A Qualitative Study of Electronic Health Record Data Collection Practices: Path to Standardization and Interoperability of the Interpreter Needed Data Element

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Abstract

Background: Poor health outcomes are well documented among patients with limited English proficiency (LEP). The use of interpreters can improve the quality of care for patients with LEP. Despite a growing and unmet need for interpretation services in the U.S. health care system, rates of interpreter use in the care setting are consistently low. Standardized collection and exchange of patient interpretation needs can improve access to appropriate language services.

Objective: This paper examines current practices for collecting, documenting, and exchanging interpreter needed data in the electronic health record (EHR). The paper identifies data collection workflows, use cases for interpreter needed data, challenges to data collection and use, and potential opportunities to advance the standardized collection and use of interpreter needed data to facilitate patient-centered care.

Methods: We conducted a targeted literature scan to identify current data standardization efforts for stakeholders, including EHR developers, health systems, clinicians, a practice-based research organization, a national standards collaborative, a professional health care association, and Federal agency representatives to fill in gaps from the literature review.

Results: The findings indicate that key informants value standardized collection and exchange of patient language service needs and preferences. Key use cases for interpreter needed data identified from the discussions include: 1) person-centered care; 2) transitions of care; and 3) health care administration. The discussions revealed that EHR developers provide a data field for documenting interpreter needed data, and that this data is routinely collected across health care organizations through commonly used data collection workflows. However, this data element is not mapped to standard terminologies, such as Logical Observation Identifiers Names and Codes (LOINC®) or Systematized Medical Nomenclature for Medicine–Clinical Terminology (SNOMED-CT®), consequently limiting the opportunities to electronically share this data between health systems and community-based organizations. Key informants described three potential challenges to using interpreter needed data for person-centered care and quality improvement: 1) lack of adoption of available data standards; 2) limited electronic exchange; and 3) patient mistrust.

Conclusions: Collection, documentation, and use of interpreter needed data can improve the quality of services provided, patients care experiences, and health equity in care delivery without invoking a significant burden on the health care system. Although there is routine collection and documentation of patient interpretation needs, the lack of standardization limits exchange of this information among health care and community-based organizations.

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Key Words: health information exchange; interoperability; electronic health records; interpreter; limited English proficiency; communication

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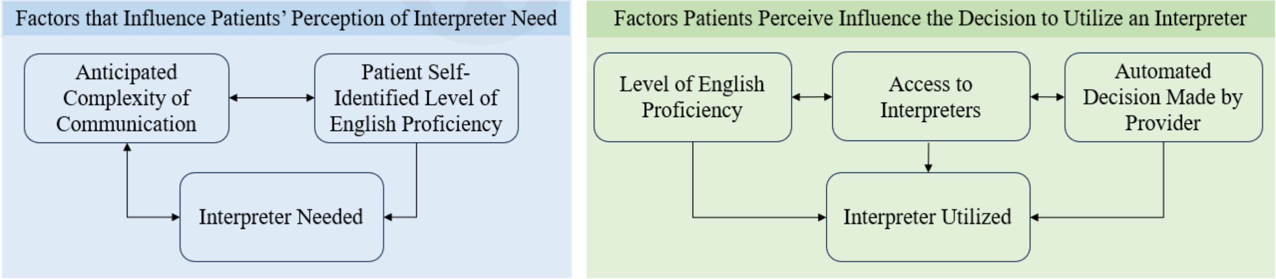
Introduction

Health disparities are a prevalent issue in health care delivery in the U.S. today. Among the contributors to care inequities are language barriers. Language barriers are associated with misdiagnosis and inappropriate treatment by providers [1] contributing to poor health outcomes which are well documented among patients with limited English proficiency (LEP). Compared to English-speaking patients, patients with LEP experience worse health outcomes, such as undiagnosed or uncontrolled hypertension, prolonged hospital stays, and poor asthma control [2]. Among Hispanic communities, which represent the fastest growing non-English language population in the U.S., stroke is a leading cause of death and has been attributed to factors such as language barriers [5]. Studies have also found that patients with language barriers have a reduced likelihood of physician and mental health provider visits and are more likely to have an unplanned emergency department (ED) visit compared to patients who are proficient in English. Furthermore, patients with LEP are at an increased risk for unplanned repeat ED visits within 72 hours of discharge [3, 4].

