

**COMPARING PHYSICIANS' EARNINGS:
CURRENT KNOWLEDGE
AND CHALLENGES**

A Final Report for the Department of Health

Prepared by NERA

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EXECUTIVE SUMMARY

This report has been produced for the Department of Health as a rapid review of the available data to compare physicians' earnings across a selection of countries. The main aim was to compare earnings across countries. We also sought information, where available, on earnings by grade, hospital doctor specialty and region.

Comparing doctors' earnings has proved to be a difficult task. There is often a lack of data and where data are available, there is often a lack of detailed data descriptions to ensure like is being compared with like. Multiple sources of income for doctors (public and private) can also complicate trying to derive an estimate of average earnings. Table 1 summarises earnings for hospital and primary care doctors for the countries covered in this study. Where more than one source of earnings data is available we have included the highest and lowest estimates of average earnings. In some cases, for example Australia, the range between the highest and lowest average earnings is extreme. With little to justify the choice of estimate used we have included the range, although this makes policy recommendations difficult to draw. Hospital doctors' earnings are also presented graphically in Figure 1.

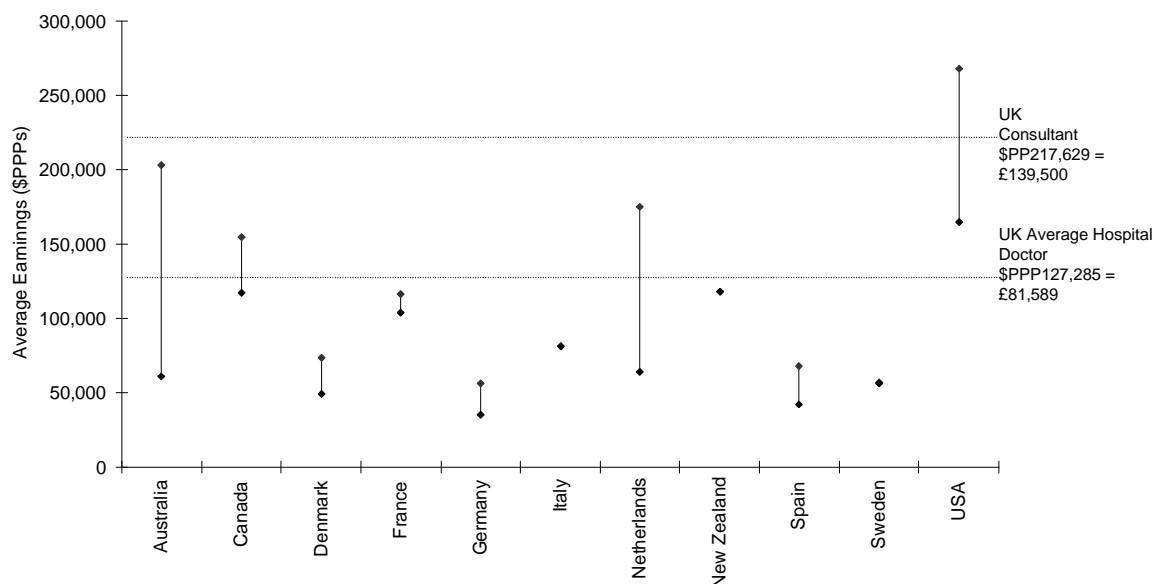
Table 1
Hospital and Primary Care Doctors' Annual Earnings, Selected Countries, \$PPPs (2002)

Country	Hospital Doctors		Primary Care Doctors		WHO Data All Doctors ¹
	Highest average earnings estimate	Lowest average earnings estimate	Highest average earnings estimate	Lowest average earnings estimate	
Australia	203,132*	59,789	86,226*	60,641	65,252
Canada	154,315 ³ *	117,197*	117,191*	81,017 ³ *	101,667
Denmark	73,236 ⁴	49,278	106,251	71,090	52,324
France	116,077 ⁵	104,056 ⁶	67,221	57,319 ⁶	61,441
Germany	56,455 ¹²	35,465 ¹³	71,443		55,426
Italy	81,414		74,300 ¹⁰		
Netherlands	175,155	64,053	92,226	57,064	
New Zealand	118,276		81,103		
Spain	67,785 ⁷	42,254	46,012 ¹¹	35,407	
Sweden	56,816 ⁸	56,543 ²	61,221 ⁸	56,816 ²	
UK	127,285 ¹² *		102,964*		92,118
USA	267,993	165,112 ⁹	151,682	136,260	126,648

Sources: NERA calculations using data from: Australia: Australian Bureau of Statistics and Sydney Morning Herald (12th September 2003), Canada: Statistics Canada, Government of New Brunswick, Government of Saskatchewan, Denmark: Local academic expert data abstraction from Statistics Denmark data, Amtsrådsforeningen, France: DREES, Germany: Zentralinstitut für die kassenärztliche Versorgung and Marburger Bund, Italy: ISTAT, Netherlands: De Vrije Huisarts and Landelijke Vereniging van Artsen in Dienstverband, New Zealand: New Zealand Treasury, Spain: Lopez Cassanovas (2003), Organisation Medica Colegial, Sweden: Statistics Sweden, Landstingsförbundet, UK: Department of Health, USA: Centre for Studying Health System Change, MGMA, US Bureau for Labor Statistics, WHO data from 2003 survey and OECD Main Economic Indicators (2003).

