

Conflicts between prioritizing medical care and profit-making for a Thai hospital

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Private hospitals are caught between two conflicting purposes: providing medical care and profit-making. In this paper, Bumrungrad International Hospital (BIH) and its wellness center subsidiary, Vitallife is investigated from a critical perspective on how it prioritizes these two purposes through examining the homepages and overview pages from its websites using iterative thematic analysis and lexical analyses (keyword analysis, metaphor analysis, and lexical presuppositions). The iterative thematic analysis categorized website information into three key categories: medical issues, non-traditional health issues, and issues associated with profit making, with frequency of items in the categories taken as measures of emphasis. The keyword analysis involved identifying relatively frequent and salient lexical items as keywords with relative frequency measured through log-likelihood against benchmark corpus. The metaphor analysis identified key recurring metaphorical uses of lexis, which are taken as indicative of the conceptual systems of the hospital. The main presuppositions identified were existential presuppositions which assume the existence of the mentioned items. The results highlight how the hospital webpages prioritize profit-making issues over medical issues to attract customers, while the Vitallife webpages aim to expand the market of potential customers by redefining healthcare. These findings are considered in relation to the hospital's stated goals, social expectations and Thai government policies.

Keywords: Critical Discourse Analysis; Hospital Priorities; Medical Tourism; Thailand; Websites

1. Introduction

Private hospitals are caught between two conflicting purposes: providing medical care and profit making (Geyman, 2003; Relman, 2008; Thompson, 1993; Woolhandler & Himmelstein, 1999). As hospitals, they should be

dedicated to providing medical services for the sick, ideally at affordable rates that allow the poor, indigent, elderly and vulnerable to have improved access to medical care (Gray, 1991; Scott, Ruef, Mendel, & Caronna, 2000). As private companies, they are under pressure to accrue profits for their shareholders. Conflicts between these two purposes of private hospitals may have detrimental effects on health provision as the goal of accruing profits supersedes the goal of providing affordable medical care.

Evidence for such conflicts can be found by conducting economic and policy analyses which show that for-profit medical provision can undermine basic health care access, can lead to higher costs and can result in patients being viewed as commodities (Geyman, 2003; Woolhandler & Himmelstein, 1999), and by analyzing hospital advertisements which show that the interests of the hospital can be placed before the interests of the patients and that healthy people may be manipulated to view themselves as patients (Andreopoulos, 2007; Larson, Schwartz, Woloshin, & Welch, 2005). The vast majority of the evidence for conflicting purposes among hospitals comes from Western contexts and overlooks increasingly important communication media such as the Internet. In this paper, therefore, we examine how one Asian hospital chooses which of these two conflicting purposes of providing medical care and profit making to prioritize through its website.

However, investigating websites is quite complicated because information on websites is frequently updated (Sari & Yusuf, 2012) and thus, timeframes within which data from websites is acquired need to be specified and generalizations across time need to be downplayed. Moreover, information on websites is essentially multimodal, which potentially makes investigation dubious since claims may not be supported sufficiently by evidence given the high levels of inference necessary in most multimodal analyses – a practice strongly criticized in Critical Discourse Analysis (e.g. Widdowson, 1995). Thus, in this paper, investigating the conflicting purposes of private hospitals is limited to employing low-inference approaches such as corpus-based studies (e.g. Jabeen, Rai & Arif, 2011), which are discussed in detail in the sections below.

2. Background

2.1. Prioritizing limited medical resources

The conflicts between providing medical care and profit making have been widely investigated in Western countries (e.g. Dickens & Cook, 2006; Foster, 2003; Humphrey & Russell, 2004; Schofferman & Banjab, 2008; Thompson, 2009), but may be of greater concern in developing countries like Thailand where high-quality medical resources are more limited. In such contexts, any

shift in medical resources from providing basic medical care for the general population to making profits can have serious repercussions.

In this paper, we posit that such a shift could take place in two ways. First, medical resources could be shifted away from providing services for the local population to providing services for other populations through, for instance, the promotion of medical tourism (Ramírez de Arellano, 2007). In such a case a substantial proportion of a country's limited medical resources could be devoted to comparatively wealthy non-nationals at the expense of poorer nationals. Second, medical resources could be shifted away from essential health care provision to non-essential health care for wealthier sections of the local population and non-nationals. This could take the form of a hospital promoting pseudo-medical services in the search for profits (Stokes, 2008). Such shifts in allocating medical resources run contrary to the principles of primary health care or the goal of better health for all. A key element of primary health care is "reducing exclusion or social disparities in health" (World Health Organization, 2009), yet the promotion of medical tourism and pseudo-medical services lowers the chances of primary health care being achieved. Concerns about this issue have been raised extensively in Thailand.

