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## Medical tourism trends in the United Kingdom 2000-2016

### Global economic crisis, migration and UK expats under consideration

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#### Abstract

**Purpose** – The purpose of this study is to investigate the inbound and outbound medical tourism in the UK to determine if the UK can be considered as a net exporter of health services as well as the impact of the 2007 global economic crisis, diaspora populations and the number of UK expats on medical tourism figures.

**Design/methodology/approach** — Using microdata drawn from the International Passenger Survey (2000-2016), the authors estimate the flows, number of nights and expenditure of tourists looking for medical treatment who complete international visits of less than 12 months' duration to and from the UK. The authors also analyse the main destinations of UK residents, the country of origin of overseas residents and the particular case of British expats.

**Findings** – The results show the upward trend of inbound and outbound patients, the strong seasonality in outbound patients, and the significant increase in the levels of expenditure of overseas residents since 2005. Poland, France, Hungary and India are the chosen countries by UK residents to be treated, whereas Irish Republic, Spain, France, Gibraltar and the United Arab Emirates are the main countries providing inbound health patients. However, the processes of migration explain full or partly the inbound and outbound flows found for some countries.

**Originality/value** – This study offers a critical insight into inbound and outbound medical flows, demonstrating both the scope for and limitations to market development in this area.

**Keywords** Medical tourism, Outbound, The United Kingdom, British expats, Diaspora populations, Inbound

Paper type Research paper

#### 1. Introduction

Medical tourism has become a multi-billion pound industry that has seen substantial growth over the past fifteen years (Horsfall and Lunt, 2015). Marketed as a form of patient or "consumer" mobility in which individuals travel outside their country of residence for the consumption of health-care services, medical tourists are often conceptualised as "customers



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in search of value", usually paying out-of-pocket for their treatment (Lunt *et al.*, 2014a, 2014b; Keckley and Underwood, 2008). The past fifteen years has seen the popularity of consumer-led mobility (or medical tourism) increase substantially. While there is little agreement on the size of the medical tourism market, a conservative estimate suggests that globally, at least five million people travel to another country and pay out-of-pocket for medical treatment each year (Horsfall and Lunt, 2015).

In addition to this market-led medical tourism, research confirms that a substantial flow of activity involves migrants travelling to their home countries. Indeed, some of the largest flows of cross-border travellers are diasporic, to "backyard" rather than "tourist" destinations (Ormond, 2008). One group of medical tourists who are most definitely under-represented, owing to the fact that medical treatment is not their primary purpose of travel, is those with cultural or familial ties to a country (Hanefeld *et al.*, 2014; Connell, 2013; Inhorn, 2011). It might even be that diaspora represents the largest proportion of those who travel for treatment, often not ravelling far, rather crossing borders. Connell (2013), for example, cites the case of India, often described as one of the biggest medical tourism destinations, where 22 per cent of medical tourists are actually non-resident Indians. This is in addition to large numbers of second generation overseas Indians. In fact, only 10 per cent were of US or European ancestry (Connell, 2013, p. 4). Similarly, those in the USA with ties to Mexico (Horton and Cole, 2011) and Korea (Lunt *et al.*, 2014b), for example, might travel in large numbers "back home" and while there undergo medical treatment. While they might not think of this as their primary reason for travel, it is integral to the journey.

Medical tourism is then, a rather broad term, encompassing a range of travellers. Much of the extant literature and research ranges from the exploration of definitions – What is medical tourism, and who is a medical tourist? (Connell, 2013; Horton and Cole, 2011; Inhorn, 2011; Kangas, 2010) – the impact on importing and exporting countries (Ormond, 2013; Whittaker, 2015); the motivations and experiences of medical tourists (Holliday *et al.*, 2019; Hanefeld *et al.*, 2015; Lunt *et al.*, 2014a; Ormond, 2013); the finances involved in medical tourism (Horsfall and Lunt, 2015); the legalities of medical tourism (Cohen, 2012); the roles of medical tourism markets and their instruments; and the scope of medical tourism (Lunt *et al.*, 2014b). It is not the purpose of this paper to unpick these debates (Holliday *et al.*, 2019; Lunt *et al.*, 2015 for a broad overview), rather we wish to explore the flows of medical tourists from the UK, using reliable data. One particular flow of medical tourists that is of interest involves those who are returning "home" for treatment.

We must however address the fact that the terms medical tourism and tourist are controversial and adopted lightly in the literature owing to the connotations that:

- health or medical care is a commodity; and
- those who travel for access health always do so as rational, informed and empowered "customers".

Indeed there is much work to suggest that a substantial proportion of all medical travel is undertaken out of need and desperation on one hand and that the majority of people who access medical care "abroad" do so as part of wider journeys (Ormond and Sulianti, 2017). The data we analyse in this paper tells us nothing about the lives of those who have travelled or of their motivations for travel, and we must be cautious in inferring too much. However, it is likely to be the case – and other work supports this (Horsfall, 2019; Ormond and Lunt, 2019; Connell, 2015, 2013) – that many of the medical tourists evident in the International Passenger Survey (IPS) data are likely to fall into categories that do not sit well under a traditional label of "medical tourist".

