



Health Consumer Powerhouse



Euro Health Consumer Index **2017**



The Green countries on the map on the front cover are scoring >800 on the 1000-point scale. Red are countries scoring <600.

The minimum possible score is 333.



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Euro Health Consumer Index

2017

Report

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No sign of an EU healthcare role model – and maybe that is a good thing?

If the results of the Euro Health Consumer Index since more than ten years are studied, some conclusions could be drawn:

- European public healthcare keeps improving, counting treatment outcomes as well as the position of the patient/consumer.
- The correlation between money spent and healthcare performance is obvious for treatment results, but non-existent for Accessibility/Waiting Times.
- Major countries seem to benefit from purchaser-provider split systems (“Bismarck”). “Gosplan” single payer systems (“NHS”) seem manageable mainly in small countries, particularly if not fragmented by regionalisation.
- There are growing European mountains of healthcare data and statistics that are often used to successfully improve medical procedures. Little learning progress is made on health systems reform; doctors and some managers implement change, politicians and administrators more rarely do.

Once upon a time the HCP thought that the EU would play a role in advancing health systems performance to the benefit of Europeans. The cross-border care initiative could have become a powerful driver for care transparency and integration. But reality tells us that very little has happened. Maybe the Brussels lesson is that national government enthusiasm for global healthcare is as limited as the willingness to welcome refugees distributed by the European Commission.

Since years there is an EU project, said to exist, to form a joint assessment platform targeting member state health systems. Brussels is well aware that the sheer size of health activities, generally absorbing more than ten percent of national GDP and an even larger share of the workforce, makes effective spending a key issue. How make it plausible that also the next generation of Europeans will access good health and healthcare? Piling up health indicators and engaging expert teams, carefully avoiding any indicators that an identifiable group of people (such as a government) could be expected to improve, is academic pastime. Implementing a real-life assessment vehicle something different indeed.

Perhaps it is as well that EU co-ordination of strategies and methods never took off? The Euro Health Consumer Index points every year to a number of successful national initiatives; this year, to pick a few examples, how Slovakia radically has improved access to treatment, how tiny players such as Macedonia and Montenegro have used e-health to abolish patient waiting and how low-key Finland climbs in the Index year by year (by avoiding to repeat Swedish mistakes, a good way to learn from others?). Maybe a joint EU health systems strategy would have delayed and complicated such behaviour? Maybe the lesson is that no co-ordination at all is better than a half-baked, lukewarm one?

Johan Hjertqvist
HCP Founder and President

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1. Summary

In spite of financial crisis-induced austerity measures, such as the much publicized restrictions on the *increase* of healthcare spend, European healthcare keeps producing better results. Survival rates of heart disease, stroke and cancer are all increasing, even though there is much talk about worsening lifestyle factors such as obesity, junk food consumption and sedentary life. Infant mortality, perhaps the most descriptive single indicator, also keeps going down, and this can be observed also in countries such as the Baltic states, which were severely affected by the financial crisis.

The previous editions of the Euro Health Consumer Index (EHCI), 2006 – 2016, have shown this improvement beyond reasonable doubt (see Section 5.)

“Internet pharmacopoeias” existed in only two countries (Sweden and Denmark) when the EHCI was started – today, almost every country has them. Infant mortality when first introduced had 9 countries scoring Green – today, 24 countries do that, with the same limit of less than 4 deaths per 1000 births for a Green. Similar observations can be made for many indicators.

In order to keep the EHCI challenging, the EHCI 2017 has to some degree sacrificed the longitudinal analysis aspect by raising the cut-off limits between Red/Yellow/Green scores on a number of indicators, and by the introduction of more stringent data such as 30-day case fatality for heart infarct and stroke.

1.1 General observations – European healthcare improving

In spite of the tightening of score criteria, the “**800 Club**” – countries scoring more than 800 points out of the maximum 1000 – has had an *increased* number of members in 2017: 12 countries, all Western European, now score above 800 points (up from 11 in 2016) of the maximum 1000.

The tightening of the score criteria, particularly for treatment results, seems to have created a gap between wealthy and less wealthy countries; previous EHCI editions have shown that money does help to provide the best treatment, and also to allow hospital admissions on lighter indications, which might not be cost-effective but does provide better outcomes. The last member of the 800 Club, Sweden in 12th place at 807 points leads surprise climber Slovakia in 13th place with a gap of 58 points.

1.1.1 No correlation between accessibility to healthcare and money spent¹

It is inherently *cheaper* to run a healthcare system without waiting lists than having waiting lists! Contrary to popular belief, not least among healthcare politicians, waiting lists do not save money – they cost money!

Healthcare is basically a process industry. As any professional manager from such an industry would know, smooth procedures with a minimum of pause or interruption is key to keeping costs low!

In the EHCI 2017 there are some surprising newcomers among countries having no or minimal waiting lists in healthcare. Tiny Montenegro has achieved a similar improvement to what Macedonia did in 2013 by introducing a national real time e-referral system, and

would have scored All Green for Accessibility if they had not, ironically, cancelled their previous “self-referral to specialist” rule due to nepotism-related misuse¹.

The exclusive group of countries ever having scored All Green on Accessibility has received a new member in 2017: Slovakia. Frequently, there is a negative bias in Patient Organisation responses on Waiting Times and a positive bias in official national data. Slovakia has gained All Green the “hard way” – through the scores received based on Patient Organisation responses!

Serbia, having bought a license for the Macedonia system, is a bit slower in the implementation than their smaller neighbours, but is on course to eliminating waiting lists.

If countries with limited means can achieve virtual absence of waiting lists – what excuse can there be for countries such as Ireland, the UK, Sweden or Norway to keep having waiting list problems?

MDD! (See Section 5.5!)

1.2 Country performance

The EHCI 2017 total ranking of healthcare systems shows The Netherlands holding out against the onslaught of Switzerland. The HCP was aware that tightening the criteria for Infant mortality, where the NL does not really excel, would lower the Dutch score, tightening the race for the #1 position. As Switzerland also got its Green score on this indicator reduced to Yellow, the suspense factor did not benefit from these changes. As stated above, the tightening of some indicator criteria seems to reward more affluent countries, with the NL still leading on 924 points, down only 3 points since 2016. Switzerland is also holding out well on 898 points, down 6 since 2016.

The most obvious change from 2016 is the 58-point gap now visible between the 12 countries of the 800 Club, and those behind. Rewarding real excellence in treatment results would help the more affluent countries in the ranking.

The changes in rank should not at all be dismissed as an effect of changing indicators, of which there are 46 in the EHCI 2016, as three indicators where almost all countries scores Green have been removed as non-discriminating. The Netherlands is the only country which has consistently been among the top three in the total ranking of any European Index the Health Consumer Powerhouse (HCP) has published since 2005. The Netherlands is sub-discipline winner, or joint winner, in three of the six sub-disciplines of the EHCI 2017. The Dutch healthcare system does not seem to have any really weak spots, having made improvement regarding the waiting times situation, where some central European states excel. Normally, the HCP takes care to state that the EHCI is limited to measuring the “consumer friendliness” of healthcare systems, *i.e.* does not claim to measure which European state has the *best* healthcare system across the board.

However, the fact that it seems very difficult to build an Index of the HCP type without ending up with The Netherlands on the medallists’ podium, creates a strong temptation to actually claim that the winner of the EHCI 2017 could indeed be said to have “the best healthcare system in Europe”. There should be a lot to learn from looking deeply into the Dutch progress!

¹ Montenegrin Ministry of Health, Podgorica, *Personal communication*.

Switzerland has for a long time had a reputation for having an excellent, although expensive, healthcare system, and it therefore comes as no surprise that rewarding clinical excellence results in a prominent position in the EHCI.

Bronze medallists are Denmark at 864 points. Denmark was silver medallist some years ago, and has had a dip in the ranking, which was probably linked to the tightening of regulations for access to healthcare services. In 2017, with clinical excellence being more obviously rewarded, Danes seem to have learned to live with the access rules and are back on the podium.

Norway (4th, 850 points), is losing 100 out of the missing 150 points from a perfect 1000 on their totally inexplicable waiting list situation!

Luxembourg is sharing the 4th position at 850 points. The very wise decision *not* to provide all forms of care at home, even though LUX could afford it, and allow their citizens to seek care in other EU countries, makes data availability slightly troublesome – it is likely that perfect data availability would give Luxembourg a higher score.

Finland (6th, 846 points) seems to have used traditional Finnish pragmatism to get out of the Waiting List swamp of a few years ago, and treatment results have also become first class.

The Swedish score for technically excellent healthcare services is, as ever, dragged down by the seemingly never-ending story of access/waiting time problems, in spite of national efforts such as *Vårdgaranti* (National Guaranteed Access to Healthcare). Out of the Swedish gap of 193 to a perfect 1000, 113 points are lost due to an abysmal waiting time situation. Thanks to clinical excellence, in 2017, Sweden is still in 12th place but at 807 points, 21 up since the previous year. The only countries scoring lower on Accessibility are Ireland (alone in the bottom position of this sub-discipline) and the U.K. – media reports about a worsening waiting time situation in Britain seem to be confirmed in the EHCI.

Portugal, still 14th at 735 points (28 down from 2016), ties this position with the U.K. – well done!

In southern Europe, Spain and Italy provide healthcare services where medical excellence can be found in many places. Real excellence in southern European healthcare seems to be a bit too much dependent on the consumers' ability to afford private healthcare as a supplement to public healthcare. Also, both Spain and Italy show large regional variation which tends to result in a lot of Yellow scores for these countries.

Some eastern European EU member systems are doing surprisingly well, particularly Slovakia due to improved Accessibility, Slovenia, the Czech Republic, and Estonia, considering their much smaller healthcare spend in Purchasing Power Parity (PPP) adjusted dollars per capita.

In 2014, the FYR Macedonia made the most remarkable advance in the EHCI scoring of any country in the history of the Index, from 27th to 16th place, largely due to more or less eliminating waiting lists by implementing their real time e-Booking system! The title "Climber of the Year" 2017 goes to Montenegro, mainly for the same reason, with a domestic IT solution – no Macedonian license. Montenegro climbs from 34th to 25th!

The fact that Montenegro is a small country with 600 000 people does not diminish this achievement – large countries could do the same, regionalised if not nationwide.

1.3 Country analysis of the 35 countries

1.3.1 The Netherlands!!!

The Netherlands is the only country which has consistently been among the top three in the total ranking of any European Index the Health Consumer Powerhouse has published since 2005. The 2012 NL score of 872 points was by far the highest ever seen in a HCP Index. The 924 points in 2016 are even more impressive, particularly as the score criteria have been tightened for the EHCI 2017 in order to register differences.

The NL wins three of the six sub-disciplines of the Index, and the large victory margin (to all competitors except Switzerland) seems essentially be due to that the Dutch healthcare system does not seem to have any really weak spots, except possibly some scope for improvement regarding the waiting times situation, where some central European countries excel.

Normally, the HCP takes care to state that the EHCI is limited to measuring the “consumer friendliness” of healthcare systems, *i.e.* does not claim to measure which European state has the *best* healthcare system across the board.

Counting from 2006, the HCP has produced not only the generalist Index EHCI, but also specialist Indexes on Diabetes, Cardiac Care, HIV, Headache, Hepatitis and other diagnostic areas. The Netherlands is unique as the only country consistently appearing among the top 3 – 4, regardless what aspects of healthcare which are studied. This creates a strong temptation to actually claim that the winner of the EHCI 2017 could indeed be said to have “the best healthcare system in Europe”.

1.3.1.1 So what are the Dutch doing right?

It has to be emphasized that the following discussion does contain a substantial amount of speculation outside of what can actually be derived from the EHCI scores:

The NL is characterized by a multitude of health insurance providers acting in competition, and being separate from caregivers/hospitals. Also, the NL probably has the best and most structured arrangement for patient organisation participation in healthcare decision and policymaking in Europe.

Also, the Dutch healthcare system has addressed one of its few traditional weak spots, Accessibility, by setting up 160 primary care centres which have open surgeries 24 hours a day, 7 days a week. Given the small size of the country, this should put an open clinic within easy reach for anybody.

Here comes the speculation: one important net effect of the NL healthcare system structure would be that healthcare operative decisions are taken, to an unusually high degree, by medical professionals with patient co-participation. Financing agencies and healthcare amateurs such as politicians and bureaucrats seem farther removed from operative healthcare decisions in the NL than in almost any other European country. This could in itself be a major reason behind the NL victory in the EHCI 2008 – 2017.

1.3.1.2 So what, if anything, are the Dutch doing wrong?

The NL scores well or very well in all sub-disciplines, except possibly Accessibility and Prevention, where the score is more mediocre – on the other hand, so are those of most other countries.

The historic Dutch problem of mediocre scores for Waiting times has to a great extent been rectified by 2016 – 2017. As was observed by Siciliani & Hurst of the OECD in 2003/2004, and in the EHCI 2005 – 2016, waiting lists for specialist treatment,

paradoxically, exist mainly in countries having “GP gatekeeping” (the requirement of a referral from a primary care doctor to see a specialist).

GP gatekeeping, a “cornerstone of the Dutch healthcare system” (said to the HCP by a former Dutch Minister of Health and repeated in the Dutch parliament November 2014) is widely believed to save costs, as well as providing a continuum of care, which is certainly beneficial to the patient. As can be seen from the references given in Section 7.10.2 on indicator 2.2, there is no evidence to support the cost-reducing hypothesis. Also, as can be seen in Section 4.1, the NL has risen in healthcare spend to having one of the highest healthcare costs in Europe.

By 2014, The Netherlands are on par with Sweden and Germany for healthcare spend!

This has been extensively treated in the EHCI 2013 report².

The Dutch healthcare system is characterised by over-use of in-patient care (and institutionalised psychiatric care and elderly care).

It seems that actual modes of operating the healthcare system in The Netherlands could explain the high *per capita* healthcare spend, *i.e.* **not** the multi-payor model. If the country can afford this, fine; but also for Outcomes and patient quality of life reasons, a programme to reduce the share of in-patient care would be beneficial for the Dutch healthcare budget! According to Dutch government sources, and presented at the Irish Health Summit in May 2016, there is a strategy aimed at saving GEUR 12/year by switching to less in-patient care.

1.3.2 Switzerland

Silver medallists, 898 points (down from 904).

Switzerland has enjoyed a solid reputation for excellence in healthcare for a long time. Therefore it is not surprising that when the **n.a.**'s of previous EHCI editions have mainly been eliminated, Switzerland scores high. Considering the very respectable money ploughed into the Swiss healthcare system, it should! Now along with Slovakia, the only country to score All Green on Accessibility.

In 2017, Switzerland is outdistancing a “hornets’ nest” of 10 other Western European Countries scoring above 800 points! Swiss healthcare has probably been this good also before; the highly decentralised cantonal structure of the country has made data collection difficult.

1.3.3 Denmark

3rd place, 864 points. Denmark was catapulted into 2nd place by the introduction of the e-Health sub-discipline in the EHCI 2008. Denmark was in a continuous rise since first included in the EHCI 2006. Interestingly, when the EHCI 2012 was reverted to the EHCI 2007 structure, Denmark survived this with flying colours and retained the silver medal with 822 points! Denmark has also made dramatic advancement in the reduction of heart disease mortality in recent years. Denmark was one of only three countries scoring on “Free choice of caregiver in the EU” after the criteria were tightened to match the EU directive, and also on having a hospital registry on the Internet showing which hospitals have the best medical results.

However, in 2013, the introduction of the Prevention sub-discipline did not help Denmark, which lost 20 points on this sub-discipline relative to aggressive competitors. Although the causality is hard to prove, that Danish score drop did coincide in time not only with the

² www.healthpowerhouse.com/files/ehci-2013/ehci-2013-report.pdf

removal of Outcomes data from its hospital quality information system. It also coincided with the tightening of access to healthcare, with only two telephone numbers being available to Danish patients; the number of their GP, or the emergency number 112!

In 2017, with clinical excellence being rewarded higher, it seems that Danish patients have learned to cope with the accessibility restrictions!

1.3.4 Norway

4th place, 850 points. Norwegian wealth and very high *per capita* spend on healthcare seem to be paying off – Norway has been slowly but steadily rising in the EHCI ranking over the years. Traditionally, Norwegian patients complained about waiting times. This has subsided significantly, but is still where Norway loses most of the points missing: -100 points compared with class leaders Switzerland and Slovakia!

The poor accessibility of Norwegian healthcare must be more or less entirely attributed to mismanagement, as lack of resources cannot possibly be the problem. The fact that it is *cheaper* to operate a healthcare system without waiting lists (*i.e.* waiting lists do not save money, they *cost* money) could actually explain the Norwegian situation. Too much money can be a curse, hindering rationalization or the learning of efficient logistics.

1.3.5 Luxembourg

Luxembourg (4th, 850 points), being the wealthiest country in the EU, could afford to build its own comprehensive healthcare system. Unlike Iceland, Luxembourg has been able to capitalize on its central location in Europe. With a level of common sense which is unusual in the in-sourcing-prone public sector, Luxembourg has not done this, and has for a long time allowed its citizens to seek care in neighbouring countries. It seems that they do seek care in good hospitals. Probably for this reason, Luxembourg loses points on the Abortions indicator – for reasons of discretion, many LUX women probably has that done outside of the small and intimate Grand Duchy.

LUX patients probably get even better treatment than the EHCI shows, as being treated abroad makes data collection complicated.

The HCP has received some protest from LUX about the bad score on cigarette consumption, on the argument that most of those cigarettes are smoked by other nationalities. From a European public health standpoint, peddling cheap fags to your neighbours is no better than smoking them all yourself.

1.3.6 Finland

6th, 842 points (same as in 2016). As the EHCI ranking indicates, Finland has established itself among the European champions, with top Outcomes at a fairly low cost. In fact, Finland is a leader in value-for-money healthcare.

Some waiting times are still long, provision of “comfort care” such as cataract surgery and dental care is limited and out-of-pocket payment, also for prescription drugs, is significantly higher than for Nordic neighbours.

This probably means that the public payors and politicians traditionally were less sensitive to “care consumerism” than in other affluent countries. This situation seems to have been put right in recent years, with Finland being among the top scorers for Range and Reach of Healthcare Services.

1.3.7 Germany

Germany (7th, 836 points) took a sharp dive in the EHCI 2012, sliding in the ranking from 6th (2009) to 14th. As was hypothesised in the EHCI 2012 report, when patient organisations were surprisingly negative, this could have been an artefact created by “German propensity for grumbling”, *i.e.* that the actual deterioration of the traditionally excellent accessibility to health care was less severe than what the public thought, and the negative responses were an artefact of shock at “everything not being free anymore”.

The 2017 survey results seem to confirm this theory, and it would appear that German patients have discovered that “things are not so bad after all”, with Mrs. Merkel ruling as Queen of Europe.

Germany has traditionally had what could be described as the most restriction-free and consumer-oriented healthcare system in Europe, with patients allowed to seek almost any type of care they wish wherever they want it (“stronger on quantity than on quality”). The traditional weakness of the German healthcare system: a large number of rather small *general* hospitals, not specializing, resulting in mediocre scores on treatment quality, seems to be improving – a tendency even more prominent in 2017, when Germany is sharing 6th place on Outcomes.

In a feedback round from national healthcare bodies, the response from the German Bundesministerium für Gesundheit (BMG) contained an interesting reference to a study of waiting times in German primary care. It is irrelevant what the actual numbers were in that study; the unit of time used to measure and analyse primary care accessibility was not months, weeks or days, but minutes!

1.3.8 Belgium

Perhaps the most generous healthcare system in Europe³ seems to have got its quality and data reporting acts together, and ranks 8th in the EHCI 2017 (832 points). Still not quite top class on medical treatment results (“Outcomes”).

1.3.9 Iceland

Due to its location in the North Atlantic, Iceland (9th, 830 points) has been forced to build a system of healthcare services, which has the capability (not dimensions!) of a system serving a couple of million people, which is serving only 300 000 Icelanders. Iceland scores well on Outcomes

Lacking its own specialist qualification training for doctors, Iceland does probably benefit from a system, which resembles the medieval rules for carpenters and masons: for a number of years after qualification, these craftsmen were forbidden to settle down, and forced to spend a number of years wandering around working for different builders. Naturally, they did learn a lot of different skills along the way. Young Icelandic doctors generally spend 8 – 10 years after graduation working in another country, and then frequently come back (and they do not need to marry a master builder’s widow to set up shop!). Not only do they learn a lot – they also get good contacts useful for complicated cases: the Icelandic doctor faced with a case not possible to handle in Iceland, typically picks up the phone and calls his/her ex-boss, or a skilled colleague, at a well-respected hospital abroad and asks: Could you take this patient?, and frequently gets the reply: “Put her on a plane!

³ Some would say over-generous: a personal friend of the HCP team, living in Brussels, was “kidnapped and held” in hospital for 6 days(!) after suffering a vague chest pain one morning at work.

1.3.10 France

10th, 825 points. Dropped out of the top 10 after reducing formerly liberal access to specialist services around 2009, but has slowly and steadily been climbing back. This pattern is not unusual after rule changes for Access (see Denmark above!). The management of the HCP have relocated to France; with a background from Sweden, our personal experience makes us believe that French patients must be a bit grumpy about Waiting Times in healthcare – from a Swedish perspective, Accessibility is fabulous!

A technically competent and efficient system, with a tendency to medicalize a lot of conditions⁴, and to give patients a lot of drugs!

France has long had the lowest heart disease mortality in Europe, and was the first country (1988), where CVD was no longer the biggest cause of death. Also, France was #1 in the Euro Heart Index 2016⁵.

1.3.11 Austria

Austria (11th, 816 points) suffered a drop in rank in 2012.

In 2016, Austria made a comeback into the "800 Club". The introduction of the Abortion indicator did not help: Austria does not have the ban on abortion found in Poland and three more countries, but abortion is not carried out in the public healthcare system. Whether Austria should deserve a Red or an **n.a.** score on this indicator could be a matter of discussion – there are no official abortion statistics.

Surprisingly modest score on Outcomes, but still good – same score as Belgium.

1.3.12 Sweden

Sweden tumbled in the EHCI 2013 from 6th place to 11th. In the EHCI 2016, Sweden dropped further to #12, at the same 786 points as in 2015. In 2017, Sweden is still in 12th place, but back in the 800 Club at 807 points, thanks to clinical excellence being rewarded higher.

Sweden scores surprisingly well in the sub-discipline Prevention, considering that the country's healthcare system has a long tradition of steering patients away from taking up time for their doctor unless *really* sick. This proves that Prevention is dependent on other forces of society than healthcare services!

Sweden enjoys the companionship only of a number of CEE countries having more than 30 abortions per 100 live births, which in CEE probably is a remnant from before 1990.

At the same time, the notoriously poor Swedish accessibility situation seems very difficult to rectify, in spite of state government efforts to stimulate the decentralized county-operated healthcare system to shorten waiting lists by throwing money at the problem ("Queue-billions"). Sweden now has the highest healthcare spend *per capita*, (after the three super-wealthy countries, see Section 4.1) together with The Netherlands and Austria. "Throwing money at a problem" is obviously not an effective way of problem-solving. The HCP survey to patient organizations confirms the picture obtained from the official source www.vantetider.se, that the targets for maximum waiting times, which on a European scale are very modest, are not really met. The target for maximum wait in Sweden to see your primary care doctor (no more than 7 days) is underachieved only by

⁴ Wadham, Lucy; *The Secret Life of France*, Faber Faber, 2013.

⁵ www.healthpowerhouse.com/publications/euro-heart-index-2016/

Portugal, where the corresponding figure is < 15 days. In the HCP survey, Swedish and Irish patients paint the most negative pictures of accessibility of any nation in Europe. Particularly cancer care waits, not least in the capital Stockholm, seem inhumane!

Another way of expressing the vital question: Why can FYR Macedonia reduce its waiting times to practically zero, and Sweden cannot?

1.3.13 Slovakia

749 points, up 71 since 2016, which is chiefly due to a really surprising All Green score on Accessibility, obtained the "hard way" *i.e.* by the power of very positive feedback in the HCP Patient Organisation survey (keeping in mind that the previous survey was in 2015). Could this be an effect of the fairly recent Slovakian system of private (additional) healthcare insurance?

1.3.14 Portugal

14th; 747 points. Essentially the same performance as in 2016, but a drop in points mainly due to the tightening of Outcomes score criteria. Does well in the Bang-for-the-Buck analysis!

1.3.15 United Kingdom

15th place, 735 points. A 2014 survey to the public of the UK, asking about "What is the essence of being British?" got the most common response "Having access to the NHS". Nevertheless, the UK healthcare system has never made it into the top 10 of the EHCI, mainly due to poor Accessibility (in 2017 only beating Ireland on this sub-discipline) and an autocratic top-down management culture. The country, which once created the Bletchley Park code-breaking institution would do well to study the style of management of professional specialists created there⁶!

Mediocre Outcomes of the British healthcare system have been improving, but in the absence of real excellence, the tightened 2017 criteria puts the U.K. on par with Spain and the Czech Republic in the middle of the field. During the autumn of 2017 there were also worrying media reports about increasing Waiting Time problems, and reduced quality of cancer care.

1.3.16 Slovenia

16th place, 726 points.

When the HCP team first visited the Slovenian Ministry of Health in 2006, the MoH representatives proudly stated "We are not a Balkan state – we are an Austrian province, which had bad luck in 1918!"

Slovenia has a GDP/capita which is 3 – 4 times that of the other ex-Yugoslav countries (except Croatia at ~75% of the Slovenian GDP). This difference was not created in just over two decades – in 1985, Croatia and Slovenia together produced 75% of the GDP of Yugoslavia!

With a population of only 2 million people, it sometimes takes only a limited number of skilled and dedicated professionals to make a difference in certain medical specialities. This has been observed in hepatitis, where Slovenia ranked #2 in Europe in the 2012 Euro

⁶ McKay, Sinclair; *The Secret Life of Bletchley Park*, chapter 17, *Aurum Press, London (2010).

Hepatitis Index⁷, and also in diabetes and CVD, Slovenia ranking #6 in the 2014 Euro Diabetes Index⁸ and 5th in the Euro Heart Index 2016⁴.

1.3.17 The Czech Republic

The Czech Republic has always been a solid performer among CEE countries, and in 2017 lands in a tied 16th place with Slovenia (726 points). The main difference from neighbouring Slovakia is a decent but not excellent score on Accessibility.

1.3.18 Spain

18th place, 695 points. Very regionally decentralised. Spanish healthcare seems to rely a bit too much on seeking private care for real excellence; on Outcomes indicators in 2017 being on par with the U.K. and the Czech Republic. The 2017 Patient Organisation survey gave a poor view on Accessibility.

1.3.19 Estonia

19th place, 691 points. Not exceptional on any of the sub-disciplines, Estonia has done well in the EHCI for a number of years, not least in the context of the quite limited economic resources of this small country. Leader in the Bang-for-the-Buck adjusted Index (see Chapter 4). Suffers from the tightening of Outcomes criteria. One of very few countries managing to keep resistant infection rates low – restrictive antibiotics prescribing?

1.3.20 Italy

20th place, 673 points. Italy has the largest internal difference of GDP/capita between regions of any European country; the GDP of the poorest region is only 1/3 of that of Lombardy (the richest). Although in theory the entire healthcare system operates under one central ministry of health, the national Index score of Italy is a mix of Northern Italian and Rome Green scores, and Southern Italian Red scores, resulting in a lot of Yellows.

1.3.21 Serbia

Tied 20th place, 673 points. Serbia was “climber of the year” in 2016, and continues its upward movement.

The major part of the climb is the effect on Waiting Times by licensing and implementing the Macedonian IZIS system for direct specialist care booking, plus e-Prescriptions, in Serbia named MojDoktor (www.mojdoktor.gov.rs). Serbia being a larger country than FYROM, the full effect has not materialized fully by the time of EHCI 2017 publication. In order to obtain the full effect, the implementation of MojDoktor has to be mandated for all Serbian hospitals, which has not yet happened at the time of publication of this report.

Serbia is also slowly improving on clinical results (Outcomes indicators), which were All Red in 2013.

1.3.22 Former Yugoslav Republic Of Macedonia (FYROM)

22nd place, 649 points. FYROM was the absolute “Rocket of the Year” in 2014, ranking 16th with a score of 700 points, up from 555 points and 27th place in 2013. This also makes

⁷ <http://www.healthpowerhouse.com/files/euro-hepatitis-index-2012/Report-HepI-HCP-121104-2-w-Cover.pdf>

⁸ <http://www.healthpowerhouse.com/files/EDI-2016/EDI-2016-report.pdf>

the country the “EHCI Rocket of all Time”; no country ever gained 11 positions in the ranking in only one year!

The country has made a remarkable breakthrough in electronic booking of appointments – since July 2013, any GP can call up the booking situation of any specialist or heavy diagnostic equipment in the country in Real Time with the patient sitting in the room, and book anywhere in the country with a few mouse clicks. This has essentially eliminated waiting times, provided that the patient is willing to travel a short distance (the entire country measures approximately 200 km by 130, with the capital Skopje located fairly centrally). It seems that patients have caught on, with FYROM receiving high scores for accessibility.

Much of this can probably be attributed to firm leadership, with the Minister of Health declaring “I want that system up and running on July 1, 2013; *basta!* The system (“IZIS”) also includes e-Prescriptions. This leadership is not as firm today, and FYROM has also been slowly sliding in the EHCI.

The FYROM IZIS system is well worth a study trip from other countries! The message to all other European ministers and other persons in charge of healthcare systems: “Go and do likewise.”⁹ This advice does not exclude that e-health implementation most often may need some time to settle and that down-sides can occur over time, before patients get used to their new-born power and choice.

The area, where FYROM still has a way to go is on actual medical treatment results. There is no quick fix for this; even with very determined leadership, it will probably be a matter of ~5 years to produce significant improvement. It seems that some out-of-date treatment methods, still in use from Yugoslav times, are hindering improvement.

1.3.23 Malta

23rd place, 642 points. Decent accessibility, but not too strong on treatment results. Also, there seem to be gaps in the public subsidy system of Maltese healthcare. This is particularly prominent for drug subsidies; many Maltese do not bother with receiving a subsidy. The result is that Malta has little data on drug use!

1.3.24 Ireland

24th place, 630 points.

Ireland drops in the Index for two main reasons:

In 2017, Ireland is alone in last position for Accessibility, with patient organisations steadily giving very pessimistic feedback in the HCP survey.

Unfortunately, this was confirmed by the Irish HSE and MoH after the release of the EHCI 2015 report, when they said in a memo that the programme initiated to reduce healthcare waiting times in Ireland aims at a target of no more than 18 months’ (!) wait for a specialist appointment. Even if and when that target is reached, it will still be the worst waiting time situation in Europe.

Also the tightening of Outcomes criteria deprived Ireland of some previous higher scores.

Ireland no longer has a total ban on abortion. The requirement that a woman wishing an abortion becomes subject to judgement on if the pregnancy should be regarded as a serious health hazard, including suicide risk, is a very minor step indeed towards abortion as a women’s right, hence the purple score on this indicator.

⁹ Luke 10:37

1.3.25 Montenegro

25th place, 623 points, up from 34th place in 2016 (“Climber of the Year” in the EHCI 2017). The country has only 650 000 inhabitants, making it possible for reforms to take effect rapidly. This is showing by Montenegro having in just one year fully implemented their own version of an open, transparent real-time e-Referral and e-Prescription system, radically reducing waiting times.

The IT solution might not be as elegant as the FYROM IZIS/MojDoktor, but it seems to Do The Job! Another example of being light on their feet, Montenegro in three months of summer 2017 built and introduced a smart phone App, through which citizens can readily book their primary care doctor.

Montenegro also plans to implement DRG:s and performance-based financing of hospitals during 2018, which could help boost productivity.

1.3.26 Croatia

26th place, 620 points, and a drop in rank. Croatia (and even more Slovenia) were the remarkable success stories among the ex-Yugoslavian countries, until the Macedonian wonder of 2014. In spite of a GDP/capita, which is still modest by Western European standards, Croatian healthcare does excel also at advanced and costly procedures such a kidney transplants: the Croatian number of 45 transplants per million population is among the top countries of Europe.

In the 2017 data, Croatia suffers significant drops in the scores of Accessibility and Outcomes, the two sub-disciplines carrying the highest weight. This might partially be due to “bad luck”, with Croatia landing on the wrong side of tightened score criteria for the cut-offs between Green/Yellow/Red scores!

1.3.27 Albania

27th place, 596 points.

Albania was included in the EHCI at the request of the Albanian Ministry of Health. Albania, as can be seen in Section 4.1, does have very limited healthcare resources. The country avoids ending up last chiefly due to a strong performance on Access, where patient organizations also in 2017 confirmed the official ministry version that waiting times are a minor problem.

The ministry explanation for this was that “Albanians are a hardy lot, who only go to the doctor when carried there”, *i.e.* underutilization of the healthcare system. This is an oversimplification; Albanians visit their primary care doctor more than twice as often as Swedes (3.9 visits per year *vs.* 1.7)!

1.3.28 Latvia

28th place, 587 points. Being every bit as victimized by the finance crisis as Greece, Latvia together with Lithuania has made a remarkable comeback. Both countries show improvement on the really vital indicator Infant mortality; Latvia has achieved an improvement from 6.2/1000 births (Red score) in 2012 to 3.9/1000 (Green score) in 2014, 3.8 in the EHCI 2017 (with the tightened criteria giving only a Yellow score). This seems sustainable – in a small country, these numbers would be sensitive to random variation.

1.3.29 Poland and Hungary

Both countries share 29th place at 584 points. Poland (29th at 584 points) has not done well in the EHCI in recent years, despite having good and plentiful medical education and a long tradition of solidarity-financed public healthcare.

The reason(s) for this is not obvious. However, it is well known from management practice, that if top management starts focussing on things other than producing the best products or services, the quality of products/services declines. In a corporation, "other things" can be Business For Fun such as "sexy" company acquisitions, using the corporate jet for hunting trips with posh people, or whatever.

In recent years, the governments seem to have focussed on things other than the optimal running of the country, such as killing off the free press, politicizing the judicial system, keeping out also very modest quotas of migrants and banning abortion in all but the most extreme circumstances.

One real area of excellence in Polish healthcare seems to be cardiac care. Poland comes out well almost regardless how that is measured; low Standardized Death Rates (particularly compared with neighbouring CEE countries) and making it into the fairly small group of countries scoring Green in 2017 on the 30-day Case Fatality indicator.

Since the start of the EHCI, ongoing political discussions on fundamental reform in Poland and Hungary (as well as in Romania and many other CEE countries) has yet delivered little. The public and the medical profession deserve better.

1.3.31 Lithuania

31st place, 574 points. In 2015, Lithuania recovered from the nosedive to 510 points and #32, which the country took in 2014. This shows that the EHCI can sometimes be sensitive to small changes in responses from the often limited number of patient organisations responding to the HCP survey. In 2017, Lithuania is almost back on its long time.

1.3.32 Greece

32nd place, 569 points. Greece was reporting a dramatic decline in healthcare spend per capita: down 28 % between 2009 and 2011, but a 1% increase in 2012! This is a totally unique number for Europe; also in countries which are recognized as having been hit by the financial crisis, such as Portugal, Ireland, Spain, Italy, Estonia, Latvia, Lithuania *etc*, no other country has reported a more severe decrease in healthcare spend than a temporary setback in the order of < 10 % (see Appendix 2). There is probably a certain risk that the 28% decrease is as accurate as the budget numbers, which got Greece into the Euro.

Greece has markedly changed its traditional habit as eager and early adopter of novel pharmaceuticals to become much more restrictive. However, the graph below shows that as late as 2012, Greece still had the 3rd highest *per capita* consumption of pharmaceuticals in Europe, counted in monetary value! Part of the explanation for this is unwillingness to accept generic drugs. It would seem that pharmacists (and doctors?) are not keen on communicating to patients that generics are equal to the branded drugs.

What has particularly changed in Greece is the readiness to adopt *new* drugs. As Indicator 6.5 (new arthritis medication) shows, Greece has in some cases radically changed its previous generous attitude to the introduction of novel, expensive pharmaceuticals. Also, the position of Greece in the drug expenses league has dropped from #3 in 2012, to #11 in 2014.

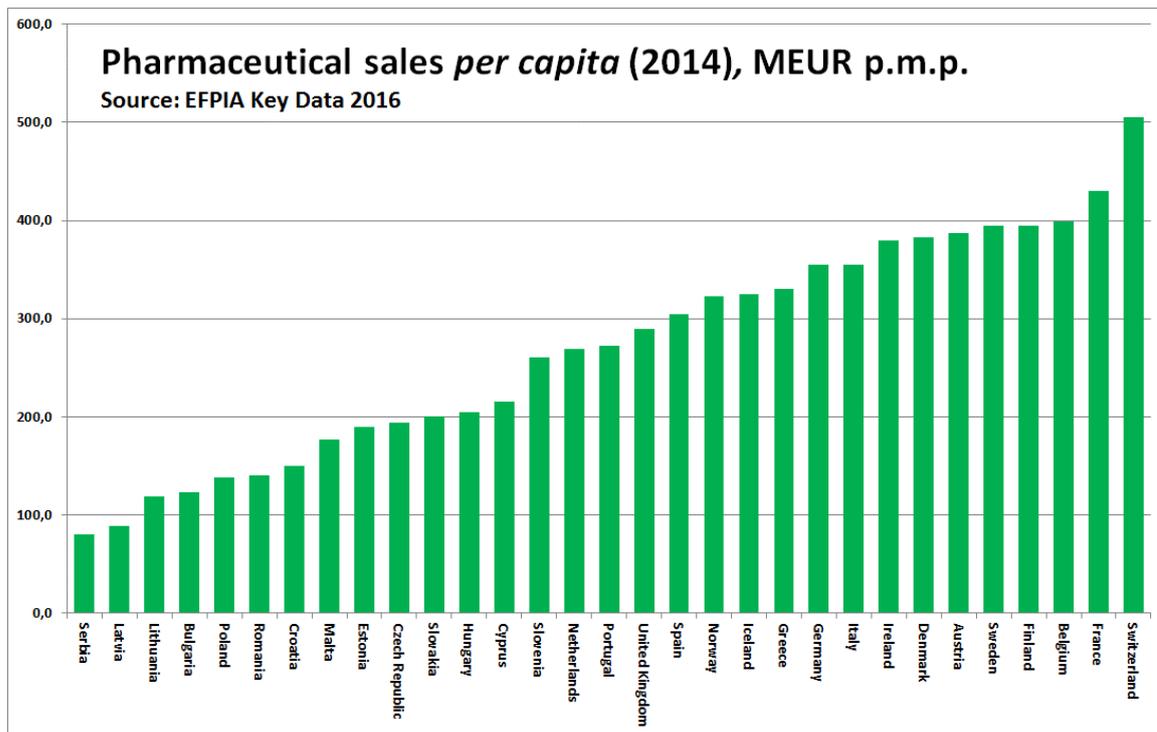


Figure 1.3.32.

