



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

### South Korea

South Korea has a sizable Health IT market (\$1.8 billion in 2014, according to official statistics) but is currently focused on select industry subsectors. In addition, South Korea ranks well because of its extensive ICT infrastructure and emphasis on supporting innovation in next generation technology. 4G service and broadband Internet cover the entire population, with plans to upgrade some services to 5G in preparation for the 2018 Winter Olympics. Additionally, hospitals have begun to implement electronic systems, such as electronic medical records. South Korea, however, has severe restrictions on mobile health or telehealth solutions, only allowing activity involving a few remote parts of the country. South Korea’s primary challenge is addressing the policy and cultural barriers that sharply limit current use of mobile health and telehealth solutions.

Overall Rank  
**21**

#### Description of Rank and Sub-score Measurements

South Korea receives good ratings in the Health IT Top Market Report particularly because its aging population will account for an increasing share of the country’s demographics over time, heavily urbanized population, and well established ICT infrastructure. Korea also ranks fourth in the World Bank’s “Ease of Doing Business” report<sup>i</sup> and first in the International Telecommunications Union’s “ICT Development Index” for 2015.<sup>ii</sup>

#### Opportunities for U.S. Companies

Official statistics from South Korea’s Health Industry Development Institute (KHIDI) show that Health IT already has a well-established foothold in the country. 2014 data showed the sector size at \$1.8 billion, and it is estimated to triple to \$5.6 billion by 2020. In addition, the Korean government has signaled their intention to increase investment in the medical and healthcare sectors by more than \$100 million in the next two years.<sup>iii</sup> As discussed below, however, most of this activity appears to be concentrated in areas related to administrative

simplification, claims adjustment/adjudication and electronic health records, not in mobile health and telehealth.

The Organization for Economic Cooperation and Development (OECD) predicts that Korea’s population over 65 will increase from 11 percent of

the population in 2010 to 37 percent by 2050,<sup>iv</sup> due in part to a low fertility rate. Korea’s population also has a high burden of non-communicable disease, such as cardiac disease, obesity, cancer and diabetes, accounting for over 70 percent of deaths. The government has supported education and intervention programs around non-communicable and lifestyle diseases and therefore may promote use of Health IT in the future.

Health spending was estimated at 7.1 percent of GDP in 2014,<sup>v</sup> one of the lowest in the OECD, but that number is growing quickly,<sup>vi</sup> due primarily to costs of hospital services. Hospitals average 9.2 beds per 1,000 persons, which is high for Asia.<sup>vii</sup> The physician density is unusually low, however, at 2 per

1,000 persons. More than 80 percent of healthcare institutions and service providers are located in urban areas, commensurate with population distribution (approximately 90 percent in urban areas).

Korea has a three-tier medical system: 1) private hospitals and public health centers that have limited services and are for early intervention, 2) inpatient and outpatient care and emergency services, and 3) general hospitals or medical school hospitals which are the largest and have more services but are very expensive.<sup>viii,ix</sup> The private hospitals and public health centers do not generally perform the usual coordination and continuous care services found in primary care services in other countries, leading to limited patient referrals and impacting overall system efficiency. Among OECD countries, Koreans visited doctors most frequently in 2013 (14.6 visits/person annually), more than twice the OECD average of 6.7 visits.<sup>x</sup> Readily available telehealth and mobile health solutions likely would lower this figure and lead to more efficient care delivery, but current policies (see below) sharply limit these options.

Additional outpatient resources, such as rehabilitation and long-term care, cannot keep up with demand. With high quality medical services available, South Korea has become a destination for medical travel from Asia and Europe. More than 266,000 patients received medical treatment in Korea in 2014, a four-fold increase since 2009.<sup>xi</sup> This trend is likely to accelerate further after December 2015 passage of medical travel promotion legislation that could bring Korea more than 500,000 additional patients annually by 2017.<sup>xii</sup>

Korea has a compulsory national health insurance with high quality healthcare available. The government health insurance plan puts much of the financial burden on individuals through high co-payments (up to 40 percent of costs). This results in approximately 45 percent of healthcare spending coming from the private sector.<sup>xiii</sup> Cost reduction technologies, particularly those geared towards consumers directly, may have a large market.

Korea has long had a strong interest in innovation, particularly in technology. In healthcare, the government has supported research and development through establishment of High-tech

Medical Clusters, one of which (Daegu-Gyeongbuk) has an ICT focus.<sup>xiv</sup> While expenditures support domestic research, U.S. companies also have an opportunity to collaborate with local researchers.

Additionally, the culture is favorable for supporting next-generation products and services with high spending per capita, particularly on ICT. A large portion of the Korean population has mobile (115 percent) or Internet (84 percent) subscriptions, and there is high penetration of desktops, notebooks and tablets. The country is supported by an extensive 4G network, with plans to upgrade some services to 5G by the 2018 Olympics in PyeongChang.

The strained medical system, combined with a primarily urban population and 4G network availability, create a positive environment to support an increased presence of innovative health products and services. Because local competition is strong, U.S. companies should consider partnering with local firms or have a long-term marketing plan to effectively compete.

While the ICT infrastructure is particularly strong, plans to upgrade to 5G may support more advanced Health IT in the long-term. So far, the public and private hospital systems have installed a wide spectrum of electronic systems, including electronic medical records. Interconnected electronic systems, however, are not widespread in Korea at present, and many reports are still on paper. Therefore, there is a ready market for many Health IT solutions and systems.

### Challenges in the Market

Government policies and regulations currently exist for data privacy and security, medical devices, public health and ICT, but not specifically for Health IT. The government has developed an “e-Health roadmap” which may start discussions towards a larger Health IT policy. Five different agencies currently have jurisdiction over aspects of Health IT, however, making coordination between agencies and updating current ICT regulations challenging.

