



Devolved Healthcare in Denmark

Edmund Stubbs

October 2015

Civitas: Institute for the Study of Civil Society

Edmund Stubbs is Healthcare Researcher at Civitas. He studied Biomedical Science at the University of Sheffield and has a Master's degree in Health, Population and Society from the London School of Economics and Political Science. Edmund also worked as a healthcare assistant for four years at Addenbrooke's Hospital, Cambridge and as a freelance health consultant for one year.



55 Tufton Street, London SW1P 3QL

T: 020 7799 6677

E: info@civitas.org.uk

Civitas: Institute for the Study of Civil Society is an independent think tank which seeks to facilitate informed public debate. We search for solutions to social and economic problems unconstrained by the short-term priorities of political parties or conventional wisdom. As an educational charity, we also offer supplementary schooling to help children reach their full potential and we provide teaching materials and speakers for schools.

Civitas is a registered charity (no. 1085494) and a company limited by guarantee, registered in England and Wales (no. 04023541)

Healthcare system structure

Healthcare for Denmark's 5.6 million inhabitants¹ is provided by around 60 public hospitals, 3,700 GPs, 3,700 dentists and 245 pharmacies.² Denmark's is largely a decentralised system, however reforms effected in 2007 have recentralised the system in some aspects.³ Since then, healthcare has been administered at three levels. By the national government, by five regional authorities and by 98 municipalities.⁴ Each of these bodies has different responsibilities.⁵

National government provides an overall regulatory function, offers advisory support to regions as well as setting the budgets it provides.⁶ Budgetary legislation, implemented since 2012, decides funding for the regions and municipalities and threatens sanctions if the expenditure of these bodies exceeds limits.⁷ Secondary and tertiary treatment centres (for example large hospitals) are owned and administered by the five regions with doctors and other health professionals employed by the regions on a salaried basis.⁸ GPs and dentists work independently in Denmark, but are contracted to public healthcare services which are usually financed by regional authorities.⁹ GPs effectively act as system gatekeepers in referring patients to hospitals and specialists as necessary.¹⁰ Nevertheless, Danish patients often claim to be able to consult a specialist without referral.¹¹

Importantly however, after referral, patients can choose treatment from any nationally recognised provider.¹² The various Danish healthcare authorities have agreements with a large number of private hospitals (both in Denmark and internationally) to which patients can transfer their treatment if the local public service is unable to provide this within one month of referral.¹³ Local hospitals have the duty to provide patients with relevant information on receiving treatment elsewhere if the monthly waiting period is likely to be exceeded.¹⁴ In addition to medical intervention, the 98 Danish municipalities are also responsible for the prevention of disease, the promotion of a healthy lifestyle and for organising rehabilitation for patients following discharge from hospital.¹⁵ Municipal health services also provide and administer nursing homes, district nurses and health visitors.¹⁶

Financing Danish healthcare

The five Danish regions do not collect revenue independently having no authority to raise taxes. Consequently they are principally reliant on a block grant from the

national government (79 per cent), plus an activity-based grant also from central sources (three per cent). In addition, each region receives a contribution from their municipalities, each according to the size of its population (seven per cent). This is supplemented by an activity-based grant again from each municipality (11 per cent).¹⁷ Thus regions are largely dependent on the central state for their income. This post-2007 arrangement implies a degree of increasing influence on local policy from the national administration and both regions and municipalities must now remain within 1.5 per cent of their centrally set budgets by law.¹⁸ The 2007 reforms further required municipalities to pay for a proportion of their populations' hospital treatment to incentivise the local health authorities to focus more on health promotion and disease prevention measures.¹⁹

National funds are allocated to regions and municipalities according to an equalisation formula designed to ensure distribution according to local needs. This formula takes into account demographic factors such as the age of inhabitants, the numbers of single parent families, the proportion of rented accommodation, the levels of unemployment and education amongst citizens, and the numbers of immigrants and of elderly persons living alone.²⁰ There is also an emphasis on activity-based financing for hospital treatment. Diagnosis Related Groups (DRGs) are employed as a means of determining how much funding should be allocated for the treatment of any specific condition.²¹ The national government also dictates to a large extent how hospitals spend the money they are allocated. E.g. they must spend between 20 per cent and 25 per cent of their budget on new technologies.²² For some procedures such as dental care, part-payment is required from patients, however, there is no national policy on what proportion of the total these should be. This uncertain situation for patients, has in recent years, led to the expansion of a voluntary health insurance sector to cover these costs.²³ In May and June of each year municipalities, regions and national government confer to decide the rates of municipal taxation, healthcare expenditure and the size of block grants from the government for the coming year.²⁴