Interpretation services represent both a growing and unmet need in the U.S. health care system [6]. The National Council on Interpreting in Health Care defines medical interpreters as an individual who “interprets in healthcare settings of any sort, including doctor’s offices, clinics, hospitals, home health visits, mental health clinics, and public health presentations” [7]. In 2021, the Migration Policy Institute estimated that approximately 26 million individuals in the U.S. reported LEP [8, 9]. The use of interpreters has been found to help address the needs that patients with language barriers (i.e., LEP) or other communication needs (e.g., people who are deaf or hard of hearing) encounter. Interpreter use also improves the quality of care for patients with LEP, with patients reporting overall high satisfaction of care and communication with their care team [10]. However, despite the benefits, rates of interpreter use are consistently low, and additional research is needed to better understand how patients assess the need for and utilize an interpreter [30]. Findings from Schwei et al., inform our current understanding of a patient’s decision-making processes (Figure 1), and could be beneficial to inform how health care organizations engage with patients to gather and use data on a patient’s self-reported need for an interpreter.

Figure 1. Factors that Patients Say Influence Whether an Interpreter is Needed or Utilized. Adapted from Schwei et al. [30].



In the absence of medical interpreters, LEP patients are left to rely on ad-hoc interpreters such as family or hospital staff or their own language fluency to obtain needed medical information. This possesses issues of its own as it leaves room for a variety of common interpretation errors to occur such as omissions, embellishments, false fluency, paraphrasing, and family members or ad-hoc interpreters giving their own opinions [11]. These issues highlight the importance of both identifying patient language access needs and providing linguistically appropriate interpretation and translation services.

The standardized collection and exchange of patient interpretation needs can help improve access to appropriate language services. Once collected from patients, this data can be stored in the electronic health record (EHR) and accessed by the patient’s care team to support person-centered care, or exchanged electronically with other providers (e.g., specialists, long-term care facilities) to support transitions of care.

Objectives

This paper examines current practices for collecting, documenting, and exchanging interpreter needed data in the EHR. The paper identifies data collection workflows, use cases for interpreter needed data, challenges to data collection and use, and potential opportunities to advance the standardized collection and use of interpreter needed data to facilitate patient-centered care.

Methods

We utilized two methods to assess the collection, documentation, and use of interpreter needed data: 1) a targeted literature scan, and 2) key informant discussions.

Literature Scan

We conducted a targeted literature scan of the peer and grey literature to understand the landscape for the standardized collection, documentation, and use of interpreter needed data in the EHR. Grey literature was primarily used because standardization of interpreter needed data is an emergent area with scant information in the peer-reviewed literature. Based on the findings from the initial scan, supplemental searches were conducted to identify related data standardization efforts regarding social determinants of health assessments, common data models for patient-centered outcomes research, and patient assessments and quality improvement.

Key Informant Discussions

We conducted key informant discussions to complement findings from the literature scan and contextual information gaps by identifying emergent topics not yet reflected in the literature. We identified a purposive sample of informants across three stakeholder categories: 1) EHR developers (n=3); 2) health systems and clinicians (n=8); and 3) policymaking and advocacy organizations (n=5). The EHR developers included in the study represented the largest U.S. market share in the inpatient setting [18] and a significant ambulatory market share [19]. Health system and clinician informants included representatives from academic medical centers, a Federally Qualified Health Center (FQHC), primary care, an integrated health care system, and acute care hospitals. Lastly, policymaking and advocacy organization informants were comprised of Federal agency staff, language service professionals, members of a national consensus-based standards collaborative, and a community health center association. The key informants provided industry-wide perspectives on the experience of collecting, documenting, and using interpreter needed data.

