Task Force +Health Care
Dutch platform for the life sciences & health sector

Norway

TFHC Market Study

Aligning Dutch Smart Solutions to Norwegian Opportunities

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Table of Contents

I. Top 10 Reasons: Why Norway is Interesting for the Dutch Health Sector

1. **Health is the New Oil:** The Norwegian oil sector underpins the economy. Healthcare spending is amongst the highest in the world with 8,871 euros spent annually per capita (1), presenting ample opportunities for Dutch companies on the Norwegian market. See **Chapter 5**.
2. **Import Reliant:** Nearly 80% of medical supplies are imported to Norway (2). The reliance on imports presents opportunities for Dutch medical supply companies. See **Section 5.6.**
3. **Transparent Centralized Procurement:** Norway has established several national public companies responsible for purchases in different sectors of the healthcare system.
    a. **For eHealth**: Helsenett purchases and provides eHealth services to Norwegian regions and municipalities. See **Section 5.2.**
    b. **For Hospital Construction:** Sykehusbygg is responsible for all stages of hospital construction projects, including tenders. See **Section 5.3.**
    c. **For Major Supplies and Equipment for Hospitals (NEW!):** In 2016 Sykehusinnkjøp was founded as national procurement body for all major supplies and equipment for all (public) Norwegian hospitals. See **Section 5.6.**
4. **eHealth is a National Priority:** The Norwegian eHealth sector is decentralized, but emerging. The Directorate of eHealth emerged in 2016 to address eHealth challenges in Norway. Norway provides opportunities in the eHealth sector to improve interoperability and optimize the sector. See **Section 5.2.**
5. **Need Smart Solutions for Rural Healthcare:** Norway has a population of 5.2 million people dispersed across more than 365,000 square kilometers. Dutch telemedicine and eHealth solutions can service the needs of the scattered rural populations in the north, where few doctors and nurses work. See **Section 5.2.**
6. **If Successful in Sweden and/or Denmark:** Norway has traditionally adopted health innovation after being proven successful in Sweden and Denmark. Innovation and medical technology hubs, incubators, and test beds are growing in the country. Possible entry points for Dutch companies. See **Chapter 5.**
7. **Greenfield for Health:** For decades, Norway has worked closely with Nordic neighbors, but has remained largely untapped by non-Nordic companies. Therefore, the Norwegian healthcare sector is a greenfield for Dutch healthcare companies. See **Chapter 4**.
8. **Standardized Procurement:** As a member of European Free Trade Association, Norway operates under European Union procurement directives. This makes Norway relatively easy to navigate and accustomed to collaboration within European Union regulations. See **Chapter 4**.
9. **Proven Dutch Solutions in Elderly Care:** Many healthcare providers and partners in Norway have a positive or neutral view of the Netherlands. Several care homes and dementia homes have adapted Dutch solutions. Dutch long-term care and dementia care are perceived as best practices in the sector. See **Section 5.1.**
10. **Strong Consumer Purchasing Power**: From 2014 to 2015, the household disposable income grew by 4.5% (3). As such, the consumer market possesses strong purchasing power. Solutions ought to be disruptive in this market, where disposable income and consumer awareness are high. See **Chapter 5**.

II. Snapshot: Norway Compared to Sweden and Denmark

Norway, Sweden, and Denmark are similar in many ways, including shared cultures, similar languages, and societal structures based on a welfare state. To understand the nuanced differences between these Scandinavian countries, this section provides a comparative snapshot of the healthcare markets and opportunities (see also **Table 1**). To learn more on communication in this region, review the document provided by the Embassies of the Netherlands in the Nordics.

What Makes Norway Different? Norway is a wealthy nation with a small population spread across a large country. In comparison to Sweden and Denmark, Norway has the highest per capita healthcare expenditure amounting to 8,871 euros per capita (1). This figure makes Norway the 2nd largest spender on health before The Netherlands. With such wealth, Norwegian citizens have disposable income, which has strengthened the Norwegian consumer market in the health sector. In the healthcare sector, Norway's centralized healthcare purchasing agency (Sykehusinnkjøp) provides a transparent procurement opportunity for Dutch companies to enter the tendering process on a national scale. With money at hand, Norway presents opportunities for Dutch companies to enter the healthcare sector market from the bottom-up – through consumers – and from the top-down – through centralized purchasing agencies.

Unique Opportunities in Norway: As a country with a disperse population, Norway is ever more dependent on telemedicine solutions to contain costs and provide quality care. Like Sweden, the vast landscape caters to opportunities for Dutch eHealth and telemedicine companies. In hospital construction, Norway has several large hospital construction opportunities. Unlike Denmark where there is a national hospital plan, Norwegian hospital construction is sporadic. However, the Norwegian advantage is a centralized hospital build agency (Sykehusbygg) that makes it easy for Dutch companies to identify opportunities and follow the tendering process.

Overall, the three Nordic countries are eager to adopt new innovative solutions and share sophisticated ecosystems for research and innovation. Compared to Sweden and Denmark, Norway's life science sector is in its infancy. This creates a cooperative entry point for Dutch expertise in product development and healthcare innovation.

The Clichés (are always true): Dutch companies should consider building partnerships, fostering collaborations, and seeking guidance from cluster organizations such as Oslo Medtech and Medtek Norge. Like Sweden and Denmark, Dutch companies looking to enter Norway should establish a long-term strategy, seek partnerships with local partners, master the language, and understand the business culture. Most of all, through Norway's centralized agencies for hospital construction and medical supplies, Dutch companies can procure national contracts and swiftly enter the Norwegian healthcare market.

Table 1. Key comparison indicators between Denmark, Sweden, and Norway

	Denmark	Sweden	Norway
Country Overview			
Population 2017	5 748 769	10 027 167	5 213 985
Land area sq. km	42 262	407 310	365 245
Population density (people per sq. km of land area) 2015	134.4	24.0	14.2
Life expectancy at birth for Males, 2016	78.5	80.2	80.2
Life expectancy at birth for females, 2016	82.7	83.8	83.9
Population over 65 years of age (% of total population), 2015	18.9	19.9	16.3
Economy			
GDP (total) 2015	278 billion	427 billion	365 billion
GDP annual growth 2014-2015 (%)	0.988	4.124	1.611
GDP per capita (€) 2015	57 138	47 122	69 315
Administrative Divisions			
Number of regions	5	21	4
Number of municipalities	98	290	434
Healthcare Structure			
Responsible entity for specialized care	Regions	Regions	Regions
Responsible entity for primary care	Regions	Regions	Municipalities
Responsible entity for long-term care	Municipalities	Municipalities	Municipalities
Healthcare Expenditure			
Total healthcare expenditure (€), 2015*	28.7 billion	56.2 billion	36.5 billion
Healthcare spending as share of GDP (%)	11	12	10
Private health expenditure as % of total health expenditure	15	16	15
Out-of-pocket expenditure as % of total health expenditure	13	14	14
Healthcare spending per capita (€)	6 021	6 342	8 871
Healthcare Infrastructure			
Number of physicians (per 1000 people)	3.4	3.9	4.2
Number of nurses and midwives (per 1000 people)	16.7	11.6	17.2
Number of hospital beds (per 1000 people)	3.5	2.7	3.3

*Estimated based on 2015 GDP and healthcare expenditure as a share of GDP

Sources: World Health Organization, The World Bank, Statistics Norway, Statistics Sweden, Statistics Denmark

III. Glossary of Terms

EU	European Union
GDP	Gross Domestic Product
SME	Small and Medium Enterprises
TFHC	Task Force Health Care

IV. List of Figures and Tables

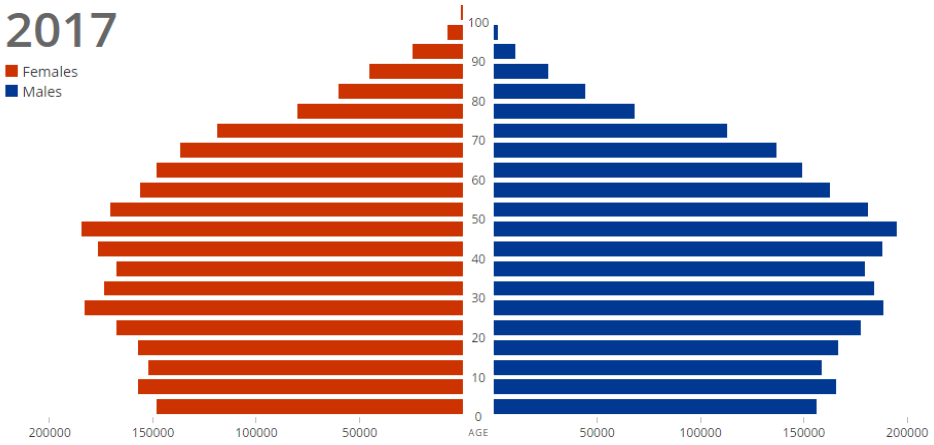
1. Introduction

1.1. An Introduction to Norway

The Kingdom of Norway is a high-income country in Northern Europe. Norway is a constitutional monarchy with state power divided between the parliament, the cabinet, and the supreme court. The country is divided politically and administratively between counties and municipalities. The economy is primarily driven by exports of petroleum, natural gas, minerals, lumber, fresh water, and seafood (4).

Norway has a population of 5 million people (5). **Figure 1** presents the population distribution in 2017 (6). **Table 2** presents population statistics for Norway, Denmark and Sweden. By 2031, the population of Norway is expected to reach 6 million people (5). The total fertility rate is 1.7 children per women (7). Life expectancy at birth for males is 80.2 years (5). Life expectancy at birth for females is 83.9 years (5). By 2060, it is projected that 19% of the Norwegian population will be above the age of seventy (5). Population growth is primarily due to steady migration, which is expected to double by 2040 (5).