Decentralised healthcare in Denmark

In 1970 a reform of the Danish administrative structure marked the start of both centralising and decentralising emphases in healthcare. The number of regions (counties) was reduced from 24 to 14, and the number of municipalities from 1,300 to 275. Responsibility for hospitals was at the same time transferred from local to national level. However, many formerly nationally administered functions of

healthcare were now assigned to the county level.²⁵ These changes were followed in 2007 with the reform discussed above. The 2007 reform oversaw the creation of the five large regions and 98 municipalities that Denmark has today (See Figure 1).²⁶ The average population size of local municipalities rose from 16,000 pre-2007 reform to 55,000²⁷ with each new municipal administration required to place a strong emphasis on disease prevention and rehabilitation.²⁸ Regions were given relative freedom to choose the specialisms and the volume of hospital activity allocated to those specialisms. A further result of the 2007 reforms was that patients were thereby permitted choice of provider, allowing them to be treated in other regions than their own if they were unhappy with the treatment offered or should waiting times be deemed too long. This freedom of patient choice has forced each region to prioritise the specialisms its hospitals offer according to demand. Nevertheless, regional specialist initiatives are increasingly being legislated for centrally.²⁹ Currently, responsibility for overall population health is shared between all levels of the healthcare system with regulatory bodies poised to intervene if regions or municipalities do not deliver adequate services.³⁰ This semi-decentralised model of healthcare is deemed to stimulate active participation by local people in their own healthcare and to ensure a responsive healthcare system with regard to the specific needs of each local area.³¹



Figure 1. Tiers of Danish health system administration.

In point of fact, Danish healthcare budget levels (for both regions and municipalities) are now almost entirely determined at the national level.³² Even the establishment of new facilities, for example the building of a new hospital, has to be approved at national level before work can commence.³³ The state has directed that on the practical level, regions and municipalities must enter into close partnership to enhance interaction between primary, social and hospital care, demonstrating the increasing role of the central state in steering health priorities.³⁴

Social care in Denmark

All long-term care in Denmark is regarded as social care, and thus, it is the responsibility of municipalities to finance and provide necessary services.³⁵ Directives, as to precisely what services should be offered, are provided by central government. It is then the responsibility of each municipality to deliver the actual care. Efforts are made for elderly people to be supported in their own homes for as long as possible before residential care is offered.³⁶ As is the case in England, eligibility for funded long-term care is means tested by municipalities. Individuals are given a ranking based on level of need and accordingly either provided with benefits to purchase assistance for themselves or else publicly funded care is provided.³⁷ After assessment, help consisting of as little as two hours per week can be provided if it is deemed necessary.³⁸

Municipal authorities have a certain degree of freedom in setting user charges for long-term care services (around ten per cent of total).³⁹ The long-term care category can include fees for visiting carers, care homes, and close-care accommodation where the elderly live independently in subsidised housing with care facilities in situ.⁴⁰ To ensure efficient integration between the regions who provide and finance the majority of general healthcare and the municipalities who provide social and long-term care, a case management system has been introduced where services are planned for each patient to make the best use of time, accommodation resources and specialist treatment.⁴¹

Danish health system performance

As is the case in other western European countries, Denmark has an ageing population and has rising levels of obesity.⁴² It also has similar issues regarding socioeconomic related disparities in the health of its citizens.⁴³ However, in contrast to much of Europe, Denmark has not been so severely affected by the

2008 economic crisis, maintaining relatively strong exports of manufactured goods and especially pharmaceuticals.⁴⁴ A buoyant economy, able to fund healthcare adequately, has meant that although Danish patients have the right to seek alternative healthcare if dissatisfied with local care or its accessibility, few in fact take this option. Waiting times have remained reasonable and the transport costs of seeking treatment elsewhere are dissuasive.⁴⁵ Surveys have revealed a high level of public support for Denmark's decentralised health service.⁴⁶

