Is there adequate language support? The linguistic divide of hospital websites in Japan and New Zealand

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Abstract: This exploratory case study investigated the nature of language assistance for foreign residents and international tourists in Japan and New Zealand by asking (1) how language support is provided on hospital websites in Hiroshima and Auckland and (2) what the differences are, if any, regarding the accessibility of language support on these websites. Our coding scheme adapted from Gallant et al.'s (2010) revealed that hospital websites showed varying degrees of language support from non-existent to fully translated and that further initiatives are needed to reduce the linguistic divide between patients and access to health care information.

Key words: language support, linguistic divide, multilingual information, linguistic landscape, hospital websites

1. Introduction

Globalization has transformed cities around the world to become more ethnically and linguistically diverse, thereby placing much pressure on the public service sector (transportation, telecommunications, emergency services, education, etc.) in providing adequate language support for migrants. Public services may be regarded as a basic human right; however, some services have increasingly become privatized and have adopted neoliberal agendas with regard to management decisions and language policies. Of particular interest in this study is health care. Our concern is that inequalities may continue to divide societies into those who have access to health care and those who do not have sufficient access (McGregor, 2001; Mooney, 2012; Navarro, 2000). These inequalities may be partially due to migrants' inability to communicate in their preferred language in health care settings (Okrainec et al., 2017; Schwei et al., 2016). As a result, the objective of this study is to investigate the extent to which hospital websites are linguistically accessible for migrants and visitors in Japan and New Zealand. Little research has been conducted on this issue in either context, not to mention from a comparative perspective. It is worthwhile to inquire into how hospital websites provide multilingual support given the increasing

number of migrants and tourists in both countries. In order to explore the multilingual issues and nature of the hospital websites, the current case study seeks to answer the following research questions by comparing two cities in Japan and New Zealand:

1. How is language support provided on hospital websites in Hiroshima and Auckland?
2. What are the differences, if any, regarding the accessibility of language support on these websites?

This paper first begins with a discussion of Japan's and New Zealand's changing multilingual diversity. As migration and tourism numbers continue to rise, it becomes increasingly important to acknowledge the source countries and respective languages that place pressure on existing public services. The necessity of providing adequate language support in the health care industry for speakers of languages other than the *de facto* national language will then be discussed. An increasing number of studies are reporting language barriers in health care settings (Schwei et al., 2016), which will only become exacerbated as migration patterns trend upwards. Finally, the issues of migration and language barriers lead to our focus on examining the linguistic landscape (Ivkovic and Lotherington, 2009; Landry and Bourhis, 1997) of hospital websites. Dissemination of health care information and practices through digital means are becoming commonplace (Coleman et al., 2008); therefore, this study intends to investigate how health care institutions use language to communicate information for their multilingual communities.

2. Migration, international education and tourism in Japan and New Zealand

Japan is sometimes considered as monolingual and monocultural where only the Japanese people live and only the Japanese language is spoken. However, this is not true and has never been true. Various other ethnic groups (e.g., Ainu in Hokkaido, pre-WWII Koreans, Japanese-Brazilian descendants, South East Asian technical intern trainees) have also become long term residents. According to Japan's Ministry of Justice (2018), there are over two million non-Japanese residents. The number of foreign residents has also steadily risen from 782,910 in 1980 to 2,561,841 in 2017 (Ministry of Justice, 2018). China represents the largest ethnic group of foreign residents (700,000) followed by a number of other source countries (Korea 450,000, Vietnam 260,000, Philippines 260,000, Brazil 190,000, Nepal 80,000). The proportion of foreign residents in Japan is 1.4 percent and for comparison sake, it is lower than Tokyo's resident population of 2.5 percent. Japan has gradually become a multilingual society and this trend is likely to continue.

Statistics New Zealand (2013) reported that the country has more ethnicities than there are countries in the world. Continual revisions in the nation's immigration policies

have welcomed an increasing number of international migrants (Spoonley, 2015), resulting in an annual net gain (more arrivals than departures) of approximately 73,000 migrants (Statistics New Zealand, 2017). New Zealand's *de facto* national language is English but has two officially recognized languages (Māori and NZ sign language). Migrants can gain citizenship after five years of residency if specific requirements are met. The top source countries representing permanent arrivals in 2017 were Australia (25,428), UK (15,216), China (12,276), Philippines (5,172), and South Africa (5,167) (Statistics New Zealand, 2018a).

