HEALTH SYSTEMS AND ECONOMICS: ASSESSMENT 2: GROUP CASE STUDY PRESENTATION: HEALTH SYSTEMS AND ECONOMICS

Executive summary

Building of a proper healthcare system is necessary for the government of a country to provide high quality healthcare services to people. Economic development and spending is also necessary to improve healthcare services in a country. This report determines GDP spending of Denmark on healthcare services to identify the condition of their healthcare system compared to others. Resources of healthcare as well as expenditure on healthcare services by the government of Denmark are identified in this report which is required to determine healthcare finance condition. Health report of WHO are evaluated to understand Denmark health system condition in 2007 and 2009 and cost benefit analysis is provided to improve their healthcare system.

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Introduction

An appropriate health care system is necessary for a country to provide quality services to the people to prevent diseases and improve patient satisfaction. Governmental support reduces fiscal burden of country people and become beneficial to expand health coverage. Healthcare system can add extra costs to the services to achieve better health outcomes. The present report focuses on the healthcare infrastructure of Denmark and their spending on healthcare to fulfil health demands of public. Expenditure and health coverage of Denmark are analysed here to identify organisation of their healthcare system. Statistics of WHO regarding health condition of Denmark and costs benefit analysis of Denmark healthcare are evaluated here to improve healthcare of Denmark.

1. Organisation of public health system

a) Spending of gross domestic product on health

Health spending or investment in the healthcare sector of Denmark has been 10.4% of GDP in 2013 and 8.9% of GDP in average. It has been 10.3% of GDP in 2015 which is above the EU average of 9.9%. Therefore, it is identified that GDP spending become low in 2015 than 2013 in Denmark whereas GDP spending of EU has become higher (tyskland.um.dk, 2018).

	Percentage of GDP
2015*	10.6%
2014	10.6%
2013	10.3%
2012	10.3%
2011	10.2%
2010	10.4%
2000	8.1%
1990	8%
1980	8.4%

Figure 1: GDP spending on healthcare

(Source: euro.who.int, 2018)

In 2017, GDP of Denmark has been 52, 177 US dollar per capita and GDP spending on health has been 5,183 billion US dollars. Total GDP value has been 139,06 billion US dollars in 2017. GDP spending of Denmark depends on total population and total gross national income per capita. It is observed that GDP spending by Denmark government for healthcare sector is very low than US and other EU countries. Different price levels using economy-wide purchasing power parities are used by the country government as per GDP. GDP spending on health in Australia has been above 10% of GDP and total spending of Australia has been $170.4 billion in 2016-2016. Therefore, it can be identified that Australia spends almost same amount of GDP portion to healthcare, but spending percentage is little bit high for Denmark than Australia.

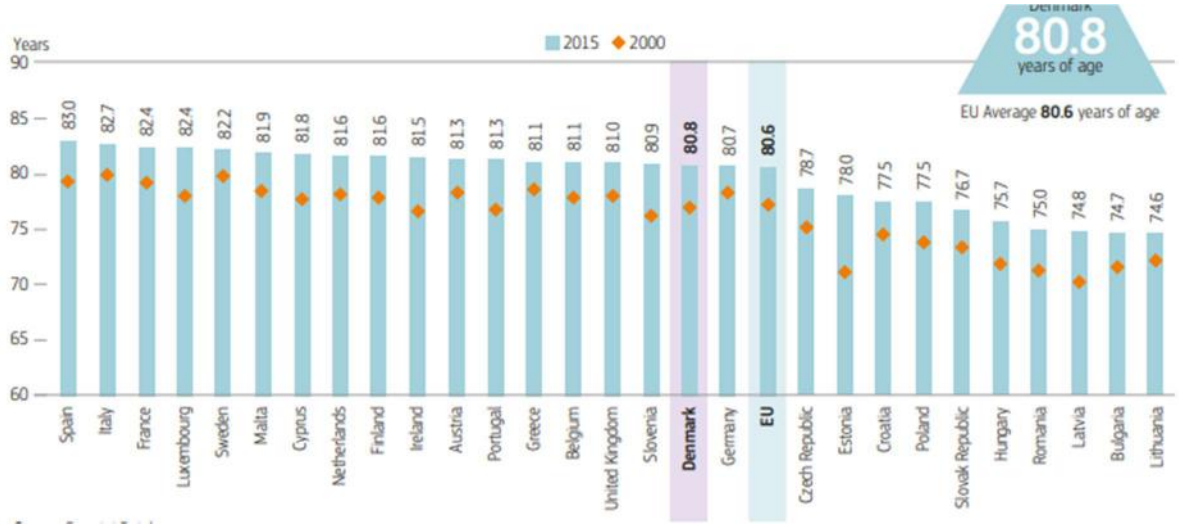

Figure 2: GDP spending compared to other countries

(Source: euro.who.int, 2018)

