Nip, Tuck and Click: **Medical Tourism and the Emergence of Web-Based Health Information**

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Abstract: An emerging trend is what has become commonly known as 'Medical Tourism' where patients travel to overseas destinations for specialised surgical treatments and other forms of medical care. With the rise of more affordable cross-border travel and rapid technological developments these movements are becoming more commonplace. A key driver is the platform provided by the internet for gaining access to healthcare information and advertising. There has been relatively little attention given to the role and impact of web-based information to inform Medical Tourism decisions.

This article provides a brief overview of the most recent development in Medical Tourism and examines how this is linked to the emergence of specialized internet web sites. It produces a summary of the functionality of medical tourist sites, and situates Medical Tourism informatics within the broader literatures relating to information search, information quality and decision-making.

This paper is both a call to strengthen the empirical evidence in this area, and also to advocate integrating Medical Tourism research within a broader conceptual framework.

INTRODUCTION

The impact of globalisation in health and health care have paralleled emerging trends towards increased reliance upon individualised healthcare provision and 'consumer'-led access to 'health-related' internet sites [1]. The subsequent opening up of global markets has resulted in new demands and need for access to 'medical information', including information about international and cross-border provision of health care services. In response, there has been reform of the more traditional Government or State led healthcare provision that today extends beyond the notion of 'local citizenship' and 'community participation' as healthcare in the United Kingdom [2]. These developments include the growth of cross-border supply of health-related goods and services, greater overseas investment in domestic provision, increased movement of professionals and health providers, as well as trends towards consumption abroad and discounted travel incentives included as part of medical assessment and treatment [3-6]. One increasingly popular form of consumer expenditure is what has become commonly known as 'Medical Tourism'. This denotes what are typically elective procedures driven by patients being more able – and willing – to travel to overseas destinations for specialised surgical treatments and other forms of medical care. In recent years there has been heightened media coverage and anecdotal evidence of these new forms of patient or 'consumer' mobility where individuals travel outside their own country of residence for the consumption of health care abroad [7-11]. However, to date there has been relatively little attention given to the role and impact of web-based information to inform Medical Tourism decisions.

Medical Tourism is not a new phenomenon. In terms of cross-border travel for health care there is a long history including the use of spas and wellness tourism that gained a mass market throughout eighteenth and nineteenth century Europe [12-14]. Traditionally, consumers from all continents and forms of health systems have travelled abroad for their healthcare to avoid waiting lists or access state-of-the-art techniques and receive better aftercare services [15]. With the rise of more affordable cross-border travel, rapid technological developments (encompassing both surgical techniques as well as the increased volume and access to 'quality' medical information on the internet) these transactions are becoming more frequent and potentially serve as a wide consumer market [16].

A key driver in the Medical Tourism phenomenon is the platform provided by the internet for gaining access to healthcare information and advertising. The aim of this article is to provide a brief overview of the most recent development in Medical Tourism and to examine how this is linked to the emergence of specialized internet web sites. In so doing the intention is to situate this emergent field of inquiry within the broader e-health literature. Despite the growth in the number of websites related to Medical Tourism there is currently a dearth of empirical evidence on the role, use and impact of these websites on the behaviour of health care consumers. This paper is in part a call to strengthen the empirical evidence in this area, and also to advocate integrating Medical Tourism research within a broader conceptual framework.

The paper is structured into four sections and is organized as follows:

o   An overview of the growth and role of Medical Tourism in modern health care;

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o A review of Medical Tourism websites and the development of a conceptual framework to understand these;

o A consideration of the broader literatures pertinent to the internet and Medical Tourism;

o An empirical agenda for understanding Medical Tourism and the internet.

OVERVIEW OF MEDICAL TOURISM LITERATURE

Medical Tourism takes place when individuals opt to travel overseas with the *primary intention* of receiving medical (usually elective surgery) treatments. These journeys may be long–distance and intercontinental, for example, from Europe to Asia, and a range of treatments including dental care, cosmetic surgery, elective surgery, and IVF [17]. Medical Tourism involves exchanges that may include patients travelling from *developed* countries to other developed countries; patients travelling from *developed* countries to other developing countries; patients travelling from *developing* countries to developed countries; and patients from *developing* countries to other developing countries. Regions and countries particularly active in the delivery of Medical Tourism services include Asia (Malaysia, Thailand, Singapore, and Hong Kong); Eastern Europe (Hungary and Poland); Mediterranean (Malta and Cyprus); Africa (particularly South Africa); South and Central America (Costa Rica, Mexico, Brazil, and Cuba); and the Middle East (particularly Dubai and Jordon). Medical Tourism is embedded within the wider concept of patient mobility which encompasses a wide range of activities, including 'outsourcing', cross-border health collaboration, 'accidental tourists' and 'sunset migrants' [18].

