



Health IT

Opportunities in Europe

Executive Summary

This report provides an overview of the European¹ market for products and services that employ information and communication technology (ICT) to improve healthcare. Our objective is to help U.S. exporters better understand the region, decide which markets are best prospects, and develop strategies for entering and expanding sales in those markets. The information is divided into three parts: market size, market drivers, and opportunities and challenges. At the end is an annex with charts showing population, healthcare spending, number of hospitals, age demographics, and rates of diabetes and obesity for each market.

Europe is a diverse region that includes large and small, advanced and transition economies. The EU, when viewed as a single entity, is the United States' largest trading partner, importing more than \$191 billion (over 19%) of all U.S. goods exports in 2017. Annual healthcare spending tops \$1.85 trillion (compare to \$3.3 trillion in the United States), and medical and pharmaceutical imports from the United States were worth more than \$50 billion. The market for Health IT solutions in Europe is growing rapidly; though reliable statistics are not available for all markets, the estimated annual compound growth rate is around 15%.

The four primary drivers determining healthcare spending in Europe are the aging population, nearly universal health insurance, medical innovation, and lifestyle factors that are impacting population health. It is helpful to break Europe into sub-regions to better understand the Health IT opportunities in each. The wealthy countries of the north, with their high quality and universally available care, are well on their way to a fully digitalized healthcare experience; the countries of Eastern Europe, on the other hand, are struggling to provide an acceptable minimum level of healthcare for their residents. German-speaking Central Europe, the UK and Ireland, South-Central Europe, and Turkey each present a different set of challenges and opportunities.

The European market for Health IT holds significant opportunities in every subsector for U.S. exporters. Though the market is both diverse and challenging, with the right strategy and sufficient preparation U.S. exporters stand to reap real benefit from an expansion into this region.

For more information or to schedule a free initial consultation, please contact Health IT Team Lead for Europe Marta Haustein at Marta.Haustein@trade.gov.

¹ This report includes information about the EU-28 plus Norway, Switzerland, and Turkey.

Introduction

This graphic from the Euro Health Consumer Index (2017) serves as a good introduction to the region. The three zones (in red, yellow, and green) are determined according to a comprehensive set of variables that translate into how well a healthcare marketplace serves its population. The countries in green have very high values for access, outcomes, patient information, range of services, prevention, and appropriate pharmaceuticals use. Yellow countries are meeting basic needs but are falling short in one or more categories. The countries marked red have significant areas of concern. Though it does not treat eHealth per se, the map is a good indication of quality of care in Europe.



Part I: Market Size

Europe is a diverse region that includes large and small, advanced and transition economies. Annual healthcare spending topped \$1.85 trillion in 2017, and medical and pharmaceutical imports from the United States were worth more than \$50 billion.

Population

Taken together, Europe plus Turkey have a cumulative population of over 600 million, with a GDP of more than \$18 trillion. Annual healthcare spending in the region tops \$1.85 trillion and has been growing at an average compound annual rate of four percent over the past decade. While most countries in Europe have fewer than ten million residents, and several have less than one million, six nations (Poland, Spain, Italy, France, UK and Germany) have a population of 38 million or more. The most populous country in Europe is Germany with just over 82.2 million, and Turkey, on Europe's south-eastern periphery, has a similar population (81.9 million).

Healthcare Spending

Global Health IT spending was estimated to lie between \$130-\$150 billion in 2016. Most experts agree that the market is experiencing annual growth rates of at least 15%, and that global spending will reach \$270-\$290 billion by 2025. Europe, the second largest regional market after North America, accounts for 25-30% of the total. It is estimated that the European market for Health IT is currently approximately \$40 billion, and that it will grow to \$70 billion by 2025.

On average, EU countries spend around 10% of their GDP on healthcare (compare to 18% in the United States). That average, however, hides a wide range of values: while Romania spends only 4.9% and Poland 6.3% of GDP on healthcare, countries such as Sweden, France, and Germany all spend more than 11% of GDP. A similarly broad spending range is found among non-EU countries in the region. Switzerland spends over 12% of GDP, while Turkey spends only 5.4% of GDP.

Per capita spending on healthcare in Europe is even more diverse. While Switzerland spends more than \$8,500 per capita on healthcare (compare to \$10,400 in the U.S.), four countries in the region (Poland,

Bulgaria, Romania, and Turkey) spend less than \$1,000 per capita on healthcare². While the poorest countries are expected to increase healthcare expenditures over time to approach the European average, that process will take decades and is unlikely to present as a smooth upward line.

Hospitals

Europe has some of the highest per capita hospital bed coverage in the world, with Germany, Austria, Hungary, the Czech Republic, Poland and France all in the top ten worldwide. Looking at the absolute number clinics, France leads the pack with over 2,690 hospitals, followed by Germany with 1,950 and the UK with 1,800.

