Overview of existing performance standards and criteria and the external environment of cancer centers in the EU

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1. EXECUTIVE SUMMARY

Introduction

Differences in health systems performance in EU countries indicate sufficient room for improvement, contributing to a larger degree of disease & symptom free survival after primary treatment & prolonged symptom free metastatic disease. In order to minimize the differences and inform & encourage the exchange of best practices for benchmarking and tackle the causes of cancer inequalities the BENCH-CAN project was started. The objective of this report is to map the external environment factors at the different CCC's that could influence the BENCH-CAN project and to provide an overview of recommendations, standards & accreditation criteria used in the EU for comprehensive cancer care.

Methodology

Based on findings from literature the following external environment factors were identified:

- Sociodemography
- National health system and healthcare spending
- Health status
- National cancer prevalence rate
- Organization of cancer care

The overview of assessments was made by performing a survey. The survey was word based and consisted of three domains.

Conclusion

Healthcare spending is in general higher in North and Southern Europe and lower in Central-Eastern Europe. This is not necessarily related to the type health system. Cancer is a problem in all involved countries. There are differences in the way cancer care is organized and the type of assessments in each country.

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Recommendations

There are several things that need to be kept in mind when performing an international benchmarking study. The first being, that each institute is placed in a different environment and that this environment needs to be taken into account. As stated before although healthcare spending in this report was not calculated specifically for cancer care, one could assume that when general spending is low, spending on cancer care is also low. Implementing quality improvement in general costs money. It is therefore important that improvements derived from the Bench-Can project are easy to implement and not expensive.

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2. INTRODUCTION

Cancer is the second most important cause of death in Europe. According to GLOBOCAN, 2.5 million new cancer cases and 1.3 million cancer deaths occurred in 2008 in the 27 member states of the European Union (population is 497 455 033)[1]. Cancer incidence and mortality however, vary in the different countries across the continent. Survival also varies noticeably. As can be seen in the European cancer registry–based study of cancer patients' survival and care (EUROCARE-4)[2], survival is mostly low in low-income Eastern Europe and high in high-income countries of Northern and Western Europe[2].

Several studies have found correlations between cancer survival and macroeconomic variables such as countries' overall wealth and spending on healthcare[3]. Healthcare spending depends mainly on a country's wealth, but social factors and the varying organizational structures of national health systems also play a role[4]. In some countries, the health service is mainly public; in others, the private sector plays an important role. Different countries also have different financing methods. In some countries, costs are paid from general taxation (national health systems); in others, insurance plays a major role (social insurance systems) or private financing is important(out of pocket payment)[3].

Other factors that correlate with cancer survival are smoking and alcohol use. A causal association has been established between alcohol consumption and cancer. This has been proven for cancers of the oral cavity, pharynx, larynx, oesophagus, liver, colon, rectum, and, in women, breast. Increasing alcohol consumption is an important cause of cancer worldwide[5]. Studies published since the 1986 IARC Monograph on "Tobacco smoking" provide sufficient evidence for a causal association between cigarette smoking and cancer. More specifically for cancer of the nasal cavities and para-nasal sinuses, naso-pharynx, stomach, liver, kidney (renal cell carcinoma) and uterine cervix [6].

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Differences in health systems performance in EU countries indicate sufficient room for improvement, contributing to a larger degree of disease & symptom free survival after primary treatment & prolonged symptom free metastatic disease. In order to minimize the differences and inform & encourage the exchange of best practices for benchmarking and tackle the causes of cancer inequalities the BENCH-CAN project was started. BENCH-CAN addresses the fundamental principles of 'Together for Health'; it will complement the healthcare WP and cancer data and information WP of the European Platform for Action Against Cancer; it will also inform Pillar B (Care & cure) of the Strategic Implementation Plan of the European Innovation Platform for Active & Healthy Ageing. Bench-Can will contribute to "Promote health", including the reduction of health inequalities and plays a role in the implementation of the "prevention of major and rare diseases". The general objective of BENCH-CAN is to benchmark comprehensive cancer care & yield best practice examples in a way that contributes to improving the quality of interdisciplinary patient treatment. Part of the project is the assessment of external environment factors that affect performance improvement and report on assessing standards and recommendations for CCC(comprehensive cancer centers) in selected EU countries.

The objective of this report is to map the external environment factors at the different CCC's and to provide an overview of standards & accreditation criteria used at the 11 pilot sites in the EU for comprehensive cancer care.

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3. METHODOLOGY

External environment pilot sites

We started with identifying the external environment factors. For each pilot site these factors were examined. Data on these factors were retrieved through a literature search. Based on findings from literature the following factors were identified:

- Sociodemography
- National health system and healthcare spending*
- Health status
- National cancer prevalence rate
- Organization of cancer care

Overview of assessments

The overview of assessments was made by performing a survey. The survey was word based and consisted of three domains. In the first two domains the scope of the institute and the major source of funding were assessed. The third domain was used to assess the different types of performance assessments the different centers undergo. Participants were asked to describe several characteristics for each assessment listed. For the full survey see annex 1. The survey was sent to 32 cancer centers in the EU including the 11 pilot sites. The cancer centers were identified through the OECI(Organisation of European Cancer Institutes) and the ESMO(European Society for Medical Oncology). We received responses from 21 institutes including 9 pilot sites. Two researchers examined the data and excluded the listed assessments that did not fit the inclusion criteria. The inclusion criteria for the assessments were;

- the assessment had to assess cancer care
- the assessment had to assess cancer research
- the assessment had to assess combination of research and care.

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All assessments that did not fit these criteria were excluded from the study. For a full list of included assessments see annex 2. After removal of the assessments that did not fit the criteria all the individual responses were compiled into on word document. The assessments were divided into three categories; care oriented assessments; research oriented assessments; and assessments that are oriented at a combination of care and research.

The word table with the full list of responses was circulated amongst the respondents for a final verification of the data. The characteristics of the assessments were analyzed with excel.

* Total health expenditure is the sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation.

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4. EXTERNAL ENVIRONMENT PILOT SITES

4.1 NIO, Budapest

Summary

Sociodemography

Hungary is a country with a small population of 9,909,000 (2014 estimate). Hungary is a parliamentary democracy (the National Assembly) with a unicameral parliament.

National health system and healthcare spending

Hungary has a single-payer health system based on a social insurance. In 2012 total healthcare spending consisted of **7,8% of the GDP**. The chief regulatory role in the Hungarian health system is played by the government and relevant ministries and but other actors, like the professional chambers, National Institutes of Health and the NPHMOS.

Health status

The main causes of death in Hungary are diseases of the circulatory system, cancer, diseases of the digestive system (including liver disease) and external causes (including suicide). In 2009 Hungary had the highest rate of mortality from cancer in the entire WHO European Region.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 285.4/100,000.

Organization of cancer care

There are two types of cancer care in Hungary: (i) oncology centres as separate facilities or as facilities operating in hospitals, which offer up-to-date diagnostics and

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can provide care for complex cancer treatment; (ii) general hospitals where cancer patients are treated by various medical disciplines.

Sociodemography

Hungary is a country with a small population of 9,909,000 (2014 estimate)[7]. The population of Hungary has been decreasing since the 1980s. This is mainly because the birth rate is below the mortality rate since 1981. The share of people 65 years of age or older has been increasing steadily, accompanied by a decrease in the share of those 14 years old and younger[8].

In Hungary, executive, legislative and judicial duties are carried out within the framework of a parliamentary democracy. Known as the National Assembly (Országgyűlés), the unicameral parliament has 386 seats and a four-year election cycle[8].

National health system and healthcare spending

The Hungarian population is guaranteed the right to a healthy environment, an optimal level of physical and mental health, and income maintenance benefits in the form of social security by The Hungarian constitution. The constitution assigns overall responsibility for social welfare and health care provision to the central government. Other actors such as the National Assembly, local governments, the regional health councils, the NHIFA(National Health Insurance Fund Administration) and the NPHMOS(National Public Health and Medical Officer Service) also play a role[8]. Currently Hungary has a single-payer health system based on a social insurance[9]. The Social Health Insurance(SHI) health system represents a dominant role of societal actors in healthcare regulation and financing, whereas services are mainly delivered by private for-profit providers[10]. In 2012 total healthcare spending consisted of **7,8% of the GDP**[11].

The HIF(Health Insurance Fund) supplies a comprehensive benefits package with few exclusions and nearly universal coverage. The scheme has little or no co-payment except for pharmaceuticals, medical aids and prostheses and some

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additional services[8]. There is no regular mechanism to review the benefits package and exclude services that are not cost–effective. Strategic health planning and systematic needs assessment are not applied. A framework for systematic performance measurement is also lacking[8]. Because of this mechanisms for ensuring accountability are restricted primarily to audits conducted by the State Audit Office, which focuses for the most part on financial and legal aspects of providers' business operations[8].

According to the primary division of tasks between counties and municipalities, only the former are responsible for the provision of secondary and tertiary care to the local population. Nevertheless, in reality, municipalities also provide specialist care on the basis of the principle of subsidiarity[8]. In general, county governments own large multi-specialty hospitals, which provide secondary and tertiary inpatient and outpatient care to the acutely and chronically ill, whereas larger municipalities own a range of institutions, including polyclinics (independent, multi-specialty institutions providing outpatient specialist care), dispensaries (single-specialty institutions providing outpatient care to the chronically ill), and multi-specialty municipal hospitals (which provide secondary acute and chronic inpatient and outpatient care)[8].

The central government also owns hospitals, which provide acute and chronic inpatient and outpatient care. The Ministry of National Resources owns university hospitals. The single-specialty clinical departments of the medical faculties provide both secondary and tertiary care. The Ministry of National Resources also manages single-specialty providers known as the National Institutes of Health, which for the most part deliver highly specialized tertiary care only(cancer institutes), as well as state hospitals[8].

The main regulatory role in the Hungarian health system is played by the government and relevant ministries[8]. Health care providers must obtain a license to practice from the NPHMOS, which maintains a registration database. Before issuing a license, medical officers from the NPHMOS inspect the facilities and ascertain whether minimum standards for infrastructure, hygiene, personnel and material

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supplies have been fulfilled. In 2007 more than half of all Hungarian hospitals had some kind of certified quality assurance system, while most of these apply the International Organization for Standardization (ISO) 9000 quality system(also used at the NIO) and other operational standards [12]. However, there is still no overall strategic plan for developing quality in health care[13].

There is detailed legislation regarding medical negligence; the necessary procedures are carried out by the National Ethics Council and its county branches. Professional chambers carry out the procedures in cases related to their members. All health care providers are obligated to have liability insurance to enable them to compensate patients appropriately in justified malpractice claims. These claims have to be checked by the NPHMOS[8].

Health status

Hungary still ranks among the lowest in Europe with regard to life expectancy at birth[14]. The main causes of death in Hungary are diseases of the circulatory system, cancer, diseases of the digestive system (including liver disease) and external causes (including suicide)[8]. This pattern has remained the same since 2000, and mortality from each of these causes continues to be higher than for the EU27[14]. In 2009 Hungary had the highest rate of mortality from cancer in the entire WHO European Region. Among people aged from 25 to 64 years, cancer was the main cause of mortality for woman and the second most common cause of mortality among men between 2005 and 2007[8]

Lifestyle factors – especially the traditionally unhealthy Hungarian diet, alcohol consumption and smoking – play a significant role in shaping the overall health of the population[8].

In 2005, Hungary ranked among the countries with the highest rate in the entire EU27 with a 12.5 liter per-capita consumption rate for pure alcohol among people over the age of 15,. The consumption of illegally distilled homemade spirits represents an additional risk factor for the development of alcohol-induced cirrhosis

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and other diseases such as certain types of cancer[15]. An estimated 31.4% of the population in Hungary aged 15 years and above were regular daily smokers in 2009[8].

In 2008, 19.2% of respondents in Hungary reported that their health status was “bad” or “very bad”, compared to 9.5% in the EU27 as a whole. On the other hand, the share of respondents reporting that their health status was “good” or “very good” was 55.2% in Hungary versus 68% in the EU27. There was a remarkable difference in self-reported health status between men and women in Hungary, with 58.9% of men compared to 52% of women reporting that their health status was “good” or “very good”, and 17% of men compared to 20.1% of women reporting that their health status was “bad” or “very bad”[8].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 285.4/100,000.

Organization of cancer care

In past decades, two types of care have evolved in treating cancer patients in Hungary. On the one hand, oncology centers have been developed to serve as separate facilities or as facilities operating in hospitals. The oncology centers offer up-to-date diagnostics and can provide many of the conditions needed for complex cancer treatment. In other hospitals, however, cancer patients are treated by various medical disciplines and that treatment is based on principles that are by far not uniform or state-of-the-art[17]. In 2005 a decision was taken that certain types of tumors (such as pediatric cancers, hematological malignancies, lung cancer, brain tumors, and eye tumors)should be treated in separate units of specialist facilities and not in the oncology centers. This was decided partly because of their specifics and partly because of Hungarian practices[17].

