



Commonwealth of Massachusetts  
Board of Registration in Medicine  
**Quality and Patient Safety Division**

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**Clinical Translation Advisory**  
**July 2016**

**Background**

The Quality and Patient Safety Division (QPSD) received a Safety and Quality Review (SQR) report related to inaccuracies in the translation of clinical materials for patients with limited English proficiency. The use of machine translation programs, such as Google Translate™, may provide erroneous or nonsensical translations that can lead to patient misunderstandings and potentially compromise patient safety. This Advisory is issued to support health care facilities in their review and development of approaches to translation for use in inpatient and outpatient settings. While some references are provided, this Advisory does not include a comprehensive review of the literature, nor does it provide specific recommendations for evidence-based practices.

Publication of this Advisory does not constitute an endorsement by the Board of any studies or practices described in the Advisory and none should be inferred.

**Examples of errors** found translating medical phrases with Google Translate™:<sup>1</sup>

- “Your wife is stable” was translated to “your wife cannot fall over.”
- “Did he have a high fever at home?” was translated to “your home temperature was high.”
- “Your husband had a cardiac arrest” was translated to “your husband’s heart was imprisoned.”
- “Your child will be born premature” was translated to “your child is sleeping early.”

**Overview**

Patients with limited English proficiency (LEP) make up a significant proportion of patients in acute care hospitals and Emergency Departments. In 2014, approximately 8.9% of the Massachusetts population reported speaking English less

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<sup>1</sup> Patil, S., et al. Use of Google Translate in Medical Communication: Evaluation of accuracy. *BMJ* 2014;349:g7392.

than “very well.”<sup>2</sup> English proficiency tends to be even lower in the elderly with 63% of Spanish-speakers and 72% of Asian-Pacific Island language speakers over 65 in the U.S. reporting speaking English less than “very well.” LEP patients may appear to communicate well in English but often are not able to understand critical information, verbalize important concerns, and ask appropriate questions.<sup>3</sup> In addition, non-native English speakers often bring a set of different cultural, spiritual, or religious beliefs and practices to health care encounters, making clear communication even more critical to effective and appropriate patient care.<sup>4</sup>

Interpreters and translators convert information from one language into another language. Interpreters work in spoken or signed language; translators work in written language. The goal of an interpreter is to have people hear the interpretation as if it were the original language. In contrast, the goal of translation is to maintain the spirit and content of the writer, accurately communicate the ideas and facts of the original material, and convey cultural references, including slang, and other expressions that do not translate literally or even have an equivalent in the other language.<sup>5</sup> Timely translation of documents for individual patients or for general use in the clinical setting can be challenging and may be carried out on an ad hoc basis, even in hospitals with good interpreter services. Due to their availability, low cost, and familiarity to users, clinicians may view machine translation programs such as Google Translate™, Bing Translator™ and Babel Fish™ as attractive alternative methods for translation.

As one of the best known and studied translation programs, Google Translate™ can be examined as a representative example. Google Translate™ uses statistical machine translation to review vast amounts of online data from English language material paired with translations into the target language. Words and phrases are translated using statistical probability for the best match without regard to grammar rules or context. Statistical translation models will often create nonsensical phrases or alter the meaning of a sentence through incorrect word choice or position. Short sentences and phrases in general are translated more accurately; nuance, idioms, and complex concepts, such as medical and health-related issues, are vulnerable to error.

Studies of Google Translate™ have shown that it is not accurate enough for stand-alone use in medical communication. A study in the *British Medical Journal*

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<sup>2</sup> American FactFinder, 2010-14 American Community Survey, accessed 6/5/16 at [http://factfinder.census.gov/faces/tableservices/jsf/ages/productview.xhtml?pid=ACS\\_14\\_5YR\\_S1601&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/ages/productview.xhtml?pid=ACS_14_5YR_S1601&prodType=table)

<sup>3</sup> Betancourt JR, et al. Improving patient safety systems for patients with limited English proficiency: a guide for hospitals. Rockville, MD: Agency for Healthcare Research and Quality; July 2012. AHRQ Publication No. 12-0041, 2012.

<sup>4</sup> Randhawa G, et al. Using Machine Translation in Clinical Practice. *Can Family Phys* 2013;59:382-3.

<sup>5</sup> US Department of Labor, Bureau of Labor Statistics. What Interpreters and Translators Do. Accessed 6/24/16 at <http://www.bls.gov/ooh/media-and-communication/interpreters-and-translators.htm#tab-2>

evaluated the accuracy of Google Translate™ in the translation of 10 medical phrases into 26 languages.<sup>6</sup> Overall only 57.7% of the translations were accurate with 74% accuracy in Western European languages, 46% in Asian languages, and 45% in African languages. A 2015 study of translation of public health materials from English to Chinese using Google Translate™ found a 40% error rate in word sense (word choice inappropriate for context of sentence) and 22% error rate in word order.<sup>7</sup>

The National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (the National CLAS Standards) and The Joint Commission standards call for effective, understandable, and respectful communication with patients when providing care, treatment, and services.<sup>8</sup> This emphasis on patient-centered communication can be best met in written materials through the consistent use of professional medical translators. There are scenarios where initial translations may be done appropriately using machine translation. However, editing and revision by professional medical translators is required to ensure that the information has been accurately translated into culturally appropriate language.