The importance of highlighting and exploring this relates to the way in which the medical tourism industry markets and conducts itself. This is an industry that purports to be massive in scale and a force for good with domestic economies, domestic health systems and of course, patients, all benefitting. Much of this is underpinned by the numbers involved. Unfortunately the numbers associated with medical tourism are at best unclear and on occasions seemingly misleading. Oft-cited figures have less than robust origins and reliable data are difficult to find (Horsfall, 2015). The most trustworthy data are often restricted to a small-scale study or a single country and too often numbers are taken at face value and treated in an uncritical way. As Connell notes (Connell, 2013), the fact that in the field of medical tourism numbers are usually derived from a commercial source with a particular interest in said numbers presents challenges for those attempting to access reliable, meaningful data. It is often difficult to locate meaningful data, in part owing to sensitivity issues, and where we find them, numbers are often a product of "boosterism". To this end, numbers taken from the IPS are incredibly important given the problems identified with nearly all other reported measures. Here we have a transparent, valid and reliable methodology overseen by a national government with no commercial interests in medical tourism (Horsfall and Lunt, 2015 for a wider discussion of the issues around numbers).

This paper explores the most up-to-date IPS and, in so doing, outlines some of the key flows into and out of the UK. We consider the impact of the financial crash as well as the possible implications of the UK's extrication from the European Union on all those who travel for medical treatment, be they expats, diaspora or "consumers in search of value". Through the analysis of the IPS, this paper contributes to the existing literature on medical tourism by offering firm, empirically grounded, analysis of patient flows from the UK. It offers a critical insight into these flows, demonstrating both the scope for and limitations to market development in this area. The paper goes beyond others that have attempted to describe medical tourism trends by considering the seasonality of medical tourism, the length of time medical travellers are spending abroad, and the amount of money spent on these journeys. Moreover, we consider how these patterns have changed over time, noting the possible effect of the financial crash while being mindful of the impact of the widening of the European Union.

#### 2. Data and methods

To carry out this study, we use data drawn for the IPS for the period 2000-2016 and conducted by the UK Office of National Statistics (ONS). The IPS is a continuous survey which began in 1961 and provides detailed information on the numbers and types of visits made by people travelling to and from the UK. The ONS publishes data regularly on a monthly, quarterly and annual basis which are used widely across and outside UK Government. The survey data are collected through face-to-face interviews (at all major UK airports and sea routes, at Eurostar terminals and on Eurotunnel shuttle trains) to a random sample of passengers entering or leaving the UK. That is, around 90 per cent of passengers entering or leaving the UK are eligible for sampling. The IPS is a multi-purpose survey that provides data on three main areas, namely, balance of payments, international migration to and from the UK (the IPS sample size for this purpose is around 700,000-800,000 interviews per year) and overseas travel and tourism estimates (the IPS sample size for this purpose is approximately 250,000 interviews per year, which allows reliable estimates to be produced for different groups of passengers despite the low proportion of international travellers interviewed). The key variables and concepts included in the IPS are number and purpose of visits (e.g. holiday, business, visiting friends or relatives, study, personal shopping, medical treatment, and transit), date of arrival/departure, number of people travelling, number of previous visits, mode of transport (e.g. air, sea, the Channel Tunnel), the UK region to stay, expenditure in and outside the UK, date of interview and a set of sociodemographic characteristics of travellers (e.g. age, gender, nationality and country and place of residence). Further information on methodology, variables, definition, sampling, collection of data and weightings are available at: www.ons.gov.uk/surveys/informationforhouseholdsandindividuals/householdandindividualsurveys/internationalpassengersurvey.

In our case, one of the main advantages of the IPS is that passengers are asked by the main reason for travel, and the option "medical treatment" is one of the possible answers[1]. In addition, the IPS is available for a large number of years and allows us to follow key trends in overseas travel in general and in medical tourism in particular[2]. Despite this large period of time (2000-2016), the information obtained from the option "medical treatment" available in the IPS must be interpreted with caution because the sample size is small (only 0.2 per cent of all travellers), and there is a significant margin for error because the weighting procedure may produce biased medical tourism estimates (Horsfall and Lunt, 2015; Pollard, 2012). In addition, medical tourists are only considered as such if they responded that their primary purpose of travel was medical. Horsfall and Lunt (2015) point out that:

[...] those who travel to countries with which they have historic or familial ties often access medical treatment whilst abroad, but would often state that their primary purpose of travel was leisure or family related and as such would not appear as medical travellers in the IPS (p. 30).

As a result, these authors conclude that the estimates obtained from the IPS concerning medical tourism represent an underestimate of this phenomenon. Despite these drawbacks, the lack of reliable and unbiased data on the number of medical tourists and the main characteristics of their trips makes IPS the single most comprehensive dataset quantifying medical travel to and from the UK (Lunt *et al.*, 2014). Moreover, the IPS uses standardised and harmonised data, measurement and sampling strategies each year and is conducted and collected by an independent and well-known organisation – the UK ONS (Horsfall and Lunt, 2015).

All data used in this study have been obtained and downloaded from the "UK Data Service" (www.ukdataservice.ac.uk) which provides one file for each quarter. The UK Data Service has data from 1993 onwards. In our case, we have only used data from 2000 to 2016 because of the low number of responses for the category "medical treatment" and the lack of information on key variables used in this study in previous years. To identify medical tourists, we have used the following two questions included in the IPS questionnaire: "What is the main reason for your visit abroad?" and "What is the main reason for your visit to the UK?" The first question is answered by UK residents departing (outbound), whereas the second one is answered by foreign residents arriving (inbound). The possible answers to these two questions include holidays, business, formal study, au pair, visit friends or relatives, looking for work, shopping and *medical treatment* among others. According to the methodology section of the IPS, this medical treatment is always referred to the respondent and includes seeing consultant, having a check-up, receiving treatment (even if for some reason the treatment is called off) and dental care. However, it excludes if the respondent has received only non-medical care at a Spa town (e.g. just drinking the water or bathing in a Spa resort in Europe), or if the respondent is accompanying/bringing someone to have medical treatment and has no reason of their own for travelling.