In terms of efficiency, the Danish healthcare system seems to outperform the English NHS by a wide margin. It has succeeded in achieving a productivity increase of 5.6 per cent between 2009 and 2010.⁴⁷ Compare this to the 0.8 per cent annual efficiency gains achieved by the NHS since 2010. Evidently, on the face of it, the Danish seems to be the more flexible and adaptive system.⁴⁸ However, it should be pointed out that the Danish efficiency figures only relate to hospitals, and some observers claim that the 2007 reforms have not been responsible for any of the efficiency gains that might have been recorded. They hold that although per capita and fee-for-service payments were intended to promote efficiency and ensure the logistical composition of services offered, there is insufficient data available on how the primary care sector has actually performed to reach any definite conclusion.⁴⁹

In fact, Danish healthcare lags behind other Nordic countries according to some indicators. However, this is thought to be perhaps due to unhealthy lifestyles and pronounced socioeconomic inequalities in Denmark, rather than necessarily to failings in its healthcare system.⁵⁰ As mentioned above, inequalities in health persist between groups of differing education, occupation and ethnicity,⁵¹ demonstrating that a decentralised health system alone has not provided a means of ending such disparities, disparities that similarly affect the health of the UK (the majority of which live in England) population.⁵²

Table 1: Key health data UK and Denmark

Indicator	UK	Denmark
Hospital beds (per 1000 people) ⁵³	3.0	3.5
Physicians (per 1000 people) ⁵⁴	2.8	3.4
Nurses and midwives (per 1000 people) ⁵⁵	10.1	16.1
Maternal mortality ratio (per 100,000 births). ⁵⁶	8	5
Mortality rate, under 5's (per 1,000 live births) ⁵⁷	5	4
Life expectancy at birth (years) ⁵⁸	82	80
Government health expenditure as a percentage of total government expenditure ⁵⁹	16.1	16.1
Out-of-pocket expenditure as a percentage of total health expenditure ⁶⁰	9.9	12.6
Government health expenditure per capita (PPP int.\$) ⁶¹	2,883.5	4,037
Mortality amenable to healthcare (per 100,000) ⁶²	94	96.5
Mortality after surgery ⁶³	3.6%	3.2%
Hospital acquired C-difficile 30 day mortality ⁶⁴	30%	16%
Average* proportional 5 year cancer survival ⁶⁵	42.3%	43.1%
Absolute inequalities in all-cause mortality between lowest and highest levels of education (deaths/100,000 persons/year) ^{66**}	662	669.5
Inequality indices for specialist doctor visit probability between high and low income groups. ^{67***}	0.012	0.041
Postoperative pulmonary embolism or deep vein thrombosis. (per 100,000 discharges) ⁶⁸	812	506
Foreign body left in during procedure (per 100,000 discharges) ⁶⁹	5.7	1.8
Age-adjusted 30 day in-hospital case-fatality rate following acute myocardial infarction (per 100 patients) ⁷⁰	5.2	2.3
Unplanned schizophrenia**** readmissions within 30 days to same hospital. ⁷¹	8.1	24
Unplanned bipolar**** disorder re-admissions to the same hospital within 30 days. ⁷²	10.3	19.5
Mammography Screening, percentage of women aged 50-69 screened, 2000-2009. ⁷³	74%	73.7%

Percentage of participants 'fairly satisfied' or 'very satisfied' with their healthcare. ⁷⁴	85%	86%
Average length of stay for acute myocardial infarction (AMI) (days). ⁷⁵	7.7	3.9
Average length of stay for normal delivery (days). ⁷⁶	1.6	2.7
Unmet need for a medical examination, total for selected reasons***** for lowest income 5 th of population. ⁷⁷	1.7%	2%
<p>*Average cancer survival calculated from survival percentages for lung, breast and ovarian cancer: the only three survival rates obtainable for all three countries. **Positive value pro higher educated, negative value pro lower uneducated***Positive value pro rich, negative value pro poor. ****Does not include patients with a secondary diagnosis of the mental health disorder. ***** 'could not afford to' 'waiting time' and 'too far to travel'.</p>		