A Medical Tourist may be defined in two ways depending on the form of health system and how it is funded.[1] First, are Medical Tourists who can be categorised as 'consumers' because they use purchasing power expressed through the market to access a range of dental, cosmetic and elective medical treatment. There are related questions about access to insurance, the portability of insurance, and whether voluntary insurance systems include cover to the choice of overseas services. Within the United States, for example, some domestic private insurers have looked towards purchasing services overseas. In addition, there are also increasing numbers of consumers without insurance or who are under-insured and who look to pay out of pocket for treatments [19-21].

Second, at a European level, Medical Tourism may involve citizenship rights in order to receive medical surgery in another EU member state and request that their national purchaser reimburse the costs of the treatment (see European Court of Justice judgements including Case C-372/04 (The Watt case. 2005); also Case C-158/96 (The Kohll Case, 1998); and Case C-120/95 (Decker Case, 1998)). This established that internal market provisions allowed citizens of EU member states to access health in EU member countries. The current European Commission's proposal for a Directive on Patients' Rights in Cross-border Health Care arose as the result of several European Justice Court rulings over patient mobility and the rights of patients to be reimbursed for treatments received in another EU country. Whilst it is clear that Member states remain primarily responsible for the delivery of their health care, this responsibility notwithstanding, the Directive outlines that the insured "…will not be prevented from receiving health care in another Member State… (and in the event of consumption of care from abroad,) the Member State of affiliation shall reimburse the costs to the insured person, which would have been paid for by its statutory social security system had the same or similar health care been provided in its territory" [22]. The Directive is subject to ongoing debate and its impact is currently unclear but it may effectively offer a form of voucher whereby citizens may seek health care in another EU Member State and be reimbursed up to the same amount of treatment costs within their home country. European patients may also be consumers – paying out of pocket or drawing upon private voluntary health insurance to fund Medical Tourism. These dual roles of citizen and consumer set Europe apart from the United States situation where Medical Tourists are more accurately described as a consumer rather than citizen [23].

The precise number of Medical Tourists making self-funded journeys is unknown[2], but the number of UK Medical Tourists has been estimated at about 50,000 per annum [24]. Of these 50,000 Medical Tourists, about 20,000 are said to be seeking medical treatment, 14,500 cosmetic treatment, and 9,000 for elective surgery (including hip, knee and eye surgery), whilst a further 5,000 undertake fertility treatments overseas. In terms of the global health tourism market there are ongoing debates about the precise numbers seeking treatment. A McKinsey report estimated the number of Medical Tourists at 60-80,000 [16], whilst Youngman [25] takes a far more expansionist definition and puts the number at 5 million overall (including day surgery, cross-border exchanges, and developments outside of the United States).

MATERIALS AND METHODOLOGY: REVIEW OF MEDICAL TOURIST WEBSITES

Within the field of health care, the internet provides a range of options for accessing information relating to professional *diagnosis, self-diagnosis*, *aftercare* and *support*. This includes the possibility of obtaining a second opinion; to allow the patient to access further information; to promote the purchase of diagnosis services and treatments; and the development of support groups around conditions. The internet offers a range of functionalities and formats including discussion forums, file sharing, posting information and sharing experience, member only pages, advertisements and online tours.

The internet also facilitates decisions regarding the *purchase* of treatments. At the heart of the growth in Medical Tourism lies commercialization and in some part this is premised on the availability of web-based resources to furnish the consumer with information, advertisements and

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[1]An alternative division or categorisation of 'patients' could identify what is 'consumer' behaviour:

– Elective intervention seekers – e.g. cosmetic surgery etc.

– Non-elective seekers e.g. hip replacement etc.

[2]Whilst national authorities keep records of publicly funded transactions and exchanges (e.g. pan-European transfer), forms of out of pocket medical tourism are more difficult to capture.

market destinations, and to connect consumers with an array of healthcare providers and brokers. Given the potentially pivotal place of web-based resources there are important questions about their role and function including: the types and availability of information provided; information provenance and quality; patient confidentiality; and how information provided over the internet shapes patient choice of treatment, provider and destination. In brief, how does the searcher (or surfer) become a consumer of health treatments abroad? "The Internet is altering how people consume health care, the way in which they obtain information and the manner in which they evaluate [treatment] alternatives" [26]. For Medical Tourism the truth of this statement is tempered by the need to advance our understanding of the internet's role in facilitating access to treatments.

RESULTS

There has been a burgeoning of sites dedicated to providing information for Medical Tourists in recent years, and in the sections below we provide an overview of such sites, identifying their characteristics. We restrict our coverage to English language web sites. Our preliminary review suggests the following typology of websites can be drawn: i) portals ii) media sites iii) consumer-driven sites iv) commerce-related sites, and v) professional contributions. These are each discussed in turn below.