2.2. Medical care in Thailand

The early years of this century saw a large increase in medical tourism in Thailand, reinforced by a government policy to promote the country as the medical hub of Asia (Chudasri, 2008; Hongthong, 2008; Koh-shun, 2004; Poopat, 2008; Russell, 2009; Saniotis, 2006; Siriruchatapon, 2008). The policy and the shift in priorities away from primary health care led to an exodus of doctors from public hospitals to private hospitals with potentially detrimental effects on the public health system (Hongthong, 2008; Poopat, 2008; Sarnsamak, 2008; Sukin & Kurz, 2006).

Unsurprisingly, widespread criticism has ensued. For instance, Banthoon Lamsam, CEO of Thailand's second largest bank, argued that, where "medical resources [are] shifted to those who can pay for services", medical costs will increase rapidly and thus basic medical services may become unaffordable for the majority of Thais (Chudasri, 2008, p. 1). Similarly, Ammar Siamwalla, a well-known Thai economist, warned that "Thailand's attempt to promote itself as an international medical hub to serve foreign patients could undermine its public health system" (Poopat, 2008, p. 9A; see also Turner, 2007). Given that private hospitals in Thailand take a large amount of the load of public health provision, if more and more private hospitals prioritize profit making through medical tourism and the provision of pseudo-medical services, the entire health system of the country could be at stake (Sukin & Kurz, 2006). Such concerns mean that it is important that the extent to which

private hospitals may prioritize profit making over providing medical care be investigated.

2.3. Investigating hospital priorities

While social pressures exist for private hospitals to prioritize health care over profit making, it seems unlikely that a hospital would openly state that its main goal is profit making. Thus, any investigation of hospital priorities needs to address the potential opaqueness of relevant information. One approach that is designed to uncover opaque uses of language is critical discourse analysis (or CDA) (Thurlow & Jaworski, 2006).

Generally, CDA is concerned with the opaque and transparent relationships of dominance, power and control as they are manifested in language and in the socio-political context of the language use (Baker et al., 2008; Fairclough, 1985, 1992, 2001; van Dijk, 2003; Wodak, 2001). The goal in this paper, therefore, is to uncover linguistic choices, whether transparent or opaque, in hospital communications that depict hospital priorities.

In this paper, we have restricted our analysis in two ways. First, rather than taking a multimodal approach, we have conducted a linguistic analysis only. CDA has come under criticism for allowing analysts to find whatever they want to find (e.g. Widdowson, 1995), and we intend to take an approach that addresses these criticisms. While clear protocols for conducting multimodal analyses have been set up (e.g. Kress & van Leeuwen, 1996/2006, 2001), it can be argued that they still allow a great deal of analyst interpretation (Prior, 2005) which may be biased. With some linguistically-based analyses, on the other hand, it is more straightforward to control for potentially biased interpretations. To ensure that this research study is not open to the same criticisms of CDA, therefore, we have kept the analyses to low-inference analyses of language. Second, rather than attempting a broad investigation of the communications of private hospitals in Thailand generally, in order to examine opaque communications in depth, in this paper we investigate one type of communication of one Thai private hospital. The type of communication examined is the hospital website.

Business websites, such as that of the hospital being examined in this paper, can serve a number of different purposes, namely, general publicity, customer service, online information exchange and online sales (Xi, Zhuang, Huang, She, & Zhang, 2007). For a hospital, the website objectives of customer service and information exchange may provide useful medical information to potential patients and thus help the hospital to provide better medical care, whereas the objectives of publicity and online sales may be associated with profit making. Websites are therefore a form of business communication that can be analyzed to differentiate priorities. Furthermore, the ways which we posited

for shifting resources from providing medical care to profit making (medical tourism and pseudo-medical services) may be identifiable from website information. It would therefore appear that hospital websites are an appropriate type of communication to investigate.