Greek pharma expenditure is possibly affected by the fact, that Greece (and Italy) are the two countries in Europe, where the levels of corruption¹⁰ exceed what could be expected against the poverty level.

1.3.33 Bulgaria

33rd place, 548 points.

Bulgaria made a remarkable advance between 2012 and 2013 by the power of patient organisations in 2013 giving much more positive responses on survey questions on the EHCI sub-discipline Accessibility. Such an improvement is very difficult to achieve if it is not the result of a system reform such as the FYROM booking/referral system. The HCP team has checked the accuracy of those reports, and they seem to be founded on reality. Unfortunately, Bulgaria loses points on Outcomes and Range & Reach of HC Services.

1.3.34 Romania

34th place, 439 points.

Romania does have severe problems with the management of its entire public sector. In healthcare, discrimination of minority groups such as roma (3½ - 4% of the population) shows as poor Outcomes ratios, which in the EHCI 2017 is unfortunately punished harder than in previous editions.

Also, Albania, Romania and Bulgaria are suffering from an antiquated healthcare structure, with a high and costly ratio of in-patient care over out-patient care (see Figure below).

¹⁰ www.euractiv.com/section/health-consumers/news/novartis-under-scrutiny-for-alleged-pharma-scandal-in-greece/?nl_ref=28487074

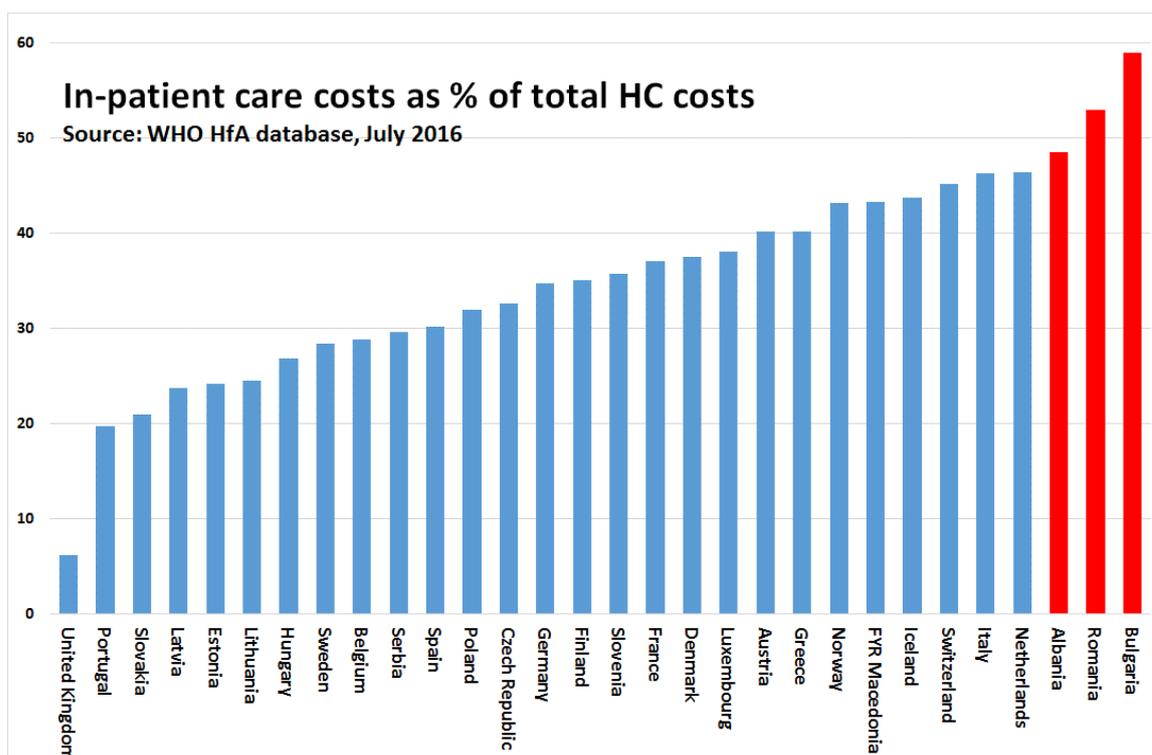


Figure 1.3.34 The higher the share of in-patient care, the more antiquated the healthcare provision structure. If Dutch, Swiss and (possibly) Italians prefer long hospital admissions, they can afford it; Bulgaria, Romania and Albania cannot! They should receive professional support to restructure their healthcare services!

1.3.xx Cyprus

Very difficult to score in the EHCI, as Cyprus does not really have a public healthcare system in the general European meaning.

“The percentage of public expenditure on health is around 41-42% of the total health expenditure and is indeed the lowest in the EU. That is due to the absence of a National Health Insurance Scheme. The share paid from private insurance companies on health is about 11.4%, whereas the out-of-pocket household expenditure without any insurance coverage come up to 44% of the total health expenditure.”¹¹

The next lowest public share of health expenditure among the 35 EHCI countries is 55 % (Bulgaria). Including healthcare services accessed by private payment would trivialize the EHCI exercise, as this would result in All Green scores for many countries, particularly on Accessibility indicators

As the EHCI normally does not reward a country for such services obtained by paying privately, it was decided to have Cyprus run out-of-competition in the EHCI 2017.

The Cyprus parliament did pass a bill in June 2017, providing universal coverage¹¹. The HCP is looking forward to this taking effect, thus enabling the HCP to re-include Cyprus in the EHCI scoring in 2018.

¹¹ Cyprus Statistical Office, www.mof.gov.cy/mof/cystat/statistics.nsf/index_en/index_en , *Personal communication*, 2017.

1.4 Tighter Outcomes criteria shows wealth gap in European healthcare

The top end of the ranking in 2017 (the “800 Club” is showing a concentration of the wealthier countries, which is more obvious than in any previous edition. This is largely an effect of tightening the score criteria, not least for Outcomes, where Green scores in the 2017 edition are limited to countries providing clinical excellence. It has been observed in previous EHCI editions, and certainly in the HCP Euro Heart Index¹², that rally good Outcomes are connected to financial resources.

1.4.1 Outcomes quality keeps improving essentially everywhere

Indicators such as Cancer Survival or Infant Mortality keep showing improvement over time. This is true also for countries such as the Baltic states, which have undergone a financial “steel bath”, in every way comparable with that hit southern Europe or Ireland. As an example, both Latvia and Lithuania have shown remarkable improvement in Infant Mortality right during the period of the worst austerity measures.

This is probably a positive effect of doctors being notoriously difficult to manage – signals from managers and/or politicians are frequently not listened to very attentively. This would be particularly true about providing shoddy medical quality as this would expose doctors to peer criticism, which in most cases is a stronger influencing factor than management or budget signals.

1.4.2 Delays and/or restrictiveness on the introduction of novel pharmaceuticals

As is shown by Indicators 6.3 – 6.5 (section 7.10.6), saving on the introduction/deployment of drugs, particularly novel, patented (expensive) drugs, seems to be a very popular tactic for containing healthcare costs in many countries. This has been observed also in previous HCP Indices¹³.

This is particularly obvious for Greece – a country, which traditionally has been a quick and ready adopter of novel drugs. The Greek public bill for prescription drugs was 8 billion euro as late as 2010, for 11 million people. As a comparison, the Swedish corresponding number was 4 billion euros for 9½ million people – and drug prices have traditionally been *lower* in Greece. That Greek readiness to introduce new drugs has dropped dramatically, along with the introduction of generic substitution.

Still, the Greek drug consumption by monetary value was the third highest in Europe as late as 2012! By 2014, that had shrunk to be the 11th highest.

1.5 BBB; Bismarck Beats Beveridge – now a permanent feature

The Netherlands example seems to be driving home the big, final nail in the coffin of Beveridge healthcare systems, and the lesson is clear: Remove politicians and other amateurs from operative decision-making in what might well be the most complex industry

¹² <https://healthpowerhouse.com/publications/euro-heart-index-2016/>

¹³ The Euro Hepatitis Index 2012, <http://www.healthpowerhouse.com/files/euro-hepatitis-index-2012/Report-HepI-HCP-121104-2-w-Cover.pdf>

on the face of the Earth: Healthcare! Beveridge systems seem to be operational with good results only in small population countries such as Iceland, Denmark and Norway.

1.5.1 So what are the characteristics of the two system types?

All public healthcare systems share one problem: Which technical solution should be used to funnel typically 8 – 11 % of national income into healthcare services?

Bismarck healthcare systems: Systems based on social insurance, where there is a multitude of insurance organisations, Krankenkassen etc, who are *organisationally independent of* healthcare providers.

Beveridge systems: Systems where financing and provision are handled within one organisational system, *i.e.* financing bodies and providers are wholly or partially within one organisation, such as the NHS of the UK, counties of Nordic states etc.

For more than half a century, particularly since the formation of the British NHS, the largest Beveridge-type system in Europe, there has been intense debating over the relative merits of the two types of system.

Already in the EHCI 2005, the first 12-state pilot attempt, it was observed that “In general, countries which have a long tradition of plurality in healthcare financing and provision, *i.e.* with a consumer choice between different insurance providers, who in turn do not discriminate between providers who are private for-profit, non-profit or public, show common features not only in the waiting list situation ...”

Looking at the results of the EHCI 2006 – 2017, it is very hard to avoid noticing that the top consists of dedicated Bismarck countries, with the small-population and therefore more easily managed Beveridge systems of the Nordic countries squeezing in. Large Beveridge systems seem to have difficulties at attaining really excellent levels of customer value. The largest Beveridge countries, the U.K., Spain and Italy, keep clinging together in the middle of the Index. There could be (at least) two different explanations for this:

1. Managing a corporation or organisation with 100 000+ employees calls for considerable management skills, which are usually very handsomely rewarded. Managing an organisation such as the English NHS, with close to 1½ million staff, who also make management life difficult by having a professional agenda, which does not necessarily coincide with that of management/administration, would require absolutely world class management. It is doubtful whether public organisations offer the compensation and other incentives required to recruit those managers.
2. In Beveridge organisations, responsible both for financing and provision of healthcare, there would seem to be a risk that the loyalty of politicians and other top decision makers could shift from being primarily to the customer/patient. Primary loyalty could shift in favour of the *organisation* these decision makers, with justifiable pride, have been building over decades, with justifiable pride, have been building over decades (or possibly to aspects such as the job-creation potential of such organisations in politicians’ home towns).

2. Introduction

The Health Consumer Powerhouse (HCP) has become a centre for visions and action promoting consumer-related healthcare in Europe. “Tomorrow’s health consumer will not accept any traditional borders”, we declared in last year’s report, but it seems that this

statement is already becoming true; the 2011 EU Directive for patients' rights to cross-border care is an excellent example of this trend. In order to become a powerful actor, building the necessary reform pressure from below, the consumer needs access to knowledge to compare health policies, consumer services and quality outcomes. The Euro Health Consumer Indexes are efforts to provide healthcare consumers with such tools. Not only do consumers gain from the transparency of benchmarking, the quality and function of healthcare systems improve as outcomes are displayed and analysed in an open, systematic, and repeated fashion.

This understanding now seems to be shared by the European Commission, during 2016 initiating the formation of an assessment system aimed to identifying successful national health systems. The ultimate purpose is said to be strengthening pan-EU best practices to provide better for value healthcare.

2.1 Background

Since 2004 the HCP has been publishing a wide range of comparative publications on healthcare in various countries. First, the Swedish Health Consumer Index in 2004 (also in an English translation). By ranking the 21 county councils by 12 basic indicators concerning the design of "systems policy", consumer choice, service level and access to information we introduced benchmarking as an element in consumer empowerment. In two years' time this initiative had inspired – or provoked – the Swedish Association of Local Authorities and Regions together with the National Board of Health and Welfare to start a similar ranking, making public comparisons an essential Swedish instrument for change.

For the pan-European indexes in 2005 – 2008, HCP aimed to basically follow the same approach, *i.e.* selecting a number of indicators describing to what extent the national healthcare systems are "user-friendly", thus providing a basis for comparing different national systems.

Furthermore, since 2008 the HCP has enlarged the existing benchmarking program considerably:

- In January 2008, the Frontier Centre and HCP released the first Euro-Canada Health Consumer Index, which compared the health care systems in Canada and 29 European countries. The 2009 edition was released in May, 2009.
- The Euro Consumer Heart Index, launched in July 2008, compares 29 European cardiovascular healthcare systems in five categories, covering 28 performance indicators. A new edition was published in 2016, with a special extension on Secondary Prevention in 2017.
- The first edition of Canada Health Consumer Index was released in September 2008 in co-operation with Frontier Centre for Public Policy, examining healthcare from the perspective of the consumer at the provincial level, and repeated 2009 and 2010.
- The Euro Consumer Diabetes Index, launched in September 2008, provided the first ranking of European diabetes healthcare services across five key areas: Information, Consumer Rights and Choice; Generosity, Prevention; Access to Procedures and Outcomes. A new edition was published 2014.
- Other Indexes published include the Euro HIV Index 2009, the Euro Headache Index 2012 and the Euro Hepatitis Index 2012.
- This year's edition of Euro Health Consumer Index covers 48 (+ a COPD mortality indicator) healthcare performance indicators for 35 countries.

Though still a somewhat controversial standpoint, HCP advocates that quality comparisons within the field of healthcare is a true win-win situation. To the consumer, who will have a better platform for informed choice and action. To governments, authorities and providers, the sharpened focus on consumer satisfaction and quality outcomes will support change. To media, the ranking offers clear-cut facts for consumer journalism with some drama into it. This goes not only for evidence of shortcomings and method flaws but also illustrates the potential for improvement. With such a view the EHCI is designed to become an important benchmark system supporting interactive assessment and improvement.

As we heard one of the Ministers of health saying when seeing his country's preliminary results: "It's good to have someone still telling you: you could do better."

2.2 Index scope

The aim has been to select a limited number of indicators, within a definite number of evaluation areas, which in combination can present a telling tale of how the healthcare consumer is being served by the respective systems.

2.3 About the author

Project Management for the EHCI 2017 has been executed by **Prof. Arne Björnberg, Ph.D.**, Chairman of the Health Consumer Powerhouse.

Dr. Björnberg has previous experience from Research Director positions in Swedish industry. His experience includes having served as CEO of the Swedish National Pharmacy Corporation ("Apoteket AB"), Director of Healthcare & Network Solutions for IBM Europe Middle East & Africa, and CEO of the University Hospital of Northern Sweden ("Norrlands Universitetssjukhus", Umeå).

Dr. Björnberg was also the project manager for the EHCI 2005 – 2016 projects, the Euro Consumer Heart Index 2008 and numerous other Index projects.

Dr. Björnberg is Visiting Professor at the European Center for Peace and Development, a faculty of the United Nations' University of Peace.

3. Results of the Euro Health Consumer Index 2017

EuroHealth Consumer Index 2017		Health Consumer Powerhouse																
Sub-discipline	Indicator	Albania	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	FYR Macedonia	Germany	Greece	Hungary	Iceland	Ireland
1. Patient rights & Information	1.2 Patient organisations involved in decision making																	
	1.4 Right to second opinion																	
	1.5 Access to own medical record																	
	1.6 Registry of bona fide doctors																	
	1.7 Web or 24/7 telephone HC info with interactivity																	
	1.8 Cross-border care seeking financed from home	n.a.												n.a.				
	1.9 Provider catalogue with quality ranking																	
	1.10 Patient records e-accessible																	
	1.11 Patients' access to on-line booking of appointments?																	
	1.12 e-prescriptions																	
	Subdiscipline weighted score		88	113	104	67	96	0	79	117	113	108	104	108	108	58	79	117
2. Accessibility (waiting times for treatment)	2.1 Family doctor same day access																	
	2.2 Direct access to specialist																	
	2.3 Major elective surgery <90 days																	
	2.4 Cancer therapy < 21 days																	
	2.5 CT scan < 7days																	
	2.6 A&E waiting times																	
	Subdiscipline weighted score		213	188	213	175	138	0	188	188	163	150	188	200	188	125	138	175
3. Outcomes	3.1 30-day Case Fatality for AMI																	
	3.2 30-day Case Fatality for stroke																	
	3.3 Infant deaths																	
	3.4 Cancer survival																	
	3.5 Potential Years of Life Lost																	
	3.6 MRSA infections																	
	3.7 Abortion rates																	
	3.8 Depression																	
	3.9 % of diabetes patients with HbA1c < 7	n.a.						n.a.						n.a.				
	Subdiscipline weighted score		156	233	233	156	178	0	222	267	189	289	256	133	267	200	156	256
4. Range and reach of services provided	4.1 Equity of healthcare systems																	
	4.2 Cataract operations per 100 000 age 65+	n.a.																
	4.3 Kidney transplants per million pop.																	
	4.4 Is dental care included in the public healthcare offering?																	
	4.5 Informal payments to doctors																	
	4.6 Long term care for the elderly																	
	4.7 % of dialysis done outside of clinic																	
	4.8 Caesarean sections																	
	Subdiscipline weighted score		42	104	115	47	94	0	104	120	89	120	99	63	83	52	78	115
5. Prevention	5.1 Infant 8-disease vaccination																	
	5.2 Blood pressure																	
	5.3 Smoking Prevention																	
	5.4 Alcohol																	
	5.5 Physical activity	n.a.																
	5.6 HPV vaccination																	
	5.7 Traffic deaths																	
Subdiscipline weighted score		65	101	95	65	65	0	77	95	77	101	95	89	101	83	89	113	95
6. Pharmaceuticals	6.1 Rx subsidy																	
	6.3 Novel cancer drugs deployment rate	n.a.																
	6.4 Access to new drugs (time to subsidy)				n.a.	n.a.												
	6.5 Arthritis drugs	n.a.																
	6.6 Statin use	n.a.																
	6.7 Antibiotics/capita	n.a.																
	Subdiscipline weighted score		33	78	72	39	50	0	56	78	61	78	83	56	89	50	44	56
Total score		596	816	832	548	620	xx	726	864	691	846	825	649	836	569	584	830	630
Rank		27	11	8	33	26	xx	16	3	19	6	10	22	7	32	29	9	24

EuroHealth Consumer Index 2017



Sub-discipline	Indicator	Italy	Latvia	Lithuania	Luxembourg	Malta	Montenegro	Netherlands	Norway	Poland	Portugal	Romania	Serbia	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingdom
1. Patient rights & Information	1.2 Patient organisations involved in decision making	👍	👍	👍	👍	👍	👎	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.4 Right to second opinion	👎	👎	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.5 Access to own medical record	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.6 Registry of bona fide doctors	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.7 Web or 24/7 telephone HC info with interactivity	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.8 Cross-border care seeking financed from home	👍	👍	n.a.	👍	👍	n.ap.	👍	👍	👍	👍	n.a.	👍	n.ap.	👍	👍	👍	👍	n.ap.
	1.9 Provider catalogue with quality ranking	👍	👍	👍	n.ap.	n.ap.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.10 Patient records e-accessible	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.11 Patients' access to on-line booking of appointments?	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	1.12 e-prescriptions	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	Subdiscipline weighted score		88	104	104	104	88	88	125	125	79	108	71	104	113	108	88	113	117
2. Accessibility (waiting times for treatment)	2.1 Family doctor same day access	👍	👍	👎	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	2.2 Direct access to specialist	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	2.3 Major elective surgery <90 days	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	2.4 Cancer therapy < 21 days	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	2.5 CT scan < 7days	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	2.6 A&E waiting times	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	Subdiscipline weighted score		150	138	138	213	150	200	200	125	125	138	113	200	225	163	113	113	225
3. Outcomes	3.1 30-day Case Fatality for AMI	👍	👎	👎	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.2 30-day Case Fatality for stroke	👍	👎	👎	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.3 Infant deaths	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.4 Cancer survival	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.5 Potential Years of Life Lost	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.6 MRSA infections	👍	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.7 Abortion rates	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.8 Depression	👍	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	3.9 % of diabetes patients with HbA1c < 7	👍	👍	n.a.	👍	👍	n.a.	👍	👍	👍	n.a.	👍	👍	n.a.	👍	n.a.	👍	👍	👍
Subdiscipline weighted score		211	156	144	244	167	156	278	289	167	233	122	167	189	211	222	278	278	222
4. Range and reach of services provided	4.1 Equity of healthcare systems	👍	👎	👎	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.2 Cataract operations per 100 000 age 65+	👍	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.3 Kidney transplants per million pop.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.4 Is dental care included in the public healthcare offering?	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.5 Informal payments to doctors	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.6 Long term care for the elderly	👍	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.7 % of dialysis done outside of clinic	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	4.8 Caesarean sections	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
Subdiscipline weighted score		73	68	78	109	104	52	125	115	63	89	52	57	73	89	94	125	94	109
5. Prevention	5.1 Infant 8-disease vaccination	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	5.2 Blood pressure	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	5.3 Smoking Prevention	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	5.4 Alcohol	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	5.5 Physical activity	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	5.6 HPV vaccination	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	5.7 Traffic deaths	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
Subdiscipline weighted score		101	77	65	107	95	77	107	119	95	107	48	89	83	83	107	101	101	113
6. Pharmaceuticals	6.1 Rx subsidy	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	6.3 Novel cancer drugs deployment rate	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	6.4 Access to new drugs (time to subsidy)	👍	n.a.	n.a.	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	6.5 Arthritis drugs	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	6.6 Statin use	👍	👍	👍	👍	n.a.	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	6.7 Antibiotics/capita	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍	👍
	Subdiscipline weighted score		50	44	44	72	39	50	89	78	56	72	33	56	67	72	72	78	83
Total score		673	587	574	850	642	623	924	850	584	747	439	673	749	726	695	807	898	735
Rank		20	28	31	4	23	25	1	4	29	14	34	20	13	16	18	12	2	15

3.1 Results Summary

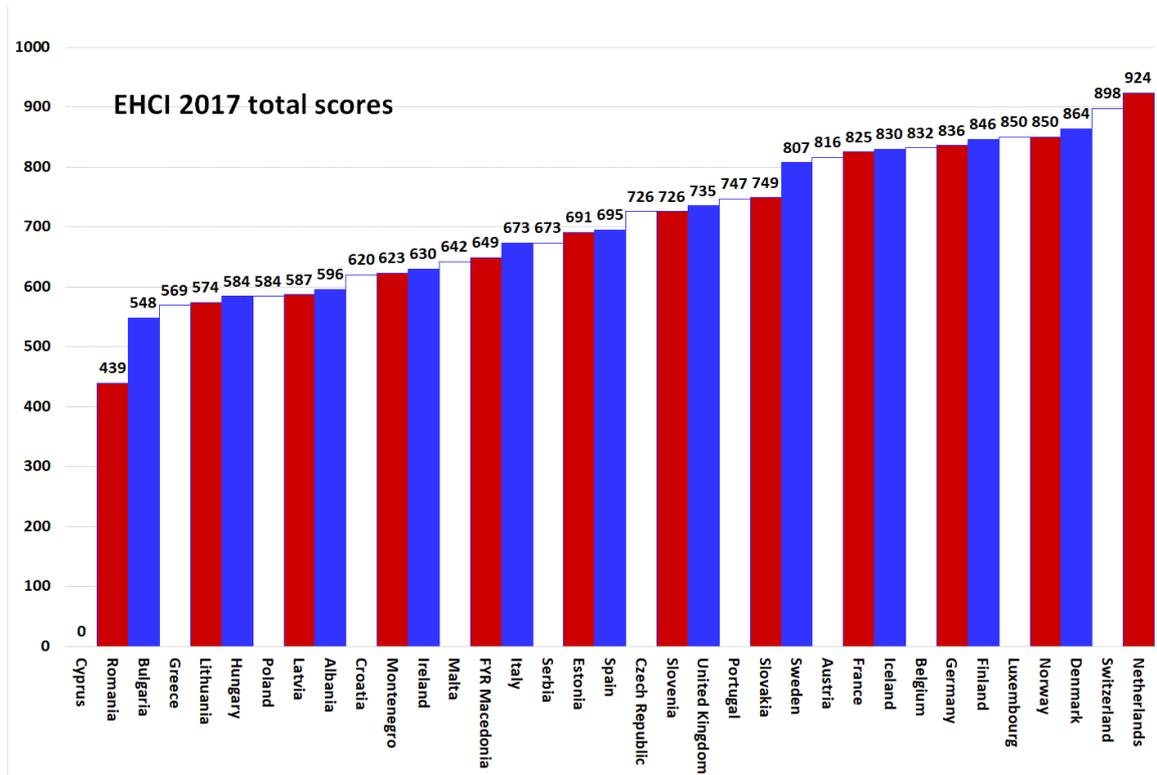


Figure 3.2 EHCI 2017 total scores¹⁴.

This 11th attempt at creating a comparative index for national healthcare systems has confirmed that there is a group of EU member states, which all have good healthcare systems seen from the customer/consumer’s point of view.

The scoring has intentionally been done in such a way that the likelihood that two states should end up sharing a position in the ranking is almost zero. It must therefore be noted that great efforts should not be spent on in-depth analysis of why one country is in 13th place, and another in 16th. Very subtle changes in single scores can modify the internal order of countries, particularly in the middle of the ranking list, and in the EHCI 2016 also for positions 3 - 8.

The scoring criteria have been tightened on some indicators in the EHCI 2017, in order to keep the Index challenging. Nevertheless, there are 12 Western European countries making it into the “800 Club”, *i.e.* scoring more than 800 out of the theoretical maximum of 1000 (“All Green on every indicator). The EHCI 2017 rewards real clinical excellence more than previous editions, creating a visible gap between the 800 Club and the other countries.

¹⁴ Cyprus is very difficult to score in the EHCI, as Cyprus does not really have a public healthcare system in the general European meaning. “The percentage of public expenditure on health is around 41-42% of the total health expenditure and is indeed the lowest in the EU. That is due to the absence of a National Health Insurance Scheme. The share paid from private insurance companies on health is about 11,4%, whereas the out-of-pocket household expenditure without any insurance coverage come up to 44% of the total health expenditure.”

As the EHCI normally does not reward a country for such services obtained by paying privately, it was decided to have Cyprus run out-of-competition in the EHCI 2017.

The Cyprus parliament did pass a bill in June 2017, providing universal coverage¹¹. The HCP is looking forward to this taking effect, thus enabling the HCP to re-include Cyprus in the EHCI scoring in 2018.

The EHCI 2017 total ranking of healthcare systems shows The Netherlands again pulling ahead, scoring 924 points out of 1000. Thus, the NL top position survives the onslaught of Switzerland, 898 points.

The changes in rank should not at all be dismissed as an effect of changing indicators, of which there are 46 in the EHCI 2017 – two indicators less than in the previous year. The Netherlands is the only country which has consistently been among the top three in the total ranking of any European Index the Health Consumer Powerhouse has published since 2005. The Netherlands is sub-discipline winner, or joint winner, in three of the six sub-disciplines of the EHCI 2017. The Dutch healthcare system does not seem to have any really weak spots in the other sub-disciplines. Normally, the HCP takes care to state that the EHCI is limited to measuring the “consumer friendliness” of healthcare systems, *i.e.* does not claim to measure which European state has the *best* healthcare system across the board.

However, the fact that it seems very difficult to build an Index of the HCP type without ending up with The Netherlands on the medallists’ podium, creates a strong temptation to actually claim that the winner of the EHCI 2017 could indeed be said to have “the best healthcare system in Europe”. There should be a lot to learn from looking deeply into the Dutch progress!

Switzerland has for a long time had a reputation for having an excellent healthcare system, and it therefore comes as no surprise that the more profound research which eliminated most **n.a.** scores results in a prominent position in the EHCI.

Bronze medallists are Denmark, which for a number of years held position #2 in the EHCI; down to 9th place in 2016. Apart from losing a few points by no longer providing hospital treatment results to the public, Denmark scores high on Outcomes, and Danish patients have seemingly learned to cope with the very strict rules for Access to healthcare services.

Norway (also winner or joint winner of three sub-disciplines) is 4th at 850 points, sharing this position with Luxembourg.

In southern Europe, Spain and Italy provide healthcare services where medical excellence can be found in many places. Real excellence in southern European healthcare seems to be a bit too much dependent on the consumers' ability to afford private healthcare as a supplement to public healthcare. Also, both Spain and Italy show large regional variation, which tends to result in a lot of Amber scores for the countries.

Some eastern European EU member systems are doing surprisingly well, particularly Slovakia, Slovenia, the Czech Republic and Estonia, considering their much smaller healthcare spend in Purchasing Power adjusted dollars per capita. However, readjusting from politically planned to consumer-driven economies does take time.

Generally European healthcare continues to improve but medical outcomes statistics is still appallingly poor in many countries. This is not least the case regarding the number one killer condition: cardiovascular diseases, where data for one very vital parameter; 30-day case fatality for hospitalized heart infarct patients, would have to be compiled from several disparate sources. This indicator (3.1) has therefore been modified.

If healthcare officials and politicians took to looking across borders, and to “stealing” improvement ideas from their European colleagues, there would be a good chance for a national system to come much closer to the theoretical top score of 1000. As a prominent example; if Sweden could achieve a Belgian waiting list situation, that alone would suffice to lift Sweden to compete with The Netherlands at ~920 points!

A further discussion on results of states and the changes observed over time can be found in [Chapter 5: Trends over the ten years](#).



3.1.1 Country scores

With the possible exception of the Netherlands and Switzerland, there are no countries, which excel across the entire range of EHCI indicators. The national scores seem to reflect more of “national and organisational cultures and attitudes”, rather than mirroring how large resources a country is spending on healthcare. The cultural streaks have in all likelihood deep historical roots. Turning a large corporation around takes a couple of years – turning a country around can take decades!

3.1.2 Results in “Hexathlon”

The EHCI 2017 is made up of six sub-disciplines. As no country excels across all aspects of measuring a healthcare system, it can therefore be of interest to study how the 35 countries rank in each of the five parts of the “pentathlon”. The scores within each sub-discipline are summarized in the following table:

Sub-discipline	Netherlands	Switzerland	Denmark	Norway	Luxembourg	Finland	Germany	Belgium	Iceland	France	Austria	Sweden	Slovakia	Portugal	United Kingdom	Slovenia	Czech Republic	Spain	Estonia	Serbia	Italy	FYR Macedonia	Malta	Ireland	Montenegro	Croatia	Albania	Latvia	Poland	Hungary	Lithuania	Greece	Bulgaria	Romania	Cyprus	
1. Patient rights & Information	125	117	117	125	104	108	108	104	117	104	113	113	113	108	113	108	79	88	113	104	88	88	108	88	75	88	96	88	104	79	79	104	58	67	71	xx
2. Accessibility (waiting times)	200	225	188	125	213	150	188	213	175	188	188	113	225	137	100	163	188	113	163	200	150	200	150	88	200	138	213	138	125	138	138	125	175	113	xx	
3. Outcomes	278	278	267	289	244	289	267	233	256	256	233	278	189	233	222	211	222	222	189	167	211	133	167	211	156	178	156	156	167	156	144	200	156	122	xx	
4. Range and reach of services provided	125	94	120	115	109	120	83	115	115	99	104	125	73	89	109	89	104	94	89	57	73	63	104	78	52	94	42	68	63	78	78	52	47	52	xx	
5. Prevention	107	101	95	119	107	101	101	95	113	95	101	101	83	107	113	83	77	107	77	89	101	89	95	95	77	65	65	77	95	89	65	83	65	48	xx	
6. Pharmaceuticals	89	83	78	78	72	78	89	72	56	83	78	78	67	72	78	72	56	72	61	56	50	56	39	83	50	50	33	44	56	44	44	50	39	33	xx	
Total score	924	898	864	850	850	846	836	832	830	825	816	807	749	747	735	726	726	695	691	673	673	649	642	630	623	620	596	587	584	584	574	569	548	439	xx	

As the table indicates, the total top position of the Dutch healthcare system is to a great extent a product of an even performance across the sub-disciplines, very good medical quality and improved Accessibility, which used to be a weaker point in previous years.

Runner-up Switzerland is in top position for Accessibility, with Belgium. No country scores All Green on Outcomes. The Swedish healthcare system would be a real top contender, scoring high on Range & Reach of Services along with the NL, were it not for an accessibility situation, which by Belgian or Swiss standards can only be described as abysmal.

Sub-discipline	Top country/countries	Score	Maximum score
1. Patient rights and information	Netherlands, Norway	125!	125
2. Accessibility	Switzerland, Slovakia	225!	225
3. Outcomes	Finland, Norway	289	300
4. Range and reach of services	Netherlands, Sweden	125!	125
5. Prevention	Norway	119	125
6. Pharmaceuticals	Germany, Netherlands	89	100

4. Bang-For-the-Buck adjusted scores

With all 28 EU member states and eight other European countries included in the EHCI project, it becomes apparent that the Index tries to compare states with very different financial resources. The annual healthcare spending, in PPP-adjusted (Purchasing Power Parity) US dollars, varies from less than \$600 in Albania to above \$6000 in Norway, Switzerland, and Luxembourg. Continental Western Europe and Nordic countries generally fall between \$3000 and \$5000. As a separate exercise, the EHCI 2017 has added a value for money-adjusted score: the Bang-For-the-Buck adjusted score, or “BFB Score”.

4.1 BFB adjustment methodology

It is not obvious how to make such an adjustment. If scores would be adjusted in full proportion to healthcare spend per capita, the effect would simply be to elevate all less affluent states to the top of the scoring sheet. This, however, would be decidedly unfair to the financially stronger states. Even if healthcare spending is PPP (Purchasing Power Parity) adjusted, it is obvious that also PPP dollars go a lot further to purchase healthcare services in member states, where the monthly salary of a nurse is € 200, than in states where nurse’s salaries exceed € 3500. For this reason, the PPP adjusted scores have been calculated as follows:

Healthcare spends per capita in PPP dollars have been taken from the WHO HfA database (July 2016; latest available numbers, almost all 2013) as illustrated in the graph below:

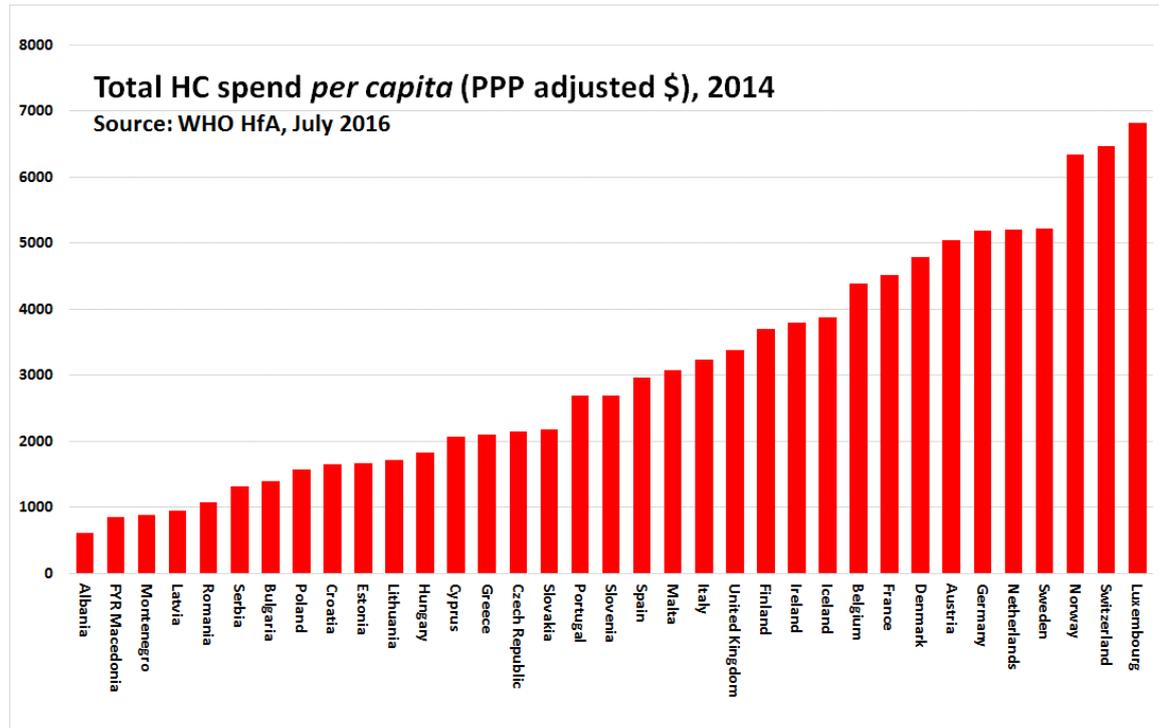


Figure 4.1 The WHO Health-for-All database, consulted 2018-01-20, has no later update of the healthcare spend data than it had in 2016.