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4.2 VUOI, Vilnius

Summary

Sociodemography

Lithuania is a country with a population of 2,944,459. Lithuania is a parliamentary republic. The country is governed by a single chamber parliament (*Seimas*).

National health system and healthcare spending

The health system in Lithuania can be considered to be an Etatist Social Health Insurance model. The state itself plays many roles within the health system, including that of legislator, regulator, contributor to the Compulsory Health Insurance Fund and owner of health-care facilities. In 2012 total healthcare spending consisted of **6.7 % of the GDP**. The Ministry of Health has been a major player in health system regulation through setting standards and requirements, licensing and approving capital investments. Outside the ministry there are a number of other regulatory agencies.

Health status

The leading causes of death in Lithuania are circulatory diseases, cancer and external causes. Since the early 2000s, cancer rates have generally remained stable in men and have somewhat declined in women, although premature mortality from cancer remains the main cause of death in women aged 40–59 years.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 251,9/100.000

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Sociodemography

Lithuania is a country with a population of 2,944,459[7]. In 2003, the birth rate changed from declining to increasing, reaching 11.3 live births per 1000 population in 2011, when 34 400 babies were born. Since 2000, the average age of women giving birth has increased from 26.6 to 28.6 years, while that of first-time mothers has increased from 23.9 to 26.7 years [18]. In 2011, children aged 0–14 years made up 15% of the country's population, compared with 20% in 2000. The population aged 65 and older increased from 13.9% in 2000 to 16.2% in 2011, which indicates the increase of an aging population[18]. Lithuania is a parliamentary republic. The country is governed by a single chamber parliament (*Seimas*) elected for a four-year term, and a president elected for five years[19].

National health system and healthcare spending

The health system in Lithuania consists of governance institutions (the government, ministries and municipalities, as well as other specialist governance and control bodies), providers of health-care services, and health system resources and services[19]. The health system in Lithuania can be considered to be an Etatist Social Health Insurance model[10]. The state itself plays many roles within the health system, including that of legislator (parliament), regulator (government and the Ministry of Health), contributor to the Compulsory Health Insurance Fund (Ministry of Finance) and owner of health-care facilities (Ministry of Health, Ministry of Defense, Ministry of the Interior, Ministry of Justice)[19]. In 2012 total healthcare spending consisted of **6.7 % of the GDP**[11].

Overall responsibility for the entire health system is held by the Ministry of Health, which is strongly involved in drafting legal acts and issuing regulation for the sector. It also runs health-care facilities and public health institutions and has the overall responsibility for health system performance. The Ministry of Health develops the health-care infrastructure and prepares national health programs[19].

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The state health insurance scheme is implemented by the NHIF, which also manages the Compulsory Health Insurance Fund. Social insurance contributions collected by the SSIF and the State Tax Inspectorate are another main source of the health insurance budget[19]. The NHIF coordinates the activities of five territorial health insurance funds. The central NHIF office is in charge of budget planning and control, including decisions on the financial reserves, supervision and audit of the territorial branches. The territorial branches of the NHIF sign contracts with health-care providers and pharmacies. They pay providers for the health-care services rendered to the insured residents, and pharmacies for reimbursable medicines issued to patients. The branches also contract and reimburse health-care providers and pharmacies, disseminate information, control service provision in the regions, and finance municipal public health programs[19].

The Ministry of Health is a major player in health system regulation through setting standards and requirements, licensing and approving capital investments. The number of other regulatory agencies declined between 2008 and 2012 as a result of government policy to reduce bureaucracy and costs[19]. An overview of regulatory agencies is given below.

The SHCAA(State Health-Care Accreditation Agency) performs regulatory functions on licensing, registering and inspecting providers. It can also accredit health-care providers at their request[19]. At present, the SHCAA is implementing an accreditation framework and five accreditation standards, financed from the EU structural funds. Providers lack incentives to seek accreditation, as the purchasing arrangements do not look at the quality of the services delivered. Health-care institutions and professionals are mostly concerned with meeting the minimum requirements (e.g. the minimum number of hours of professional training for retaining their license). The SHCAA is mainly engaged in licensing health-care providers and professionals and public health institutions, laboratories and pathology services; it also has a role in the assessment and control of medical devices[19].

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The State Medicines Control Agency (SMCA) main responsibility is registration, licensing, evaluation and control of medicines for human use, as well as licensing of pharmacies and pharmacists. A network of over 50 national experts, including representatives from the national medical schools, provides scientific support[19].

The Bioethics Committee comprises two boards of experts (Group of Experts of Biomedical Research and the Bioethics Council). The aim is to promote and protect human rights and dignity in the field of health care. The Committee was established has two main responsibilities: (i) to inform the biomedical community and general public on ethical issues and moral dilemmas arising in the context of modern health care, and (ii) to facilitate the protection of patient rights in the field of biomedical research and to coordinate the ethical review of biomedical research projects in Lithuania[19].

The vast majority of health-care providers are not profit-making institutions but public non-profit-making enterprises. The Ministry of Health and municipalities are owners of the public health-care facilities. The owners have the power to reorganize and abolish their facilities, employ an administrator through public tender, make decisions on asset management, determine salaries and medicine costs (as a share of total expenditure) and define volumes of obligatory services. The last function is particularly difficult to implement in practice because of the dominance of the NHIF in contracting and paying for services[19].

Health status

Life expectancy at birth in Lithuania has been changing greatly since the early 1990s, reaching 73.6 years in 2011 (68.1 years for men and 79.3 years for women) [20]. In 2010, age-standardized mortality from all causes in Lithuania was 951 per 100 000 population – the second highest among the EU-27 countries. The leading causes of death are circulatory diseases, cancer and external causes[14].

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Since the early 2000s, cancer rates have generally remained stable in men and have somewhat declined in women, although premature mortality from cancer remains the main cause of death in women aged 40–59 years. The most common types of cancer in men are lung, colorectal and prostate. In women they are breast, colorectal and stomach cancers. Mortality rates from breast and cervical cancer in Lithuania are 23 and 11 per 100 000 women, respectively. According to Cancer Registry data[21], the share of disease diagnosed in stages I and II remained the same between 2005 and 2011 and is around 66–68%. The proportion of cervical cancer diagnosed at stages I and II has also stayed the same between 2004 and 2011 – at 54%.

Mortality from smoking-related causes in Lithuania is higher than the EU average (493 and 199 per 100 000, respectively). There was a reduction in smoking prevalence from 52% to 34% among men between 2000 and 2010[22], reflecting the ban on tobacco advertisement in 2001, ban on smoking in public areas in 2007 and increasing tobacco excise tax.

The high consumption of alcohol in Lithuania has been an issue of concern for a long time [23]. Consumption of strong alcohol at least once a week fell from 34% to 24% in men and from 18% to 12% in women between 2000 and 2010. Most of this improvement happened after 2008, as alcohol control became a matter of priority in Lithuanian health policy [24]: advertising bans, increases in excise duty and restrictions in opening hours, together with other measures limiting alcohol accessibility, have been introduced. However, after a minor decrease in 2009, the consumption of alcohol increased again and reached 11.9 liters per person in 2011.

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 251,9/100.000

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4.3 IPO, Porto

Summary

Sociodemography

According to the latest estimates, the total resident population of Portugal is 10,561,614. Portugal is a constitutional democratic. The main institutions of the state are the President of the Republic, the Parliament, the government and the courts.

National health system and healthcare spending

Portugal is a National Health System (NHS) country. The Portuguese health care system is characterized by three coexisting, overlapping systems. In 2012 total healthcare spending consisted of **9.4 % of the GDP**. With respect to regulatory management mechanisms, the Portuguese system might be viewed as highly normative, with extensive legislative provisions.

Health status

The main causes of death have been cardiovascular and cerebrovascular diseases and cancer. Diseases of the circulatory system, together with cancer, accounted for over 50% of deaths in 2008, according to the National Statistics Institute (INE, *Instituto Nacional de Estatística*). The mortality rate of these diseases has been above the EU27 average over recent decades.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 246.2/100,000

Organization of cancer care

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The regional centres of the Specialized Cancer Institute (in Coimbra, Lisbon and Porto) offer the most up-to-date cancer treatment in the country. There are six public radiotherapy centres.

Sociodemography

According to the latest estimates, the total resident population of Portugal is 10,561,614[7]. The number of births has been declining steadily since 1970 (20.8 live births per 1000 population). The dependency ratio fell from 0.59 in 1980 to 0.49 in 2008 (based on the relation of the population under 15 and over 65 years of age to the remainder of the population). The increase in the proportion of people over 65 years old and the decrease of the population under 15 years of age will result in a "double ageing" effect[25].

Portugal has been a constitutional democratic republic since 1974. The main institutions of the state are the President of the Republic, the Parliament, the government and the courts. Both the President and the Parliament are elected by means of universal suffrage, through national elections[25].

National health system and healthcare spending

Portugal is a late developed National Health System (NHS) country[10]. The Portuguese health care system is characterized by three coexisting, overlapping systems: the universal NHS; special public and private insurance schemes for certain professions (health subsystems), covering about a quarter of the population; and private VHI(voluntary health insurance), with estimates of coverage ranging from 10% to 20% of the population[25]. In 2012 total healthcare spending consisted of **9.4 % of the GDP** [11].

Planning and regulation take mainly place at the central level in the Ministry of Health and its institutions. The ACS(High Commissariat for Health) is responsible for the design, implementation and evaluation of the National Health Plan[25]. Management of the NHS takes place on a regional level. There are five regions in Portugal in which a health administration board that is accountable to the Ministry of

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Health is responsible for strategic management of population health, supervision and control of hospitals, management of primary care/NHS primary care centers, and implementation of national health policy objectives. They are also responsible for contracting services with hospitals and private sector providers for NHS patients[25].

Although in theory the RHAs(regional health authorities) have financial responsibilities, these are limited to primary care since hospital budgets are defined and allocated centrally. All hospitals that belong to the NHS are in the public.. Private sector hospitals, both non-profitmaking and profit-making, have their own management arrangements[25].

With respect to regulatory mechanisms, the Portuguese system could be viewed as highly normative, with extensive legislative provisions. There are, for example, numerous and sometimes very restrictive controls over pharmaceutical goods, high-technology equipment, and the education, training and registration of health personnel[25].

There are different regulatory bodies within the Portuguese health system. INFARMED is responsible for the regulation of pharmaceuticals and medical equipment, and supported by the Pharmaceutical Inspection Service, the Pharmacosurveillance Service and the Official Laboratory for Pharmaceutical Quality Control. The Court of Auditors is an independent body that conducts periodic external auditing of NHS performance. These analyzes have highlighted major organizational and financial problems and have made recommendations. The Health Regulatory Agency(HRA) is an independent body responsible for the competition policy and economic regulation of the health care sector. Its aims are to guarantee enough competition between providers and to protect the citizens' rights to universal health care coverage[25].

Since 2003, the majority of NHS hospitals have been given status similar to those of a public-interest company (in what may be termed "autonomous public hospitals", whereby the government retains ultimate ownership but gives some autonomy to hospital management – "Hospitais EPE"). All hospitals are financed through contracts (contratos programa), but "Hospitais EPE" have many decision-

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making powers with relation to capital, staff and negotiation of input prices, which are not present in the traditional NHS-run hospitals[25]. Competitive pressures in the labour market, more precisely in the demand for physicians in the most sought-after specialties, leading to wage escalation, were generated through this change. Several hospitals are getting together to block-purchase pharmaceutical products and other clinical consumables, taking advantage of the bargaining power resulting from larger acquisition volumes[25].

Health status

In Portugal, the mortality rate declined more than 0.8% since 1975. Portuguese life expectancy at birth doubled during the 20th century, both in women (40.0 years in 1920 to 79.7 years in 2000) and in men (35.8 years in 1920 to 72.6 years in 2000). Men usually die younger due to cerebrovascular diseases, ischaemic heart conditions, traffic accidents and cancer[25].

Since the mid 1980s, the main causes of death have been cardiovascular and cerebrovascular diseases and cancer. These are likely to remain the main causes of death of the Portuguese population for the coming decades, according to the Directorate- General of Health (DGH) study[26]. Diseases of the circulatory system, together with cancer, accounted for over 50% of deaths in 2008, according to the National Statistics Institute (INE, *Instituto Nacional de Estatística*)[25]. The mortality rate of these diseases has been above the EU27 average over recent decades. The most frequent fatal tumors in 2008 were lung tumors, among both men and women.