Analytic Approach

Findings from the literature scan were summarized and grouped into two primary categories: 1) standards for certified EHR and health information technology (IT) systems; and 2) health care quality improvement. We utilized a data abstraction matrix to identify themes from the key informant discussions. We abstracted data from the discussions into five domains: 1) current interpreter needed data collection practices; 2) use cases for interpreter needed data; 3) EHR product support for data documentation; 4) interoperability standards; and 5) challenges to collecting, documenting, and using interpreter needed data. The authors also identified common themes from across the five domains to identify key considerations and opportunities to improve data interoperability and expand upon the use of interpreter needed data.

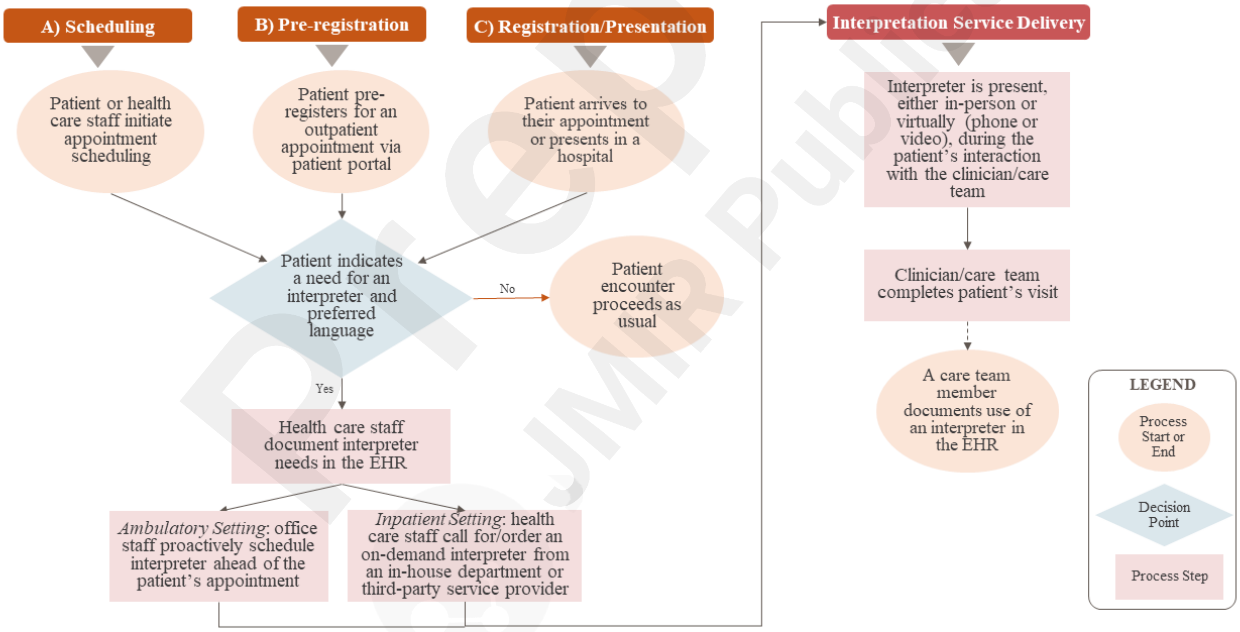
Results

Health care organizations routinely collect interpreter needed and preferred language data to facilitate interpretation service delivery. Among an estimated 67.3 million people in the U.S. who speak a language other than English at home, only as estimated 26 million individuals have LEP [9, 12], indicating that the preferred language of a patient may not reflect the patient's need for interpretation services nor is it an adequate proxy for communicating in a non-English language. Health care organizations recognize the limitation of using either preferred language or English proficiency alone to identify a patient's preference or need for an interpreter, and therefore collect a patient's self-reported need for interpretation services in tandem with preferred language to accurately reflect language access needs.

Current Interpreter Needed Data Collection Practices

We identified common practices for the collection, documentation, and use of interpreter needed data in both the ambulatory and inpatient settings. We present a workflow diagram for the common data collection and documentation processes in Figure 2 and describe each step below.

Figure 2. Interpreter Needed Data Collection and Interpretation Service Delivery Workflow



Three events (A-C) begin the process for gathering information from the patient on their need for an interpreter and the subsequent provision of interpretation services. However, nuances exist depending on the EHR, organizational practices, care delivery setting, the availability of interpretation services, and interpretation service delivery method.