Notes: ¹ Monthly wages have been multiplied by 12 to give annual earnings. Except for USA we have used the highest WHO estimate. For the USA we have used the second highest figure. The high estimate is accurate for the UK. Other WHO estimates are included as a ball park estimate ²Average for GPs and hospital doctors, ³ Applied overhead estimate to derive earnings, ⁴ Weighted average of grades, ⁵ Includes average public sector salary, ⁶ Excludes average public sector salary, not all doctors receive public sector salary, ⁷ Average of grades and regions, ⁸ Earnings from County Councils only, ⁹ Weighted average of specialists, ¹⁰ Weighted average by practice list size, ¹¹ Excludes variable payments, ¹² Average of all grades including private practice income. * Financial year 2001/2.

Figure 1
Hospital Doctors' Annual Average Earnings, \$PPP (2002)



Source: NERA calculations and OECD Main Economic Indicators.

Notes: See notes to Table 1.

We found that US hospital doctors are the highest paid, followed by Australian and Canadian doctors (based on the highest estimate of average earnings). UK doctors are between second and fifth in line (depending upon whether the high or low estimates of average earnings of comparators are used) and are relatively well paid compared to their European neighbours including France, Italy and Sweden. We found that US primary care doctors are the highest paid, followed by Canadian, Danish and Australian doctors (based on the highest estimate of average earnings). The UK is between second and fourth in line (depending upon whether the high or low estimates of average earnings of comparators are used) and as before, are well paid compared to the majority of European counterparts we looked at.

Earnings data by grade was patchy, but demonstrates significant variability between countries. For example, in the UK, the highest grade (consultants) earn some three times the earnings of the lowest grade (junior doctors). This reflects the capacity of consultants to earn money in the private sector. The lowest range was found in Spain where the highest grade earn around a third more than the lowest grade. Similarly, we did not find a great deal of information on earnings by specialty. Where we did, we found a marked range. In France the highest earning specialty is radiology with earnings some 4 times the level of the lowest earning specialty, psychiatry. US data also found that radiology was the top-earning specialty, although earning only twice as much as the lowest earning specialty, paediatrics. Over time US specialties also show a marked variation in earnings growth, ranging from the lowest of 1 per cent to the highest of 37 per cent from 1997 to 2001. Regional data was also

difficult to find. Regional earnings can range from 24 per cent higher than the median, to 18 per cent lower than the median in France. In the US the highest earning region is some 15 per cent higher than the median, and the lowest 14 per cent lower than the median.

The main barriers we encountered in undertaking this work included the separation between experts in health care and data collection agencies (earnings' surveys are often carried out without contextual information on the health care system), a lack of detailed data within routine data sources (for example in Sweden a breakdown between primary care doctors and hospital doctors is not available from standard earnings data), and a general lack of detailed definitions of data.

This work has a number of limitations. We have not looked at:

- Activity carried out by doctors in different countries to ensure a like for like comparison;
- Supply conditions;
- The structure of the health system;
- Payment mechanisms;
- Differences in workload;
- Net earnings; and
- Comparisons of doctors' earnings with other professions.

Overall, this work has highlighted difficulties involved in comparing doctors' earnings across countries. We have found it very difficult to answer the relatively straight forward question; "how much do different doctors earn in different countries?" There is a lack of continuous and consistent data with which to inform health policy. The OECD no longer collect routine earnings data and this has left a considerable gap. We recommend that more research is undertaken to fill this gap.

1. INTRODUCTION

This report has been produced for the Department of Health as a rapid review of the available data to compare physicians' earnings across a selection of countries. The primary objective was to compare doctors' earnings across countries. The secondary objective was to investigate regional and specialty variations. We have focused most on the first objective given the limited time available, but have collected some data on the second. Additional data may be available on regional earnings and earnings by specialty given more time and resources.

This report presents results of comparisons of earnings of hospital doctors and primary care doctors (General Practitioners or GPs). Table 1.1 presents a summary of earnings in each country in \$PPPs, adjusted for inflation over time using Consumer Price Indices and presented in 2002 year equivalents.¹

Table 1.1
Hospital and Primary Care Doctors' Annual Earnings, Selected Countries, \$PPPs (2002)

Country	Hospital Doctors		Primary Care Doctors		WHO Data All Doctors ¹
	Highest average earnings estimate	Lowest average earnings estimate	Highest average earnings estimate	Lowest average earnings estimate	
Australia	203,132*	59,789	86,226*	60,641	65,252
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Germany	56,455 ¹²	35,465 ¹³	71,443		55,426
Italy	81,414		74,300 ¹⁰		
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Sources: NERA calculations using data from: Australia: Australian Bureau of Statistics and Sydney Morning Herald (12th September 2003), Canada: Statistics Canada, Government of New Brunswick, Government of Saskatchewan, Denmark: Local academic expert data abstraction from Statistics Denmark data, Amdtsradsforeningen, France: DREES, Germany: Zentralinstitut für die kassenärztliche Versorgung and Marburger Bund, Italy: ISTAT, Netherlands: De Vrije Huisarts and Landelijke Vereniging van Artsen in Dienstverband, New Zealand: New Zealand Treasury, Spain: Lopez Cassanovas (2003), Organisation Medica Colegial, Sweden: Statistics Sweden, Landstingsförbundet, UK: Department of Health, USA: Centre for Studying Health System Change, MGMA, US Bureau for Labor Statistics, WHO data from 2003 survey and OECD Main Economic Indicators (2003).