Tobacco consumption has decreased among male adults, possibly due to the legislation enacted in 2007 (Law no. 37/2007) that forbids smoking in most public places since 2008. However, almost all the other risk factors – obesity, alcohol consumption – have increased across all age groups[25]. Portugal produces a wide range of alcoholic beverages, wine being the most important among them. Both men and women tend to consume alcoholic beverages daily, particularly in the form of wine with meals. There is also a widespread attitude that alcoholic beverages are a

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necessary element of daily nutrition. Findings show that roughly 3.8 percent of deaths are attributable to alcohol[25].

There are some regional disparities, particularly between urban- coastal and rural-interior regions. The latter had, and still have, the worst health conditions. Rural regions are also the poorest in the country[25].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 246.2/100,000

Organization of cancer care

A periodically updated National Cancer Plan has established the main priorities for cancer control in the population. There are three regional centres of the Specialized Cancer Institute (in Coimbra, Lisbon and Porto). These centers offer the most up-to-date cancer treatment in the country. There are six public radiotherapy centres[27]. Cancer patients pay reduced income tax and are excused from all medical fees except those for common medical prescriptions. There have been attempts at population screening programs at the regional level for breast and cervical cancer, but uptake has been relatively low[27].

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4.4 NKI/AvL, Amsterdam

Summary

Sociodemography

In 2013 the Netherlands had an estimated population of 16.73 million. As in all OECD countries, the aging of the population is an important challenge in the Netherlands. The Dutch political system is a parliamentary democracy.

National health system and healthcare spending

The Dutch healthcare system can be classified as an Etatist Social Health Insurance model. The Dutch system has a single compulsory insurance scheme, in which multiple private health insurers compete for insured persons. Supervision and management of the system is largely done by independent bodies. In 2012 total healthcare spending consisted of **12,4% of the GDP**. The government should ensure that managed competition results in safe, accessible and affordable health care of good quality. There are several regulatory bodies within the Dutch system.

Health status

In 2007 most deaths in the Netherlands were caused cancer. This is in contrast with the EU27, where diseases of the circulatory system are the main cause of death. Between 1970 and 2007, the decline of deaths caused by cancer was smaller than for other causes.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 304.8/100,000.

Organization of cancer care

There are nine regional Comprehensive Cancer Centres (CCCs) which are funded from the budgets of the hospitals served. The mission of these centres is to

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provide optimal cancer care at the regional level. The CCCs also host the regional cancer registries.

Sociodemography

In 2013 the Netherlands had an estimated population of 16.73 million[7]. As in all OECD countries, the aging of the population is an important challenge in the Netherlands. The percentage of children (age 0–14) has been decreasing since 1970 and the percentage of elderly is increasing[28].

The Dutch political system is a parliamentary democracy, the parliament has the final say[29]. The Dutch Constitution provides for a bicameral parliament and consists of the First Chamber (*Eerste Kamer*) and the Second Chamber (*Tweede Kamer*). The First Chamber, or Senate, has 75 members elected for four years by the 12 provincial councils. The head of the government is the prime-minister who is usually chosen from the party with most seats in the Second Chamber[29]. The head of state is a hereditary monarch.

National health system and healthcare spending

The OECD would label the Netherlands as a 'social insurance model'. Though many others would not. Böhm et al. classified the system in the Netherlands as an Etatist Social Health Insurance model[10]. This model is characterized by a clear hierarchy of the three dimensions: the state is responsible for regulating the system, financing is organized by societal actors, and provision has been delegated to private hands[10]. Originally the Dutch health system was rooted in the "Bismarckian" social insurance tradition. This system remained unchanged, for the most part, until the 2006 health care reform. The reform introduced a single compulsory insurance scheme, in which multiple private health insurers compete for insured persons[28]. This reform has radically changed the roles of actors in the health care sector, in particular the role of health insurers and patients. Supervision and management of the system have been delegated from the government to independent bodies[28]. In 2012 total healthcare spending consisted of **12,4% of the GDP**[11].

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A necessary competency of the government is setting the budget for healthcare. Other important competences of the central government are taking decisions on the content of the basic health insurance package, on cost-sharing, tariffs for health services(based on advice by the Dutch Health Care Authority, NZa) and extending the share of freely negotiable services. In order to prevent preferred risk selection, the government sets the rules for risk adjustment among health insurers[28]. In the care sector, the central government has a number of explicit responsibilities, including creating the preconditions for quality, accessibility, safety and affordability of the care for people with chronic conditions. They are also responsible for strengthening the position of citizens, in particular patients and their representatives; and stimulating innovation[28]. To meet these responsibilities, the government has supervisory and advisory bodies in place such as the Dutch Health Care Authority (NZa), the Health Care Inspectorate (IGZ) and the Health Care Insurance Board (CVZ)[28].

Secondary care comprehends those forms of care that are only accessible upon referral from a primary care health provider, such as a GP or dentist. Primary care providers play an important gate-keeping role. Secondary care is mainly provided by hospitals. Hospitals have both inpatient and outpatient departments as well as 24-hour emergency wards. Outpatient departments are also used for pre- or post-hospitalization diagnosis[28].

There are six types of institutions that provide hospital or medical specialist care:

- general hospitals
- academic (university) hospitals
- categorical hospitals
- independent treatment centres
- top clinical centres (specialized in e.g. cancer)
- trauma centres.

Private health insurers are responsible for purchasing and compensating all curative health services that are covered by basic health insurance. Most health insurers operate nationally, but some have their clients primarily in a particular

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region. Insurers are either public limited companies (*naamloze vennootschappen*) or mutuals (*onderlinge waarborgmaatschappijen*)[28].

The Nza{Nederlandse Zorg authoriteit) is an independent administrative body, funded by the Ministry of Health, Welfare and Sport. It's tasks are defined in the Health Care Market Regulation Act (*Wet marktordening gezondheidsorg,* Wmg). The NZa may impose tariff and performance regulation. The Nza has different tasks, including: monitoring and administering the markets for health care provision; health insurance and the purchasing of health care; and overseeing the lawful implementation of the Health Insurance Act and Exceptional Medical Expenses Act by all stakeholders. The NZa has the power to enforce specific obligations on players that have obtained “significant market power” [30]. It may, for instance, request adapting price setting in line with NZa rules. NZa also has powers to lay down general rules for care providers and health insurers to increase the transparency of the market [30].

The IGZ(Inspectie voor de Gezondheidszorg) supervises the quality and accessibility of health care. The Inspectorate is, in principal, independent from the Ministry of Health, Welfare and Sport, but recently the ministry has been accused of too much influence. Among others, the IGZ regulates public health; it investigates complaints and accidents in health care; and it takes appropriate measures. The IGZ is also an advisory body to the Minister of Health, Welfare and Sport. It is subdivided into a preventive and curative health care sub-inspectorate, a mental health care sub-inspectorate, and a pharmacy and medical technology sub-inspectorate[28]/

The Nma (Nederlandse Mededingings authoriteit) has a general mission to enforce fair competition in all sectors of the Dutch economy. With regard to health care, the NMa supervises health insurers and health care providers, as these are subject to the Dutch Competition Act (*Mededingingswet,* Mw). The Competition Act empowers the NMa to track down cartels, enforce the ban on cartels, assess consolidations and enforce the prohibition of the abuse of a dominant market position. Where the tasks of the NMa and NZa overlap, the NZa is the designated institute[28].

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Health status

While in 1970 diseases of the circulatory system were the main cause of death in the Netherlands, in 2007 most deaths were caused by malignant neoplasms (cancer). This is in contrast with the EU27, where diseases of the circulatory system are the main cause of death[28].

The health status of people with a lower socioeconomic status (SES) is lower compared to people with a higher SES. In general, people with a lower level of education are less healthy than people with a higher level of education. There are several factors which cause these differences, one of which is an unhealthy lifestyle [31].

Between 1990 and 2000, the percentage of regular daily smokers decreased by 4%. After an increase of 2% in 2001, the percentage started to decrease again and dropped to 29.1% in 2007. The EU27 average of daily smokers also showed a decline from 30.6% in 1995 to 27.0% in 2006. Between 1995 and 2006 the EU average was below the percentage of the Netherlands[14].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 304.8/100,000.

Organization of cancer care

Cancer care in the Netherlands is traditionally delivered by general hospitals and 20 regional radiotherapy centers. The second were originally reasonably well organized and funded, but they were unable to adapt to the rising demand. There are oncology centers at the eight university hospitals. These centers also carry out fundamental and clinical cancer research. The Netherlands Cancer Institute(NKI) is a national reference point for basic and clinical research[27]. Histological diagnoses are provided by 40 local and 30 regional pathology laboratories linked to computerized national registration[27].

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Nine regional Comprehensive Cancer Centres (CCCs) were founded around 1980, which were funded from the budgets of the hospitals they served. The mission of these centers is to provide optimal cancer care at the regional level. The CCCs are also involved in developing and implementing guidelines for cancer treatment and referral, providing postgraduate training in oncology, and increasing psycho-social and palliative care facilities. The CCCs also host the regional cancer registries[27].

Cancer registries collect a minimal data set (including information on primary treatment) from clinical records and keep these in a national database. They are also increasingly involved in studies on the quality of cancer care. Regional cancer registries have provided data to the national registry since 1989. There is no linkage with the Causes of Death Registry at Statistics Netherlands[27].

4.5 CRO, Aviano and INT, Milan

Summary

Sociodemography

The total population of Italy in the 2014 estimate is 60,923,964. The structure of the population changed significantly between 1970 and 2006 owing to marked declines in fertility rates (from 2.42 to 1.35) and increases in life expectancy. Italy is a parliamentary republic. The Chamber of Deputies and the Senate form the bicameral parliament.

National health system and healthcare spending

Italy's health care system is a regionally based National Health Service (Servizio Sanitario Nazionale (SSN)) that provides universal coverage free of charge at the point of service. The system is organized into three levels: national, regional and local. In 2012 total healthcare spending consisted of **9.2 % of the GDP**.

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Health status

Life expectancy at birth rose substantially during the 1980s and continued to grow to just above the EU average by the late 1990s. Cancer is the most frequent cause of death for people under 64, followed by cardiovascular diseases.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 278.6/100,000.

Organization of cancer care

There are seven specialist cancer institutes in Italy (four in the north). These are concerned with treatment and research and are answerable to, and receive funds from, the Ministry of Health. They are therefore largely independent of local or regional control. However, most cancer patients are not treated at these institutes but at general hospitals.

Sociodemography Aviano and Milan

The total population of Italy in the 2014 estimate is 60,923,964[7]. The structure of the population changed significantly between 1970 and 2006 owing to marked declines in fertility rates (from 2.42 to 1.35) and increases in life expectancy[33].

Italy is a parliamentary republic. The Chamber of Deputies and the Senate form the bicameral parliament. The President of the Republic is elected for seven years by a joint session of the Chamber and Senate. The Prime Minister must be endorsed by, and have the confidence of the Parliament and is nominated by the President[33].

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National health system and healthcare spending

Italy's health care system is a regionally based National Health Service (*Servizio Sanitario Nazionale* (SSN)) that provides universal coverage free of charge at the point of service[33]. The system is organized into three levels: national, regional and local. The national level is responsible for ensuring the general objectives and fundamental principles of the national health care system. Regional governments, through the regional health departments, are responsible for ensuring the delivery of a benefits package through a network of population based ASLs (Azienda sanitaria locale-local health enterprise) – and public and private accredited hospitals[33]. Regions are required to guarantee the benefit package to be delivered to the population. They are responsible for legislative and administrative functions, planning health care activities, organizing supply in relation to population needs and monitoring the quality, appropriateness and efficiency of the services provided[33].

Third party payers are represented by the regional governments (with respect to public funding). Private insurance companies are third party payers with respect to non-public funding. Public funding accounts for about 70% of total health care expenditure and private insurance companies account for about 11%. Out-of-pocket payments and co-payments account for the remaining part of expenditures[33]. In 2012 total healthcare spending consisted of **9.2 % of the GDP**[11].

In view of the greater independence granted to the regions with respect to health policy, there is a great deal of variation in how each region performs its role of 'third party payer' (or purchaser) in the health care system. There are different institutional models[33]. Friuli-Venezia- Giulia(region of Avioano) falls in the mixed/semi-separated group. In this group the percentage of hospital beds directly managed by regions is between 20 and 40%. Lombardy(Milan) falls into the last category, using a separated system. Only in this region are hospitals completely separated from ASLs and totally autonomous.

According to a program from the minister of health in 2006, the three major problems of the SSN that need to be tackled are: waiting lists, the low quality of

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health care in southern regions, and inequalities in the availability of oncology treatments[33].

Health status

Life expectancy at birth rose substantially during the 1980s and continued to grow to just above the EU average by the late 1990s. It should be noted that certain population groups often differ significantly, such as men and women, and overall measures do not detect these differences. For example, in 2005, women's life expectancy at birth was 83.2 years, 6 years longer than men's (77.6 years)[33].