As noted earlier, the IPS also includes basic information on tourists (e.g. sex, age, nationality and country of residence) and the characteristics of the travel (e.g. origin and destination, purpose and length of stay abroad or in the UK, spend in/outside the UK, if the trip is part of a package, number of people travelling, type of accommodation (only for

foreign residents, etc.), as well as the day, month and year of interview. As for outbound and inbound medical tourists and in line with the main aim of this study, we are particularly interested in analysing and estimating three key variables for:

- (1) total number of visits;
- (2) length of stay (expressed in number of nights); and
- (3) total spending.

First, to estimate the total number of visits we use the variable "flow" included in the IPS questionnaire[3] and select two different types of flows:

- (1) overseas residents arriving in the UK (via air, sea or tunnel); and
- (2) UK departing the UK (via air, sea or tunnel)[4].

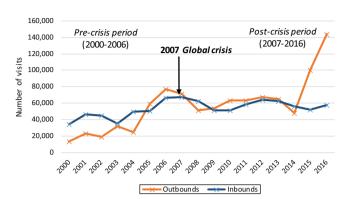
The first flow allows us to identify "inbound medical tourists", whereas the second one identifies "outbound medical tourists".

We have to bear in mind that each visit is a complete round trip (e.g. for UK residents, it represents both a departure and an arrival in the UK). As for the length of stay, we estimate the total number of nights by using the variable "stay" which reflects the nights stayed for each record (i.e. respondent). For UK residents, the number of nights covers the total time spent outside the UK (including the journey abroad), while for overseas residents it refers only to the time spent within the UK.

Finally, to obtain the total spending made abroad (for UK residents) or in the UK (for overseas residents), we use the variable "netexp". This includes the all money spent before the trip, during it and afterwards, and it is presented as relating to the full travelling/expenditure group (i.e. the individual respondent and the potential group of persons travelling with him or her). In our case, all expenditures are presented in pounds at constant price (using the year 2010 as a base). Similar to Hanefeld et al. (2013) and Lunt et al. (2014a), we have also excluded from our sample all individuals travelling from the Isle of Man and the Channel Islands to the UK owing to the fact that the National Health Service (NHS) covers them[5]. Appendix Table AI contains the definitions of the key variables used in this study. After dropping those individuals with missing information, the final sample comprises 2,534 records/individuals (1,129 outbound medical tourists + 1,405 inbound medical tourists). Finally, we have used the sample weight available in the IPS to reflect population characteristics and correct the possible lack of representativeness of the sample. All calculations have been made using the statistical package STATA 14.

#### 3. Results

Figure 1 shows the number of visits to the UK by overseas residents and visits abroad by UK residents looking for medical treatment for the period 2000-2016. Overall, we find two different periods – 2000-2006 and 2007-2016 – wherein the evolution in the number of outbound and inbound medical tourists follows a differentiated pattern. The tipping point is the year 2007, i.e. the start of the global economic crisis. For the period 2000-2006 (pre-crisis), we observe that there is a significant number of UK residents who travelled abroad to receive medical treatment (outbound). The number of visits abroad for medical treatment at the beginning of that period was approximately 13,250 and increased to 76,780 visits in 2006. This gives us a mean annual growth rate of around 34 per cent for the period 2000-2006. In the same period, there was also an increase in the number of visits to the UK by overseas residents travelling for medical treatment (inbound). In 2000, these overseas residents made around 34,500 visits to the UK, whereas in 2006 this figure rose to 66,450



Notes: We exclude the Isle of Man and Channel Islands from the

sample. Weighted data

Source: The International Passenger Survey (period 2000-2016)

UK expats under consideration

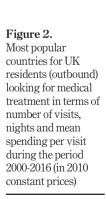
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Figure 1.
Number of visits for
UK residents
(outbound) and
overseas residents
(inboundw) looking
for medical treatment
during the period
2000-2016

visits. That is, the mean annual growth rate during that period was 11.6 per cent and lower than that was calculated for outbound tourists. As for the period 2007-2016 (post-crisis), we find a more stable trend for inbound travellers but with significant falls in the years 2009 (-11,577 travellers) and 2014 (-6,545 travellers).

With regard to outbound flows, the trend during the period 2007-2014 is quite similar to that found previously for inbound flows, but there is a significant increase in the number of UK residents travelling abroad to receive medical treatment in 2015 and 2016 (100.338 and 143,997 travellers, respectively). As a result, the mean annual growth rates for the period 2007-2016 were 8.1 and -1.6 per cent for outbound and inbound travellers, respectively [6]. These results lend credence to the notion that flows were affected by the financial crisis. The strong and negative impact of the global economic crisis (2007) on the flows of outbound (but only until 2014) and inbound health travellers (Pollard, 2012) has caused serious problems, challenges and threats to the tourism and hospitality sector. This is mainly in terms of a strong fall in the tourism demand but also in the levels of expenditures per guest (Pizam, 2009). For example, in 2013, more than half of the Europeans who did not participate in tourism reported financial reasons as one of the main reasons (EUROSTAT, 2015). Within this context, Pollard (2012) points out that after 2007 many UK patients have delayed their medical treatment abroad and have decided to withstand the long wait times to save money, which has provoked a reduction in the flows of outbound medical tourists. However, the real impact of global economic crisis on medical tourism depends on what country individuals are from (e.g. Canada and the UK have national health-care systems and the Government pays for medical care) and if the country is attracting medical tourists from new and emerging countries (Medical Tourism Magazine, 2009).