Part 2: Healthcare Drivers

The four primary factors driving healthcare markets in Europe are similar to those in the United States: 1) an aging population, 2) near universal insurance coverage, and 3) the availability of new technologies, and 4) lifestyle factors (smoking, alcohol, obesity) that negatively impact population health. Let's look at each of these in more detail and consider how each is related to Health IT solutions.

Demographics

Europe is aging rapidly due to low birth rates and rising life expectancies. If current trends continue, ten European countries will count fully one quarter or more of their population at over 65 in 2030. Germany heads that group with a projected 28%, followed by Portugal, Italy and Finland with just over 26% each. At the other end of the spectrum are Turkey and Cyprus, the only two countries in the region where less than 20% of the population is projected to be over 65 in 2030.

Should these projections prove to be accurate, Europe will experience an unprecedented squeeze on healthcare resources in the coming years as an increasing number of elderly people, many with chronic illnesses, depend on a shrinking number of active individuals paying into the social insurance systems. One important element of the resource crunch will involve the healthcare workforce. In more than half of EU markets (including the UK, Ireland, Austria, and nearly every transition economy), attracting and retaining qualified clinicians is already a significant problem.

In much of Europe, the focus of healthcare expenditure is currently on the one-off treatment of acute disease. As patients age and accrue multiple comorbidities, this philosophy of care is being reconsidered. Increasingly, healthcare planners across the region are looking at strategies to improve the sustainability of their healthcare systems and a broad consensus is building that it will be necessary to create a continuum of care that includes stronger prevention programs and primary care, pre-and post-acute care, and the integration of chronic disease management across providers. Health IT is seen as a necessary component in realizing these goals.

Universal or Near-universal Healthcare Coverage

Widespread statutory health insurance programs make care accessible for most Europeans. There are two basic types of health insurance in place, both of which offer a mix of public and private providers. Countries like the UK, Sweden, Spain, and Italy have what is known as "Beveridge" or "single payer" systems, in which universal public healthcare is financed by taxes and most providers are publicly owned and administered.

² Due to differences in methodology (it is unclear in some cases to what extent non-government spending is included in the total) these graphics should be viewed only as an indication of comparative spending levels.

“Bismarck” systems, on the other hand, require that residents pay into one of several regional or employment-based insurance funds which in turn cover treatment by both public and private providers. Variations of this model are found in Germany, France, Austria, and the Netherlands. While it is still too early to make sweeping conclusions about which type of system is more open to ICT solutions, the greater complexity of “Bismarck” systems does in general seem to slow adoption rates.

While out-of-pocket spending varies throughout the region, the EU average is low at 15%. Most (non-elective) in-patient and out-patient care is fully covered, as long as the facilities or practice has a contract with the statutory provider. Dental care, vision care, pharmaceuticals, physical/psychological therapy are more likely to have a co-pay, and supplemental insurance is available to cover comfort options and facilities/doctors outside the statutory system. Only rarely are prevention or health maintenance programs covered.

Most reimbursements are based either on a fee-for-service (FFS) basis or according to some form of disease-related group (DRG) model. Some markets do have pilot programs in place to assess more innovative reimbursement schemes based on value, population health or bundling, but these programs do not make up a significant share of the market. Fitting innovative IT-based solutions into public healthcare reimbursement agreements is an ongoing challenge in most every market.

New Technologies

Over the past decade, revolutionary ICT technologies have changed the face of medicine, enabling better diagnosis, management, and treatment of a range of injuries, conditions and diseases. Perhaps the most important disruption, however, occurred outside the medical ecosystem and are only now beginning to impact the way healthcare is delivered.

Broadband internet is widely available, as are smart devices and apps, changing the way people think about healthcare and building expectations for more patient control. Traditionally, European healthcare has been managed more like an infrastructure program than a service business. As people gain experience with 24/7 online shopping, vacation quality rating platforms, and instant access to news and information, the analog world of medical services presents a stark contrast with low scores for convenience, transparency and user-friendliness. Patients increasingly want to personalize not just their treatments, but their interactions with healthcare providers. Across Europe, calls for more patient-centric systems are gaining momentum and digital solutions are perfectly positioned to bring that change.

A second set of technological advances refers to advanced clinical solutions, including expanded imaging technologies, artificial intelligence and decision support systems, and of course personalized medicine. These developments come with a significant price tag and have created a profound dilemma for Europe’s public healthcare insurances: how can universal access to state of the art equipment and advanced personalized therapies be financed with limited resources? As a result, many markets are facing unacceptable wait times, access problems for disadvantaged socioeconomic groups, and/or time lags in the general availability of state of the art treatment options. Here too, Health IT solutions can alleviate some of these issues by improving the efficiency of scheduling, reducing the number of unnecessary diagnostic procedures, improving planning and logistics, etc.