References

- ¹ Population, total. (2014). Data. World Bank. Retrieved from <http://data.worldbank.org/indicator/SP.POP.TOTL>
- ² The Danish healthcare system. (2014). The Danish Institute for Quality and Accreditation in Healthcare – IKAS. Retrieved from <http://www.ikas.dk/IKAS/English/The-Danish-healthcare-system.aspx>
- ³ Olejaz, M. Juul Nielsen, A. Rudkjober, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*.**14**(2). Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0004/160519/e96442.pdf
- ⁴ Thomson, S. Osborn, R. Squires, D. Jun, M. (2013). International Profiles of Health Care Systems, 2013. The Commonwealth Fund. Retrieved from http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf
- ⁵ The Danish healthcare system. (2014). The Danish Institute for Quality and Accreditation in Healthcare – IKAS. (see earlier).
- ⁶ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. Retrieved from http://www.copenhagenconsensus.com/sites/default/files/ConsensusReportDanishHealth_final.pdf
- ⁷ Thomson, S. Osborn, R. Squires, D. Jun, M. (2013). International Profiles of Health Care Systems, 2013. The Commonwealth Fund. (see earlier).
- ⁸ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).
- ⁹ The Danish healthcare system. (2014). The Danish Institute for Quality and Accreditation in Healthcare – IKAS. (see earlier).

- ¹⁰ Health Care in Denmark. (2008). Ministry of Health and Prevention. Retrieved from http://im.dk/Aktuelt/Publikationer/Publikationer/~-/media/Filer%20-%20Publikationer_i_pdf/2008/UK_Healthcare_in_dk/pdf.ashx
- ¹¹ Bjornberg, A. (2015). Euro Health Consumer Index 2014 Report. Health Consumer Powerhouse. Retrieved from http://www.healthpowerhouse.com/files/EHCI_2014/EHCI_2014_report.pdf
- ¹² Health Care in Denmark. (2008). Ministry of Health and Prevention. (see earlier).
- ¹³ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).
- ¹⁴ Health Care in Denmark. (2008). Ministry of Health and Prevention. (see earlier).
- ¹⁵ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).
- ¹⁶ Olejaz, M. Juul Nielsen, A. Rudkjobing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*.**14**(2). Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0004/160519/e96442.pdf
- ¹⁷ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).
- ¹⁸ Winblad, U. Lehto, J. Vrangbaek, K. Saltman, R. (2012). Consolidating National Authority in Nordic Health Systems. Eurohealth. European Observatory on Health Systems and Policies. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0017/174410/EuroHealth-v18-n3.pdf

¹⁹ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).

²⁰ Olejaz, M. Juul Nielsen, A. Rudkjobing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

²¹ Thomson, S. Osborn, R. Squires, D. Jun, M. (2013). International Profiles of Health Care Systems, 2013. The Commonwealth Fund. (see earlier).

²² Winblad, U. Lehto, J. Vrangbaek, K. Saltman, R. (2012). Consolidating National Authority in Nordic Health Systems. Eurohealth. European Observatory on Health Systems and Policies. (see earlier).

²³ Olejaz, M. Juul Nielsen, A. Rudkjobing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

²⁴ Olejaz, M. Juul Nielsen, A. Rudkjobing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

²⁵ Pedersen, K, M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).

²⁶ The Danish healthcare system. (2014). The Danish Institute for Quality and Accreditation in Healthcare – IKAS. (see earlier).

²⁷ Bodker Andersen, P. (2011). Fiscal Decentralisation in Denmark. The EU's Assembly of Regional and Local Representatives. Retrieved from <http://cor.europa.eu/en/activities/Documents/fiscal-decentralisation-process-lessons-danish-experience-andersen.pdf>

²⁸ Olejaz, M. Juul Nielsen, A. Rudkjøbing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

²⁹ Olejaz, M. Juul Nielsen, A. Rudkjøbing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

³⁰ Thomson, S. Osborn, R. Squires, D. Jun, M. (2013). International Profiles of Health Care Systems, 2013. The Commonwealth Fund. (see earlier).

³¹ Saltman, R. (2012). After decades of decentralisation, the state now has a growing role in Nordic health systems. LSE Blogs. Retrieved from <http://blogs.lse.ac.uk/europpblog/2013/03/11/nordic-countries-health-care-decentralisation-state-crisis/>

³² Winblad, U. Lehto, J. Vrangbaek, K. Saltman, R. (2012). Consolidating National Authority in Nordic Health Systems. Eurohealth. European Observatory on Health Systems and Policies. (see earlier).