3. Method

3.1. The data

The hospital we have chosen is Bumrungrad International Hospital (BIH) and its subsidiary Vitallife. BIH is the largest and best-known private hospital in Thailand and the first hospital in Asia to receive the prestigious JCI (Joint Commission International Accreditation Standards for Hospitals) accreditation. It is also the winner of the 2008 'Best Website for International Travel' award at the Consumer Health World Awards. BIH would therefore appear to be a Thai private hospital where the conflicting purposes of medical care and profit making are likely to be important. Its subsidiary, Vitallife, is a wellness center which provides lifestyle management for health, and thus may make pseudo-medical services apparent. We are aware that our choice may not be typical of Thai private hospitals, but, given the leading role of BIH in Thai private health care, an analysis of this hospital may provide indications of future directions of other hospitals.

The full BIH website contains 160 pages and the Vitallife website 26 pages. To make the analysis manageable, only the homepages and overview pages were analyzed. Homepages are likely to be the first page visited and provide an indication of the structure and content of the overall website (Nielsen, 2000; Nielsen & Tahir, 2002). Overview pages provide an indication of the key concerns of the organization behind a website). For BIH, two different overview pages were examined. Even though only five pages were examined in depth, an indication of the purposes of the whole websites was obtained by paying special attention to the links on the two homepages. Both Thai and English versions of the websites were investigated. For the English versions, the three BIH webpages had a total word count of 1,380 words and the two Vitallife pages 757 words. The pages used were those available in September 2009.

3.2. The analysis

Since the websites under investigation include versions in both Thai and English, the first stage of the analysis was to compare the two versions of the same page to identify which version should be considered primary (something we feel able to do as both authors are fluent in Thai). It is

assumed that the main target group of the Thai-language website is the local market and of the English-language website is both the international market of medical tourism and locally-based expatriates. This assumption is based on the fact that the 2007 version of the BIH website came in three forms: one for Thais, one for expatriates based in Thailand, and one for international patients. The comparison of the Thai and English versions aimed to identify aspects of the websites that are very close translations and thus contain the same content, aspects where the topics are the same but details differ, and aspects where topics differ. From this comparison, any differences in priorities emphasized between the two language versions can be identified. Also, there was strong evidence (see below) that the English version of the website is primary, and thus the other four analyses used the English version of the data.

3.2.1. Iterative thematic analysis of links

Website homepages can be viewed as the reception area for the website and thus the arrangement and wording of homepage links provide information about both the content of the whole website (Boardman, 2005) and the priorities of the institution (Krippendorf, 1980). All links on the two homepages (115 for the BIH homepage and 35 for the Vitallife homepage) were analyzed and categorized for the business objectives they reflect. In categorizing the links, we used the framework for analyzing business objectives in websites proposed by Xi et al. (2007). This framework identifies four potential business objectives of website components such as links: general publicity which aims to enhance the reputation and attractiveness of the company, customer service which provides information about the company and its products/services, online information exchange for communication between the company and its suppliers/customers, and online sales. While customer service and online exchange may serve health provision purposes by giving website visitors useful medical information, content, serving general publicity and online sales objectives, is more likely to be serving the broad purpose of profit making. Each of the 150 links was categorized as one of these business objectives by the two researchers independently and the categorizations compared using Cohen's kappa, a statistical measure of inter-rater agreement for qualitative (categorical) items, which is more robust when compared to simple percentage calculations as it takes into account agreements occurring by chance.

3.2.2. Keyword analysis

'Keyword' has different meanings depending on whether the term is used as a feature of websites or as a linguistic aspect of a text. In this research, both meanings of 'keyword' were examined.

Web-based keywords are a component of the metatags of a website which historically were used as the basis for Internet searches. Although nearly all search engines nowadays index the whole text of a website rather than just the keywords, many websites still include keywords in their metatags. The keywords of the websites under investigation were analyzed to see if they shed light on the website priorities.