A final category of technology cuts across user, provider, and payer lines, namely, systems that enable information sharing, decision support, population health planning, and other advanced ICT applications. These complex objectives demand interoperability and cooperation, forcing stakeholders to develop better communication flows and sophisticated financing models while ensuring data integrity, privacy, and security.

Lifestyle Choices

The four top causes of death in Europe are cardiovascular disease, heart disease, cancer, and respiratory disease, all strongly associated with smoking, alcohol consumption, and obesity. Though recent national smoking bans and EU warning label requirements are bringing smoking rates down in most European countries, several, including Greece, Bulgaria, Germany and France still have smoking rates of 30% and more. High rates of alcohol consumption and binge drinking is another cause for concern. The World Health Organization (WHO) reports that Europe as a whole and Eastern Europe specifically has the highest alcohol consumption rate in the world. While the hardest hit countries are external to this report (Serbia, Ukraine, Belarus, Russia), several EU countries including Hungary, the Czech Republic and Slovakia all appear on the WHO list of top alcohol consumers.

Obesity and type 2 diabetes together make up the third pillar of the lifestyle equation and are both on the rise across the region. While only two countries (Italy and Romania) have less than 10% obesity rates, seven countries weigh in at over 25% obesity. Several countries have high obesity rates but relatively low diabetes rates, indicating a future spike in the diabetic population.

Currently, prevention programs account for only 3% of total healthcare spending, but payers and policymakers in most every market are looking at ways to improve education, fitness tracking, tying desired behavior to lower co-payments and other proactive prevention programs. This phenomenon ties into the concept of building a “continuum of care” that moves beyond the fee-based treatment of an acute problem. Innovative financing schemes are being piloted, for example, directing higher up-front payments into programs that will reduce costs as calculated over time. Here too there is a broad consensus that Health IT tools will be essential in establishing effective programs.

Part 3: Opportunities and Challenges

In the next five to ten years, digitization in the European healthcare space will gain speed rapidly. Specific opportunities vary significantly between markets, but there are a few general aspects to consider.

First, nearly every country in Europe has or plans to roll out a national public “Electronic Patient/Health Records” system, defined as patient health data repositories which provide online access for both patients and their healthcare providers. In 2015, half of all EU countries had some form of EPR/EHR in place and most of the rest have touted plans to roll one out before 2020. A further development came in April of 2018, when the European Commission issued a communication calling for patient access to their electronic health record throughout the EU, regardless of national boundaries. The Commission is moving to establish a record exchange format and a mechanism for that exchange.

Second, because the level of digitization in the region is uneven, both within and between European countries, there are still significant opportunities in the digitization of hospital records and activities. Example: in 2015, a study estimated that 51% of Germany’s hospitals were at EMRAM stage 0 (ICT mainly in administration and billing)³. In a more recent survey (2017), clinicians in Ireland estimated that only 42% of the patient data in their organization was digital.

³ EMRAM (Electronic Medical Record Adoption Model) is a 7-grade scale developed by the Healthcare Information and Management Systems Society (HIMSS) to enable a comparison of Health-IT adoption at hospitals. For more about the EMRAM scale, follow this link: <https://www.himssanalytics.org/emram>

Let's now have a look at the opportunities in more detail. There are many ways to break this information out, but perhaps the easiest is to look at groups of countries according to geographic regions:

Region 1: The wealthy markets of Northern Europe

Region 2: The German-speaking countries of Central Europe

Region 3: The UK and Ireland

Region 4: The south-western markets: Portugal, Spain, Italy, and France

Region 5: Eastern Europe

Region 6: Turkey

Opportunities in the wealthy markets of Northern Europe

In the wealthy markets of Northern Europe (Sweden, Denmark, Norway, and Finland, plus Belgium and the Netherlands), quality of care is the highest in the region, with excellent marks for life expectancy, access to care, patient information, and service range, and the digitization of healthcare is well underway. There is a strong desire to create the best possible healthcare system for all citizens and a willingness among stakeholders to adopt innovative solutions. As a result, many patients have access to their electronic health records through online portals, where they can also decide who else can access that information. Routine appointments are often made online. Innovative program pilots are gaining momentum, including telemedical specialist consultations (virtual hospitals), medication compliance and chronic disease management programs (COPD, CHF, diabetes) that use health IT tools, as well as a readiness to experiment with financing programs that go beyond traditional FFS or DRG models. Moving forward, the focus in these countries will increasingly be on improving interoperability, encouraging patient engagement, population health and prevention initiatives, training clinicians to fully exploit Health IT tools, and fully implementing successful telemedical and integrated chronic disease management pilots.