Notes: ¹ Monthly wages have been multiplied by 12 to give annual earnings. Except for USA we have used the highest WHO estimate. For the USA we have used the second highest figure. The high estimate is accurate for the UK. Other WHO estimates are included as a ball park estimate ²Average for GPs and hospital doctors, ³ Applied overhead estimate to derive earnings, ⁴ Weighted average of grades, ⁵ Includes average public sector salary, ⁶ Excludes average public sector salary, not all doctors receive public sector salary, ⁷ Average of grades and regions, ⁸ Earnings from County Councils only, ⁹ Weighted average of specialists, ¹⁰ Weighted average by practice list size, ¹¹ Excludes variable payments, ¹² Average of all grades including private practice income * Financial year 2001/2.

¹ Except when data relates to the financial year 2001/2.

This study demonstrates key difficulties in obtaining data on physicians' earnings. The OECD no longer collects continuous data and this has left a substantial gap. More research should be undertaken to fill this gap.

This report is structured as follows:

- Section 2 presents comparisons of earnings for hospital doctors and primary care doctors between countries. We also include the limited information that we gathered on regional, specialty and grade variation in earnings. Care should be taken when comparing across countries.
- Section 3 sets out our approach to gathering data in each country including some of the main barriers to undertaking this work.
- Section 4 draws out some main conclusions and discusses the main limitations for this research and suggests some potential ways forward to improve comparisons across countries in the future.

2. COMPARISONS OF PHYSICIAN EARNINGS

In this section we present data on hospital and primary care doctors' earnings in national currency units for each country. Data relate to a number of different years (from 1999 through to 2003) and are gross earnings before tax.

We also present data in US\$ Purchasing Power Parities (PPPs) to provide a comparative metric. The OECD define PPPs as;

“the rates of currency conversion that equalise the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs are simply price relatives which show the ratio of the prices in national currencies of the same good or service in different countries. For example, if the price of a hamburger in France is 2.84 euros and in the United States it is 2.2 dollars, then the PPP for hamburger between France and the United States is 2.84 euros to 2.2 dollars or 1.29 euros to the dollar. This means that for every dollar spent on hamburger in the United States, 1.29 euros would have to be spent in France to obtain the same quantity and quality - or, in other words, the same volume - of hamburger.”²

We have adjusted to account for changes in buying power over time by uprating using Consumer Price Indices. All data is converted into a single year, 2002.³

Throughout, we note difficulties with the data and where data has not been available to us. We have sought out as many sources of data as possible within the time frame and have included more than one source of data where it has been available. We also present the relatively little information that we gathered on earnings by grade, specialty and by region.

2.1. Hospital Doctors' Earnings

We set out earnings for hospital doctors in national currency units. It is important to stress that all earnings data for hospital doctors includes junior doctors. This is because in the majority of countries we were unable to obtain data that excluded junior doctors. This is a significant weakness as including junior doctors will significantly reduce the average earnings of hospital doctors. For example, in the UK the weighted average earnings for hospital doctors becomes £81,589 compared to an average of £139,500 (including both NHS and private income) for consultants.⁴

² http://www.oecd.org/faq/0,2583,en_2649_34357_1799281_1_1_1_1,00.html#1799063

³ Except when data relates to the financial year 2001/2.

⁴ NERA calculation and Department of Health data.

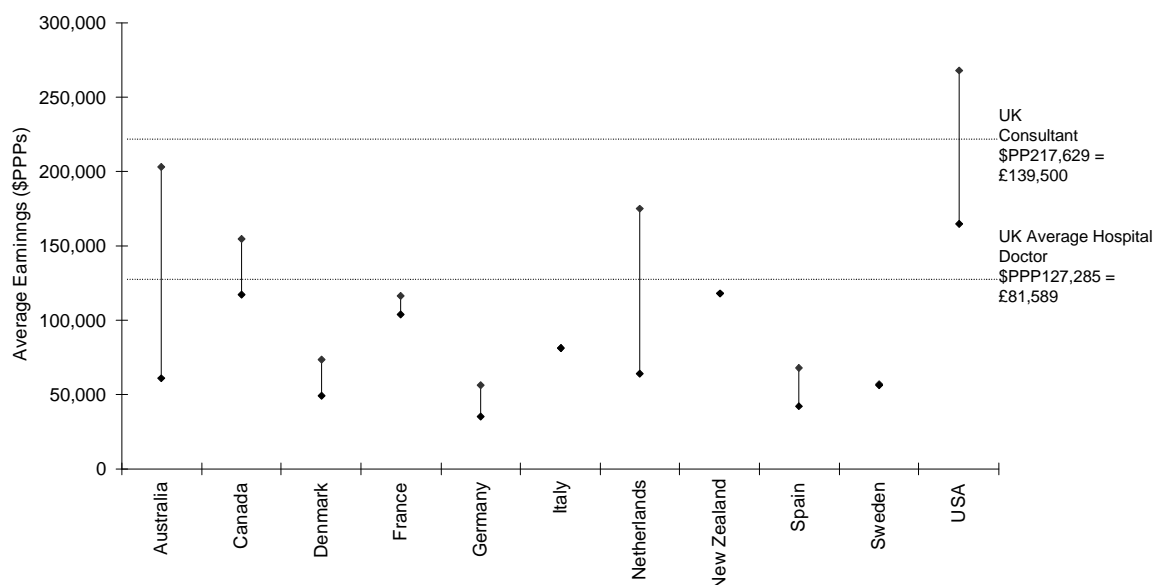
Table 2.1: Hospital Doctors' Annual Earnings, National Currency Units