Linguistic keywords reflect the content of a particular text (Scott, 1997, 2000) through their high frequency. In this study, linguistic keywords were identified by, first, conducting a word frequency count on the texts of the websites to find the absolute frequencies of all words. While absolute frequencies can provide some useful information about the concerns of a text, in many cases the words with the highest absolute frequencies will be similar across different texts simply because these words are most commonly used in English (such as articles and prepositions). Therefore, relative frequencies of words compared to a benchmark of general English use are more insightful, and it is the words with high relative frequency that are considered keywords. In this study, the frequencies of all words (including British and American spelling variants together) in the data with a minimum absolute frequency of 5 were compared against their frequencies in the British National Corpus (BNC) using log-likelihood (see Rayson & Garside, 2000 for details of log-likelihood uses). Any words with a log-likelihood of greater than 30 were considered keywords. These 48 keywords within their local co-text were then categorized using an iterative process of identifying themes. Five themes were identified:

- Words relating to the hospital itself or its location
- Words associated with websites
- Words relating to medical priorities
- Words relating to promotional priorities
- Words relating to non-traditional interpretations of health

The last three of these categories shed light on the purposes of this study: words relating to medical priorities are associated with the purpose of providing medical care; words relating to promotional priorities are associated with the purpose of profit making; and words relating to non-traditional interpretations of health are associated with shifting medical resources to non-essential health care. The two researchers then categorized the keywords into these five themes independently, and the categorizations were compared for reliability using Cohen's kappa.

3.2.3. Analysis of presuppositions

One-way communication media, such as websites, depend largely on assumed common ground between the writer and the target readers. One way in which

this assumed common ground can be identified is by examining presuppositions, especially existential presuppositions which assume the existence of the items mentioned in the presupposition (Abusch, 2002; Levinson, 1983; Yule, 1996). Existential presuppositions are most commonly manifested in the forms of possessive constructions (e.g. *your health needs* presupposes that *you have health needs*) and definite noun phrases (e.g. *the screening tests* presupposes that *there are screening tests*). While some presuppositions may be reasonable, others may be the result of the writer trying to manipulate the target readers, and these may shed light on the purposes and priorities of the writer. In this study the phrases containing presuppositions were identified and then categorized into four themes by the two researchers independently. The four themes are:

- Assumptions that the reader is a potential patient
- Assumptions about the nature of patients, especially international patients
- Assumptions about the poor quality of competitors
- Assumptions about the nature of health

The first three of these categories may serve promotional purposes by, for example, manipulating the reader to consider him/herself as a potential patient even if he/she is not ill, while the last category may expand the nature of health to include non-essential health care. The categorizations by the two researchers were checked using Cohen's kappa.

3.2.4. Metaphor analysis

The choices made between different ways of expressing the same concept can provide insights into the conceptual systems, purposes and opaque beliefs of a writer. A key way of examining these choices is to look at metaphorical uses of lexis which can reflect the belief systems and concerns of the writer (Lakoff & Johnson, 1980). Metaphors can be identified by comparing the literal and intended meanings of lexis in a text. While metaphor analysis has been used extensively in CDA, there is a danger of over-interpretation whereby commonly used metaphors are assigned a specific critical interpretation within a given text even though the choice of metaphor reflects general language use rather than specific purposes of the writer (O'Halloran, 2007). In this study, metaphorical uses of lexis were identified where literal meaning differed from intended meanings. Then all identified metaphors were searched for in the BNC. Any metaphors appearing in this corpus were excluded from further analysis as they may reflect general language use rather than the belief systems and concerns of the writer. The remaining metaphors were then analyzed for insights into the purposes and priorities of the writer.

4. Results

4.1. *The language of the website*

All five webpages forming the data for this study come in two versions, English and Thai. For four of these webpages, the differences between the two versions are negligible. For instance, the English versions of the BIH pages contain a translation of the meaning of *Bumrungrad*, a Thai word pronounced 'Bahm-roong-RAHT' ('care for the people') (Bumrungrad International Hospital, 2010), information that is redundant in the Thai version and so is not included.

Some of the differences between the Thai and English versions of this page concern slightly different information on the same topic. The Thai version gives the exact founding date of the hospital, whereas the English version contains only the year. More interestingly, the information about the number of patients served by the hospital is different. The English page states that BIH serves over 1 million patients annually, of whom, 400,000 are international patients coming from 190 countries. The Thai page gives figures of 850,000 patients of whom 300,000 are international coming from 154 countries. These Thai figures are identical to the figures given in the 2007 version of the English website and thus are two years out of date, suggesting that the English version is more up-to-date than the Thai version. We therefore take the English version to be the primary version of the website with the Thai version a translation, and so all further analyses will use the English versions of pages as data.