Portals

o   *Open portals* provide an entry point to many Medical Tourist destinations (including a range of countries and treatments). They allow individuals the opportunity to search for treatments, explore providers and to compare costs amongst the plethora of providers. For example www.treatmentabroad.co.uk and www.placidway.com/

o   *Regional portals* provide a gateway to treatments and countries for a particular region, for example Asian countries. For example www.healthtourisminasia.com/

o   *National portals* are sites that focus on treatments within one country, sometimes supported by a Government Department and seen as part of a broader economic development agenda. They may also have the support and sponsorship of travel organizations and the national tourism industry. For example: www.treatmentin hungary.net and www.medicaltourismofcostarica.com

o   *Government portals* exist where the national government has taken responsibility to develop Medical Tourism and has sponsored an organization to take this forward (e.g. in Singapore under the auspices of a state-supported body 'Singapore Medicine' see www.singaporemedicine.com).

o   *Treatment portals* provide information around particular treatments (e.g. dentistry or IVF) and allow individuals to search different providers and compare costs between providers for different treatments including www.ivfinfo.net/ivf.html for IVF services, and www.healthtour.co.uk for dental treatment in Poland.

o   *Provider portals* focus on treatments offered by a small group of providers, perhaps within a single city such as Prague or Budapest. Provider portals may focus on a single provider or group (e.g. a surgery or hospital) and provide information and details about the facilities, treatments on offer, and the training and experience of staff. For example http://www.medth. com/ focused on Marbella, www.beautyinprague.com centring on Prague, whilst www.bumrungrad.com/ details a major Thai provider of services.

Some sites may serve more than one function and these categories are not mutually exclusive. Portals use a range of technical functions including providing videos of treatments, virtual tours of facilities, patient testimonials, and details of the establishment, staff qualifications and professional experience. A key distinguishing characteristic of these sites is that they provide the potential consumer with opportunities to receive further information and compare a range of quotes for treatments. The portals share a common site structure: main header with branding and navigation; primary services and image; advertisements; related links and highlighted features; main content area with images, text and links; and a footer with contact and communication links.

Media

An increasing number of sites support the growing 'media' presence and associated marketing of Medical Tourism, and providing services beyond simple gateways to treatments. For example, sites showcase European and International Medical Tourist Associations, offering generic and provider information on the range of providers, facilitators and insurance options. There are also sites supporting Medical Tourist magazines and commercial interests involved in broader marketing and 'infomercial' services. These include stories and interviews with industry interests and details of emerging markets and new developments (for example the *International Medical Tourism Journal* www.imtjonline.com and *Medical Travel Today* www.medicaltraveltoday.com.

Consumer

Consumer-generated sites are available including:

o   *Medical Tourism blogs* produced by both lay interests and professionals: www.medicaltourismblog.org/, www.healism.com/blogs/ and www.implant.uk.com/

o   *Discussion boards* and debates where information is posted on the issues and experience of Medical Tourism.

Commercial-Related

Given that Medical Tourism arises from increased commercialization in the health sector, it is unsurprising that a number of sites provide information on commerce allied to Medical Tourism including:

o   Overseas property sales sites emphasizing how the particular geographical areas are linked with the development of Medical Tourism (for example, Turkey, Costa Rica and Cyprus).

o   Within money-saver, cost comparison sites and financial advice sites Medical Tourism may be listed as another product.

o   Travel insurance products available for Medical Tourism trips.

o   Market research sites offering research and analysis reports and data relating to the Medical Tourist industry and emerging markets (typically requiring separate payment and subscription).

Professional

Finally there are professional and policy sites that provide information around Medical Tourism (e.g. the centrally-funded Department of Health in the UK, or advice from the British Association of Plastic, Reconstructive and Aesthetic Surgeons).

What is it Medical Tourism Sites Do?

Medical Tourism sites perform a range of functions, first and foremost the scope of the site is to introduce and promote services to the consumer. The main functionalities of the sites can be separated into five main processes that are arranged as a functionality of the site, promoted overtly through direct advertisement or sign-up services. These include functionality as a *gateway* to medical and surgical information, *connectivity* to related health services, the *assessment* and/or promotion of services, *commerciality* and opportunity for *communication*. This can be summarised in Table **1**.

