

# HSD9: COMPARISON OF HEALTH QUALITY AND HEALTH EXPENDITURE BETWEEN IRELAND AND THE NORDICS

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## BACKGROUND

- Healthcare systems (HCS) across the globe are continuously observed to assess their performance and potential weaknesses as, largely due to the COVID-19 pandemic, the performance of a HCS has become one of the most critical public policy issues in recent times<sup>1</sup>.
- The quality of a HCS is typically observed by analysing the performance in key indicators such as hospitalisation rates, cancer survival and screening rates, and inpatient case figures. Whilst ensuring a HCS performs well in those indicators, it is also the responsibility of the health organisation to ensure a HCS is performing efficiently.
- The notion of efficiency in healthcare becomes particularly important when considering the consistently constrained resources available to the sector<sup>2</sup>. This requires justification, on the part of the decision-makers, to ensure that health care resources are put to good use by distributing them in an efficient manner. When used appropriately, efficiency indicators can be important tools to help decision-makers determine whether resources are allocated optimally, and to pinpoint which parts of the health system are not performing as well as they should be.

## OBJECTIVES

- The objective of this research is to assess the quality and efficiency of the Irish HCS by comparing its performance to that of the Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden), as they are perceived as high-performing HCS across Europe.

## METHODS

- 24 health care quality indicators were selected for the analysis, as defined in the OECD database and in reports published by the National Healthcare Quality Reporting System in Ireland<sup>3,4</sup>. Health outcomes for the following areas were collected using OECD data from 2015-2019: hospitalisation rates for heart failure, COPD, asthma, diabetes, cancer survival and screening rates (from 2010-2014), waiting times for hip surgery, in-hospital mortality, infection rates and inpatient care figures. Two of the indicators, mortality rates from treatable and preventable causes, formed a new methodology of data collection from the OECD, which only included data from 2019<sup>5</sup>.
- The average rate for each indicator was calculated for all five years of data. For countries who only had one year of data, this rate was used for the analysis.
- A scoring method was developed to assess the overall performance of a HCS where each country received a score, based on their rank for that indicator, between 1 (worst performing) and 6 (best performing) e.g. for the COPD hospital admission indicator: Ireland were the worst-performing HCS followed by Denmark, Norway, Iceland, Sweden, and Finland. Using the scoring method, this would attribute 1 point to Ireland, 2 points to Denmark, 3 points to Norway, 4 points to Iceland, 5 points to Sweden, and 6 points to Finland. The overall scores were then calculated where the lowest scores were used to define the worst performing HCS.
- An overall total was also calculated which calculated the frequency each HCS performed worse than others.
- Healthcare funding and expenditure data were collected using OECD data from 2015-2019<sup>6</sup>. The measure of per capita, current prices, current purchasing power parities (PPPs) was selected for the analysis of healthcare expenditure as this allowed for a direct comparison between countries healthcare spend. The average expenditure for the years 2015-2019 was calculated for each country based on the sum of all available functions of expenditure on health for all financing schemes.

## RESULTS

- Table 1 presents the results of the scoring method, where Finland were regarded as the country with the worst performing HCS (57), with Ireland a close second (60). Iceland performed better than the other HCS and done so by a significant margin, with an overall score of 120.
- Table 2 shows the cumulative amount where each HCS performed worse than any other. Out of the 24 indicators analysed, the Irish and Finnish HCS were the worst performing in 9 of the indicators. Norway only possessed one poor performance as the Swedish and Icelandic HCS returned an outcome of 0.
- Table 3 shows the average per capita health spend for each country, where Norway has the highest per capita healthcare expenditure. In terms of efficiency, Iceland is both the best performing healthcare system and has the lowest healthcare spend per capita.
- Table 4 shows that the Irish HCS is noticeably different from the Nordic countries in the breakdown of public, voluntary, and out-of-pocket financing schemes. Voluntary health insurance accounts for 13% of overall health spend compared to 5% in Finland, which is the next highest. In Ireland there is a disproportionate contribution from Voluntary health insurance towards the various healthcare functions. Voluntary health contributes 28% to all inpatient spend but only 5% of outpatient spend.
- In the health spend category ‘Outpatient Curative and Rehabilitative Care’, Ireland is the lowest in per capita spend. Ireland spends nearly half the amount as the highest spender Denmark, and 36% less than the Nordic countries average.
- For ‘Inpatient Curative and Rehabilitative Care’, Ireland has the third highest per capita spend as they spend 27% less than the highest spender Norway, and 7% less than the Nordic countries average.