³³ Winblad, U. Lehto, J. Vrangbaek, K. Saltman, R. (2012). Consolidating National Authority in Nordic Health Systems. Eurohealth. European Observatory on Health Systems and Policies. (see earlier).

³⁴ Winblad, U. Lehto, J. Vrangbaek, K. Saltman, R. (2012). Consolidating National Authority in Nordic Health Systems. Eurohealth. European Observatory on Health Systems and Policies. (see earlier).

³⁵ Schulz, E. (2010). The Long-Term Care System in Denmark. German Institute of Economic Research. Retrieved from http://www.diw.de/documents/publikationen/73/diw_01.c.359021.de/dp1038.pdf

³⁶ Denmark: Long Term Care. (2011). OECD. Retrieved from <http://www.oecd.org/denmark/47877588.pdf>

³⁷ Denmark: Long Term Care. (2011). OECD.

³⁸ Schulz, E. (2010). The Long-Term Care System in Denmark. German Institute of Economic Research. (see earlier).

³⁹ Denmark: Long Term Care. (2011). OECD.

⁴⁰ Schulz, E. (2010). The Long-Term Care System in Denmark. German Institute of Economic Research. (see earlier).

⁴¹ Schulz, E. (2010). The Long-Term Care System in Denmark. German Institute of Economic Research. (see earlier).

⁴² Thomson, S. Osborn, R. Squires, D. Jun, M. (2013). International Profiles of Health Care Systems, 2013. The Commonwealth Fund. (see earlier).

⁴³ Olejaz, M. Juul Nielsen, A. Rudkjober, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

⁴⁴ Saltman, R. (2012). After decades of decentralisation, the state now has a growing role in Nordic health systems. LSE Blogs. (see earlier).

⁴⁵ Pedersen, K. M. Bech, M. Vrangbaek, K. (2011). The Danish Health Care System: An Analysis of Strengths, Weaknesses, Opportunities and Threats, The Consensus Report. Copenhagen Consensus Center. (see earlier).

⁴⁶ Saltman, R. (2012). After decades of decentralisation, the state now has a growing role in Nordic health systems. LSE Blogs. (see earlier).

⁴⁷ Olejaz, M. Juul Nielsen, A. Rudkjober, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

⁴⁸ NHS England. (2014). Five Year Forward View. At: <http://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>

⁴⁹ Olejaz, M. Juul Nielsen, A. Rudkjober, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

⁵⁰ Olejaz, M. Juul Nielsen, A. Rudkjobing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

⁵¹ Olejaz, M. Juul Nielsen, A. Rudkjobing, A. Okkels Birk, H. Krasnik, A. Hernandez-Quevedo, C. (2012). Denmark: Health system review. *Health Systems in Transition*. (see earlier).

⁵² Marmot, M. Atkinson, T. Bell, J. Black, C. Broadfoot, P. Cumberlege, J. Diamond, I. Gilmore, I. Ham, C. Meacher, M. Mulgan, G. (2010). Fair Society, Healthy Lives: Strategic Review of Health Inequalities. <http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review>

⁵³ Data: Health. (2015) The World Bank. Retrieved from http://data.worldbank.org/topic/health#boxes-box-topic_cust_sec

⁵⁴ Data: Health. (2015) The World Bank. (see earlier).

⁵⁵ Data: Health. (2015) The World Bank. (see earlier).

⁵⁶ Data: Health. (2015) The World Bank. (see earlier).

⁵⁷ Data: Health. (2015) The World Bank. (see earlier).

⁵⁸ Data: Health. (2015) The World Bank. (see earlier).

⁵⁹ Data: Health. (2015) The World Bank. (see earlier).