Cancer is the most frequent cause of death for people under 64, followed by cardiovascular diseases. However, when all ages are considered, cardiovascular diseases cause more deaths than cancer. Age-specific mortality patterns show that up to 88% of all deaths in each age group have three main causes: accidental or other injuries (by far the main cause until 35 years of age), followed by cancer and cardiovascular diseases[33].

The total number of smokers has declined over the last decade and, in particular, the proportion of the population that smokes has remained stable at about 24% over the last five years. Men and women have different trends (the women's rate is still growing). Young people are smoking less than before (declining from 17.1% to 9.5% among people between 14 and 17 years of age during the 1990s)[33].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 278.6/100,000.

Organization of cancer care

There are several specialist cancer institutes in Italy. These are concerned with both treatment and research and are answerable to, and receive funds from, the Ministry of Health. Because of this they are mostly independent of local or regional

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control. Most cancer patients however, are not treated at these institutes but at general hospitals. In the early 1990s, about 10% of the Italian population was covered by cancer registration. The proportion had increased to >20% by the beginning of the millennium. Once again, most cancer registries are in the north. The cancer registries produce cancer incidence, mortality and survival statistics[34].

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4.6 GPCC, Poznan

Summary

Sociodemography

The Republic of Poland is the largest country in central and eastern Europe in both population (37.1 million) and area (312 685 km2). The Republic of Poland is a democratic state ruled by law. The Polish Parliament is divided into a lower house (*Sejm*) and an upper house (*Senat*).

National health system and healthcare spending

The health care system in Poland is based on a general health insurance system. It is also characterized as an Etaist Social Health Insurance system. In 2012 total healthcare spending consisted of **6,7% of the GDP**.

Health status

As in other industrialized countries, cardiovascular diseases are the major cause of death in both men and women, followed by cancer and external causes such as injuries and poisoning. In 2012 Poland had one the highest mortality rates from cancer in the EU.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 229.6/100,000

Organization of cancer care

Poland has a three-tier system of cancer care, at the top of which are the Maria Skßodowska-Curie Memorial Cancer Centre and Institute of Oncology, Warsaw. The second tier consists of the Regional Comprehensive Oncological Centres which provide care to the standard of comprehensive cancer centres. The third tier is the cancer wards and chemotherapy and radiotherapy units in hospitals,

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In 2001, there were 51 oncological clinics in this tier; in addition, there were consultation points and outpatient oncological clinics (total 41) in every large city.

Sociodemography

The Republic of Poland is the largest country in central and eastern Europe in both population (37.1 million)[7] and area (312 685 km2). In 2004, the number of births fell below that of deaths, resulting in negative natural population growth, as in many other EU countries. Because of the population decline, it is estimated that by 2050 there will be 31.9 million inhabitants in Poland, or 6.2 million less than in 2009[35].

The Republic of Poland is a democratic state. The Polish Parliament is divided into a lower house (*Sejm*) and an upper house (*Senat*). The president is elected in a general election for a five-year term, with a maximum two-term limit. The president appoints the prime minister with the consent of the *Sejm*, and members of the Council of Ministers (the cabinet) are proposed by the prime minister, appointed by the president, and approved by the *Sejm*[35].

National health system and healthcare spending

The health care system in Poland is based on a general health insurance system [36]. It is also characterized as an Etaist Social Health Insurance system[10]. In 2012 total healthcare spending consisted of **6,7% of the GDP**[11].In Poland all citizens, regardless of their financial circumstances, have the right to equal access to health services that are financed from public funds. Approximately 98% of the population is covered by the system of compulsory health insurance, including family members of persons paying insurance contributions and some vulnerable groups whose contributions are financed from the state budget[35].

Governance, management and financing functions in the Polish healthcare system are divided between the Ministry of Health, the NFZ(National Health Fund) and regional self-governments[35]. The NFZ is responsible for the financing of health care services provided to the insured population. It manages the process of

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contracting health services with public and non-public service providers. The NFZ is supervised by the Ministry of Health, while its finances are entrusted to the Ministry of Finance[35]. The Ministry of Health is also responsible for national health policy, financing of long-term public health programs and selected highly specialized medical services, major capital investments and medical science and education. At each administrative level, regional health authorities are responsible for the assessment of the health needs of their respective populations, for planning of health services delivery, health promotion and the management of public health care institutions[35].

The health sector is largely regulated. Regulations regarding standard setting and implementation primarily concern health professions, the training of medical personnel. They also regulate the conditions in which health services are delivered to patients, the operation of service providers, health care financing, assuring availability of health care services and medicines (including the level of cost-sharing) and assuring patient rights[35]. Monitoring and evaluation functions are institutionally not sufficiently developed or coordinated. They are carried out by various supervisory bodies, among which the Chief Sanitary Inspectorate has the strongest position[35].

Contracts for provision of services between the NFZ and health care providers are awarded on the basis of Plans for Purchase of Benefits, usually by means of competitive tenders. Being the sole public payer, the NFZ operates on a non-profit-making basis. The NFZ must assure transparency of public financing by granting free public access to selected (key) information on its annual financial plan and its implementation as well as on the contracts concluded with health care providers[35].

Health care providers are supervised by the Minister of Health (overall activity) and professional chambers (registration process), within the system of the State Sanitary Inspectorate (the so-called Sanepid, covering sanitary requirements for health care facilities), and by the NFZ (contracts for provision of health care services). More detailed requirements are set out in separate regulations of the

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Ministry of Health and in separate laws[35]. Provision of care must be organized in a way that ensures adequate accessibility and quality of care – these are monitored by the provider founding bodies[35]. The NFZ has some responsibilities in relation to quality of health care provision. Quality of care (as evidenced by internal and/or external quality assessment, such as accreditation certificates) is taken into account in the process of contracting (competitive tender)[35]. It is therefore important for Polish healthcare facilities to participate in accreditation programs. No clinical pathways have been established in Poland to date(2011) and the entire course of care depends on the attending primary care physician or specialist.

In 1998, a national accreditation program for hospitals was implemented defining accreditation rules and procedures. The Minister of Health grants accreditation to health care institutions on recommendation of the Accreditation Board, in the form of accreditation certificates, which are valid for three years. The accreditation process is voluntary[35]. Issues related to medical negligence are regulated in the Civil Code (with regard to monetary compensation), in the Criminal Code and in the 2011 amendment of the 1996 Law on the Professions of Physician and Dentist (with regards to disciplinary measures)[35].

Health status

Life expectancy at birth in Poland has developed in parallel with the average of other new EU Member States. It is essential to note that there is a considerable gap between life expectancy overall and the expected number of years without illness or disability. As in other industrialized countries, cardiovascular diseases are the major cause of death in both men and women, followed by cancer and external causes such as injuries and poisoning[35]. In 2012 Poland had one the highest mortality rates from cancer in the EU[38].

A 2007 survey found that 34% of men were daily smokers compared with 23% of women. An alarming increase in smoking initiation in those aged 13–15 years was also observed in the 1990s. A government action plan to curb the “tobacco epidemic” in Poland was launched in the 1990s. Combined with

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multifaceted tobacco control legislation it contributed to the reduction in the share of daily smokers in the population[38].

Premature alcohol attributable mortality in Poland was twice as high as the EU15 average in 2002. The excise tax increase implemented by the government at that point led to a 0.5 liter per capita decrease in 2009. There was a parallel increase in the consumption of spirit alcohol (as opposed to wine or beer) combined with relatively high alcohol consumption[35].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 229.6/100,000.

Organization of cancer care

The Cancer Control Programme 1976–1990 introduced a three-tier system of cancer care. On the top level are the Maria Skßodowska-Curie Memorial Cancer Centre and Institute of Oncology, Warsaw, with branches in Krakow and Gliwice. The second tier consists of the Regional Comprehensive Oncology Centres which provide care to the standard of comprehensive cancer centres. The third tier is the cancer wards and chemotherapy and radiotherapy units in hospitals, many of which are attached to universities[39].

There are some specialized centers for specific types of cancer. Haematological malignancies, for example, are treated at the Institute of Haematology and in teaching hospitals. Cancers in children are treated at the Mother and Child's Institute and the Child's Health Centre, as well as in paediatric departments and wards. Poland has more than 700 specialist oncologists and over 6000 oncological beds[39].

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4.7 IOCN, Cluj-Napoca

Summary

Sociodemography

Population estimates from 2014 revealed 21,6 million inhabitants. There has been a population decline since 1992. Romania is a republic in which the rule of law prevails in a social and democratic state with separation of powers. The head of state is the president. The National Assembly consists of a Chamber of Deputies and a Senate.

National health system and healthcare spending

The health system in Romania could be qualified as a Bismarck model or Social Health Insurance model. On the national level, the Ministry of Public Health is responsible for establishing and ensuring general principals. The Ministry of Finance collects funds and forwards them to the National Health Insurance Fund (NHIF = main financial source). In 2012 total healthcare spending consisted of **5,1% of the GDP**

Health status

The main causes of death in Romania were cardiovascular diseases, followed by cancer. Among cancer-related deaths, mortality from cervical cancer is twice as high in Romania than the EU average; however, mortality from trachea/ bronchus/lung cancers and breast cancer is under the EU average.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 224.2 /100,000

Organization of cancer care

Romania has a national cancer control program (2011–2012). According to the cancer index Romania has two specialized Oncology Institutes.

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Sociodemography

Population estimates from 2014 show that Romania has 21,6 million inhabitants[7]. There has been a population decline since 1992. This population decline corresponded with a decline in fertility and birth rates and an increase in the death rate. In 2006 the proportion of the population aged 0–14 years was 15.4%, while those aged 65 years and older represented 14.7% of the total population[40].

Romania is a democratic. The head of state is the president, who is elected by a direct vote for a maximum of two five-year terms. The National Assembly consists of a Chamber of Deputies and a Senate. The members of both chambers elect their respective presidents. The president of the republic, after consultations with the two presidents of the parliament, designates the prime minister from the party that won the majority of seats in the parliament. Romania is divided into 41 districts (judet) and 2686 communes. The judet is the basic administrative unit of the country. Towns and communes are smaller administrative units[40].

National health system and healthcare spending

Romania has a social health insurance system based on compulsory membership in a health insurance fund. Within the Romanian health system the government holds the highest authority, playing it's governing role through the Ministry of Public Health[40].

The National Health Insurance Fund (NHIF) represents the main financial source as the third party payer of the system and receives the funds collected by the agencies of the Ministry of Finance. Through the Yearly Framework Contract the health care services to be contracted by the District Health Insurance Funds (DHIFs) from both public and private health care providers are established. This contract is agreed on by the NHIF with the Ministry of Public Health and the CoPh(College of Physicians)[40]. In 2012 total healthcare spending consisted of **5,1% of the GDP**[11]**.**

Since Romania adopted a mandatory social health insurance system in 1998, the roles of the main participants in the health system have changed, the

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relationships between different organizations have become more complex and the number of participants involved has increased. The system is organized at two main levels: national/central and district (judet). The national level is responsible for attaining general objectives and ensuring the fundamental principles of the government health policy. The district level is responsible for ensuring service provision according to the rules set by the central units[40].

The Ministry of Public Health is the state's institution responsible for ensuring the health of the nation. It does so through the definition of policies and strategies, and planning, coordinating and evaluating outcomes. The NHIF is autonomous and administrates and regulates the social health insurance system. The NHIF has the authority to issue implementing regulations mandatory to all DHIFs in order to insure coherence of the health insurance system[40].

The Romanian health care system turned from an integrated model, in which health care providers were directly employed by the Ministry of Public Health, to a contract model in which health care providers are independent. They are in contractual relationships with the health insurance funds[40]. The provision of health care services in Romania occurs at three main levels:

• primary health care: delivered by family doctors who are independent practitioners contracted by the health insurance funds but operating from their own offices

• secondary care: delivered in hospitals and in ambulatory settings through the network of hospital outpatients departments, centers for diagnosis and treatment and office-based specialists

• tertiary care: provided in teaching hospitals and specialized hospitals.

Most of the secondary and tertiary health care facilities are publicly owned and are under state administration. Private providers are permitted to enter into contracts with the health insurance funds, but their number is very small[40].

The Ministry of Public Health establishes the number of hospital beds required at national level and recommends to the government the opening or the shutting down of public hospitals[40]. Providers have to be authorized by the Ministry of Public Health. The professional associations (CoPh, College of Pharmacists,

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College of Dentists and Romanian Order of Nurses and Midwives) have roles in setting regulations for their professions. Only physicians are currently accredited by the CoPh[40]. Hospitals are accredited by a national Hospital Accreditation Commission. The internal audit unit in the Ministry of Public Health oversees and evaluates audit in medical units[40].

Health status

Life expectancy at birth has a slightly increasing trend in Romania, reaching 71.25 years in 2000 and 72.7 in 2006. Life expectancy at birth is, however, still lower than in other countries of central and eastern Europe, and considerably lower than the EU average. As in other European countries, women in Romania live longer (76.23 years) than men (69.24 years)[40].