### **Case and lessons learned**

**Case:** A limited English proficiency patient underwent an imaging study. The provider attempted several times with an interpreter to contact the patient by phone with the test result. The provider then drafted a letter using Google Translate™ to let the patient know the study was normal. The translated letter erroneously indicated that her symptoms were related to an infection and a brain mass.

**Lessons learned.** The hospital interpreter services policy was modified to prohibit the use of interpreting websites and/or apps to provide interpretation. Emphasizing the high error rates of these programs, providers and staff were alerted to this change in policy. A staff interpreter or an authorized vendor is available during workdays to translate documents.

**Medical translation at the hospital level: guidelines, references, and best practices.** The appropriate approach to medical translations will vary according to hospital size, financial and staff resources, and patient population. The following are some recommendations for translation processes and methods for organization of personnel and protocols at hospitals.

1. **The process of translation:** The Massachusetts Office of Public Health Strategy and Communications (OPHSC) Translation Toolkit has a number of

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<sup>6</sup> Patil, op. cit.

<sup>7</sup> Turner, AM, et al. Machine Translation of Public Health Materials from English to Chinese: A feasibility study. JMIR Public Health Surveill 2015;1(2):e17,1-10.

<sup>8</sup> The Joint Commission. A Crosswalk of the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care to The Joint Commission Hospital Accreditation Standards. 2014. Accessed 6/24/16 at <https://www.jointcommission.org/assets/1/6/Crosswalk-CLAS-20140718.pdf>

resources for developing translation procedures.<sup>9</sup> OPHSC recommends that a conceptual translation be used for health education materials, as opposed to a word-for-word, sentence-by-sentence translation, to convey the intended message in a more culturally relevant way.

- a. **Use two translators**—one for the initial translation and the second to review and edit the translation, checking for accuracy, tone, and appropriateness, as is often done for professional documents written in English. Resources may dictate that single professional translators handle simple documents and urgent requests. With some types of documents the initial translation may be done by machine translation tools (e.g. Google Translate) with a professional translator editing the translated document.<sup>10,11</sup>
- b. **Utilize the services of paid professional translators only.** Good interpreters do not necessarily make good translators. The use of family members and lay staff has been shown to have higher error rates in interpretation<sup>12</sup> and, therefore, should not be used in translation.
- c. Whenever possible and appropriate, English materials should be **field-tested** prior to getting them translated. Translated materials, too, should be tested. A simple way of doing this is by working with community providers, community residents, and/or Massachusetts Department of Public Health staff.

2. **Hospital-level translation processes:** The International Medical Interpreters Association (IMIA) guide on medical translation provides a number of recommendations for providing high-quality translation.<sup>13</sup>
  - a. Have a central source document repository for readily available public domain documents such as consent forms. Users are accountable for maintaining documents and keeping them up-to-date.
  - b. Designate a person to manage and coordinate translation tasks, whether as a full-time position or as part of other responsibilities. Duties can include:
    - a. Assessing translation needs of different departments,
    - b. Developing and overseeing procedures for requesting translations,
    - c. Establishing processes for handling urgent translation needs,

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<sup>9</sup> Office of Public Health Strategy and Communications. Translation Toolkit. Massachusetts Department of Public Health, 2009. Accessed 6/15/16 at <http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/translation-services-and-materials.html>

<sup>10</sup> Kirchhoff, K, et al. Application of Statistical Machine Translation to Public Health Information: A feasibility study. *J Am Med Inform Assoc.* 2011;18:473-8.

<sup>11</sup> Turner, op. cit.

<sup>12</sup> Flores, G., et al. Errors of Medical Interpretation and Their Potential Clinical Consequences: A comparison of professional versus ad hoc versus no interpreters. *Ann Emerg Med* 2012;60(5):545-53.

<sup>13</sup> Txabarrige, R. IMIA Guide on Medical Translation. International Medical Interpreters Association, 2009. Accessed 6/15/16 at <http://www.imiaweb.org/uploads/pages/438.pdf>