For each country has been calculated *the square root* of this number. The reason for this is that domestically produced healthcare services are cheaper roughly in proportion to the

healthcare spend. The basic EHCI scores have been divided by this square root. For this exercise, the basic scoring points of 3, 2 and 1 have been replaced by 2, 1 and 0. In the basic EHCI, the minimum score is 333 and the maximum 1000. With 2, 1 and 0, this does not (or only very marginally) change the relative positions of the 35 countries, but is necessary for a value-for-money adjustment – otherwise, the 333 “free” bottom points have the effect of just catapulting the less affluent countries to the top of the list.

The score thus obtained has been multiplied by the arithmetic means of all 35 square roots (creating the effect that scores are normalized back to a similar numerical value *range* to the original scores).

4.2 Results in the BFB Score sheet

The outcome of the BFB exercise is shown in the graphic below. Even with the square root exercise described in the previous section, the effect is to dramatically elevate many less affluent nations in the scoring sheet.

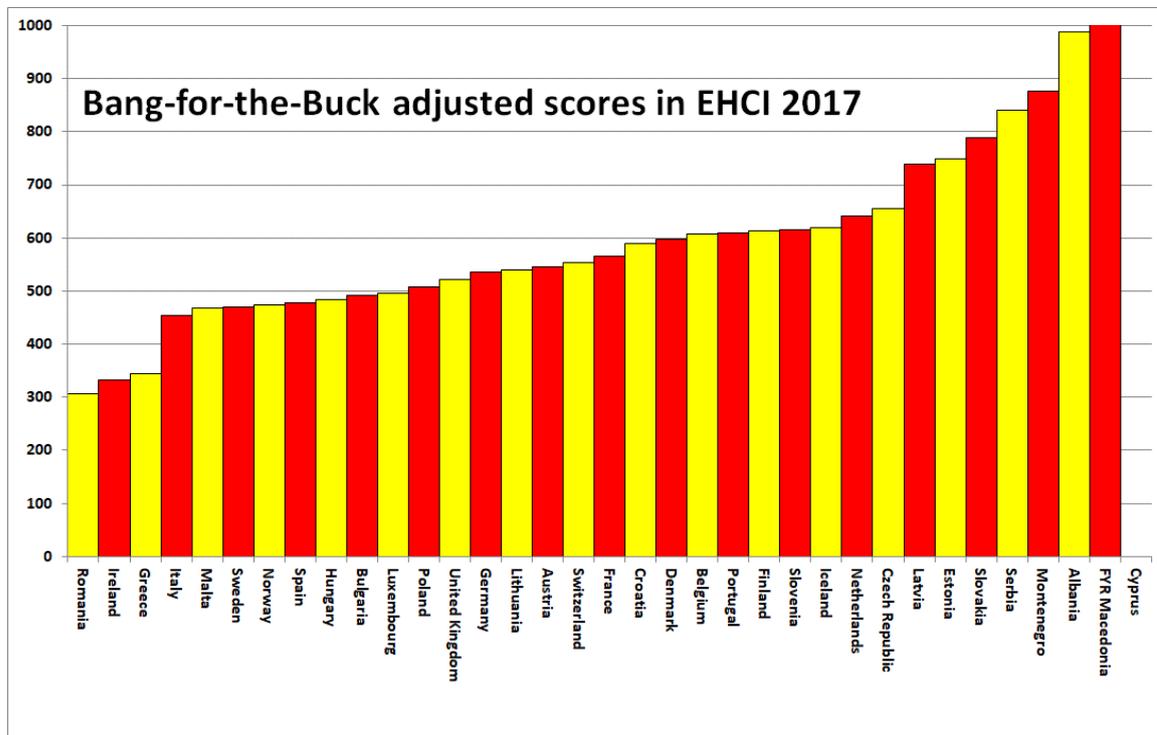


Figure 4.2 The BFB scores, naturally, are to be regarded as somewhat of an academic exercise. Not least the method of adjusting to the square root of healthcare spent certainly lacks scientific support.

With the great score increase on reduced Waiting Times, the small Balkan states are rewarded for the increased Accessibility scores. As is shown in Section 5.3, there is essentially no correlation between Accessibility and financial resources!

The Netherlands is holding out surprisingly well in this exercise. Sweden and Norway get penalized for their poor Accessibility scores.

5. Trends over the 10 years

The tightening of score limits to keep the EHCI challenging disturbs the longitudinal analysis into 2017, which is why that has not been made. However, the previous ten years have shown that European healthcare has been continuously improving also right through conditions such as the 2008 financial crisis.

5.1 Score changes 2006 - 2016

From the point of view of a healthcare consumer, the overall situation is improving in most countries. However, not least after the introduction of nine new indicators in the 2012 index and a further seven new indicators in 2013, there are some countries which survive those extra tests on their healthcare systems, and some which suffer in the 2014 – 2016 scores.

Among the “survivors” are the Netherlands, Switzerland, Norway, Iceland, Denmark, Belgium, and Finland. As the “country trends” graph below is showing, the “financial crisis shock-induced(?) grumpiness” displayed in the survey responses from a number of patient organisations in 2012 seemed to have been relieved to a great extent by 2016.

A feature, which was more prominent in post-crisis 2014 than in previous years is a stratification between affluent and less affluent countries. This gap is definitely less noticeable in 2016.

However, the performance of countries such as Portugal, FYR Macedonia and, in 2016, Serbia shows that GDP/capita need not be a dominating factor. Among the very few, where the 10-year trend over time is flat (*i.e.* not rising), are countries as different as Sweden and Romania, plus Greece which seems to be recovering from a dive in 2012.

5.1.1 Ranking strictly relative – a lower position does not necessarily mean deterioration of services

The fact that most countries show an upward trend in this normalized calculation can be taken as an indication that European healthcare is indeed improving over time. That some countries have a downward trend among other countries cannot be interpreted in the way that their healthcare systems have become worse over the time studied – only that they have developed less positively than the European average!

5.2 Healthcare Quality Measured as Outcomes

For a detailed view of the results indicators, please see section 7.10.3 in order to study development over time. Generally it is important to note that regardless of financial crises and austerity measures, treatment results in European healthcare **keep improving**. Perhaps the best single indicator on healthcare quality, 3.3 Infant deaths, where the cut-offs between Red/Amber/Green scores were kept constant 2006 – 2016, showed an increase in the number of Green scores from 9 in 2006 to 24 in 2016. The figure below shows the “healthcare quality map” of Europe based on the Outcomes sub-discipline scores in EHCI 2017:



This map is fairly constant over time, but the Green area was slowly but securely expanding before the tightening criteria of 2017. Some CEE countries which were definitely Red in 2006 have climbed into Amber scores, and Germany, which used to score

Amber is today safely in the Green territory. That the UK, Italy and the Spain ("Big Beveridge") are still Amber is probably due to large regional variation; both countries most certainly have many centres of excellence in healthcare, but the national scores tend to be a rather bleaker Yellow.

5.2.1 The LAP indicator – money can buy better outcomes!

Even though the "Big Beveridge" states do less well than their Bismarck colleagues, there seems to be a definite correlation between money spent and medical treatment results, as is shown by the Graph below: (R)

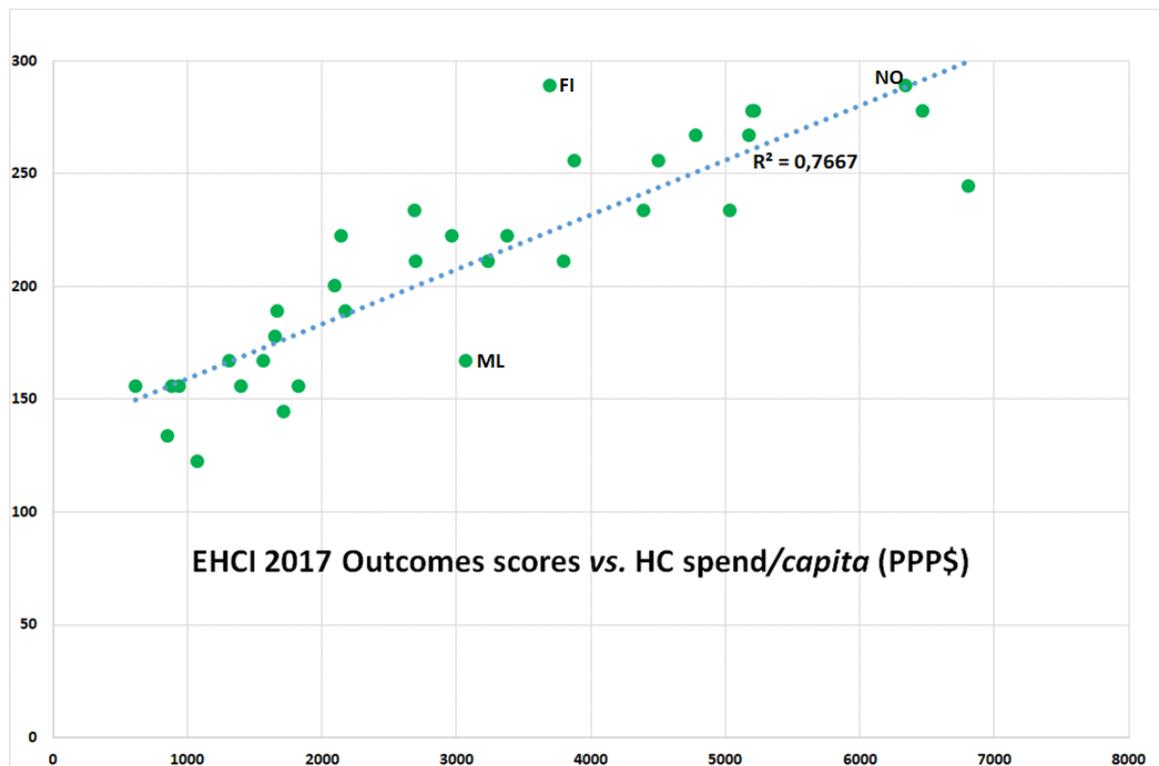


Figure 5.2.1. The correlation between Outcomes and money spent is quite strong ("R" up from 82.7% in 2016 to 87.6%, probably linked to the EHCI 2017 rewarding real excellence of clinical results! Finland does particularly well in relation to money spent!

There probably are several reasons why money can buy better outcomes, apart from the obvious of affording top experts and state-of-the-art technical facilities. Another reason seems to be that more generous funding allows for admitting patients on weaker indications. This can be shown by the "Level of Attention to the Problem" (LAP) indicator, one illustration of which is found in the Graph below. The graph shows the relation between "the ratio of hospital discharges over deaths for heart disease" and the *per capita* healthcare spend. If the ratio of hospital discharges over deaths is high, it would indicate that patients are admitted on weaker indications.

The correlation is noticeable. Also noticeable is the interesting fact that crisis-stricken Greeks cannot only afford lots of drugs, but can somehow afford to be very generous on cardiac care hospital admissions in relation to their official healthcare spend numbers!

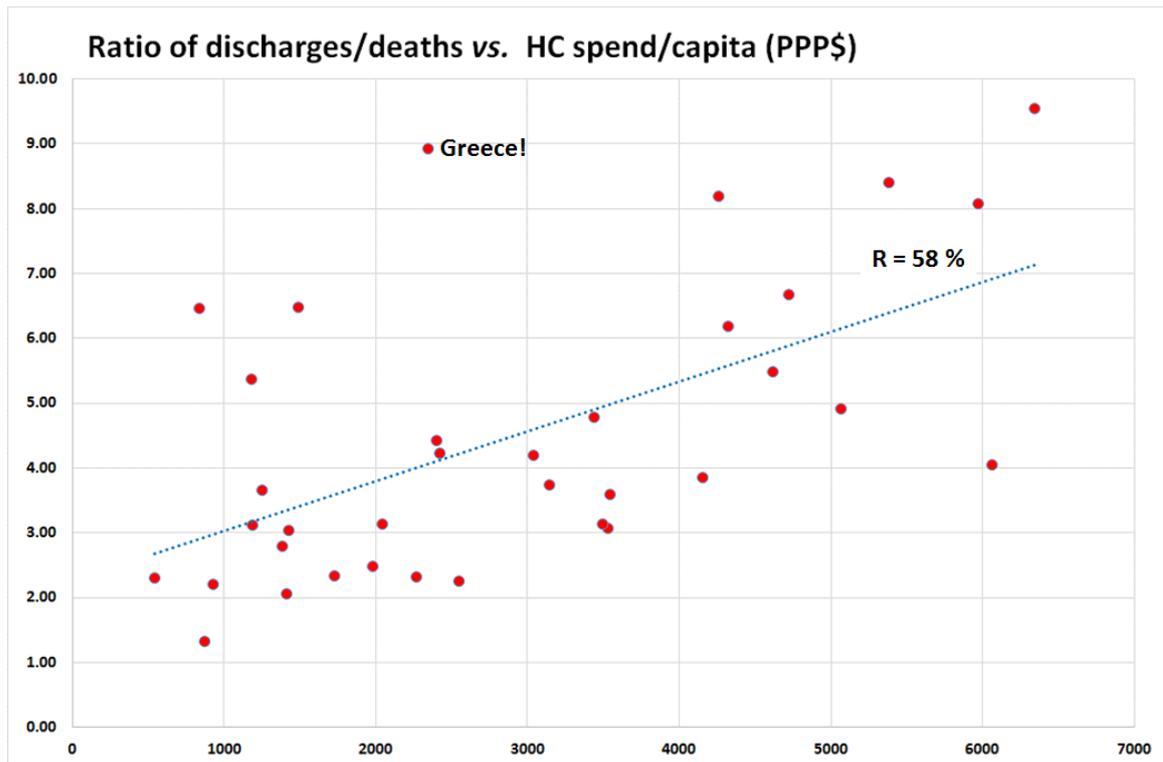


Figure 5.2.2. An example of the LAP indicator from EHCI 2014.

5.3 Waiting lists: A Mental Condition affecting healthcare staff?

Over the years, one fact becomes clear: gatekeeping means waiting. Contrary to popular belief, direct access to specialist care does not generate access problems to specialists by the increased demand; repeatedly, waiting times for *specialist care* are found predominately in systems requiring referral from primary care, which seems to be rather an absurd observation.



Figure 5.3a. "Waiting time territory" (red) and Non-wait territory (green) based on EHCI 2017 scores.

The "waiting time territory" situation used to be remarkably stable over time, until the most recent years, when some small Balkan states plus Slovakia managed remarkable improvements.

There is virtually no correlation between money and Accessibility of healthcare system, as is shown by the Graph below. This could explain the limited effect of showering a billion euros over Swedish counties to make them reduce waiting times.

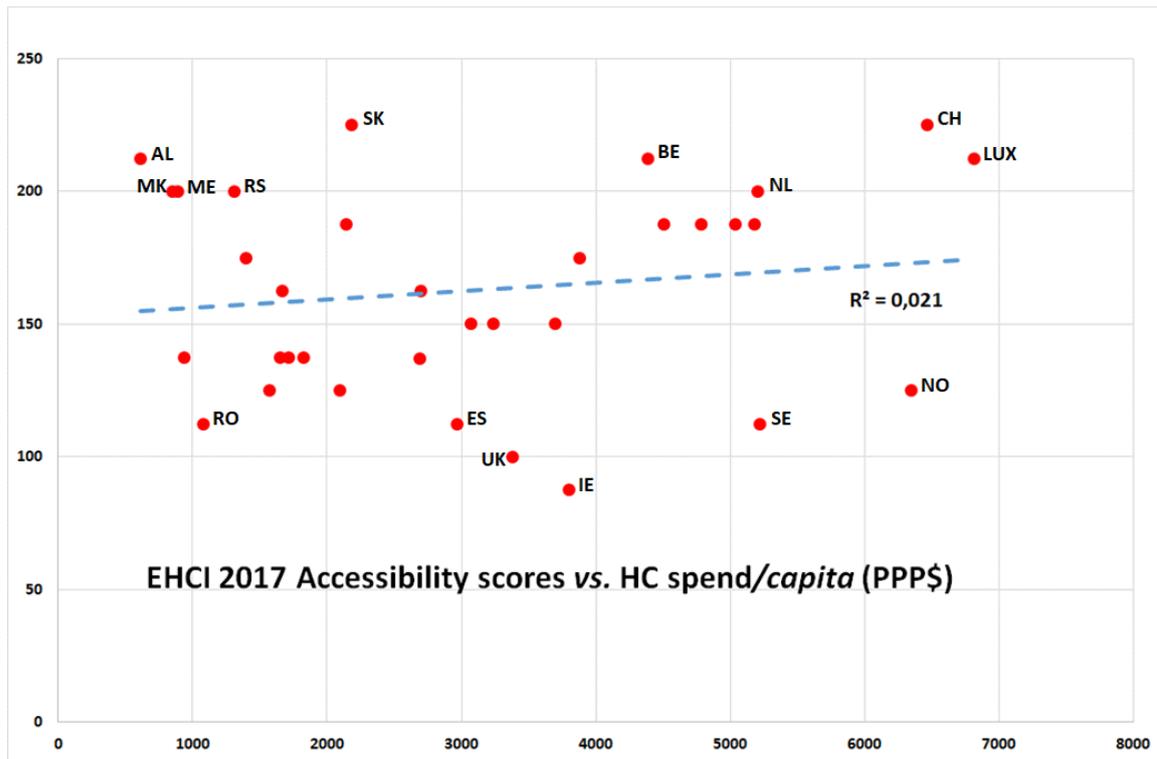


Figure 5.3b. R= +14 % (down 12 % since 2016). Any correlation coefficient (R) lower than 50 % means essentially no correlation.

It seems that waiting times for healthcare services are a mental condition affecting healthcare administrators and professionals rather than a scarcity of resources problem. It must be an interesting behavioural problem to understand how an empathic profession such as paediatric psychiatrists can become accustomed to telling patients and their parents that the waiting time for an appointment is in the order of one year for a child with psychiatric problems (a common occurrence in Sweden)!

One of the most characteristic systems for GP gatekeeping, the NHS in the UK, spent millions of pounds, starting in 2008, on reducing waiting and introduced a maximum of 18 weeks to definitive treatment after diagnosis. The patient survey commissioned by the HCP for the 2012 and 2013 Indices did show improvement, some of which seems to have been lost by 2017.

This is different from Ireland, where patient organisation survey responses are still much more negative than (the very detailed) official waiting time data. For this reason, after several years of accepting official Irish waiting time statistics, the EHCI since 2015 has scored Ireland on patients' versions of waiting times.

Furthermore, even the strong winners of past years' rankings have been turning to restrictive measures: France, for example, was restraining access in 2007, which resulted in waiting times, and therefore worse score (together with not really brilliant results in the e-Health sub-discipline). Since 2009, French patients (and doctors?) seem to have learned to work the new regulations, as the French survey responses on this sub-discipline are today more positive. Also, about French waiting times in healthcare, see Appendix 1!

HCP will continue to advocate the free choice, equal and direct access and measures intended to diminish the information handicap of the consumer as cornerstones of 21st century modern European healthcare.

5.3.1 Why is there no correlation between accessibility and money?

Answer: Because it is inherently *cheaper* to run a healthcare system without waiting lists than having waiting lists! Contrary to popular belief, not least among healthcare politicians, waiting lists do not save money – they cost money!

Healthcare is basically a process industry. As any professional manager from such an industry would know, smooth procedures with a minimum of pause or interruption is key to keeping costs low!

5.3.2 The “good old days” that never were!

Why are the traces of the “financial crisis” so comparatively modest, particularly regarding medical treatment results (Outcomes)? One fundamental reason is that healthcare traditionally used to be very poor at monitoring output, which leads healthcare staff, politicians and the public to overestimate the service levels of yesteryear!

Cost-cutting in healthcare was not talked about much until the early 1990’s, and the economic downturn at that time, which forced serious cost-cutting more or less for the first time in decades. Before 1990, healthcare politicians’ main concern used to be “How do we prioritize the 2 – 3% annual real-term increase of resources?”

In waiting time territory such as Scandinavia and the British Isles, the waiting list situation was decidedly worse not only 5 – 10 years ago, but most certainly also before 1990. Interviews with old-timer doctors and nurses frequently reveal horror stories of patients all over corridors and basements, and this from the “good old days” before the financial crisis.

5.4 Under-the-table payments

Even more notable: one of the indicators, introduced for the first time in 2008, is asking whether patients are expected to make informal payments to the doctor in addition to any official fees. Under-the-table payments serve in some (rather surprising Western European) countries as a way to gain control over the treatment: to skip the waiting list, to access excellence in treatment, to get benefit of modern methods and medicines. More on informal payments can be found in the section [Informal payments to doctors](#).

The cross-European survey on informal payments remains, in spite of its obvious imperfections, the only study ever done on all of Europe, which also illustrates the low level of attention paid by nations and European institutions to the problem of parallel economy in healthcare.

This observation gives reason for two questions:

1. Unlike other professionals, such as airline pilots, lawyers, systems engineers etc, working for large organisations, doctors are unique in being allowed to run side jobs without the explicit permission of the main employer. What is the reason(s) for keeping that?
2. What could be done to give doctors “normal” professional employment conditions, *i.e.* a decent salary and any extra energy spent on working harder (yes, and making more money) for their main employer, instead of disappearing to their side practices, frequently leaving large hospitals standing idle for lack of key personnel?

5.5 "MDD - the Endemic Condition Crippling European Healthcare"

MDD stands for "Management Deficiency Disorder".

5.5.1 Performance of European healthcare systems

Since 2005, the Health Consumer Powerhouse has been analysing and ranking the performance of European national healthcare systems¹⁵. Since 2008, this ranking has been topped by the same healthcare system: that of The Netherlands. Although the HCP have continually expanded the Index (the latest edition contains 46 indicators for 35 countries), the victory margin for The NL kept increasing to the unprecedented 50 points in 2012. What is particularly encouraging is that this top position is very likely connected with the 2006 healthcare reform in The NL, which had at least two important parts:

- a) The introduction of managed competition between 10 private healthcare insurers, who are not allowed to decline taking on any patient. The state supplements extra premiums for people with chronic conditions or otherwise elevated health risk.
- b) Politicians deliberately backing out of operative decision making in healthcare, which is left largely to the medical profession, who are legally obliged to counsel with patient organisation representatives. The result of this can be described as a significant *net gain* in management capacity, *i.e.* a relief of MDD!

Even though the Dutch healthcare system is rather expensive *per capita* as shown above (Figure 4.1), The NL is still holding up very well in the value-for-money adjusted version of the EHCI (Figure 4.2). This supports the hypothesis that the top position of the Dutch healthcare system in the EHCI (and in most diagnosis-area-specific healthcare Indices produced by the HCP) is to a noticeable extent due to superior management of the system!

5.5.2 So why is the Dutch healthcare system so expensive?

Healthcare spend tends to be correlated with GDP *per capita*; rich countries spend a higher proportion of their wealth on healthcare services. As can be seen from Figure 4.1, after the three "super-wealthy" countries in Europe, Luxembourg, Norway and Switzerland, The Netherlands has the highest annual healthcare spend, along with Sweden and Germany. In countries with less successful healthcare systems, this has been taken as an indicator that the Dutch financing model with multiple, private payors for healthcare should in itself be a "model" which raises healthcare costs.

However, the Dutch healthcare system suffers from a structural problem, the roots of which certainly date back to well before the 2006 reform: The Netherlands, for no obvious reasons, has a healthcare structure with a very low ratio of out-patient care costs *vs.* in-patient costs. A hallmark of a state-of-the-art healthcare system is that the more modern the structure, the higher should be the proportion of care which is performed as out-patient procedures. The reasons for this are mainly two:

¹⁵ <https://healthpowerhouse.com/en/>

- a) Out-patient (*e.g.* day surgery) procedures are almost invariably less invasive and mean quicker recovery and lower complication risks such as hospital-acquired infections.
- b) Out-patient care is cheaper; as a rule of thumb, rectifying a problem through an out-patient procedure costs *c:a* one-third of the (older) in-patient alternative.

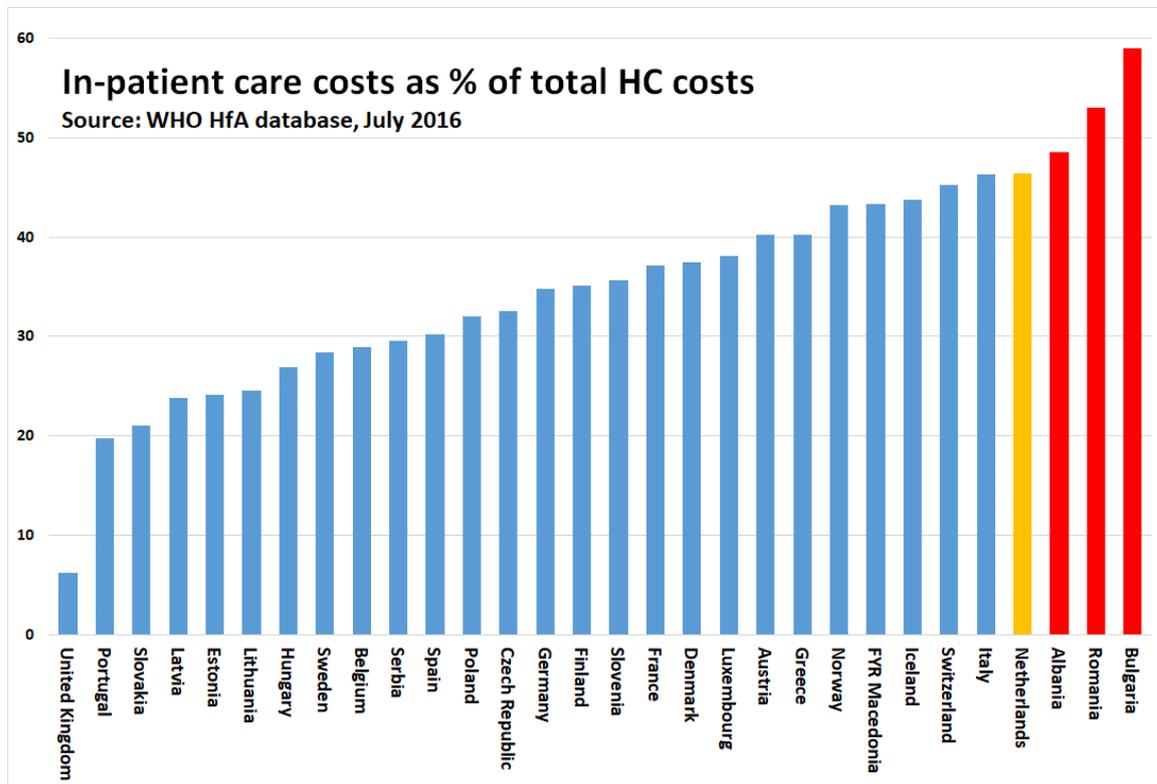


Figure 5.5.2. The share of In-patient care costs as % of total healthcare costs. (The 2018 numbers in the WHO HfA database are not updated since 2016.)

The antiquity of Dutch healthcare structure is also indicated by the fact that The Netherlands, along with neighbouring Belgium, have the highest number of patients in long-term psychiatric hospital care in Europe – more than 800 per million population, which is a costly care structure that needs a long-term strategy to change.

5.5.3 More management deficiencies

From the early days of the Euro Health Consumer Index, it has been observed that the EHCI scores for accessibility to healthcare bear no relationship to healthcare resources available (Figure 5.3b).

It seems that healthcare professionals, administrators and politicians in some countries somehow have become accustomed to a situation, where waiting times and waiting lists are considered intrinsic parts of public healthcare. It is interesting to note that two countries having very high scores for *Treatment results*, Sweden and Norway, belong to the absolute bottom for Accessibility. Not least the Swedish "National Care Access Guarantee" (which in most places is not met) for access to primary care/family doctor: *No more than 7 days wait for an appointment* is frequently causing reactions of discrete

hilarity in countries such as Germany or Belgium, where it is thought that “the very idea of primary care is to be accessible when people need it”.

Also, as is shown in Figure 5.5.3, there is hardly any correlation between the number of doctors *per capita* in a country, and the number of doctor appointments per citizen. There are some patterns visible in the graph, all of them results of national cultural streaks rather than resource limitations (= MDD!):

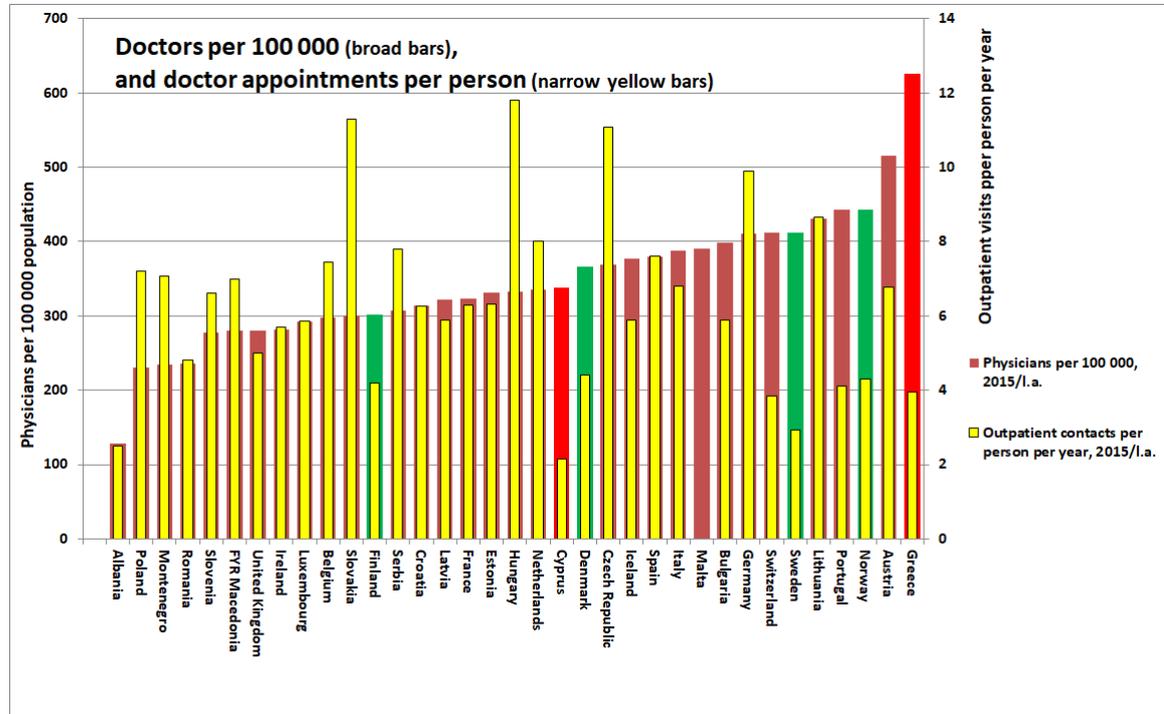


Figure 5.5.3. Doctors per 100 000 population (broad bars) and doctor appointments per citizen per year (narrow bars).

- Slovaks, Czechs and Hungarians go to the doctor more than all other nations.
- All the five Nordic nations (green broad bars in the graph), including Denmark, which enjoys a high degree of appreciation for its family doctor system among its people, seem to burden their doctors rather sparingly, along with the Portuguese and Maltese. NB: Portugal is the only European country having had worse access to primary care doctors than Sweden – the target for primary care doctor appointment waiting time in Portugal used to be “no more than 15 days”.
- Austrian doctors do not seem overburdened with patients.
- Greeks (having by far the highest number of doctors *per capita* in Europe) and Cypriots seem to trouble their doctors even less, or “Could that possibly be tax evasion-induced under-reporting of appointments?” More MDD!

5.5.4 Still more cases of MDD

All anomalies in European healthcare, which are the result of national/local idiosyncrasies (= MDD!) would take days to list. Here, only a few examples are given:

- Performance-based financing (PBF) systems (basically an absolutely essential idea!) designed by (and for?) lemurs, with managers abdicating and expecting Excel to do the management for them.
 - Frequently, PBF systems are distorted in Beveridge countries) by high-cost hospitals receiving more money for the same service than more cost-effective hospitals! University hospitals seem particularly good at convincing politicians that “We are so special, so we need more money!”
- NPM (New Public Management – potentially a good idea) handled by people, who never were within sniffing distance of a professionally run corporation; “watching the tradespeople ape their betters”¹⁶.
- Norway (!) for a long time used to belong to the worst under-users of late generation cancer drugs.
- The U.K. is underinvested in radiation treatment and drug deployment, which is reflected in poorer cancer survival rates than in financially comparable countries.
- German kidney patients have poor access to forms of dialysis, which the patient can do at home. This is presumably due to clinic-bound dialysis being very profitable. Home dialysis is not only roughly half as expensive per treatment year – survival rates are superior, as patients tend to treat themselves 6 – 7 times per week instead of the standard 3 in clinics.
- There are four countries which historically have had a high drug use (in monetary value), none of which is for clinical reasons:
 - Greece – lots of doctors, who all have ballpoint pens.
 - Ireland – the most generous drug subsidies in Europe.
 - Iceland – 300 000 people being hit by the industry with the “full” costs of providing registration and drug packs in an archaic language.
 - France – anybody heard of anybody escaping from a French doctor appointment *without* a prescription?

This list could be extended for several pages!

5.5.5 Can MDD be cured?

There is good news and bad news. The good news is: Yes, it can! The therapies have been around for 3500 years (see below) and therefore are off patent! The bad news is (as with many medical conditions): the problem is not finding the treatment, it is patient compliance. Very few countries can show politicians with the Dutch courage to back out of operative decision making and stay on the strategic level.

The large research and teaching hospital is probably the most complex organisation created by Man, with multiple objectives, a very multi-faceted “business idea” and staffed by people, who like all professionals have their own professional agenda, which can sometimes be difficult to make coincide with the “business agenda” of the organisation. Healthcare therefore needs and deserves superior management, instead of being run by

¹⁶ Kipling, R. *Kim*, 1901

amateurs (politicians) with little experience and less training at running large complex organisations. The therapy could be:

1. Design and install performance-based financing systems. No human activities should be financed for just being around!
2. Appoint professional managers¹⁷, and this means Leaders of People, not accountants or finance analysts! In many European countries, the hospital CEO is nothing but a Head Paper Shuffler. It is enough to ask the simple control question: "Can the CEO hire or fire heads of clinics?" In many countries, this is handled in a committee system = "You scratch my back, and I'll scratch yours." Firing people is of course not something a professional manager should need to do frequently, but it is still a useful control question.
3. A professional manager does not believe that Excel can do the necessary decision-making. The main task for professional managers¹⁸ is to see to it that people and organisation parts who do well are rewarded, and those who do less well are helped, corrected or (in a few extreme cases) replaced.
4. After these things are in place, the most important task for the hospital CEO is to stand in the main entrance of the hospital, equipped with a stool and a whip, keeping amateurs (including bureaucrats and politicians) out, to let the professionals get on with it!

6. How to interpret the Index results?

The first and most important consideration on how to treat the results is: with caution!

The Euro Health Consumer Index 2017 is an attempt at measuring and ranking the performance of healthcare provision from a consumer viewpoint. The results definitely contain information quality problems. There is a shortage of pan-European, uniform set procedures for data gathering. Still, European Commission attempts to introduce common, measurable health indicators have made very little impact. As the Commission now moves ahead to develop approaches to assess the performance of national healthcare systems, there further challenges to tackle.

Again, the HCP finds it far better to present the results to the public, and to promote constructive discussion rather than staying with the only too common opinion that as long as healthcare information is not a hundred percent complete it should be kept in the closet. Again, it is important to stress that the Index displays consumer information, not medically or individually sensitive data.

While by no means claiming that the EHCI 2016 results are dissertation quality, the findings should not be dismissed as random findings. The Index is built from the bottom up – this means that countries who are known to have quite similar healthcare systems should be expected not to end up far apart in the ranking. This is confirmed by finding the Nordic countries in a fairly tight cluster, England and Scotland clinging together as are the Czech Republic and Slovakia, Spain and Portugal, Greece and Cyprus.

¹⁷ Exodus 18:13-27, approx. 1513 B.C.

¹⁸ Blanchard, K. & Johnson, S. *The One-Minute Manager*, 1981.

Previous experience from the general Euro Health Consumer Indexes reflects that consumer ranking by similar indicators is looked upon as an important tool to display healthcare service quality. The HCP hopes that the EHCI 2016 results can serve as inspiration for how and where European healthcare can be improved.

7. Evolvement of the Euro Health Consumer Index

7.1 Scope and content of EHCI 2005

Countries included in the EHCI 2005 were: Belgium, Estonia, France, Germany, Hungary, Italy, the Netherlands, Poland, Spain, Sweden, the United Kingdom and, for comparison, Switzerland.

To include all 25 member states right from the start would have been a very difficult task, particularly as many memberships were recent, and would present dramatic methodological and statistic difficulties

The EHCI 2005 was seeking a representative sample of large and small, long-standing and recent EU membership states.

As already indicated, the selection criteria had nothing to do with healthcare being publicly or privately financed and/or provided. For example, the element of private providers is specifically not at all looked into (other than potentially affecting access in time or care outcomes).

7.2 Scope and content of EHCI 2006 – 2015

The EHCI 2006 included all the 25 EU member states of that time plus Switzerland, using essentially the same methodology as in 2005.