Figure 1. *Population distribution in Norway, 2017*



Source: Statistics Norway

Table 2. *Population statistics for Norway, Denmark, and Sweden*

	Norway	Denmark	Sweden
Total Population, 2017	5 213 985	5 748 769	10 027 167
Population growth (annual %) 2014-2015	1.13	0.575	1.045
Population density (people per sq. km of land area)	14.2	134.4	24.0
Population ages 0-14 (% of total) 2015	17.9	16.8	17.2
Population ages 15-64 (% of total) 2015	65.7	64.1	62.7
Population age 65 and above (% of total) 2015	16.3	18.9	19.9
Urban population (% of total) 2015	80.4	87.6	85.8

1.2. About this Market Study

This market study was prepared by Task Force Health Care (TFHC) and ACCESS Health International for the Regional Economic Envoy for the Nordic and Baltic Countries on behalf of the Ministry of Foreign Affairs in the Netherlands. By providing an overview of the healthcare system, healthcare market, and healthcare infrastructure in Norway, this study highlights priorities, opportunities, and challenges of the Norwegian healthcare market. In addition, the market study provides information on historical and current trends, financial considerations, and practical information for companies interested in the Norwegian market.

Parallel to this market study for Norway, similar studies were elaborated for Sweden and Denmark. The snapshot included in this document gives a brief overview and comparison of the healthcare sector in all three countries. The complete market studies for Sweden and Denmark are also available upon request.

1.3. Methodology

In order to make this market study as complete and relevant as possible for the Dutch Life Sciences & Health sector, information was obtained through different sources including a survey, a desk study, and a fact-finding visit. This methodology was applied for every study, i.e. for Norway, Denmark and Sweden.

Survey amongst the Dutch Life Sciences & Health sector

A survey among Dutch organizations active within the Life Sciences & Health sector was conducted to identify the interest and perceived opportunities and challenges in the healthcare markets in Norway, Denmark, and Sweden. The responses have been an important guidance for the desk study and shaping of the agenda during the fact-finding visits. In addition, the responses confirmed the increasing interest of Dutch Life Sciences & Health organizations in the Nordic countries. For a summary of the responses, please see **Appendix A.**

Desk study

The study used secondary data including government documents, reports, academic articles. For the statistics mentioned in the market study, the latest available data has been used. The information obtained through this desk study was ascertained at the meetings during the fact-finding visit.

Fact-finding visit

In addition to the interest survey and the desk study, a fact-finding visit was conducted by a delegation from TFHC and ACCESS Health to each country to gain insights directly from key stakeholders in the healthcare sector. In Norway, the delegation was accompanied by a representative of the Dutch Embassy of Norway. Next to the fact that valuable information was gathered, the meetings were used to cross check previously obtained data to provide a report as objective -and realistic- as possible. In addition, an introduction of the Dutch Life Sciences & Health sector was given to create more awareness of the available Dutch smart solutions within the healthcare sector. **Appendix B** presents a list of meetings held during the fact-finding visit in Norway.

2. The Norwegian Healthcare Sector

The following chapter will describe the current Norwegian healthcare system. Insight will be presented on the healthcare expenditure, financing, and infrastructure. An historical background of the healthcare system is provided, as well as more information on the healthcare professionals and healthcare outcomes in Norway.

2.1. Historical Background

Prior to the 19th century, healthcare in Norway was decentralized with municipalities acting as healthcare providers (8). Medical personnel were primarily accessible to wealthy urban populations. Industrialization in the 19th century brought about significant reforms in healthcare. The Practitioners Act of 1912 provided citizens with equal access to physicians' services, regardless of their level of income or residency (8). The number of primary medical officers doubled in both municipal and rural districts (9). The Ministry of Social Affairs was developed and each county was assigned a medical officer (9). The movement aimed to standardize care in the counties, districts, and nation (9).

After 1945 the Norwegian welfare state began to take shape under the leadership of the social democratic labor party (9). In the following three decades, legislation was introduced that brought forward comprehensive health and welfare services. Legislation included universal sick leave benefit (1956), medical services in schools (1957), disability benefits (1960), universal social security benefit (1966), and hospitals (1969) (9). These systems were centrally managed by professional medical experts under the Norwegian Directorate of Health.

The reforms of the 1980s aimed to decentralize the responsibilities of the Norwegian Directorate of Health after criticism for being a centralized technocracy. The communal health law of 1982 transferred responsibility for all health services from the national level to the municipalities (5). Hospital ownership was transferred from the state to 19 municipalities (10). In the 1990s the responsibilities of the Directorate of Health were reduced. Despite these systemic changes, the sector continued to grow and expand. Between 1980 and 2000 the public health expenditure doubled from 4 million euros to over 7 million euros (9).

The most significant change to the Norwegian health care system was introduced in 2002 with the Norwegian Hospital Reform. The reform transferred responsibility for the hospitals from the counties to five Regional Health Authorities (8; 10). Today, there are 4 Regional Health Authorities in Norway. From 2005 to 2015 a national strategy was introduced to improve quality of healthcare and social services in Norway. The strategy focused on "efficacy, safety, efficiency, patient centered care, care coordination, and continuity and equality in access to health care" (11). Under this strategy, the Health Directorate developed and published several evidence-based guidelines for specific diseases. The 2012 Coordination Reform addressed three major challenges of the Norwegian healthcare system: poor care coordination for individual patients, lack of preventive care, and the shifting illness profile of the aging population.

2.2. The Norwegian Healthcare System

The Norwegian healthcare system is a well-functioning system centered on universal coverage and equal access. The healthcare system is described as semi decentralized due to the divided responsibility between the national government, the regional health authorities, and the municipalities.

On the national level, the Ministry of Health and Care Services ('The Ministry') is responsible for ensuring quality of healthcare and social services. The Ministry develops national health policies, oversees legislation, determines the allocation of health sector funds, and implements health policy through other institutions.

Government Agencies
Under the Ministry of Health and Care Services

- Directorate of Health
- National Board of Health Supervision
- National Institute of Public Health
- Norwegian Medicines Agency
- Norwegian Radiation Protection Authority
- Norwegian Biotechnical Advisory Board
- Norwegian System for Patient Injury Compensation
- Norwegian Registration Authority for Health Personnel
- Norwegian Knowledge Center for the Health Services

The Ministry owns the 4 Regional Health Authorities ('The Authorities'). The Authorities are responsible for specialized care and hospital care in Norway. The Authorities include the Central Norway Regional Health Authority (Helse Midt-Norge), the Northern Norway Regional Health Authority (Helse Nord), the South Eastern Norway Regional Health Authority (Helse Sør-Øst), and Western Norway Regional Health Authority (Helse Vest). **Figure 2** presents The Authorities on the map of Norway.

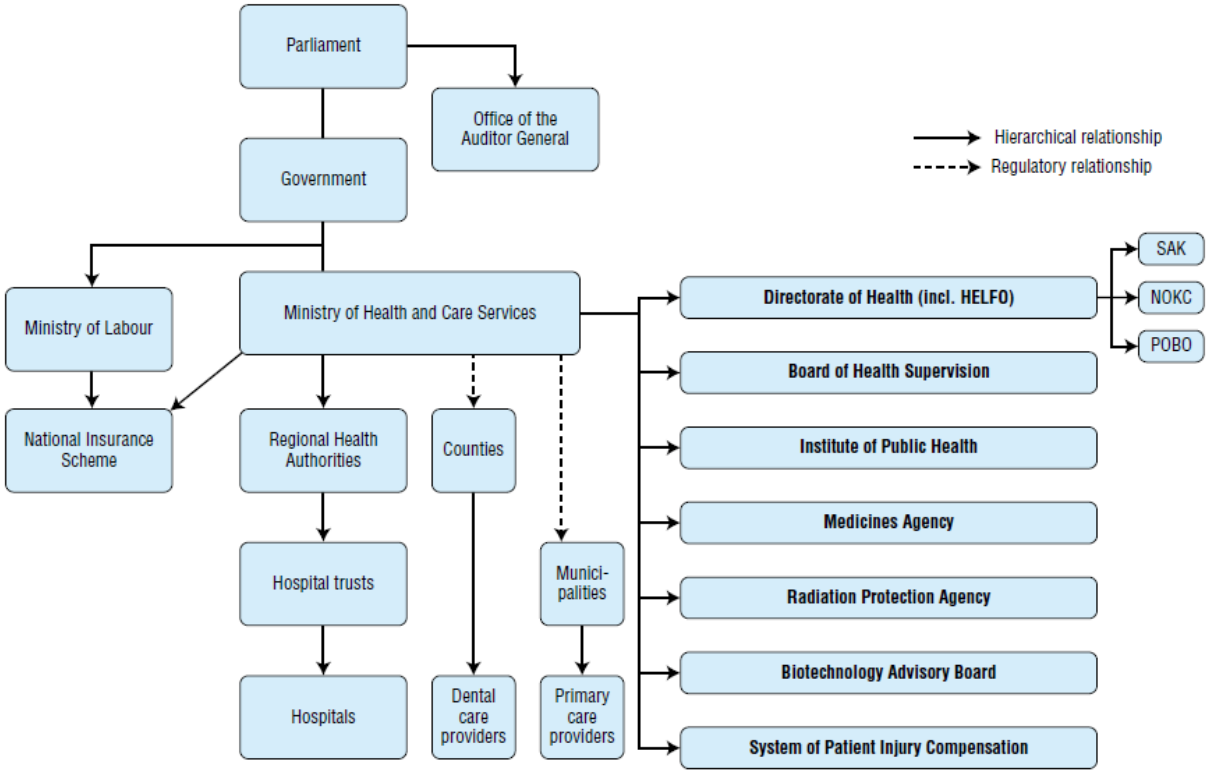
The largest Authority is the South Eastern Norway Regional Health Authority, which covers approximately 55% of the Norwegian population (8). Each Authority owns health trusts that are responsible for specialized health services including hospitals, mental health institutions, and laboratory services. In total, there are 27 health trusts. Of these health trusts, 21 are hospitals, four are pharmacies, one is a pre-hospital service, and one is an IT trust. All public hospitals are governed as publicly owned corporations. Privately owned hospitals provide less than 1% of the healthcare services in Norway.

