor, F.	Language translation apps in health care settings: Expert opinion	2019	“linguistically diverse hospital”	Australia	
Payvandi, L., Parsons, C., Bourgeois, F. & Hron, J.	Inpatient telehealth experience of patients with limited English proficiency: Cross-sectional survey and semistructured interview study	2022	“limited English proficiency hospital”	USA	
Platter, E., Hamline, M.Y., Tancredi, D.J., Fernandez, Y., Garcia, E. & Rosenthal, J.L.	Completeness of written discharge guidance for English- and Spanish-speaking patient families	2019	“limited English proficiency hospital”	USA	
Plocienniczak, M., Rubin, B.R., Kolli, A., Levi, J. & Tracy, L.	Outcome disparities and resource utilization among limited English proficient patients after tonsillectomy	2022	“limited English proficiency hospital” “language” “language barrier” “healthcare access”	USA	
Portillo, E., Stack, A., Monuteaux, M., Curt, A., Perron, C. & Lee, L.	Association of limited English proficiency and increased pediatric emergency department revisits	2021	“limited English proficiency hospital”	USA	
Rezania, F., Neil, C.J.A. & Wijeratne, T.	Disparities of care and outcome of stroke patients from culturally and linguistically diverse communities in metropolitan Australia.	2021	“linguistically diverse hospital”	Australia	
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Authors	Title	Year published	Keywords searched	Country
Schulson, L., Novack, V., Smulowitz, P., Dechen, T. & Landon, B.	Emergency department care for patients with limited English proficiency: A retrospective cohort study	2018	“limited English proficiency hospital”	USA
Shiner, C.T., Bramah, V., Wu, J., Faux, S.G. & Watanabe, Y.	Health care interpreter use in an inpatient rehabilitation setting: Examining patterns of use and associated clinical outcomes	2022	“limited English proficiency hospital” “language” “language barrier” “healthcare access”	Australia
Silva, M.D, Adelman, R.D., Singh, V., Gupta, R., Moxley, J., Sobota, R.M., Tsai, S., Abel, B.T. & Reid, M.C.	Healthcare provider perspectives regarding use of medical interpreters during end-of-life conversations with limited English proficient patients	2022	“limited English proficiency hospital”	USA
Stirling Cameron, E., Ramos, H., Aston, M., Kuri, M. & Jackson, L.	“COVID affected us all:” The birth and postnatal health experiences of resettled Syrian refugee women during COVID-19 in Canada	2021	“limited English proficiency hospital” “language” “language barrier” “healthcare access”	Canada
Taira, B. & Orue, A.	Language assistance for limited English proficiency patients in a public ED: Determining the unmet need	2019	“limited English proficiency hospital”	USA
Uebergang, E., Best, S., de Silva, M.G. & Finlay, K.	Understanding genomic health information: How to meet the needs of the culturally and linguistically diverse community - A mixed methods study	2021	“linguistically diverse hospital”	Australia

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Authors	Title	Year published	Keywords searched	Country	
Villanueva, L.	Dual-role nurse interpreter perceptions of language barriers and Spanish-speaking patients: A qualitative study	2022	“limited English proficiency hospital”	USA	
White, J., Plompen, T., Osadnik, C., Tao, L., Micallef, E., Haines, T.	The experience of interpreter access and language discordant clinical encounters in Australian health care: A mixed methods exploration	2018	“limited English proficiency hospital”	Australia	
White, J., Plompen, T., Tao, L., Micallef, E. & Haines, T.	What is needed in culturally competent healthcare systems? A qualitative exploration of culturally diverse patients and professional interpreters in an Australian healthcare setting	2019	“limited English proficiency hospital”	Australia	
Wurth, KM., Reiter-Theil, S., Langewitz, W. & Schuster, S.	“Getting by” in a Swiss tertiary hospital: The inconspicuous complexity of decision-making around patients’ limited language proficiency	2018	“limited English proficiency hospital”	Switzerland	
Zamor, R., Byczkowski, T., Zhang, Y., Vaughn, L., Mahabee-Gittens, E.M.	Language barriers and the management of bronchiolitis in a pediatric emergency department	2020	“limited English proficiency hospital”	USA	
Zamor, R.L., Vaughn, L.M., McCann, E., Sanchez, L., Page, E.M. & Mahabee-Gittens, E.M.	Perceptions and experiences of Latinx parents with language barriers in a pediatric emergency department: A qualitative study	2022	“limited English proficiency hospital”	USA	