The range of Medical Tourism sites and related content raise familiar concerns associated with unregulated on-line health information [28]. The sites are relatively cheap to set up and run, and contributors may post information without being subject to clear quality controls. A contextual deficit means selective information may be presented, or presented in a vacuum, ignoring for example issues such as post-operative care and support. There is also the possibility of unreliable products being marketed *via* the internet – poor quality surgery or inadvisable treatments, unnecessary and even dangerous treatments. Indeed from Table **1** we can surmise that whilst Web 2.0 tools have, in effect, made it 'easier' to search and retrieve sources of medical information this needs to be evaluated against a need to continually 'assess' the quality of the sites, and the negotiation of the traditional 'patient'/'doctor' relationship, now as 'consumer'/'medical supplier' association connection. Thus, the experience of what it means to be a 'patient' is changing [29]. As a medical consumer there is empowerment through the active engagement of his/her health and wellness management. Moreover, health consumers have the opportunity to share treatment experiences with other patients, medical professionals and drug companies (e.g. the United States based PatientsLikeMe[3]). This has implications for the sharing of medical and health data. Privacy and data protection is an issue where technology allows information to be easily stored, retrieved, updated, accessed and exchanged. Here the emphasis is on individuals to:

➢   Take responsibility for his/her own health information

➢   To publically share health information with others

➢   To individually assess health resources

3www.patientslikeme.com/

➢   To extract without delay and at minimal cost relevant health information.

DISCUSSION: MEDICAL TOURISM AND RELEVANT LITERATURES

The rise of Medical Tourism internet sites begs a number of policy-focussed research questions. These include:

•   Who uses the sites and why?

•   The nature of information search?

•   The quality of information?

•   How information influences decision-making?

•   What are the implications of the majority of sites being commercially-driven?

User Profile

Very little is known about which consumers use web-based resources for Medical Tourism. Attempts to outline the size and socio-demographic profile of Medical Tourists [16, 21, 25] do not go as far as examining how individuals source information. However, the development of both the industry itself (*via* marketing and advertising), and decisions about prospective regulation require far greater understanding of these very sources. Interrelated questions concern the profile of those searching for information on Medical Tourist treatments and provision: who makes use of web searches? What are their particular socio-demographic characteristics? What expectations do they have when conducting their searches? How do those searching for online information compare with Medical Tourists who access treatments *via* alternative routes, for example print media and through personal networks and referral?

Information Search

The internet presents a wealth of opportunity to access unlimited information which brings its own dilemmas. As Sheehan [30] notes:

> The Internet differs from other media channels in that unlimited amounts of information can be presented for consumer perusal. Multiple-page web sites present information in a nonlinear fashion that allows consumers to navigate the information in any way they choose. (p. 123)

For those individuals who use the internet to gather information about Medical Tourism destinations, products and providers there are questions about *how* these consumers search and the *types* of website they visit. Evidence from elective medicine, for example, identifies that online searches by consumers involves a heavy reliance on search engines, and that interested searchers usually do not go beyond the front page once they had retrieved search results [31-32]. In one study, visits were restricted to a maximum of 10 websites [32]. Within the sphere of Medical Tourism we know little about search strategies, the use of the search terms, whether individuals seek out particular destinations and treatments, and how they judge and compare sites. Anecdotal industry suggestions point to lay terms and concepts being primarily used by consumers in their search for information and treatments. Yet information is vital to ease navigation around sites and to provide a fuller picture of

Table 1.   Table Summary of Functionality of Medical Tourist Sites

Information	Connectivity	Assessment	Commerciality	Communication
To be seen to provide a range of health resources. The link to information on Medical Tourists sites is usually *via* a keyword web search, such as Google, e.g. 'surgery overseas', 'breast augmentation' etc. The site content is to encourage and assure the consumer/patient that they are making an 'informed' and independent choice(s) about procedural medical care, travel and potential after care for their treatment overseas. Through these provisions, the aim of the medical tourist sites is to have 'enough' information to secure, and be seen to support, patient interest, in a clear and easy to understand layout.	Medical Tourism sites offer related information to insurance brokers, travel partners and other medical websites. These can include official sources such as clinical and public health systems for a particular country and/or be purely commercial/ privatized. One issue is limited health service integration (especially cross-country) where the promotion of consumer services may be prioritized over official organizations, institutions and cross-country legislation.	A key element to the functionality of the Medical Tourism sites is to attract and sustain consumer interest. The assessment of the reliability and validity of the information and site content can be (largely) unregulated – particularly where sites are 'outside' of resident country domains. This means that content can be unclear, incomplete and misleading [27]. Moreover, the individual assessment of information and related health portals is made more uncertain when it is unlikely that content is based on the systematic review of medical care, knowledge and procedures. This means that the assessment of site content is only as 'good' or reliable as the authors declare, and the ability of the consumer to navigate and evaluate information.	The commerciality of Medical Tourism sites is built on the profiling/data gathering of the individual as they navigate sites. Key data is obtained in the form of cookies, surveys, newsgroup postings and web forums. Further data is also obtained and secure when the consumer is encouraged to sign up to newsletters or to register with the site to access the full content. In terms of functionality, this is about the provision of services and elective procedures, rather than reliable source of medical information.	In terms of communication Medical Tourist sites usually facilitate a traditional 'paternalistic' model of relationships. This establishes distance between those who are the 'medical professionals' and the 'patient' as a consumer. In addition, the direct communication and/or assessment of a procedure/patient health is often *via* a gate-keeper or mediator. In this way, the direct access to a medical professional and assessment is being reformed, and there is a problem with identifying the official owner/keeper of sites.

how Medical Tourism is conceptualized and processes of consumer decision-making.