Japan's international student numbers exceeded 200,000 in 2015, and are on the rise from various source countries (China 100,000, Vietnam 60,000, Nepal 20,000, Korea 16,000) (MEXT, 2018). Japan attracted approximately 25 million international tourists in 2017. According to the Japan Tourism Agency (2018), the number of international visitors reached 10 million in 2013, and exceeded 20 million in 2016. The majority of the tourists originate from Asian nations (China 6 million, South Korea 5 million, Taiwan 4 million, Hong Kong 1.8 million). New Zealand's international student and tourism figures reveal a much smaller scale in comparison. In 2017, student visas approximated 25,000 with the main source countries representing India (5,931), China (5,424), Philippines (1,536) and South Africa (1,197) (Statistics New Zealand, 2018b). Tourism to New Zealand is a growth industry with 2017 numbers reaching 1.9 million. The primary source countries include visitors from Australia (590,000), China (300,000), USA (211,000), and the UK (113,000) (Statistics New Zealand, 2018c).

2.1 Health care and language support

A growing body of literature has documented the prevalence of language barriers in health care settings (Schwei et al., 2016). Concerns over patient safety risks (van Rosse et al., 2016), patients' perceptions of interpreter services (Lor et al., 2016), and difficulties with comprehending hospital signage (Schuster, 2012; Schuster et al., 2017) represent examples of language-, cultural, and policy-related barriers. Language assistance enables all residents to participate fully in society without linguistic and social exclusion (Kawahara and Noyama, 2007), thus it seems necessary, for the sake of patient's well-being and safety, for hospitals or other health care providers to allocate resourcing towards ensuring satisfactory communication between staff/institution and patients.

The Japanese Ministry of Health, Labor and Welfare is aware of the need to globalize medical institutions, and it implemented accreditation system called JMIP (Japan Medical Services Accreditation for International Patients) in 2011 (Japan Medical Education

Foundation, 2018). As of 2018, only 45 hospitals obtained the accreditation, indicating there are prefectures which have no accredited institutions. Among the difficulties foreign residents are facing, health care is one of the most immediate concerns with living in Japan (Nakagawa and Takuwa, 2012; Wright, 2015). Language assistance is provided predominantly via English regardless of the fact that the largest groups of foreign-born residents and temporary visitors are from non-English speaking countries (i.e., China and Korea). In New Zealand's case, English language requirements exist for temporary study and permanent residency; however migrants may still face challenges with understanding and communicating through the health care system (Montayre et al., 2017). In addition, healthcare barriers still exist for deaf patients (Witko et al., 2017) even though NZ sign language is recognized as an official language of the country. It is clear that Japan and New Zealand are facing significant challenges with providing adequate language support in their health care institutions.

With the emergence of digital access to health care information, hospital websites are becoming increasingly important as potentially the first point of contact between patient and health care provider. One important study was carried out by Gallant et. al. (2010), which identified the lack of Spanish language support in 121 U.S. hospital websites. Even though these hospitals were situated in Hispanic communities, website material was predominantly in English with over 44% of the hospital websites containing no Spanish and 37% including only a partial translation of health care information. The authors cited Morey's (2007) study by explaining how citizens may have "postaccess disparities", which they define as, "when people have access to the Internet, but may not have adequate language skills, usage skills or content available that relates to their cultural or language needs" (p. 554). Prospective and existing patients may thus experience a digital divide (Morey, 2007; Gallant et al., 2010), whereby some users may have inadequate access to health information.

Berezkina (2018) also reported how overarching language policies in Norway significantly influence the presence and absence of particular languages on public service websites. The decision as to which languages and how much information is provided in other languages is directly related to the institutional policies in place. In cyberspace English has become the default language for multinational organizations (Kelly-Holmes, 2015) and in Google searches for health care (Singh et al., 2007). As a result, the actual users, regardless of their linguistic preferences, become marginalized or remain peripheral in relation to the perceived needs of the institution. Our position is that the linguistic landscape of health care institutions deserves further scrutiny since it raises the question, for whom does the public service aim to serve? Since research on linguistic landscapes can

inform public language policies (Davis, 2014; Shohamy, 2015), our study aims to examine the virtual linguistic landscapes of hospitals to inquire into the extent to which language support serves the needs of two evolving multilingual societies.