Appendix C presents a list of university hospitals in Norway and their geographic spread. Counties serve a limited role in the provision of healthcare services in Norway. Primarily, they are responsible for providing dental care. Counties also share a limited responsibility for addressing public health.

Figure 2. *Regional health authorities on the map of Norway*

There are 428 municipalities in Norway (11). Ongoing reforms aim to reduce the number of municipalities in Norway (12). The municipalities are responsible for the provision of primary and social care services. These services include general practice, pregnancy and antenatal care, rehabilitation, physiotherapy, nursing, late-night emergency services, and a range of preventative public health measures (8; 13). The municipalities are required to provide long-term care and care for elderly individuals. When a patient is discharged from the hospital, the municipality decides if the patient receives at home care, short term care, rehabilitation, or long-term care (14). Municipalities pay fees to hospitals if they are unable to accommodate patients after discharge from a hospital. The fee system is similar in Sweden. If the patient is transferred to a health center, the municipality is responsible for determining how long patients will stay there. See **Figure 3** for a schematic overview of the healthcare system in Norway.

Figure 3. *Overview of the Norwegian healthcare system*



Source: Ringard et al. 2013

The 2002 healthcare reforms gave patients the right to choose one general practitioner as a family doctor (13). Today, 99% of all individuals in Norway are registered with a general practitioner. Most general practitioners are self-employed. General practitioners are contracted by the municipalities. Their services are paid for by the municipalities (35%), by the Norwegian Health Economics Administration (Helfo) (35%), and by out-of-pocket payments (30%) (11). General practitioners generally work at group practices housing three to eight physicians, lab technicians, nurses, and secretaries.

General practitioners in Norway are the first point of contact in the healthcare system. They are gatekeepers to specialized care. Once a person obtains a specialist referral, the patient has the right to choose a specialist from any municipality. The availability of specialists varies by geographic region and is limited in rural areas.

The role of the private healthcare sector in Norway is limited. While most general practitioners are self-employed, the 2002 reforms fully embedded these practitioners into the public sector. For specialist care, less than 2% of hospital beds in Norway are private for-profit providers (8). From 2010 to 2014 there was decline in the number of patients who used private rehabilitation centers (15). Less than 5% of all healthcare services are delivered by private providers (11). For acute hospital care, there are no private alternatives (11).

2.3. Healthcare Expenditure and Financing

Historically, the share of GDP spent on healthcare in Norway has been amongst the highest in the world. Since its peak in the early 2000s, Norway has spent a smaller share of its GDP on healthcare than Denmark and Sweden (8). In 2016, Health expenditure is approximately 10% of the GDP (1). Norwegian health expenditure in 2016 was over 35 billion euros (16). **Figure 4** presents an overview of the share of health expenditure by function of care (16). Curative and rehabilitative care account for 50% of the Norwegian health expenditure.

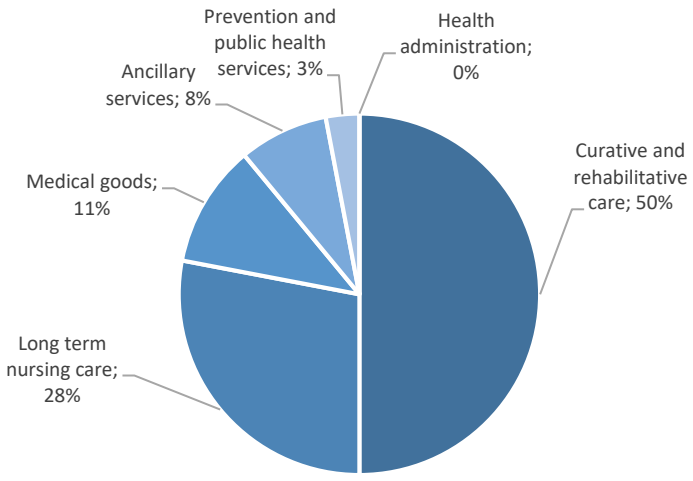
Snapshot: Healthcare Expenditure in Norway

- 10% of GDP
- 8871 Euros per capita
- Government spending accounts for 85% of total healthcare expenditure
- Out-of-pocket expenditure accounts for 14% of total healthcare expenditure

Source: The World Bank, OECD

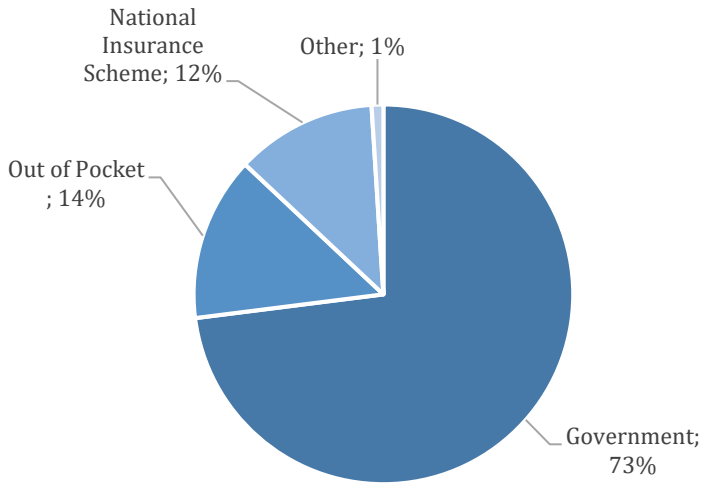
Norway has a universal, tax-funded, single-payer health system. The system is funded by the general tax system and by out-of-pocket payments (8). Every Norwegian resident partakes in the National Insurance Scheme. Approximately 7% of an employee's income tax goes to the National Insurance Scheme. In 2016, the average income tax was 38.7% (17). The national insurance scheme covers acute care, planned primary care, hospital care, rehabilitation, ambulance transport and approved prescription drugs (11). Children under the age of sixteen and pregnant women always receive free services. The share of the Norwegian population with a private health insurance is 3.5% (11).

Figure 4. *Health expenditure by function of care, 2016*



Source : Statistics Norway (16)

Figure 5 presents the sources of healthcare financing. Most healthcare financing comes directly from government funds. 14% of healthcare financing comes from out-of-pocket payments from Norwegian households (8). Copayments for services are regulated. For instance, a general practitioner cannot charge more than 14 euros for a visit and a patient cannot pay more than 51 euros per prescription (11). Hospital admissions and inpatient treatment are free. The annual cap for out-of-pocket costs is approximately 240 euros per patient. Long-term care and certain prescription drugs do not qualify under the cap. Once the annual out-of-pocket cost is reached, Helfo makes direct payments to the providers (11). Helfo falls under the Norwegian Directorate of Health. The Helfo administration is responsible for direct payments to health service providers as well as the partial payments to general practitioners under the general practitioner scheme (18).



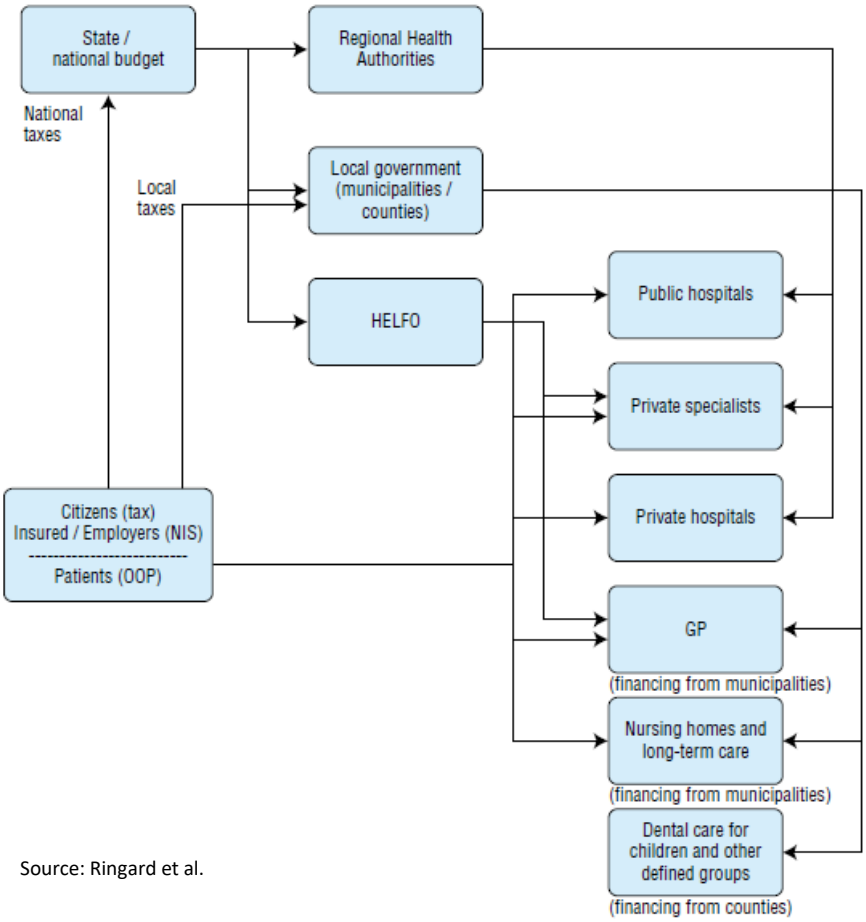
Source: Statistics Norway (16)

Figure 6 presents an overview of the financial flows in the Norwegian healthcare system. The Norwegian parliament approves the national budget every December. The Ministry of Finance (Finansdepartementet) allocates budget resources to the Ministry of Health. The Ministry of Health then distributes its budget between The Authorities, the municipalities, the counties and Helfo.