Information Quality

Given a large amount of materials around Medical Tourism is sourced on line this raises questions about information quality. Clear evidence from other studies suggests that the quality of health information online is variable and should be used with caution. Eysenbach and colleagues [33] found 79 studies that explored the quality of consumer health information – with the most frequently used criteria being accuracy, completeness, readability, design, disclosure and references – but they noted that 70% of these identified a problem with quality. There is evidence that the quality of online information continues to vary widely. When the *Journal of the American Medical Association* standards for responsible print were adopted in order to judge the quality of infertility resources on the web, information was found to be at best variable [34]. Studies examining the quality of smoking cessation websites [35] and smoking cessation treatment on the internet [36] explored the content, quality and usability and concluded that those who seek Internet based advice on smoking cessations may have difficulty distinguishing between the numerous sites available and assessing their quality. Khazaal *et al.* [37] explored web-based information regarding social phobia, and concluded that the quality of sites was 'poor'.[4] A study of the

content and physical properties of sites aimed at providing information around Attention Deficit Hyper-activity Disorder identified a range of issues: the use of safety data, site disclaimers, authorship, advertising, and instances of wrong or misleading information [32]. In the field of cosmetic surgery, a study using the search term 'breast augmentation' located 130 sites and concluded that 34% of these sites contained information that was either false or misleading [38]. Gordon *et al.* [39] examined the quality of plastic surgery information concluding "it is difficult for the average lay person to get authoritative information quickly and easily on at least one aspect of cosmetic surgery." (p. 175).

Given the evident variability in quality, one response has been to attempt to develop tools to assess the quality of online health information resources [40]. Indeed, the emphasis on evidence-based medicine has reinforced the role of Kite marks. However, their utility outside strictly clinical information remains uncertain – particularly when the same information is left 'open' to the public and is utilised for patient/client/consumer content. Thus, whether such tools have any salience, reliability, credibility and validity for Medical Tourism however remains unexplored. Can filters or frameworks identify Medical Tourism sites that are relatively poor or provide misinformation? Similarly, tools that have been developed elsewhere in areas of health information provision, e.g. templates developed for assessing print information transferred to web based resources, have not been explored vis-à-vis Medical Tourism [41]. Charnock and Shepperd [42] for example, examine the application of DISCERN (a tool for assessing the quality of health information on the internet) to online material and conclude

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[4]It did however suggest that the HON label was a good indicator of quality. For HON there is the requirement that sites be: authoritative, complementary to existing doctor-patient relations, protective of privacy, attributive, justifiable, transparent, financial disclosure, and clearly distinguish advertising policy from editorial content.

that such a scheme can provide flexible skills and possibilities of transferability because of the shared emphasis on the content of written treatment information. Shepperd *et al.* [43] conclude that a single quality score calculated on answers to DISCERN can be used to support a simple threshold to assess whether good quality information is provided. Griffith and Christensen [44] suggest DISCERN can be used by consumers, and consumer organizations interested in assembling links to high quality sites [also, 45]. Provost *et al.* [46] attempt a comprehensive and standard quality assessment for health sites, developing an instrument that they assess can be used by consumers, researchers, and health care professionals: "The scale may also be used in the decision-making process of webmasters or editorial boards in selecting links to be posted on their web sites" (p. 49).

Such tools may lead to quality markers being laid down and in relation to quality markers: "Research shows that consumers are more receptive to websites produced by governments or professionals for health information…" [32]. Eysenbach and colleagues [33] contend however it is difficult to develop objective criteria to assess the quality of health information websites. This they argue is because of complexities surrounding the precise relationship between quality indicators and the actual quality of information. Similarly, Bernstam *et al.* [47] maintain that it may be difficult to apply quality criteria and that often inter-rater reliability is not given for any particular instrument [see also 1].

Such evidence begs the questions of how (if at all) the quality of Medical Tourism information is best addressed: ranging from codes of conduct, self taken quality labels, user guidance tool, third party quality and accreditation labels, to educating users and assisting those wishing to search. The education of site providers may be further attempts to assure quality [40]. There are also possibilities of gateway sites and evaluation instruments [48]. Of course, the view could be taken that no quality assurance is required beyond a simple *caveat emptor* – 'buyer beware'.