3. Research methodology

3.1 Background for the two research sites

Hiroshima and Auckland have roughly the same population and city size. Hiroshima city is the largest city in Hiroshima prefecture with a population of approximately 1.2 million. With approximately 16,000 non-Japanese residents in the city, this equates to nearly one in 80 residents, or 1.4 percent of the total population (Hiroshima City, 2018). Koreans comprise the largest in number with a population of approximately 6,000 followed by a few other source countries (China 5,000, Philippines 1,700, and Vietnam 1,300). Hiroshima hosts over one million visitors from overseas every year. The number of foreign residents in Hiroshima city has increased from 15,651 in 2014 to 18,271 in 2017. A total of 37 hospitals in Hiroshima were identified for inclusion, consisting of 13 general hospitals and 24 regular hospitals. Regular hospitals are those with 20 beds or more, and general hospitals are those with more than 100 beds.

Auckland, with its current population of approximately 1.5 million, has become superdiverse with 39.1% of its residents born overseas (Statistics NZ, 2014a). The city's population consists of approximately 59.3 percent of European descent, 23.1 percent Asians, 14.6 percent Pacific peoples and 10.7 percent Māori (Statistics New Zealand, 2014b). Samoan is the next most common spoken language after English (Statistics New Zealand, 2014b). The focus of our analysis was to inquire into the availability of language services in Auckland's three District Health Boards (DHBs). Hospitals, specialist clinics, and other facilities typically share one website; however, one exception was a central city children's hospital which operated a separated website from its main DHB. Within the three DHBs, four primary websites were included in our analysis, comprising seven main hospitals and eight specialist health clinics and surgery centers. The contrast in number of hospitals between Hiroshima (37) and Auckland (15) may be partially explained by the fact that New Zealand residents rely on a system of family doctors (i.e., general practitioners or GPs) and accident and medical (A&M) centers. The two research settings were chosen due to the authors' knowledge of their respective migration contexts and health care institutions.

3.2 Data collection and analysis

Originating from earlier research on linguistic landscapes (Backhaus, 2007; Blommaert, 2013; Landry and Bourhis, 1997; Shohamy and Gorter, 2009), the field of "virtual linguistic landscapes" (Ivkovic and Lotherington, 2009) evolved to analyze how language and other semiotic tools are used in the digital domain. Our study follows Gallant et al.'s (2010) analysis of US hospital websites. Table 1 below shows the seven categories that were used to classify language content.

Table 1: Gallant et al.'s classification codes

1	Mirrored	The hospital's website is mirrored in Spanish (or reproduced-not necessarily word for word, but an adequate translation of meaning)
2	Partial	Partial site in Spanish – a variety of different pages are in Spanish, but not all the content is mirrored
3	Translation application link	Link to online translation application such as Babel Fish
4	Spanish health info link	Links are provided to other websites with health/medical information in Spanish for example MedlinePlus
5	Call translation services	Provides a hospital number to call for onsite translation services
6	No Spanish on website	No Spanish language content on Website
7	Spanish under construction	The Spanish language web pages were identified as under construction

Since Gallant et al.'s study focuses primarily on presence or absence of Spanish, we needed to adapt their framework to suit our specific local health care contexts. With Japanese and English as the *de facto* languages, our aim was to identify what other languages are supported given the multilingual diversity of each respective city's migrant population.

Table 2: The current study's classification codes

OVERVIEW OF MULTILINGUAL SUPPORT		Yes/No		Languages
1a	Mirrored (translation link)		1b	
2a	Partial (extensive information covering entire sections or webpages)		2b	
3a	Partial (selected information is translated)		3b	
4a	Partial (only subheadings)		4b	
5a	No other language content		5b	
	Total:			
SPECIFIC LANGUAGE SERVICES		Yes/No		Languages
6a	Google translate		6b	
7a	Interpretation services		7b	
8a	Information / fact sheets		8b	
9a	Video tutorials		9b	
10a	Communication cards		10b	
11a	External website helpline		11b	