Opportunities in German-speaking Central Europe (DACH)

The wealthy markets of German-speaking Central Europe (Germany, Switzerland, and Austria, also known as DACH) all have a very high standard of care. Life expectancies, access to care, and treatment outcomes are well above the European average, but all three countries are still at the beginning of the transition to digital healthcare. The primary aim of health IT spending in this region is to enable information sharing among caregivers (and payers), in the hope that this will reduce the cost of unnecessary diagnostic procedures and improve the quality and coordination of care.

Though the process of capturing patient information digitally is advanced in all three markets, a general unease about data security and privacy along with the complex healthcare stakeholder ecosystem have slowed down efforts to create truly accessible health records for patients and caregivers. Austria's national electronic health record system "ELGA", for example, faced enormous resistance from both physicians and data protection groups. As a result, the roll-out has stalled multiple times, patient records currently contain little or no information, gaining access is tedious, and the system is little-used.

While there are hundreds of pilot projects in place across the DACH region covering nearly every imaginable use case for Health IT, strict regulatory structures and multiple, parallel financing streams create significant difficulties moving even the most successful pilots to full implementation. Consumer demand for more convenience, coupled with recent moves to improve digital government services, however, are cause for optimism and we expect to see increasing demand for innovative health IT solutions. Best prospects are electronic health record systems and auxiliary programs, disease management tools, interoperability solutions, information services, scheduling tools, and population health/prevention solutions.

Opportunities in the UK and Ireland

In the UK, the National Health Service (a single payer system) is very highly regarded and something of a symbol of national pride. Service quality is high, with above-average life expectancy, excellent service range, and strong prevention programs, but they lose points for accessibility (wait times are long for primary care, diagnostic imaging, specialist and emergency room visits) and outcomes, especially COPD mortality, MRSA infections, cancer survival and depression, which are below the EU average. Health IT solutions that address these shortcomings are likely to find a receptive audience in the UK.

Despite continual reform efforts over the past decade, per capita spending on healthcare in Ireland remains high with outcomes below average and health IT deployments limited. Current reform proposals seek to refocus spending on access to primary care in the hope of reducing avoidable hospital admissions for the chronically ill. The new strategy will endeavor to shift care from acute care to community settings and ultimately to home settings. Health IT has a key role with eHealth spending budgeted at \$1.02 billion over the next 10 years. eHealth Ireland's 'Enabling Connected Health through Digital' strategy plans to utilize digital, data and technology innovations to reduce the cost of care, improve quality of life and progress the quality of care. This will create opportunities for innovative solutions around electronic health records, disease management tools, scheduling tools and cyber security technologies.

Opportunities in the south-western markets: Portugal, Spain, Italy, and France

France scores among the highest performing healthcare systems in Europe both in terms of accessibility and outcomes. The (public) insurance provider reimburses an average 75% of the cost of a visit to a public or private provider, and supplementary insurance is widely used to cover the gap, thus out of pocket payments are among the lowest in the region at only 7%. Those without supplementary insurance tend to be less wealthy, thus there are challenges in ensuring care across regions and socio-economic groups. The desire to better integrate information flows and client transitions between public and private providers is a priority, as is the ongoing transition from hospital to outpatient care. This change is moving the focus from acute to preventative care and will strengthen the role of the primary care physician. Opportunities exist for telemedicine solutions, disease management, interoperability solutions, and various tools that support the transition from inpatient to outpatient and acute to preventive care.

Portugal, Spain, and Italy were all hit hard by the debt crisis of the late 2000's and the austerity programs that followed. The most significant change to healthcare insurance was the adoption of additional co-pay requirements, which have exacerbated regional differences in both outcomes and access to care, often mirroring urban/rural and socioeconomic divides. Though life expectancy in all three countries is above the EU average, disparities in quality are evident in specialist access, wait times for diagnostic imaging and emergency room treatment, as well as MRSA infection rates. Austerity measures also throttled non-necessary investment in modernization, thus digitization levels in these countries are lower than in Northern or Central Europe. Here, eHealth solutions that can improve the effective use of system resources to reduce waiting times and improve the reach of rural healthcare delivery outside hospitals are likely to be good prospects. There are also opportunities for providers of electronic health records, disease management tools, information services, scheduling tools and population health/prevention solutions.

Opportunities Eastern Europe

The transition economies of Central/Eastern Europe, including the Czech Republic, Slovakia, Slovenia, and Estonia, are on the lower end of the per capita spending curve in Europe, however, statutory health insurance coverage is strong and out of pocket expenses are moderate. This cohort of markets has seen the quality of care improve steadily over the past 20 years, with values for life expectancy and treatment outcomes approaching that of Western Europe. Several countries are working to introduce eHealth

solutions, with Estonia in particular taking a very proactive stance. Though finding sources of funding is often a challenge, there are opportunities for solutions to enable patient data collection, storage and sharing, online patient information, electronic prescriptions, and improve planning and scheduling.