The main causes of death in Romania were cardiovascular diseases, followed by cancer. Among cancer-related deaths, mortality from cervical cancer is twice as high in Romania than the EU average; however, mortality from trachea/ bronchus/lung cancers and breast cancer is under the EU average. The mortality rate for women is increasing, in particular deaths related to breast and cervical cancer. Between 1990 and 2000, breast cancer mortality increased by 7%. Moreover, Romania has the highest cervical cancer mortality rate in the region. High cancer rates among Romanian women are mainly a result of lack of information on the need for testing or reluctance to be tested[40].

Smoking rates have increased in Romania since 1990 among both women and men, but especially among young people. According to WHO *Health for All* data for 2003, 21% of the Romanian population over 15 smoked daily[40].

Regarding alcohol consumption, the national health survey carried out in 1997 revealed that 56.2% of persons over 15 years of age consumed alcohol, of which 3.7% reported dependency [40]. That same year, alcohol consumption was most prevalent in those aged 25–44 years (66.3% of this age group consumed alcohol).

National cancer prevalence rate

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According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 224.2 /100,000

Organization of cancer care

Romania has a national cancer control program (2011–2012). The national cancer control program provides regional opportunistic screening programs for cervical, breast, prostate and colorectal cancer. Only one region of the country, the Northwest Region, centred on the University town of Cluj and the Institute of Oncology from Cluj, does have an organized screening program for cervical cancer that respects the EU agreed clinical quality guidelines (20% of the region's target group is tested)[40].

Dissemination of this best practice is one of the components of the National Cancer Plan agreed to be developed in 2008 between the Ministry of Public Health and the Federation of Patients' Association[40]. Romanian cancer patients who are insured at the National Health Insurance Agency (CNAS) and referred by the family doctor or specialist, can get treatment for free in private medical facilities. The private facilities have to have a contract with the Agency[41]. According to the Cancer Index Romania has two specialized Oncology Institutes and one Radiology therapeutic center[42].

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4.8 HUCH, Helsinki

Summary

Sociodemography

In 2010 the population of Finland was 5,365,000. The population grew by about a quarter of a million per decade during the 20th century. Finland has a Constitution. Legislative power is exercised by Parliament. The Council of State (the Government) consists of a Prime Minister and a requisite number of ministers. The head of state is the President of the Republic.

National health system and healthcare spending

Finland has a National Health Service(NHS). In practice in Finland there are three different health care systems which receive public funding: municipal health care, private health care and occupational health care. Usually, employed persons have the possibility to choose between these. In 2012 total healthcare spending consisted of **9,1% of the GDP.**

Health status

According to various indicators, the health of the Finns has considerably improved over the last few decades. Average life expectancy among the Finnish population has improved throughout the 20th century, especially during the last three decades. Cancer is the second most common cause of death after circulatory diseases. More than one in four Finns suffer from cancer at some stage in life.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 256,8/100,000

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Organization of cancer care

The five university hospitals serve as regional cancer centers with specialist diagnostic, treatment and research facilities.

Sociodemography

The Finnish population grew by about a quarter of a million per decade during the 20th century, growth being rapid in the first half of the century and slowing down towards the end[43]. In 2010 the population of Finland was 5,365,000[7]. The number of people aged 65 years or over is expected to grow by about 600 000 (i.e. by over 50%) in the next 15 years. Because of the aging population, the economic dependency ratio (the number of non-employed relative to the number of employed) will become less favorable, particularly after the year 2015[43].

Finland is parliamentary democracy with a Constitution. Power in Finland is vested in the people, who are represented by deputies assembled in Parliament.
The head of state is the President of the Republic. Legislative power is exercised by Parliament, the President of the Republic having a minor role. The Council of State (the Government) consists of a Prime Minister and a requisite number of ministers[43]. The Finnish public administration system consists of three levels: state, province and municipality. Finland is divided into five administrative provinces and the Åland Islands, the latter having autonomous status[43].

National health system and healthcare spending

Finland has a National Health Service(NHS). This is a system where regulation, financing and provision are governed by the state[10]. In practice in Finland there are three different health care systems which receive public funding: municipal health care, private health care and occupational health care. Usually, employed persons have the possibility to choose between these[43]. There are significant differences between the systems, for example in the scope of services, user-fees, waiting times and financing mechanisms. There are two different public financing mechanisms: municipal financing based on taxes and National Health

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Insurance (NHI); and financing based on compulsory insurance fees[43]. In 2012 total healthcare spending consisted of **9,1% of the GDP**[11]**.**

Municipalities fund municipal health care services (except outpatient drugs and transport costs). All municipalities are, by law (Primary Health Care Act), obliged to maintain health centers for the provision of primary health care services, either on their own or jointly through a local federation of municipalities. Most health care services are provided by the municipal health care system[43]. Municipalities with their own health centers usually use prospective budgets. In federation-owned health centers the budgets are built in a similar way but the sharing of costs between member municipalities is usually determined by the volume of services given[43].

Specialist level or secondary/tertiary care in the municipal health care system is provided by 20 hospital districts. Each municipality has to be a member of one of the hospital districts (Act on Specialized Medical Care). The hospital district organizes and provides specialist medical services. Hospital districts are managed and funded by the member municipalities. Hospital districts have varied methods for collecting funding. The majority of funding collected is based on actual clinical services used[43].

Seventeen per cent of the total cost of health care in Finland is financed by the statutory NHI(national health insurance) scheme. The NHI covers part of outpatient drug costs, part of medical costs in the private sector, part of the costs of occupational health care, compensation of travel costs to health care units, sickness allowance and maternity leave allowance[43].

Employers are obliged to provide preventive occupational health care for their employees (under the Occupational Health Care Act). Occupational health services can be provided by the employer itself or the employer can purchase them from another party[43].

Health status

According to various indicators, the health of the Finnish population improved considerably over the last few decades. Average life expectancy among the Finnish

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population has improved throughout the 20th century, especially during the last three decades to 76 years for men and 83 years for women in 2005. The most significant public health problems are circulatory diseases, cancer, musculoskeletal diseases and mental health problems[43].

Cancer is the second most common cause of death after circulatory diseases. More than one in four Finns suffer from cancer at some stage in life. Stomach and cervical cancer mortality particularly have experienced significant decreases, while mortality due to melanoma and liver cancers has increased[44].

Looking at risk factors the following can be seen for Finland. The prevalence of smoking among men has fallen since the 1960s, but among women the prevalence has been rather stable. During the last 20 years alcohol consumption has risen from 7.6 liters (in 1985) to 10.5 liters, 100% alcohol equivalent per capita in 2005 (the figure includes both recorded and estimated unrecorded consumption) [45]. This is an average level for western industrialized countries. In 2005, about 2000 people died from alcohol intoxication or due to an illness related to alcohol consumption (29% increase from 2003). Alcohol-related death is the second most common cause of death among working age men and women[43].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 256.8 /100,000

Organization of cancer care

In Finland the university hospitals serve as regional cancer centers. There are five of these regional cancer centers, all with specialist diagnostic, treatment and research facilities. Four other hospitals have radiotherapy units and cancer surgery is performed in the central hospitals of the health care districts. There are approximately 80 pathology laboratories in Finland[46].

The Cancer Register is maintained for STAKES by the Cancer Society of Finland. The entire population of Finland has been covered by cancer registration

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since 1953. Notifications on cases of cancer are sent to the register by physicians, pathological, cytological and haematological laboratories and Statistics Finland (death certificate data)[46].

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4.9 NCT, Heidelberg

Summary

Sociodemography

The population in Germany in 2011 was 80,219,695. Germany is a federal republic consisting of 16 states.

National health system and healthcare spending

Germany is a Social Health Insurance country. As of 2009 it is compulsory for all German citizens and long-term residents to have health insurance. Governance of the health care system in Germany is shared between the Länder (states), the federal government and civil society organizations. In 2012 total healthcare spending consisted of **11,3% of the GDP**.

Health status

Life expectancy at birth in Germany is almost 81 years, one year higher than the OECD average of 80 years. For decades, two types of diseases have dominated the disease spectrum: cardiovascular diseases and cancer.

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 283.8 /100,000

Organization of cancer care

Cancer treatment in Germany is carried out by public hospitals, other non-profit-making institutions and private clinics and practices. Three level model of care: (I) comprehensive cancer centers (CCC) which are leading oncology centers with major research aims; (ii) Oncology Centers, extend to several organs or specialties, particularly for rare cancers; (iii)Organ cancer center, specializing in one organ or specialty (breast, bowel, lung, prostate, skin, gynecological tumors).

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Sociodemography

The last population census in Germany took place in 2011, showing a population of 80,219,695[7]. Germany is a federal republic consisting of 16 states. Each state has a constitution consistent with the republican, democratic and social principles embodied in the national constitution (known as the Basic Law or *Grundgesetz*). The constitutionally-defined bodies with legislative functions are the Federal Assembly (*Bundestag*) and the Federal Council (*Bundesrat*)[47].

National health system and healthcare spending

Germany is a Social Health Insurance country. This type represents a dominant role of societal actors in healthcare regulation and financing, whereas services are mainly delivered by private for-profit providers[10]. The health system has undergone a series of changes, implemented in an attempt to improve competition within the health sector and reduce the increasing costs for the government. It is compulsory for all German citizens and long-term residents to have health insurance since 2009. [48].

The SHI is operated by approximately 150 competing sickness funds (Sfs). German citizens are insured on a per family basis, meaning that the family members that depend on the insured are also covered[49]. As health insurance is now compulsory, both statutory health insurance funds and private health insurance companies must accept any applicant. The system has managed to achieve comprehensive health care coverage and provides for equal access to a high volume of advanced medical services[48]. In 2012 total healthcare spending consisted of **11,3% of the GDP**[11].

Governance of the health care system in Germany is shared between the Länder (states), the federal government and civil society organizations. At the national level, the Federal Assembly, the Federal Council (the upper house, representing the states) and the Federal Ministry of Health and Social Security are the most important. On a regional level the ministries in each Land (state) are responsible for passing their own laws, supervising subordinate authorities, and financing investment in the hospital sector[48].

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Ambulatory general care and specialist care is delivered by physicians who are mandatory members of regional Associations. These Associations negotiate contracts with sickness funds. They are also responsible for organizing care and act as financial intermediaries[48]. There are also professional 'chambers' for physicians. The chambers operate predominantly at the level of the Länder and are responsible for secondary training, continuing education and setting professional, ethical and community relations standards. Other key bodies in health services delivery include the national associations of insurance providers (statutory and private health insurance), hospital associations and the charity associations[48].

Statutory sickness funds are mainly financed through payroll taxes. These taxes have been legally fixed at 15.5 per cent of gross wages (an increase from 14.9 per cent in 2010).The insured are expected to pay 8.2 per cent of their income, whilst the remaining 7.3 per cent is paid by employers[50]. Unemployed people may also use the sickness funds and they contribute in proportion to their unemployment entitlements or, if they have never worked, are catered for through a social fund (Sozialamt). The health care costs of children are increasingly covered by tax revenues, which supplement payroll contributions[48].

Most ambulatory general practice and specialist care is delivered by primary care physicians who work in solo practices. Hospitals play a limited role in this sector, providing few out-patient services. GPs have few formal gate-keeping responsibilities, but a gate-keeping system is increasingly encouraged in order to cut costs. There are many specialist practices to be found in medium-sized towns and waiting lists are short[48].

Regulation is performed by the self-governing corporatist bodies of both the SF(sickness funds) and the medical providers' associations. The most important body is the Federal Joint Committee, created in 2004 to increase efficacy and compliance[51].

Structural quality issues are addressed in different ways: all providers are required to have a quality management system, there is an obligation for continuous medical education for all physicians, and health technology assessment for drugs

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and procedures. Hospital accreditation is voluntary[51]. Minimum volume requirements were introduced for a number of complex procedures, which need to be provided by hospitals in order to be reimbursed. Process and partly outcome quality is addressed through the mandatory quality reporting system[51].

Health status

Life expectancy at birth in Germany is almost 81 years, one year higher than the OECD average of 80 years. Life expectancy for women is 83 years, compared with 78 for men. Over the past years the health of the German population has further improved[52].

For decades, two types of diseases have been the main cause of death: cardiovascular diseases and cancer. However, cardiovascular diseases, although at a high level, are becoming less significant. While they are still among the most widespread causes of death, their fraction of the overall mortality rate has declined. Despite this, cardiovascular diseases are causing the highest treatment costs.[53].