A second type of difference between the Thai and English versions is where the topic is actually different. The English version includes information about a medical coordination office set up specifically to facilitate visits by international patients which is not mentioned in the Thai version. On the other hand, the Thai version stresses the social goals of the hospital and gives details of free services provided for Thais, especially for Thai children with heart problems. It would therefore appear that the Thai version is more concerned with presenting an image of a charitable organization helping society whereas the English version promotes services providing convenience for international patients. These two contrasting faces that the hospital presents may reflect what the hospital perceives to be differing concerns of the two target audiences.

4.2. *The objectives of homepage links*

Links on website homepages can provide insights into the concerns of the whole website. All links on the BIH and Vitallife homepages were categorized as one of four business objectives following Xi et al. (2007): general publicity,

customer service, information exchange, and online sales. Examples of links in the four categories are *Patients' Testimonials* for general publicity, *Diabetes Center* for customer service, *Brochure Request* for information exchange, and *Appointment* for online sales. The reliability of the categorization was rated good (Cohen's kappa = 0.658). The numbers of links on each homepage serving each objective are given in Table 1.

Table 1
Objectives of Links on Homepages

| | Publicity | Service | Information exchange | Sales | Total |
|-----------|-----------|---------|----------------------|-------|-------|
| BIH | 35 | 62 | 8 | 10 | 115 |
| Vitallife | 13 | 18 | 3 | 1 | 35 |
| Both | 48 | 80 | 11 | 11 | 150 |

Overall, customer service is the most frequent business objective of links, suggesting that the majority of the websites give information about hospital products and services. This, in turn, suggests that the websites prioritize providing medical care. However, when examining the placement and ease of use of the links, the emphasis on customer service becomes less clear. Most of the links for customer service are not immediately visible on the pages; rather, they are contained in drop-down menus that only become apparent when placing the mouse over a superordinate link. The links for general publicity, on the other hand, although fewer in number, are more prominently placed on the web page pages and are immediately visible to visitors. Thus, although customer service links prioritizing medical care are more frequent, general publicity links associated with profit making are more salient.

4.3. Webpage keywords

As mentioned above, 'keywords' can refer to either a component of website metatags or a linguistic aspect of texts. Starting with web-based keywords, the three BIH webpages include keywords in the metatags, but the Vitallife pages do not. Each of the BIH webpages has different keywords, with a total of 63 words included as keywords in the three pages, and *hospital* the most frequent keyword (11 occurrences). The keywords fall into three main categories. Some are purely descriptive (e.g. *Bangkok hospital*, *Thailand hospital*); some detail the medical care the hospital provides (e.g. *intensive care facilities*, *clinical research center*); and some are promotional and linked to profit making (e.g. *one-stop medical tourism*, *serviced apartments*). None of these categories are clearly prioritized over the others.

Linguistic keywords can be identified based on frequency. The first stage is to conduct a basic word frequency count to give absolute frequencies of words

on the webpages. Table 2 shows the 5 most frequent words for the three BIH pages, the two Vitallife pages, and all five pages together.

Table 2
Most Frequent Words on Webpages

| BIH and Vitallife | BIH only | Vitallife only |
|-------------------|----------|----------------|
| and | center | and |
| center | and | Vitallife |
| about | a | to |
| the | us | about |
| us | the | management |

Some initial implications can be drawn from Table 2. The high frequency of *and* reflects the frequent use of conjoint phrases (e.g. *Diagnostic and Therapeutic Center; understand and treat conditions that threaten the lives and lifestyles*); the frequency of *center* shows how the hospital comprises over 30 specialist centers; and *us* may be indicative of language commonly used in websites (e.g., *About us*; Boardman, 2005). It is difficult to reach stronger conclusions, however, as absolute frequencies reflect general language use as well as the concerns of the particular texts under investigation.

We therefore need to look at relative frequencies and these were calculated by comparing the absolute frequencies against frequencies in the BNC using log-likelihood. The five keywords with the highest log likelihoods are given in Table 3.

Table 3
Words with Highest Relative Frequencies on Webpages

| BIH and VL | BIH only | VL only |
|------------|---------------|----------------|
| Vitallife | center | Vitallife |
| Bumrungrad | Bumrungrad | wellness |
| center | overview | programs |
| wellness | hospital | nutraceuticals |
| us | international | medicine |

different from the most frequent words, and the keywords reflect the concerns of the webpages more accurately. These keywords were categorized into five themes: words relating to the hospital itself or its location, words associated with websites, words relating to medical priorities, words relating to promotional priorities, and words relating to non-traditional interpretations of health. The reliability of this categorization was rated excellent (Cohen's kappa = 0.953). The highest-ranked keywords for each

theme with examples of use and sources (i.e. whether they occur in BIH or Vitallife webpages) are given in Table 4.

