



Impact of Language Barrier on Medication Adherence among Non-English-Speaking Patients.

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Abstract:

In a survey done by the United Kingdom office for National Statistics, in Lower tier area of Wales and England local authorities shows that out of 1986 people, 331 could not speak English or Welsh at all and 330 were considered “nonnative, low proficiency” [1]. According to Census data of the United States in 2000, 18% of residents of 5 years spoke a foreign language, Forty-seven million people spoke a foreign language, of those 28.1% are Spanish speakers and 13.8% are low-proficiency Spanish speakers and among 21.4% of speakers speaking lower than “very well” came from Mexico, Guatemala, Honduras, the Dominican Republic, Venezuela, Cuba, and Haiti. Cuban and Haitian immigrants came through the Cuban-Haitian Entrant Program (CHEP) to cities across Florida, Texas, California, and the American Northeast [2].

In the United States, people identified with Limited English Proficiency (LEP) have delays in getting treatment, excessive ineffective follow up check-ups, and overall, a not an effective treatment plan. Part of the Civil Rights Act prohibits mistreatment based on English proficiency [3], 45 CFR Part 92 published by the Department of Health and Human Services implements Section 1557 of the Affordable Care Act prohibits discrimination in healthcare by race, color, national origin, gender, age, or disability [4]. Most studies demonstrate the language interpreters improve satisfaction from care provided for both parties. However, barriers in language have delayed over-the-counter medicine, emergency care, made it harder to control substance abuse, cancer treatment, among others.

Keywords—Affordable Care Act, Communication Barriers, Limited English Proficiency (LEP), Migration, Patient Satisfaction, Quality of Health Care, Telehealth.

I. Introduction

The United States among other countries notably the United Kingdom and the European Union comprise of substantial number of non-English speakers and Limited English Proficiency (LEP) speakers are the Hispanic population which limits the quality of health care for them. Patients with Limited English Proficiency (LEPP’s) stated they had troubles with

getting healthcare appointments due to language barriers. In a study conducted by Albrecht et al on the online translation tools Ninety-two percent of patients said the tools are free and easy to access, 92% said it saved time, and another 92% stated it improved health care delivery [5, 6]. The article aims to review how language barrier had been an impediment to medication adherence using the published literature works and highlights some strategies to mitigate these

challenges and provide medication equity for everyone.

2. Impact of Language Barrier on Medication Adherence among NonEnglish-Speaking Patients.

Some ways in which language barrier in non-English speaking patients is impacting medication adherence are discussed below.

Ambiguity in Medication Instructions: Non-Englishspeaking patients have challenging time in comprehending the instructions provided on the medication in the language they are not proficient in. This can result in non-adherence due to ambiguity in the timing of medication, quantity of medication to be taken and the frequency. Excess or under usage of medication can result in serious complications especially if the patients with chronic medical conditions.

Reduced communication with healthcare providers: The language barrier can impede non-English speaking patients from reaching out to providers for any questions they might have on the prescription usage or refills thus hindering the treatment plan.

Lack of understanding of Prescription Labels and Health Information: As the language on the prescription medication in most cases would be in the local language, patients with language barriers often find it difficult to read the instructions provided including any potential side effects or actions to be taken in case of accidental misuse of the medication and the results can be fatal in some circumstances.

Dependency on Language translators: Dependency on language interpreters to help with the medication instructions often time can lead to inaccuracies and mis information of the medication regime.

Limited Access to Language-Appropriate Resources: Lack of access to resources such as multilingual

providers or care givers, translators, instructions in the language the patients speak will hinder the efforts to promote medication adherence.

Decreased Health equity: Language barrier can lead to decrease in the health care equity on non-English speaking patients due to lack of participation in their care programs and their inability to navigate through the different steps in the healthcare system.

3. Impact of Language Barrier on Medication Adherence – Literature review

In multiple studies, Limited English Proficiency Patients reported that they believe using common solutions such as translation tools like Google Translate and Medi Babble would improve their quality of health. These translation tools would be helpful in hospitals in areas with limited access to interpreters. In a study done in Hannover Medical school which integrated translation tools in medical wards around 92% of the staff who used the devices responded that the tools helped them in their communication with foreign language patients [5].

A report on the quality of telehealth care was done for Non-English and Limited English speakers under the age of eighteen. Its goal was to understand the effectiveness of Glycated Hemoglobin tests (A1c), a Hemoglobin (Hb, an iron-holding protein that facilitates the movement of oxygen on red blood cells) that is related to sugar and is an indicator of diabetes. The study for these Diabetes Type-2 patients was done for over 2 years period on the amount of Glycated Hemoglobin in these people. When the study concluded in 2020, 18.9% of visits ended up being a no-show visit while telehealth and in-person visits had a similar decrease in A1c [7]. In another study across a university and county hospital highlighting diabetes care for non-insulin dependent care, it surveyed 622 patients with type-2 diabetes mellitus (93 NES, 529 ES) after a 12-month follow-up and concluded NES patients had one or more dietary consultation. Both studies highlighted the growing statistic issue of not meeting the American Diabetes Association's guidelines of two tests per year and two clinic visits per year [8].