Country	Annual earnings	Unit	Year	Source	Comment
Australia	76,904	AUSS	2001	Australian Bureau of Statistics	Weighted average of grades. Excludes all sources of earnings Leaked information so unclear how calculated for different specialties
	206, 215 to 270,166		2001/2	Doctors furious as incomes laid out (12th September 2003) Sydney Morning Herald	
Canada	134,581	SCAN	2000	Statistics Canada	Based on census data
	163,676		2002/3	Government of New Brunswick	Applied overhead estimate to derive annual earnings
	185,178		2001/2	Government of Saskatchewan	Applied overhead estimate to derive annual earnings
Denmark	602,700	DKK	2001	Local academic expert	Academic experts interpretation of Statistics Denmark data
	438,198		2003	Amtsradforeningen (Danish Regions)	Weighted average of grades
France	93,559	€	2001	DREES	Only includes private earnings
	106,559		2001	DREES	Includes average public sector salary
Germany	35,178 to 55,998	€	2003	Marburger Bund	Low and high range, unclear if includes all sources of income
Italy	61,776	€	2000	ISTAT (Italian Statistical Office)	
Netherlands	135,700 to 154,400	€	2001	De Vrije Huisarts (Private GP organisation)	Multiplied monthly earnings to derive annual estimate Low and high range
	63,132 to 110,304		2003	Landelijke Vereniging van Artsen in Dienstverband	
New Zealand	175,000	NZ\$	2003	New Zealand Treasury	Unweighted average of grades
Spain	33,000 to 36,000	€	2002	Organization Medica Colegial	Starting and finishing salary
	52,940		2002	Local academic expert	Average of grades and regions
	47,568		2003	Department of Health (England)	Average of grades
Sweden	556,800	SEK	2002	Statistics Sweden	Average for GPs and hospital doctors
	560,800		2003	Landstingsforbundet (Swedish Federation of County Councils)	Only includes income from County Councils, excludes overtime
UK	81,590	£	2001/2	Department of Health	Weighted average of grades
	139,500		2001/2	Department of Health	Consultant income
USA	219,000	US\$	1999	Centre for Studying Health System Change	Weighted average of specialties
	263,254		2001	Medical Group Management Association	
	165,112	US\$	2002	US Bureau for Labor Statistics	

Source: NERA.

Figure 2.1 illustrates hospital doctors average earnings in \$PPPs. Based on this comparison USA hospital doctors are earning the highest amount, followed by Australia and the Netherlands (based on the highest estimate of average earnings). The UK is between second and fifth in this comparison (depending upon whether the highest or lowest estimate of average earnings is used for comparison).

Figure 2.1
Hospital Doctors' Annual Average Earnings, \$PPP (2002)



Source: NERA calculations and OECD Main Economic Indicators.

Notes: See comments in Table 2.1.

2.2. Primary Care Doctors' Earnings

Table 2.2 sets out the available data on primary care doctors' earnings in national currency units. We have also set out comments on the data. In some cases the data is an average of all doctors where a more detailed breakdown between primary care and hospital doctors is not available. We have included this data to demonstrate what is currently available and where improvements in data are required to undertake a more robust comparison of doctors' earnings.

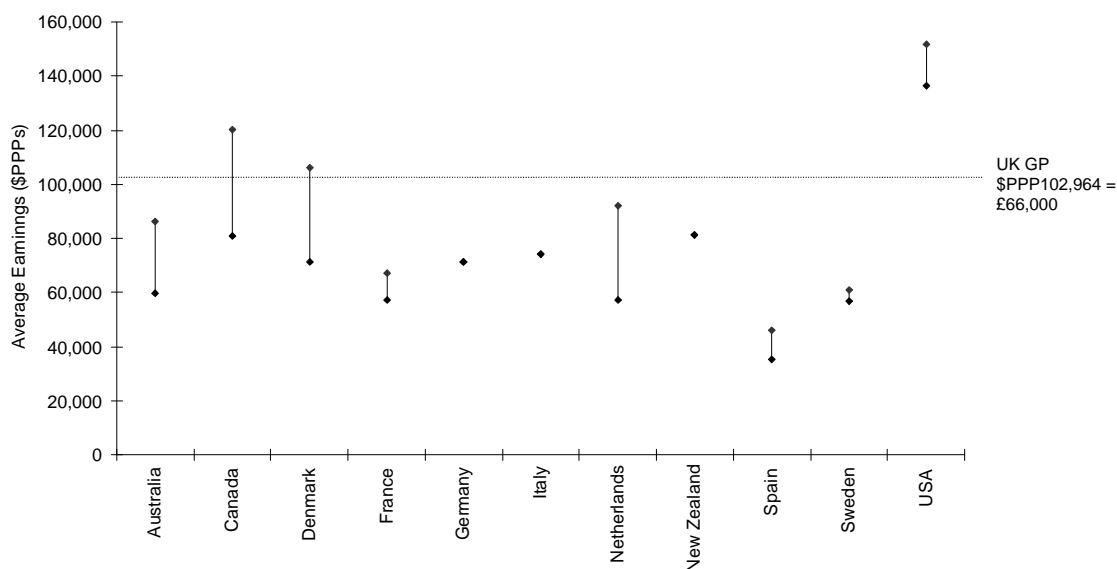
Table 2.2: Primary Care Doctors' Annual Earnings, National Currency Units