The number of indicators was also increased, from 20 in the EHCI 2005 to 28 in the 2006 issue. The number of sub-disciplines was kept at five; with the change that the "Customer Friendliness" sub-discipline was merged into "Patient Rights and Information". The new sub-discipline "Generosity" (What is included in the public healthcare offering?) was introduced, as it was commented from a number of observers, not least healthcare politicians in countries having pronounced waiting time problems, that absence of waiting times could be a result of "meanness" – national healthcare systems being restrictive on who gets certain operations could naturally be expected to have less waiting list problems.

In order to test this, the new sub-discipline "Generosity" of public healthcare systems, in 2009 called "Range and reach of services", was introduced. A problem with this sub-discipline is that it is only too easy to land in a situation, where an indicator becomes just another way of measuring national wealth (GDP/capita). The suggested indicator "Number of hip joint replacements per 100 000 inhabitants" is one prominent example of this. The cost per operation of a hip joint is in the neighbourhood of € 7000 (can be more in Western Europe – less in states with low salaries for healthcare staff). That cost, for a condition that might be crippling but not life-threatening, results in provision levels being very closely correlated to GDP/capita.

To achieve a higher level of reliability of information, one essential work ingredient has been to establish a net of contacts directly with national healthcare authorities in a more systematic way than was the case for previous EHCI editions. The weaknesses in European healthcare statistics described in previous EHCI reports can only be offset by in-depth discussions with key personnel at a national healthcare authority level.

In general, the responsiveness from Health Ministries, or their state agencies in charge of supervision and/or Quality Assurance of healthcare services, was good in 2006 – 2008. Written responses were received from 19 EU member states. This situation greatly improved in 2009 – 2012 and stayed very positive until and including 2017 (see section 8.9.2).

7.3 EHCI 2017

The project work on the Index is a compromise between which indicators were judged to be most significant for providing information about the different national healthcare systems from a user/consumer's viewpoint, and the availability of data for these indicators. This is a version of the classical problem "Should we be looking for the 100-dollar bill in the dark alley, or for the dime under the lamppost?"

It has been deemed important to have a mix of indicators in different fields; areas of service attitude and customer orientation as well as indicators of a "hard facts" nature showing healthcare quality in outcome terms. It was also decided to search for indicators on actual results in the form of outcomes rather than indicators depicting procedures, such as "needle time" (time between patient arrival to an A&E department and thrombolytic injection), percentage of heart patients thrombolysed or stented, etcetera.

Intentionally de-selected were indicators measuring public health status, such as life expectancy, lung cancer mortality, total heart disease mortality, diabetes incidence, etc. Such indicators tend to be primarily dependent on lifestyle or environmental factors rather than healthcare system performance. They generally offer very little information to the consumer wanting to choose among therapies or care providers, waiting in line for planned surgery, or worrying about the risk of having a post-treatment complication or the consumer who is dissatisfied with the restricted information.

7.3.1 New indicators introduced for EHCI 2017

One new indicator: **3.9 % of diabetics with HbA1c < 7** (long-term glucose) was included in 2017.

As described in Section 7.10, three indicators from the previous EHCI editions were removed in 2017, primarily as they were no longer discriminative as almost all countries would be scoring Green in 2017.

7.4 Indicator areas (sub-disciplines)

The 2017 Index is, just like previous EHCI editions, built up with indicators grouped in six (this number has varied) sub-disciplines.

The EHCI 2013 was given a sixth sub-discipline, Prevention, as many interested parties (both ministries and experts) have been asking for that aspect to be covered in the EHCI. One small problem with Prevention might be that many preventive measures are not necessarily the task of healthcare services. The Index at least tries to concentrate on such aspects of Prevention, which can be affected by human decision makers in a reasonably short time frame.

After having had to surrender to the "lack of statistics syndrome", and after scrutiny by the [expert panel](#), 48 indicators survived into the EHCI 2016.

The indicator areas for the EHCI 2016 are:

Sub-discipline	Number of indicators
1. Patient rights and information	10
2. Accessibility/Waiting time for treatment	6
3. Outcomes	9
4. Range and reach of services ("Generosity")	8
5. Prevention	7
6. Pharmaceuticals	6

7.5 Scoring in the EHCI 2017

The performance of the respective national healthcare systems were graded on a three-grade scale for each indicator, where the grades have the rather obvious meaning of Green = good (👍), Amber = so-so (👉) and red = not-so-good (👎). A green score earns 3 points, an amber score 2 points and a red score (or a "not available", **n.a.**) earns 1 point.

Having six non-EU countries in the Index, who should not be stigmatized for not (yet) being EU member states on indicator "1.8 Free choice of care in another EU state", forced the introduction of a new score in the EHCI 2009: "not applicable". These countries therefore receive the "**n.ap.**" score, which earns 2 points. That score was also applied on indicator 1.9 for Iceland and Malta, as they essentially have only one real hospital each.

In 2013, a Purple score: , earning 0 points, was introduced for particularly abominable results. It has been exclusively applied on indicator "3.7 Abortion rates" for countries not giving women the right to abortion.

Since the 2006 Index, the same methodology has been used: For each of the sub-disciplines, the country score is calculated as a percentage of the maximum possible (*e.g.* for Waiting times, the score for a state has been calculated as % of the maximum $3 \times 6 = 18$).

Thereafter, the sub-discipline scores were multiplied by the weight coefficients given in the following section and added up to make the final country score. These percentages were then rounded to a three digit integer, so that an "All Green" score on the 46 indicators would yield 1000 points. "All Red" would give 333 points.

7.6 Weight coefficients

The possibility of introducing weight coefficients was discussed already for the EHCI 2005, *i.e.* selecting certain indicator areas as being more important than others and multiplying their scores by numbers other than 1.

For the EHCI 2006, explicit weight coefficients for the five sub-disciplines were introduced after a careful consideration of which indicators should be considered for higher weight. The accessibility and outcomes sub disciplines were decided as the main candidates for higher weight coefficients based mainly on discussions with [expert panels](#) and experience from a number of patient survey studies.

In the EHCI 2017, the scores for the five sub-disciplines were given the following weights.

Sub-discipline	Relative weight ("All Green" score contribution to total maximum score of 1000)	Points for a Green score in each sub-discipline
1.Patient rights, information and e-Health	125	12.50
2.Accessibility (Waiting time for treatment)	225	37.50
3.Outcomes	300	33.33
4.Range and reach of services ("Generosity")	125	15.62
5.Prevention	125	17.85
6.Pharmaceuticals	100	16.67
Total sum of weights	1000	

Table 7.6 Sub-discipline weights in the EHCI 2017

Consequently, as the percentages of full scores were added and multiplied by (1000/Total sum of weights), the maximum theoretical score attainable for a national healthcare system in the Index is 1000, and the lowest possible score is 333.

It should be noted that, as there are not many examples of countries that excel in one sub-discipline but do very poorly in others, the final ranking of countries presented by the EHCI 2017 is remarkably stable if the weight coefficients are varied within rather wide limits.

The project has been experimenting with other sets of scores for green, amber and red, such as 2, 1 and 0 (which would really punish low performers, and which is used in the "Bang-for-the-Buck" calculation), and also 4, 2 and 1, (which would reward real excellence). The final ranking is remarkably stable also during these experiments.

7.7 Indicator definitions and data sources for the EHCI 2017

It is important to note, that since 2009, the HCP has been receiving much more active feedback from national healthcare agencies in all but a few of the 35 countries. In those cases, the responses in the survey commissioned from Patient View 2017 have been applied very cautiously, *e.g.* when the "official" data says Green, and the survey says "definitely Red", the country has been awarded a Yellow score.

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
1. Patient Rights & Information	1.2 Patient organisations involved in decision making		Yes, statutory	Yes, by common practice in advisory capacity	No, not compulsory or generally done in practice	Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. Personal interviews.
	1.4 Right to second opinion	Without paying extra	Yes	Yes, but difficult to access due to bad information, bureaucracy or doctor negativism	No	Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. Personal interviews.
	1.5 Access to own medical record	Can patients read their own medical records?	Yes, they get a copy by simply asking their doctor(s)	Yes, but cumbersome; can require written application or only access with medical professional "walk-through"	No, no such statutory right.	Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. Personal interviews; www.dohc.ie.
	1.6 Registry of <i>bona fide</i> doctors	Public awareness of ready access the info: "Is doctor X a <i>bona fide</i> specialist?"	Yes, on the www or in widely spread publication	Yes, but in publication expensive or cumbersome to acquire	No	Survey commissioned from Patient View by HCP 2017. National physician registries.; p://www.sst.dk/Tilsyn/Individuelt_tilsyn/Tilsyn_med_faglighed/Skaerpet_tilsyn_med_videre/Skaerpet_tilsyn/Liste.aspx; http://
	1.7 Web or 24/7 telephone HC info with interactivity	Information which can help a patient take decisions of the nature: "After consulting the service, I will	Yes	Yes, but not generally available, or poorly marketed to the public	No or sporadic	Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. Personal interviews; http://www.nhsdirect.nhs.uk/; www.hse.ie; www.ntpf.ie.

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
		take a paracetamol and wait and see" or "I will hurry to the A&E department of the nearest hospital"				
	1.8 Cross-border care seeking financed from home	Reimbursement of cross-border care 2015	> 10 Euro € per capita during 2015	<10 Euro € per capita during 2015	No reimbursements during 2015	MEMBER STATE DATA on cross-border healthcare following Directive 2011/24/EU Year 2015 (no later data 2017-11-26)
	1.9 Provider catalogue with quality ranking	"NHS Choices" in the U.K. a typical qualification for a Green score.	Yes	To some extent, regional or not well marketed to the public	No	Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. Internet search. http://www.sykehusvalg.no/sidemaler/VisStatiskInformasjon____2109.aspx ; http://www.hiqa.ie/ ; http://212.80.128.9/gestion/ges161000com.html .
	1.10 Patient records e-accessible	By doctor to whom patient has been referred	Yes, widely available	With some pioneer hospitals/clinics	No, or very rare	http://ec.europa.eu/public_opinion/flash/fl126_fr.pdf ; http://www.europartnersearch.net/ist/communities/indexmapconso.php?Se=11 ; www.icgp.ie ; Commonwealth Fund International Health Policy Survey of Primary Care Physicians "Benchmarking ICT use among GP:s in Europe"; European Commission, April 2008; study made by Empirica, Bonn, Germany (p.60), Gartner Group
	1.11 Patients' access to on-line booking of appointments?	Can patients book doctor appointments on-line?	Yes, widely available	With some pioneer hospitals/clinics	No, or very rare	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials.
	1.12 e-prescriptions		Fully functional e- Prescription services across the country or substantial parts of certain regions	Some pharmacies have this service	No, or very rare.	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials.
	2.1 Family doctor same day access	Can I count on seeing a primary care doctor today?	Yes	Yes, but not quite fulfilled	No	Survey commissioned from Patient View by HCP 2017. National healthcare agencies.

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
2. Accessibility (waiting times for treatment)	2.2 Direct access to specialist	Without referral from family doctor (GP)	Yes	Quite often in reality, or for limited number of specialities	No	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials, feedback from national agencies.
	2.3 Major elective surgery <90 days	Coronary bypass/PTCA and hip/knee joint	90% <90 days	50 - 90% <90 days	> 50% > 90 days	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials, feedback from national agencies.
	2.4 Cancer therapy < 21 days	Time to get radiation/ chemotherapy after decision	90% <21 days	50 - 90% <21 days	> 50% > 21 days	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials, feedback from national agencies. www.socialstyrelsen.se: Väntetider cancervård
	2.5 CT scan < 7days	Wait for advanced diagnostic (non-acute)	Typically <7 days	Typically <21 days	Typically > 21 days	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials, feedback from national agencies. www.socialstyrelsen.se: Väntetider
	2.6 A&E waiting times	"Waiting time": the period between arrival at the hospital door and when a doctor starts treating/attending the problem.	Typically < 1 hour	Typically 1 - 3 hours	Typically > 3 hours	Survey commissioned by HCP from Patient View 2017. Interviews with healthcare officials, feedback from national agencies.
3. Outcomes	3.1 30-day Case Fatality for AMI	30-day case fatality for hospitalised heart infarct. For countries not in OECD: Inclination of ischaemic heart disease death trend line (log values)	< 6 %	6 - 10 %	> 10 %	OECD Health at a Glance 2017. WHO HfA database, 2017-12-06
	3.2 30-day Case Fatality for stroke	30-day case fatality for hospitalised isch. stroke. For countries not in OECD: Inclination of stroke death	< 8 %	8 - 10 %	> 10 %	OECD Health at a Glance 2017. WHO HfA database, 2017-12-06

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
		trend line (log values)				
	3.3 Infant deaths	per 1000 live births	<3	< 5	≥5	WHO Europe Health for All mortality database 2017-09-16, latest available statistics.
	3.4 Cancer survival	1 minus ratio of mortality/incidence 2012 ("survival rate")	≥ 60 %	59.9 - 50 %	< 50 %	J. Ferlay et al. / European Journal of Cancer 49 (2013) 1374–1403
	3.5 Potential Years of Life Lost	All causes, Years lost, /100000 population, age standardised	< 4000	4001 - 6000	> 6000	WHO Europe Detailed Mortality Database, October 2016
	3.6 MRSA infections	Susceptibility results for S. aureus isolates, % of hospital infections being resistant	<5%	<20%	>20%	http://ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-europe-2015.pdf
	3.7 Abortion rates	# per 1000 live births; low = Good, banned=purple	< 200	201 - 300	> 300	WHO Health for All Database, 2017-11-28
	3.8 Depression	Average score on 5 mental health questions	≥ 67 %	66 - 55 %	< 55 %	Special Eurobarometer 345, October 2011; www.fhi.no "Psyisk helse i Norge 2011:2", http://worlddatabaseofhappiness.eur.nl/hap_nat/nat_fp.php?mode=8
	3.9 % of diabetes patients with HbA1c < 7	Diabetes type 1 and diabetes type 2 (latest available period)	< 50 %	50-60%	> 60 %	National registries, regional registries, National audits, diabetes management programs, other national regional programs, publication on national/relevant studies.
4. Range and reach of services provided	4.1 Equity of healthcare systems	Public HC spend as % of total HC spend	≥ 80 %	<80 % - >70 %	≤ 70 %	WHO HfA database, 2017-11-28
	4.2 Cataract operations per 100 000 age 65+	Total number of procedures divided by 100 000's of pop. ≥ 65 years	> 5000	5000 - 3000	< 3000	OECD Health Data 2017, WHO HfA database, national data
	4.3 Kidney transplants per million pop.	Living and deceased donors,	≥ 40	40 - 30	< 30	Council of Europe Newsletter 22, September 2017

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
		procedures p.m.p.				
	4.4 Is dental care included in the public healthcare offering?	% of average income earners stating unmet need for a dental examination (affordability), 2014/l.a.	< 5 %	5 - 9.9 %	≥ 10 %	Eurostat: http://appsso.eurostat.ec.europa.eu/nui/show.do
	4.5 Informal payments to doctors	Mean response to question: "Would patients be expected to make unofficial payments?"	No!	Sometimes; depends on the situation	Yes, frequently	Survey commissioned from Patient View by HCP 2017. National healthcare agencies.
	4.6 Long term care for the elderly	# of nursing home and elderly care beds per 100 000 population 65+	≥ 5000	4999 - 3000	< 3000	WHO HfA database, 2018-01-08
	4.7 % of dialysis done outside of clinic	% of all Dialysis patients on PD or HD in the home	≥ 15 %	<15 % - 8 %	< 8 %	European Renal Association Annual Report 2014, www.ceapir.org
	4.8 Caesarean sections	# per 1000 live births; low = Good pre-natal care	< 210	210 - 300	> 300	WHO Health for All Database 2017-12-07, United Nations Information on Abortion
5. Prevention	5.1 Infant 8-disease vaccination	Tetanus, pertussis, poliomyelitis, haemophilus influenza B, hepatitis B, measles, mumps, rubella arithmetic mean	≥95.0 %	≥90.0 - ≥94.9%	≤89.9 %	WHO HfA database, July 2016, http://data.euro.who.int/cisid/?TabID=352277
	5.2 Blood pressure	% of people 18+ with a blood pressure > 140/90	≤ 25%	>25 - 30 %	> 30 %	WHO Global Health Observatory 2016-10-28

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
	5.3 Smoking Prevention	Cigarette sales per capita age 15+ (2015) with illicit cigarettes	< 1100	1100 - 1699	≥ 1700	KPMG Project Sun 2016
	5.4 Alcohol	"Binge drinking adjusted" alcohol intake p.p. 15+	< 10 litres pure alcohol p.p.	10 - 13 litres pure alcohol p.p.	> 13 litres	WHO HfA 2018-01-09, Special Eurobarometer 331 April 2010
	5.5 Physical activity	Hours of physical education in compulsory school	≥ 751	750 - 600	< 600	https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/0/0f/197_EN_IT_2016.pdf ; www.vsa.zh.ch
	5.6 HPV vaccination	National programme for teenage girls	Yes, free of charge to patient	Yes; patient pays significant part of cost	No.	ECDC. Vaccine Schedule Recommended immunisations for human papillomavirus infection 2014.
	5.7 Traffic deaths	SDR/ 100 000 population	< 5	5 - 8	> 8	WHO HfA July 2016
6. Pharmaceuticals	6.1 Rx subsidy	Proportion of total sales of pharmaceuticals paid for by public subsidy	≥ 70%	69.9 - 50 %	< 50%	WHO HfA database July 2016, EFPIA: The pharmaceutical industry in figures - Key Data 2016
	6.3 Novel cancer drugs deployment rate	ATC code L01XC (monoclonal antibodies) Use per capita, MUSD p.m.p.	> 15	15 - 10	< 10	IMS MIDAS database, 12 months ending June 2013, www.nuffieldtrust.org.uk/data-and-charts/prescribing-spend-person-uk
	6.4 Access to new drugs (time to subsidy)	Between registration and inclusion in subsidy system	<150 days	<300 days	>300 days	Patients W.A.I.T. Indicator 2011 and 2012 Reports – based on EFPIA's databases
	6.5 Arthritis drugs	TNF-α inhibitors, Standard Units per capita, prevalence adjusted	> 300	300 - 100	< 100	IMS MIDAS database July 2015 - June 2016. eumusc.net: Report v5.0 Musculoskeletal Health in Europe (2012), Special Eurobarometer 272 (2007)
	6.6 Statin use	Statin deployment (ATC code C10A),	> 150	149 - 50	< 49	IMS MIDAS database, July 2015 - June 2016

Sub-discipline	Indicator	Comment	 Score 3	 Score 2	 Score 1	Main Information Sources
		prevalence adjusted, SU/capita 50+				
	6.7 Antibiotics/capita	ATC code J01, DDD/1000 inhabitants per day	< 17	17 – 22	> 22	ECDC: Consumption of antibiotics by antibiotic group in 30 EU/EEA countries, 2014, IMS MIDAS database, 12 months ending June 2013

Table 7.7: Indicator definitions and data sources for the EHCI 2017

7.7.1 Additional data gathering - survey

In addition to public sources, as was also the case for the 2005 - 2015 Indexes, a web-based survey to Patient organisations was commissioned from PatientView, Woodhouse Place, Upper Woodhouse, Knighton, Powys, LD7 1NG, Wales, Tel: 0044-(0)1547-520-965, E-mail: info@patient-view.com. In 2017, this survey included the six Accessibility indicators, two e-Health indicators plus 8 other indicators. The survey can be accessed on <https://www.surveymonkey.com/r/Euro-Health-Consumer-Index-2017>.

A total of 621 patient organisations responded to the survey from all countries except Iceland and Montenegro.

Since 2009, the feedback from National Agencies has been a lot better and more ambitious than for previous EHCI editions. For that reason, the responses from the PV survey have been used very cautiously when scoring the indicators. On any indicator, where the HCP has received substantial information from national sources (*i.e.* information including actual data to support a score), the PV survey results have only been used to modify the score based on national feedback data, when the PV survey responses indicate a radically different situation from that officially reported.

Consequently, the PV survey has essentially been used as a CUTS data source (see section 8.11) only for the waiting time indicators, and for indicator 4.5 Informal payments to doctors.

7.7.2 Additional data gathering – feedback from National Ministries/Agencies

On November 29th, 2017, preliminary score sheets were sent out to Ministries of Health or state agencies of all 35 countries, giving the opportunity to supply more recent data and/or higher quality data than what is available in the public domain.

This procedure had been prepared for during the spring of 2017 by extensive mail, e-mail, telephone contacts and personal visits to ministries/agencies. Finally, feedback responses, in the form of returned "Single Country Score Sheets (SCSS)" and/or thorough discussions at personal visits to MoH:s/national agencies, have been had from official national sources.

Score sheets sent out to national agencies contained only the scores for that respective country. Corrections were accepted only in the form of actual data, not by national agencies just changing a score (frequently from Red to something better, but surprisingly often honesty prevailed and scores were revised downwards).

7.8 Threshold value settings

The performance of national healthcare systems was graded on a three-grade scale for each indicator (see more information in [Scoring](#) section).

It has not been the ambition to establish a global, scientifically based principle for threshold values to score green, amber or red on the different indicators. Threshold levels have been set after studying the actual parameter value spreads, in order to avoid having indicators showing "all Green" or "totally Red".

Setting threshold values is typically done by studying a bar graph of country data values on an indicator sorted in ascending order. The usually "S"-shaped curve yielded by that is studied for notches in the curve, which can distinguish clusters of states, and such notches are often taken as starting values for scores. A slight preference is also given to threshold values with even numbers. An illustration of this procedure can be the scoring diagram for the indicator 3.6 MRSA Resistance:

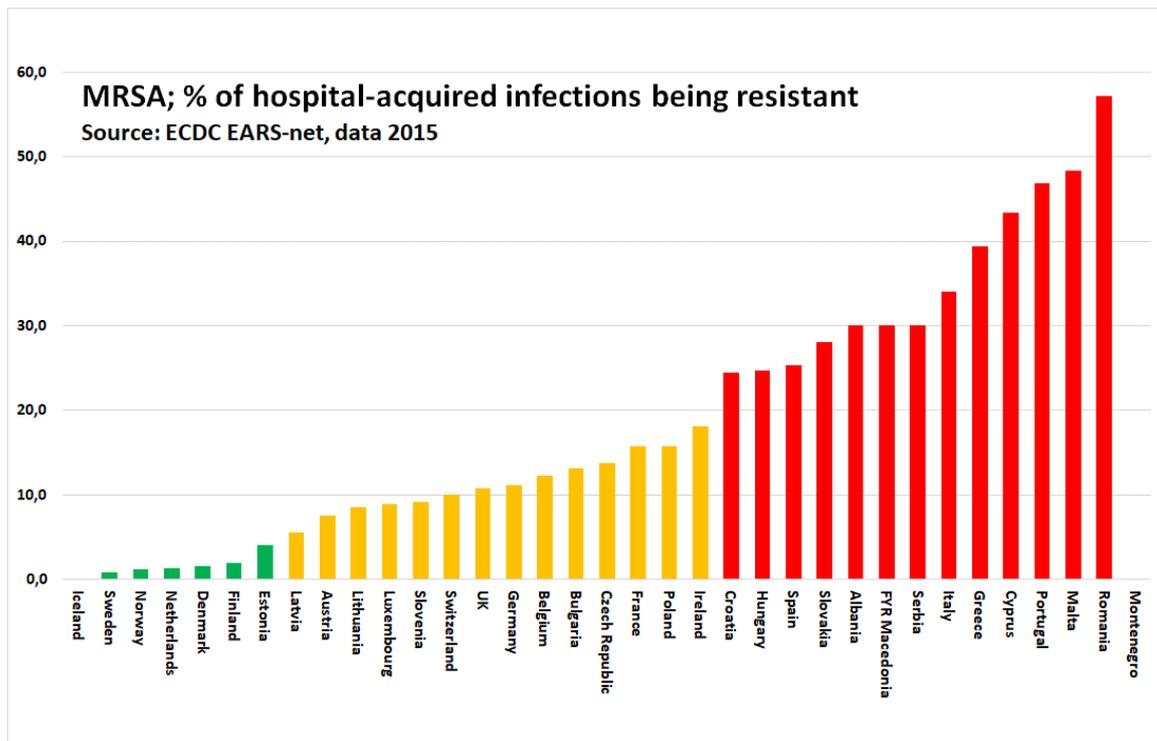


Figure 7.8 Scoring for indicator 3.6. It illustrates the “notches in the S-curve” quite nicely.

Finally, the HCP is a value-driven organisation. We believe in Patient/Consumer Empowerment, an approach that places highest importance on quantitative and qualitative healthcare services. Besides, the HCP also finds it evident that individuals are better fit to make decisions about their health and healthcare than rulings driven by moralistic, religious or paternalistic prejudice.

7.9 “CUTS” data sources

Whenever possible, research on data for individual indicators has endeavoured to find a “CUTS” (Comprehensive Uniform Trustworthy Source). If data on the underlying parameter behind an indicator is available for all or most of the 35 countries from one single and reasonably reliable source, then there has been a definitive preference to base the scores on the CUTS. As CUTS would be considered *e.g.* ECDC data (such as in Figure 7.8 above), WHO databases, OECD Health data, Special Eurobarometers or scientific papers using well-defined and established methodology.

Apart from the sheer effectiveness of the approach, the basic reason for the concentration on CUTS, when available, is that data collection primarily based on information obtained from 35 national sources, even if those sources are official Ministry of Health or National Health/Statistics agencies, generally yields a high noise level. It is notoriously difficult to obtain precise answers from many sources even when these sources are all answering the same, well-defined question. For example, in an earlier Index project, it was difficult to ask questions about a well-defined indicator such as “SDR of respiratory disease for males >45 years of age”. For one country protesting violently against their score, it took three repeats of asking the question in writing before the (very well-educated) national representative observed that the indicator was for “males 45+” only, not the SDR for the entire population. It has to be emphasized that also when a CUTS for an indicator has been identified, the data are still reviewed through cross-check procedures, as there have

frequently been occasions where national sources or scientific papers have been able to supply more recent and/or higher precision data.

7.9.1 The “Rolls-Royce gearbox” factor

Another reason for preferably using CUTS whenever possible is the same reason why Rolls-Royce (in their pre-BMW days) did not build their own gearboxes. The reason was stated as “We simply cannot build a better gearbox than those we can get from outside suppliers, and therefore we do not make them ourselves”. For the small size organisation HCP, this same circumstance would be true for an indicator where a Eurobarometer question, the WHO HfA database or another CUTS happens to cover an indicator.

7.10 Content of indicators in the EHCI 2016

The research team of the Euro Health Consumer Index 2017 has been collecting data on 46 healthcare performance indicators, structured in a framework of six sub-disciplines. Each of these sub-disciplines reflects a certain logical entity, *e.g.* Medical outcomes or Accessibility.

For reader friendliness and clarity, the indicators come numbered in the report.

Where possible, CUTS - Comprehensive Uniform Trustworthy Sources - were used; see section “[CUTS Data Sources](#)” for more information on this approach, typical for HCP research work.

7.10.1 Patients' Rights and Information

This sub-discipline is testing the ability of a healthcare system to provide the patient with a status strong enough to diminish the information skew walling the professional and patient.

Why does HCP love this sub-discipline? Because it is a GDP non-dependent indicator family. Even the poorest countries can allow themselves to grant the patient a firm position within the healthcare system; and the 2016 Euro Health Consumer Index is proving this observation again.

There are 10 indicators in this sub-discipline:

1.1 Patients' Rights based healthcare law

This indicator has been taken out of the EHCI for 2017. Not only had it become non-discriminating, it also became obvious that national definitions were different for different countries. *E.g.* with a strict definition of “Patients’ Rights-based”, a country claiming a Green score cannot have waiting lists for healthcare services.

1.2 Patients' Organisations involved in decision making

Do patient organisations have right to participate in healthcare decision making? Sometimes we find that patient's organisations are welcomed to get involved, sometimes they do it by law, sometimes they do it only informally, but usually, sometimes only formally without a real participation, sometimes not at all.

Sources of data: Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. National healthcare agencies. European Observatory HiT reports. Non-CUTS data.

1.3 No-fault malpractice insurance

Can patients get compensation without the assistance of the judicial system? Also taken out of the EHCI for 2017, as it could not be considered precise enough, with the differing definitions existing in different countries.

1.4 Right to second opinion

As in other areas of human life, there are not many questions and conditions with only one right answer, in medicine also. Therefore, do the patients have the right to get the second opinion, without having to pay extra? Is it a formal right, but unusual practice, or well-established institute?

Countries where this right exists on paper, but where patient organisations reveal a low degree of knowledge of its existence, have been awarded a Yellow score instead of the Green, which the formal situation would have given.

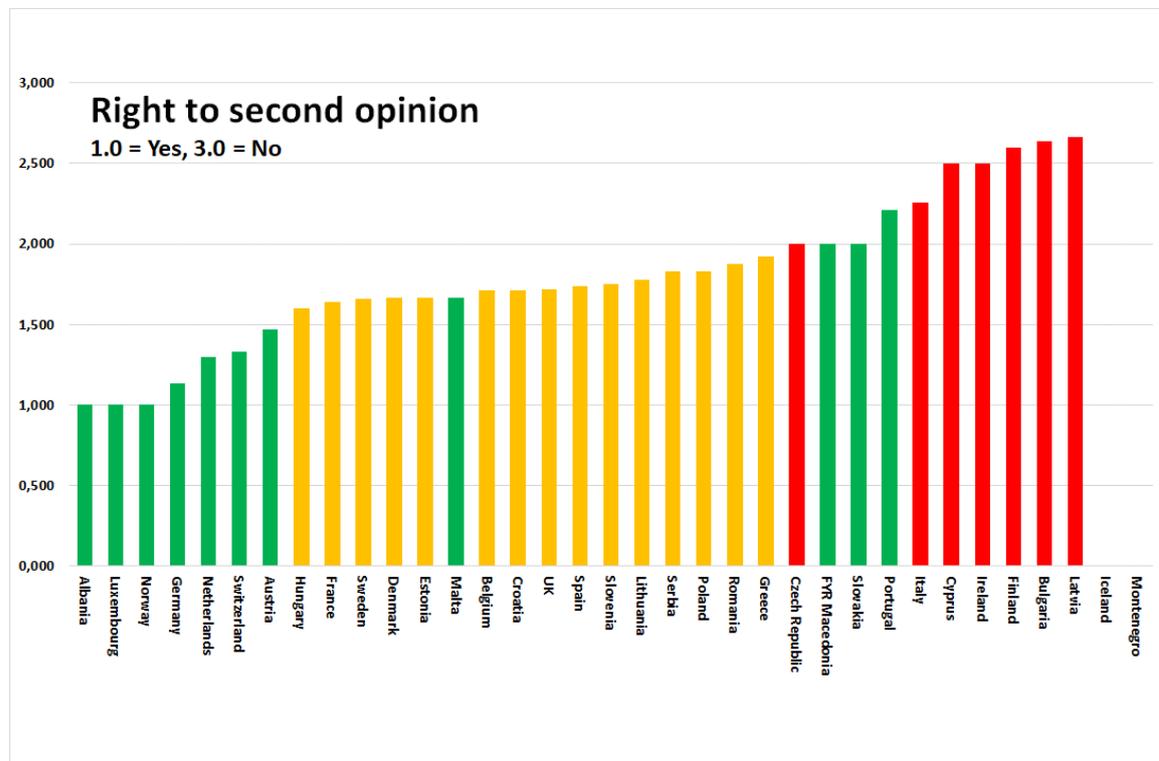


Fig. 7.10.1.4a: 2017. Green scores appearing for countries is because of recently improved legislation or submittance of trustworthy data.

Sources of data: Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. National healthcare agencies. Non-CUTS data.

1.5 Access to own medical record

Can patients readily get access to, and read, their own medical records? In recent years, this situation seems to have improved significantly in most countries of Europe. Some

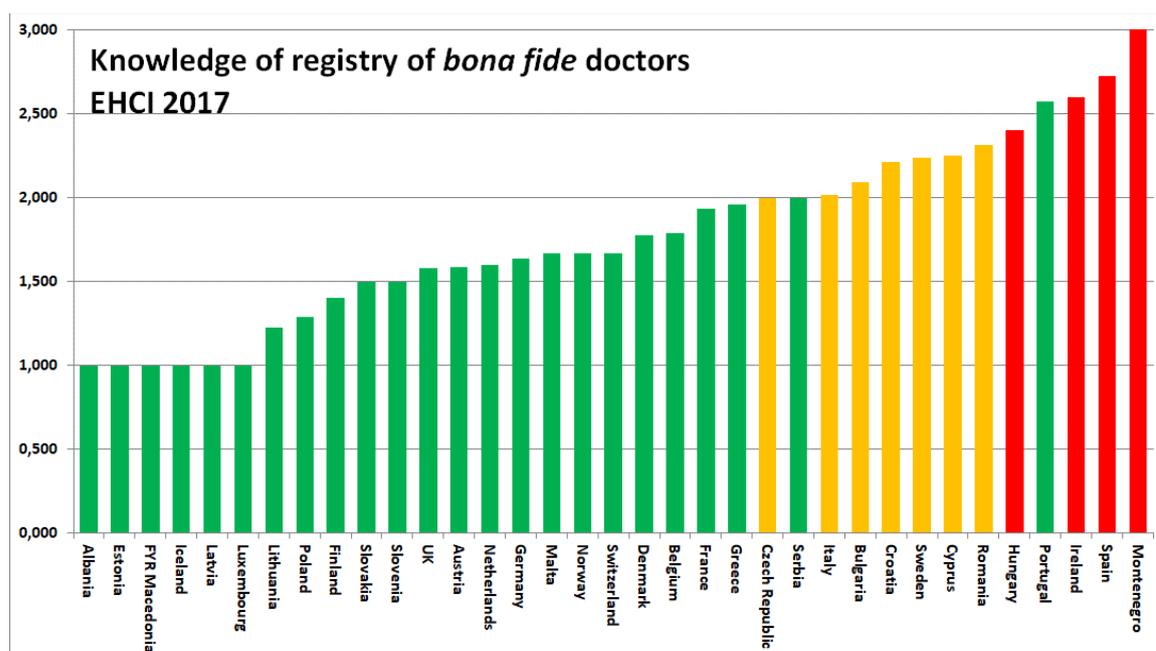
countries are still affected by bureaucratic procedures, where patients have to fill in forms, or have partially restricted access to their medical record.

Even where patient records are supposed to be available to individual patients, patient awareness of this is low in several countries.

Sources of data: Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. National healthcare agencies; web and journal research. Non-CUTS data.

1.6 Register of legit doctors

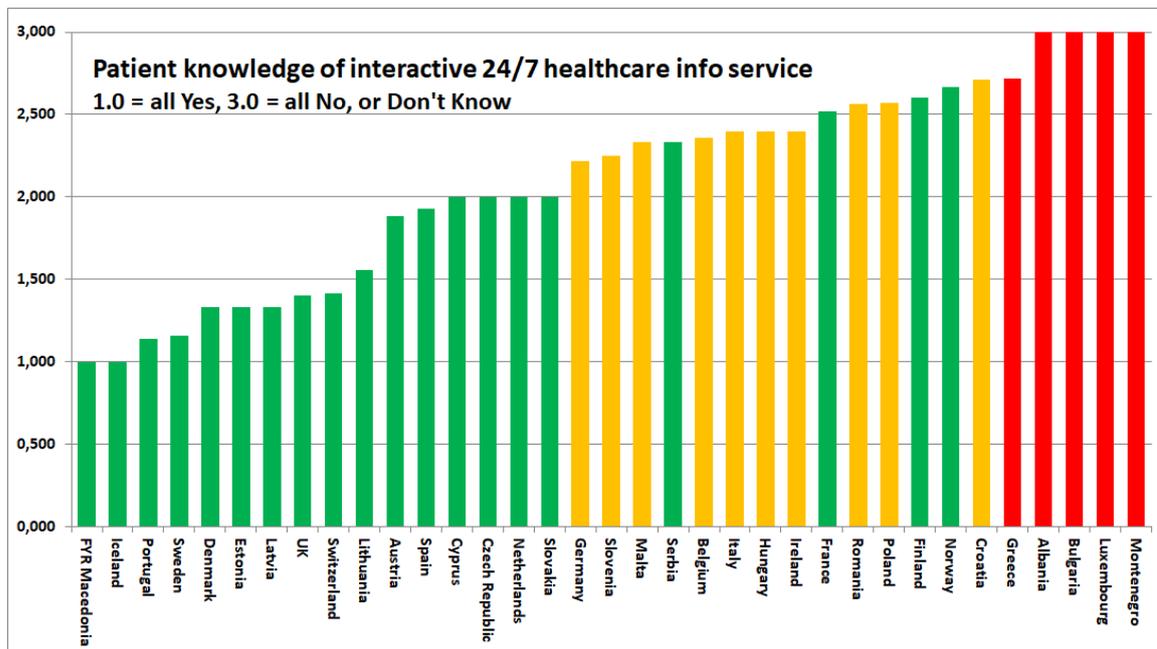
Can the public readily access the information: "Is doctor X a bona fide specialist?" To qualify, this has to be a web/telephone based service. Yellow pages do not score Green – with an exception for Luxembourg, where the chapter on physicians is yearly reviewed and approved by the Ministry of health. This is a very easy and cheap service to implement, but still it is very difficult to find such sources of information.



Sources of data: Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. National physician registries. National healthcare agencies; web and journal research. Non-CUTS data.