In Table 2 above, the adapted coding framework reveals categories that have been added, expanded or completely removed. The "mirrored" (1a) category refers to a full or extensive translation of all hospital information and services across not only its homepage but within in other weblinks. The "partial" category used in Gallant et al.'s (2010) study did not capture the range of substantial to tokenistic translations of the primary language; as a result, our study divided "partial" into translations that function as extensive translations of entire sections (2a), partial but not full translations of selected text (3a), or only as subheadings (4a). The websites may offer other language support services in lieu of translation including, (6a) Google translate, (7a) contact numbers for interpretation services, (8a) information or fact sheets in other languages, (9a) video tutorials in other languages, (10a) communication cards written in the *de facto* national language and a translation into another language for use by patients during their stay at the hospital, and (11a) links to language assistance through other external organizations. The "Spanish under construction" message (see #7 in Table 1 from Gallant et al.), was not included in our study since these institutional notices were not found in our hospital websites. Each of the eleven coding categories (1a-11a) were applied to the hospital websites to provide an overview of the extent of multilingual support provided (1a-5a) and the accessibility to specific language services (6a-11a). One other coding category was applied to the analysis of the hospitals' websites. If translations into other languages were provided, the names of these languages

were recorded (1b-11b). Websites of all the hospitals in Hiroshima and Auckland cities were identified using an online search engine. The data for Hiroshima and Auckland was gathered in September and October, 2018, respectively. Screenshots of all of these websites were taken and collected within three days and the collected data was checked twice by the authors.

4. Findings

Although the number of speakers of other languages in Hiroshima and Auckland continues to increase, Table 3 below shows stark differences in the extent of multilingual support between the two research sites. 31 out of the 37 hospitals in Hiroshima do not contain any other language content other than Japanese with only 6 hospitals containing partial translations of selected information into English. The three Auckland District Health Boards (and a separate children's hospital) show wide variation in the degree to which its multilingual communities are served. One DHB offered visitors to its website the option of automatically translating online information into one of 105 different languages. The other DHBs provided much less language support but offered partial translations for its Māori, Pacific and Asian communities.

Table 3: Multilingual support in hospital websites

OVERVIEW OF MULTILINGUAL SUPPORT		Hiroshima (languages)	Auckland (languages)
1a	Mirrored (translation link)	0	1 (105 different languages)
2a	Partial (extensive information covering entire sections or webpages is translated)	0	0
3a	Partial (selected information is translated)	6 (English)	2 (Māori, Pacific languages, Chinese, Korean, Hindi)
4a	Partial (only subheadings)	0	1 (Māori, Pacific languages)
5a	No other language content	31	0
	Total:	37	4

When information on hospital websites is unclear, patients or visitors may require language assistance. The availability of particular language services in the two research sites revealed major differences. As can be seen in Table 4 below, the hospital websites in Hiroshima do not currently provide any language support whereas all of Auckland's District Health Boards offer language assistance primarily through interpretation services

(7a). In addition, Auckland's DHBs drew website visitors' attention to external language helplines (11a), although these links were not found on their main homepages. One DHB used a variety of language support services (information fact sheets, video tutorials, communication cards); however there seemed to be little consistency in how many and which languages were supported. Google Translate, where a person could type in a word in their native script and have it translated into another language, was a function that was offered on one DHB's website.

Table 4: Availability of language support services in hospital websites

SPECIFIC LANGUAGE SERVICES		Hiroshima (languages)	Auckland (languages)
6a	Google translate	0	1 (100+ languages)
7a	Interpretation services	0	4 (90+ languages)
8a	Information / fact sheets	0	1 (English, Chinese, Korean, Hindi, Burmese, Japanese, Arabic, Spanish)
9a	Video tutorials	0	1 (English, Mandarin, Hindi)
10a	Communication cards	0	1 (Arabic, Burmese, Chinese, French, Hindi, Korean, Māori, Russian, Samoan, Tongan, Vietnamese)
11a	External website helpline	0	4 (*Healthline, *Plunketline, Māori, Pacific and Asian languages)

*Healthline (adults) and Plunketline (for parents or caregivers of young children) provide over- the-phone health assistance with the help of interpreters.

5. Discussion

Both Hiroshima and Auckland continue to welcome increasing numbers of permanent and temporary migrants, international students and tourists; however a point of consideration is whether these individuals in need of health care can receive satisfactory medical attention without sufficient language support. In terms of a presence or absence of languages on these public service websites, there is a clear "linguistic divide". Other researchers have noted a "digital divide" (Gallant et al., 2010; Rains, 2008) in relation to how digital access segregates particular populations or communities. The "digital divide", in terms of insufficient access to online information, may be diminishing rapidly as digital devices such as computers, tablets, and smartphones become more commonplace. Our contention is that a linguistic divide exists and as a reified example of "post-accessibility disparity" (Gallant

et al., 2010). It may significantly reduce the public's understanding of public service information and this is especially problematic when considering the dissemination of health advice or hospital procedures.