Country	Annual earnings	Unit	Year	Source	Comment
Australia	78,000	AUS\$	2001	Australian Bureau of Statistics	
	114,681		2001/2	Doctors furious as incomes laid out (12th September 2003) Sydney Morning Herald	Leaked information so unclear how calculated
Canada	110,997	CAN\$	2000	Statistics Canada	Based on census data
	144,235		2002/3	Government of New Brunswick	Applied overhead estimate to derive earnings estimate
	97,221		2001/2	Government of Saskatchewan	Applied overhead estimate to derive earnings estimate
Denmark	874,400	DKK	2001	Local academic expert	Academic experts interpretation of Statistics Denmark data
	600,000		2002	Department of Health (England)	
France	52,000	€	2000	French Ministry of Health	Only includes private earnings
	55,209		2001	DREES	Only includes private earnings
	61,709		2001	DREES and NERA calculation	Includes average public salary
Germany	66,361	€	1999	Zentralinstitut für die kassenärztliche Versorgung (Association of GPs)	Applied annual multiplier
Italy	56,378	€	2000	FIMMG (Federation of GPs)	Weighted average by practice list sizes
Netherlands	69,454 to 73,321	€	2001	De Vrije Huisarts (Private GP organisation)	
	90,900		2003	College Tarieven Gezondheidszorg	Target income
	56,244 to 65,196		2003	Landelijke Vereniging van Artsen in Dienstverband	
New Zealand	120,000	NZ\$	2003	New Zealand Treasury	
Spain	27,653	€	2002	Organization Medica Colegial	Excludes variable payments
	37,364		2003	Department of Health (England)	
Sweden	607,200	SEK	2003	Landstingsförbundet (Swedish Federation of County Councils)	Only includes income from County Councils, excludes overtime
	556,800		2002	Statistics Sweden	Average for GPs and hospital doctors
UK	66,000	£	2001/2	Department of Health	
USA	136,260	US\$	2002	US Bureau for Labor Statistics	
	138,000		1999	Centre for Studying Health System Change	
	149,000		2001	Medical Group Management Association	

Source: NERA.

Figure 2.2 illustrates primary care doctors' average earnings in US\$PPPs, illustrating upper and lower estimates of average earnings. It is clear that US GPs earn the highest, followed by Canada and Denmark (based on the highest estimate of average earnings). The UK is between second and fourth in line with UK GPs earning more than their German, French and Italian counterparts.

Figure 2.2
Primary Care Doctors' Annual Average Earnings, \$PPP (2002)



Source: NERA calculations and OECD Main Economic Indicators.

Notes: See comments in Table 2.2.

2.3. Hospital Doctors' Earnings by Grade

Where possible we collected information on earnings by grade of hospital doctor. There are different grades in different countries. A broad indicator of the range between the lowest and highest ranges is shown in Table 2.3. The lowest grade is indexed to 100. New Zealand has the highest range with senior hospital doctors earning three times as much as house officers. A very small range is seen in Spain, with the highest grade earning just 35 per cent more than the lowest grade. When private sector earnings are included there is a marked range in earnings between grades in the UK, with consultants earning some three times as much as junior doctors.

Table 2.3
Index of Hospital Doctors' Earnings by Grade, Denmark, New Zealand, Spain, Sweden and UK

Hierarchy	Denmark	New Zealand	Spain	Sweden	Public and private earnings UK	Public earnings UK*
1 (Highest grade)	249	313	135	202	302	185
2	218	150	131	163	128	128
3	159	100	115	100	100	100
4 (Lowest grade)	100		100			

Source: NERA calculations using Amtsradsforeningen, Department of Health, Lopez-Cassanovas (2003) and Landstingsforbundet data.

Notes: Excludes private sector earnings of consultants.

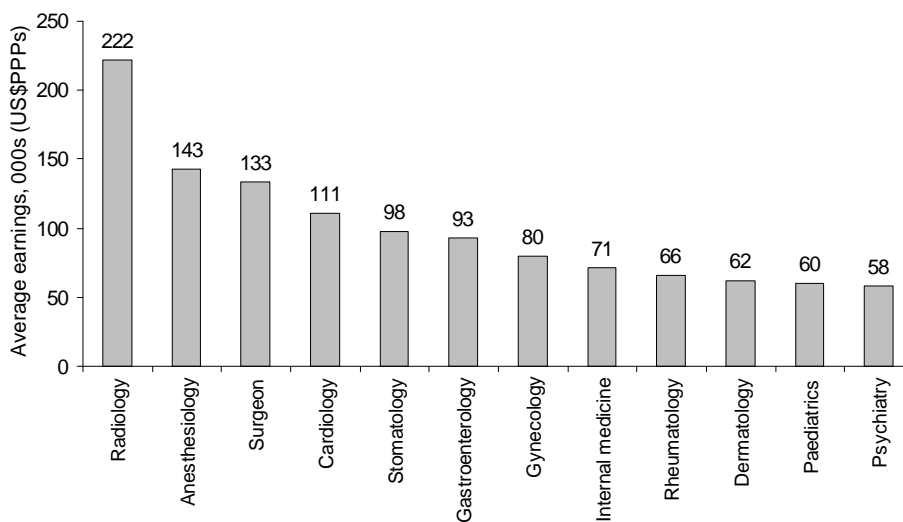
Broad conclusions cannot be made from the relatively little data that we have, but it is clear that there is a large variation in earnings between the lowest and highest grade hospital doctors.

2.4. Hospital Doctors' Earnings by Specialty

We have come across limited data on the variation in earnings between hospital doctors dependent upon their specialty. This may, in part, reflect our focus on obtaining robust average earnings data for primary care and hospital doctors within the time and resources available. However we suspect there is little data routinely available. We did collect data on earnings by specialty in the USA and France.

Figure 2.3 illustrates average earnings by specialty in France in US\$PPPs. Average earnings have a large range across specialties, the highest income (radiology) is almost 4 times the size of the lowest (psychiatry).