⁶⁰ Health Expenditure ratios. Data by country. (2015). Global Health Observatory Data Repository. WHO. <http://apps.who.int/gho/data/node.main.75?lang=en>

⁶¹ Health expenditure per capita. Data by country. (2015). Global Health Observatory Data Repository. WHO. Retrieved from <http://apps.who.int/gho/data/node.main.78?lang=en>

⁶² Gay, J. G et al (2011). Mortality Amenable to Health Care in 31 OECD Countries: Estimates and Methodological Issues. OECD Health Working Papers. No. 55

OECD Publishing. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/5kgj35f9f8s2.pdf?expires=1426008133&id=id&accname=guest&checksum=105FA68034FAB78842573D18A7F916FC>

⁶³ Pearse, R. Moreno, R. Baver, P. Pelosi, P. Metnitz, P. Spies, C. Vallet, B. Vincent, J-L. Hoefft, A. Rhodes, A. (2012). Mortality after surgery in Europe: a 7 day cohort study. *The Lancet*. **380**: pp 1059-65. Retrieved from http://ac.els-cdn.com/S0140673612611489/1-s2.0-S0140673612611489-main.pdf?_tid=99f55732-c801-11e4-bbb9-00000aacb35e&acdnat=1426087173_89a931bc6760cba3bb1d1451c7824ea6

⁶⁴ Wiegand, P. Nathwani, D. Wilcox, M. Stephens, J. Shelbya, A. Haider, S. (2012). Clinical and economic burden of Clostridium difficile infection in Europe: a systematic review of healthcare-facility-acquired infection. *Journal of Hospital Infection*. **81** pp1-14. Retrieved from http://ac.els-cdn.com/S0195670112000631/1-s2.0-S0195670112000631-main.pdf?_tid=7ad9c17e-c7fe-11e4-a3d1-00000aacb360&acdnat=1426085832_f9af3d74e81f619b4e4313b65e795c7c

⁶⁵ Coleman, P.M. et al (2011). Cancer survival in Australia, Canada, Denmark, Norway, Sweden and the UK, 1995-2007 (the International Cancer Benchmarking Partnership): an analysis of population-based cancer registry data. *The Lancet*. **377**(9760). Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)62231-3/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)62231-3/fulltext)

⁶⁶ Mackenback, J. Stirbu, I. Roskam, A-J. Schaap, M. Menvielle, G. Leinsalu, M. Kunst, A. (2008). Socioeconomic Inequalities in Health in 22 European Countries. *New England Journal of Medicine*. **358**(23) Retrieved from <http://www.nejm.org/doi/pdf/10.1056/NEJMsa0707519>

⁶⁷ Van Doorslaer, E. Masseria, C. Koolman, X. (2006). Inequalities in access to medical care by income in developed countries. *CMAJ*. **174**(2) pp177-183. Retrieved <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1329455/pdf/20060117s00017p177.pdf>

⁶⁸ Health at a Glance 2011: OECD Indicators. (2011). OECD. Retrieved from http://www.oecd-ilibrary.org/sites/health_glance-2011-en/05/03/02/index.html?itemId=/content/chapter/health_glance-2011-45-en

⁶⁹ Health at a Glance 2011: OECD Indicators. (2011). OECD. (see earlier).

⁷⁰ Health at a Glance 2011. (2011). OECD. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/81111101ec042.pdf?expires=1428597003&id=id&acname=guest&checksum=C32F9CC67DBCD87895E6842E596F8FA8>

⁷¹ Unplanned hospital re-admissions for mental disorders. (2011). Health at a Glance OECD Indicators. OECD. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/81111101ec046.pdf?expires=1428666411&id=id&acname=guest&checksum=26A8F333235CA4C0F8D6B1700462EC95>

⁷² Unplanned hospital re-admissions for mental disorders. (2011). Health at a Glance OECD Indicators. OECD. (see earlier).

⁷³ Papanicolas, I. & Smith, P. (2013). Health System Performance Comparison: Agenda for policy, information and research. European Observatory on Health Systems and Policies Series. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0009/244836/Health-System-Performance-Comparison.pdf

⁷⁴ Papanicolas, I. & Smith, P. (2013). Health System Performance Comparison: Agenda for policy, information and research. European Observatory on Health Systems and Policies Series. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0009/244836/Health-System-Performance-Comparison.pdf

⁷⁵ Average length of stay in hospitals. (2013). Health at a Glance 2013. OECD Indicators. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/8113161ec036.pdf?expires=1429261102&id=id&acname=guest&checksum=3606060DA54AD6E36130AD7E8398D724>

⁷⁶ Average length of stay in hospitals. (2013). Health at a Glance 2013. OECD Indicators. Retrieved from (see earlier).

⁷⁷ Health at a Glance. OECD Indicators (2011). OECD. Retrieved from <http://www.oecd.org/els/health-systems/49105858.pdf>