If we break these overall trends down by country, we find that the most popular countries in terms of visits by UK residents during the pre-crisis period (2000-2006) were France, Belgium, Poland, India and Germany (Figure 2). In contrast, during the post-crisis period (2007-2016), we detect a significant increase in the number of visits as compared to the pre-crisis period for Poland (155,800 visits), Hungary (60,140 visits), Romania (28,103), Slovakia (17,476 visits), Irish Republic (16,655 visits) and Turkey (44,410 visits). For those in the industry, this is packaged very much in terms of the development of these locations as





**Notes:** We exclude the Isle of Man and Channel Islands from the sample. Weighted data. \*Difference significant at P < 0.05

■ Post-crisis (2007-2016)

Source: The International Passenger Survey (period 2000-2016)

■ Pre-crisis (2000-2006)

medical tourism providers and proof of a medical tourism boom (Lubowiecki-Vikuk and Dryglas, 2019; Wasik, 2017; IMTJ, 2012). Indeed a cursory review of the internet highlights the substantial online activity engaged in by clinics in these regions. Poland, Hungary and Turkey in particular have all expressly marketed themselves as medical tourism "hubs" (IMTJ, 2012) with much industry activity as well as notable government support (Lunt *et al.*, 2014b; TC Kalkınma Bakanlığı, 2013). Whether these flows represent what the industry say they do is however less certain, as we discuss later.

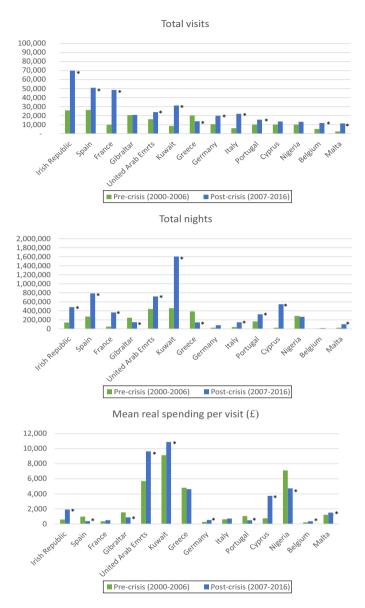
With regard to inbound medical tourism, Figure 2 shows that overall there has been an increase in the total number of visits made by overseas residents to the UK during the post-crisis period in almost all countries analysed (Greece being an exception) as compared to the numbers shown for the pre-crisis period. This rise has been stronger in the Irish Republic and France (with 43,900 and 38,500 more visits), followed up by Spain (24,624 extra visits), Kuwait and Italy (with 22,616 and 15,904 more visits, respectively).

It is worth noting that throughout this time-period, while numbers have fluctuated, the key flows have been rather steady (ONS, 2018; Horsfall and Lunt, 2015). As the snapshots in Figures 2 and 3 show Spain, Ireland, France and the Middle East represent a key source of those travelling to the UK, while Poland and the wider CEE region, France and Spain represent key destinations (see also Horsfall, 2018). This can likely be explained in terms of both tourism and wider patterns of migration. In the cases of both France and Spain, historic patterns of tourism and expatriation have undoubtedly helped normalise this flow (Horsfall and Pagan, 2017; Hall and Hardhill, 2016). In the case of Poland (and the wider CEE region), the flow of "medical tourists" was almost non-existent prior to the enlargement of the EU (Horsfall, 2018; ONS, 2018). While the Polish medical tourism industry, alongside the general tourism sector, has made this market more accessible for those seeking treatment (Youngman, 2016); the role of migration should not be underestimated. As demonstrated by Horsfall (2018), of the 22,500 UK residents who travelled to Poland for medical treatment in 2015, 17.640 were Polish nationals (Horsfall, 2018; see also Table I). There were also nationals of other CEE regions making this journey from the UK and no way to gauge what proportion of those remaining few thousand were UK nationals with historic or familial ties to Poland (Horsfall, 2018). As such, while there is a thriving medical tourism market in Poland, caution must be exercised when analysing the "top-level" data.

The significance of "expat medical travel" is captured in Tables I and II, where we can see across the full time-period between a quarter and three-quarters of all UK residents travelling to the most popular destinations have actually been citizens of those destinations. Once again, it is important to acknowledge that there is no way to know what the historic, cultural or familial connections of the remaining British citizens were to those destinations. This is mirrored in terms of the inbound tourists, where between fifty and ninety percent of all inbound travellers hold British passports. Where inbound travel does not involve expats, such as in the case of those from the Middle East, the long roots of historic, political and economic connections between the region and the UK is often pivotal (Kronfol, 2015), alongside traditional marketing and consumer behaviour.

Perhaps interestingly, we can see notable differences between the two time-periods, with a decrease in the proportion of travellers from France and Spain being British citizens (2007-2016). Amongst those travelling from the UK, the proportion of those travelling from the UK who were expats increased between the two time-periods, with the exception of Spain. Here Poland is particularly noteworthy, with Polish citizens accounting for 54 per cent of travel from the UK to Poland in the earlier period but nearly 79 per cent in the post-crisis period. Again, it must be noted that this post-crisis period also represents the post-EU accession





**Notes:** We exclude the Isle of Man and Channel Islands from the sample. Weighted data. \*Difference significant at P < 0.05 **Source:** The International Passenger Survey (period 2000-2016)