A. **Scheduling a patient encounter:** When a patient or health care staff initiates appointment scheduling, office staff document the need for an interpreter in the EHR through an interpreter needed data field. Office staff may proactively schedule interpretation services for the patient.
B. **Patient pre-registration:** During pre-registration, the patient may self-report the need for an interpreter and their preferred language within the patient portal. Office staff document this

information in the patient’s record and may proactively schedule interpretation services for the patient.

C. **Patient registration or presents in a hospital**: When a patient self-reports the need for an interpreter at arrival for an outpatient appointment or presents at a hospital, staff document this information in the EHR and contact an interpreter for on-demand service.

Interpretation services can be delivered in-person or virtually via phone or video connection. Providers may use an interpreter from an internal interpretation services department, a third-party vendor, or rely upon a clinician or staff member who is medically proficient in the patient’s preferred language. Outpatient clinics often proactively schedule in-person or virtual interpreters from third-party services because they may have collected a patient’s need for an interpreter prior to the patient encounter. If the clinic serves a significant number of patients with LEP, they may have in-house interpreters available or staff who are medically proficient (i.e., someone whose non-English language skills include communicating medical terminology and information) in the patient’s preferred language. In the inpatient setting, interpretation services are provided either on-demand from an in-house interpreter service department or virtually (e.g., via video connection). Upon completion of the patient visit, a member of the care team may document the use of the interpreter within the patient notes section of the EHR.

Use Cases for Interpreter Needed Data

Using interpreter needed data can assist health care organizations in providing more appropriate patient-centered care and eliminate guesswork or assumptions by health care teams regarding which patients need an interpreter, ultimately improving the patient experience. Key informants described three primary use cases for the collection, documentation, and use of interpreter needed data: 1) person-centered care; 2) transitions of care; and 3) health care administration.

Use Case 1: Person-Centered Care

Improving communication with patients and ensuring person-centered care are the central purpose behind collecting interpreter needed data. Key informants and available literature both indicate that interpretation services improve patient comprehension of clinician discussions, patient care quality, and care processes [10, 13]. LEP patients who receive professional interpreter services are less likely to be readmitted to the hospital and more likely to experience a shorter length of stay than LEP patients who do not receive interpretation services [10]. Key informants echoed that interpretation services can enhance the delivery of safer patient care and patient decision-making by facilitating better communication between providers and patients regarding patient preferences, medical and non-medical care needs, clinical information, and care instructions [14]. Collecting interpreter needed data also facilitates services for patients with communication needs beyond spoken language, such as indication for an American Sign Language interpreter.

Use Case 2: Transitions of Care

Multiple key informants stated that exchanging data on patient interpretation needs facilitates care transitions and referrals to specialty care, social care organizations, and post-acute care (PAC) facilities. Exchanging interpreter needed data allows specialists to arrange interpretation services in advance of the patient’s appointment and may decrease the likelihood that patients are lost to follow-up due to interpretation service scheduling issues. Sharing patient language assistance needs through social care coordination platforms such as Unite Us® facilitates patient access to interpreters at community partner organizations.

PAC facilities are required to collect data on patient need for an interpreter using standardized patient assessments under the Centers for Medicare & Medicaid Services (CMS) Quality Reporting Program. The data is collected using the Logical Observation Identifiers Names and Codes

(LOINC®) terminology for Interpreter Needed [15], allowing for interoperable data exchange among post-acute providers and timely coordination of interpretation services.

Use Case 3: Health Care Administration

A few key informants noted that collecting data on the number of patients requiring interpretation services assists health care administrators in tailoring services to adequately serve their patient population. For example, administrators can provide in-person interpretation services for the most requested languages and offer telephonic or virtual interpretation services for less commonly requested languages.

Administrators also use interpreter needed data to fulfill reporting requirements and support quality improvement efforts. For example, FQHCs are required to report the number of patients "best served in another language" as part of the Health Resources and Services Administration Uniform Data System. Additionally, one of the 2023 improvement activities for the CMS Quality Payment Programs is to "Create and Implement a Language Access Plan" that adheres to the National Standards for Culturally and Linguistically Appropriate Services in Health and Healthcare (National CLAS Standards) [16, 17].