- d. Educating staff and providers about requirements and potential pitfalls for medical translation.
  - c. Prioritize translation needs by identifying the most frequently used documents and languages.
  - d. Choose and manage qualified vendors. Determine your hospital's ability to meet translation needs using internal resources, individual freelance translators, and/or vendors. The American Translators Association has a pamphlet that provides guidance in choosing translation vendors.<sup>14</sup>
  - e. The Agency for Healthcare Research and Quality (AHRQ) and The Joint Commission have identified specific high-risk scenarios for LEP patients, including medication reconciliation, hospital discharge, informed consent, emergency department care, and surgical care.<sup>15</sup>
3. **Certifications and resources for translator services.** There are no national standards to measure translation skills. Medical translation experience, certification (if relevant), and cultural knowledge of the population are important considerations. Hospitals should apply the same standards to qualifications for translators and interpreters.
- a. The American Translators Association (ATA) has a certification program for approximately 15 of the more commonly needed languages. ATA-certified translators must pass a comprehensive examination, abide by a code of standards and ethics, and fulfill continuing education requirements. (See references below.)
  - b. Many common languages encountered in Massachusetts hospitals cannot be tested by the ATA certification exam (e.g., Haitian Creole, the fifth most common language in acute care hospitals).<sup>16</sup> Hospitals should assess translators of these languages by experience in medical translation and recommendations from similar organizations.
  - c. As for all medical communication, translators should understand the literacy level of an audience and have fundamental knowledge of its cultural beliefs, vocabulary, and phraseology.
  - d. The IMIA guide on medical translation provides standards and examples of qualities to look for in individual translators and vendors.
  - e. **Online translator directories** are found on the websites of both the ATA and the New England Translators Association (NETA). The

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<sup>14</sup> American Translators Association. Translation: Getting it right. Accessed 6/15/16 at [https://www.atanet.org/publications/getting\\_it\\_right.php](https://www.atanet.org/publications/getting_it_right.php)

<sup>15</sup> The Joint Commission. Overcoming the challenges of providing care to LEP patients. Quick Safety 2015;13. Accessed 6/5/16 at <https://www.jointcommission.org/issues/article.aspx?Article=07L7HYJFF9ixfyUPFpDzwohKEfieQSI ZAT2%2bhFsYXm0%3d>

<sup>16</sup>The Official Website of the Executive Office of Health and Human Services (EOHHS). Interpreter Services. Accessed 6/5/16 at [http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/interpreter-services.html#acute\\_care](http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/interpreter-services.html#acute_care)

directories for translators and companies are searchable by language, name, location, and other criteria.

- f. Many interpreter services used by health care organizations also provide translation services.

4. **Cultural competence.** The Joint Commission defines cultural competence as the ability of health care providers and organizations to understand and respond effectively to the cultural and language needs of each patient.<sup>17</sup> AHRQ has helped develop two tools to assist hospitals in the evaluation and improvement of care for LEP patients:

- a. **TeamSTEPPS® Enhancing Safety for Patients With Limited English Proficiency Module** is a training exercise that focuses on creating a supportive culture for diverse patient populations. Module users learn how to identify and address root causes of medical errors among LEP patients.
- b. **Improving Patient Safety Systems for Patients with Limited English Proficiency: A Guide for Hospitals** provides recommendations for improving care for LEP patients. These address improving coordination of interpreter services with the provision of clinical services, translating materials, and training health care providers on interpreter use and cultural competency.

## Conclusion

Accurate and culturally appropriate medical interpretation and translation are fundamental components of quality care for LEP patients. Hospitals should assess their current translation capabilities and patient populations, then use the references cited here as well as other resources to revise and improve translation processes, as needed. Important steps to take for improved patient safety with medical translation include:

- Educate staff and providers on the use of simple language and avoidance of idioms, jargon, and nuance in both interpretation and translation.
- Use standardized forms prepared by certified medical translators.
- Use experienced and/or certified medical translators and vendors.
- Develop and follow a comprehensive translation process.
- Educate staff and providers about the goals and risks of communication through translation.
- Remember that basic literacy may be lacking in LEP patients.<sup>18</sup>

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<sup>17</sup> The Joint Commission. *Advancing Effective Communication, Cultural Competence, and Patient- and Family-Centered Care: A Roadmap for Hospitals*. Oakbrook Terrace, IL: The Joint Commission; 2010.

<sup>18</sup> Office of Public Health Strategy and Communications, 2010. *Translation Toolkit*. Op. cit.

## References

In 2007, the top 10 languages used by Massachusetts acute care hospital interpreter services were (in order of frequency): Spanish, Portuguese, Russian, Chinese, Haitian Creole, Cape Verdean, Vietnamese, Arabic, American Sign Language and Albanian.<sup>19</sup>

The Massachusetts Department of Public Health translation guide outlines available services. These include PowerPoint presentations and other information about how best to approach translations in public health settings.

<http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/translation-services-and-materials.html>

The Executive Office of Health and Human Services website on health equity offers guidance, standards, and resources for hospitals on interpreter and translation services.

- Interpreter Services  
[http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/interpreter-services.html#acute\\_care](http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/interpreter-services.html#acute_care)
- Translation Services and Materials  
[http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/interpreter-services.html#acute\\_care](http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/health-equity/interpreter-services.html#acute_care)

The International Medical Interpreters Association (IMIA) website has standards of practice and a code of ethics. <http://www.imiaweb.org>

The American Translators Association website has an online directory of translators and information about its certification process. <https://www.atanet.org>

The New England Translators Association website has an online directory of translators. <http://netaweb.org>

TeamSTEPPS® Enhancing Safety for Patients With Limited English Proficiency Module

<http://www.ahrq.gov/professionals/education/curriculum-tools/teamstepps/lep/index.html>

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<sup>19</sup>The Official Website of the Executive Office of Health and Human Services (EOHHS). Op. cit.