UK expats under

(%)	76.6 55.9 26.1 23.5 25.5 42.4	81.1 47.6 23.1 35.0 42.8 36.7	69.7 34.3 4.0 12.7 21.6 12.1
Total	130,957 62,112 18,261 13,979 12,586 20,480	1,411,619 387,393 117,510 1,076,499 287,679 158,401	74,858,426 18,232,580 4,565,724 8,772,240 8,764,428 9,779,161
xpats (%)	78.7 63.7 28.8 25.5 26.0	81.5 43.7 29.5 40.7 43.9 37.2	73.1 45.0 4.2 15.8 22.5 7.1
Returning expats 2007-2016 (%)	122,727 35,498 17,294 11,395 11,545 14,033	1,240,247 181,097 115,577 942,933 258,369 89,121	72,310,483 11,024,318 4,565,724 8,144,718 8,301,307 4,151,239
(%)	54.4 48.1 9.9 17.5 20.8 48.2	78.1 51.6 1.7 17.6 35.2 37.3	30.2 25.1 3.4 36.4 12.6 25.6
2000-2006	8,230 26,614 966 2,584 1,040 6,447	171,372 206,296 1,933 133,566 29,311 69,280	2,547,943 7,208,262 193,261 6,275,225 463,120 5,627,922
(%)	21.4 33.1 72.8 72.2 72.7 55.9	18.0 43.7 76.3 55.8 56.4 57.1	28.0 54.8 94.3 80.8 76.9
Total	36,557 36,773 50,867 42,883 35,908 26,982	313,904 355,438 388,067 1,719,237 379,344 246,125	30,112,810 29,148,973 108,346,715 55,662,355 31,156,693 66,086,538
ship (%)	19.0 25.0 70.0 68.8 72.0	17.5 47.4 69.7 47.1 55.3 54.1	24.5 40.6 94.0 75.6 75.9 84.8
UK citizenship 2007-2016 (%	29,652 13,926 42,084 30,693 31,958 20,041	265,741 196,625 273,383 1,092,842 325,500 129,696	24,217,079 9,934,487 102,586,874 39,031,049 27,947,122 49,731,467
(%)	45.6 41.3 90.1 82.5 79.2 51.8	21.9 39.7 98.3 82.4 64.8	69.8 67.0 100 96.4 87.4 74.4
2000-2006	6,905 22,847 8,783 12,190 3,950 6,942	48,164 158,813 114,684 626,395 53,844 116,429	Total spending (4) Poland 5,895,731 France 19,214,487 Hungary 5,759,840 India 16,631,307 Turkey 3,209,571 Spain 16,355,071
	Total visits Poland France Hungary India Turkey	Total nights Poland France Hungary India Spain	Total spend. Poland France Hungary India Spain

**Notes:** We exclude the Isle of Man and Channel Islands from the sample; Weighted data **Source:** The International Passenger Survey (period 2000-2016)

# Table I. Top six countries for UK residents (outbound) looking for medical treatment in terms of number of visits, nights and total spending by UK citizenship and returning expats to the corresponding country during the period 2000-2016 (total and in percentage)

Table II. Importance of *UK* expats (inbound) receiving medical treatment in the UK in terms of number of visits and nights, and total spending during the period 2000-2016 (total and in percentage)

	2000-2006	2007-2016	Lotal	20002-0002	0107-1007	-			
		Total UK expats visits	ts.	Tot	Total UK expats nights	hts	Total	Total UK expats spending (£)	(F) St
Spain	24,421	45,232	69,653		768,464	1,024,097	24,155,753	17,664,483	42,206,209
France	7,580	33,068	40,647	48,773	299,920	347,512	3,186,579	13,297,669	16,484,249
Gibraltar	17,198	12,418	29,616	231,185	101,780	332,965	29,389,967	10,317,984	39,707,950
Germany	6,564	9,027	15,591	8,932	47,201	52,820	312,483	3,743,058	4,055,541
Portugal	3,909	12,348	16,258	113,439	299,424	412,863	1,170,979	5,701,129	6,872,108
Belgium	2,721	996'9	889,6	7,786	12,758	20,279	627,900	1,362,874	1,990,774
	% UK	% UK expats visits/all visits	isits	% UK	% UK expats nights/all nights	nights	% UK $exp$	% UK expats spending/all spending (£)	ending (£)
Spain	92.8	88.8	90.1	95.4	97.8	6.96	94.5	92.1	
France	75.9	68.2	69.5	97.3	82.4	83.9	90.3	54.8	59.3
Gibraltar	83.2	59.5	71.3	93.1	9.79	83.5	92.8	292	79.3
Germany	61.8	45.5	51.2	33.6	56.8	48.2	10.9	35.5	30.3
Portugal	38.2	79.4	63.0	0.89	92.3	84.1	10.9	74.8	37.4
Belgium	51.8	58.6	56.5	84.8	75.9	78.0	53.9	31.3	36.1

period for Poland (Horsfall, 2019). It is important to be aware of these patterns, as they help provide context for the flows recorded in the IPS as we drill down further.

To shed further light on the number of visits into and out of the UK for medical treatment, we have estimated these visits by months to examine the seasonality in the medical tourism for UK and overseas residents during the period 2000-2016. The study of the seasonality in the medical tourism is particularly relevant because many authors (Padilla and Del Águila, 2016; Agbeh and Jurkowski, 2015; Erdoğan et al., 2012; Wendt, 2012; Lovitt, 2006) have pointed out that medical tourism can help to reduce the seasonal variation in activity within the tourism (with a high concentration of demand in summer season). This can be achieved through the creation of new job opportunities (new professional profiles and experts in medical tourism are demanded by private hotels and hospital) and the increase of overall exports of services in the "off-season". In addition, Kocziszky (2004) notes that the services of medical tourism are usually independent of the weather and thus travellers do not necessarily feel the need to visit health resorts in the summer period. This is demonstrated in Figure 4, which illustrates the different patterns in the monthly visits for the period 2000-2006 (pre-crisis) and 2007-2016 (post-crisis). Overall, we find a different monthly distribution of the number of visits for medical treatment for UK residents and overseas residents during the full period 2000-2016. For outbound medical tourists, we observe a clear fall in the flow of UK residents travelling abroad during the summer. However, this flow of outbound tourists starts increasing from September to November. Apart from the fall in December, the evolution in the number of outbound tourists is again positive between January and May. This finding is very significant and has important socioeconomic implications owing to the fact that medical tourism can become an adequate segment/product to minimise or compensate exposure to cyclical downturns or offpeak slow seasons, as well as to reduce the strong economic dependence on other tourism segments suffering high and structural seasonality (e.g. holidays).