Another study was conducted to investigate the delay in care for non-English speaking patients having breast cancer [9]. The foundation of the study was based on differences in treatment time for people with different age, socioeconomic status, and ethnicity played a role in delivery time. The study lasted over 2 years and sampled sixty-five non-English speaking patients who were paired with 195 English-speaking counterparts. Latina women who did not speak English had an elapsed time of 13.53 months compared to their counterparts who had an elapsed time of 7.56 months. The study also concluded that the delay in care was 8.18 months for proficient patients and for English speaking white woman, it was 7.73 months.

In a study of Syrian refugees in Canada and their lives post migration, it focused on the efforts of the national and local governments as well as universities and schools to bring better health care to these people. 297 people in this study reported a deficiency in health literacy and the struggle to speak with their primary care providers as well understanding prescriptions and struggle to visit a doctor. Half of the population (49%) struggled to understand medical information and felt medication instructions are particularly confusing (over 76.5% reported difficulty), leading to potentially dangerous medication misuse (15.8%). According to Alvi Rahman, he stated in the study, "Canadian health care practitioners (HCPs) prioritized language interpretative services and communication support as the most important practice strategy needed to enhance the quality of primary health care for vulnerable populations" [10]. Another independent study done in Canada reported a significant language barrier impeded access to healthcare for Limited English Proficiency Persons (LEPPs). Two-thirds of the population (66.7%) reported facing obstacles, with one-fifth (20%) avoiding services altogether due to communication concerns [11].

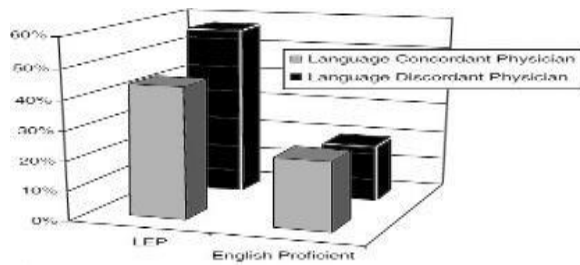
A similar study [12] examining 791 diverse refugees in Switzerland it reported equivalent results. It also examined the higher costs for these patients who required medical interpreters. They were assigned to an Asylum Health Medical Provider which was integrated with the Department of Ambulatory Internal Medicine at the cantonal University Hospital. 486 of these people reported the language barrier as a challenge. The study found that people with no language barrier had a median of 10.8 visits per year compared to barriered people with a median of

twentythree visits and these people spent a median of 3195.50 euros which is

1917.50 euros higher than their counterparts. In another study by the researcher in Switzerland found that 26.4% of these patients reported that they did not have an interpreter and having an interpreter would increase cost. In these same studies, 76% of nurses reported not having an interpreter while needed and 11% reported communication barriers [12].

In the United States, Divi- a health researcher examined Six Joint Commission accredited hospitals over 7 months and concluded that 49.1% of Limited English Proficiency patients reported adverse events involved physical harm, 46.8% reported harm from moderate to near-death which 52.4% reported it is due to communication errors. These statistics are double that of their English-speaking counterparts [13].

A Californian telephone surveyed 1200 individuals who spoke eleven languages other than English with Limited English Proficiency and half (49%) had low English proficiency. It consisted of forty-eight questions with a goal to assess medical comprehension. The survey included questions on understanding medical situations, medication use and labels, and adverse medication reactions. In one question, 330 people reported having a LanguageConcordant physician, sixty-seven used an interpreter, and of those 397 people, 223 reported problems understanding a medical situation. In a quote from the study, "Over two thirds (69%) of LEP respondents and 41% of English-proficient respondents reported that their physicians spoke their native language. Among respondents with language-concordant physicians, LEP were still significantly more likely than Englishproficient respondents to report problems understanding a medical situation" 282 (49%) participants reported difficulty understanding their medical situation. Additionally, 224 participants struggled with medication labels (41.8%) and 182 struggled to use their medication (34.7%). These misunderstandings resulted in adverse reactions for eighty-four participants (15.4%) [14]. The figure 1 below shows the trends in the problems understanding a medical situation. [14].



[†] Respondents who answered "yes" to the question: "Have you ever had a problem understanding a medical situation because it was not explained in (respondent language)?" [‡] Results are unadjusted. [§] P = .01 for limited English proficient (LEP) comparison; P = .05 for English proficiency comparison.

Figure 1- Problems understanding a medical situation by English proficiency and physician language.

4. How to Address Language Barriers to improve Medication Adherence

Addressing language barriers to improve patient care and medication adherence involves participation from all players in the healthcare domain starting from the patients to health care governing bodies by ensuring there are regulations in place to support non-English speaking populations.

1. Ensuring the health information materials, care instructions and medication related documentation are provided to the patients in appropriate language.
2. Providing access to language interpreters to help translate the information in the provider's offices.
3. Offering patient education programs on the importance of medication adherence and patient driven care.
4. Integrating technology such as wearable devices, applications with bi-lingual support, mobile applications to track the medication usage in patient care.

5. Conclusion

Limited English Speakers (LEP) and those with low proficiency as shown in many studies receive delayed healthcare or inadequate care plan as opposed to their English-speaking counterparts. They face delays, increased healthcare costs and worse overall wellness experience. While studies show translation tools can bridge the gap between cost and care, it is essential to

address the challenges arising due to language. Healthcare organizations can improve patient outcomes, promote health equity, and increase in medication adherence by addressing these challenges faced by non-English speaking population.

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