Since 1997, The Authorities have financed hospital services through a combination of block grants and activity-based funding (8; 19). Activity-based funding pays the hospitals for the services they perform. The cost of services is determined based on calculations made through the Diagnosis Related Groups (DRG) system (19). Municipalities and counties rely on block grants as their primary funding source. The amounts of block grants are calculated and distributed through a formula called the General Purpose Grant Scheme. The scheme accounts for local variations, cost differences, and demands in each municipality (8).

The state employs public health personnel. Salaries and contracts are negotiated between the state and trade unions. Trade unions include the Norwegian Medical Association (Legeforeningen) for physicians and the Norwegian Nurses Organisation (Norsk Sykepleierforbund) for nurses. **Appendix D** presents a list of relevant healthcare organizations and companies in Norway.

Figure 5. *Overview of financial flows in the Norwegian healthcare system*



Source: Ringard et al.

2.4. Healthcare Infrastructure

Norway has an estimated 16,000 healthcare facilities (8). In total, there are 28 hospitals in the 4 regional health authorities. There is at least one university hospital in each authority. There is no plan in place to close or specialize hospitals in Norway. The Authorities are adamant about maintaining smaller hospitals to service rural populations.

Since the 1980s, the number of hospital beds in Norway has steadily declined. **Table 3** presents an overview of specialized care beds and beds in care services in Norway. The average time spent in hospitals is also on the decline, primarily due to new technologies and treatment options. Long-term care is provided in the patient's home, nursing homes, or sheltered homes, which are run by the municipalities. In total, Norway has approximately 40.000 beds in nursing homes, which has declined by 1.5% from 2014. The official policy of Norway is to encourage home based care.

Table 3. *Infrastructure in specialized care and care services, 2015*

Specialized care	
Number of people treated in hospital	1.9 million
Number of beds	19,519
Beds per 1000 people	3.3
Average length of stay in hospital	5.5 days
Nursing and care services	
Number of people that received assistance at home	37,663
Number of people that received nursing at home	82,400
Number of people that received both assistance and nursing at home	62,437
Number of residents in short term rehabilitation	9,303
Number of residents in long-term rehabilitation	33,547
Number of beds in care institutions	40,708
Percentage of private beds	11.7

Source: (20; 21; 22)

The infrastructure conditions of hospital facilities vary across Norway. Every year hospital trusts report to The Authorities on the condition of their facilities. A 2011 a national audit found that 80% of hospital buildings had symptoms of poor condition (23). The infrastructure condition may have contributed to the hospital construction strategy in Norway and the ongoing construction of hospital buildings. More on these opportunities are presented in **Chapter 5**.

2.5. Healthcare Professionals

In comparison to Sweden and Denmark, Norway employs significantly more healthcare personnel per 1000 people. According to The World Bank, Norway has approximately 4.2 physicians and 17.2 nurses and midwives per 1000 people (24; 25). In total, 398.000 people with a healthcare education were employed in Norway in 2015 (26). Even so, Norway has experienced a shortage of healthcare professionals to service the one million people living in rural areas in Norway (27). Establishing a medical school in the northern city of Tromsø, internship programs in the northern regions, and specialist training in family health and public health has resulted in some progress.

Norway has a tradition of recruiting healthcare personnel from abroad. The government signed the World Health Organization ethical code of practice for recruitment of international health care staff. This code of practice discourages countries from actively recruiting staff from low income countries with healthcare staff shortages. 10% of the healthcare staff in Norway comes from abroad (26). Sweden contributes to over 14% of the foreign healthcare personnel (26).

Norwegian labor costs are high compared to other European countries. In 2011, the average monthly salary for physicians was 6,500 euros and 3,700 euros for nurses (8). Labor costs in Norway should be

considered before market entry. However, labor costs also present opportunities. If Dutch smart solutions can present smart solutions that cut down the cost of labor, opportunities in the healthcare sector may be available. Sector-specific opportunities are presented in **Chapter 5** of this market study.

2.6. Health Outcomes

The Norwegian population is healthy with one of the highest life expectancies in the world. The disease profile in Norway is dominated by non-communicable diseases. Like Sweden, the leading causes of death in Norway are cardiovascular diseases, Alzheimer disease, and cancers (28). The most common causes of premature deaths in Norway are ischemic heart disease, lung cancer, and cerebrovascular diseases (28). The leading risk factors in Norway are tobacco use and dietary risks (28).

Leading Causes of Death in Norway

1. Ischemic heart disease
2. Alzheimer disease
3. Cerebrovascular disease
4. COPD
5. Lung cancer
6. Lower respiratory infection
7. Colorectal cancer
8. Prostate cancer
9. Other cardiovascular
10. Falls

Source (28)

Leading Risk Factors in Norway

1. Tobacco smoke
2. Dietary risks
3. High systolic blood pressure
4. Alcohol and drug abuse
5. High body-mass index
6. High fasting plasma glucose
7. High total cholesterol
8. Occupational risks
9. Low physical activity
10. Low glomerular filtration rate

Source (28)

In 2013, the Norwegian Ministry of Health and Care Services introduced a national strategy to address prevention, diagnosis, treatment and rehabilitation of noncommunicable diseases. The 2013-2017 plan focuses on cardiovascular diseases, diabetes, chronic obstructive pulmonary diseases, and cancer (29).The main areas for improvement are identified as tobacco, diet, physical activity, and alcohol (29). The overall goal is to reduce premature deaths from cardiovascular diseases, diabetes, chronic lung disease, and cancer by 25% by the year 2025 (29).

3. Market structure

The following chapter will describe the business climate, market entry opportunities, and procurement procedures in Norway. Insight will be presented on the business culture, the use of the English language, and the tax climate for businesses. For sector-specific opportunities, see Chapter 5 of this market study.

3.1. Business Climate

Norway is ranked 6th in The World Bank's Ease of Doing Business index and is ranked 9th in Forbes' Best Countries for Business list (30; 31). Norway is not part of the European Union. Norway is a member of the European Free Trade Association, along with Iceland, Liechtenstein and Switzerland. Under the European Economic Association, Norway entered an agreement with the European Union for the freedom of movement of goods, services, persons and capital. Therefore, Norway mostly follows European Union rules and regulations for business. The corporate tax rate is between 24% and 25% depending on the industry. Norway has a highly skilled and educated workforce that are comfortable working in English. According to the English Proficiency Index, Norway ranks 4th in the world for English proficiency (32).

Much like Sweden and Denmark, Norwegian business culture is informal and non-hierarchical. Maintaining a work-life balance is important to Norwegians. According to Transparency International, Norway is the 6th least corrupt country in the world (33). Openness and freedom of information are core values. Norwegians are humble and bragging is often counterproductive. Success in Norway should be presented modestly and, if possible, shown through evidence-based results. For more information on communicating in the Nordics, please see the document provided by the Embassy of the Netherlands.

Nortrade was established by the Norwegian Trade Council as an official portal for business and investment in Norway. Nortrade is a good starting point to become familiar with the Norwegian market and business climate. Nortrade also provides helpful databases in sectors such as Research and Development and Healthcare. These databases can be used by Dutch companies to understand which specific companies are already established in the Norwegian market.

3.2. Market Entry

While English is widely used in business, it is beneficial to have a contact who speaks Norwegian. Most business is conducted in Norwegian and many tenders are floated in Norwegian. Some healthcare professionals can be uncomfortable speaking English. There is a close business relationship between the Nordic countries because Scandinavian languages and cultures are similar. Scandinavians can understand one another. Therefore, Sweden, Denmark, and Norway have the benefit of being able to work with one another in their native languages. There is a limited presence of Dutch Life Sciences & Health companies in Norway.

Establishment and market entry in Norway is a long-term commitment. Dutch companies considering entry into the Norwegian market should be prepared to have a three to five year strategy. As with any new venture, it takes considerable time to understand the market, to find opportunities, and build a reputation. Business registration in Norway is completed on the Government portal Altinn. A list of the 500 largest companies by turnover in Norway can be found on the website: http://www.kapital500.no/. Information on opportunities and challenges in specific sectors are presented in **Chapter 5** of this market study.

Useful organizations for market entry and information

To enter the Norwegian market, advice can be sought from the Netherlands Embassy in Oslo. The Economic Department of the Embassy is in contact with several Norwegian healthcare related organizations. One source of market entry is the Oslo Chamber of Commerce. The Oslo Chamber of Commerce is a private membership and service organization, with most of its members located in the Oslo area. Their objective is to contribute to increased profitability and increased competitiveness of member companies through networking, skills development and consulting in international business. For Dutch startups interested to enter the market in Oslo, Oslo MedTech is a good source. Oslo MedTech is a technology cluster facilitating the growth of new and innovative healthcare solutions. In addition, attending trade shows or conferences in Norway can provide invaluable insight to the sector. A list of relevant trade fairs and events is provided in **Appendix E.**

As authors of this market study, TFHC and ACCESS Health are available for Dutch companies and organizations interested in the Norwegian healthcare sector to provide additional information, contacts and further guidance. In addition, the Netherlands Enterprise Agency (RVO) can be consulted for information.

3.3. Procurement

The Norwegian public procurement market is considerable and is estimated at over 45 billion euros per year (34). Tenders above 50,000 euros must be made public on the official Norwegian procurement database Doffin. The Norwegian transparency threshold is lower than European Union (EU) rules, which require some sectors to publish tenders above 135,000 euros[1]. Large public procurements are often advertised in English. However, the contract language in most sectors is Norwegian. Norway follows European Union (EU) directives regarding public procurement. This entails that Norwegian regions and municipalities must publish contracts above EU thresholds on the EU tenders website Tenders Electronic Daily.