Looking at the pre-crisis period (2000-2006), we find a similar pattern, but smoother if we compare it to that found for the post-crisis period (2007-2016), wherein we find wider fluctuations in the number of visits from May to September. On the contrary, we find a quite stable trend in the number of monthly visits of overseas residents for medical treatment during the period 2000-2016. This outcome is also observed for the pre-crisis (2000-2006) and post-crisis (2007-2016) figures, and no substantial differences are found.

With regard to the length of stay, Figure 5 shows the total number of nights spent for UK residents and overseas residents during their stay out or into the UK. The number of nights spend abroad by UK residents for medical treatment was 194,500 in 2000, whereas in 2016 it rose to 2,011,300 nights (i.e. a mean annual growth rate equals 15.7 per cent). However, once again we find different cycles in the period 2000-2016. During the pre-crisis period (2000-2006), we observe that the number of nights spent by outbound tourists has considerably increased from 194,500 to 881,800 nights in 2000 and 2006, respectively. That is, a mean annual growth rate equals 28.6 per cent. As for the post-crisis, firstly we find a significant increase in the number of nights spent abroad by UK residents in the years 2009 and 2010. However, the number of nights had drastically fallen from 2010 to 2014 (from 2,194,100 to 523,600 nights). The mean annual growth rate between 2007 and 2014 was -12.6 per cent. On the other hand, in 2015 there was a strong increase in the number of night spent by outbound tourists (around 2.017.400 nights) as compared to 2014. This number of nights even remains the same in 2016 (2,011,300 nights). Alongside this recovery in 2015 and 2016, the mean annual growth rate during the post-crisis period (2007-2016) goes up to 4.6 per cent.

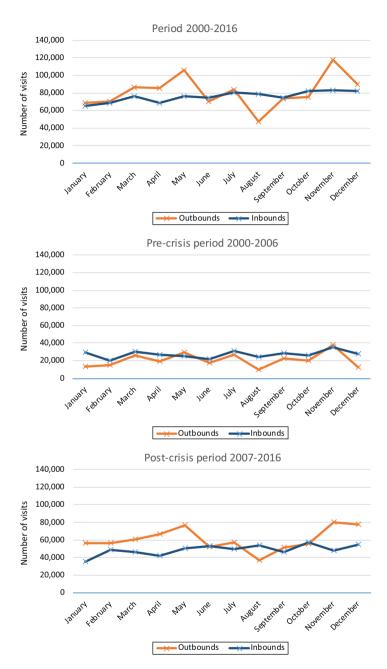


Figure 4.
Number of visits for UK residents (outbound) and overseas residents (inbound) looking for medical treatment by months

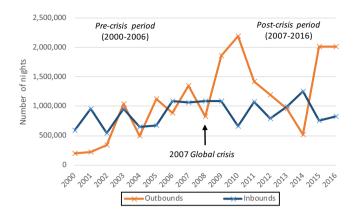
**Notes:** We exclude the Isle of Man and Channel Islands from the sample.

Weighted data

**Source:** The International Passenger Survey (period 2000-2016)

Figure 5.
Number of nights for
UK residents
(outbound) and
overseas residents
(inbound) looking for
medical treatment
during the period

2000-2016



**Notes:** We exclude the Isle of Man and Channel Islands from the sample. Weighted data

**Source:** The International Passenger Survey (period 2000-2016)

Looking at the number of night spent by overseas residents in the UK for medical treatment (inbound), we find a positive mean annual growth rate (10.5 per cent, though this is lower than that estimated for outbound tourists, which stood at 28.6 per cent) during the pre-crisis period (between 593,400 and 1,082,700 nights in 2000 and 2006, respectively). In the post-crisis period, this rate is actually negative (-2.8 per cent), though this is partly because of the falls observed in 2015 and 2016 as compared to the nights estimated in 2014.

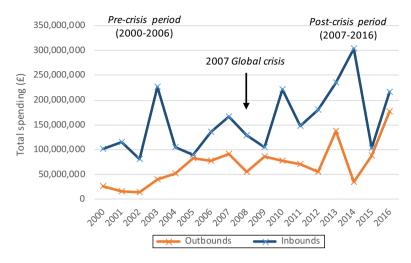
After analysing the number of visits and nights spent by UK residents and overseas residents for medical treatment, we focus on the amount of money spent during the visit. According to Figure 6, the total spending for UK residents increased during the pre-crisis period from £25.8m to £77.6m (at 2,000 constant prices), i.e. a mean annual growth rate of 20.1 per cent. After 2007, we find a downward trend in the levels of expenditure, with the exception of 2013. For this post-crisis period (2007-2016), the mean annual growth rate is now 7.7 per cent (whereas for the full period 2000-2016 this rate was 12.8 per cent) and reaching a maximum amount of £176.3m in 2016. As for the expenditure of overseas residents, we also find an upward trend in the pre-crisis period but with a mean annual growth rate lower than that obtained for the expenditure of the UK residents (4.9 per cent). On the contrary and after falls in 2008 and 2009, we find a substantial increase in the levels of expenditure from 2009 to 2014 (from £104.2m to £303.1m, i.e. a mean annual growth rate of 16.5 per cent). The fall in the expenditure of overseas residents in 2015 was partly recovered in 2016 (from £102.8m to £217.1m, respectively). However, for the whole period (2000-2016), this mean annual growth rate was 4.8 per cent but lower than that for the expenditure of the UK residents travelling abroad (12.8 per cent).