b) Source of money

Source of money of the Denmark healthcare sector has been government and public funds. Healthcare is an important part of Denmark welfare system and fundamental principle of the system is to provide good health services to the country people on equal manner regardless their income. Healthcare system of Denmark is financed by public funds that are 85% of total sources. Healthcare sector of the Denmark has three administrative and political levels such as the government, municipalities and regions (Condell *et al.* 2016). Regions are responsible for providing healthcare services to country people and the people of regions allocate resources for

practitioners and physicians. The *state block grant* of Denmark provides the most significant element of finding that is approximately 75%. The subsidy of the regions provides criteria that reflect expenditure needs. Local financing consists of party activity related financing that has been approximately 20% of total financing. As per agreement between Danish regions and government, 50% of hospital budgets depend on activity related contribution.

c) Expenditures for public health services

It is observed that healthcare system of Denmark has spent EUR 3776 per capita in 2015 on healthcare that is higher than EU average which has been 2,797. It is also noticed that put-of-pocket payment has been 14% of the GDP and 2% has been paid by voluntary health insurance. Health expenditure has been 173% in 2014. In 2005, total health expenditure of Denmark has been 16.8 billion US dollars which has been 3,208 US dollar per capita. It is higher than EU average. Total expenditure on health per capita has been 4,782 US dollar in 2014 and it has been 10.8% expenditure per GDP (Clements *et al.* 2015). Prevention programs also increase expenditure of healthcare services as it consists of good prevention model and training for the healthcare providers.

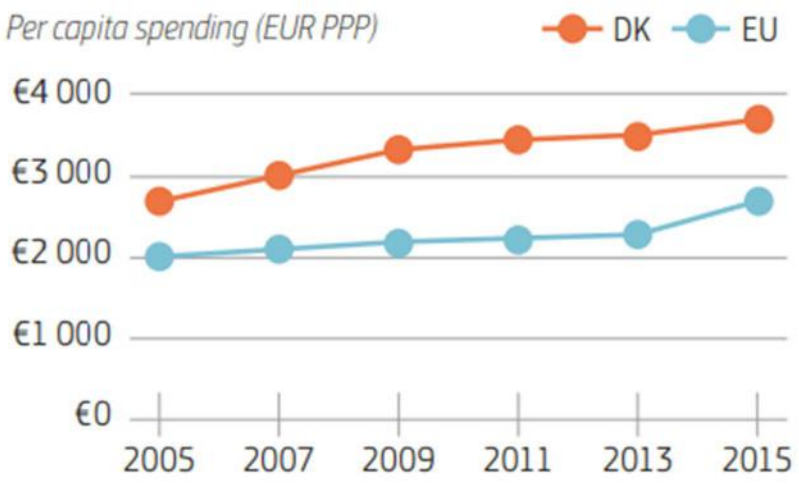

Figure 3: GDP expenditure of Denmark

(Source: euro.who.int, 2018)

d) Mix of private and public expenditure

Public financing has made up 84% of healthcare expenditure in Denmark in 2015. Public health expenditure on health care has been 5 billion US dollar between 2005 and 2010. Public expenditure has been increased by 1% in between 2010 to 2015.