If a Dutch company chooses to export goods and services to Norway there are several important procedures to understand. When importing to Norway, an Authorised Economic Operator must be used. Norwegian Customs provides a list of approved Authorised Economic Operators here. Most goods are covered under the EEA and EFTA trade agreements. For instance, medical devices that are CE marked in another European country can be sold on the Norwegian market. Specific government rules and guidelines for imports to Norway can be found on http://www.toll.no/. Another strategy to

[1] Threshold amounts vary depending on goods and services provided. For more information on EU-wide rules regarding thresholds, please visit http://europa.eu/youreurope/business/public-tenders/rules-procedures/index_en.htm

import to Norway is through a distributor. A non-exhaustive list of medical supply and equipment distributors is presented in **Appendix F.** Many of the companies in **Appendix F** work in Norway, Sweden, and Denmark, providing entry opportunities to all three countries. Specific information and opportunities in the medical device sector is presented in **Section 5.6**.

4. Aligning Dutch Smart Solutions to Norwegian Opportunities

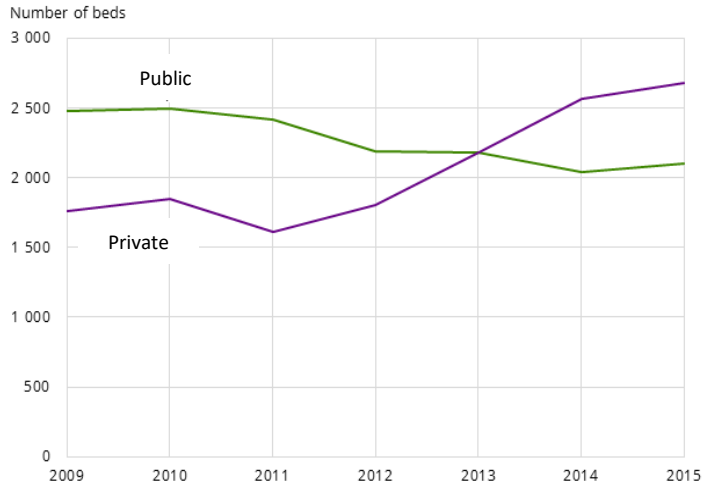
The following chapter presents information and opportunities in specific healthcare sectors in Norway, include the areas of: Mobility and Vitality, eHealth, Hospital Build, Product Development, Public Health, and Medical Devices.

4.1. Mobility and Vitality

***Smart solutions which stimulate, enable and facilitate disabled, less abled and vital citizens to be and to stay active and mobile participants/contributors in society** – TFHC*

One in nine people in Norway are over 70 years of age (575,900 people in 2016) (5). By 2060, it is projected that one in five people will be over 70 years of age (1.3 million people) (5). With the growing elderly population in Norway, the long-term care system will undergo several waves of innovation in the coming years. In 2015, municipalities spent approximately 12 million euros on care services. On average, users receive 9.5 hours of help per week. Norwegian municipalities are strategizing to improve long-term care efficiency through improved mobility services and innovation in the home (35; 14). The primary objective is for Norwegian inhabitants to live as long as possible in their homes with a high quality of life (14). Although the market for private healthcare is minimal in Norway, both private elderly care is growing. **Figure 7** shows the growth in the number of private and public beds owned in nursing homes and assisted living homes between 2009 and 2015.

Figure 6. *Private and public beds in nursing homes and assisted living homes*



Source: Statistics Norway

Municipalities look to Dutch solutions in elderly care. Several study trips have been arranged to Hogeweyk by long-term care homes in Norway. For example, the dementia home Økernhjemmet in Oslo Municipality adapted their facilities and care practices based on lessons from Hogeweyk. Therefore, lessons learned in the Netherlands have been applied to care and management operations

in some care homes in Norway. There is a great interest to continuing to adapt and improve mobility and vitality.

There is also a growing demand for welfare technology and assistive devices. Norwegian municipalities are looking for ways to adopt smart solutions in mobility and vitality. For example, Oslo municipality is strategizing to become a smart and age friendly city by 2030 (35). A welfare technology project in some districts has piloted safety alarms, GPS localization, electronic medical dispensers, and health apps for self-measurement (35). By the end of 2017, these welfare technologies should be well established in all districts in Oslo Municipality (35). Almas hus is a showcase for welfare technology and assistive devices. The solutions showcase dementia friendly design, assistive technology for the home, support for easy adaptation, and use of lighting to maintain comfort levels for the elderly. The showcase presents welfare technology solutions to health personnel, decision-makers, and the public. Almas hus exemplifies the growing interest and opportunities for mobility and vitality solutions in Norway.

4.2. eHealth

Smart solutions which (seamlessly) brings care and cure to patients and citizens and substantially increases the efficiency and functionality of care provision – *TFHC*

The Directorate of eHealth (Direktoratet for e-helse) was established in 2016 as the government agency responsible for the development and administration of standards in electronic collaboration for health and care services in Norway. The activities of the Directorate of eHealth are guided by the national strategy *One Citizen – One Health Record*. The strategy aims to create a national eHealth platform that can be used by citizens and providers on all levels of care. For patients, the platform would entail full access to medical history and electronic patient records. For care providers, the platform would allow harmonized access between different levels of care. The Central Norway Regional Health Authority is piloting a project under the *One Citizen – One Health Record* national strategy. With a budget of 300 million euros, The Authority holds is responsible for procuring all eHealth services for the region to streamline the national strategy. Five multinational companies have applied for the contract and a decision is expected in 2019.

National eHealth Strategy
"One Citizen – One Health Record"

1. Access to updated health information
2. Individual patient centric health plans
3. Harmonization of services and overview of quality and resources
4. Knowledge and decision support
5. Data for analytics, quality, research, policy making, and preparedness
6. Prepare for structural changes

The Directorate for eHealth employs in-house IT developers. However, eHealth services in Norway are primarily supplied by the Norwegian Health Network (Norsk Helsenett). **Appendix G** provides an overview of the platforms and activities of the Directorate of eHealth. Dutch companies can use this list as a launching pad to identify additional gaps in the provision of eHealth services.

The Norwegian Health Network is a public company owned by The Authorities and works under the Directorate of eHealth to deliver eHealth solutions and ensure interoperability between eHealth systems. The Norwegian Health Network sells services to over 5,000 members, which ensures coverage to all municipalities, all counties, all pharmacies, all general practitioners, and all public and private hospitals. The Norwegian Health Network procures their eHealth solutions, software, and services from other companies. Companies are hired through standard EU procurement procedures. With the procurement of eHealth services from third parties, alongside the nationwide roll-out of the National eHealth Strategy, present excellent opportunities for the Dutch eHealth sector to enter the Norwegian market.

National eHealth Company:

Norsk Helsenett

- Provider of eHealth services
- Over 5.000 members including all hospitals and municipalities in Norway
- Other companies provide eHealth solutions
- 192,529,839 medical messages sent through the Norwegian Health Network in 2016

There are several challenges facing the Norwegian eHealth sector. Norway was an early adopter of electronic health records. Currently Norwegian Health Network is managing eight different systems for electronic patient records. The Directorate of eHealth estimates that there are over 17.000 different databases with patient information in Norway. As such, the eHealth systems are decentralized and interoperability is a challenge. In line with the national strategy there is a need to standardize electronic messaging systems and electronic medical records, especially in specialized care. There is also an urgency to spread the use of wearables, such as home monitoring, and integrate the data with primary and specialized care results.

Another challenge is security (12). Attacks on eHealth systems are on the rise, globally. eHealth opportunities in Norway include improving patient security solutions, diagnostic security solutions, and information security solutions. Security is a priority area for the Norwegian Health Network. Both the Directorate of eHealth and the Norwegian Health Network emphasize the need for solutions in personal connected care.

Telemedicine has become increasingly important in Norway. In northern Norway, per capita healthcare expenditure is 100 euros higher than southern Norway (20). Healthcare expenditure in the north is high due to the distances between patients and cost of transport (20). Telemedicine is increasingly used as a tool to reduce costs and provide care to hard to reach citizens. A study from 2016 reports that 100% of the hospitals in Northern Norway utilize telemedicine (36). In Norway as a whole, 75% of the hospitals use telemedicine (36). Dutch smart solutions in telemedicine could provide solutions to the healthcare sector in Norway with dispersed populations.

Dutch ICT companies should also consider membership in IKT-Norge. IKT-Norge is an interest group for the Norwegian ICT industry. The organization has a strong political influence and is widely recognized in Norway. Through membership, Dutch companies could assume positive recognition and trust from consumers. IKT-Norge also provides market insight to members through reports and discounts on certain contractual agreements and insurances.

4.3. Hospital Build

Smart solutions which modernize, optimize, and increase access to the provision of quality healthcare *– TFHC*

The Norwegian Hospital Construction Agency (Sykehusbygg) is the official government entity for hospital construction and planning. The agency is owned by the four Authorities. The Norwegian Hospital Construction Agency is responsible for oversight of all hospital construction projects. There is an urgent need for construction and restoration in all Norwegian regions. As such, the Norwegian government is investing 1 billion euros annually into hospital build projects. These projects entail building completely new hospitals or renovating existing structures.

The Norwegian Hospital Construction Agency is responsible for the procurement of each hospital construction project. The agency follows standard EU procurement procedures to find architects and construction companies for each project. Generally, The Norwegian Hospital Construction Agency receives 5 to 7 bids for each hospital project. Each bid is submitted by collaborative company teams specializing in hospital construction, construction standards, and architectural design. There are many strong Nordic partners already established in Norway. Some of the largest building companies working in Norway include NCC (Sweden), Skanska (Sweden), AF (Norway), and Peab (Sweden).