1.7 Web or 24-7 telephone healthcare info with interactivity

Simple description of this indicator used in previous years' editions remains the same in 2013: Information which can help a patient take decisions of the nature: "After consulting the service, I will take a paracetamol and wait and see" or "I will hurry to the A&E department of the nearest hospital" The most comprehensive service of this kind is still the British NHS Direct. In 2017, several countries have developed decentralized solutions such as "round-the-clock" primary care surgeries, which offer the same service.



Sources of data: Patients' Perspectives of Healthcare Systems in Europe; survey commissioned by HCP 2017. National healthcare agencies, web search. Non-CUTS data.

1.8 Cross-border care seeking financed from home

The directive **on the application of patients' rights to cross-border healthcare** was decided on 2011-03-09. EU countries had until 25 October 2013 to pass their own laws implementing the Directive. Therefore, the criteria for scores on this indicator were tightened considerably compared with previous ECHI editions. At the time of publication of this report (January 2017), some little progress seems to have happened since autumn 2013.

For the first time, the European Commission has published data on payment streams for citizens receiving care in another EU country (Figure below). Unfortunately, no comprehensive updated data was available by year-end 2017.

According to the data reported to the commission, Austria was the only country where these costs in 2014 exceeded EUR 1/capita. Data on some countries was missing, such as for The Netherlands and Malta, who both have an established tradition of allowing care outside the country.

As was predicted in the EHCI 2015 report, penetration of the Dutch observation that "free access to cross-border care will not exceed 1% of healthcare budgets" seems to require assisted delivery.

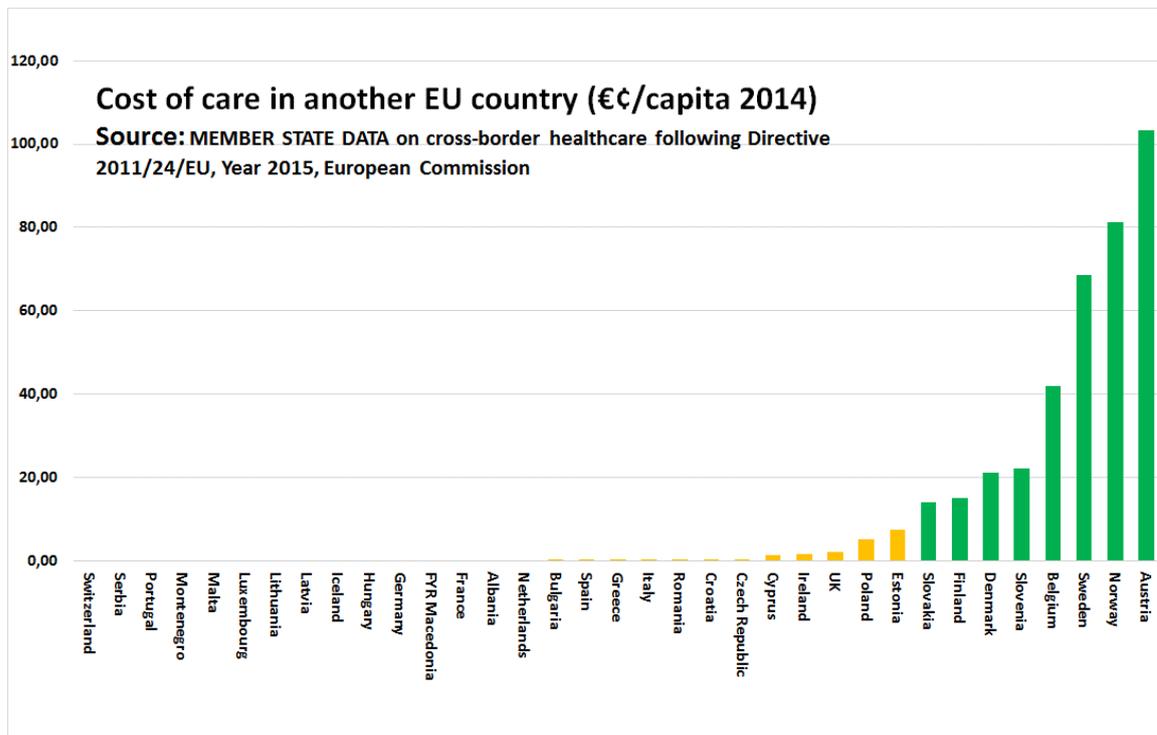


Figure 7.10.1.8 MEMBER STATE DATA on cross-border healthcare following Directive 2011/24/EU, Year 2015, European Commission.

Sources of data: MEMBER STATE DATA on cross-border healthcare following Directive 2011/24/EU, Year 2015, European Commission. National healthcare agencies.

1.9 Provider catalogue with quality ranking

In 2005, Dr. Foster of the UK was the single shining star on the firmament of provider (hospital) listing, where patients could actually see which hospitals had good results in term of actual success rates or survival percentages. Today, that has evolved into "NHS Choose and Book"¹⁹.

In 2016, there are still only a few more examples, where the Health Consumer Powerhouse believes that the most notable was the Danish www.esundhed.dk/sundhedskvalitet/Pages/default.aspx, where hospitals were graded from ★ to ★★★★★ as if they were hotels, with service level indicators as well as actual results, including case fatality rates on certain diagnoses. Unfortunately, this website no longer contains actual treatment results.

In 2016, the British NHS Choices remain the standard European qualification for a Green score. The "best clinics" published by the weeklies *LePoint/Figaro* in France gives a Green in 2016, as the HCP survey indicated a high degree of familiarity with that among patients. Also, in 2016 Estonia, The Netherlands, Norway, Portugal and Slovakia score Green. Germany, scoring Yellow in 2012, now scores Green (again) as public access to this information has been restored. Sweden has the information available in a 400+ page book, but that can hardly be described as easily accessed by patients.

¹⁹ www.chooseandbook.nhs.uk

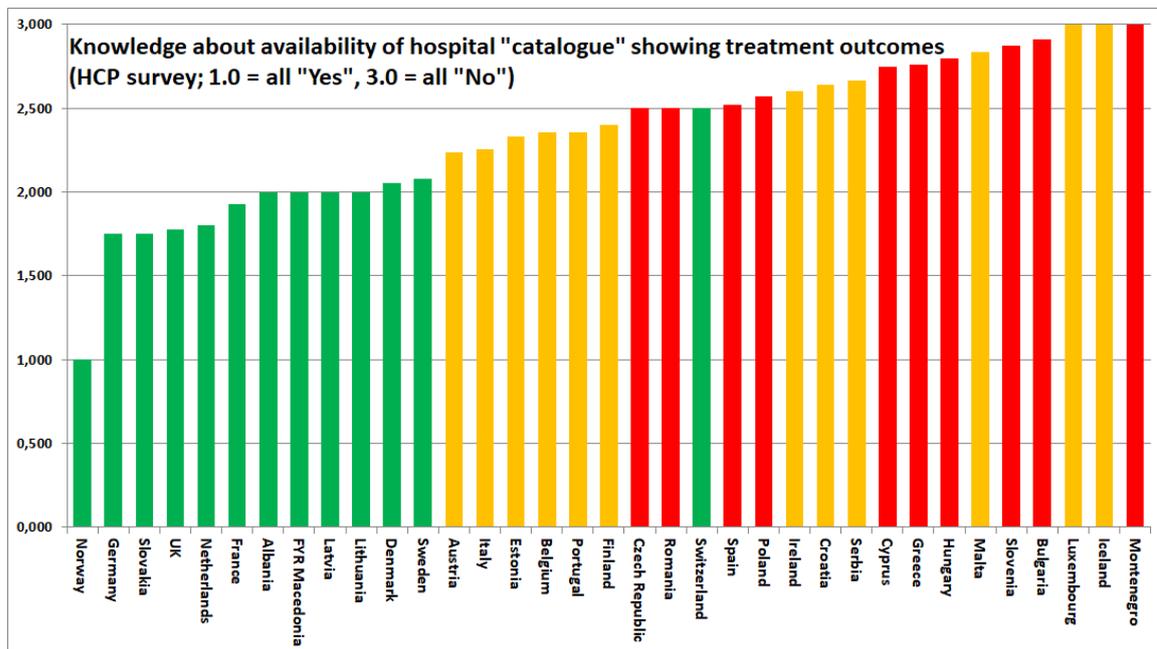


Figure 7.10.1.9 The Yellow scores for Iceland and Malta are awarded not to discriminate against islands having only one real hospital each.

Sources of data: Survey commissioned by HCP from Patient View 2017, www.nhs.uk/Conditions/Pages/hub.aspx ; www.esundhed.dk/sundhedskvalitet/Pages/default.aspx; www.sykehusvalg.no/sidemaler/VisStatiskInformasjon_2109.aspx ; www.higa.ie/ ; <http://212.80.128.9/gestion/ges161000com.html>, www.bqs-institut.de/. Non-CUTS data.

1.10 Patient records e-accessible (by receiving doctor after referral)

This indicator was previously "Percentage of GP practices using computer for storage of individual patient data and communication with other parts of the healthcare system". Finally in 2017, 20 years later than what should have been, this is becoming the norm in Europe! Therefore, the scoring criteria have been tightened to the above.

Sources of data: OECD Health Policy Studies Health Data Governance Privacy, Monitoring and Research (2015) http://ec.europa.eu/public_opinion/flash/fl126_fr.pdf ; <http://www.europartnersearch.net/ist/communities/indexmapconso.php?Se=11> ; www.icgp.ie ; Commonwealth Fund International Health Policy Survey of Primary Care Physicians "Benchmarking ICT use among GP:s in Europe"; study made by Empirica, Bonn, Germany (p.60), Gartner Group. Non-CUTS data.

1.11 Do patients have access to on-line booking of appointments?

The supply/demand ratio for specialist appointments or major surgery is very similar to that of hotel rooms or package holidays. There is no real reason why patients should not be able to book available "slots" at their convenience. This exists rather sparingly in Europe; in 2009, one of the only two Green scores went to Portugal, where "4 million people in the Lisbon region" were said to have access to this service. In 2017, twenty countries have made this service available to sizeable groups of citizens – quite an improvement (2013: 9 countries). Among countries now scoring Green on this indicator

are FYR Macedonia and Serbia, both on the merits of installing the Macedonian IZIS e-health system, and Montenegro with their home-made solution.

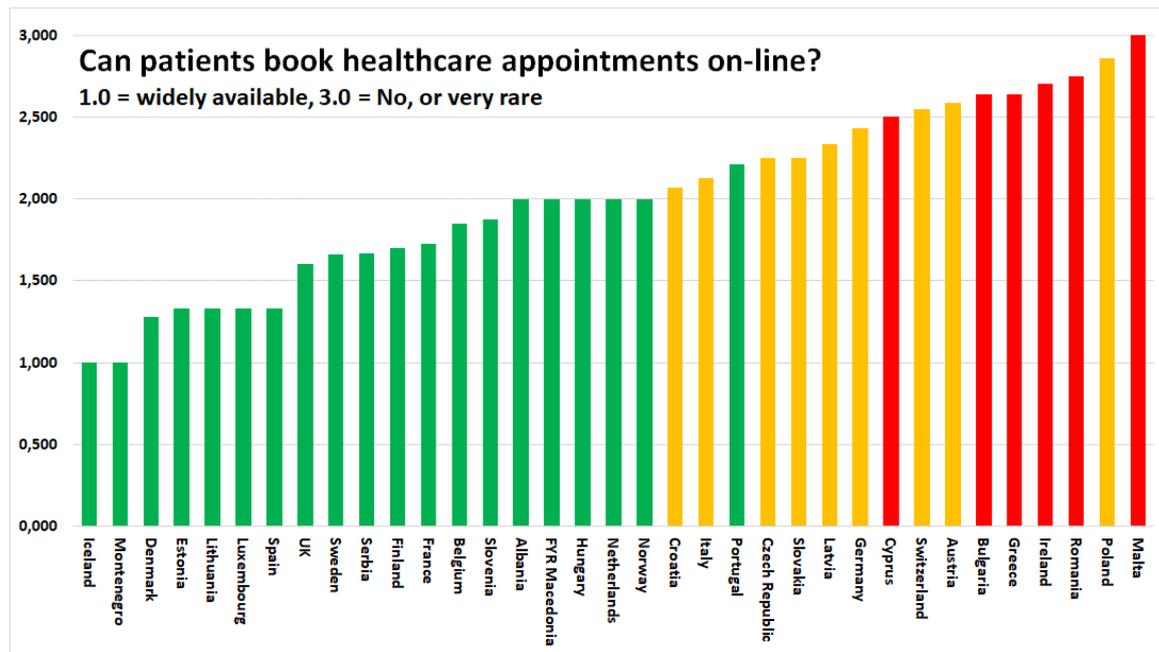


Figure 7.10.1.11 Patient Organisations’ knowledge of the option of electronic booking of doctor appointment.

Sources of data: Survey commissioned by HCP from Patient View 2017. National healthcare agencies.

1.12 e-Prescriptions

HCP survey question:

“Can your country's patients collect drugs from a pharmacy with the prescription being sent electronically? [This is known as ‘e-prescriptions’, and no paper prescription is issued.]”

1. Yes, this facility is widely available.
2. It does exist, but is only offered by a few pioneering doctors/clinics/ hospitals.
3. No (or it is very rare).

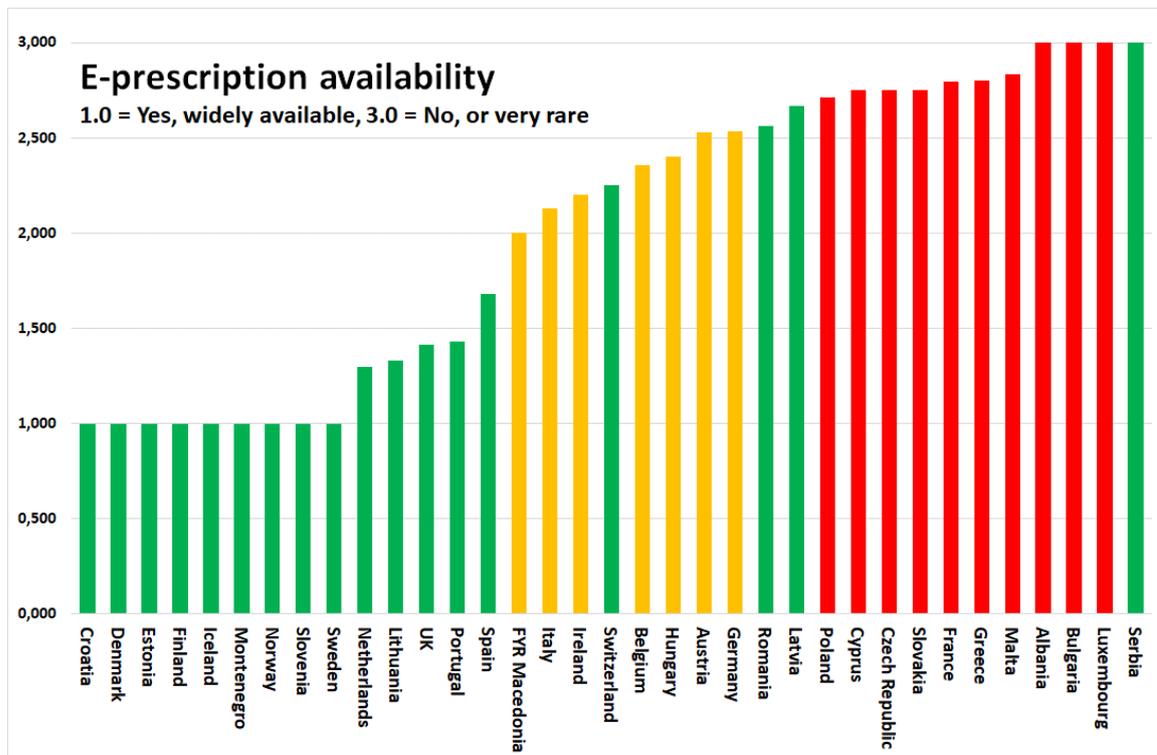


Figure 7.10.1.12 Survey responses to the above question.

Croatia and the Nordic countries are leading Europe. Considering that an e-Prescription is just a very standardised piece of e-mail, the rate of progress is depressingly slow.

Sources of data: Survey commissioned by HCP from Patient View 2017, National healthcare agencies.

7.10.2 Waiting time for treatment

2.1 Family doctor same day access

Testing a very reasonable demand: Can patients count on seeing a primary care doctor today, on the *only* indication "The patient suffers from the opinion that he needs to see a doctor"?

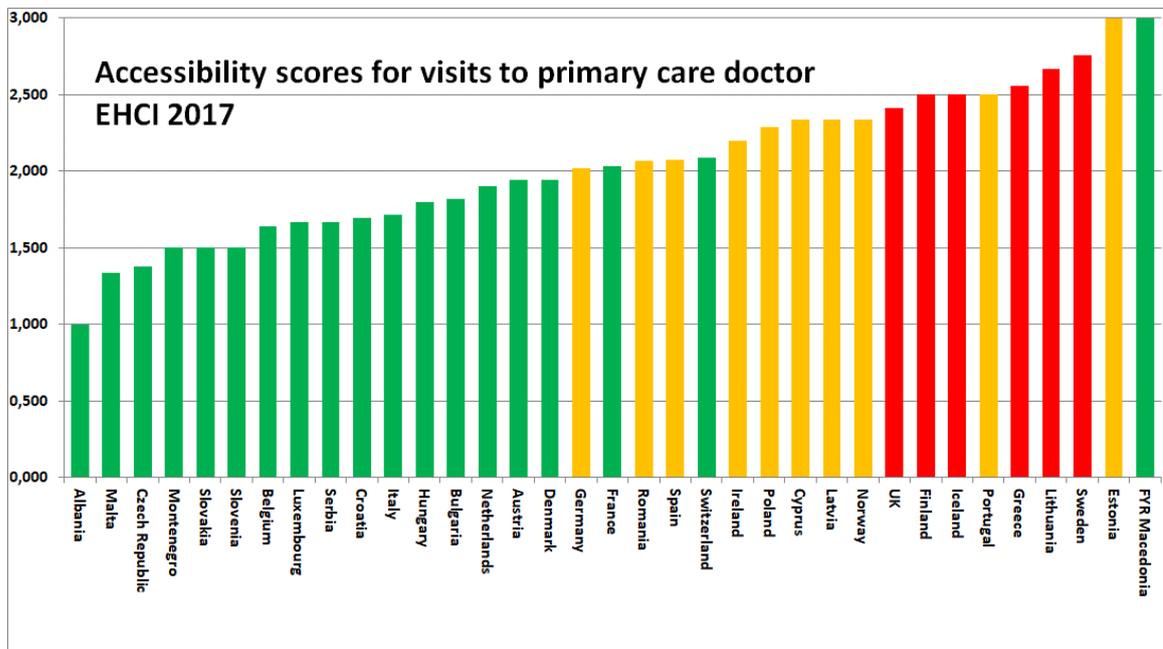


Figure 7.10.2.1a Survey responses to the question: "Can your country's patients see their primary care doctor that same day (with or without an appointment)?" 1.0 = all yes; 3.0 = all "normally not".

The responses on this indicator basically show that there is no logical explanation for waiting times in primary care; the findings seem to be randomly placed in the order of national wealth; there is no correlation with financial matters (GDP or healthcare spend *per capita*) nor the range of services provided, nor the density of primary care network (see graph below). In some rather unexpected countries, the GP even has the obligation to answer the phone to every patient registered in his practice 24 hours per day, 7 days a week.

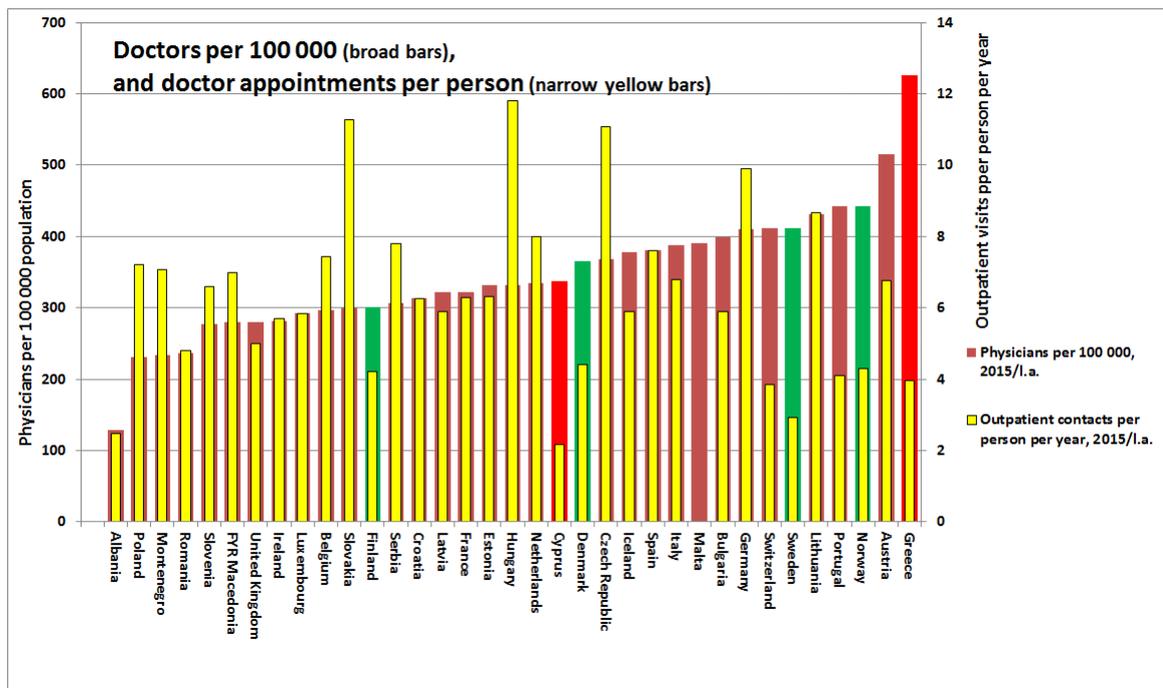


Figure 7.10.2.1b Doctors per 100 000 people (broad bars) and Number of outpatient contacts per person (narrow bars). As the graph shows, there is very poor correlation between doctors *per capita* and Access to doctor. There are some culture streaks: the Nordic countries (green broad bars) only want patients to see a doctor when really sick. Swiss and Portuguese do not disturb

their doctors too much, either. The very low numbers of visits per doctor in Cyprus or Greece (which has by far the highest number of doctors *per capita*) could possibly be under-reporting of visits for tax evasion reasons. The Austrian system seems to share the productivity problem of the Nordic countries.

Sources of data: Patients' Perspectives of Healthcare: Waiting times in Europe; survey commissioned by HCP 2017. WHO Health for All database, January 2018. National healthcare agencies; journal search. Non-CUTS data.

2.2 Direct access to specialist

Can patients see a specialist without first having to gain a referral from a primary-care doctor?

This indicator might be the most disputed of all in the history of HCP indexes. However, EHCI research does not take religious beliefs into consideration, be they moslem, catholic or the Faith in GP Gatekeeping. Consequently, the indicator has been kept since 2005, and seems to confirm the notion that "no significant effects of gatekeeping were found on the level of ambulatory care costs, or on the level or growth of total health care expenditure"²⁰.

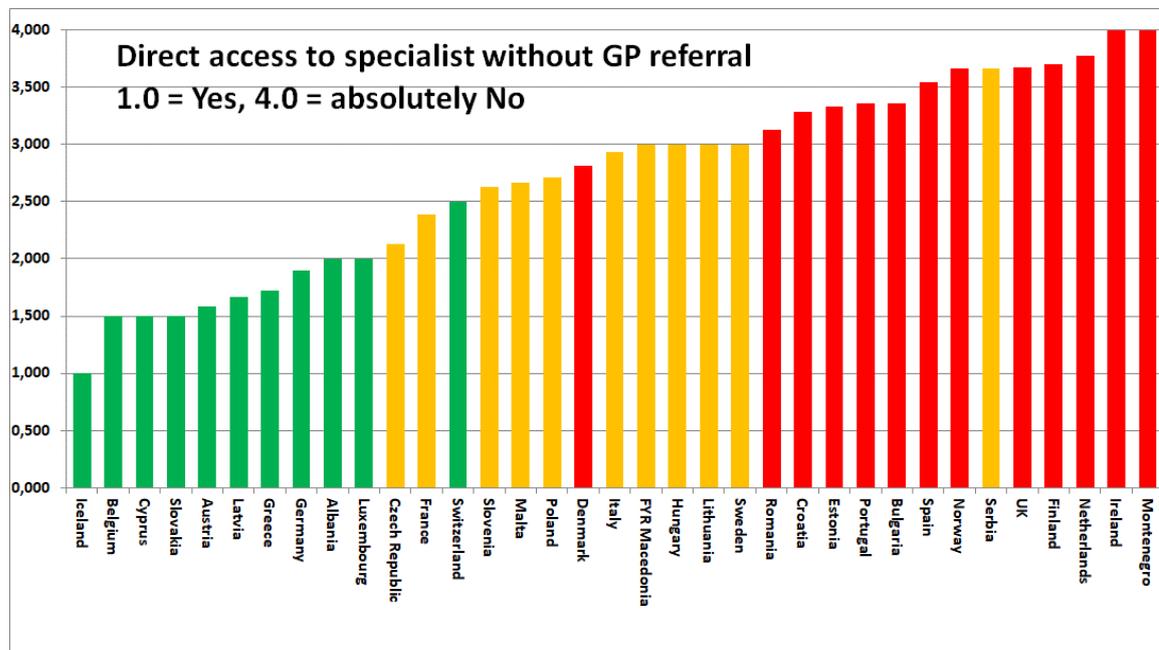


Figure 7.10.2.2. Serbia gets a Yellow on an interesting construction: patients can "self-refer" to a specialist, but then have to bother their "chosen doctor" (in primary care) in order to get a referral afterwards.

Sources of data: Patients' Perspectives of Healthcare: Waiting times in Europe; survey commissioned by HCP 2017. National healthcare agencies with healthcare officials; www.im.dk/publikationer/healthcare_in_dk/healthcare.pdf ; www.ic.nhs.uk/ ; www.oecd.org/, www.vantetider.se . Non-CUTS data.

2.3 Major non-acute operations <90 days

²⁰G Van Merode, A Paulus, P Groenewegen: Does general practitioner gatekeeping curb health care expenditure? J Health Serv Res Policy. 2000 Jan ;5 (1):22-6. See also Kroneman et al: Direct access in primary care and patient satisfaction: A European study. Health Policy 76 (2006) 72-79

What is the interval between diagnosis and treatment for a basket of coronary bypass/PTCA and hip/knee joint? It is difficult to avoid the observation that countries, which *do* have official waiting time statistics (Ireland, Norway, Sweden, UK *etc*), this is in itself a not very flattering circumstance. Countries such as Germany, where waiting times tend to vary in the 2 – 3 weeks range, have never felt the urge to produce waiting time data, for principally the same type of reason that Singapore has less snow-ploughs than Helsinki.

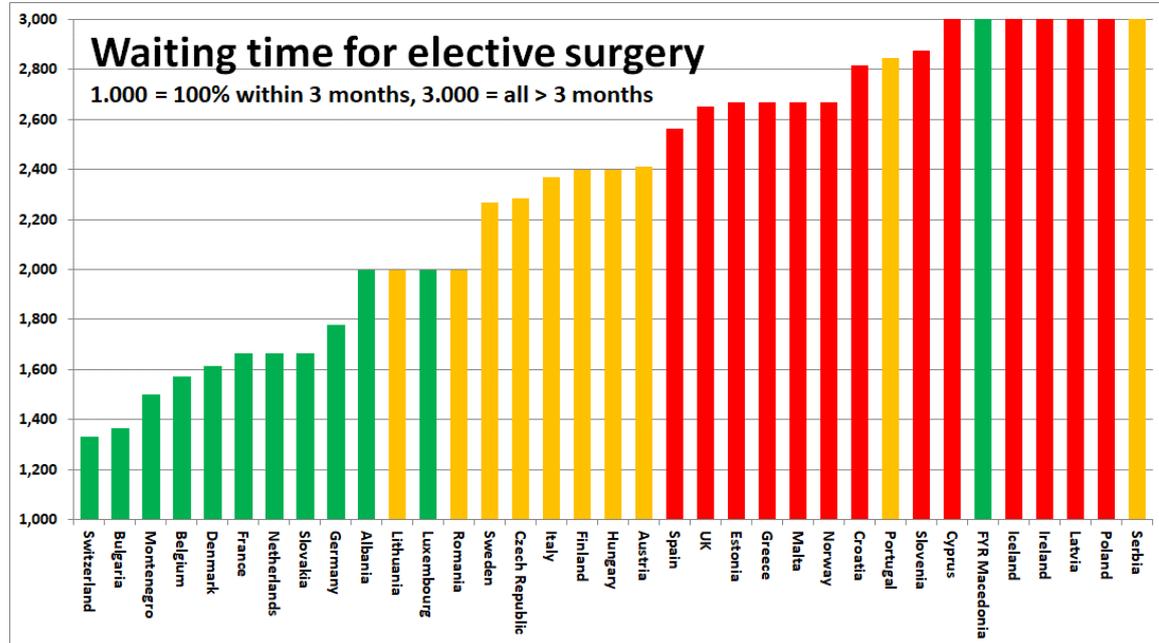


Figure 7.10.2.3 Survey responses on major elective surgery waiting times.

Survey results for small countries should be taken with caution due to the limited number of survey responses! Among countries now scoring better on this indicator is Serbia on the merits of installing the Macedonian IZIS e-health system.

Sources of data: Patients' Perspectives of Healthcare Waiting times in Europe; survey commissioned by HCP 2017. National healthcare agencies. Non-CUTS data.

2.4 Cancer therapies < 21 days

This indicator measures the time to get radiation/chemotherapy after decision to treat (DTT). The time limit for a Green score is, and should be, much tighter for cancer treatment than for elective surgery. Encouragingly, the general level of accessibility to cancer care is superior to that of elective surgery also when the much tighter cut-off for a Green score (21 days vs. 90 days) is taken into consideration.

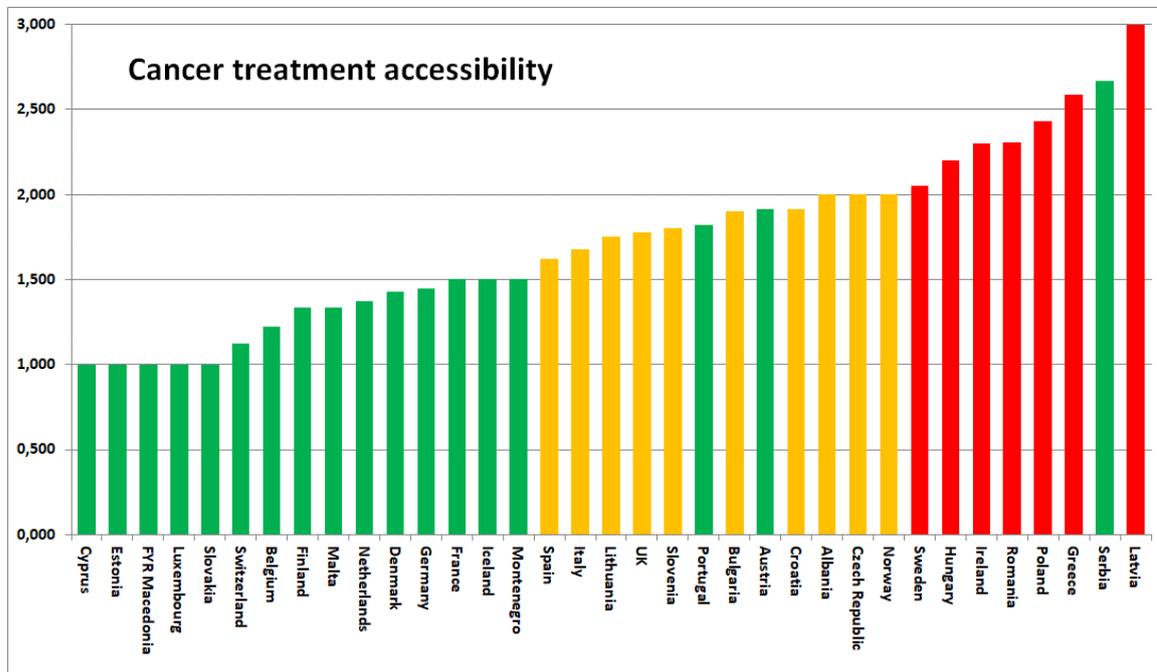
The Patient Organisation survey commissioned by HCP had the same logic as for elective surgery (above) with an average response score of 1.0 *for cancer treatment* meaning essentially "everybody receives treatment within three weeks" to 3.0 meaning "everybody waits more than three weeks".

Interestingly this indicator shows a similar tendency as waiting times for elective surgery: an austerity-induced (?) slight increase of waiting time for these costly treatments between 2009 and 2013, and a minor improvement in 2014, which continues into 2017.

Year	Average cancer wait responses
2009	1.692

2012	1.789
2013	1.871
2014	1.833
2015	1.775
2017	1.728

Among countries now scoring better on this indicator is Serbia on the merits of a massive World Bank-supported expansion of radiation treatment capacity during 2016 - 2017.



Sources of data: Survey commissioned by HCP 2017. Cancer wait report from the Swedish Board of Health and Welfare (2017). National healthcare agencies. Non-CUTS data.

2.5 CT scan < 7days

As a representative for waiting times for advanced diagnostics was chosen Time to get a CT scan after referring doctor’s decision. There proved to be some difficulty making respondents (in national healthcare agencies) not answer in terms of “acute” or “non-acute” examinations. Again, it has to be emphasized that waiting times for a CT scan is both poor service quality and also *increases* costs, not saving money, as the procedure of keeping track of patients for weeks/months is by no means costless, and the examination itself is if anything cheaper if the patient (and the care provider) has the underlying cause fresh in their minds.

The Patient Organisation survey commissioned by HCP had the same logic as for elective surgery (above) with an average response score of 1.0 for a non-acute CT scan meaning essentially “everybody receives an examination within one week” to 3.0 meaning “everybody waits more than three weeks”.

Among countries now scoring better on this indicator is Serbia on the merits of installing the Macedonian IZIS e-health system.

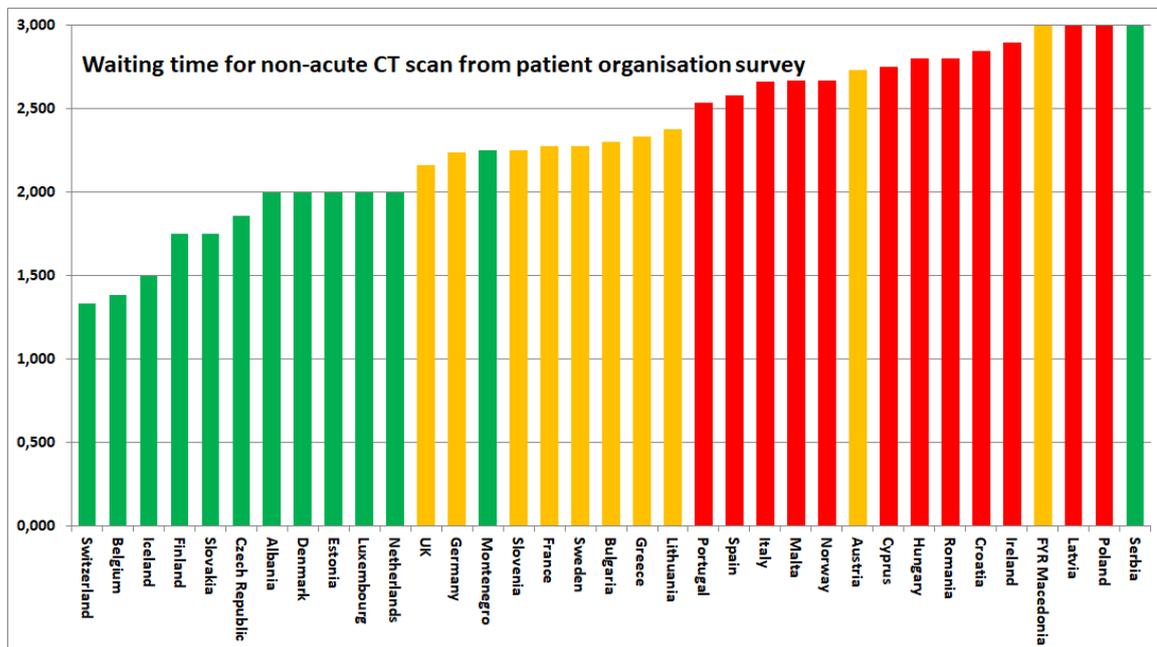


Figure 7.10.2.5 Survey responses *non-acute* CT scan waiting times. < 7 days for a Green might seem tight, but there is no real life reason to have longer waits.

Sources of data: Survey commissioned by HCP 2017. National healthcare agencies. Non-CUTS data.

2.6 A&E department waiting time

It is probably not a coincidence that for countries scoring low on Accessibility, such as Sweden, the UK and Ireland, this spills over into long A&E waiting times!

In January 2016, the Swedish National Investigator of healthcare system efficiency actually suggested compulsory referral to access a hospital A&E department! Referral from whom?