The private proportion of healthcare expenditure has been the 18.4% of total healthcare expenditure as defined by WHO. It has also been noticed that expenditure has been increased 12.2 % since 2005. As individual health services have been provided by Denmark government in recent time, it increases private healthcare expenditure (Underbjerg *et al.* 2015). It is also identified that expenditure of Denmark healthcare is high than EU average that has become a concern for Denmark.

e) Innovative financing

An innovation plan is created by the government of Denmark in which personalised medicine, value based and data driven healthcare services for individuals are included. Therefore, best practices have been estimated by the organisation to invest more 5.6 billion Euros in 16 new Danish project hospitals that have new Greenfield projects and have capability to expand their services (Owiredu *et al.* 2017). It is also remarked that the field of genomics is progressing and for this reason, the government has developed targeted health care for people with personalised medicine. It is estimated that approximately 7.1 billion USD will be invested to 16 modern and renovated hospitals by 2020. Innovative funding has been taken by Denmark government and innovation fund has offered grants of 5 to 30 Million for different healthcare projects. Co-financing has been up to 65% of healthcare applications and it is get from grand solutions (2016.export.gov, 2018).

f) Trends for expenditure

It is observed that a new trend of expenditure is seen in which the Danish government accounts for more than three quarters of expenditure of healthcare and public sector healthcare. It has been US 28.35 billion in 2014 (World Health Organization, 2014). Expenditure is expanded faster than GDP growth. It is also identified that approximately 18.6% of Denmark population is 65 years or older and one-third of the hospital expenditure goes for this sector. On the other hand, population has been increased and it has been more than 5.8 billion in 2017. As most of the part of population increment is the senior citizen, it increases expenditure per capita.

Besides, changes in treatment such as personalized treatment and innovation in treatment mechanism increases governmental expenditure. In 2017, 20 to 25% of the Denmark hospitals spent money on IT technology and largest projects such as Aarhus and NUH. It has expanded hospital budgets in Denmark over 1.1 billion. Tackling with health inequalities, increases costs and efficiency of the hospitals and Danish government has increased their hospital expenditure

and is estimated to provide 15 billion Danish kroner in next five years (World Health Organization, 2016).

g) Heath coverage

It is observed that Denmark provides free healthcare to all residents and health care system is funded through taxes. Health care of Denmark is universal that is free of charge and has high quality. All people are covered with right of citizenship. Health Care system of Denmark provides high patient satisfaction much higher than multiple countries of Europe. Healthcare system of Denmark is financed through income tax and healthcare services are available for residents of Denmark and EU citizens in free of costs (Jennum *et al.* 2017). A health insurance card is sent to the residents by municipal authority and it has all types of public health treatments. National government of Denmark sets regulatory framework for health services in which planning and supervision is involved in healthcare system. All Danish residents are automatically entitled to public finance healthcare. It has been privately initiated by Danish doctors and the events are also supported by Danish refugee aid and Danish Red cross.

h) Economic levers for better health outcomes

Economic levers are GDP, prevention programs, funding and controlling resources that are necessary to achieve better healthcare system. Unemployment rate and poverty rate is also economic lever in Denmark healthcare and it has been 6.2% and 7.1% in 2015 simultaneously. These levers help Denmark healthcare system to reform with substantial planning as these factors can analyse economic condition of Denmark is better way (Mossialos *et al.* 2016). It changes policy utilisation and bring equality in health care services. It becomes beneficial for the people as well as Danish government.

2. Terms of key element to build health system

The terms and regulations of WHO that is provided in 2007 and 2009 are analysed in this part and on the basis of the elements, healthcare condition of Denmark is analysed here. Key workforce shortages in specific profession and training opportunities in order to develop core competencies are determined based on WHO regulations.

It is noticed from the 2007 healthcare report of WHO has been 21% of persons provide national health services and treatments. In 2007, there have been more than 27,000 academic trained researchers in Denmark in which 7000 researchers are PhD students. Medical universities of

Denmark have responsibility to train researchers and training is carried out with cooperation of government in government research institutions (euro.who.in, 2018). Therefore, there is no shortage of researchers to provide training to the students. On the other hand, the researchers also provide high quality healthcare services along with physicians. Henceforth, issues of shortage of the healthcare provider are not high in 2007.

It is identified from WHO report of 2009 that total population of the country has been 5,550,000 and median age of the people has been 40.6. Life expectancy at birth for female has been 80.5 and life expectancy of male has been 76.0. GDP per capita has been US 55,830 US dollars and GDP spent on health has been 11. 4%. It is identified from WHO statistics of 2009 report that there has been 51.9% of population has been adult in Denmark. The proportion of 18.7% men and 17.6% women has been obese. As accidents and health care diseases related diabetes and obesity have been increased in 2009, it is observed that a shortage of healthcare professionals has been noticed in 2009 (euro.who.int, 2018). On the contrary, training is good and innovation in technology improves the efficiency of healthcare services.