Figure 2.3
Average Annual Earnings by Specialty, France (2002)

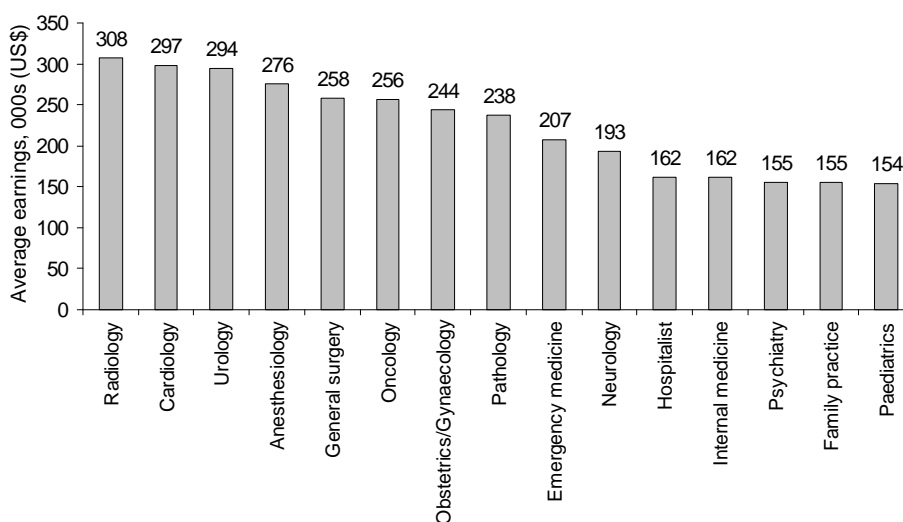


Source: NERA Calculation using DREES data and OECD Main Economic Indicators.

Notes: Excludes public sector salaries which are, on average, an additional US\$PPP14,000.

Figure 2.4 illustrates average earnings by specialty for the USA in US\$. As in France, radiologists earn the highest. The range is relatively smaller than France, with the highest specialty (radiology) just over twice the lowest (paediatrics). This data is derived from a number of surveys of US doctors and there is variability around the average earnings.

Figure 2.4
Average Annual Earnings by Specialty, USA (2002)



Source: NERA calculations using Data Trackers' data.

Growth in earnings has also shown marked differences across the specialties. Table 2.4 illustrates earnings in 1997 and 2001 and growth over this period. Gastroenterology has experienced the highest growth (37%) over the period.

Table 2.4
Growth in Annual Earnings by Specialty 1997 to 2001, USA

Specialty	1997	2001	% change
Cardiology: Invasive	326,537	410,300	26%
Orthopedic Surgery	305,000	362,173	19%
Radiology: Diagnostic	270,796	332,917	23%
Cardiology: Non-invasive	259,961	320,111	23%
Gastroenterology	228,122	312,074	37%
Urology	230,339	303,433	32%
Anesthesiology	243,937	283,655	16%
Haematology/Oncology	195,057	274,270	41%
Surgery: General	225,173	257,509	14%
ENT	223,366	256,160	15%
Obstetrics/Gynaecology	210,000	231,000	10%
Ophthalmology	213,169	216,012	1%
Pulmonary Medicine	174,203	215,700	24%
Dermatology	176,896	215,247	22%
Emergency Medicine	177,352	210,597	19%
Neurology	160,000	180,325	13%
Psychiatry	138,999	157,509	13%
Pediatric/Adolescent Medicine	131,803	150,222	14%
Internal Medicine	139,879	149,720	7%
Family Practice (without OB)	136,002	146,601	8%
Cardiology: Invasive	326,537	410,300	26%

Source: NERA calculations using Data Trackers' data.

A similar pattern is seen in data presented to the OECD in 2002 by USA delegates to the Human Resources in Health Care Project (Table 2.5).⁵

⁵ Supplied to NERA by the Department of Health.

Table 2.5
Starting Income Level in 2001 and Trends in Starting Income (1998-2001) for Selected
Specialties in New York, US

Specialty	Median Starting Income (US\$)	Median Income (of 25)	Change in Starting Income 98'-01'	Change in Income (of 25)
Radiology	186.1	1	7.9%	4
Orthopedic Surgery	184.1	2	0.6%	20
Emergency Medicine	173.6	3	3.1%	15
Anesthesiology - General	167.6	4	7.3%	7
Gastroenterology	166.7	5	12.4%	1
Child & Adol Psychiatry	116.0	21	6.1%	8
Pathology	112.7	22	-0.2%	22
IM & Peds (Combined)	111.5	23	0.9%	19
Family Practice	109.4	24	-0.3%	25
Paediatrics - General	98.0	25	0.0%	21

Source: USA delegates to the Human Resources in Health Care Project, Presented to the OECD, 2002.

This shows that the range of starting income by specialty (primary care is included as family practice). The top specialty, radiology, earns 1.9 times the lowest specialty (paediatrics). The fastest earnings growth was seen in gastroenterology with 12 per cent growth over three years, compared to an absolute decline in starting earnings for family practice.

The pattern seen from both Table 2.4 and Table 2.5 contrasts with starting salaries for NHS hospital doctors. In the NHS starting salaries are (theoretically) the same and increases in earnings are negotiated nationally. However, this does not apply to private sector income in the UK, where opportunities for additional income and different rates of pay vary widely by specialty.

There is little scope to draw conclusions with such limited data but it is clear that earnings by specialty can vary greatly even within one country.

2.5. Hospital Doctors' Earnings by Region

We came across relatively little information on the variation in earnings by regions within a country. We did collect some information on France, Spain and the USA. Table 2.6 presents an index of hospital doctors' earnings illustrating the range between the highest and lowest earnings across regions. The index is relative to the median regional earnings (index=100). The greatest range is seen in France where the highest paid hospital doctors receive some 24 per cent more than the median, the lowest paid hospital doctors received some 18 per cent less than the median.

