



2016 Top Markets Report **Health IT** Country Case Study

Denmark

Denmark has long been considered a strong Health IT market despite its small population and market size, primarily because of its forward-thinking interest in using Health IT products and services to provide the most current and effective approach to patient care. Denmark is in the midst of undertaking a large-scale reorientation of healthcare delivery and treatment, which will feature fewer, digitally integrated hospitals with greater connectivity and more home-based care. This reorientation, estimated to cost billions of U.S. dollars, will provide U.S. companies with many opportunities to pilot new healthcare delivery approaches and offer proven treatment options at significant scale for Danish patients. U.S. companies should keep in mind, however, that the Danish healthcare system is quite different from the system found in the United States, and companies should gather advice in advance on best practices for entry into and expansion in Denmark.

Overall Rank

4

Description of Rank and Sub-score measurements

Denmark rates very highly on most of the criteria used for this Top Market Report (NOTE: the methodology used to rank countries has changed from the 2015 Report, so rankings are not directly comparable), particularly on per capita health expenditure, Internet subscriptions, a highly urbanized population and a low old age poverty rate. The widespread availability of advanced broadband and mobile infrastructure (which will be discussed further below) is a critical element in Denmark's high ranking in the Report, along with future opportunities for U.S. companies to enter or expand their presence in the country.

- Freedom of choice
- Mainly financed through general taxes
- Decentralized organization
- General Practitioner (GP)/family doctor as gatekeeperⁱ

Denmark is a small country with only 5.6 million citizens,ⁱⁱ but it is considered particularly willing and interested to adopt new healthcare technologies to create an integrated approach to patient treatment, based upon a long history of partnership between healthcare facilities and the private sector. Along with their Nordic neighbors, Denmark is considered to be among the most progressive countries in the world in integrating Health IT solutions into patient treatment.

Opportunities for U.S. Companies

The Danish healthcare sector is oriented around the following principles:

- A public health care system
- Free and equal access for all citizens

Every citizen has a personal identifier provided to them at birth.ⁱⁱⁱ At present there are 54 public hospitals in Denmark, with more than 106,000 employees; total healthcare expenditure is 5.6 percent of GDP, or roughly \$15 billion.^{iv} The [Ministry of Health](#), The [Danish Health and Medicines](#)

[Authority](#) are responsible for central regulations and services and [eHealth strategy](#), while other state agencies such as the National eHealth Authority ([Sundhedsdatastyrelsen](#)) and [MedCom](#) work specifically with the digital health agenda, standardization and interoperability. The official Danish health portal, which is accessible to all citizens and health professionals, is called [sundhed.dk](#).

GPs and specialist clinics are all operated as private business units and reimbursed by the government. Most GPs are members of the [Danish Medical Association \(DMA\)](#). As of January 2015, there were about 4,400 GPs in Denmark, along with about 8,200 specialist doctors. About 92 percent of the population contacts their GP annually. According to the DMA, there are more than 27,000 doctors.^v

Denmark is in the midst of a nationwide project to reduce the number of hospital beds and facilities (through a program referred to as “intelligent hospital construction”^{vi}) while treating an aging population with increased demands on the healthcare system, with the primary objective of decreasing public funding of healthcare. Part of the project is to promote health and wellness efforts so that Danish citizens can reduce use of health facilities, but some of the project is designed to increase the reliance on technology in patient care provision. The central government has offered Denmark’s five regions set funding amounts for building new hospitals and renovating/merging existing facilities so that patients can receive holistic care, and extensive use of Health IT drives the central government’s vision.^{vii}

Each region is individually responsible for the construction and/or rebuilding of the hospitals in the respective regions. The national organization binding the five regions together, *Danske Regioner*, is ensuring coordination between the regions at an overall level in order to optimize resources and share knowledge gained throughout the process. *Danske Regioner* also arranges large meetings for industry, patients, doctors and the regions once a year, where various issues such as public/private partnerships, the construction process, hospital management and other relevant issues are discussed. Companies attending these meetings obtain firsthand information on what is going on, challenges and desired solutions and the opportunity

to network with the project owners and decision makers.

Regional consortia play an important coordination role in this effort. One example of cross regional collaboration is a decision where two of five regions have decided to implement a common Electronic Patient Record system (Epic, from the United States) in order to further information flow. Another example is the decision about a common strategy for telemedic solutions among the regions, along with focus on price and quality for the patients and ease of use all over the country.

Each region has established a project/advisor group, and it is that group that will define and work on the specific challenges, solutions and structures for the constructions and/or rebuilding of hospitals in the region in question. Therefore, the companies wanting to participate in the constructions/rebuilding have to pay attention to the project groups in all five of the regions.^{viii}

Awareness of the bidding requirements and submission deadlines for these projects is very important. This is generally a transparent process, accomplished through the following websites: [udbudsavisen.dk](#) or [regionsudbud.dk](#). Most of these tenders go on the EU’s main procurement website, <http://ted.europa.eu/>. There is also a [procurement guide](#) available, which has a section specifically dedicated to Health IT.