EHR Products Support Documentation of Interpreter Needed Data

Key informants from the three EHR developers, which collectively hold over 70% of the inpatient market share by number of beds [18] and nearly half of the market share among ambulatory care clinicians that report using a 2015 Edition certified EHR product [19], stated that functionality to document interpreter needed data in the EHR is available to health care organizations through a structured field in the EHR.

Interpreter Needed Interoperability Standards

There are well-specified standard terminologies for the interpreter needed data element. These include the LOINC® code for "patient/resident's need or want an interpreter to communicate with a doctor or health care staff" and the Systemized Nomenclature of Medicine – Clinical Terms (SNOMED-CT®), "need for interpreter (finding)" [20, 21].

Mapping interpreter needed data to one or both standards can facilitate the exchange of this data between providers, community-based organizations, and others to support patient needs. The Health Level Seven Fast Healthcare Interoperability Resources (FHIR®) and Clinical Document Architecture (CDA®) standards define how health care data can be exchanged between health care organizations with different health IT systems [22 31]. Additionally, there is a FHIR standard (the FHIR Patient Resource – Interpreter Required) to exchange interpreter needed data along with patient demographic and administrative data. This FHIR standard offers a practical solution to exchanging this data [23, 24]. While our key informants reported that health care organizations do not routinely map interpreter needed data to a standard terminology, representatives from the three EHR developers we spoke to indicate that mapping can be implemented with minimal burden.

Challenges

Our key informants revealed the following three potential challenges to using interpreter needed data for person-centered care and quality improvement: 1) lack of adoption of available data standards; 2) limited electronic exchange; and 3) patient mistrust.

Lack of Adoption of Available Data Standards

Key informants noted that while most health care organizations currently collect interpreter needed data, most do not map this data to an existing terminology standard. Limited mapping impedes data interoperability and efficient monitoring, tracking, and reporting on the need for interpreter services.

Limited Electronic Exchange of Interpreter Needed Data

Due to the lack of data standardization, there is limited electronic exchange of interpreter needed data among most health care organizations. Key informants stated that a patient’s need for an interpreter is often exchanged as free text in an administrative or clinical note, or it is shared via phone or fax when notifying a provider that a patient requires an interpreter. Without standardized electronic exchange, communication of patient needs is inefficient, creating additional burden on the patient and room for care coordination errors. For instance, key informants shared examples of clinical notes indicating a patient’s need for interpreter not being reviewed, causing delayed or missed care if an interpreter is not available at the specialist’s office when the patient arrives to the appointment.

Patient Mistrust

Collecting interpreter needed data from all patients may pose implications for patient trust. For example, an LEP patient who would benefit from interpretation services may decline due to concerns about privacy and stigmatization [25]. Similarly, negative past experiences with interpreters (e.g., misinterpretations or extended wait times for interpreter services), may lead to a patient declining interpretation service [26]. A few key informants also suggested that LEP patients may decline an interpreter because they believe they will be billed for using those services, even when the patient is informed that they will not be charged. Although these findings transcend standardized collection and use of interpreter needed data, they are important challenges for health care organizations to consider when asking patients for this information.

Discussion

Principal Findings

Overall, while EHR developers and health systems indicated that interpreter needed data is routinely collected and used by most health care organizations, this data is not often mapped to available standards within the EHR. All the health care organizations and EHR developers we spoke with described well-defined administrative and clinical workflows to facilitate data collection.

Collection of Interpreter Needed Data Can Improve Quality of Care

Despite limited standardization, our findings suggest the collection, documentation, and use of interpreter needed data can improve the quality of care for patients with LEP. The provision of language and communication services for individuals with LEP and/or other communication needs (e.g., those who are deaf or hard of hearing) can facilitate the accurate exchange of information regarding prevention, symptoms, diagnosis, treatment, care coordination, discharge planning, and shared decision-making between patients and their care team [27, 28]. In short, addressing communication needs may assist in improving patient satisfaction, patient safety, and health outcomes of historically underserved populations.