It is worthwhile noting how the fall in the number of visits of overseas residents in the years 2013 and 2014 (Figure 1) has been compensated with a rise in the number of nights (Figure 5) and in the levels of total expenditure in these two years (Figure 6). Overall, if we compare the total expenditure of overseas residents (exports) and UK residents (imports) on medical treatment during the period 2000-2016, we find a positive balance of trade, i.e. a trade surplus within the medical tourism (2,664-1,178=£1,486b). This differential between exports and imports has been particularly high in the years 2003, 2010 and 2014

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Figure 6.
Total spending (£) for UK residents (outbound) and overseas residents (inbound) looking for medical treatment during the period 2000-2016 (in 2010 constant prices)



**Notes:** We exclude the Isle of Man and Channel Islands from the sample.

Weighted data

**Source:** The International Passenger Survey (period 2000-2016)

(£187.5m, £144.1m and £269.2m, respectively). This finding is in line with our initial observation that the UK are a net exporter of medical services. However, the significant increase in the total expenditure of UK residents in 2015 and 2016 has contributed to reducing that differential and thus the trade balance during those years (only £14.9m and £40.8m, respectively).

Finally, we have also estimated the number of nights and total mean expenditure per visit (in 2010 constant prices) by country for outbound and inbound medical tourists. To do this, we have selected the most popular countries according to the number of visits and calculated their levels of expenditure per visit and number of nights. According to Figure 2, the number of nights spent by UK residents is as one might expect; India – as the furthest destination – is the top country during both the pre-crisis and post-crisis periods, reaching up to 2,319,000 nights during the post-crisis period. In the same line but with lower number of nights, we find Poland with 1,521,900 nights spent in the post-crisis period. Once again, we find a strong increase in the number of night in the post-crisis compared to the pre-crisis period in Hungary, Romania, Slovakia, as well as in Lithuania and Germany. Finally, looking at the mean real spending per visit (in pounds), we find the highest ones for those UK residents visiting the USA (around £3,000-£3,300), Spain (almost £1,650), Hungary and Belgium (particularly in the post-crisis period, £1,815 and £1,500, respectively), Germany and Lithuania (around £1,100 during the post-crisis period). By contrast, the lowest mean real expenditures per visit are found in Slovakia and Iris Republic during the pre-crisis period (and £309 and £219, respectively) and in Italy and Slovakia in the post-crisis period (only £108 and £409, respectively).

Turning to the overseas residents in the UK for medical treatment (inbound) by country, Figure 3 shows that people coming from Kuwait and the United Arab Emirates are the top medical visitors during the pre-crisis period with around 450,000 nights. The situation for these countries has been even better in the post-crisis period with a significant increase in the total of nights, especially in Kuwait (with more than 1,604,000 nights in this period). We

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also find a strong increase in the post-crisis period for other countries such as Spain (785,870 nights), the Iris Republic (482,129 nights) and Cyprus (546,235 nights). Once again, on average, the highest expenditures per visit are found in Kuwait and the United Arab Emirates (£9,632 and £10,885 in the post-crisis period, respectively), whereas the lowest ones in the post-crisis period are found for those coming from Spain, France, Germany and Belgium.

#### 4. Conclusions

This study has analysed the trends in medical tourism into and out of the UK in the time-period 2000-2016 using the IPS. This, robust, independent and transparent data source allows a genuine exploration of these trends, free of the bombast often attached to industry-generated sources. The headline findings are that over this time-period both inbound and outbound medical tourism involving the UK has increased. This is important and the fact that reliable, impartial and transparent data confirms this is noteworthy. For those who have followed the industry for some time, numbers reported are not usually to be trusted (Connell, 2013). The pattern has been one of modest and steady increase for inbound medical tourism compared to a more erratic and rapid period of growth in terms of outbound medical tourism. The explanations for this are likely to be numerous, ranging from the increasing accessibility and reputation of destinations to the normalisation of medical tourism as a process, and the rising pressures facing health systems in coping with the demands of a changing population (Lunt *et al.*, 2015 for a useful summary).

Migration and the financial crisis of 2007 play particularly significant roles in explaining the pattern of the twenty-first century. We have demonstrated a clear split between the preand post-crisis period in terms of the number of visits being taken, the amount of money being spent and the length of time medical tourists are staying. How much of this is explained by the crisis is unclear; the post-crash decade has coincided with the accession of the A8 countries (i.e. Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia) within the EU. That Poland is a popular destination for UK-based medical tourists owes much to the development of the medical tourism industry of course, but the dominance of Polish citizens in the numbers of UK residents travelling to Poland for medical treatment cannot be ignored (Horsfall, 2019). This has fundamental implications for the industry as expats or returning migrants, spend less on their journeys[7]; they are less likely to stay in hotels and visit tourist attractions and are more likely to undertake routine, lowercost treatments. Moreover, the implications on migration – and by extension, the medical tourism flows highlighted in this paper - of the UK's withdrawal from the EU are impossible to calculate. The restricting of future movement (even if those EU nationals who currently resident in the UK are protected) would suggest that the flows highlighted in this paper are unlikely to increase and may indeed move closer to the levels prior to the accession of the A8 countries. However, given that these are the lower-spend medical tourists, how much this will alter the marketing strategies of Polish providers that cater for medical tourists is again, unknown.