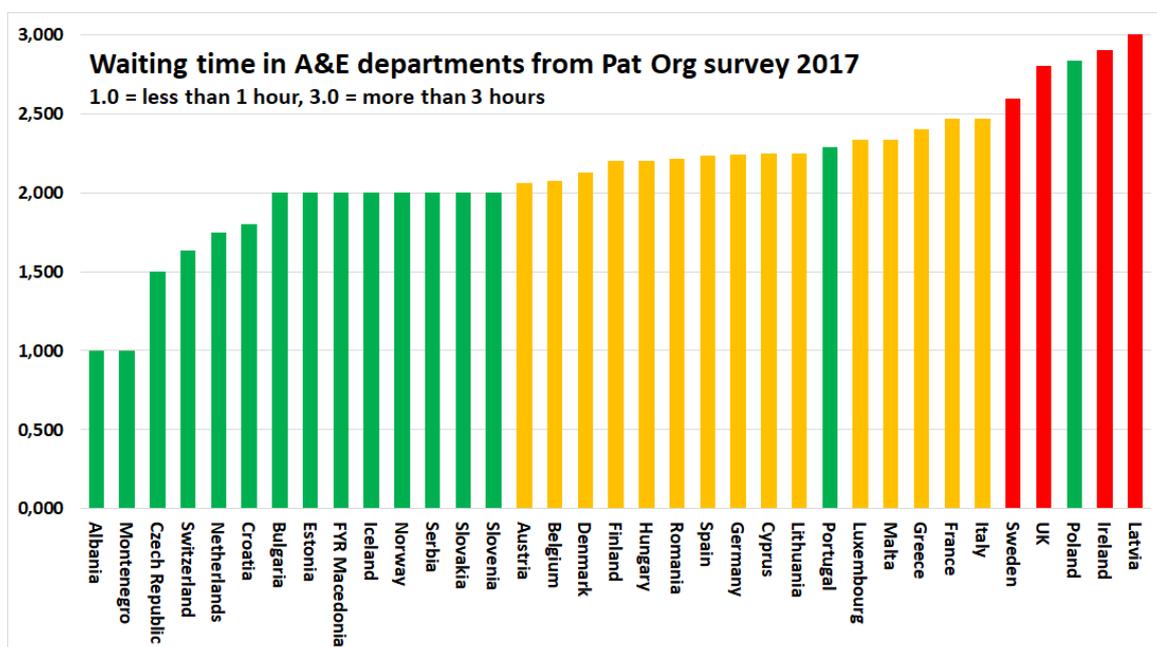


Figure 7.10.2.6 Survey responses on A&E department waiting times

Sources of data: Survey commissioned by HCP 2017. National healthcare agencies. Non-CUTS data.

7.10.3 Outcomes

The Outcomes sub-discipline assesses the performance of different national healthcare systems when it comes to results of treatment. The healthcare professionals sometimes tend to think about the healthcare systems predominantly in the terms of outcomes – saying that what really counts, is the result. We do agree to some extent, and this is reflected in the weight attributed to the outcomes sub-discipline indicators.

3.1 30-day Case Fatality rate for hospitalized heart infarct, or "Decrease of CVD Death Rates"

Data availability on the Acute Heart Infarct (AMI) in-hospital case fatality indicator has been shockingly fragmented and incoherent over Europe.

For this reason, that indicator was replaced since the EHCI 2014 by the indicator "Inclination of the long-time trend line for ischaemic heart disease Standardized Death Rates". Before the turn of the millennium, it was more or less regarded as axiomatic that CVD was the main cause of death in Europe. Part of this was bad reporting; as death frequently occurs when the heart stops beating, heart failure was often routinely put as cause in death certificates. One such example was Bulgaria, which in the early 2000's reported CVD as cause of death in 66 % of deaths.

Improvement of cardiac care has significantly changed this situation, as is shown in the Table below²¹.

Table 3 European countries where the number of cancer deaths exceeds the number of deaths from CVD for men and women

Country	Latest year	Men N of deaths		Year of change	Women N of deaths		Year of change
		Cancer	CVD		Cancer	CVD	
Belgium	2012	15 920	14 299	2006			
Denmark	2012	8226	6442	2010	7613	6654	2010
France	2011	92 375	64 659	1988			
Italy	2012	99 794	99 661	2012			
Israel	2013	5455	4819	2009	5507	5217	2012
Luxembourg	2013	566	523	2010			
The Netherlands	2013	23 766	18 026	2004			
Norway	2013	5788	5630	2013			
Portugal	2013	15 746	13 981	2009			
Slovenia	2010	3245	3071	2007			
Spain	2013	67 711	53 487	1999			
UK	2013	87 511	79 935	2011			

France reached the point, where cancer became a more frequent cause of death than CVD as early as 1988 – that France has a very low CVD rate has been known for 200 years²². By 2000, this was achieved also by Spain, with 10 more countries following suit up until 2013.

²¹ Townsend *et al.*, Cardiovascular disease in Europe: epidemiological update 2016", *European Heart Journal*. doi:10.1093/eurheartj/ehw334

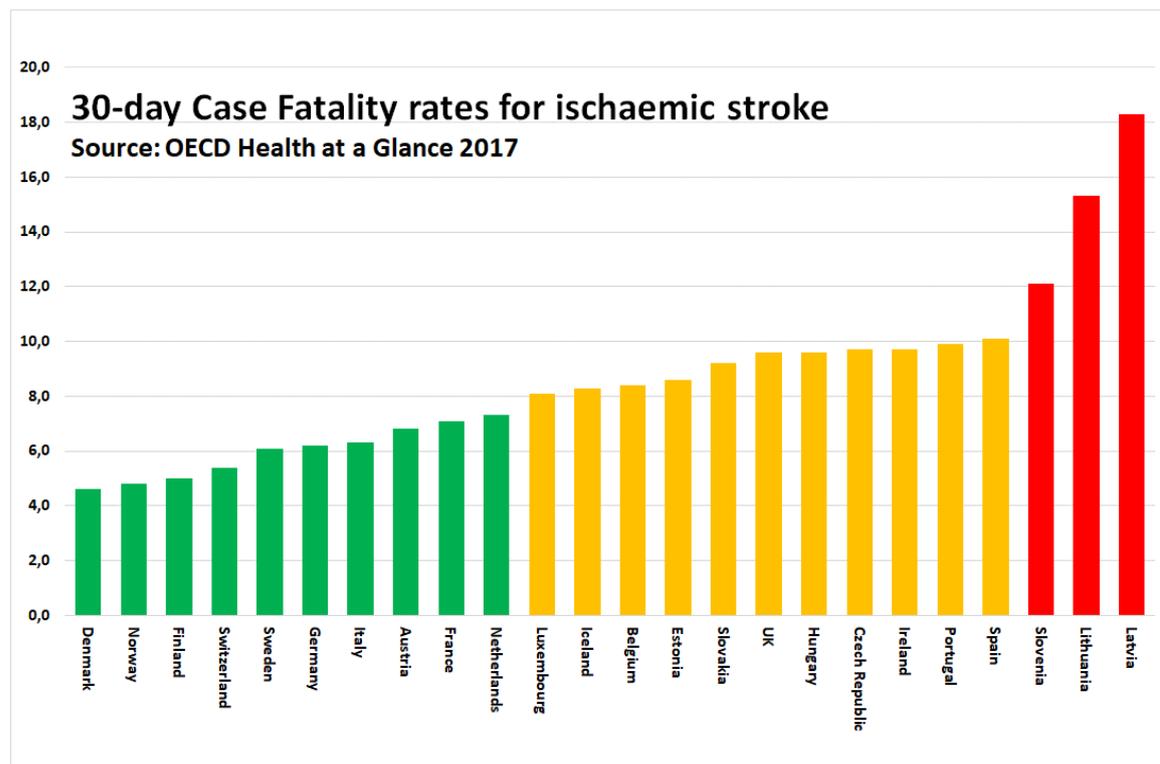
²² Blake, S. *Clinical and Pathological Reports* (monograph), Newry, N. Ireland (1818)

That this change has to be attributed to improved cardiac care is proven by the WHO²³. The lifestyle risk factors driving diabetes are largely the same as those driving CVD. An assumption that improved CVD care would *not* be due to improved healthcare requires the rather drastic conclusion that WHO and world diabetologists are talking through their collective hats!

The indicator data for countries missing in the 30-day case fatality data is the *steepness of the long-time trend line inclination* of the downward trend of SDR data for ischaemic heart disease.

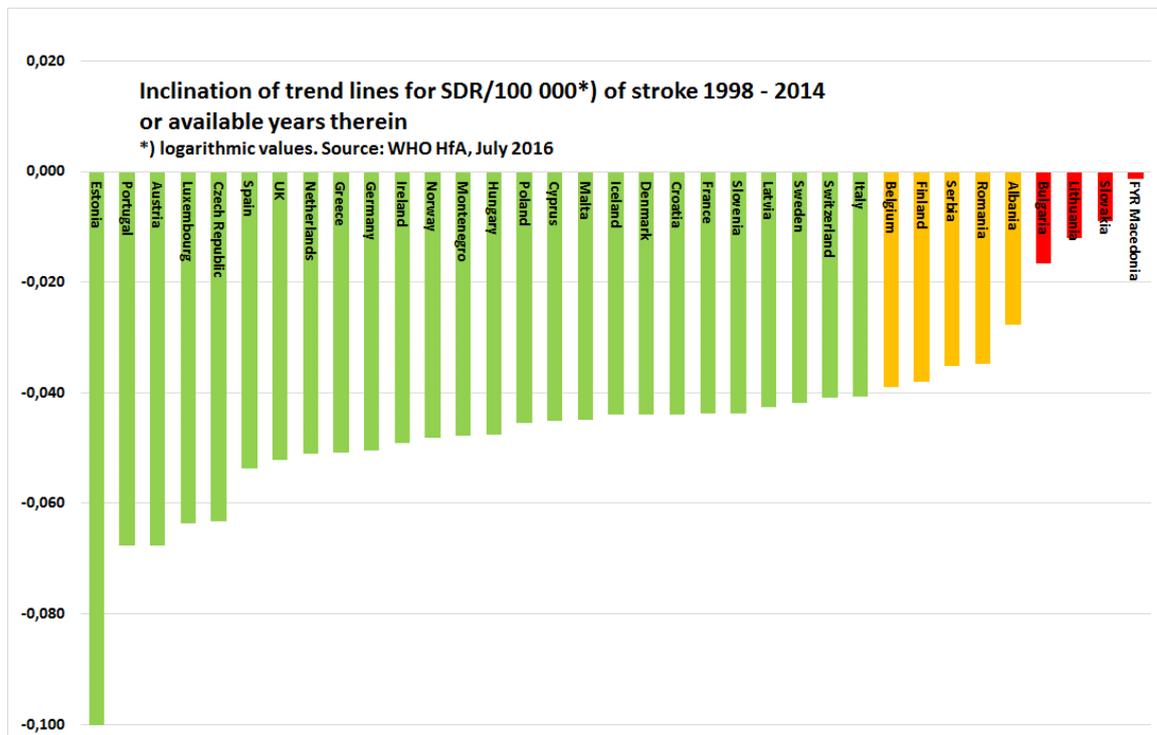
Source of data: OECD Health at a Glance, 2017. WHO Health for All database, January 2018. CUTS data.

3.2 30-day Case Fatality for ischaemic stroke, or "Decrease of stroke death rates"



For countries missing in the OECD data has been used the inclination of the downward trend of SDR's, just as for Indicator 3.1:

²³ www.who.int/diabetes/global-report/en/



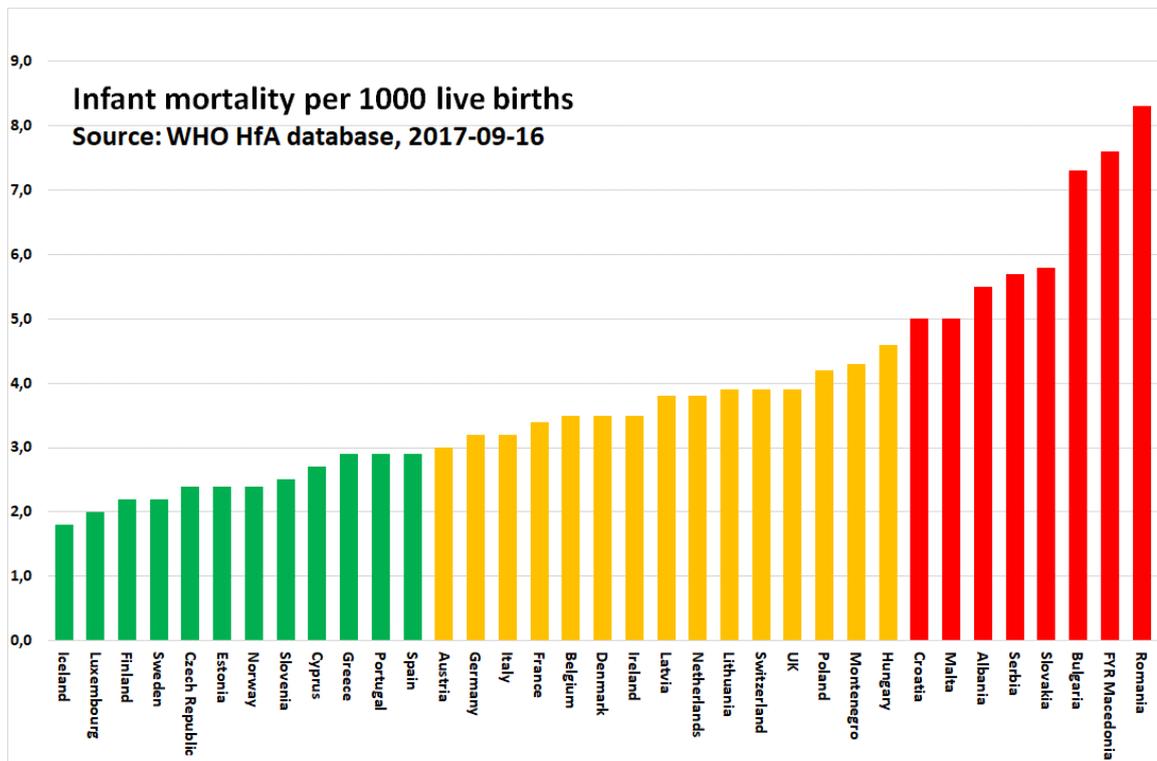
Sources of data: OECD Health at a Glance 2017, WHO Health for All database, December 2017. CUTS data.

3.3 Infant deaths

Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year. In the well developed countries the increased infant mortality occurs primarily among very low birth weight infants, many of whom are born prematurely; in Europe, very low birth weight infants probably account for more than half of all infant deaths. In Europe, with infant deaths normally counting below 5/1000, good check-ups during pregnancy and access to state-of-the-art delivery care are probably the key factors behind attaining really low numbers. Luxembourg and Iceland have the lowest infant death rate on Earth, less than 2/1000.

This indicator might be the best single indicator, which could be used to judge the overall quality of a healthcare system. It is interesting to note that this indicator seems totally resilient to effects of financial crises; infant mortality numbers have been, and still are, steadily improving since 2005! The Green/Yellow/Red cut-offs were kept the same since the start of the EHCI. The number of countries scoring Green increased from 9 in 2006, to 24 in 2016. A particularly impressive improvement is shown in Latvia, where infant mortality did go from 6.2 to 3.9 in two years!

In the EHCI 2017 the longitudinal analysis aspect has been sacrificed and the G/Y/R cut-offs sharpened to 3/5 per 1000 instead of 4/6.



Sources of data: WHO Europe Health for All mortality database 2017-09-16, latest available statistics. CUTS data.

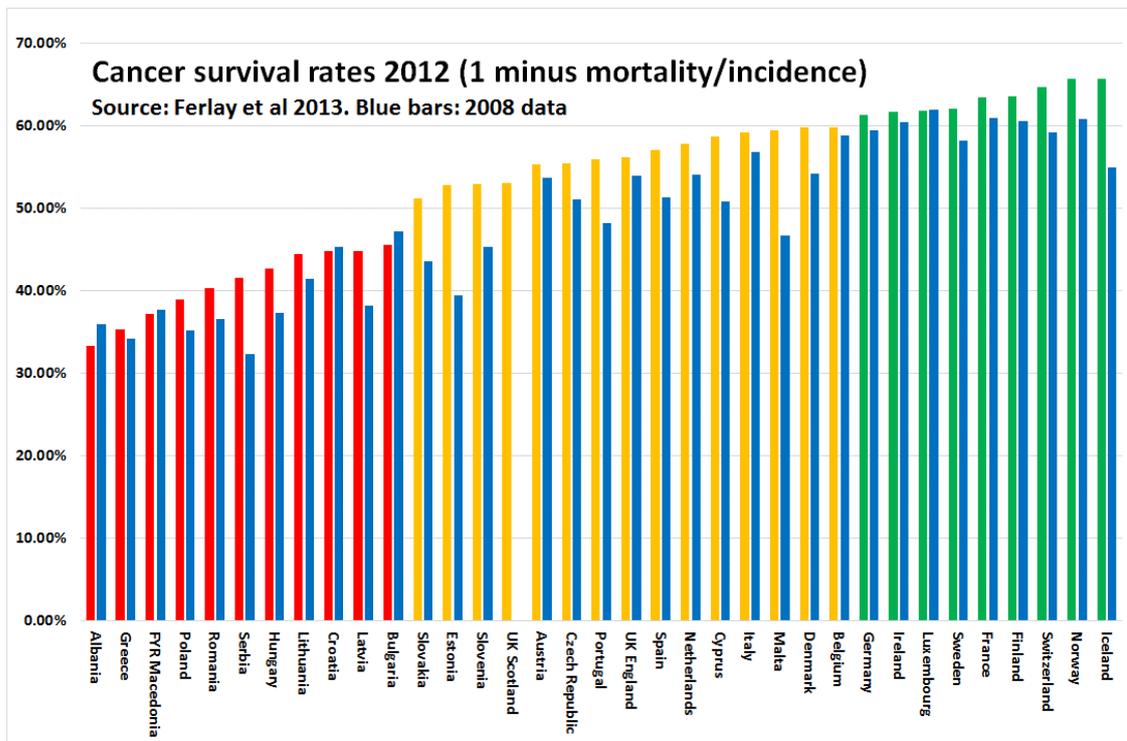
3.4 Ratio of cancer deaths to incidence 2012

The EHCI 2008 indicator on cancer outcomes was the more conventional 5-year survival rates of cancer (all types except skin). As no more recent data than EURO CARE-4, (patients diagnosed 1995 – 1999) data was available in the spring of 2012, the very comprehensive paper by J. Ferlay *et al*, listing cancer incidences and cancer deaths in **2008** for all 34 countries was chosen as 2012 indicator data. In this indicator, a ratio of less than 0.4 for Deaths/Incidence, would in principle be equal to a survival rate > 60%.

As there was a 16-month interval between the EHCI 2012 and EHCI 2013, fate arranged that Ferlay *et al*/published a paper based on the same data for the year 2012 in time for this report. This means that the data in the graph below shows the situation in 2008 and 2012, *i.e.* two years “straddling” the financial crisis. Unfortunately, this data is still in 2016 the most recent comprehensive cancer mortality data.

As this report has observed numerous times, it is very difficult to trace any effects of financial austerity on Outcomes of treatment of serious diseases! Cancer survival keeps improving, also in countries known to be hit particularly hard by austerity.

By 2017, no later comprehensive data was available. Eurocare-6 is eagerly awaited!

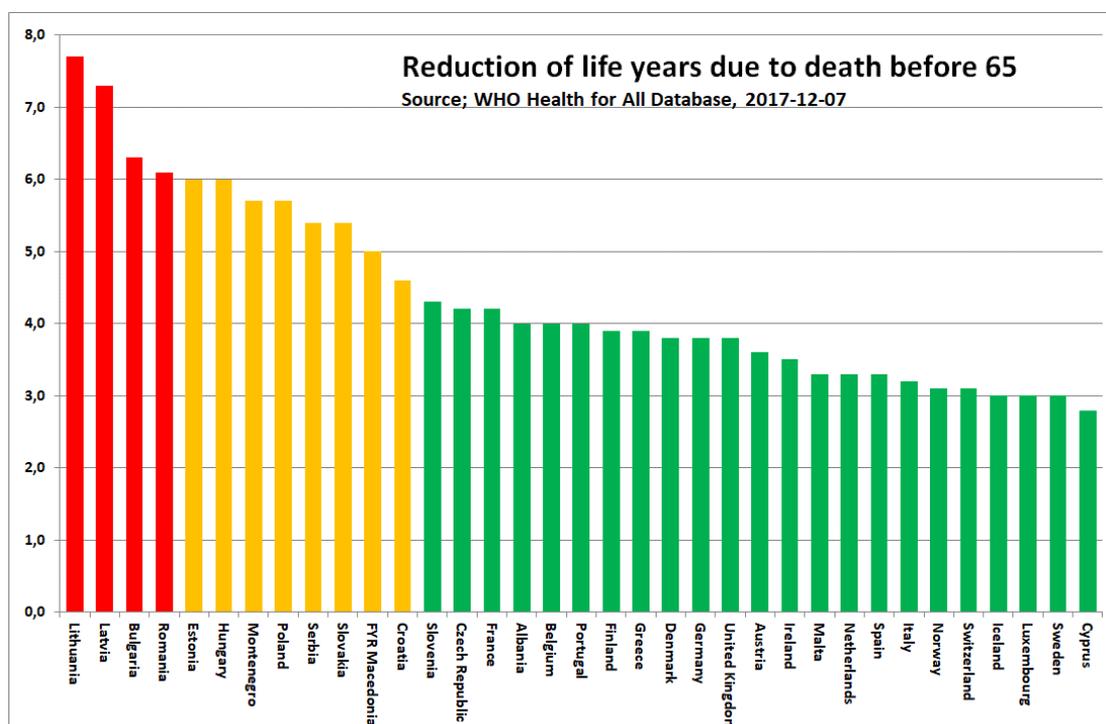


Sources of data: J. Ferlay et al. *European Journal of Cancer* 49 (2013) 1374–1403. CUTS data.

3.5 Reduction of life years due to death before 65

The parameter “Years lost per 100.000 population 0-69, all causes of death” has not been updated by the WHO since the EHCI 2016. Potential Years of Life Lost (PYLL), used by the WHO and OECD, take into account the age at which deaths occurs by giving greater weight to deaths at younger age and lower weight to deaths at older age.

For this reason, the EHCI 2017 has scored on the parameter “Reduction of life years due to death before 65”.



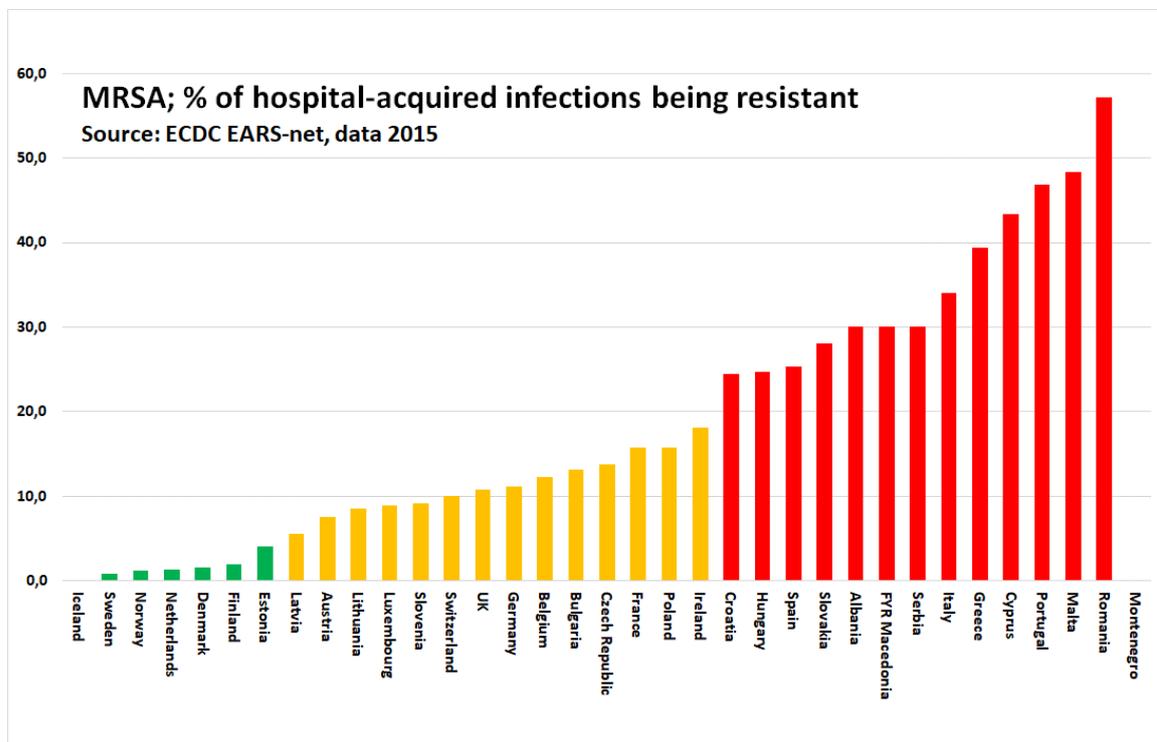
Source of data: Source: WHO HfA 2017-12-07. CUTS data.

3.6 MRSA infections

This indicator measures the percentage of hospital-acquired strains being resistant. The aim of this indicator is to assess the prevalence and spread of major invasive bacteria with clinically and epidemiologically relevant antimicrobial resistance. As in the previous year's indexes, The European Antimicrobial Resistance Surveillance System (ECDC EARS-net) data is used. The data is collected by 800 public-health laboratories serving over 1300 hospitals in 31 European countries.

The share of hospital infections being resistant has been uncannily stable over time in many countries, which is slightly surprising: One would think that either a country has the problem fairly well under control (such as the Nordics and The Netherlands) or one would expect fluctuation over time. Why countries like Germany and France could have this rate stable at just over or under 20 % remains a mystery. Since 2012, particularly Germany does show a significant reduction.

The real improvement has been achieved in the British Isles: through a very dedicated effort, both Ireland and the U.K. have brought their resistance rates down from 40 – 45 % in 2008 to less than 20 % (Ireland) and less than 15 % (UK).



Sources of data: <http://ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-europe-2015.pdf> (data 2015). CUTS data.

3.7 Abortion rates

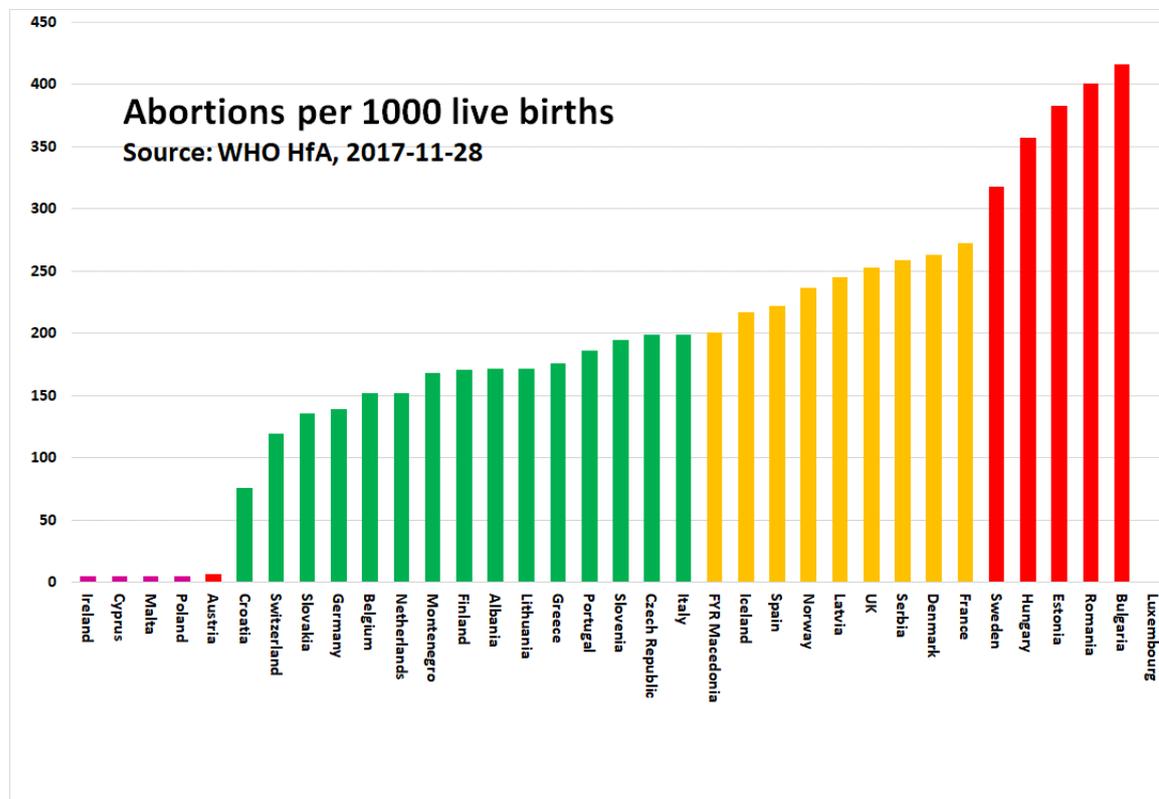
Introduced in the EHCI 2013.

The scoring of this indicator is somewhat complex. The scores are fundamentally based on the principle that free, legally defined abortion should be available for women in any

country²⁴. At the same time, using abortion as a contraceptive must be regarded as very undesirable. This was illustrated by Russia, where the abortion rate in the early 1990's was in excess of 200 abortions per 100 live births, but today is coming closer to the rest of Europe at 55 per 100 (latest reported data 2011). Remnants of the same practice can be discerned in former Warsaw pact countries (see Graph below). Depressingly, Sweden still belongs to that same group.

There are four countries in Europe, where free abortion rights do not exist: Cyprus, Ireland, Malta and Poland. These countries have been given the unique Purple score (= 0 points), even though new Irish legislation allows for abortion in extreme circumstances and subject to external verdict. It has been well known for centuries that stigmatizing or banning abortion results in tragedies such as the female dentist, who died in a Galway hospital because doctors did not dare/want to perform an abortion on her (already dying) foetus. Legal bans do not prevent abortions but rather turns them into a major health risk, forcing women to go abroad or having an abortion under obscure, insecure conditions. The latter affects almost solely women in socioeconomically deprived circumstances. In Poland, there has recently been political discussion about restricting the right to abortion even further.

Austria does not ban abortion, but it is not provided by public hospitals, which results in defunct abortion statistics. Luxembourg also has no abortion statistics, presumably because women discreetly often have abortions in neighbouring countries.



Source: WHO Health for All database, 2017-11-28. CUTS data.

3.8 Depression

²⁴ European Parliament REPORT on Sexual and Reproductive Health and Rights, (2013/2040(INI)), Committee on Women's Rights and Gender Equality, Rapporteur: Edite Estrela, 2013-09-26

Since 2005, HCP has wanted to introduce an indicator on quality of psychiatric care. Due to substantial methodological and definitions problems, resulting in gross inconsistencies of data, we rejected the usual indicators as psychiatric beds per population, mental disorders hospitalisation, drug sales and many others. The decline of suicide in a ten year period, e.g. since 1995, somehow returned, every year, to the [expert panel](#)'s working sessions. But, adding to uncertain data reliability, there was a practical problem to solve: taking into account the very significant peak of suicide in Eastern European countries in 1991-1995, how to make the indicator fair for the whole European region? In 2008, following long and vivid discussions, the indicator "inclination of e-log line for suicide SDR:s 1995 – l.a." was introduced, being fully aware of its interpretative limitations.

In 2012, it became evident that general improvement in living conditions, particularly in CEE, and later the effects of the financial crisis in countries such as Greece outweighed the effects of psychiatric care on suicide rates. In the intense search for a relevant indicator on mental health, we finally elected to combine (arithmetic average) the 5 questions in the table below from a Special Eurobarometer on Mental Health:

How often during the past 4 weeks ...? % "all the time" + % "most of the time"		How often during the past 4 weeks ...? % "never" + % "rarely"		
Have you felt happy	Have you felt calm and peaceful	Have you felt so down in the dumps that nothing could cheer you up	Have you felt downhearted and depressed	Have you felt particularly tense

For Norway, not being included in the Eurobarometer, a national study directly comparing with the same Eurobarometer was found.

An interesting curiosity is that depression in some countries seems to have become a condition of wealthy nations, while hypertension and diabetes have increased in poorer countries. The latter is presumably due to sugar, soft drinks and fatty foods have become the cheap alternatives, plus cigarette smoking being more prevalent in poorer countries. In Sweden, "light depression" was in 2017 the most prevalent cause for work sickness absenteeism. This, however, is very difficult to use as an indicator, as what Swedes consider light depression would probably be considered as a normal state of mind in neighbouring Finland!

Unfortunately, for EHCI 2017 it was not possible to find more recent data.

Sources: Special Eurobarometer 345, October 2010. "Psykisk helse i Norge", report 2011:2, www.fhi.no, WHO World Database on Happiness, 2011, WHO Mental Health Atlas, 2012. Strongly non-CUTS.

3.9 % of patients with HbA1c > 7. Diabetes type 1 and diabetes Type 2

A general target of HbA1c ("long term glucose") of $\leq 7.0\%$ for most patients is in general recommended in national guidelines. HbA1c targets however, would need to be individualised – for example, this may need to be higher for some people, including children and the elderly.

The indicator measures % of patients with high levels. This is an indication on inadequate treatment; a good public healthcare system as a small "tail" of inadequate treatment. Measuring the average HbA1c levels does not give a good picture.

Scores are Green: < 50% of patients, Red: > 60% of patients. In countries with good diabetes care, this is below 40% - in this data, those are 9 Western European countries plus Latvia!

Some countries report % of patients >7.5 % or >6.5 % HbA1c. In these cases, the study was lucky to find that the results could be inter- or extrapolated to >7.0 with no ambiguities being introduced.

Sources: Interviews with health care officials, physicians and public health experts, diabetes registries.

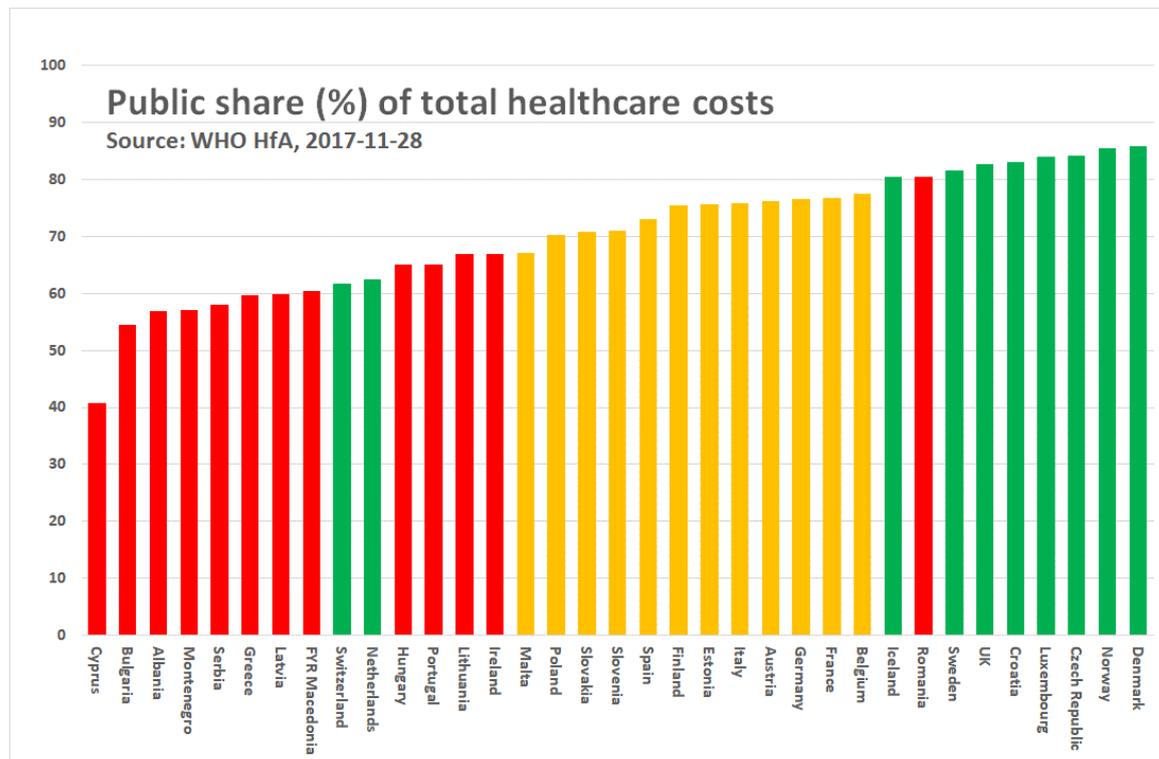
7.10.4 Range and reach of services provided

4.1 Equity of healthcare systems

The simple indicator “What % of total healthcare spend is public?” was introduced in 2009 as a measure on equity of healthcare systems. Switzerland was (and is) judged to be a victim of the same kind of definition problems as is The Netherlands, where on formal grounds a large part of the common health insurance was reported as private spend, and is given a Green score.

Over the latest 5 years of data availability, the average public share of healthcare financing decreased from 73.0% to 70.6%. According to official data, this did not happen in Greece, which is interesting.

The WHO data were cross-checked vs. data from “Eurostat Self-reported unmet needs for medical examination by sex, age, detailed reason and income quintile”. This resulted in a Red score for Romania. The Lancet article²⁵ reporting on corruption in Romanian healthcare did not help.