National Hospital Build Agency:

Sykehusbygg

- Ensure national know-how for hospital planning, design, engineering, and construction
- Facilitate progressive hospital development projects through innovation, experience, standardization, project management, and best practices
- Apply lessons learned from hospital construction projects into new hospital development projects

The role of non-Scandinavian construction companies is limited in Norway. This may suggest that the construction market is challenging to enter for non-Scandinavian companies, or that there are opportunities which have not been tapped yet by Dutch hospital construction companies. One deterrent for hospital construction in Norway may be the strict environmental safety requirements. Also, The Norwegian Hospital Construction Agency prefers to use with standardized solutions. This entails that building supplies should be adjusted to comply with Norwegian regulations. Although contracts may allow for new materials and supplies, regulatory approval may be needed.

Partnerships with a Norwegian architect and/or partner seem necessary to enter the Norwegian market. Most communication is taking place in Norwegian and in tenders it is often required to communicate in a Scandinavian language. Norwegian organizations and companies also have the knowledge of the local market. Joint ventures are one of the recommended ways for Dutch companies to enter the hospital build sector in Norway. For example, the new Østfold Hospital, which was completed in 2015, was a collaboration between three architectural firms (two from Denmark and one from Norway). Dutch hospital design was incorporated into the plans.

Planned, ongoing, and completed hospital projects are published on The Norwegian Hospital Construction Agency website. Since the website is in Norwegian, Google Translate can be used for a general overview of the ongoing projects. A local partner is helpful in the process to monitoring details in upcoming tenders. A brief overview of planned hospital build projects is provided in **Appendix H.** Some of the largest upcoming projects include the new construction of Radiumhospitalet (327 million euros), the expansion and renovation of Oslo university hospital (4.15 billion euros), and the new construction of Drammen Hospital (895 million euros). Some of the projects are in the pre-planning phase, which entails that budgets have not been determined. For more information on each project review **Appendix H**, visit The Norwegian Hospital Construction Agency website, and contact the agency directly.

Featured Hospital Build Opportunity
Oslo University Hospital

Oslo University Hospital is due to expand, renovate, and build new buildings. The expansion is currently in the pre-planning phase of construction at Sykehusbygg. Planning approval is expected by the end of summer 2017. The estimated cost of the project is 4.15 billion euros. More information on the project can be found *here.*

4.4. Product Development

Offering smart solutions that accelerate, enable, upgrade or optimize the development and production of meaningful, affordable and high quality products – *TFHC*

Reported domestic medical device production in 2015 amounted to 77.3 million euros (2). This figure is likely an underestimate of the actual market because it does not include diagnostic imaging products (2). Orthopedic and prosthetic products were the largest product area in 2015 (2). Norway does not a have strong foundation in manufacturing of medical supplies or equipment. The country is reliant on imports. An overview of medical supply companies with a manufacturing presence in Norway is presented in **Appendix F**.

There is a growing interest in research and development of medical devices, medical technology, and welfare technology. More and more health innovation clusters are appearing in Norway. Likewise, hospitals are showing increased interest in becoming test beds for new products and solutions. The Innovation Center at Oslo University Hospital provides services and the use of hospital facilities. The Innovation Center has an Idea Clinic (Idépoliklinikken) that prioritizes development of ideas and products. The clinic prioritizes ideas that will have the greatest impact on patients, employees, and next of kin. Local politicians also show eagerness in piloting innovation in the municipalities, especially in Oslo municipality.

Health Innovation Stakeholders in Norway

- Innovasjon Norge
- Norwegian Innovation Clusters
- Oslo Medtech
- Medtek Norge
- InnoMed
- Aleap
- Inven2
- Oslo Cancer Cluster

Another opportunity is through The Centre for

Connected Care which was established in Oslo in 2005. The Centre has the objectives 1) to strengthen private sector innovation through investments and 2) to increase research and development for companies in Norway (35). Through partnerships with care providers, researchers, and private companies, the Centre for Connected Care supports innovation in Norway by researching, testing, and disseminating innovations into communities (35). The Centre may be a good entry point for product development intended for the Scandinavian market.

4.5. Public Health

Smart solutions to create sustainable health policy systems in order to increase healthcare capacity, accessibility, affordability and quality – *TFHC*

The Norwegian Institute of Public Health (Folkehelseinstituttet) is the institute responsible for national competency in public health under the Ministry of Health and Care Services. Under the Public Health Act (2012) Norway established national health goals including to promote good health and reduce social inequalities. The institute works to achieve the national health goals by delivering knowledge on public health, primarily through surveillance and research.

Like Sweden and Denmark, Norway collects data in national health registers. Every individual in Norway has a personal identification number that is used in the healthcare system to collect health information for the registers. There are 16 mandatory national health registers and 47 national clinic registries for specific diseases (37; 11). **Appendix I** presents a list of the mandatory national health registries. Other national registries include the National Education Database for school performance and the Central Criminal and Police Information Register for information on illegal activities. More information on accessing the registry data can be found on the Norwegian Institute of Public Health website. National health registers present unique opportunities for Dutch researchers to conduct population studies with data on risk factors, performance, and health outcomes. In addition to the national registries, there are over forty regional and hospital based registries on specific illnesses.

Public Health Competencies:

Norwegian Institute of Public Health

- Infectious disease control
- Physical and mental health
- Factors that affect health status and inequality such as environmental factors, nutrition, and physical activity
- Health promotion and prevention
- Global health

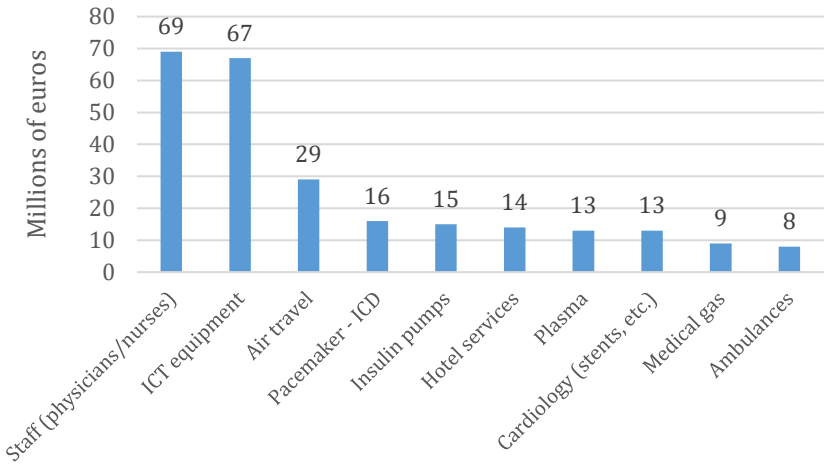
4.6. Medical Devices

Smart solutions which increase the quality, comfort and efficiency of care and decrease the costs, pain and treatment time – *TFHC*

Norway is reliant on medical device imports. In 2015, Norway imported 77.9% of its medical devices (2). All medical devices in Norway are monitored by the Norwegian Directorate of Health. Medical device manufacturers must register in the Medical Device Database (Utstyrsregisteret). Under the EEA Agreement, Norway has the same rights and obligations as EU Member States. Medical devices that are CE marked in one EU country can be put on the market in Norway. **Appendix J** presents a non-exhaustive list of national and multinational medical product companies that are present in Norway.

Over 95% of medical devices and supplies are purchased by the Norwegian public sector (2). The National Hospital Group Purchasing Organization (Sykehusinnkjøp) is owned by the four Authorities with the responsibility of purchasing medical supplies and equipment for Norwegian hospitals. In the procurement process, The Authorities determine the level of execution (i.e., If goods will be purchased locally, regionally, or nationally), determine the strategy for procurement, and award the contract. The National Hospital Group Purchasing Organization manages the procurement processes with a team of specialists (38). **Figure 8** presents the top 10 areas for hospital purchases in Norway. Norway prioritizes awarding contracts to companies that follow the core conventions of the International Labor Organization, setting high ethical and environmental standards.

Figure 7. *Top 10 annual hospital purchases by the National Hospital Group Purchasing Organization*



Source: *(38)*

5. Conclusions

This market study has highlighted the Top 10 Reasons for Dutch companies to be interested in the Norwegian healthcare market. The study has also spelled out concrete opportunities in six areas: mobility and vitality, eHealth, hospital construction, product development, public health, and medical devices.

In long-term care and mobility will need to adapt to the growing elderly population. A growing older population coupled with a small and decreasing work force will require efficient solutions like home support services, sensors, remote monitoring and home healthcare, along with Artificial Intelligence in various support systems for the future.

The geography of Norway presents large challenges for rural health provision, especially in the Northern parts. Telehealth and eHealth solutions are a natural fit for the Norwegian geography. Considering the clear political vision of providing equal care services in the entire country, these telemedicine solutions will be a critical component in the future. This should be considered by Dutch companies.

Many hospitals in Norway need renovations, expansions, and new buildings. Projects are easily identified through The National Hospital Construction Agency and procurement procedures are transparent. There are ample opportunities to enter hospital constructions projects that are in the pre-planning phase. This is a clear opportunity in Norway.

Non-communicable diseases and lifestyle factors dominate the public health sector. Like Sweden and Denmark, Norway maintains detailed health registers. These registers provide opportunities for Dutch researchers to conduct population-wide studies with adequate sample sizes and strong statistical power. Companies may, in joint research efforts tap into this source of data.

Product development and research in healthcare are growing interests in Norway. More and more innovation hubs, incubators, and cluster organizations are developing to support young medical technology companies, especially in Oslo. Universities and university hospitals are operating innovation units and acting as test beds in partnership with researchers and companies.