Table 4
Keywords Categorized by Theme

| Keyword | Freq. | LL | Source | Example |
|---|-------|--------|------------|---|
| <i>Words relating to the hospital itself or its location</i> | | | | |
| Vitallife | 23 | 282.92 | Vitallife | At Vitallife we understand |
| Bumrungrad | 21 | 258.32 | Bumrungrad | Bumrungrad serves over a million patients |
| hospital | 20 | 123.26 | Bumrungrad | the largest private hospital |
| international | 21 | 116.48 | Bumrungrad | Bumrungrad International is a complete medical campus |
| Thailand | 10 | 87.05 | Bumrungrad | best quality service in Thailand |
| Bangkok | 8 | 82.87 | Bumrungrad | located in the heart of Bangkok |
| <i>Words relating to the nature of websites</i> | | | | |
| us | 33 | 146.96 | Both | About us; Contact us |
| overview | 13 | 131.24 | Bumrungrad | Overview, Clinics & Centers |
| home | 20 | 113.97 | Both | Home |
| about | 35 | 102.08 | Both | About us; About Vitallife programs |
| contact | 14 | 99.87 | Both | Contact us |
| feedback | 13 | 81.00 | Bumrungrad | Customer feedback |
| <i>Words relating to medical priorities</i> | | | | |
| center | 37 | 241.25 | Bumrungrad | Clinical Research Center |
| clinics | 10 | 99.11 | Bumrungrad | Surgical Clinics |
| medical | 14 | 89.58 | Bumrungrad | Medical Clinics |
| inquiry | 11 | 84.85 | Bumrungrad | Inquiry, Find a Doctor |
| facilities | 12 | 78.12 | Bumrungrad | intensive care facilities |
| care | 15 | 76.84 | Bumrungrad | tertiary care hospital |
| <i>Words relating to promotional priorities</i> | | | | |
| management | 21 | 117.01 | Bumrungrad | experienced American management |
| international | 21 | 116.48 | Bumrungrad | Newsweek and other international press |
| services | 18 | 90.63 | Bumrungrad | Food & Beverage Services |
| inquiry | 11 | 84.85 | Bumrungrad | Corporate Inquiry |
| investor | 8 | 75.85 | Bumrungrad | Investor Relations |
| accreditation | 7 | 74.15 | Bumrungrad | JCI accreditation |
| <i>Words relating to a non-traditional interpretation of health</i> | | | | |
| wellness | 13 | 158.55 | Vitallife | Trust your wellness to professionals |
| management | 21 | 117.01 | Vitallife | Age Management |
| medicine | 13 | 108.81 | Vitallife | anti-aging medicine |
| programs | 12 | 107.31 | Vitallife | Weight Management Programs |
| nutraceuticals | 8 | 98.41 | Vitallife | Lab & Nutraceuticals |
| regenerative | 7 | 81.76 | Vitallife | Preventive and regenerative care |

The first two themes in Table 4 reflect the topics of the website and the medium of communication. Thus, we might expect similar keywords to the first theme in other communications concerning BIH and Vitallife (e.g. hospital brochures), and similar keywords to the second theme in other

institutional websites. The third and fourth themes are manifested almost exclusively in the BIH webpages and show a roughly equal concern for medical care and profit making in these pages. The last theme is restricted to the Vitallife pages and emphasizes a concern for redefining health in these pages. Even a word like *medicine* which is associated with traditional interpretations of health is used with non-traditional collocations (e.g. *anti-aging medicine*) in these pages. It is also worth noting that the word *health* appears in the Vitallife pages 9 times with a log-likelihood of 33.89, but again the collocations are non-traditional (e.g. *optimal health, sexual health*).

As a final point, investigations of relative frequency nearly always focus on the highest-rated keywords but words with unusually low relative frequencies may also provide insights. For the webpages investigated in this study, *the* is the word with the lowest log-likelihood (33 instances, LL = -106.6). This perhaps reflects the nature of the language of websites where there is a relatively low proportion of cohesive running text reducing the number of reiterations requiring definite articles and a high proportion of the text consists of links in the form of noun phrases without articles.