Cancer is the second most frequent cause of death among men and women in Germany. Among men, this is predominantly due to lung cancer, among women to breast cancer. Since 1990, the rate of lung cancer has declined among men while it has risen among women below the age of 50. This is mainly due to the increasing rate of smoking among women. Bowel cancer is the second most frequent type of cancer among men and women. The bowel cancer risk depends among other things on individual eating habits. Early detection of bowel cancer is part of the statutory preventive examination program[53].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 283.8 /100,000

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Organization of cancer care

In Germany cancer treatment is carried out by public hospitals, other non-profit-making institutions and private clinics and practices. Cancer treatment has been coordinated under a federal government program since 1980[54].

There is a three level model of care[55]. (i)Comprehensive cancer centers (CCC) which are leading oncology centers with major research aims. They target specifically rare cancer diseases and special issues. (ii) Oncology Centers. Oncology Centers extend to several organs or specialties, particularly for rare cancers. (iii)Organ cancer center. This is a center specializing in one organ or specialty (breast, bowel, lung, prostate, skin, gynecological tumors)[55].

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4.10 KCL, London

Summary

Sociodemography

England is one of four countries that constitute the United Kingdom of Great Britain and Northern Ireland. In 2011, the English population was estimated at 56,100,000. The United Kingdom is a constitutional monarchy governed by a parliament formed of two houses.

National health system and healthcare spending

The National Health Service(NHS) used in England is a system where regulation, financing and provision are governed by the state. Health services in England are mainly financed by government through general taxation and NICs (National insurance contribution) and are largely free at the point of use. In 2012 total healthcare spending in the UK consisted of **9.4 % of the GDP.**

Health status

Life expectancy at birth increased between 1981 and 2008 by 5.1 years for women and 6.9 years for men, reaching 82.1 years and 78.0 years, respectively. The top three causes of death in 2009 were • circulatory diseases: 32.5% •cancer: 28.0% • diseases of the respiratory system: 13.8%

National cancer prevalence rate

According to World Cancer Research fund the Age-standardized cancer prevalence rate in 2014 was 272.9 /100,000

Organization of cancer care

In 1995 the establishment of networks of multidisciplinary care teams based in specialized cancer centers was recommended. This was done in response to evidence that there was variability in the quality and type of received cancer

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treatment across the country. Much effort has since been invested in the development of such service. The cancerindex lists 18 cancer centers in the UK.

Sociodemography

England is one of four countries that constitute the United Kingdom of Great Britain and Northern Ireland. England, Scotland and Wales make up Great Britain; with the addition of Northern Ireland, these four countries form the United Kingdom[56]. In 2011, the English population was estimated at 56,100,000[7]. Like the rest of Europe, England has an aging population. The proportion of the population 65 and older increased from 13.4% in 1971 to 16.1% in 2008. The population will keep aging and it is projected that by 2031, 22.2% of people will be aged 65 and older[57].

The United Kingdom is a constitutional monarchy governed by a parliament formed of two houses. Democratically elected MPs sit in the House of Commons. The head of government, the Prime Minister, is the leader of the party that has a majority in the House of Commons. The head of state is a hereditary monarch[56].

National health system and healthcare spending

The National Health Service(NHS) used in England is a system where regulation, financing and provision are governed by the state[10]. Health services are mainly financed by government through general taxation and NICs (National insurance contribution). Services are largely free for patients at the point of use[56]. The NHS provides preventive medicine, primary care and hospital services to all those “ordinarily resident” in England. Around 13% of the population is covered by voluntary health insurance. In England, this is most commonly referred to as PMI[56]. In 2012 total healthcare spending in the UK consisted of **9.4 % of the GDP**[11].

Within the English health system responsibilities are shared among different governmental bodies. The Secretary of State for Health is responsible for the publicly funded health care. The NHS, public health, adult social care and other related areas

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are the responsibility of the Department of Health. The Treasury plays an important function through setting the national budget for publicly funded health care[56].

Primary care is provided in different ways within the NHS. The first point for general medical needs is usually a GP who is typically engaged through a general medical services contract or a personal medical services contract[56].

Secondary care is provided by specialist doctors (consultants), nurses and other health care professionals (e.g. physiotherapists and radiologists) who work in government-owned hospitals (trusts). A small private sector exists next to the NHS. This sector is funded through private insurance, direct payments from patients or publicly funded payments by PCTs(Primary Care Trust) and the Department of Health. This sector mainly provides acute elective care[56].

The majority of health care funding is provided by the government. Funds are assigned to PCTs who are then responsible for the commissioning of health care for their geographically defined populations. In some cases they are also responsible for providing services themselves (mainly community health care such as district nursing). The performance of PCTs is monitored and, if needed, managed by their local SHAs(Strategic health authority). Ultimately PCTs are accountable to the Secretary of State for Health. Providers of NHS services are regulated by a number of bodies in a range of ways to ensure quality and efficiency of provision[56]. Organizations currently involved include:

• Department of Health
• CQC
• Audit Commission
• NICE
• Monitor

Department of Health

Since 2010 all health care providers who deliver services for the NHS are required to publish “quality accounts” that show the performance of that provider. NSFs are designed to provide a consensus around good practice in various areas of

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care and hence reduce variation in the quality of services provided. Providers are expected to work within these NSFs and targets are set which providers are required to met[56].

CQC

The CQC is responsible for the licensing, monitoring and inspection of all health and adult social care. It has enforcement powers that may be used if the legal requirements of registration, including quality standards, are not met. The CQC is responsible for licensing all health and social care providers to ensure they are meeting common quality standards. The CQC is also monitoring the quality and safety of service provision, undertaking special reviews of particular services, pathways of care or themes where there are general concerns about quality[56].

Audit Commission

The Audit Commission regulates the financial health and integrity of NHS bodies. It performs independent audits on the basis of quality and cost-effectiveness of the financial management of NHS bodies as well as of the work of local government in the health and social care sector. The Audit Commission also performs comprehensive performance assessments of local actors in various parts of the public sector, publishes national performance indicators and carries out national value-for-money studies[56].

NICE

NICE is responsible for bringing together knowledge and providing guidance on the promotion of good health and the prevention and treatment of ill health. It does this by developing guidelines in three areas of health: (i) health technologies: how to use new and existing medicines, treatments and procedures within the NHS; (ii) clinical practice: appropriate treatment and care of people with specific diseases and conditions within the NHS; and (iii) public health: promotion of good health and the prevention of ill health for those working in the NHS, local authorities and the wider public and voluntary sector[56].

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Monitor

The Independent Regulator of NHS Foundation Trusts, known commonly as Monitor, was set up to authorize and regulate Fts. Monitor aims at ensuring that they are financially strong and well managed. It is independent from the Secretary of State but must behave in a way that is consistent with the duties of that office. It is accountable to parliament, reporting on an annual basis[58]. Monitor is responsible for licensing new Fts, setting out the conditions under which the FT will operate[56].

Health care professionals are mainly regulated by professionally led statutory bodies. These statutory bodies set standards of behavior, education and ethics that health professionals must meet. They also deal with concerns about professionals who are unfit to practice owing to poor health, misconduct or poor performance. Regulators register health care professionals who are fit to practice in the United Kingdom and can remove professionals from the register and prevent them from practicing if in the best interests of public safety. A register of individuals who meet standards of training and who are, therefore, permitted to use a protected professional title is maintained. They also establish standards of practice or codes of conduct and they monitor and enforce standards of practice by taking action against professionals who do not meet these standards[56].

Health status

Life expectancy at birth increased reaching 82.1 years and 78.0 years, for respectively woman and man in 2005[56]. The three main causes of death in England and Wales in 2009 were: circulatory diseases: 32.5%; cancer: 28.0%; and diseases of the respiratory system: 13.8%[56]. The four most common cancers (lung, colorectal, breast and prostate) accounted for 46.5% of the total deaths from cancer[59].

Alcohol consumption is a growing health problem in England. The proportion of women drinking more than the recommended number of units

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in a day increased to 32% in 2008. Alcohol-related deaths have increased steadily in England, from 8.2 deaths per 100 000 male population in 1991 to 15 in 2004, and from 4.4 deaths per 100 000 female population to 7.2 over the same period [56].

There have been considerable reductions in smoking prevalence over the last 36 years. In 1974, 51% of men and 41% of women in Great Britain were regular smokers this compares with 24% of men and 20% of women in England in 2008[56].

National cancer prevalence rate

According to World Cancer Research fund[16] the Age-standardized cancer prevalence rate in 2014 was 272.9 /100,000

Organization of cancer care

In 1995 the Calman–Hine report recommended the establishment of networks of multidisciplinary care teams based in specialized cancer centers. This was recommended partly in response to evidence that patients in different parts of the country received treatment of varying quality and type and with the aim of ensuring that all cancer patients had equal access to first-rate specialist services[60]. Much effort has since been invested in the development of such services. The cancerindex lists 18 cancer centers in the UK[42]. In 2000 the NHS published the first comprehensive national cancer program. The NHS Cancer Plan aims to save more lives; ensure people with cancer get the right professional support and care, as well as the best treatments; tackle inequalities in health; and build for the future through investment in the cancer workforce, strong research and preparation for the genetics revolution[60].

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5. Overview performance assessments

The following tables give an overview of the assessments performed at the 11 pilot sites(table 1) and an overview of the standards used in these assessments. Not all pilot sites participated in the survey, therefore some data are missing. Due to language barriers not all standards could be derived. Table 2. only gives a short overview, for the full standards see annex 2.

Country	**Care**	Assessment details	**Research**	Assessment details	**Combination**	Assessment details
Lithuania	National Health Insurance Fund	Mandatory License National Public			National Audit Office of Lithuania	Mandatory QI National Public
	National Health Insurance Fund	Mandatory QI* National Public			OECI (Organization of European Cancer Institutes)	Voluntary QI International Private
	Ministry of Health of the Republic of Lithuania	Mandatory QI National Public				
	State Social Insurance Fund Board	Mandatory Funding+QI National Public				

	Radiation Protection Centre	Mandatory QI National Public				
Italy	Institutional Accreditation	Mandatory License+QI Regional/ National Public	European federation for Immunogenetics	Voluntary QI International Private	ISO 9001:2008	Voluntary Funding+QI National/ International Private
	ENETS (European Neuroendocrine Tumor Society)	Voluntary QI International Private			JACIE	Voluntary License+QI National/ International Private
					Accreditation Canada International	Voluntary License+QI International Private
					OECI	Voluntary QI International Private
Germany			Helmholtz Gemeinschaft	Mandatory Funding National Public	Deutsche Krebshilfe (DKH) 5th Call Interdisciplinary Oncology Centers of Excellence	Mandatory Funding National Public

Portugal	ACSS (Administração Central de Sistemas de Saúde)	Mandatory Funding+ License+QI National Public			OECI	Voluntary QI International Private
					CHKS (Caspe Healthcare Knowledge System)	Voluntary QI International Private
					FCT (Fundação para a Ciência e Tecnologia)	Mandatory Funding + License+QI National Public
					APCER (Associação Portuguesa de Certificação)	Voluntary QI National Private

Hungary	International Atomic Energy Agency	Voluntary QI International Public			Dekra Certification Kft. (ISO)	Mandatory QI National Private
					OECI accreditation	Voluntary QI International Private
Poland	NFZ National Health Service/Insurance Found	Mandatory Funding+ License National Public			National Atomic Energy Agency	Voluntary QI National Private
	SANEPID	Mandatory License+QI Regional Public			ISO Certification and/or validation	Mandatory Funding+ License+QI Regional Public
					Local Government	Mandatory Funding+ License National Public
					Ministry of Health	Mandatory QI National Public

The Netherlands	IGZ	Mandatory QI National Public			OECI	Voluntary QI International Private
	DNV	Mandatory QI National Private			JACIE	Voluntary License+QI International Private
	ENETS (European Neuroendocrine Tumor Society)	Voluntary QI International Private				
Finland			University of Helsinki	Voluntary QI Regional Public	Scientific Advisory Board (of the HUCH CCC)	Mandatory License+QI International Private
			Academy of Finland	Voluntary Funding National Public	EUHANET (European Haemophilia Network)	Voluntary QI International Public
			Academy of Finland and Swedish Research Council	Voluntary QI National Public		
			Academy of Finland	Voluntary QI		

				National Public		
			Biomedicum Helsinki	Voluntary Funding Regional Public		
			External Audit by ZVD (Institute of occupational safety)	Mandatory License+QI International Private		

Table 1 Overview performance assessments Pilot Sites (*Quality Improvement)