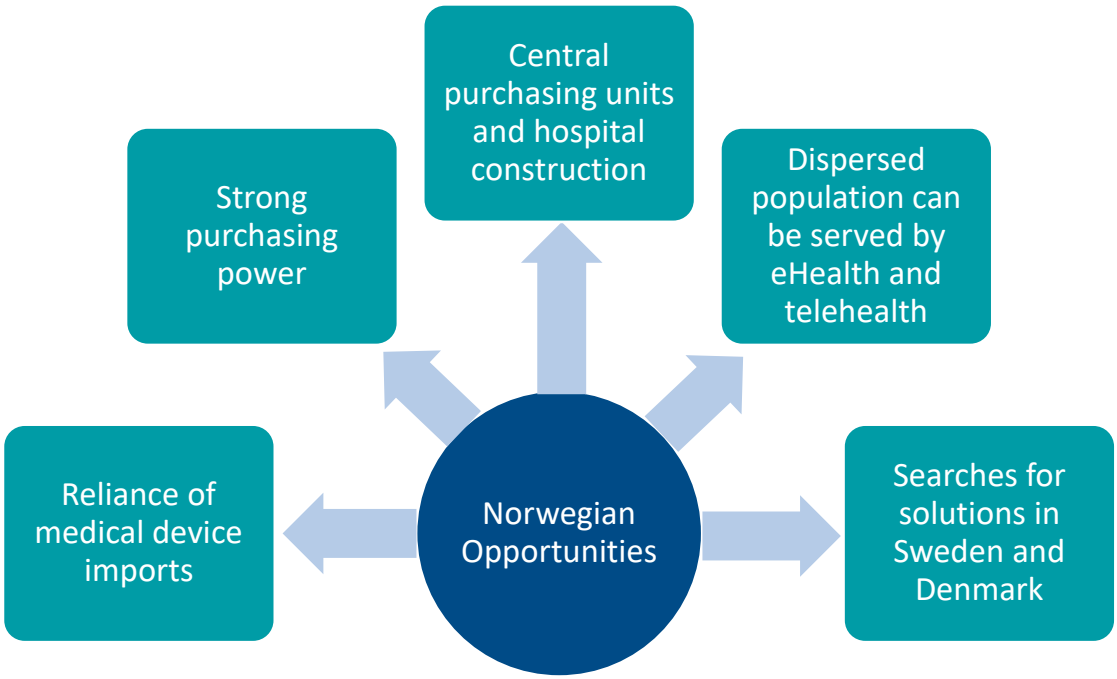
As emphasized in this report, Norway relies on imports of medical devices and hospital supplies. Over 95% of Norwegian medical supplies and devices are purchased by the public sector. The centralized Norwegian Healthcare Purchasing Agency handles this.

The Top 10 Reasons clarify the broader case of Norway. Both consumers and the government operate in a well-financed system, underpinned by the wealth generated by oil exploitation. Also, nearly 80% of all medical devices in Norway are imported, showing that there is a market for Dutch products. As exemplified in this report, public procurement is open and transparent. The centralized agencies and public companies in Norway, such as The National Hospital Purchasing Agency, provide a unique opportunity for Dutch companies to break new ground on a national level. Norway provides opportunities in the eHealth sector to improve interoperability and optimize the sector. The national eHealth authority is looking at smarter solutions that integrate across sectors and administrative barriers. This is a possible area for Dutch solutions. Scandinavian companies have a strong presence

and an apparent cultural advantage. This also makes Norway a Greenfield, where few companies outside of Scandinavia have a strong long-term foothold in the care sector.

Various opportunities in the Norwegian healthcare sector are available to Dutch companies. However, companies should be smart in strategizing for market entry. As market entry and establishment can be challenging, Dutch companies should be prepared to invest 3 to 5 years in Norway. Norway looks to Sweden and Denmark for innovative solutions. Entering the healthcare markets in Sweden and Denmark may provide a gateway into the Norwegian market.

Appendix K presents strengths, weaknesses, opportunities, and threats analysis of the Norwegian healthcare market



Next steps

This market study marks an important step to strengthen the bilateral healthcare relation between Norway and The Netherlands. Together with the Dutch Embassy in Oslo, future steps and activities will be identified to further connect Norwegian and Dutch healthcare stakeholders and build towards sustainable healthcare relationships. Please get in touch with TFHC, ACCESS Health and/or the Netherlands Embassy in Oslo.

References

1. The World Bank. World Bank Data. *World Bank Data.* [Online] 2015 http://data.worldbank.org/

2. Business Monitor International Ltd. *Norway Medical Devices Report.* s.l. : BMI Research, 2016. ISSN 2053-8383.

3. OECD. OECD Data. *Household disposable income, Net annual growth rate.* [Online] OECD, 2015. https://data.oecd.org/hha/household-disposable-income.htm

4. Statistisk sentralbyrå (Statistics Norway). External trade in goods, February 2017, preliminary figures. *Statistics.* [Online] 2017. http://www.ssb.no/en/utenriksokonomi/statistikker/muh

5. Statistisk sentralbyrå (Statisics Norway). Population Projections, 2016-2100. *Statistics.* [Online] 2017. https://www.ssb.no/en/befolkning/statistikker/folkfram/aar/2016-06-21

6. Statistisk sentralbyrå (Statistics Norway). Population pyramid 2017. [Online] 2017. https://www.ssb.no/en/befolkning/befolkningspyramide

7. Statistisk sentralbyrå (Statistics Norway). Births, 2015. *Statistics.* [Online] 2017. https://www.ssb.no/en/befolkning/statistikker/fodte/aar/2016-03-09

8. Ringard, Ånen, et al. *Norway: Health system review.* s.l. : Health Systems in Transition, 2013. Vol. 15. No. 8.

9. *Public Health in Norway 1603-2003.* **Hubbard, William H.** Haugesund : Essay Review, 2006.

10. *Norwegian General Hospitals, 1970-2002: County Ownership - An Interlude between Welfare Localism and State Direction.* **Grønlie, Tore.** p. 189-208, s.l. : Medical History, 2006, Vol. 50.

11. The Commonwealth Fund. *2015 International Profiles of Helath Care Systems.* New York City : The Commonwealth Fund, 2016.

12. *Norsk Helsenett: Presentation for ACCESS Health International.* **Norsk Helsenett.** Oslo : Håkon Grimstad, 2017.

13. Norwegian Directorate of Health. *Norway and Health. An Introduction.* Oslo : Norwegian Directorate of Health, 2012. IS-1730E.

14. *Health House: Center for rehabilitation and short term care.* **Lilleborg Health House.** Oslo : s.n., 2017.

15. Directorate for Health. *Nøkkeltall for helse - och omsorgssektoren.* Oslo : Norwegian Directorate for Health, 2016.

16. Statistisk sentralbyrå (Statistics Norway). Health accounts, 2016. *Statistics.* [Online] 2016. http://www.ssb.no/en/helsesat

17. Trading Economics. Norway Personal Income Tax Rate. *Trading Economics.* [Online] 2016. http://www.tradingeconomics.com/norway/personal-income-tax-rate

18. **The Norwegian Health Economics Administration.** About Helfo. *Helfo.no.* [Online] 2017. https://helfo.no/english/about-helfo

19. NOMESCO. *Health Statistics for the Nordic Countries 2015.* Copenhagen : Nordic Medico-Statistical Committee, 2015.

20. Statistisk sentralbyrå (Statsitcs Norway). Specialist health service, 2015. *Statistics.* [Online] 2015. https://www.ssb.no/en/helse/statistikker/speshelse

21. Statistisk sentralbyrå (Statistics Norway). Nursing and care services, 2015. *Statistics.* [Online] 2015. https://www.ssb.no/en/helse/statistikker/pleie

22. OECD. Length of hospital stay. *OECD Data.* [Online] 2015. https://data.oecd.org/healthcare/length-of-hospital-stay.htm

23. Norwegian Office of the Auditor General. *Investigation into property management in health trusts and regional health authorities.* Oslo : The Office of the Auditor General, 2011. ISBN 978-82-8229-140-8.

24. The World Bank. Nurses and midwives (per 1,000 people). *World Bank Open Data.* [Online] 2017. http://data.worldbank.org/indicator/SH.MED.NUMW.P3

25. The World Bank. Physicians (per 1,000 people). *World Bank Open Data.* [Online] 2017. http://data.worldbank.org/indicator/SH.MED.PHYS.ZS

26. Statistisk sentralbyrå (Statistics Norway). Health care personnel, 2015, 4th quarter. *Statistics.* [Online] June 2016. https://www.ssb.no/en/arbeid-og-lonn/statistikker/hesospers/aar/2016-06-27#content

27. The World Bank. Rural Population (% of total population). *World Bank Open Data.* [Online] 2017. http://data.worldbank.org/indicator/SP.RUR.TOTL.ZS

28. Institute for Health Metrics and Evaluation. Norway. *Health Data.* [Online] 2015. http://www.healthdata.org/norway

29. Norwegian Ministry of Health and Care Services. *NCD-Strategy 2013-2017: For the prevention, diagnosis, treatment and rehabilitation of four noncommunicable diseases - cardiovascular disease, diabetes, COPD, and cancer.* Oslo : Norwegian Ministry of Health and Care Services, 2013.

30. Forbes. Best Countries for Business. [Online] 2016. https://www.forbes.com/best-countries-for-business/list/#tab:overall

31. The World Bank. *Doing Business.* [Online] 2017. http://www.doingbusiness.org

32. Education First. The world's largest ranking of countries by English skills. *EF EPI.* [Online] 2016. http://www.ef.se/epi/

33. Transparency International. Corruption Perceptions Index 2016. *Surveys.* [Online] January 2017. http://www.transparency.org/news/feature/corruption_perceptions_index_2016#table

34. Visma. HOw to tender and win contracts with Norwegian public authorities. *Visma Corporate Blog.* [Online] 2014. https://www.visma.com/blog/tender-win-contracts-norwegian-public-authorities/

35. *Innovation The Department of Primary Health and Social Services.* **Oslo Municipality.** Oslo : Nancy Lyons Sletmo, 2017.

36. *Adoption of routine telemedince in Norwegian hospitals: progress over 5 years.* **Zanaboni, Paolo and Wootton, Richard.** 496, s.l. : BMC Health Services Research, 2016, Vol. 15. DOI: 10.1186/s12913-016-1743-5.