Table 2.6
Index of Regional Variation (Median =100)

Country	Highest	Lowest
France	124	82
Spain	111	97
USA	115	86

Source: NERA calculations using DREES data, Lopez-Cassanovas (2003) and MGMA data.

3. DATA GATHERING AND BARRIERS

This section presents our approach to data gathering and the main barriers we encountered. In general terms our approach was to be as comprehensive as possible to trying to obtain robust data. As far as possible in each country we approached (either by phone, email or via websites):

- The relevant government agency concerned with health and health care;
- The relevant government statistical agency;
- Physician associations; and
- Academic experts in the field of health care.

We did not contact recruitment agencies because we were concerned that their data may not be representative and may also exclude all sources of earnings.

For each country we summarise below the agencies and experts who we approached and the type and nature of the data provided.

3.1. Data sources and contacts

Name	Earnings (AUS\$)	Year	Australia Comment	Source
General Practitioner	114,618	2001/2	Leaked information so unclear how calculated	Doctors furious as incomes laid out (12 th September 2003) <i>Sydney Morning Herald</i>
Specialists	76,904	2001	Minimum as data does not record all earnings	Australian Bureau of Statistics
Generalists	78,000	2001	Minimum as data does not record all earnings	Australian Bureau of Statistics
Obstetricians Anaesthetist	232,347 to 270,166	2001/2	Leaked information so unclear how calculated	Doctors furious as incomes laid out (12 th September 2003) <i>Sydney Morning Herald</i>

Other contacts:
 Australian Department of Health and Ageing - do not collect this data.
 Australian Medical Association - did not respond to our request.

Name	Earnings (CAN\$)	Year	Canada Comment	Source
General Practitioner and Family Physicians	110,997	2000	Based on census data	Statistics Canada
General Practitioner	144,235	2002/3	Applied overhead estimate to derived earnings estimate	Government of New Brunswick
General Practitioner	97,221	2001/2	Applied overhead estimate to derived earnings estimate	Government of Saskatchewan
Specialist Physicians	134,581	2000	Based on census data	Statistics Canada
Specialist	163,676	2002/3	Applied overhead estimate to derived earnings estimate	Government of New Brunswick
Specialist	185,178	2001/2	Applied overhead estimate to derived earnings estimate	Government of Saskatchewan

Other contacts:

Canada Health - do not collect this data.

Canadian Medical Association - do not collect this data.

Regional health agencies:

- British Columbia Health Ministry - 'blue book' with individual level data but no mechanism to aggregate up for primary care and secondary care and includes overheads etc.
- Manitoba Health Insurance Plan - do not collect this data.
- Dept. of Consumer & Corporate Affairs, Government of the Yukon - do not collect this data.
- Professional Licensing, Dept. of Justice & Public Service, Gov't. of NWT - do not collect this data.
- College of Physicians and Surgeons of British Columbia - do not collect this data.
- College of Physicians and Surgeons of Alberta - do not collect this data.
- College of Physicians and Surgeons of Saskatchewan - do not collect this data.

- College of Physicians and Surgeons of Manitoba - do not collect this data.
- College of Physicians and Surgeons of Ontario - do not collect this data.
- Collège des médecins du Québec - do not collect this data.
- College of Physicians and Surgeons of New Brunswick - do not collect this data.
- College of Physicians and Surgeons of Nova Scotia - do not collect this data.
- College of Physicians and Surgeons of Prince Edward Island - do not collect this data.
- Newfoundland Medical Board - do not collect this data.

Denmark					
Name	Earnings (DKK)	Year	Comment	Source	
General Practitioner	874,400	2001	Academic experts interpretation of Statistics Denmark data	Local academic expert	
General Practitioner	600,000	2002		Department of Health (England)	
Specialist	602,700	2001	Academic experts interpretation of Statistics Denmark data	Local academic expert	
Specialist	438,198	2003	Average of grades	Amtsradsforeningen (Danish Regions)	

Other contacts:
Danish Ministry of Health – do not collect this data.
Danish Medical Association – did not respond to our request.

France				
Name	Earnings (€)	Year	Comment	Source
General Practitioner	52,000	2000	Only includes private income	French Ministry of Health
General Practitioner	55,209	2001	Only includes private income	DREES
General Practitioner	61,709	2001	Includes average public salary	NERA calculation using DREES data
Specialist	93,559	2001	Only includes private income	DREES
Specialist	106,559	2001	Includes average public salary	NERA calculation using DREES data

Other contacts:
French Ministry of Health - do not collect this data but supplied data from DREES.
National Institute for Statistics and Economic Studies (INSEE) - no data on earnings is available on the website.

Germany				
	Earnings (€)	Year	Comment	Source
General Practitioner	66,361	1999		Zentralinstitut für die kassenärztliche Versorgung
Specialist	35,178 to 57,083	2003		Marburger Bund

Other contacts:
Federal Ministry of Health - do not collect this data.
Federal Statistical Office - did not respond to our request.
German Medical Association - do not collect this data.

Italy				
	Earnings (€)	Year	Comment	Source
General Practitioner	124,647	2000	Weighted average by practice list sizes	FIMMG (Federation of GPs)
Specialist	61,776	2000		ISTAT (Italian Statistical Office)
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Key agencies:				
Italian Ministry of Health - do not collect this data.				
Italian Medical Association - did not respond to our request.				