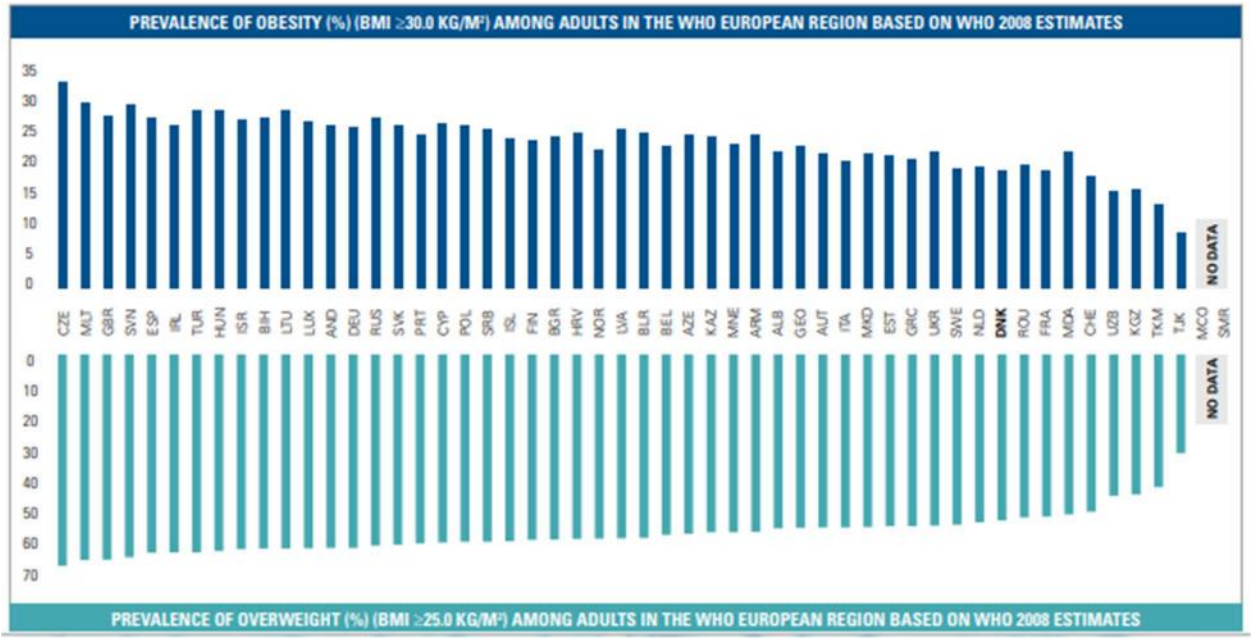

Figure 4: Healthcare condition of Denmark in 2009 WHO report

(Source: euro.who.int, 2018)

3. Cost-effectiveness and cost-benefit analysis for resource allocation in health system

Economic levers and healthcare condition of Denmark influence resource allocation of healthcare system. Cost benefit analysis is based on risk-benefit analysis, cost-effective medical care and efficient medical care. Cost-benefit and cost-effectiveness analysis depends on the analysis of healthcare resources and expenditure related to possible medical benefits. Clarity of medical decision making process is based on process demands. Risk benefit analysis determines the potentiality of undesirable or positive outcomes of a treatment and side effects of treatments. These processes are effective to identify medical necessity and the process of delivering quality medical care. As mentioned by Jennum *et al.* (2017), efficient medical care correlates to the timeliness of necessary medical services and supplies. It is also noticed whether treatment is delivered with lower costs and applying healthcare standards. Cost-effective medical care is taken by comparing multiple strategies that uses low costs and high benefits.

Conclusion

It is identified from the above discussion that healthcare system of Denmark is effective and universal than that of other countries. The report analyses GDP spending of Denmark on healthcare services and it is noticed that GDP spending on healthcare system is good enough in Denmark. It is more than EU average and Australian GDP spending in health. Expenditure on health care services is more than GDP earnings in Denmark that becomes a concern for Denmark. Besides, innovative financing is included in the healthcare resources in which grand funds and international funds are provided to healthcare sector to achieve more benefits in international healthcare. Health coverage of Denmark is universal and the residents of Denmark get health care services in different EU countries with the help of health care card. Healthcare condition of Denmark based on WHO statistics are evaluated here along with cost ebenefits that has been achieved by Denmark in providing healthcare services.

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