Name of assessment	Type	Standards
1. OECI	Combination	Qualitative Questionnaire: **1 General standards, Strategic plan and general management** 1.1.1. Oncological policy plan and general report 1.1.2. Cooperation with universities 1.1.3. Cooperation with external partners 1.1.4. Cancer data registration (institutional level) 1.1.5. Complications registry 1.3.1. Cytostatic drugs, prescription, preparation and distribution 1.3.2. Administration of cytostatic drugs 1.4.1. Continuity of care within the cancer centre 1.4.2. Waiting and throughput times 1.4.3. Compliance with guidelines 1.4.5. Tasks and responsibilities of the (oncology) nurses 1.4.6. Roles and tasks of the members of the supportive care staff 1.4.7. Communication between the members of the supportive care staff 1.4.8. Referral of patients to paramedical and supportive disciplines 1.4.9. Multidisciplinary harmonization / integrated care 1.4.10. Selection criteria for the oncology team meeting 1.4.11. Procedure for the oncological multidisciplinary team meetings 1.4.12. Registration and evaluation of the recommendations of the multidisciplinary team meeting 1.5.1. Quality and risk management and safety requirements 1.5.2. Quality and risk management and safety requirements 1.5.3. Accuracy of the diagnostic services 1.5.4. Quality and risk management of research and new techniques 1.5.5. Quality assurance in all areas 1.5.6. Quality assurance in all areas (HR) 1.5.7. Privacy, protection of personal data **2 Screening and primary prevention and health education** 2.4.1. Availability of screening programmes 2.4.2. Participation in prevention and health education initiatives

		2.4.3. Availability of primary prevention clinics 2.4.4. Oncogenetic clinic / outpatient department 2.4.5. Smoking control in the cancer centre **3 Care** 3.4.1. Pain service 3.4.2. Palliative/Supportive care team 3.4.3. Palliative/Supportive and terminal care (guideline) 3.4.4. Palliative and terminal care 3.4.5. Psycho-oncology service 3.4.6. Social Counselling 3.4.7. Family involvement in care 3.4.8. Family involvement in care (children) 3.4.9. Rehabilitation 3.4.10. Prosthetic surgery **4 Research, innovation and development** 4.1.1. Organizational and hierarchical structure 4.1.2. Research collaboration 4.1.3. Organization of clinical research 4.1.4. Periodical policy review 4.1.5. Scientific interaction and integration 4.1.6. Internal review and evaluation of grant proposals 4.1.7. (suspected) scientific misconduct 4.3.1. Means for conducting research activities 4.3.2. Intellectual property and innovation 4.3.3. Biobank 4.4.1. Structured scientific programme 4.4.2. Teaching programme for PhD students 4.4.3. Transfer of new scientific information to clinical practice 4.5.1. Periodical site visit / review

		5 Teaching and continuing education 5.1.1. Analyse training needs 5.4.1. Participation in teaching oncology 5.4.2. Types of teaching programmes provided **6 Patient related** 6.4.1. Educational material 6.4.2. Inform patients on admission 6.4.3. Informing patients about results, treatment and counselling 6.4.4. Discharge procedure 6.5.1. Patient satisfaction / experiences 6.5.2. Conciliatory commission for complaints
2. European Foundation for Immunogenetics	Research	(i) Organ Transplantation Recipient Typing Antibody Screening Antibody Identification Donor Typing Cross-matching (ii) Haematopoietic Stem Cell Transplantation Donor Registry Typing Related Transplantation Unrelated Transplantation Cord Blood Typing Cross-Matching Chimaerism and engraftment monitoring (iii) Disease Assocication Studies (iiii) Transfusion
3. ISO	Combination	Not free available
4. JACIE	Combination	Clinical Donors

		Cell Collection (Bone Marrow) Cell Collection (Apheresis) Processing Label Shipping labels
5. ENETS (European Neuroendocrine Tumor Society)	Combination	Not free available
6. Accreditation Canada	Combination	Not free available
7. ACSS	Care	Standard Patient by Doctor/Nurse FTE Operational Costs by Standard Patient(SP) Adjusted HR costs by SP HR Costs by SP Pharmaceutical Products by SP Clinical Consumables by SP External Supplies and Services by SP External Supplies and Services I by gross area External Supplies and Services I by floor area % of Inpatients with length of stay above 30 days % of Readmissions in 30 days Occupancy Rate % Appointments in appropriate time % Surgeries in appropriate time % Outpatient surgery in the total of elective surgery (GDH's) for procedures that can be solved with outpatient care Average waiting time before surgery Average length of stay Index Value (Peer) Index Value (Benchmarking) % Costs with Extra Hours (over time pay) and supplements in total adjusted HR costs % inpatient Episodes codified and grouped in Diagnosis Related Groups (DRG), in total discharges
8. CHKS topics (full		Board of administration

list of standards can be found in annex 2)		Clinical Direction Nursing Direction Risk management Patients management Hotel services Human resources Occupational health Financial services Purchasing and Logistic Information and technology Facilities and transports services communication services Patient clinical record contents Pharmaceutical services Sterilisation services Outpatient service Catering Social service Volunteer service Spiritual service Internal emergency Pathology service Haematology Lab Immunology service Genetic service Microbiology service Clinical Pathology Lab Virology Lab Radiodiagnosis Interventional Radiology Nuclear medicine Cell therapy service Immunohaemotherapy Central Operating Theatres Ambulatory Operating Theatres

		Intermediate Care Unit Anesthesiology service Intensive Care Internal Emergency service Oncology surgery Plastic surgery & Dermatology Neurosurgery ENT Urology Medical Oncology Haemato-Oncology Palliative care Bone marrow transplantation Paediatric Day Hospital Rehabilitative medicine Medical physics Nephrology Cardiology Pneumology Endocrinology Gastroenterology Stomatology Internal Medicine Neurology Onco-Phycology Brachytherapy External Radiotherapy
9. FCT	Combination	The evaluation process is based on the following main criteria: A. Productivity and contribution to the National Scientific and Technological System (NSTS); B. Scientific and technological merit of the research team; C. Scientific merit and innovative nature of the strategic programme; D. Feasibility of the work plan and reasonability of the requested budget; E. Impact of the scientific, technological and cultural output
10. APCER	Combination	1. Access 2. Assistencial performance

		3. Economic-financial performance 4. Regional goals
11. IAEA	Care	Not available
12. Dekra	Combination	In Hungarian
13. NFZ	Care	In Polish
14. SANEPID	Care	In Polish
15. IGZ	Care	1. Patient safety 2. VMS and incident research/complication registry 3. Hygiene 4. Infection prevention/BRMO 5. Care pathway 6. Multidisciplinary team meetings
16. DNV	Care	1.1 Leadership 1.2 Communication 1.3 Employees 1.4 Management of third parties 1.5 Patient participation 1.6 Prospective risk-inventory 1.7 Incidence and complication reporting; and retrospective risk-inventory 1.8 General Management 1.9 Managing and controlling changes 1.10 Monitoring and reporting outcomes 1.11 Continuous improvement of patient safety

17. SAB	Combination	Fact Sheet Background and Facts Animal Facility Statistics, Bioinformatics and Registry (SBR) PhD Students Seminar Program Quality Ranking of Research Overview of Financial Position Organization Chart

Table 2 Overview of performance standards

6. Conclusion

Looking at the sociodemography of the countries is which the pilot institutes are located it can be seen that population sizes vary a lot. However, in all countries population numbers are declining and the population is aging. This aging effect could cause problems for healthcare workforce and in other areas of the economy.

There is also a difference regarding the health systems and the amount of healthcare spending. Although healthcare spending is not calculated specifically for cancer care, one could assume that when general spending is low, spending on cancer care is also low. The four countries that use a National Health Service; Portugal(9,4% GDP), Italy(9,2% GDP), Finland(9,1% GDP) and England(9,4% GDP), all spend approximately the same on healthcare. The countries with the highest healthcare spending are Germany (11,3% GDP) and the Netherlands (12,4% GDP). The Netherlands has an Etaist Social Health Insurance system and Germany a Social Health Insurance system. The countries in Central-Eastern Europe use these same health systems, but the healthcare spending in these countries is considerably lower than in Western and Southern Europe. The country with lowest healthcare spending is Romania where only 5,1% of the GDP is spend on healthcare, followed by Poland and Lithuania(6,7% of the GDP) and Hungary(7,8%). As stated in the introduction cancer survival is mostly low in Eastern-Central Europe which indicates that there probably is a link between healthcare spending and cancer survival. This is why healthcare spending is an important aspect to take into account when comparing institutes in different countries which is being done in the Bench-Can project.

Overall health status is an important measure to look at when comparing countries. People with a good overall health are more likely to recover quickly from diseases like cancer than people with a bad overall health. In all countries cancer ranked in the top three causes of mortality indicating that cancer is a big problem all around the EU. Looking at the risk factors for cancer, smoking and alcohol consumption, it seemed that both factors where present in all countries. This also shows when looking at the cancer prevalence rate for 2014. The country with highest

cancer prevalence is the Netherlands. In general cancer prevalence is the lowest in the Central-Eastern region, with the exception of Hungary.

When looking at the organization of care, based on the literature a lot of differences can be seen especially between the Northern part of the EU and the Central-Eastern part. For Lithuania no general information could be found. The information for Romania was very little and for Hungary the information was not very specific. The only country that seemed to have a well developed structure for cancer care is Poland. The literature search for the report hasn't been extensive, so information regarding the organization of cancer care could have been missed. Germany seems to be developing a more specialized cancer care system which could lead to better quality of care. Focusing on specific products or services could result in processes that are better organized around patients, higher patient volumes, more cost-effective care, and improved medical outcomes[61]. Becoming more specialized could also change the scope of performance assessments. It is therefore important to keep the way cancer care is organized in mind when performing an international performance assessment.

Looking at the different assessments listed by the pilot sites the first thing that can be seen is that Romania is missing. The VUOI from Lithuania listed mainly assessment performed by public bodies, this could be explained by the strong regulatory role of the government. Another institute that mainly listed “public” assessments was the GPCC from Poland. Again this can be explained by the strong regulatory role of the government. The two Italian centers both listed more private and international assessment bodies. This has a probably to do with the small regulatory role of the national government. Almost no institutes listed research oriented assessments, except for the HUCH in Finland. Most pilot sites are comprehensive cancer centers or aspire to be which suggest that there is also an emphasis on research which is not shown in the type of assessments. Based on the regulatory systems in the different countries more public assessments were expected in some countries, however the regulatory system described was for the general healthcare system and not for cancer care specific.

7. Recommendations

There are several things that need to be kept in mind when performing an international benchmarking study. The first being, that each institute is placed in a different environment and that this environment needs to be taken into account. As stated before although healthcare spending in this report was not calculated specifically for cancer care, one could assume that when general spending is low, spending on cancer care is also low. Implementing quality improvement in general costs money. It is therefore important that improvements derived from the Bench-Can project are easy to implement and not expensive.

Al lot of assessment tools are already being used so it is good to have a look at these tools before developing a new tool. For this it is important that accreditation and assessment bodies share their indicators and standards. This was not always the case. It was sometimes difficult as well to access the standards due to language barriers. To get a good overview of existing standards and indicators and to create a comprehensive database more time and resources are needed. All standards should be translated to English and kept in an easy accessible database.

In order for the benchmarking tool to have a sustainable future is would be good to combine it with an already existing accreditation or assessment body. This will help to keep the benchmark tool running and will minimize the burden for participating institutes in the future.

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Annexes

Annex 1

Name of the centre:

Name of respondent:

Job role of respondent:

1. Which of the following activities take place in your centre (in house). Please highlight whatever option(s) are applicable

Basic research

Translational research

Clinical research

Patient care

Primary prevention including screening

Rehabilitation

Supportive/palliative care

Other, please explain

2. What is your major source of funding (that constitutes the majority of your budget)? Please highlight whatever option is applicable

Public (money from governmental organisation, insurance)

Private (private investors, NGO's)

Other, please explain

3. Please fill out the table below about the types of performance assessment that your center participates in. Please highlight whatever option(s) are applicable for each assessment. Please expand the table if necessary.