Poland, Latvia, Lithuania, Bulgaria, Hungary, Serbia, Cyprus, Romania, and Greece are all having difficulties providing an acceptable level of care for their populations. These countries do have statutory health insurance, but coverage is limited, out of pocket spending is higher, as are informal (grey market) payments, and some socio-economic groups are completely excluded. Here we find Europe's greatest disparities in service between regions and socioeconomic groups as well as significant shortfalls in both access and outcomes. Health IT prospects in these countries are relatively weak, with some potential opportunities with private sector providers.

Opportunities in Turkey

Turkey is a large upper-middle income market that geographically straddles Europe and Asia. With financing from the World Bank and others, Turkey has been able to significantly improve population health since 2003. After the introduction of universal health insurance in 2008, the country saw health indicators rise across the board, moving life expectancy and under-5 mortality squarely into the OECD average and providing access to 90% of the population. Quality of care still varies widely between regions and socioeconomic groups. In private healthcare facilities, the standard of care and quality of services are on par with those in Europe. In an effort to close the gap between public and private sector care, the Turkish Ministry of Health implemented an innovative public-private-partnership model in 2011, whereby private sector entities build and operate a public hospital for twenty-five years in return for annual lease payments. As a result of the program, an estimated 25% of public hospital bed stock (approximately 50,000 beds) will be renewed by 2023.

Best prospects for Health IT in Turkey are primarily in the private sphere with a focus on hospitals, including electronic health record systems, digital image management systems, intensive care management systems, oncology management systems, decision support systems, cardiology information systems, and disease management systems. Interesting note: the Healthcare Information and Systems Society (HIMSS) has certified over 10% of Turkey's hospitals at EMRAM⁴ level 6, and ongoing assessments are acting as an incentive to speed up the adoption of clinic-level digitization throughout the country.

Challenges

U.S. products and solutions in the healthcare space generally have an excellent reputation in Europe, and most clinicians share the view that the United States has the best and most advanced medical technology in the world. Despite this positive sentiment, there are significant challenges for U.S. exporters. Here are some of the most important ones:

- 1) Perhaps the greatest challenge for companies entering the market is the **heterogeneity of the region**. Europe is a cluster of 30+ individual markets, each with its own social health insurance system, its own reimbursement process, its own legal framework, language(s), priorities, and healthcare culture. There is no such thing as a "one size fits all" solution or selling technique for Europe. This challenge can only be overcome by setting priorities, researching markets individually, and preparing market entry strategies for each priority market or region.

⁴ EMRAM (Electronic Medical Record Adoption Model) is a 7-grade scale developed by the Healthcare Information and Management Systems Society (HIMSS) to enable a comparison of Health-IT adoption at hospitals. For more about the EMRAM scale, follow this link: <https://www.himssanalytics.org/emram>

- 2) Another significant challenge is the navigation of **compliance requirements**, including obtaining the necessary EU certification according to the EU Medical Device Regulation (MDR 2017) as necessary and confirming compliance with the General Data Protection Regulation (GDPR). On the bright side, once these hurdles have been overcome, the product/service is viable across the EU, and in many cases across the entire region.
- 3) In Europe, Health IT solutions have often met with **resistance from clinicians** for a variety of reasons, including the increased transparency of recording actions that others can review as well as the need to adjust work flows when implementing digital solutions. One way to overcome this barrier is to involve these essential stakeholders from the start, developing relationships with professional associations and thought leaders, conducting outreach and gathering feedback.
- 4) Strongly **public-sector based healthcare** in the most advanced markets means that economic incentives and sales channels often differ from those in the U.S. healthcare marketplace. We advise carefully considering both public and private sector use cases and return on investment (ROI) in determining which markets to target. A related challenge is the **financing/budgeting environment** for ICT and Health IT investment, which requires creative thinking because it often does not fall into an existing contract or a traditional reimbursement category. Here too, carefully considering use cases and ROI in various fiscal environments will help solve this problem.
- 5) Many markets, especially those in Central Europe and in countries that have suffered damaging cyber-attacks, have widespread **concerns about data privacy, security and integrity**. This challenge, of course, is also an opportunity for firms offering strong cyber security solutions for the Health IT sector.
- 6) Finally, U.S. exporters are likely to face **significant competition** from European and other international firms, including national champions, regional powers and multinational corporations. In addition to traditional marketing and sales strategies it is often advisable to find a suitable local partner or representative who can provide local market intelligence, language abilities, and connections.

Conclusion

The European market for Health IT holds significant opportunities for U.S. exporters. Though the market is both diverse and challenging, with the right strategy and sufficient preparation U.S. exporters stand to reap real benefit from an expansion into this region.