The story of inbound medical tourism is likely to be fundamentally different to that of outbound tourism. While there is still a substantial portion of expat involvement – indeed expats dominate the numbers travelling from many countries – the long-established patterns of travellers from countries in Africa and the Middle East is one that involves longer stays, more complex and expensive treatments and larger overall expenditures. The twenty-first century has seen fluctuations in this trade, but overall the pattern is one of steady growth. That said, here again we can only speculate as to the impact of "Brexit". While there are strong signals that rights of UK nationals resident in EU countries (and

vice-versa) are likely to be protected in any deal (House of Lords, 2018), the increasing likelihood of "no deal" (Barnes, 2019) throws this into doubt. It has also become clear recently that any deal on the rights would have to be truly reciprocal, otherwise there will be no deal (Abellán, 2019). Should any subsequent deals between the UK and individual countries or the EU as a whole alter the reciprocal arrangements pertaining to health – on coverage and co-payments for example – this may have implications for those who currently reside abroad and access health care in their adopted countries.

What the future holds is of course, unclear. The changes to the cap on the number of international patients who can be treated privately in NHS facilities may prompt the NHS to more actively market its services to overseas residents. However, the extent to which the NHS has the capacity for substantial growth in this sector is unknown and likely to be complicated by the UK's withdrawal from the EU. The impact of withdrawal on the travel from the UK is also impossible to predict; it may be that a tightening of the freedom of movement may impact particular migration patterns, such as those from Poland and the A8 region. This will undoubtedly affect the numbers of those travelling from the UK to Poland, for example (Horsfall 2018).

According to Beladi *et al.* (2019), medical tourism, on average, has a positive effect on host economies' output growth, particularly in non-OECD countries. However, they point out that this economic contribution of medical tourism to a host country is overestimated by an average of 26.8 per cent, if the unfavourable indirect productivity effect of medical tourism is ignored (this overestimation is even higher in non-OECD countries). This is yet another "unknown" in the medical tourism industry – at a time of general economic uncertainty – that is too often not acknowledged by those involved in the medical tourism industry.

All of the unknowns that have been explored in this paper – along with others explored elsewhere – are important to acknowledge. There is much potential for medical tourism to empower health-care users, ease the burden on some over-stretched health-care systems and bring wider benefits to local and national economies. However, it is crucial that plans developed to support and grow medical tourism are realistic and that the medical tourism industry is not left unchecked and rather, harnessed, supported and regulated. To this end, it is important to first start with solid, reliable numbers. Too often analyses of the medical tourism market rely on industry sources. What we have presented here undoubtedly tells of a thriving industry, but one that is not independent of wider migration flows. It is an industry that is marked by seasonality and long-standing flows, but one that is also precarious and entering another period of unknowns.

#### **Notes**

- Although this question about the main reason to travel can be found in other international surveys (e.g. in the "Spanish Inbound Tourism Survey, FRONTUR"), the existence of the option "medical treatment" (or similar) is extremely difficult.
- Further information on the IPS methodology and quality is available at: http://webarchive. nationalarchives.gov.uk/20160105160709/,www.ons.gov.uk/ons/guide-method/method-quality/specific/travel-and-transport-methodology/international-passenger-survey/index. html.
- In a file called "qcontact" which contains one record for each of the individuals interviewed on the broader (excluding migration) IPS each year.
- 4. The IPS defines overseas resident as "that person who is permanently resident in another country and visits the UK for a period of less than 12 months". UK citizens who have been

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- resident overseas for 12 months or more and are coming home for less than 12 months are included in this category.
- 5. While this has recently changed, medical travel from the Channel Islands is usually covered by reciprocal arrangements or specialist insurance products.
- 6. We have also calculated the mean annual growth rates during the whole period 2000-2016. For outbound medical tourism, this rate was 16.1 per cent, whereas for inbound medical tourism was 3.3 per cent.
- 7. See Appendix Table AII.

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JTA 27,1	Appendix			
	Year	= Year in which the interview took place		
	Month	= Month in which the interview took place		
	Flow	= 1 (inbound) = overseas residents arriving in the UK (via air, sea or tunnel); 2 (outbound)		
40		= UK departing the UK (via air, sea or tunnel)		
40	Stay	= Length of stay expressed in the number of nights		
	Persons	= During the interview, the respondent is asked about expenditure for the full group of people travelling with him or her. "Persons" details how many people are included in the travelling/"expenditure" group		
	Spend	= This is the total amount of money spent before, during and after the trip expressed in terms of the respondent alone, in other words, "Netexp" divided by "Persons"		
Table AI.	Netexp	= Total money spent (in pounds) before the trip, during it and afterwards, and it is presented as relating to the full travelling/expenditure group		
Definition of variables		e = Country of residence y = Nationality of respondent		
		y y		

Table AII.
Mean spending per
visit for $\mathit{UK}$ residents
(outbound) looking
for medical treatment
by citizenship during
the period 2000-2016

	UK citizenship		Returning expats		TOTAL	
	2000-2006	2007-2016	2000-2006	2007-2016	UK citizenship	Returning expats
Poland	853.8	816.7	310	589	823.7	571.6
France	841.0	713.4	270.8	310.6	792.7	293.5
Hungary	655.8	2,437.7	200.0	264.0	2,130.0	250.0
India	1,364.3	1,271.7	2,429.0	714.7	1,298.0	627.5
Turkey	812.6	874.5	445.1	719.0	867.7	696.4
Spain	2,356.1	2,481.5	872.9	295.8	2,449.2	477.5

Note: We exclude the Isle of Man and Channel Islands from the sample, Weighted data Source: The International Passenger Survey (period 2000-2016)

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