4.4. Presuppositions

Presuppositions can be used by writers to manipulate readers and thus provide insights into the writer's purposes and priorities. In the five webpages, 26 existential presuppositions were identified and these were categorized into four categories with a high reliability (Cohen's kappa = 0.894). The four categories are assumptions that the reader is a potential patient (7 instances), assumptions about the nature of international patients (3 instances), assumptions about the nature of health (11 instances), and assumptions about the relatively poor quality of competitors (5 instances). Examples from the four categories are given in Table 5 (on next page).

Presuppositions concerning patients are found on both the BIH and Vitallife webpages, and may be attempting to manipulate the reader into thinking of him/herself as a patient. Presuppositions concerning international patients highlight the special nature of such patients and are found exclusively on the BIH webpages. Presuppositions about competitors, found on both the BIH and Vitallife pages, may be typical of business communications in promoting the quality of the writer's own business. Finally, presuppositions about health, found in the Vitallife pages, make somewhat controversial assumptions about the nature of health and may be attempting to draw readers to unquestioningly accept non-traditional interpretations of health. The first three of these categories are largely promotional, encouraging readers to consider themselves, patients, making international patients feel special, and promoting the quality of the hospital. The last category aims to redefine health.

Table 5
Examples of Existential Presuppositions

| Text from website | Presupposition |
|---|---|
| <i>The reader as potential patient</i> | |
| How much will <i>your treatment</i> cost? | You will have treatment |
| Let's us (<i>sic</i>) learn about you and <i>your needs</i> | You have needs |
| Let's us (<i>sic</i>) help you to reach <i>your wellness goal</i> with our antioxidant blood test ... | You have a wellness goal |
| <i>The nature of international patients</i> | |
| New insurance products designed for <i>the special needs of medical travelers</i> | Medical travelers have special needs |
| ... a medical coordination office staffed by doctors, nurses, and interpreters who serve <i>the special needs of international patients</i> | International patients have special needs |
| <i>The nature of health</i> | |
| <i>Integrate your mind and body towards optimal health</i> | Mind and body can be integrated; There is optimal health |
| <i>True beauty</i> and vitality are more than skin deep | There is objectively true beauty |
| Vitalife offers a full range of programs to suit <i>every need of every age</i> | Every age has many needs; Different ages have different needs |
| <i>The poor quality of competitors</i> | |
| New Procedure ... offers a <i>less traumatic way</i> to correct a herniated lumbar disc | There is a more traumatic way |
| You deserve <i>to be treated with respect</i> | There are places which do not treat you with respect |
| The Vitallife physicians are <i>properly credentialed</i> in Anti-Aging Medicine | Some physicians are improperly credentialed |

4.5. Metaphors in the webpages

Metaphors can provide insights into the underlying belief systems of writers. From all five webpages, 25 examples of metaphorical uses of language were identified. To ensure that these examples were specific to the belief systems of the writer rather than widely used metaphors, a search for the metaphors in the British National Corpus was conducted. Of the 25 examples, 18 occur in the BNC and so were discounted for further analysis. For instance, one metaphor identified was *located in the heart of Bangkok*. It is tempting to argue that this metaphor shows how the writer is making a medical analogy for the role of BIH in Thailand and thus promoting medical issues. However, the phrase *in the heart of* occurs 13 times in the BNC and would therefore appear to be a standard phrase whose metaphorical nature does not reflect the specific concerns of the writer. Other discounted examples of metaphors include *that is home to many of our centers* and *we may not have discovered the fountain of youth just yet*.

From the remaining metaphors, two interesting patterns emerge. First, in the Vitallife pages, verbs of sense are used metaphorically (e.g. *It's about time to feel the difference; ours [laboratory tests] look to see if you're healthy*). This may reflect an attempt to create a New Age atmosphere to the Vitallife website. Second, the BIH pages include non-literal uses of *hospitality* (e.g. *Hospitality Residence* and *Hospitality Suites* both referring to hotel

accommodation linked to the hospital), perhaps emphasizing non-medical services. Overall, however, the findings from the metaphor analysis were not particularly insightful.