Annex: Statistical Charts

Chart 1 - Population

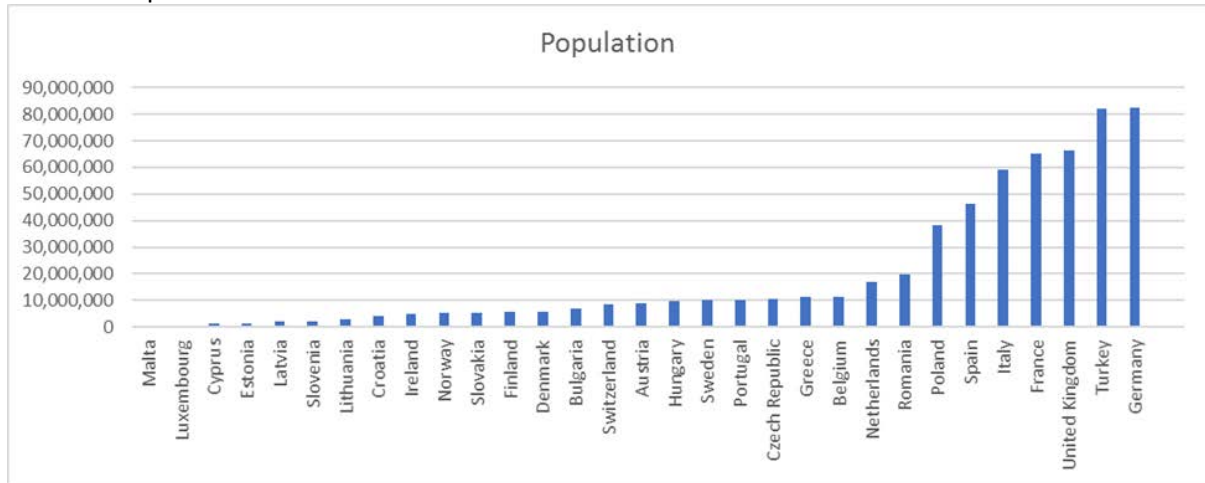
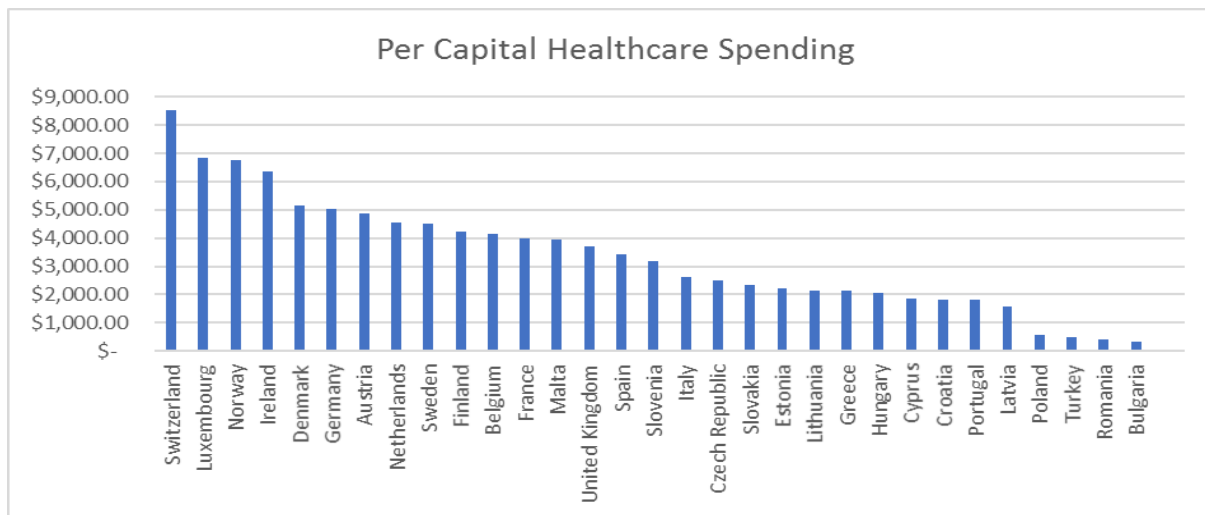
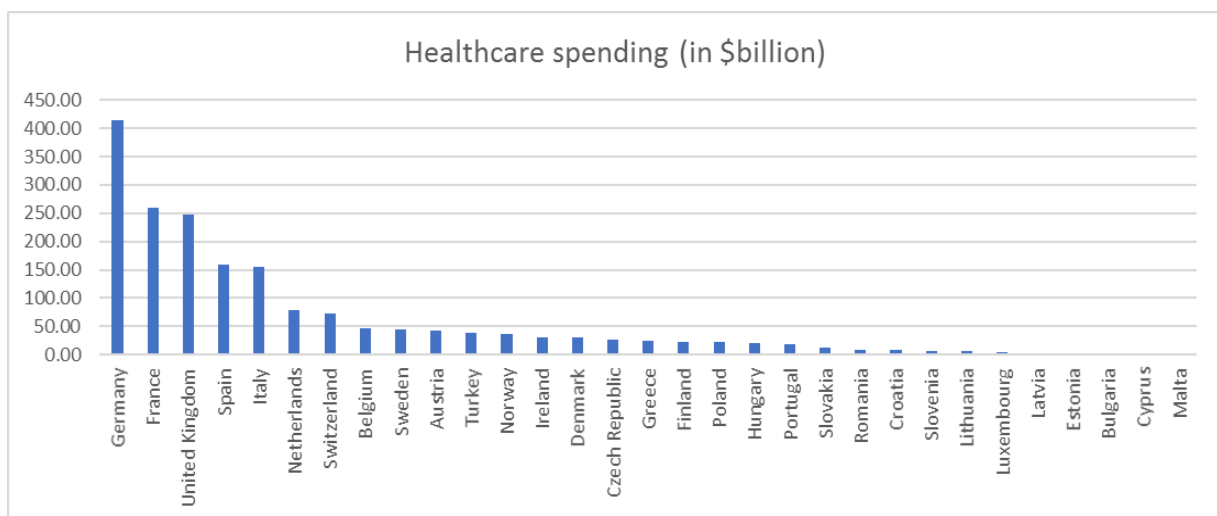