Netherlands				
	Earnings(€)	Year	Comment	Source
General Practitioner	154,400 to 135,700	2001		De Vrije Huisarts (Private GP organisation)
General Practitioner	90,900	2003	Target income	College Tarieven Gezondheidszorg Landelijke Vereniging van Artsen in Dienstverband
General Practitioner	56,244 to 65,196	2003		
Specialist	69,454 to 73,321	2001		De Vrije Huisarts
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	Earnings (NZ\$)	Year	New Zealand Comment	Source
General Practitioner	120,000	2003		New Zealand Treasury
Specialist	175,000	2003	Unweighted average of grades	New Zealand Treasury

Key agencies:
 Statistics New Zealand - Do not collect this data.

	Earnings(€)	Year	Spain Comment	Source
General Practitioner	27,653	2002	Excludes variable payment	Organization Medica Colegial
General Practitioner	37,364	2003		Department of Health (England)
Specialist	33,000 to 36,000	2002	Starting and finishing salaries	Organization Medica Colegial
Specialist	52,940	2002		Lopez-Cassanovas (2003) El Interfaz publico-privado en Sanidad in Remuneraciones ano 2002 Ed. Masson. Barcelona
Specialist	47,568	2003	Average of grades	Department of Health (England)

Key agencies:
 Spanish Ministry of Health - do not collect this data.

Sweden				
	Earnings (SEK)	Year	Comment	Source
General Practitioners	607,200	2003	Only includes income from County Councils, excludes overtime	Landstingsförbundet (Federation of Swedish County Councils)
Medical Practitioners	556,800	2002	Average for Generalists and Specialists	Statistics Sweden
Specialist	560,800	2003	Only includes income from County Councils, excludes overtime	Landstingsförbundet

Key agencies:
Swedish Ministry of Health - do not collect this data.
Swedish Medical Association - do not collect this data.

USA				
Name	Earnings (US\$)	Year	Comment	Source
Family and General Practitioners	136,260	2002		US Department of Labor Statistics
Primary Care Physicians	138,000	1999		Data trackers
Primary Care	149,000	2001		Medical Group Management Association
Specialist	219,000	1999		Centre for Studying Health System Change
Specialist Care	263,254	2001		Medical Group Management Association
Specialist	165,112	2002		US Bureau of Labor Statistics

Note additional survey sources can be purchased.

3.2. Barriers

For each country we have discussed specific limitations that we encountered with the available data. It is also worth drawing out some more general barriers that we came across. These included:

- **Separation between experts in health care and data collection agencies:** For example, earnings surveys often do not include contextual information on the health care system so it is not always clear what data refer to and whether it is comprehensive.
- **Lack of detailed data within general health care professional groupings:** For example we found earnings data for medical practitioners, which includes a range of physicians and specialists but a more detailed breakdown (even between primary care and hospital doctors) is often unavailable in routine statistics. Where it is, it may not include the breakdown between those in training and those who are fully qualified.
- **Lack of detailed definitions of data:** For example, we set out to gather data on total earnings. In many cases it was not clear from available definitions that reported data included all data from public and private sources. As far as possible we have sought out additional sources of information and checked with those who have supplied data.
- **Multiple sources of earnings:** It is difficult to ensure that data sources include all sources of earnings.

4. MAIN CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORK

This work has found that primary care doctors earn the most in Denmark, followed by the USA and with the UK between second and fourth in line. The highest paid hospital doctors are in the USA, with the UK between second and fourth in line: The relative position of the UK depends upon whether the UK is compared to the highest or lowest estimate of average earnings in other countries. UK earnings for both primary care and hospital doctors compare highly with its closest European neighbours.

However, comparing physician earnings across countries is a difficult task. Comparisons made here should be interpreted with care because of a number of limitations of this research. The key limitations include:

- Definitions - countries have different definitions and although we have sought out data sources that use broadly the same definitions it is difficult to ensure that we are comparing like with like. Physicians in one country may well conduct different activities and duties than in another.
- This study has not looked at supply conditions. For example, the current number of qualified physicians, long-term supply conditions including training places, regulation and wage setting processes are very likely to affect earnings.
- This study has not looked at the structure of the health systems and the potential impact that this might have on physician earnings.
- This study has not looked at payment mechanisms, including fee for service or capitation payments, which could impact upon physician earnings across countries.
- This study has not controlled for differences in workload between physicians, such as where earnings of GPs may be influenced by the number of patients on their list.
- This study has primarily focused on gross earnings. We have not explored net income and differences between hours worked.
- This study has focused upon broad groupings of hospital doctors. We have only collected limited data by specialty which demonstrates marked variation between specialties. Further work could be undertaken to compare variation within and between countries by specialty.
- This study has focused on average earnings across countries as whole. What little data we have demonstrates variation across regions within countries. Further work could be undertaken to investigate regional variation.

- Large ranges in estimates, especially where there is no obvious way to determine a preferred estimate, make it difficult to draw clear conclusions on the relative ordering of average earnings across countries.
- This study did not consider earnings of professions that could be considered alternative career choices for doctors. This may well be an important factor for recruitment and retention of doctors.

Many of these limitations could be overcome with a fuller piece of research looking more broadly at physician earnings than we have been able to in this work. Some general recommendations for future work include:

- A number of locally based studies could be undertaken to explore the wider issues that we were unable to cover. It is important, however, to have a clear and transparent framework to ensure all earnings are captured with clear definitions.
- More routine data should ideally be collected. We understand that the OECD no longer collect physician income data because of difficulties of comparison. This has left a substantial data gap.
- Research could be undertaken in a number of 'key' countries, which would involve doctors to assess the reliability and credibility of routinely collected data. This is likely to prove a cost-effective alternative to primary survey work on physicians in countries.