Decision-Making

Important questions persist around how consumers process the information they retrieve from website searches, how they take into account commercial interests and bias, and how this all contributes towards decision making. Again there is not yet direct research evidence for Medical Tourism and this requires remedy. There is some evidence from breast augmentation patients use of the internet with one survey suggesting that 68% of respondents utilized internet information, and of this subset of patients the information influenced decision making around choice of procedures (in 53% of cases), choice of surgeon (36% of cases) and choice of hospital (25% of cases) [49]. Elsewhere, Peterson *et al.* [31] suggest consumers of medicine are aware of issues around bias, commercialization and lack of regulation when they explore health sites, but suggest that the context of what is being searched is important. They argue that commercial considerations "may have an impact on the motives for and quality of information". What is unclear for example is whether potential consumers purposively seek information that cautions about possible pitfalls and difficulties (perhaps through professional or regulatory sites), as well as some of

the more aesthetic and clinical attractions of Medical Tourism. We need to know far more about how individuals accessing Medical Tourist information judge the information they retrieve given such information may be confusing, overwhelming, and even contradictory. An important distinction is likely to exist between how consumers actually conduct searches and reach decisions from what they *say* they do. For instance, Bates *et al.* [50] note that while consumers may report that they use source credibility to judge information quality, observational studies would suggest this is rarely borne out in practice [see also 31]. Marshall and Williams [51] look at ways that health information is assessed by consumers and recommend public awareness of critical appraisal tools, developing information literacy for health, and health information access points.

Underpinning the search and interpretation of sites is the fundamental issue of how trust and credibility of information are established and maintained given there are limits of choice, the existence of uncertainty and the possibility of pain incurred by treatments [52]. Here there are potential conceptual frameworks that can guide our analysis such as O'Grady's work developing a framework of presumed, earned, surface and reputed credibility in relation to assessing websites [53]. There is clearly a need for empirical work on Medical Tourism to be able to advance such conceptual developments.

Much medical tourism information is presented alongside images of the 'body beautiful' and associated with 'successful surgery', youth and vigor. Such images reflect the broader medicalisation of *lifestyles* or way of life around a 'healthism' that is assumed to prevent illness and to signal wellness [54]. Medical tourist sites aim to perform roles of influencing cognitive, affective and behavioural dimensions of consumers. Many sites seek to raise awareness of Medical Tourism, create a perceived need, and ensure the consumer is motivated to purchase.[5] There is, however, a major imbalance between the types of site identified in our typology, with most information being gleaned from portals with clear commercial imperatives. Concerns raised by the British Association of Plastic, Reconstructive and Aesthetic Surgeons about the 'irresponsibility' of sales approaches to cosmetic surgery using billboard advertising may have parallels in web-based advertising [56]. How information is used in supporting intended cognitive, affective and behavioural shifts and how material is weighed alongside other forms of hard and soft intelligence (including media reports, professional networks, and friends and family) requires investigation. As Hardey [57] noted "Using the Internet is an inherently interactive process that involves users in a continual process of decision making" (p.825). The challenge is to understand the place of the internet in the dureé of the Medical Tourist encounter and decision-making.

New Medical Encounters

The relations of the internet and Medical Tourism lie beyond simply being a conduit for information. Writing has focused on how users educate themselves about medical

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[5]Consumer brand knowledge may come from a range of sources: object reality (personal experience); constructed reality (advertising and media); and experiences of others (e.g. word-of-mouth). The combination of all these is the consumer integration process [55].

conditions and the impact of such knowledge on the service-encounter [58]. In the field of Medical Tourism consumers are both accessing information resources and also exploring a distribution channel for services. The internet promises to change the balance of power of patient-doctors and to effect new conceptualizations and layers of relationships – including notions of consumer*ism*, and consumer voice and exit in respect of patient choice [59]. In particular user, or consumer-generated information appears to be playing an increasingly important role [60]. One example is where consumers publish their reviews of named professionals and/or treatments that are directed at paid for medical services. For example, the United States based medical review site RateMD[6] offers warnings about the practices of some doctors and dentists, whilst also recommending others [29]. This is what Eysenbach refers to as the role 'apomediaries' whereby filtering of information takes place downstream *via* ratings and social networks rather than utilizing traditional 'expert' intermediaries [61]. Such ratings and networks will not lead to clear and objective judgments of treatment quality, clinical outcomes and particular treatment risks.

Given the influence of advertising and the drive to commercialization there are longstanding questions relating to asymmetry of information, safety, and informed choice that link to Medical Tourism and the Internet. As many of the sites in our typology are primarily adverts and 'infomercials' (with a series of buttons, banners and pop-ups), what sources exist that are non-commercial in nature and provide information as opposed to commercialization?

Within the UK healthcare has not traditionally been viewed as simply another product to be marketed and advertised. Advertising for medicinal products is strictly controlled by legislation and Codes of Practice [62, 63]. Non-prescription medicines may be advertised to the general public but only under particular conditions: for example advertisements must not imply that medical consultation is not necessary. There is a ban on Direct-to Consumer-Advertising for prescribed medicines. For internet advertising the same rules hold as for other advertising forms:

> Promotional material directed to a UK audience provided on the internet is subject to the Code [Association of the British Pharmaceutical Industry Code of Practice]. However, as a matter of practice, enforcement remains an issue as far as the regulator are concerned as they are only able to enforce against entities with a presence in the jurisdiction [62, p.105].