The goal of the central government’s program is to reduce the number of public hospitals to 16 (5 new, 11 renovated), each with extensive IT capability, at an overall cost of approximately \$7 billion. Health IT investments in these hospitals are anticipated to be approximately \$520 million, as part of an overall Health IT investment in Denmark of \$2.2 billion by 2022.^{ix} An example of the planned scope of these projects is a 780,000 square-meter mega-hospital which will eventually be built at the University of Odense, South Denmark Region, at a cost of \$1.2 billion. At least 150 million Euros will be spent on equipment in Odense, including IT.^x

Denmark’s five regions and 98 municipalities can also renovate existing hospitals and build new ones with their own money; in 2008, there were 22 regional projects underway.^{xi} Each municipality covers about 20,000 inhabitants and is responsible

for nursing homes, home care services and the emerging health centers (rehabilitation and preventive care). They are organized under the interest group / member authority [Local Government Denmark](#), and [health](#) is a major area of responsibility for this authority. Cities finance about 20 percent of total healthcare expenditure.^{xii}

About 15 percent of healthcare is delivered by the private sector; however, there are as many as 249 private hospitals and clinics, significantly more than five years ago. Danish citizens have the right to choose treatment at a private hospital and get reimbursed if the waiting time in public hospitals exceeds two months, which has contributed to the upswing in usage of private sector facilities. 97,000 patients made use of private facilities in 2010. Private health insurance is also becoming more popular, with roughly 14 percent of the population covered by these supplementary plans.

One of the reasons Denmark has been able to take a leadership role in Health IT is due to the extensive presence of broadband services throughout the country. In March 2013, Denmark announced an action plan containing 22 separate initiatives to have broadband and mobile coverage with speed of 100 megabits per second (Mbps) download and 30 Mbps upload throughout the country by 2020.^{xiii} By mid-2013, 70 percent of Danish households and businesses were expected to have access to 100 Mbps broadband, up from 60 percent one year earlier. Much of that improvement is attributed to upgrades in the country's cable TV network.^{xiv} Seventy-eight percent of Danish citizens and businesses had a broadband connection^{xv} as of that time. Denmark also compares favorably to other OECD countries in terms of broadband and mobile broadband coverage.^{xvi}

In addition, as of mid-2013, mobile broadband coverage with capacity of 2 Mbps was still low nationwide (22 percent), but had increased from 17 percent one year earlier.^{xvii} In mid-2013, Denmark had more than 1 million mobile broadband subscriptions exclusively for data use (up 22 percent in one year) and more than 1.2 million mobile broadband upgrade subscriptions (up 14 percent compared to mid-2012). The increasing popularity of these mobile subscriptions and priority placed by the Danish government in upgrading systems and making them more available nationwide appear to

be areas of focus in meeting the ambitious 2020 goals outlined above.

Danish stakeholders (including the five regions, federal authorities, and academic institutions) have identified business potential in several areas, including:

- Development of new technologies and solutions within logistics, IT and diagnostics. The areas of telemedicine and home monitoring have great potential.
- Patient empowerment--the goal is to provide the patients with the tools and knowledge through Health IT solutions enabling patients to become 'masters' of their own lives. This is especially relevant for chronically ill patients and includes technology as well as education and training or monitoring programs.
- Energy efficiency and environmental friendly solutions.
- Non-patient related/administrative functions.
- Pharmacy/Infusion.
- Homecare – Renal, Infusion, Nutrition.^{xviii}

Challenge in the Market

The primary challenge in the market is creating a consortium of partners that can be considered as part of bidding on projects, either for the 16 federally supported hospitals or at the regional/municipal level.

ⁱ Invest in Denmark Executive Roundtable, HIMSS Annual Conference, New Orleans, LA, March 5, 2013, page 2.

ⁱⁱ World Bank data, 2014

ⁱⁱⁱ Invest in Denmark, page 9.

^{iv} Invest in Denmark, page 2.

^v From Danish Medical Association website:

<http://www.laeger.dk/portal/page/portal/LAEGERDK/Laegerdk/ServiceMenu/ENGLISH/About%20the%20Danish%20Medical%20Association>.

^{vi} Ibid, page 3.

^{vii} For more information, see

<http://www.danishhospitalconstruction.com>.

^{viii} Invest in Denmark, page 8.

^{ix} Ibid.

^x Jonas Hedegaard Knudsen, Presentation at NEXES Final Workshop, Barcelona, April 25, 2012.

^{xi} Knudsen, Ibid.

^{xii} Invest in Denmark, page 2.

^{xiii} Danish Broadband Mapping 2013 from Danish Business Authority):

<http://www.ens.dk/sites/ens.dk/files/TelecomSpectrum/broadband-mapping1.pdf>, page 3.

^{xiv} Invest in Denmark, page 4.

^{xv} Ibid, page 15.

^{xvi} Ibid, pages 20-21.

^{xvii} Ibid, page 14.

^{xviii} Ibid, pages 6-7.