Chart 2 – Healthcare Spending (per capita)



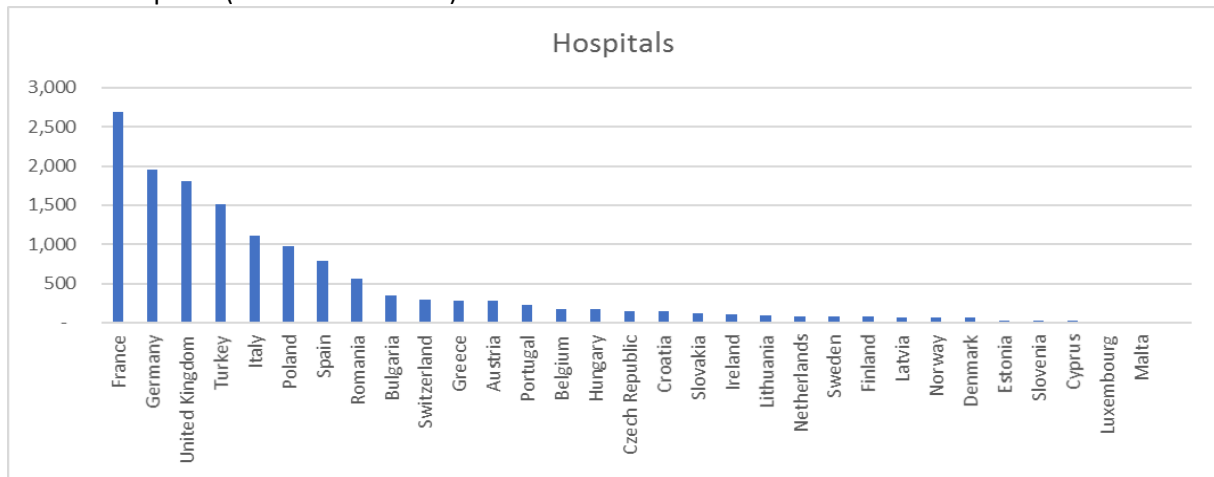
Source: CS Europe Healthcare Specialists (from local sources)

Chart 3: Healthcare Spending (absolute)