Name of the organisation doing the performance assessment	**Is that organisation public(governmental) or private (non governmental)**	**Is the assessment voluntary or mandatory**	**On which level is the performance assessment conducted**	**Which of the following activities are assessed(please chose all applicable)**	**How frequently is this assessment done**	**What is the outcome of this assessment**
1	Public Private	Voluntary Mandatory	Regional National Other, please explain	Basic research Translational research Clinical research Patient care Primary prevention including screening Rehabilitation Supportive/palliative care Other, please explain	More than once a year Once a year Every two years Every three years Every five years Other, please explain	Directly leads to funding Directly leads to keeping license on any of the activities Quality improvement Other, please explain

Annex 2 Overview of standards used at pilot sites

BenchCan

NKI-AVL
The Netherlands Cancer Institute
Antoni van Leeuwenhoek Hospital

IPOPORTO

Benchmarking - IPO's e Hospital Centers

Indicators	IPO Porto	IPO Coimbra	IPO Lisboa	C.H. São João	C.H. Universitário de Coimbra	C.H. Lisboa Norte	IPOL/IPOP
Number of Standard Patient							
Standard Patient by Doctor FTE							
Standard Patient by Nurse FTE							
Operational Costs by Standard Patient							
Adjusted HR costs by Standard Patient							
HR Costs by Standard Patient							
Pharmaceutical Products by Standard Patient							
Clinical Consumables by Standard Patient							
External Supplies and Services by Standard Patient							
External Supplies and Services I by gross area							
External Supplies and Services I by floor area							
% of Inpatients with length of stay above 30 days							
% of Readmissions in 30 days							
Occupancy Rate							
% Appointments in appropriate time							
% Surgeries in appropriate time							
% Outpatient surgery in the total of elective surgery (GDH's) for proccedures that can be solved with outpatient care							
Average waiting time before surgery							
Average lenght of stay							
Index Value (Peer)							
Index Value (Benchmarking)							
% Costs with Extra Hours (over time pay) and supplements in total adjusted HR costs							
% inpatient Episodes codified and grouped in Diagnosis Related Groups (DRG), in total discharges							

Annex 2A ACSS

Annex 2B European Foundation for Immunogenetics

ACCREDITATION CATEGORIES:

I Organ Transplantation:	Renal	Non-Renal
Recipient Typing	--	--
Antibody Screening	--	--
Antibody Identification	--	--
Donor Typing	--	--
Cross-matching	--	--

II Haematopoietic Stem Cell Transplantation:	
Donor Registry Typing	Yes
Related Transplantation	Yes
Unrelated Transplantation	Yes
Cord Blood Typing	--
Cross-matching	--
Chimaerism and engraftment monitoring	--

III Disease Association Studies	Yes
IV Transfusion	--

TECHNIQUES

I HLA-Typing:	CDC	Flow cytometry	DNA (2digits)	DNA (4digits)
Class I	--	--	Yes	Yes
Class II	--	--	Yes	Yes

	PCR-SSP	PCR-SSO	PCR-SBT

Annex 2C CHKS

Within survey area Board of administration:
Standard 1: Organisational leadership
Standard 2: Quality and governance
Within survey area Clinical Direction:
Standard 5: Medical service
Standard 8: Patient Safety
Standard 37: Treatment and care
Within survey area Nursing Direction:
Standard 6: Nursing service
Standard 24: The patient's rights and needs
Standard 26: Patient access
Standard 27: Care of the dying
Within survey area Risk management:
Standard 7: Risk management - general
Standard 10: Fire safety
Within survey area Patients management:
Standard 17: Management of clinical records
Standard 32: Clerical and administration services
Within survey area Hotel services:
Standard 15: Waste management
Standard 16: Security
Standard 31: Housekeeping
Standard 33: Telecommunications
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Within survey area Human resources:

Standard 18: Human resources
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions

Within survey area Occupational health:

Standard 9: Health and safety
Standard 20: Occupational health
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Financial services:

Standard 3: Financial management
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions

Within survey area Purchasing and Logistic:

Standard 21: Purchasing goods and services
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions

Within survey area Information and technology:

Standard 4: Information management and technology
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions

Within survey area Facilities and transports services:

Standard 22: Transport services

Standard 23: Buildings and facilities management
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions

Within survey area communication services:

Standard 25: Complaints management

Within survey area Patient clinical record contents:

Standard 68: Patient clinical record content

Within survey area Pharmaceutical services:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 43: Pharmacy service

Within survey area Sterilisation services:

Standard 14: Sterilisation/decontamination services
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Outpatient service:

Standard 40: Outpatient service

Within survey area Catering:

Standard 30: Catering service
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment

Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Social service:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 63: Social work service

Within survey area Volunteer service:

Standard 19: Volunteer service

Within survey area Spiritual service:

Standard 28: Spiritual care service

Within survey area Internal emergency:

Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Pathology service:

Standard 34: Service management, workforce and teamwork
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 42: Pathology service

Within survey area Haematology Lab:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area immunology service:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment

Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Genetic service:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Microbiology service:

Standard 34: Service management, workforce and teamwork
Standard 36: Service environment
Standard 35: Service objectives and planning
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Clinical Pathology Lab:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 42: Pathology service

Within survey area Virology Lab:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Radiodiagnosis:

Standard 34: Service management, workforce and teamwork
Standard 36: Service environment

Standard 38: Working with corporate functions
Standard 41: Imaging service

Within survey area Interventional Radiology / Radiologia de Intervencao:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions

Within survey area Nuclear medicine:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 55: Clinical, medical physics and biomedical engineering services

Within survey area Cell therapy service:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Immunohaemotherapy:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 45: Blood transfusion service

Within survey area Central Operating Theatres:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 47: Operating theatres/anaesthetic service

Within survey area Ambulatory Operating Theatres:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Intermediate Care Unit:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 56: Special care service

Within survey area Anesthesiology service:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 39: Working with clinical corporate functions

Within survey area Intensive Care:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 56: Special care service

Within survey area Internal Emergency service:

Standard 11: Resuscitation/reanimation

Within survey area Oncology surgery:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 49: Surgical services

Within survey area Plastic surgery & Dermatology:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Gyneacology:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Neurosurgery:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area ENT:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment

Standard 39: Working with clinical corporate functions

Within survey area Urology:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 39: Working with clinical corporate functions

Within survey area Medical Oncology:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 50: Cancer services - chemotherapy

Within survey area Haemato-Oncology:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 39: Working with clinical corporate functions
Standard 50: Cancer services - chemotherapy

Within survey area Paliative care:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 62: Specialist palliative care services

Within survey area Bone marrow transplantation:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning

Within survey area Paediatric:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning

Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 50: Cancer services - chemotherapy
Standard 52: Children and adolescent medical and surgical service

Within survey area Day Hospital:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 46: Medical day care
Standard 50: Cancer services - chemotherapy

Within survey area Rehabilitative medicine:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 67: Rehabilitative medicine

Within survey area Medical physics:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions

Within survey area Nephrology:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 64: Renal services

Within survey area Cardiology:

Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Pneumology:
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Endocrinology:
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Gastroenterology:
Standard 39: Working with clinical corporate functions
Standard 46: Medical day care
Within survey area Stomatology:
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Internal Medicine:
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Neurology:
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Onco-Phycology:
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Within survey area Brachytherapy:
Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 51: Cancer services - radiotherapy
Within survey area External Radiotherapy:

Standard 34: Service management, workforce and teamwork
Standard 35: Service objectives and planning
Standard 36: Service environment
Standard 38: Working with corporate functions
Standard 39: Working with clinical corporate functions
Standard 51: Cancer services - radiotherapy

Annex 2D DGERT

Self-evaluation and performance indicators

We expect the certified training entity to make every year a self-evaluation process of its performance, based in indicators concerning:

- Structure and internal organization – aspects related with human resources and materials and financial capability;
- Quality of its training service – aspects related with internal and external evaluation of the providing of the training service;
- Results of the training activity – aspects related with results achieved, in terms of execution of the established goals, levels of conclusion, levels of professional integration, among others.

This process of self-evaluation has as goals the continuing improvement of the certified entity's practices and conditions, in its training service providing, allowing as well the monitoring and regular evaluation of its performance by DGERT, which may proceed with the confirmation of the supplied data in an audit to the training entity.

Certification requisites

Requisites of the quality referential (resume)

I. Requisites of internal structure and organization

1. Human resources	Training manager (full-time and linked by contract) Pedagogic coordinator (with regular work and linked by contract) Trainers Other agents Daily public service (full-time in every public service places) Accounting service In long distance training scenario, a worker with specific training/experience Space for public/customer service
2. Spaces and equipments	Theoretic training rooms Computer training rooms Practical training spaces and equipments Sanitary installations

Spaces characteristics: areas, furniture, equipments, ambient and hygiene-security conditions, accessibility for people with special needs.

II. Requisites of processes in the training's development

1. Planning and management of the training activity	□ Training project □ Activities plan / Annual training plan
2. Conception and development of the training activity	□ Definition of goals, contents and learning strategies □ Application of pedagogic methods and instruments □ Application of selection methods and instruments □ Application of monitoring and evaluation methods and instruments

3. Functional rules
4. Management of Technical-pedagogic dossiers
5. Training contracts
6. Complaints management

Annex 2E JACIE

http://www.jacie.org/document-centre

Annex 2F FCT

The evaluation process is based on the following main criteria:

A. Productivity and contribution to the National Scientific and Technological System (NSTS);

B. Scientific and technological merit of the research team;

C. Scientific merit and innovative nature of the strategic programme;

D. Feasibility of the work plan and reasonability of the requested budget;

E. Impact of the scientific, technological and cultural output1.

Application of these criteria shall take into account, among other considerations, the following aspects:

A. For **criterion A**:

i.) Research outputs2; knowledge and technology transfer activities, when applicable, giving particular importance to the registration and value of patents, models or other relevant innovation indicators;

ii.) Contribution to the accumulation of knowledge and skills of the National Science and Technology System (expected effects and results); contribution to the advanced training of researchers; contribution to the promotion and dissemination of scientific and technological research; dissemination of results and actions to promote scientific culture, as well as participation in activities designed to promote public understanding of science, technology, art and culture; relationship between available past funding and output;

iii.) Degree of multidisciplinarity and of internationalization, when relevant.

B. For **criterion B**:

i.) Scientific productivity and merit of the results of the Unit's research, taking into account the relevance of both current and planned research, as well as the level of internationalization of scientific activities, including publications and citations of published works or other relevant aspects;

ii.) Skills and composition of the research team to adequately execute the proposed program;

iii.) Ability to successfully compete for national and international research grants and contracts, including contracts with companies.

C. For **criterion C**:

i.) Relevance, originality and impact of the proposed strategic programme;

ii.) Contribution of the scientific, technological, artistic or cultural activities of the proposed programme for a smart specialization strategy of the region in which the R&D Unit is incorporated;iii.) Degree of multidisciplinarity and of internationalization, when relevant.

D. For **criterion D**:

i.) Organisation of the programme in terms of the proposed objectives and resources (budget, duration, infrastructures); organisation and work environment, with special focus on the adequacy of the research team's critical mass to perform the proposed objectives and on the management of resources directed to research activities, which includes supervision of postgraduate students and post-doctoral involvement in R&D activities;

ii.) Adequacy of proposed budget to accomplish the proposed strategic programme;

iii.) Institutional resources (technical, scientific, organisational and managerial) of the participating entities. The commitment of the host institution in providing the manpower and material resources to implement the proposed programme is especially valued.

E. For **criterion E**:

i.) Production of knowledge likely to stimulate a knowledge-based economy and likely to be used by the productive structures, when applicable;

ii.) Contribution of the R&D Unit to the national and regional economic growth and development;

iii.) Knowledge and technology transfer and its dissemination.

The relative weighting of the subcriteria within **Criteria A to E** will depend on the specific research profile(s) of the R&D Units (basic research or applied research/experimental development).

Performance Indicators

A. Productivity and contribution to the National Scientific and Technological System (NSTS)

B. Scientific and technological merit of the research team

E. Impact of the scientific, technological and cultural outputs (only applies to the second stage of the evaluation)

Strategic Programme

B. Scientific merit of the research team

C. Scientific merit and innovative nature of the strategic programme

D. Feasibility of the work plan and reasonability of the requested budget

E. Impact of the scientific, technological and cultural output (only applies to the second stage of the evaluation)

Annex 2G APCER

Quality and Efficiency Goal's Monitoring

Areas	Indicators	IPO Goal 2014	Percentage	Obtained result	Adjusted Accomplishment Level	Ponderation of the Accomplishment Level
National Goals						
A. Access (15%)	A.1 Percentage of first medical appointments in total medical appointments					
	A.2 Percentage of referenced patients that had an medical appointment in appropriate time					
	A.3 Percentage of appointments with discharge registered, in total appointments					
	A.4 Percentage of surgical patients with timely treatment					
	A.5 Percentage of patients timely sinalized to Portuguese National Network for Integrated Care, in total treated patients					
B. Assistencial Performance (25%)	B.1 Average lenght of stay					
	B.2 Percentage of Readmissions in 30 days					
	B.3 Percentage of Inpatients with length of stay above the maximum limit					
	B.5 Percentage of Outpatient surgery in the total of elective surgery (GDH's) for proccedures that can be solved with outpatient care					
	B.6 Percentage of generic drugs packages, in total drugs packages consumption					
	B.7 Rate of registration of "Verification of Surgical Activity List" utilization - indicator concerning safe surgery					
C. Economic-financial Perfomance (20%)	C.1 Percentage of costs with Extraordinary work, Suplements and External Supplies and Services III (selected) in total HR costs					
	C.2 EBITDA					
	C.3 Arrears					
	C.4 Percentage of operating income outside the contracting, in total income					
Regional Goals						
D. Regional Goals (40%)	D.2 Waiting time for outpatient screening medical appointment					
	D.4 Referral rate to Portuguese National Network for Integrated Care					
	D.7 Implementation of the inter-hospitalar teams of palliative care					
	D.8 Rate of HAI (Hospital-acquired infection)					
				Global Performance Index:		**0,0%**