37. Norwegian Institute of Public Health. Overview of the national health registries. *Research & Access to data.* [Online] 2016. https://www.fhi.no/en/more/research--access-to-data/about-the-national-health-registries/

38. *Health procurement in Norway.* **Sykehusinnkjøp.** Oslo : Harald I. Johnsen, 2017.

Appendices

A. Results from Survey amongst the Dutch Life Sciences & Health Sector

As part of this market study a survey was conducted amongst Dutch organizations active in the Life Sciences & Health sector to identify the interest in the healthcare markets in Norway, Denmark, and Sweden. The results show that 61% of the Dutch organizations (N=51) are already active in one or two of these countries. Most of them are active in Denmark (43%), followed by Sweden (39%) and Norway (29%). Of all survey respondents, 90% indicated to consider Scandinavia as potential growth market for the coming years. Finland was also mentioned in some of the responses, although this country was not included in the scope of this study.

The respondents in The Netherlands are mainly active in the field of Medical Devices (measurement devices, hospital supply kits, such as medical tapes, wash facility for hospital beds, and suturing tools), eHealth (healthcare integration, telemedicine, mobile alarm systems, online trainings for healthcare professional), Hospital Build (modular medical buildings, contamination control, flooring systems, doors, chutes), Mobility & Vitality (neurological rehabilitation, variety of ergometric and orthopaedic products), Product Development (embedded systems, system suppliers) and BioPharma (clinical analyses, diagnostics, healthcare data and research between Universities). It is within these areas why they see Denmark, Norway and Sweden as target market.

General barriers experienced by the respondents range from the native language, the relatively small size of the population, distances to and within the countries, high costs of transportation, competition on local and international level (from the Nordic and Baltic region and/or multinationals) to market protectionism and local preference. For Sweden, the complex regulation (for example on the sharing of information) and the relatively low pricing due to tender procurement were specifically mentioned. Some obstruction by local authorities or companies was perceived in Denmark. For Norway, the non-EU regulations were indicated as possible barrier. For all countries, insufficient knowledge of the healthcare sector as well as the lack of contacts to find a business partner and/or distributor were perceived as major challenges.

B. Meetings during Fact-Finding Visit to Norway 2017

- Direktoratet for e-helse: Directorate for eHealth is the government agency for eHelath in Norway.
- Helse Sør-Øst: South Eastern Regional Health Authority provides healthcare services for the largest region in Norway, including Oslo.
- Helsetilsynet: National Board of Health Supervision is responsible for supervising and ensuring quality care in Norway.
- Lilleborg Health House is a short term rehabilitation center in Oslo municipality.
- Nasjonal Kompetansetjeneste Aldrig och Helse: National Advisory Unit on Aging and Health presents national guidelines and training for elder care in Norway.
- Norsk Helsenett: Norwegian Health Network is a public company providing eHealth services to all regions, municipalities, and healthcare providers.
- Økernhjemmet is a long-term care home specialized in dementia care.
- Oslo Medtech is a leading medical technology cluster in Oslo.
- Implementing Commission for Senior, Health and Social Services
- at Oslo Municipality provides guidelines on innovation and solutions for at home care and elder care in Oslo.
- Sykehusbygg – National Hospital Construction Trust is responsible for all hospital construction in Norway.
- Sykehusinnkjøp – National Healthcare Purchasing Trust is responsible for all hospital device and supply purchasing in Norway.
- Ullevål Sykehus – Ullevål Hospital is a part of Oslo University Hospital in Oslo Municipality.
- Netherlands Embassy in Oslo

C. Geographic Spread of University Hospitals

Region	Hospital	Affiliated University	Website
South Eastern Regional Health Authority			
	Oslo University Hospital including: - Aker University Hospital - Gaustad Hospital - Rikshopsitalet - Ullevål University Hospital	University of Oslo	https://oslo-universitetssykehus.no/
Central Norway Regional Health Authority			
	St. Olafs University Hospital	Norwegian University of Science and Technology	https://stolav.no/
Western Norway Regional Health Authority			
	Stavanger University Hospital	University of Stavanger	https://helse-stavanger.no/
	Haukeland University Hospital	University of Bergen	https://helse-bergen.no/
Northern Norway Regional Health Authority			
	University Hospital of Norther Norway	University of Tromsø	https://unn.no/

Source: Google Maps

D. List of Important Healthcare Organizations

- Aleap
- Idépoliklinikken
- InnoMed
- Innovasjon Norge
- Inven2
- International Network of Agencies for Health Technology Assessment
- Kreftforeningen
- Legeforeningen
- Medtek Norge
- Norsk Helsenett
- Norsk Sykepleierforbund
- Norwegian Innovation Clusters
- Norwegian Medical Association
- Oslo Cancer Cluster
- Oslo Medtech
- Sykehusinnkjøp

E. List of Relevant Trade Fairs and Events

- The Norwegian Health Conference
- eHealth in Norway
- Os!o Innovation Week
- National Health Preparedness Conference
- Nordic Public Health Conference
- Norwegian Hospital Build Conference (Konferanse om sykehusutbygging)

F. List of Medical Device Distributors in Norway

- AH Diagnostics
- AkuMed
- Avalon Medical AS
- Fisher Scientific
- ILS NORWAY AS
- Medic24
- Meloria Medtech
- Novakemi ab
- Saveen & Werner AS
- Scan-Med AS
- Sigma-Aldrich Norway AS
- Vingmed AS
- VWR International AS

G. The Directorate of eHealth platforms and activities

- The Health Portal
- The Personal Connected Care Program
- One Health Record
- Program for Common Infrastructure
- The Health Data Program
- ePrescription
- Summary Care Record
- Electronic Messaging

H. Planned Hospital Build Projects in Norway

Region	Project Title	Type of Project	Project Phase*
South Eastern Regional Health Authority			
	Radiumhospitalet – Specialized Cancer Centre	New build	Planning Phase
	Psychiatric Prison	New Build	Planning Phase
	Oslo University Hospital – Aker Hospital and Gaustad Hospital	Expansion/New Build	Pre-planning Phase
	Drammen Hospital	New Build	Planning Phase
Central Norway Regional Health Authority			
	St. Olafs Hospital – Psychiatric Centre	New Build	Pre-planning phase
	Nordmøre og Romsdal Hospital – New emergency ward and remodelling of existing structure	New build/Renovation	Pilot Project
Western Norway Regional Health Authority			
	Stavanger University Hospital	New Build	Planning Phase

*Criteria for project phases can be found on the Sykehusbygg website: http://sykehusbygg.no/prosjekter/

I. List of National Health Registries in Norway (37)

- The Medical Birth Registry of Norway
- The Norwegian Cause of Death Registry
- The Norwegian Registry of Pregnancy Termination
- The Norwegian Surveillance System for Communicable Diseases
- The Childhood Vaccination Register
- The Norwegian Surveillance System for Infections in Hospitals
- The Norwegian Surveillance System for Antimicrobial Drug Resistance
- Norwegian Cardiovascular Disease Registry
- Norwegian Prescription Database
- The Norwegian Surveillance System for Virus Resistance
- The Cancer Registry of Norway
- Norwegian Patient Registry
- The Norwegian Information System for the Nursing and Care Sector
- Health Archive Registry
- Genetic Screening of Newborns
- The Registry of the Norwegian Armed Forces Medical Services

J. National and Multinational Medical Product Companies in Norway (2)

National companies with manufacturing in Norway

- Alu Rehab
- ConceptoMed
- Glamox
- Handicare
- Heger
- Laerdal
- Norgesplaster
- Normeca
- Otivio
- Sero
- Snogg

Multinational companies with manufacturing in Norway

- GE Healthcare

Multinational companies *without* manufacturing in Norway

- Baxter
- B.Braun
- Becton Dickinson
- Boston Scientific
- Fresenius
- Johnson & Johnson
- Medtronic
- Philips
- Siemens Healthineers
- Smith & Nephew
- Stryker

K. SWOT Analysis of the Norwegian Healthcare Market

Strengths	Weaknesses
- Norway has been successful in reducing the number of beds in both specialized care and rehabilitative care, encouraging citizens to live at home with support - The 2012 national hospital reforms successfully created regional health authorities and improved the administration of specialized care in the country	- Underdeveloped private sector - Small population limits market potential - Low GDP growth - Age and condition of hospital infrastructure (23) - Aging population and shrinking workforce (18) - The geography of Norway has assured inequality in terms of access to primary care, access to specialist care, and costs of care (8)
Opportunities	**Threats**
- Municipalities open to innovation - Geographic spread presents opportunities for eHealth and telemedicine - Hospital build is centralized and transparent - Relatively untouched by Dutch SMEs - Purchasing conducted at region and national levels - Market growth in medical devices is expected through 2020 (2) - Heavy reliance on imports for medical supplies and devices	- Close business relations with Scandinavian SMEs - Entry and establishment in Norway is a long process (3-5 years) - Falling oil revenues may present barriers to economic growth and healthcare opportunities - Nationwide contracts for goods and services are limited

Task Force +health Care
Dutch platform for the life sciences & health sector

Task Force Health Care

Task Force Health Care (TFHC) is a public-private platform founded in 1996. The TFHC network consist of partners from industry, knowledge institutes, NGO's, healthcare providers and the government, all active in the Dutch Life Sciences & Health sector. The partners provide innovative and sustainable solutions to global (and local) healthcare challenges and are active all over the world.

TFHC stimulates cooperation and knowledge-sharing in order to combine forces within the Dutch healthcare sector, and; Present and position The Netherlands abroad in order to be involved in the global and local healthcare challenges.

For more information visit: www.tfhc.nl

Agenda

For more information on upcoming activities:
www.tfhc.nl/agenda/

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