5. Discussion

First, let us state that our analysis in no way implies a criticism of the quality of medical care provided by the hospital. BIH, classified in the top category of hospitals by the Red Cross, is justifiably regarded as one of the best hospitals in Asia. Rather, we are criticizing whether the high-quality resources at BIH are being put to the best use from a social perspective. In the introduction, two potential challenges to achieving primary health care in Thailand: the growth of medical tourism by which resources are shifted away from the local population to wealthier non-nationals, and the provision of non-essential health care for both non-nationals and wealthier segments of the local population were posited. While there is statistical evidence for these challenges (e.g. BIH earns more than half its income from non-Thais (Aron, 2009), what evidence is there from the web-based hospital communications?

For medical tourism, it was seen that links for general publicity of the hospital are more salient than links for medical care, that some web-based keywords are associated with medical tourism, that roughly half of the linguistic keywords serve promotional purposes, and that many presuppositions in the texts attempt to draw customers to the hospital. Against these findings, we found that links for medical care are more frequent, and that many of the web-based and linguistic keywords serve medical purposes.

It is clearly unrealistic to expect the website of a private hospital to focus exclusively on medical priorities. After all, private hospitals need to build their reputations and attract patients to survive. If the patients attracted are those who would otherwise be using the limited resources of an over-stretched public health system (i.e. Thais and expatriates living in Thailand), the promotional aspects of the website could be easily justified. When the patients attracted, however, add an extra burden to an over-stretched system as is the case with international patients coming as medical tourists, the justifiability of the hospital promotions is less clear. Although the Thai government has at times promoted Thailand as a hub for medical tourism, these policies have been heavily criticized by doctors and social activists as benefiting private hospitals at the expense of wider society (e.g. Treerutkuarkul, 2009).

For the BIH website, many of the most salient aspects of the website designed for promotional purposes target international patients and position the hospital as a hotel rather than a medical institution. This appears to be a conscious decision by the hospital, since the current English version of the

website was designed to focus on audience segmentation and to promote services to international patients (Haar, 2009). Such a clear emphasis on providing convenience for medical tourists is worrying but might be justified on the basis that the profits accrued allow the hospital to provide resources and services for the local population that it would otherwise not be able to provide. Whether this is the case for BIH is unclear, and it is difficult to judge whether the balance of medical and promotional priorities in the BIH website is reasonable.

However, comparing the current BIH website with its previous incarnations shows a clear trend of increasing promotion to international patients. The first version of the website launched in 1998 mentioned only “Thai, ASEAN¹ and expatriate” patients with the English version targeting the latter two groups. More recent versions, including the one analyzed in this article, have emphasized non-ASEAN international patients. Even if the balance of medical and promotional priorities in the current website is reasonable, the ever-increasing emphasis on promoting health care for medical tourists is a cause for concern. If this trend continues, and if, given the leading role of BIH in the Thai medical system, other private hospitals follow the same path, the chances of Thailand achieving and maintaining primary health care will be greatly reduced as more and more resources are devoted to international patients.

Regarding the provision of non-essential health care, the Vitallife website clearly aims to redefine health. The linguistic keywords are used in contexts not associated with traditional interpretations of health and presuppositions encouraging a non-traditional interpretation of health are the most frequent category of presupposition. The redefinitions of health promoted in the Vitallife website can be viewed as creating ‘health’ needs that did not previously exist.

Where such created needs draw limited resources away from essential health care, the promotion of wellness centers such as Vitallife can present as much of a challenge to providing primary health care as medical tourism. As with the promotion of medical tourism on the BIH website, it is not clear whether the current allocation of medical resources to promoting wellness represents a real threat to providing primary health care in Thailand, but as an indicator of a trend in allocating resources away from essential health care to non-essential health care for wealthy segments of the population, it is a cause for concern.

¹ ASEAN includes Malaysia, Singapore, Thailand, Philippines, Indonesia, Vietnam, Brunei Darussalam Myanmar, Laos, Timor Leste, and Cambodia

6. Conclusion

From the webpages analyzed in this study, there is substantial evidence of promotion of initiatives that may present a challenge to Thailand's ability to achieve primary health care. While the extent to which such promotion is currently having adverse effects is unclear, if trends continue as at present, the chances of providing primary health care in the future may be severely reduced. Organizations and authorities wishing to monitor such trends have traditionally relied on statistics such as the number of international patients treated in Thai hospitals. These figures provide a snapshot of current practice, but do not allow insights into whether hospitals are actively promoting initiatives that could be viewed as problematic for society. We hope that this paper has shown that linguistic analyses of hospital communications can provide a tool to support the analysis of statistics to uncover possibly hidden priorities of hospitals.

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