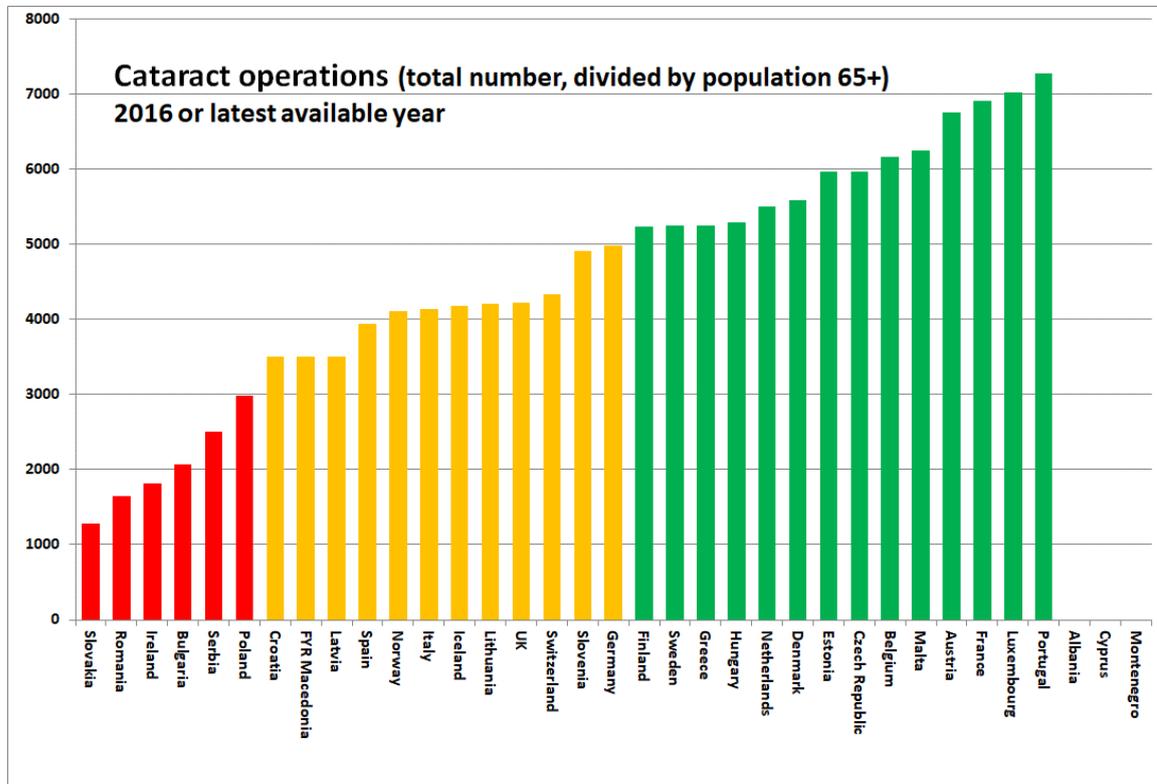
Sources of data: WHO HfA database, 2017-11-28. Eurostat: Self-reported unmet needs for medical examination by sex, age, detailed reason and income quintile. CUTS data.

²⁵ www.thelancet.com , Vol 390, November 11, 2017, p. 2139

4.2 Cataract operations per 100 000 age 65+

Surgical procedures by ICD-CM, Cataract surgery, Total procedures performed on patients of all ages, but divided by 100 000's of population over 65. Few cataracts are performed on patients under 65, and age-separated data is not available.

Cataract operations per 100 000 total population has been continuously used in previous EHCI editions as a proxy of the generosity of the healthcare systems to provide non-lifesaving care aimed at improving the quality of life of the patient. Cataracts have been selected because they are relatively inexpensive and provide large improvement in patient Quality of Life, thus being fairly independent on GDP/capita of a country.



This indicator has proven unexpectedly complicated. Some data faithfully reported to and quoted by the OECD turned out to be totally off the mark: the OECD Health Data number for Belgium used to be 204 868 cataract operations/year. Considering that an annual cohort of Belgians 65+ is not much greater than 100 000, that number would mean that eventually every single elderly Belgian would have cataract ops on both eyes! The Belgian Ministry of Health agreed about the absurdity of the number, and rapidly reported what they considered the accurate number: 107 056 operations, a number the research team could believe! This awkward procedure puts the searchlight on the fact that very strange data can be accepted in official sets of data, as it looks without further consideration.

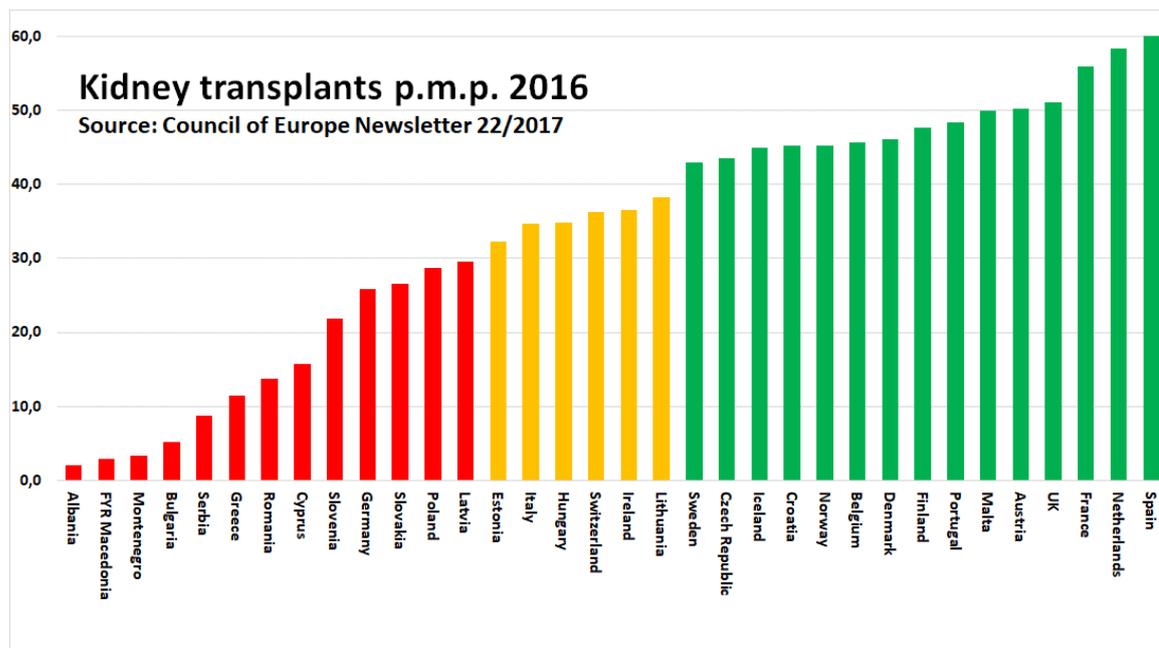
Belgian data has lately been corrected also in international databases.

Sources of data: OECD Health Data 2017, WHO HfA database November 2017, WHO Prevention of Blindness and Visual Impairment Programme, European Community Health Indicators, National healthcare agencies. Very non-CUTS data!

4.3 Kidney transplants per million population

This indicator measures procedures per million population. There is a commonly encountered notion that this number is greatly influenced by factors outside the control of healthcare systems, such as the number of traffic victims in a country. It must be judged that the primary explanation factors are inside healthcare, such as “the role and place of organ donation in anaesthesiologists’ training”, “the number of Intensive Care Unit beds p.m.p.”, the organisation of healthcare to optimise the handling of organs, etc. Experience tells that well-implemented national strategies can significantly increase donations.

The relatively low transplant rates for Switzerland, and particularly Germany, support that transplant rates are governed by cultural factors rather than national wealth. Economic factors, such as clinic-bound dialysis being highly remunerated, might also play a role in keeping down transplant rates.

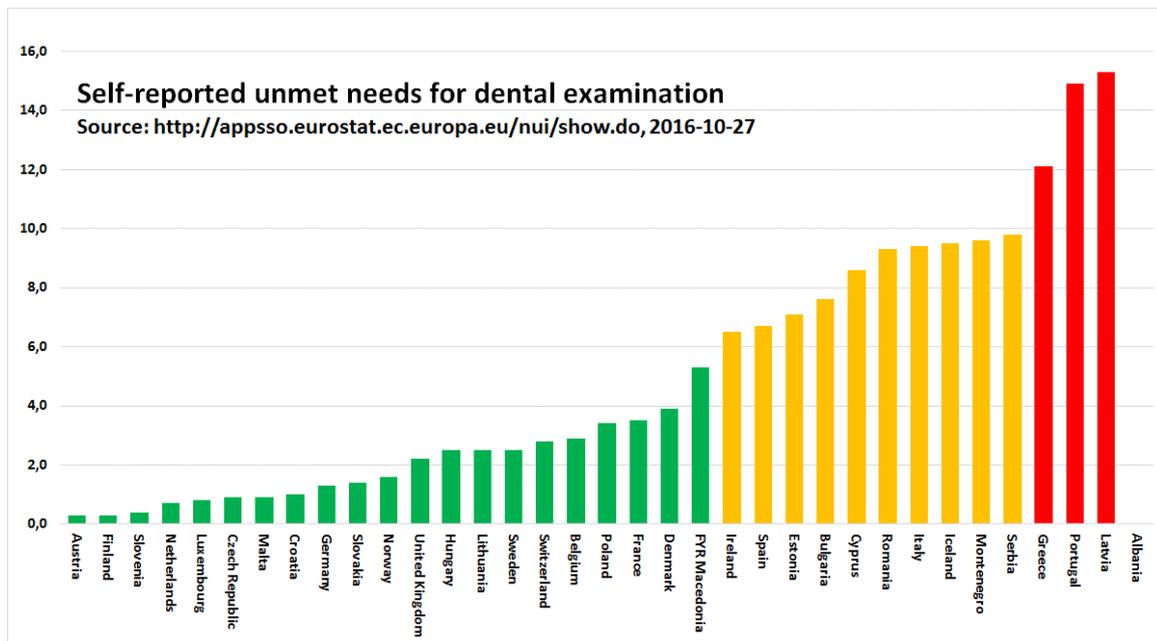


Sources of data: Council of Europe (EDQM) Newsletter INTERNATIONAL FIGURES ON DONATION AND TRANSPLANTATION 22 (2017), Ministries of Health direct communication. CUTS data.

4.4 Is dental care included in the public healthcare offering?

In past years, the very simple indicator “What percentage of public healthcare spend is made up by dental care?” was selected as a measure of affordability of dental care, on the logic that if dental care accounts for close to 10 % of total public healthcare expenditure, this must mean that dental care is essentially a part of a fair public healthcare offering.

2016 data on this indicator comes mainly from Eurostat self-reported data on: “Unmet needs for dental examination”.

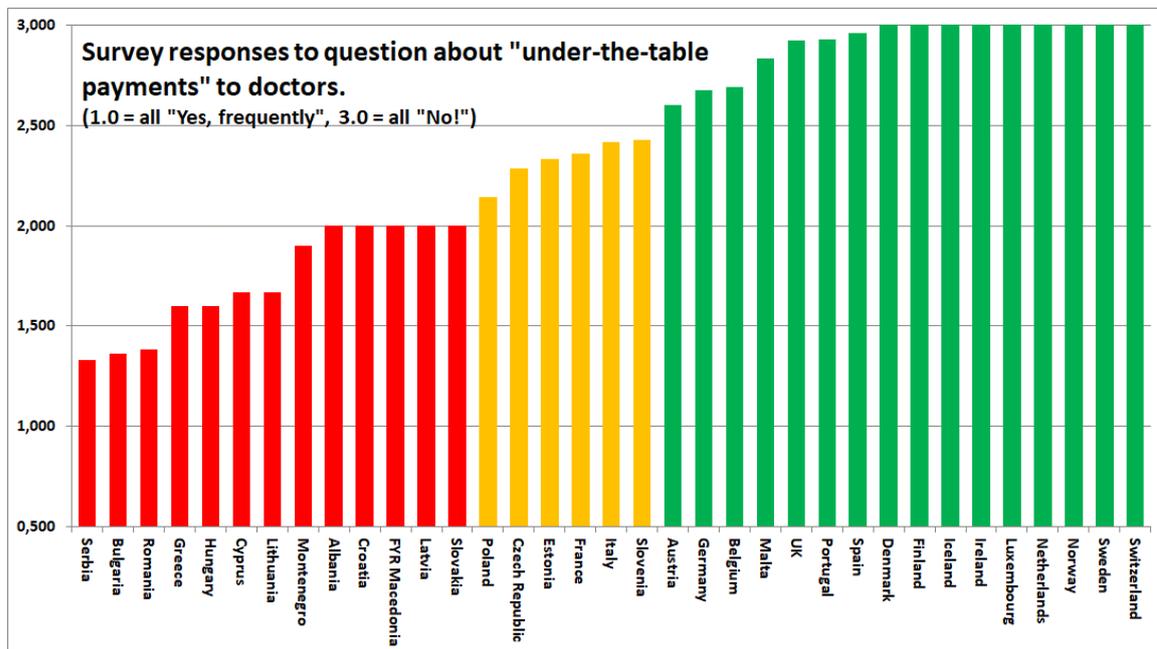


Sources of data: OECD Health at a Glance 2016, Eurostat: <http://appsso.eurostat.ec.europa.eu/nui/show.do> , extracted 2016-10-27. National healthcare agencies. CUTS data.

4.5 Informal payments to doctors

Mean response to question: "Would patients be expected to make unofficial payments?" with range of answers: plain "No!", "Sometimes, depends on situation" and "Yes, frequently". The indicator was first introduced in 2008. As an informal payment was considered any payment made by the patient in addition to official co-payment. That survey on informal payments was the first cross-European survey done ever on this problem, and was repeated in 2009 and 2012 – 2015 and 2017, with highly compatible results compared with 2008.

In 2015, the countries fell in three fairly distinctive groups, making the R/Y/G scoring natural. The score cut-offs have been kept from 2015. These results have also been remarkably stable over the years, *e.g.* with Portugal and Spain scoring Green, and France and Austria scoring Yellow – in 2017, the Austrian score has made it into Green.



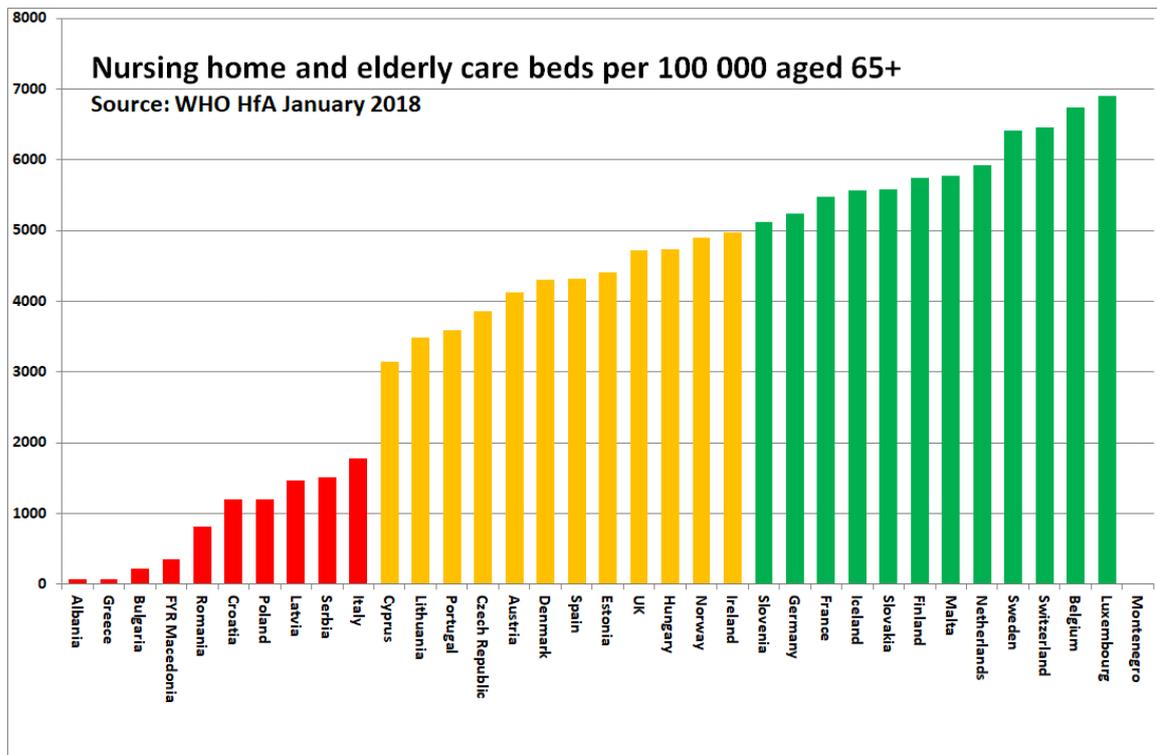
Sources of data: Survey commissioned from Patient View by HCP 2017. National healthcare agencies. Non-CUTS data.

4.6 Long term care for the elderly

This indicator looks into what is often referred to as a historic challenge for Europe: how to care for the rapidly aging population? The result reflects not only today's investment in care, and accordingly, the future needs for coping with the growing demand. It also shows the imbalance between public caring and unofficial contributions. It can be assumed that in all countries elderly people are given some kind of attention; should the family and informal networks take the burden or can they trust public systems to assist?

This is a notoriously difficult indicator, not least as long term elderly care is reported under social services rather than under healthcare in many countries.

The HCP team made considerable effort to find more outcomes-related data. Since 2012, we have had to settle for "# of nursing home and elderly care beds per 100 000 population 65+".



Source: WHO Health for All database, January 2018. OECD Health at a Glance 2016. CUTS data.

4.7 Share of dialysis done outside of clinics

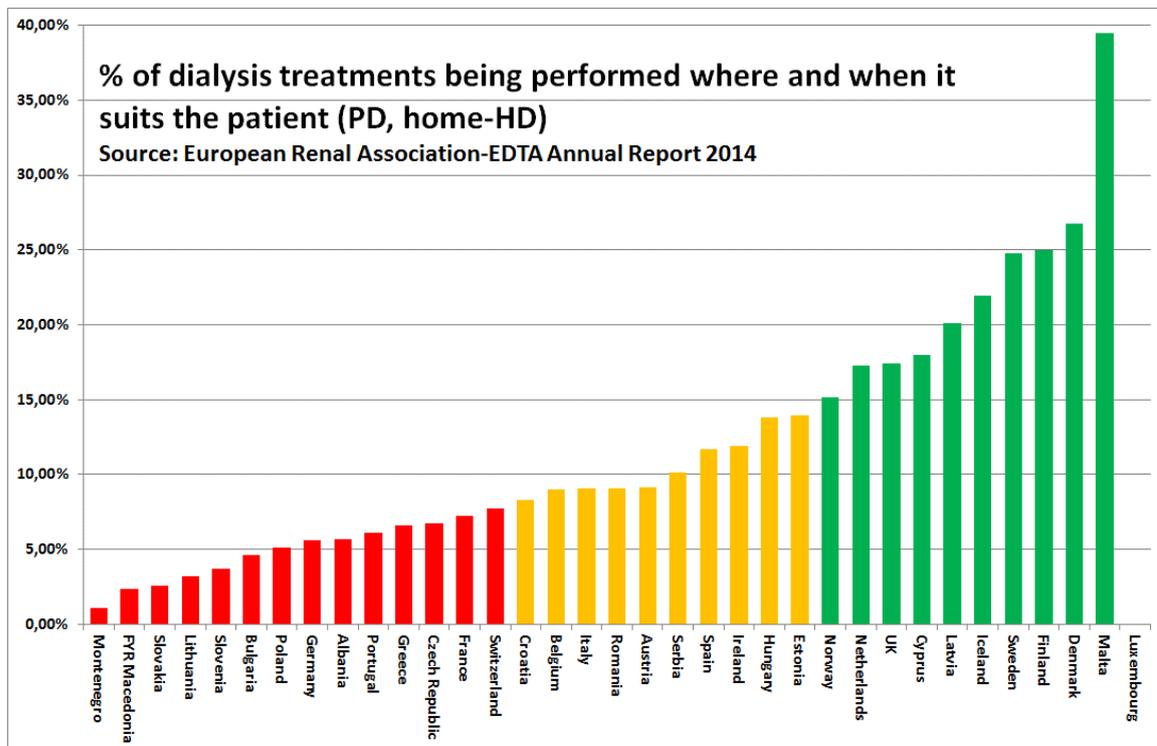
Dialysis is necessary for the survival of patients with renal and liver malfunctions. There are a few ways to perform this treatment. Dialysis performed as clinic-bound dialysis (hemo-dialysis: HD) has several drawbacks:

- Treatment episodes are usually 3x4 hours per week, which is a far cry from the 168 hours per week of functioning healthy kidneys. Patients who do home dialysis (Peritoneal dialysis; PD, or HD in the home) frequently treat themselves up to 7 x 6 hours, *i.e.* nightly, with better treatment outcomes.
- Patients have great difficulties keeping a job, as dialysis requires presence in a clinic essentially three days a week.
- Dialysis in a clinic is much more expensive, typically kEUR 50 – 60 per patient per year (in Western Europe).

It seems that a *low* rate of home dialysis is not mainly due to preferences/capabilities of patients, but rather due to either

- Lack of professionalism of local nephrologists (there are centres of excellence around which close to 50% of dialysis patients dialyse themselves in the home), or
- Greed (clinic dialysis is very profitable for the clinics).

For these reasons, a high share of home dialysis gives a Green score on this indicator.



Sources: European Renal Association-EDTA Annual Report 2014. www.ceapir.org. National Ministries. Basically CUTS data.

4.8 % of births by Caesarean section

Caesarean sections are associated with an increased risk of maternal death and puerperal complications, so use should be restricted to a few well-defined indications such as dangerous placental or foetal position. The World Health Organisation estimates that no more than 10 – 15% of deliveries are associated with a medically justifiable reason for a Caesarean section.

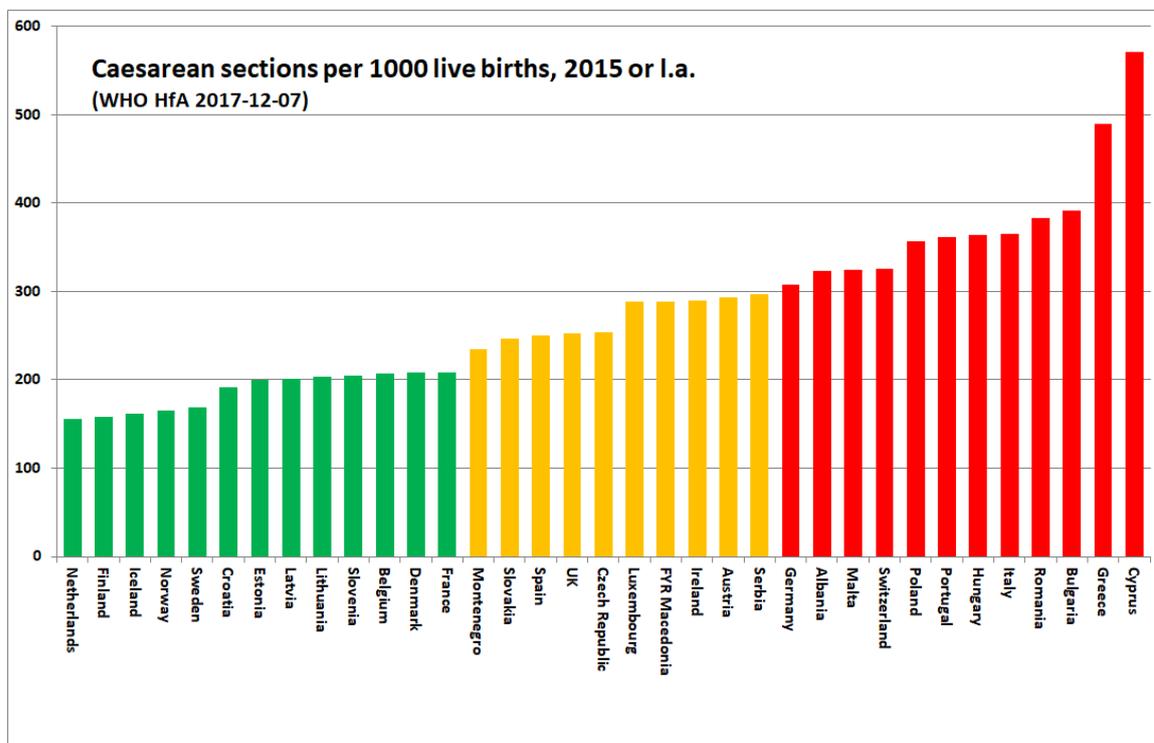
In scoring, it has been assumed that high Caesarean rates are an indication on poor pre-natal support and poor baby delivery services – consequently, a high Caesarean rate has been given a Red score. The general recommendation is that a woman should not have more than two Caesarean deliveries, which strongly indicates that complete recovery cannot be expected. Also, the typical French practice for getting back in shape after a delivery – post-natal physiotherapy – seems both more humane and more economical than invasive surgery.

This way of delivery can be medically important and should of course be available. But HCP suspects that Caesarean section may camouflage a lack of good information and support before delivery as well as lack of access to pain control or doctors wanting to schedule births.

The highest rates of Caesareans in the world are found in Cyprus, Greece and Latin America (Brazil and Venezuela also close to or above 50 %).

Please note in the graph below that even though a Caesarean is costly, there is definitely no positive correlation between national wealth and high Caesarean rates; rather the reverse!

Source: WHO Health for All database, 2017-12-07 (poorly updated since 2016!). CUTS data.

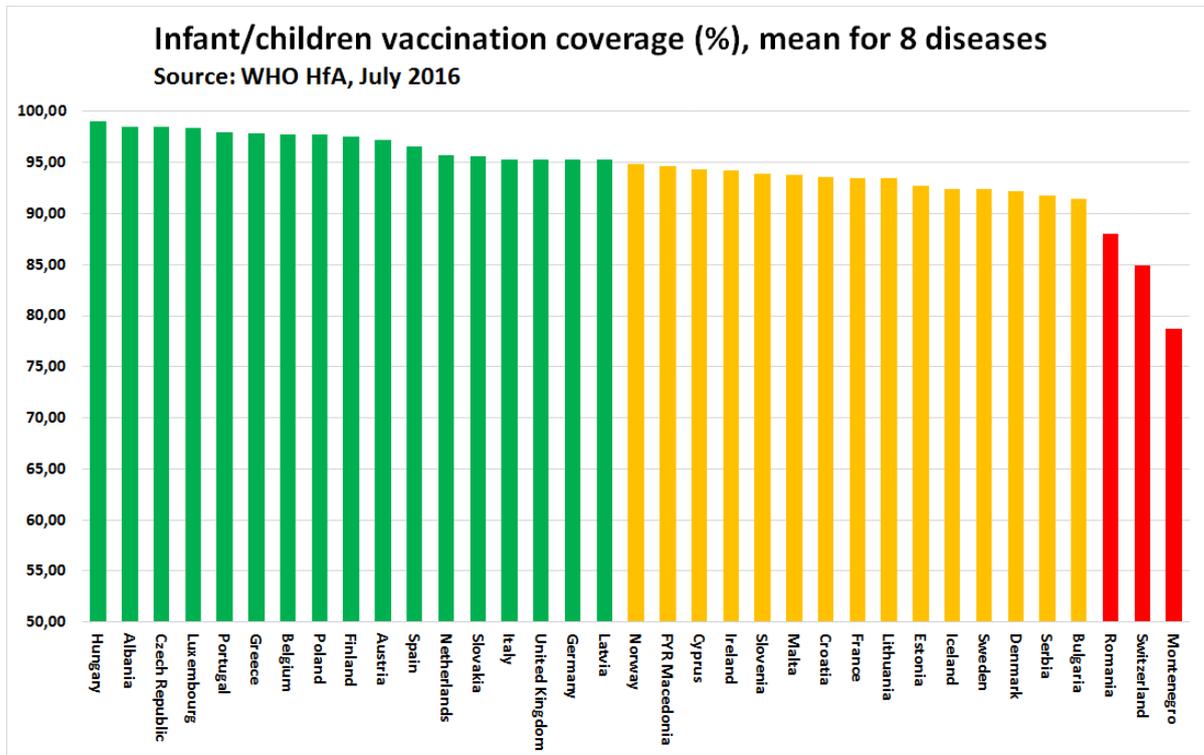


7.10.5 Prevention

5.1 Infant 8-disease vaccination

Percentage of children vaccinated (Diphtheria, tetanus, pertussis, measles, poliomyelitis, rubella, hepatitis B and haemophilus influenza B, arithmetic mean).

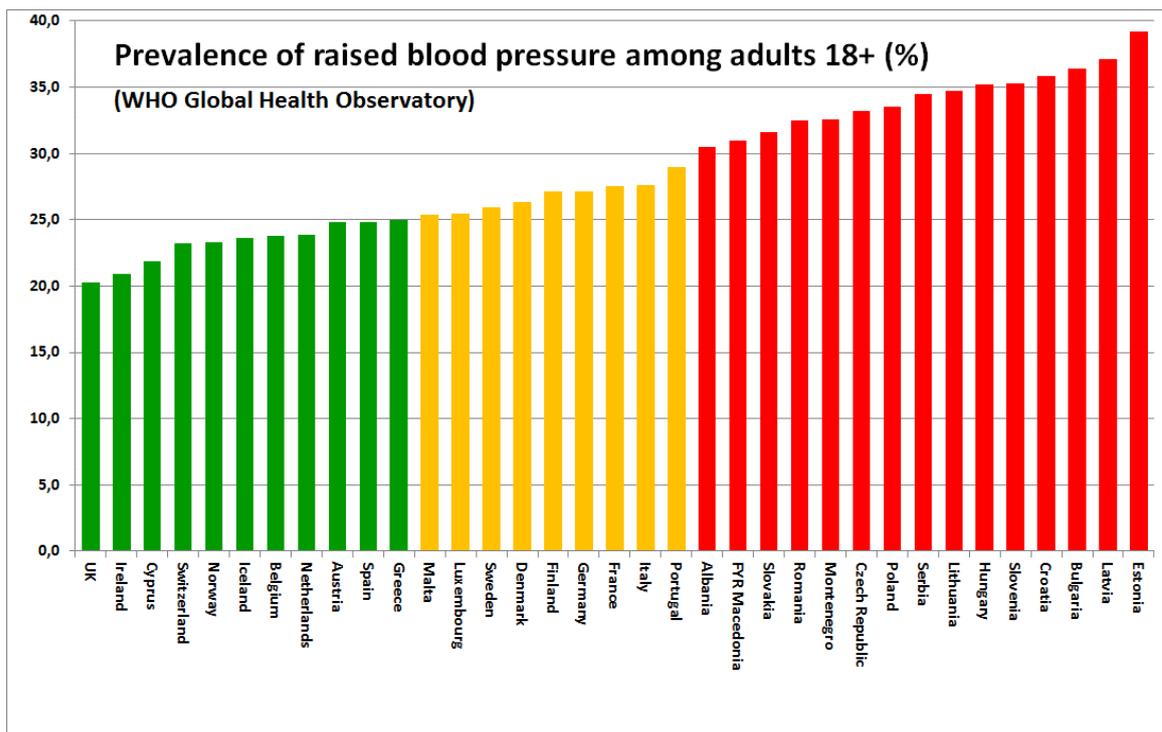
Vaccination is generally regarded as cost-effective prevention, which is reflected by several less wealthy countries scoring Green.



Sources of data: WHO HfA database, July 2016. National vaccination registries. National healthcare agencies. CUTS data.

5.2 Blood pressure

This indicator measures the % of adult population registering high blood pressure (> 140/90).



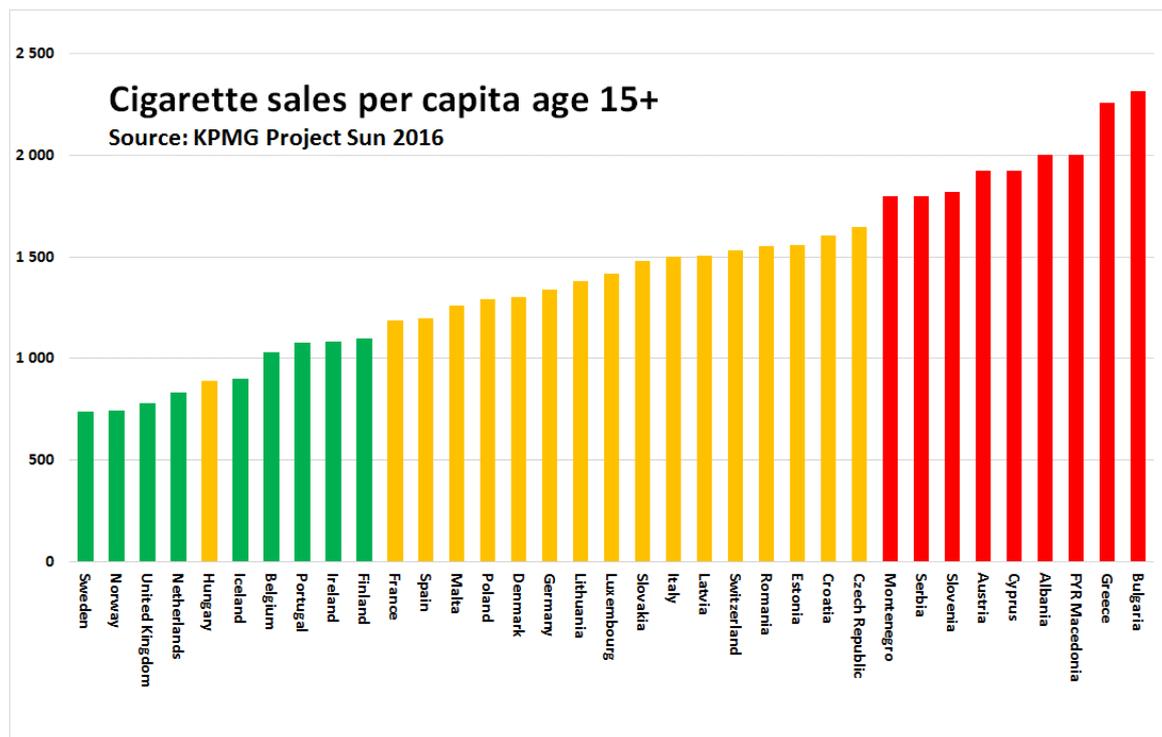
As is evident from the graph, hypertension in Europe is not associated with high standard of living, but rather a combination of lifestyle factors (CEE food, smoking and drinking habits) and a lack of treatment tradition – hypertension treatment is not expensive.

It seems that the UK and Ireland are following the North American example of actively treating hypertension, as well as high blood lipids!

Source: WHO Global Health Observatory, extracted October 2016. CUTS data.

5.3 Smoking prevention

As the TCS has not been updated since its 2012 data, the EHCI 2016 uses actual cigarette sales *per capita* on this indicator. Due to high shares of duty-free and illicit cigarettes, the consumption of some countries, most probably Norway and the UK, are often underestimated. Project Sun, carried out by audit firm KPMG, claims to have compensated for these sales.



Source: KPMG Project Sun, 2016, Data from national agencies.

5.4 Alcohol consumption

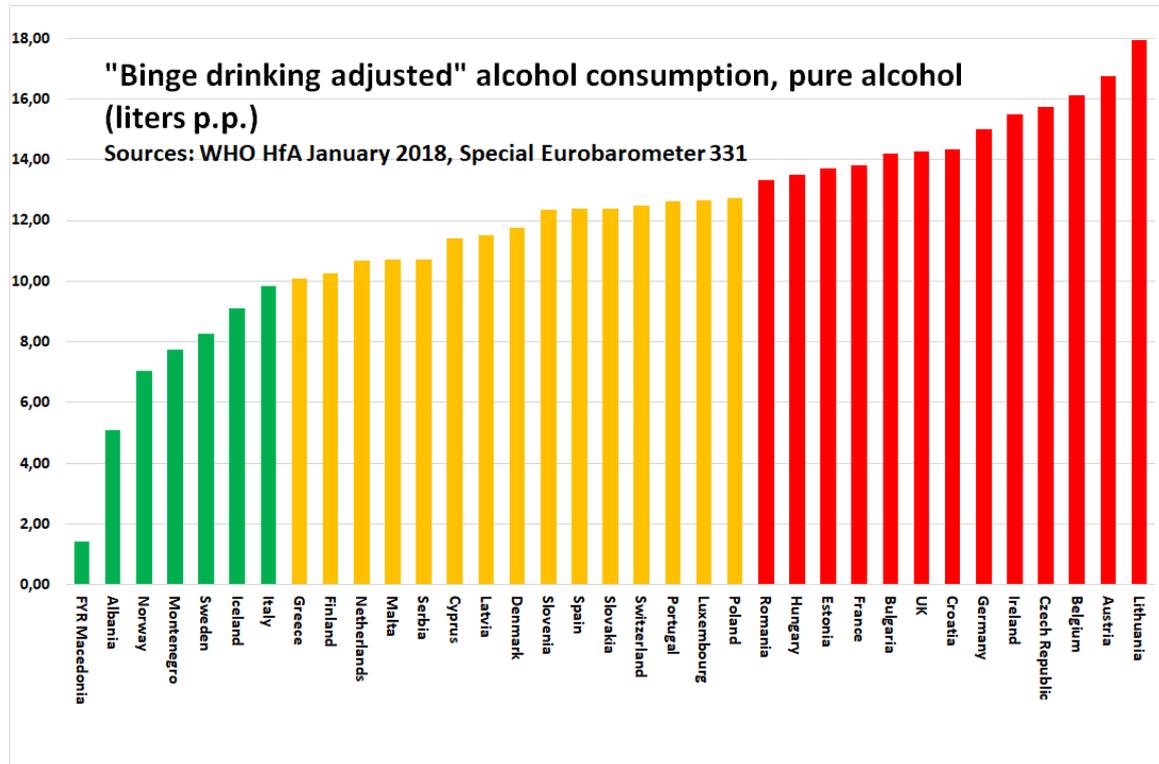
Unlike cigarette smoking, alcohol as a risk factor is not always harmful. It has been shown in numerous studies that a modest alcohol intake (the equivalent of one glass of wine per day for women, and 1 – 2 glasses per day for men) reduces the risk of death from CVD enough to result in a lower mortality than for total abstainers.