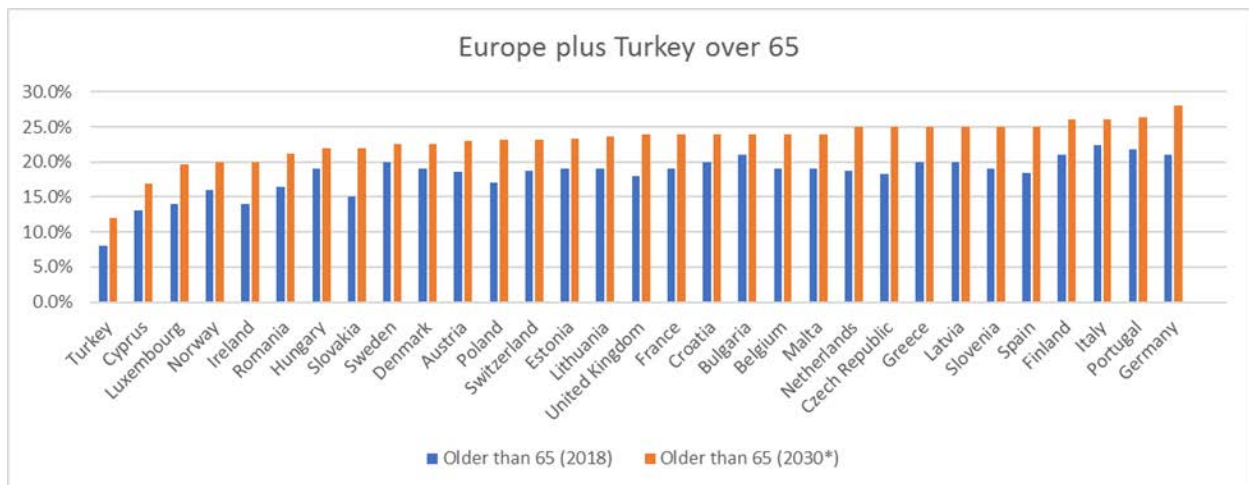
Source: CS Europe Healthcare Specialists (from local sources)

Chart 4: Hospitals (absolute numbers)



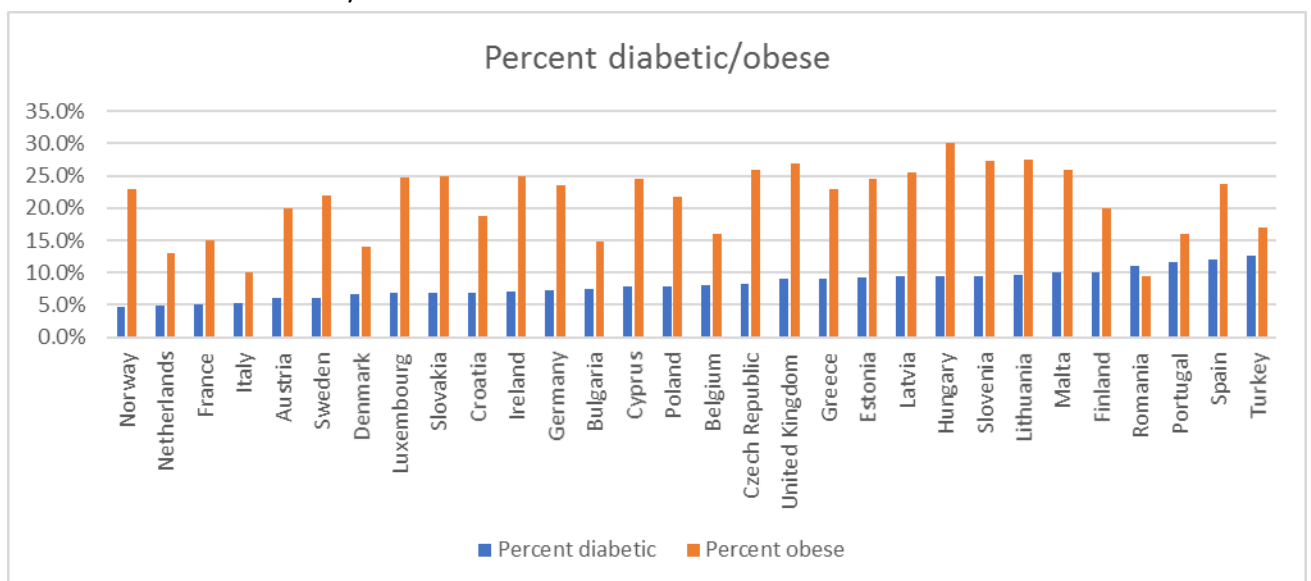
Source: CS Europe Healthcare Specialists (from local sources)

Chart 5: Demographic overview



Source: CS Europe Healthcare Specialists (from local sources)

Chart 6: Diabetes and obesity rates



Source: CS Europe Healthcare Specialists (from local sources)

How can the U.S. Commercial Service help you enter the European healthcare market?

The U.S. Commercial Service (CS) is the export promotion agency of the U.S. Department of Commerce. With offices throughout the United States and in more than 80 countries worldwide, our mission is to help U.S. companies find customers and achieve their business objectives overseas. The Health IT Affinity Group is composed of CS trade professionals located in embassies and consulates across Europe. We work together to create insightful market intelligence, provide high-quality counseling and commercial diplomacy, as well as tailored matchmaking, government-to-government advocacy, due diligence services, and promotional activities. All fee-based services are provided at a cost-recovery rate.

For more information or to schedule a free initial consultation, please contact Marta Haustein:

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Sources (all accessed June/July 2018)

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<https://www.gtis.com/gta/>

Plus: local/national sources from individual countries covered, reported by Health IT Europe team members