Advertisements for prescription only medicines are acceptable on websites only when their nature and content is directed at health professionals [63, section 6.3]. The marketing of cosmetic surgery is commonplace in UK settings including billboards and the Committee on Advertising Practice has released guidance on the interpretation of rules in the British Code of Advertising [64].

Parallel literature exploring Direct-to-Consumer Advertising in relation to advertising for pharmaceuticals, diet supplements, diagnostic tests and some surgery makes some interesting observations. Gollust *et al.* [65] examine the Direct-to-Consumer internet sales of genetic services and note that sites are likely to exaggerate benefits. Wolfberg [66] identifies genes testing available to consumers on the web; Datta *et al.* [67] explore the quality of websites marketing home diagnostic tests and conclude that the majority of websites provide information that is of inadequate quality. Illes *et al.* [68] focus on Direct-to-Consumer advertising in print and information brochures, concluding that such materials fail to provide consumers with the sort of comprehensive and balanced information necessary for informed decision-making. They suggest it is common to identify misinformation, unsubstantiated scientific claims, fear provoking threats, and a lack of information on the uncertainties and the risks of particular services – in their case tomographic and magnetic resonance imaging. With regards to surgery, Salant and Santry [69] highlight the growth of web-based advertising of bariatric surgery centres. These centres – in common with many Medical Tourist destinations – rely on patient self-referral and thus need to stimulate demand for these services.

On-line information and on-line consultation within healthcare carry risks. In relation to online information, Wald and colleagues [70] suggest an emergent model of consultation that involves the interaction of patient-web-doctor may impact detrimentally on the patient-doctor relationship. Whilst there are potential advantages of information provision – informed choice, shifting power relations and improved information flows – drawbacks include the breakdown of the patient-doctor relationship. There are further issues associated with the worried well, information overload, raised expectations, unequal accessibility to information and poor quality information [71-73].

Online or remote consultation may be utilized for primary or secondary medical opinion [74]. Some research indicates that the advantages of remote consultation includes convenience and flexibility but acknowledge doctors lack detailed knowledge of medical and social history and are unable to perform a physical examination that lies at the centre of the medical encounter [74-75]. As Miller and Derse [76] suggest:

> e-health sites and private practitioners now offer, without face-to-face contact, treatments that have long been considered the practice of medicine: access to prescription drugs, a single consultation with a physician who remains anonymous, and ongoing treatment of an identified patient by an identified physician (p. 162).

Advantages of access and ease of communication must be balanced against difficulties of judging quality, and a lack of clear regulatory oversight and reach: 'the anonymity of physicians on many sites defies even an attempt at accountability and continuity of care' (p. 171) [76]. Online consultation en route to the prescription of drugs entails its own uncertainties [77]. In 2006 the United Kingdom's General Medical Council issued new guidance detailing the

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[6]www.ratemds.com/

conditions for remote prescribing, emphasising the importance of patient-doctor dialogue, monitoring of progress and monitoring effectiveness of interventions, all of which are problematic with internet consultations and carry potential legal ramifications:

> Although the same level of "duty of care" as in a traditional doctor-patient relationship may not exist in an online consultation, a prescribing doctor will still be required to exercise a duty of care to prevent the loss or injury to a patient. A breach of that duty… leading to loss which is a direct and natural result of the breach… will result in liability for negligence (p. 8) [77].

These issues have not been studied in relation to Medical Tourism and the internet and the challenge is to understand these complex forms of consumer relationships and patient models that are being generated.

CONCLUSION: TOWARDS AN EMPIRICAL AGENDA

The final section of this review outlines the shape of an empirical research agenda on the role and use of Medical Tourism internet sites. The internet is inextricably linked with the rise and further growth of Medical Tourism and to that extent it is important to strengthen the evidence base in this area. To begin this process we outline a research agenda on the internet and Medical Tourism, sketching onto a template developed by Eysenbach [78][7], and further developed to fit our own thinking.

- **Evidence-based.** There are questions about the extent to which sites are conduits for information on clinical quality, safety and other performance criteria that may support informed decision-making. For example, do sites include details of infection rates or clinical outcome measures? What is the breadth and depth of evidence available across institutions and clinicians? Further, how is such information presented in terms of treatment risk (positive or negative) and decision-making?

- **Enhancing quality.** How does the internet facilitate comparisons of providers across countries and in terms of price and quality? Does it provide a suitable mechanism to uncover weaker quality providers? To what extent and how is patient choice enabled by such processes?