On the other hand, drinking vast quantities of alcohol on single occasions (“binge drinking”) is a known risk factor for CVD, and also for some cancer forms. This seems particularly true for binge drinking involving hard liquor consumption.

For these reasons, this indicator is based on “total alcohol consumption (litres of pure alcohol), binge drinking adjusted”. The adjustment is made by multiplying the nominal consumption by (1 + percentage of population having had ≥ 5 drinks on their latest drinking occasion).

The slightly unorthodox approach of “binge drinking adjustment” has received some comments from national bodies. It should be noted that the EHCI is a relative exercise, meaning that the R/Y/G score of a country is only affected by this adjustment, if the country has a binge drinking rate significantly different from the European average!

Note the low alcohol consumption of the two countries having the highest share of moslem population!

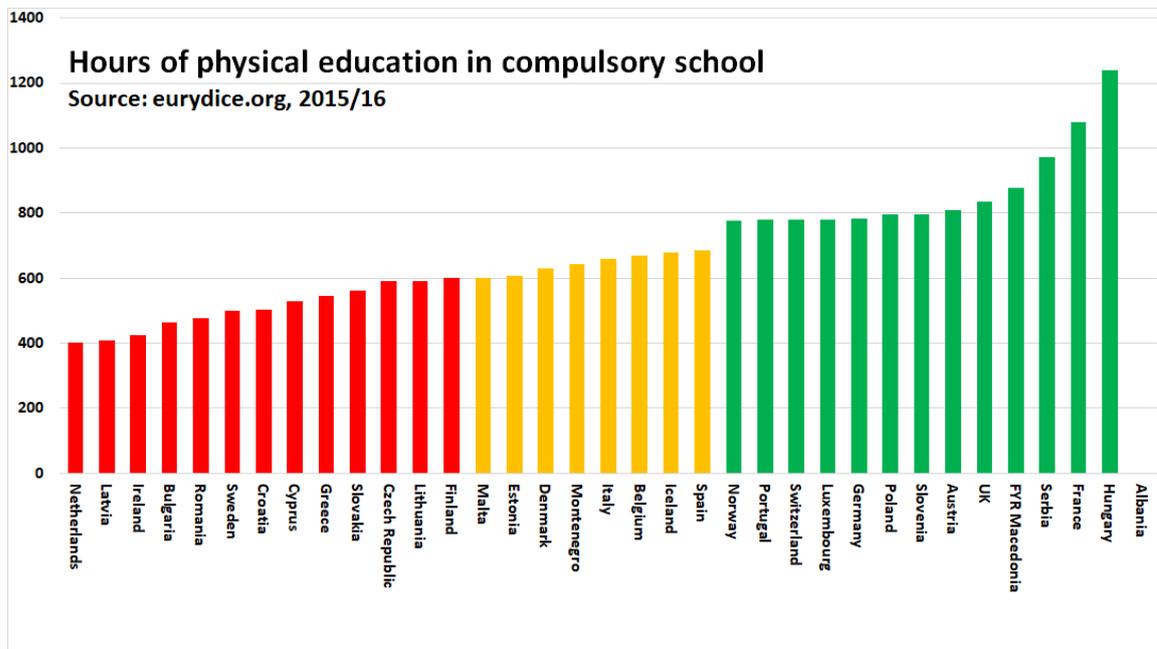


Sources: WHO HfA anuary 2018, Special Eurobarometer 331, April 2010 (for binge drinking habits). National reports. Mainly CUTS data.

5.5 Physical activity

Physical exercise is beneficial to reduce risk for illness for a vast spectrum of diseases. There is statistics on parameters such as “number of hours of jogging or similar per person per week” for many countries. However, the radio noise level of this data seems to be quite high. Also, this is a parameter which is very difficult for any decision makers to change for a significant part of a population within a reasonable time frame.

Therefore, the physical exercise parameter chosen for the EHCI 2017 is “number of hours of physical exercise in compulsory school” (counting a maximum of 10 school years), according to nationally set standards. This is a parameter that *e.g.* a government has the power to change.



Source: www.eurydice.org; *Recommended Annual Instruction Time in Full-time Compulsory Education in Europe 2015/16*, National agencies. CUTS data.

5.6 HPV vaccination

In recent years, many countries have included HPV vaccination for girls in their lower teens in national vaccination programmes. This indicator has been scored as:

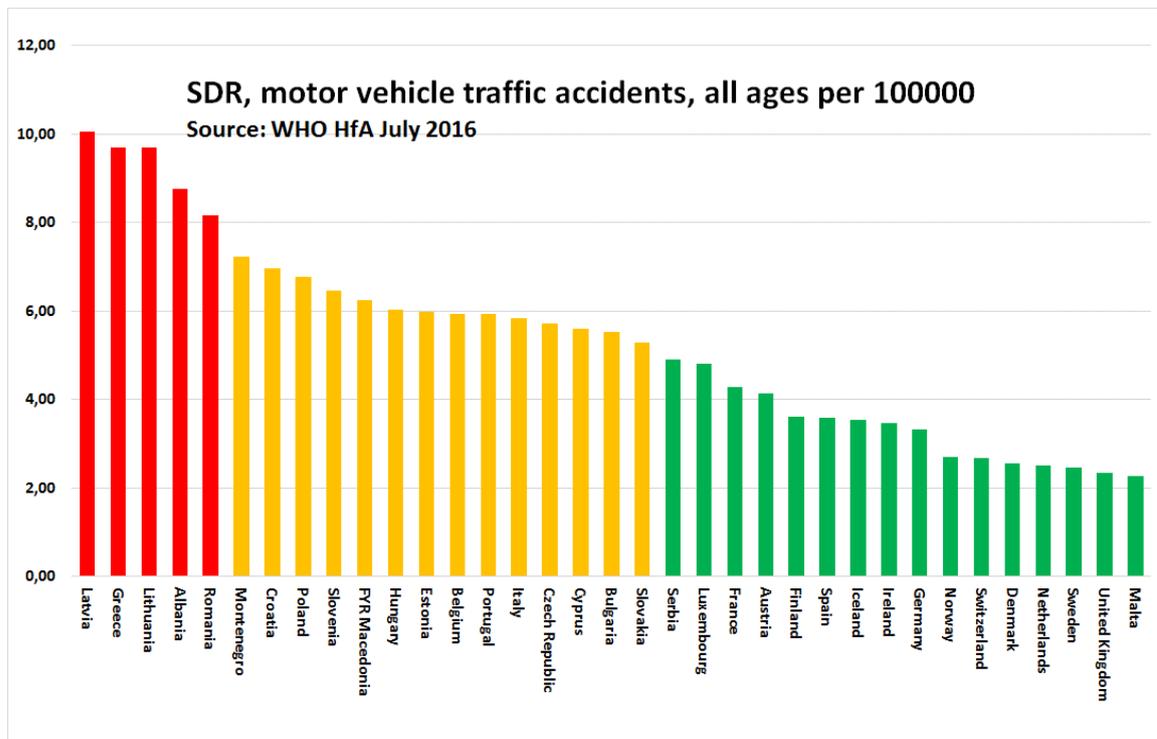
- Green: National programme for HPV vaccination in place, free of charge to patient.
- Yellow: National programme for HPV vaccination, patient pays (significant part of) cost.
- Red: No national HPV vaccination programme.

It would have been desirable to measure the degree of coverage of these vaccination programmes – such data is not yet available.

Sources: European Centre for Disease Prevention and Control. *Recommended immunisations for human papillomavirus infection*, consulted 2016-10-26. www.bag.admin.ch/themen/medizin/00682/00684/03853/. National healthcare agencies. Mainly CUTS data.

5.7 Traffic deaths

This was a new prevention indicator introduced in 2014. It is not really healthcare dependent, but nevertheless amenable to decision making by humans. Traffic deaths, and also personal injuries due to traffic accidents, have been much reduced over the last 30 – 40 years in almost all countries in Europe. There still are large variations between European countries, as is shown by the Graph below. The graph should also eliminate any speculation that the high organ transplant rates of Spain is due to a high number of traffic victims!



Source: WHO Health for All database, July 2016.

7.10.6 Pharmaceuticals

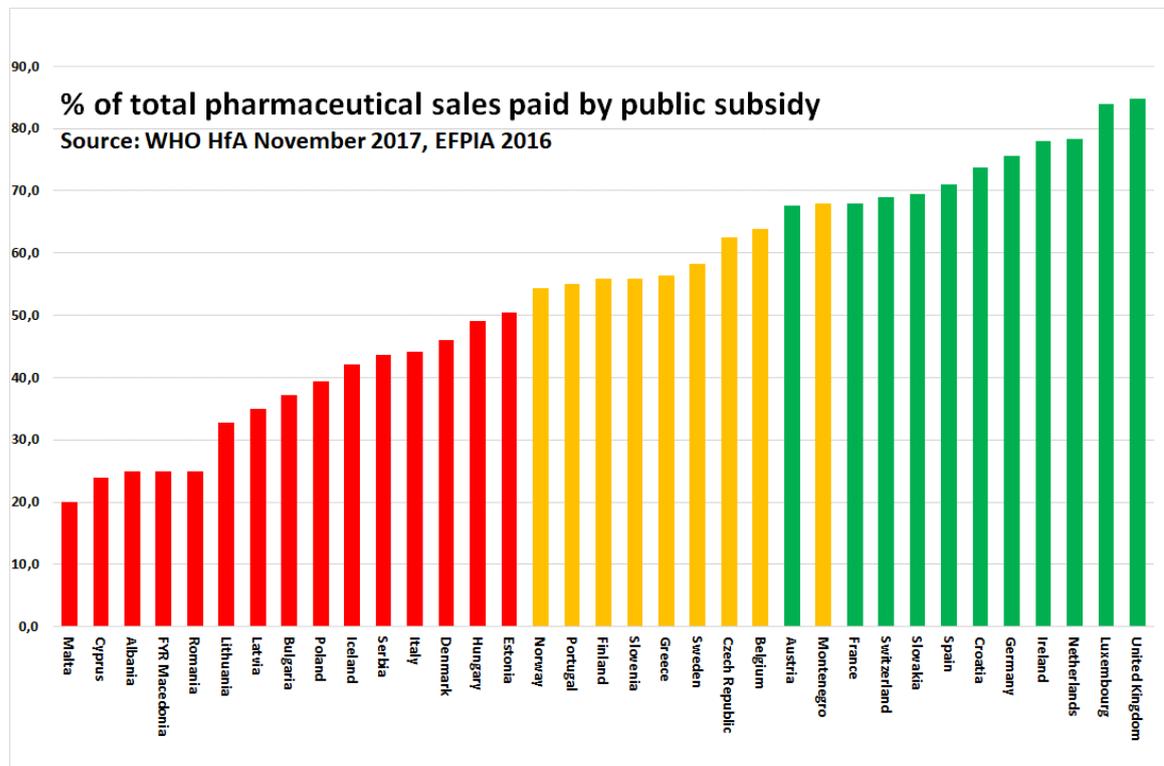
For reasons of copyright, HCP is not in a position to include graphs showing the actual data behind the drug use indicators, only relative comparisons.

Also, purchasing pharmaceutical data comes at a considerable cost. In the absence of significant sponsoring of the EHCI 2017 project, the HCP has not been able to afford updating of the sales data since 2016.

6.1 Rx subsidy %

What percentage of total drug sales (including OTC drugs) is paid by public subsidy?

Where data from EFPIA has shown higher numbers, such as for Iceland, the score has been adjusted up from the WHO HfA values.



Sources of data: WHO HfA database, November 2017, EFPIA: Personal Communication. National healthcare and medical products agencies.

Non-CUTS data.

6.2 Layman-adapted pharmacopoeia

Is there a layman-adapted pharmacopoeia readily accessible by the public (www or widely available)? The existence of these (a comprehensive data collection on all drugs registered and offered for sale in a country, searchable both on chemical substance and brand name, and containing at least the same information as do the packing leaflets, written in a way to be understandable by non-professionals) has grown considerably from 2005, when essentially only Denmark and Sweden had them.

Today, at least 32 of the 35 countries of the EHCI have Internet pharmacopoeias, with patients in the remaining countries frequently able to access drug information in a language they understand from a neighbouring country. Therefore, this indicator has been excluded from the EHCI 2017 as being non-discriminative.

6.3 Novel cancer drugs deployment rate

This indicator measures the use, in MUSD p.m.p., of the ATC code group L01XC (monoclonal antibodies). The measure DDD (Defined Daily Doses) rather than monetary value would have been preferable, but unfortunately the volume data contained inconsistencies.

Sources of data: The IMS Health MIDAS database. CUTS data.

6.4 Access to new drugs (time to subsidy)

The indicator measures the time lag between registration of a drug, and the drug being included in the national subsidy system.

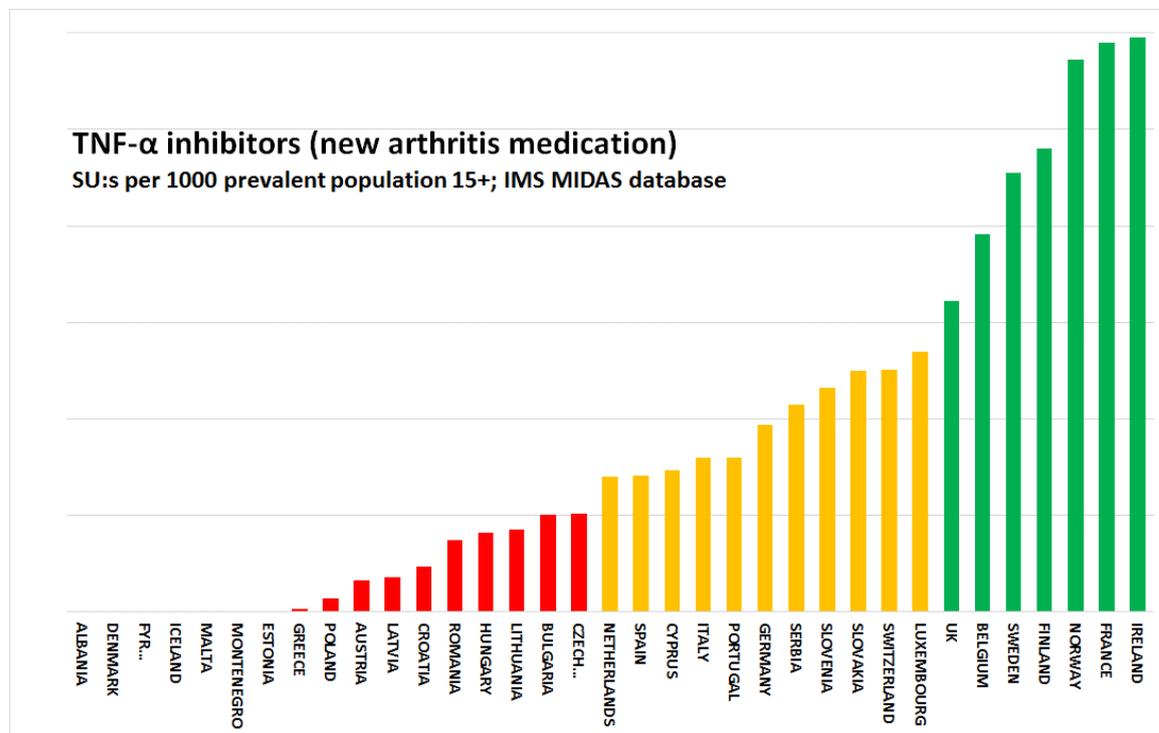
This is one indicator, where the financial crisis effects show very clearly. Even in affluent countries such as Sweden or Switzerland, there has been a significant increase in the time lag between registration of a drug, and admission of the drug into national Pharmacy Benefits Systems (drug subsidy system).

Sources of data: PATIENTS W.A.I.T. INDICATOR 2012 Report – based on EFPIA’s database (first EU marketing authorisation in the period 2009 – 2011). EFPIA: The pharmaceutical industry in figures - Key Data 2013. EFPIA: Personal Communication National Ministries of Health. Non-CUTS data.

6.5 Deployment of arthritis medication

On drug consumption indicators (2.9 – 2.11), for copyright reasons the graphs show only relative sales (no values on the Y-axis).

The arrival of TNF-α inhibitor drugs (ATC code L04AB) meant a dramatic improvement for arthritis patients. Some countries are still restrictive on the use of these drugs, and as the graph below shows, this is not tightly correlated with GDP/capita. Drug volumes are expressed as Standard Units (an IMS Health measure, close to but not identical to DDD:s) per 1000 prevalent population ≥15 years. (DDD = Daily Defined Dose.)



Sources of data: IMS MIDAS database. For prevalence data: eumusc.net: Report v5.0 Musculoskeletal Health in Europe (2012). Special Eurobarometer 272 (2007). National agencies. CUTS data.

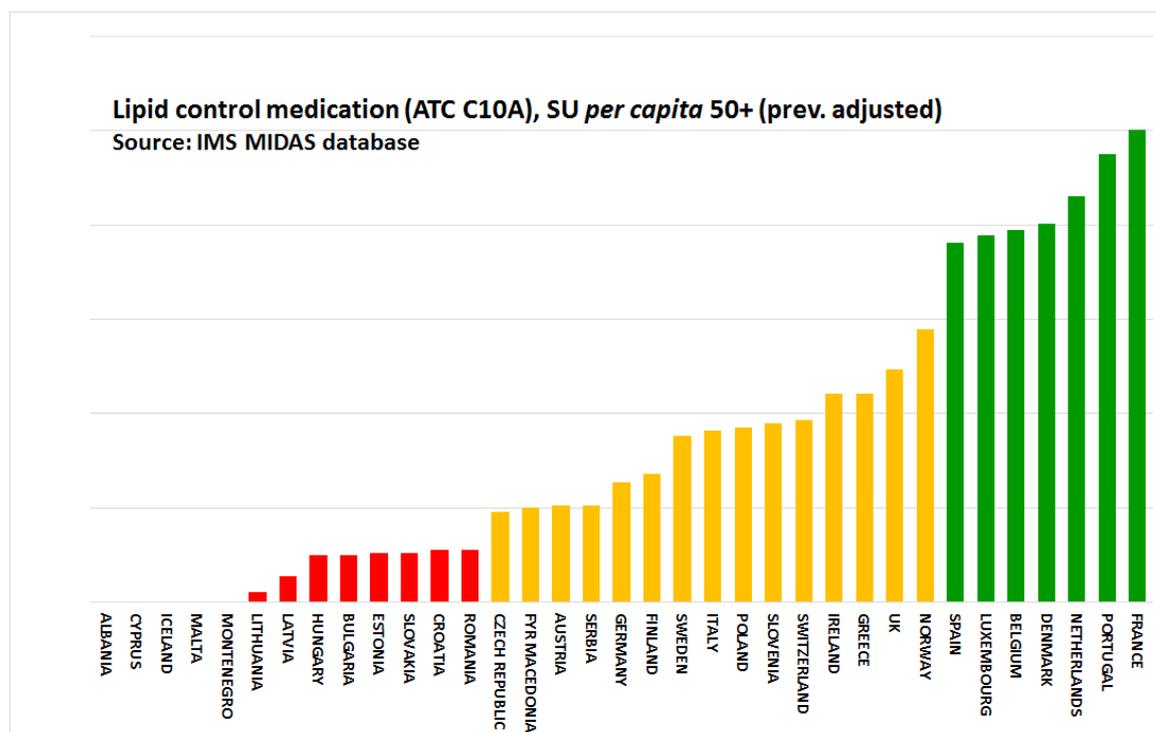
6.6 Statin use

Sales per capita (SU per capita 50+ SDR adjusted). Statins, which have been on the market for almost 30 years, are the primary therapy used to prevent cardiovascular

events. They lower LDL-C levels by inhibiting the enzyme HMG-CoA reductase, which has a vital role in the production of cholesterol in the liver. Statins typically reduce LDL-C levels by 30 – 40% and are directly associated with reducing the risk of heart attack and stroke. The ECHI is using actual sales data.

It is interesting to note that the straight *per capita* use, when NOT corrected for CVD prevalence, is more even across Europe than the prevalence-adjusted! There are (at least) two possible explanations for this:

- i) Active use of these essential drugs brings down CVD mortality, resulting in higher *per capita* numbers in the prevalence-adjusted data.
- ii) The medical profession is more affected by “kitchen wisdom” popular belief about which share of the population should receive these drugs, than governed by guidelines.



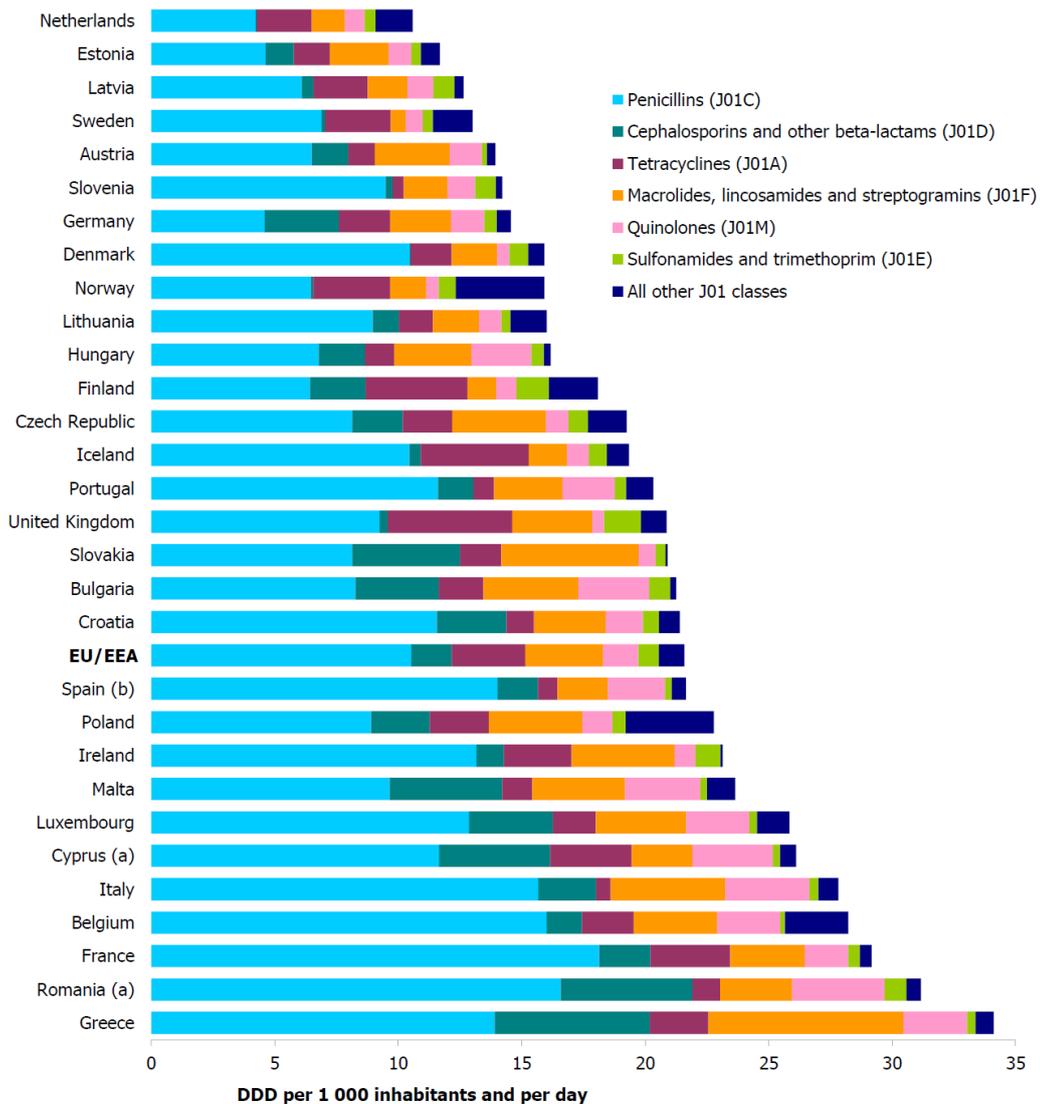
Source: IMS MIDAS database, 12 months ending June 2016. CUTS data.

6.7 Antibiotics consumption

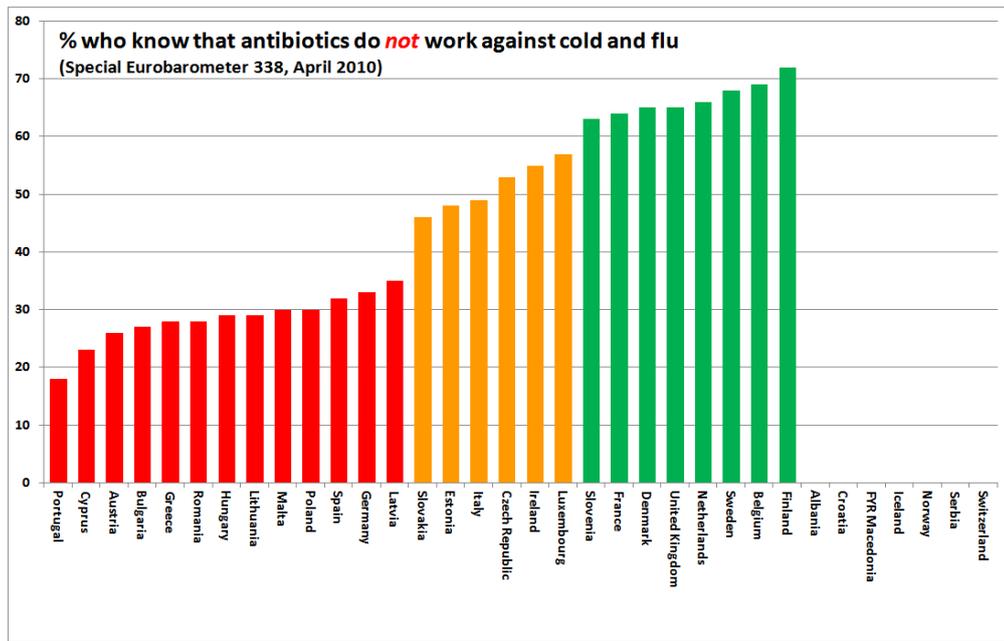
As the following graphs will show, there is shocking disagreement between different sources regarding antibiotics consumption. The 2016 indicator is based on “Quality indicators for antibiotic consumption in Europe (1st Graph below). That was used as a CUTS.

The fact that this WHO report (based on wholesaler reports) disagrees violently with both the Eurobarometer on beliefs about antibiotics helping against viruses (2012), and with IMS Health pharmacy sales data (2013) makes the HCP team inclined to regard the WHO report, used 2014, as not trustworthy. EHCI 2016 therefore used the ECDC as data provider. The ECDC data does show the expected correlation with resistance data (indicator 3.6 above).

Figure 1. Consumption of antibiotics for systemic use in the community by antibiotic group in 30 EU/EEA countries, 2014 (expressed in DDD per 1 000 inhabitants and per day)

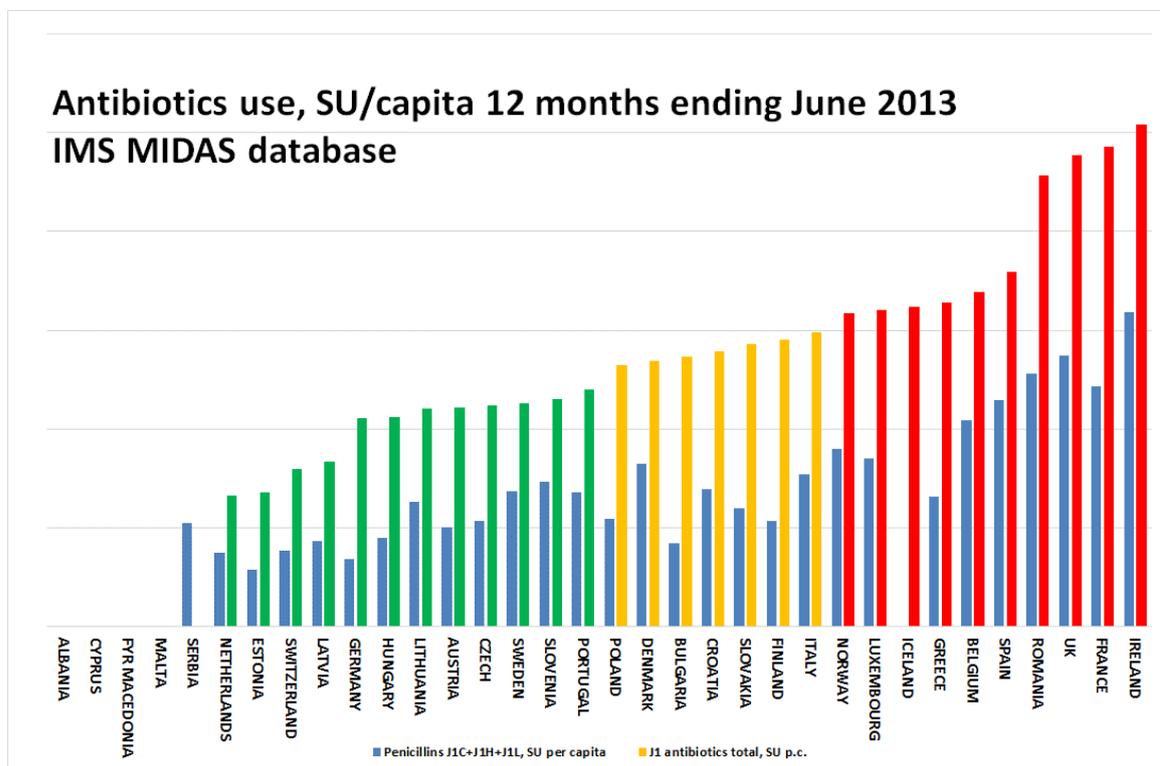


In 2012, the indicator used was “% of population who know antibiotics are *not* effective against cold and flu” (Graph below). EHCI 2013 used actual *per capita* sales of antibiotics, with the assumption that a restrictive use is good from a resistivity point of view.



The EHCI 2012 indicator.

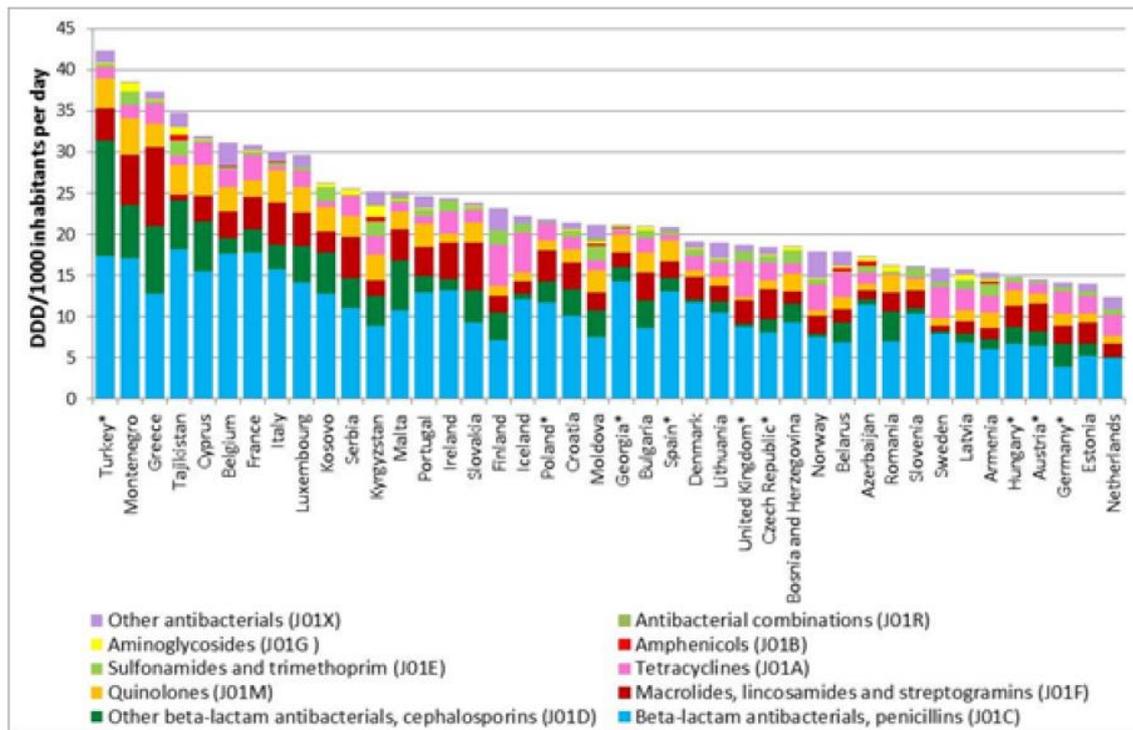
Source: Special Eurobarometer 338, April 2010. CUTS data.



The EHCI 2013 indicator.

If the French, Brits and Belgians really do know that antibiotics do not work against viral infections: How come they use so much?

The graph below illustrates the data of the 2016 WHO report. It probably has large errors!



Total antibiotic use in 2011, expressed in number of DDD per 1000 inhabitants per day in 12 European countries and Kosovo as compared to 29 ESAC-Net countries.

The EHCI 2014 indicator.

Source 2017: ECDC "Quality indicators for antibiotic consumption in Europe." CUTS data.

7.11 External expert reference panel

The following persons have taken part in the Expert Reference Panel work for EHCI 2017:

Name	Affiliation
Ulrik Bak Dragsted, MD, PhD	Head of Infectious Diseases Unit, Roskilde Hospital, Denmark & President, The Danish Society of Internal Medicine
Sandra Bršec Rolih; Mr. Sc.	Board Member, International Diabetes Federation European Region, Brussels
Dan Gaita, Professor Dr.	University of Medicine & Pharmacy "Victor Babes", Timisoara, Romania
Ian Graham, Professor Dr.	Trinity College, Dublin, Ireland
Dragana Jovanović, Prof. Dr.	Head of Thoracic Oncology and ILD Dept., Clinical Center of Serbia, Belgrade, President of Respiratory Society of Serbia
Kornelia Kotseva, Prof. Dr.	National Heart & Lung Institute. Imperial College London. UK
Fred Storms, Prof. Em.	Internist / diabetologist. Medical advisor DVN and medical officer ViCentra, Utrecht area, The Netherlands

For reasons of economy, only one full-day Expert Panel meeting was held for the EHCI 2017.

8. References

8.1 Main sources

The main sources of input for the various indicators are given in Table 7.7 above. For all indicators, this information has been supplemented by interviews and discussions with healthcare officials in both the public and private sectors.

The “Single **Indicator** Score Sheets” are published on the Internet, so that all can see what *main* data have been used, and also the scoring methodology. These sheets are on www.healthpowerhouse.com/ehci2017-indicators/ .

Indicators, for which data could not be converted to straightforward numbers are missing on that site. Also, for copyright reasons, so is numerical data for indicators based on drug sales numbers, which are illustrated in a Powerpoint presentation on the website.

Appendix 1. The True Saga About Werner's Hip Joint, or What Waiting Times Should Be In Any Healthcare System

This is a true story, which happened in July 2013 in a small town of 8000 (winter) inhabitants in Languedoc, 50 km south of Montpellier. Werner, (not his real name) is a German military man who has retired with his wife to the south of France. The services described below were paid for by Werner's normal German health insurance with no private top-up. Here goes:

Like most expats in the little town, Werner was sitting on a Tuesday afternoon outside the Marine Bar taking a refreshment. Werner tells his wife:

- Helga, dear, I believe I should have somebody look at my left leg. I have been having these pains for a year and a half now.
- Werner, dear, that door across the street has a brass plate on it. It looks just like a doctor's surgery!

Werner limps across the street and finds that the brass plate adorns the door of the surgery of Dr. B, a local GP. Werner rings the bell, and explains his problem to the nurse/secretary opening.

- Could Dr. B possibly have a look at my problem?
- Not right now, but please come back in half an hour!

Werner limps back across the street, finishes his beer, and goes to see Dr. B. Dr. B examines Werner and says:

- I am afraid that this looks as if you might need a new hip joint. We will have to take a closer look. Are you doing anything special tomorrow?
- No, I am retired, so I am very flexible.

Dr. B picks up his phone, speaks for a couple of minutes, puts the receiver down and says to Werner:

- You are booked for a CT scan tomorrow morning at 10:00 in Agde Radiology Centre (7 km away). After that, come and see me again on Thursday at 3 pm! We should have the results by then.

Werner goes and has the CT scan and reappears at Dr. B's on the Thursday. Dr. B says:

- I am afraid it seems that my first diagnosis was correct. You need your hip joint replaced. Are you doing anything special next week?
- No, I am retired, so I am very flexible.

Dr. B picks up the phone again, speaks for a few minutes and turns back to Werner.

- You are expected in the Orthopaedic Clinic of the University Hospital of Montpellier²⁶ at 09:00 on Monday. Bring a small overnight bag with your necessities for a four-day stay!

On the following Friday, Werner is discharged from the hospital, spick and span with a new hip joint. Calendar time for the entire sequence of events: 10 days!

The important morale of the story: The big part of healthcare costs is always man-hours put in by healthcare staff. The 10-day procedure above has precious little room for man-hours at all. That is why it is *cheaper* to operate a healthcare system without waiting lists, than to have waiting lists!

²⁶ The oldest medical faculty in Europe. The 6th best hospital in France, according to a recent ranking.