5.1 Hiroshima's hospital websites

The majority of the foreign residents and tourists who are not competent in Japanese are essentially blocked from vital hospital information in Hiroshima. Since English is the only non-Japanese language that is used on the website, it presents a further linguistic issue. As Gottlieb (2012) claims, English is used as an international language in Japan to cater not only to English-speakers but also to non-English speakers. Therefore, a secondary linguistic barrier in the form of an "English as a lingua franca divide" manifests itself in public service websites. Many governmental agencies in Japan, including Hiroshima city office, incorporate an automatic translation system into their homepages so that non-Japanese people can read in Chinese, Korean, Portuguese, Vietnamese and other languages (Carroll, 2011). Although this automatic translation system is not always accurate as often noted on these websites, it is a step towards improving the public's access to digital information. Perhaps over time, the hospitals within Hiroshima will follow the governmental websites' lead by incorporating an automatic translation function on their websites. Although geographic location was not one of the criteria for analyzing each city's hospitals, it is noteworthy that four out of the six hospitals with partial English translations were located in Hiroshima's central business district. Public general hospitals in the central area are most likely to have English websites where there is a higher concentration of major tourist attractions, overseas business people, international students and other residents. It is evident that these websites serve particular communities with specific language needs.

5.2 Auckland's hospital websites

Each of the websites representing Auckland's three District Health Boards provide varying levels of support for languages other than English. Similar to Hiroshima's addition of English to its inner city hospital websites, languages other than the *de facto* national language appear to be provided on the basis of perceived need or demand. It is not visibly clear whether there is any shared coordination between all of the language services across the three DHBs. The lack of consistency in online language assistance among the three District Health Boards in the Auckland region suggest that institutional factors such as funding, staffing and operational culture could lie at the forefront of any decisions related to the provision of language support services. In other words, online language support

appears to be low in priority compared to more immediate concerns (e.g., increasing patient numbers, upgrading building facilities) that impact the health and well-being of patients and staff. If a taskforce was set up to initiate joint collaboration into amalgamating both online and offline language services, greater clarity and access to health information could be provided to the city's bourgeoning multilingual population.

6. Conclusion

This exploratory case study investigated the nature of language assistance in hospital websites in Japan and New Zealand. Research question 1 asked, How is language support provided on hospital websites in Hiroshima and Auckland? Our coding scheme adapted from Gallant et al.'s (2010) study revealed that hospital websites revealed varying degrees of language support from non-existent to fully translated. The hospitals in Hiroshima show an emerging awareness of the need to include information in other languages but has restricted its support to English at present. The Auckland hospital websites also exhibit wide variation from partial support (only subheadings) to full mirrored sites in other languages. Research question 2 asked, "What are the differences, if any, regarding the accessibility of language support on these websites?" One of the main issues that is evident in our analysis is the lack of consistency across the health care providers' websites in both cities. To assist the needs of migrants, international students and tourists, a collective effort to standardize language support services may be required to reduce the linguistic divide between patients and access to health care information.

The main limitation of this study is the lack of fieldwork that provides observations from key stakeholders. Listening to the challenges faced by doctors, nurses and telephone interpreters and to the voices of patients, friends and family of patients and visitors would shed light on the face-to-face issues confronting health care institutions (e.g., Ian et al., 2016; Okrainec et al., 2017). Gathering information directly about stakeholders' profiles and the everyday procedures they follow (e.g., who uses the various linguistic services? with what frequency? how do hospital staff respond to communication problems?) would provide a clearer understanding of the issues that foster or hinder language accessibility. As a result, this study, with its focus on digital barriers, provides only a partial indication of users' actual linguistic needs when seeking health care information and assistance.

Revisiting the title of our article, we ask whether there is adequate language support in hospital websites. The answer is not a clear yes or no but simply point towards the existence of scales of language assistance ranging from full multilingual support to emerging acknowledgement of other languages used in the community. Using an approach

to uncover the virtual linguistic landscape of hospital websites reveals hierarchies of language that incite struggles for inclusion (Rubdy, 2015). Multilingualism presents new and ongoing challenges for cities that are experiencing growth in immigration and tourism numbers. Our concern is that multilingualism may remain on the periphery (Pietikäinen and Kelly-Holmes, 2013) of public service websites and in other cross-cultural communication practices. Hospital websites may act as gateways to health care information creating a "linguistic divide"; therefore this study may contribute towards problematizing, discussing and formulating language policies (Davis, 2014; Shohamy 2015) that will best serve our evolving communities.

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