Use of Interpreter Needed Data Has the Potential to Enhance Health Equity Research

Much of the research on English proficiency-related disparities in health care utilizes preferred language data abstracted from the EHR, patient experiences of care surveys (e.g., Consumer Assessment of Healthcare Providers & Systems), and standardized PAC patient assessments to identify care gaps. Access to more accurate data on interpretation needs could assist researchers in more granularly identifying important health disparities among patients with LEP, understanding experiences of care among individual with LEP, and longitudinally tracking disparities over time.

Additionally, the use of standardized interpreter needed data alongside preferred language can support the development of more accurate estimates of language needs that can be used to define language access quality measures for patients with LEP and help providers understand ways to better serve LEP patients.

Greater Adoption of Standardized Interpreter Needed Data is Necessary

The National CLAS Standards provide implementation guidance for offering communication and language assistance, which includes developing processes for identifying the languages an individual communicates in and documenting this information in the patient's medical record [27]. Our findings support using available LOINC and SNOMED-CT codes for documenting a patient's need for an interpreter. Adoption of these standards will further efforts to use interpreter needed data for quality improvement initiatives aimed at achieving the Quintuple Aim.

Exchange of Interpreter Needed Data Has the Potential to Improve Disease Surveillance

EHR developers and health system key informants noted the potential benefits of exchanging interpreter needed data between health care organizations and public health authorities for the purpose of certain mandated public reporting, such as disease surveillance. For example, contact tracing could be more effective if information on individuals with language access needs was shared in advance with public health authorities, thus improving communication regarding disease risk and transmission control.

Limitations

The findings of this study are based on a purposive sample of key informants. The findings are not intended to represent an exhaustive list of current data collection, documentation, and use of interpreter needed data practices, but rather elucidate opportunities to promote interoperability.

Conclusion

Improving the quality of services provided to patients with LEP requires health care organizations to systematically collect information from patients regarding their language preferences and to use this data to plan for and offer communication and language assistance. Despite the presence of common practices for the collection, documentation, and use of data on patient interpretation needs, the lack of standardization limits exchange of this information among health systems. The use of standard terminologies for interpreter needed data offers one mechanism to facilitate the consistent use of the data within and across health care organizations resulting in quality improvement [29]. As the U.S. demographics change, there is the potential for unmet patient needs to become more glaring. Standardized data collection and EHR documentation can streamline the use of this data and may help to reduce health disparities.

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Conflicts of Interest

The authors declare that they have no conflict of interest.

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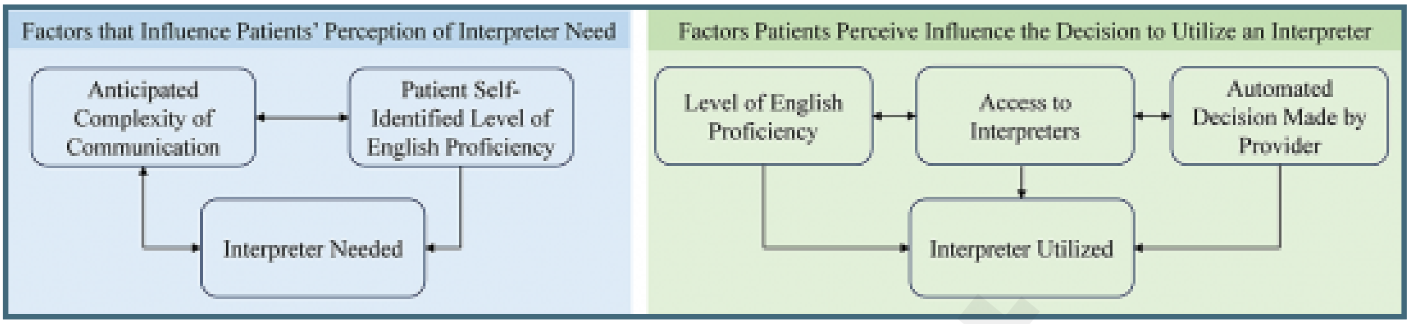
Supplementary Files

Figures

Factors that patients say influence whether an interpreter is needed or utilized.



Interpreter needed data collection and interpretation service delivery workflow.