Historically, availability of telehealth services in Korea has been extremely restricted (limited to a 2009 pilot program further explained below), as medical laws forced patients to see doctors in

person, effectively precluding a market for telehealth products and services.

Remote regions in Korea would especially benefit from increased access to telehealth services. In 2009, a telemedicine pilot program was set up in three remote counties and saw an almost three-fold increase in patient cases, rising to more than 4,800 in 2012. The program became permanent in 2011 and has been expanded to two more counties.<sup>xv</sup>

In March 2014, Korea's Cabinet passed a bill allowing a six-month pilot program to be launched, permitting doctors to utilize telehealth technology to diagnose and treat patients remotely, which then went to the legislature for approval. Upon completion of this pilot, other pilot programs were launched which expanded areas of coverage and program objectives. Legislation to allow telehealth is still pending at the National Assembly, however. If the pilot programs are successful, telehealth legislation will be considered after Korea's local election in April 2016.<sup>xvi</sup> Other existing laws will need to be reviewed and amended (if needed) to further expand the presence of telehealth in Korea, and policymakers will have to address opposition from some medical professionals and civic organizations.

Reimbursements for Health IT are still not common in Korea. The National Health Insurance Corporation offers Long-Term Care Insurance specifically for the elderly, which not only covers healthcare services but also lifestyle needs, such as cooking and nursing.<sup>xvii</sup> While telehealth is not currently covered, the framework is in place to support such coverage in the future.

Local market competition is strong. All three telecommunications operators and other large Korean companies are entering into the Health IT market. For instance, Samsung is particularly interested in the healthcare sector<sup>xviii</sup> and has had discussions with other multinational firms about possible partnerships. Samsung has also shown interest in purchasing Health IT products and services from other companies, proving possible opportunities for small and medium-sized U.S. companies to enter the Korean market. Although telehealth options are currently limited in Korea, Korean firms have the technology, as evidenced by the September 2015 signing of 15 Memorandums of Understanding with medical institutions and

pharmaceutical companies in China to deliver telehealth services.<sup>xix</sup>

<sup>i</sup> "Ease of Doing Business, 2016 Economy Rankings," World Bank; <http://www.doingbusiness.org/rankings>.

<sup>ii</sup> "ITU Releases Annual Global ICT Data and ICT Development Index Country Rankings," International Telecommunications Union press release, November 30, 2015.

<sup>iii</sup> "South Korea - IT Investment To Benefit Medical Device Industry," BMI Daily Sector Alert—Medical Devices, March 9, 2016.

<sup>iv</sup> OECD (2013), *Health at a Glance 2013: OECD Indicators*, OECD Publishing, p. 157.

<sup>v</sup> "Health Expenditure and Financing," OECD, extracted March 24, 2016.

<sup>vi</sup> "South Korea - Government Spending On Healthcare Lower Than OECD Average," BMI Daily Sector Alert—Medical Devices, July 28, 2015.

<sup>vii</sup> OECD (2013), *Health at a Glance 2013: OECD Indicators*, OECD Publishing, p. 171, 89.

<sup>viii</sup> <http://southkorea.angloinfo.com/healthcare/health-system/hospitals/>, accessed 1/30/2015

<sup>ix</sup> WPRO. *Health Service Delivery Profile: Republic of Korea*. 2012

<sup>x</sup> "South Korea - South Koreans Rank First In Annual Hospital Visits," BMI Daily Sector Alert—Medical Devices, September 22, 2015.

<sup>xi</sup> "South Korea - KHIDI Highlights Medical Tourism Potential," BMI Daily Sector Alert—Medical Devices, November 27, 2015.

<sup>xii</sup> "South Korea - Government Passes Law For Medical Tourism Promotion," BMI Daily Sector Alert—Medical Devices, December 10, 2015.

<sup>xiii</sup> "South Korea - Government Spending On Healthcare Lower Than OECD Average," BMI Daily Sector Alert—Medical Devices, July 28, 2015.

<sup>xiv</sup> South Korea's interest in supporting high-tech research has led to creation of High-tech Medical Clusters. [http://english.mw.go.kr/front\\_eng/ic/sjc0108mn.jsp?PAR\\_MENU\\_ID=100310&MENU\\_ID=10031001](http://english.mw.go.kr/front_eng/ic/sjc0108mn.jsp?PAR_MENU_ID=100310&MENU_ID=10031001), accessed January 30, 2015.

<sup>xv</sup> Limb, J. *Telemedicine brings health care to remote communities; Korea.net* (<http://www.korea.net/NewsFocus/Sci-Tech/view?articleId=116915>); January 8, 2014

<sup>xvi</sup> Lacktman, N. *Telehealth Opportunities Arise as South Korea Opens Door to Telemedicine*; Health Care Law Today, April 2, 2014; information from U.S. Embassy in Seoul.

<sup>xvii</sup> [http://english.mw.go.kr/front\\_eng/ic/sjc0108mn.jsp?PAR\\_MENU\\_ID=100312&MENU\\_ID=10031201](http://english.mw.go.kr/front_eng/ic/sjc0108mn.jsp?PAR_MENU_ID=100312&MENU_ID=10031201), accessed January 30, 2015.

<sup>xviii</sup> "South Korea - IT Investment To Benefit Medical Device Industry," BMI Daily Sector Alert—Medical Devices, March 9, 2016.

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<sup>xix</sup> “South Korea - Medical Firms Sign Telemedicine MoUs With Chinese Counterparts,” BMI Daily Sector Alert—Medical Devices, September 9, 2015.