- **Efficiency.** Does the internet lead to improved efficiency and reduced costs in relation to Medical Tourism? Does the internet allow straightforward search of providers and ease of information retrieval through portals, or is navigation problematic and

hampered by information overload? Similarly, regarding particular portals, what is it that individuals find most helpful in being able to maneuver around sites?

- **Empowerment of consumers and patients.** In what ways and for what groups of consumers does the internet provide empowerment, and is this common across all forms of surgical treatment? Are those availing themselves to Medical Tourism enabled or encouraged to make more informed choices about treatments, tests or self-management? Alternatively, do they make *less* informed choices as 'health' information ultimately derives from many similar sources and is enmeshed in a process of supplier-induced demand whereby providers generate a demand for their own services.

- **Encouraging new patient/professional relationships.** In particular, how does the internet assist in configuring those participants into new market relations? Does Medical Tourism further reshape the doctor/patient relationships and in what ways [79]? Whilst choices and risk are increasingly individualized [80] does the internet and growth of Medical Tourism contribute towards individual health being wholly commercialized and commodified? Does it extend consumer preferences in the form of holding shadow budgets? In what ways is Medical Tourism reshaping the medical profession and does it provide a route to United States style medical market? In short, what are the boundaries of the health care consumer when seen through the viewfinder of Medical Tourism?

- **Enabling information exchange and communication.** In what ways does the internet provide innovative forms of exchange and communication, including developments within sites that are more transactional in allowing information and financial exchange? In light of these exchanges, how are we to understand *privacy* and thus potential risk to the confidentiality of patient information; how is this managed and perceived by both organisations *and* consumers? What are the potential and real issues of individuals volunteering personal information to providers of care – which is then used by marketing organizations and insurance providers?

- **Extending the scope of health care beyond conventional.** This includes new forms of health treatment and approaches to health and wellbeing. The search for untapped markets may allow new menus of surgical treatments and packages of treatment to be offered to consumers. Medical Tourism focuses on dentistry, cosmetic and elective surgery but also may embrace IVF treatments and organ transplantation. This may plausibly lead to increases in social/health divisions because those who have the resources (both purchasing power and web access) can use information to make choices that are not open to others. This may emerge as some may want to look more 'young', while others are seeking 'health treatment' to return to productive work.

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[7]Eysenbach's original suggestions were around:
- Efficiency (improve and reduce costs)
- Enhancing quality
- Evidence-based
- Empowerment of consumers and patients
- Encouragement of a new patient/professional relationship
- Education of physicians
- Enabling information exchange and communication
- Extending scope of health care beyond conventional
- Ethics
- Equity

- **Ethical implications arising from new forms of interaction.** Such developments raise questions about whether citizens are being displaced with consumers, and elsewhere there are controversial dimensions such as transplant tourism [81-84]. Do these wider shores of Medical Tourism present ethical dilemmas and what are the implications of this for the internet?

- **Equity considerations.** Frequently the digital divide is signaled as a danger alongside e-health initiatives. Such a divide may be more complex for Medical Tourism with an inverse relationship where socio-economic elites use personal networks and referral for treatments overseas, whilst lower income consumers seeking economy use the internet to source treatments. Similarly, does internet use/non-usage widen the scope of the patient choice agenda for some groups of patients compared to others? Do consumers use Medical Tourism to subvert national restrictions (eligibility, waiting lists) on medical treatment?

- **Europe.** Whilst recognising that Medical Tourism is a global phenomenon there is a particular European perspective in respect of commerce, health policy, website quality, and safety. To take one instance - a recent European Union e-commerce directive (2000/31/EC) requires all companies to display ways in which the website can be contacted. The ECJ has ruled that this may include a telephone number and a contact form that is answered within an hour. The ruling impacts on e-business operating within the EU and requires: the name of service provider, the geographic address of the service provider, and service provider details including email address where they may be communicated with swiftly and effectively must be provided before a contract can be entered into *via* the website.

SUMMARY

New forms of patient or 'consumer' mobility, whereby individuals travel outside their own country of residence to receive medical treatments are receiving growing media attention. Helping to drive this growth in Medical Tourism is the role of the internet which provides a conduit for information, advertising and purchasing arrangements. To date however there is a dearth of empirical evidence on the role, use and impact of these websites on the behaviour of health care consumers.

In beginning to review Medical Tourism websites and advance a conceptual framework to better understand these developments this paper takes tentative steps towards a broader research agenda. Interrelated questions include: who uses the sites and why; the nature of information search; the quality of information; how information influences decision-making; what are the implications of the majority of sites being commercially-driven? The agenda is one that encompasses health management, health informatics, patient and consumer decision-making, and health marketing. In tackling these questions, it is our intention that a multidisciplinary approach drawing on established literatures and aspiring to theoretically-informed knowledge will provide the best route forward.

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