Table 1: Outcome of the scoring method

Rank	Country	Overall Score
1 <sup>st</sup>	Iceland	120
2 <sup>nd</sup>	Sweden	97
3 <sup>rd</sup>	Norway	94
4 <sup>th</sup>	Denmark	69
5 <sup>th</sup>	Ireland	60
6 <sup>th</sup>	Finland	57

Table 2: Indicators where HCS was worst performing

Country	Frequency of worst performance	Indicators
Ireland	9/24 (37.5%)	<ul style="list-style-type: none"><li>Cumulative 5-year net survival rate: cervical, colon, breast, and rectal cancer</li><li>In-hospital waiting time for hip surgery (within 2 days of admission, within the following day of admission)</li><li>MRSA cases as a proportion of Staphylococcus aureus cases</li><li>COPD hospital admission</li><li>Mortality rates from treatable causes</li></ul>
Finland	9/24 (37.5%)	<ul style="list-style-type: none"><li>Cumulative 5-year net survival rate: lung cancer</li><li>In-hospital mortality rates (within 30 days of admission for AMI (45 years and older) per 100 patients, within 30 days of admission for ischemic stroke (45 years and older) per 100 patients)</li><li>In-hospital waiting time for hip surgery (within the same day of admission)</li><li>Inpatient care discharges (all hospitals) per 100k population</li><li>Inpatient care average length of stay in days (all hospitals)</li><li>Hospitalisation rates per 100k population: congestive heart failure and hypertension</li><li>Mortality rates from preventable causes</li></ul>
Denmark	5/24 (20.8%)	<ul style="list-style-type: none"><li>Cumulative 5-year net survival rate: stomach cancer</li><li>In-hospital mortality rates within 30 days of admission for hemorrhagic stroke (45 years and older) per 100 patients</li><li>Hospitalisation rates per 100k population: asthma and diabetes</li><li>Uptake of cervical screening in women aged 50-69, % of eligible women screened</li><li>Cumulative 5-year net survival rate: childhood acute lymphoblastic leukemia</li></ul>
Norway	1/24 (4.2%)	<ul style="list-style-type: none"><li>N/A</li></ul>
Iceland	0/24 (0%)	<ul style="list-style-type: none"><li>N/A</li></ul>
Sweden	0/24 (0%)	<ul style="list-style-type: none"><li>N/A</li></ul>

Table 3: Overall health spend per capita

Rank	Country	Health Spend per capita (USD)
1 <sup>st</sup>	Norway	6070
2 <sup>nd</sup>	Sweden	5110
3 <sup>rd</sup>	Denmark	5081
4 <sup>th</sup>	Ireland	4172
5 <sup>th</sup>	Finland	4048
6 <sup>th</sup>	Iceland	3915

Table 4: Health care spend per capita by Function

		Ancillary services (non-specified by function)	Governance and health system and financing administration	Inpatient curative and rehabilitative care	Long-term care (health)	Medical goods (non-specified by function)	Other health care services unknown	Outpatient curative and rehabilitative care	Preventive care
Denmark	per capita, spend	0	233	1363	1087	538	0	1743	116
	% of Total Spend	0%	5%	27%	21%	11%	0%	34%	2%
Finland	per capita, spend	130	37	957	746	612	5	1396	167
	% of Total Spend	3%	1%	24%	18%	15%	0%	34%	4%
Iceland	per capita, spend	100	58	1133	812	565	0	1150	97
	% of Total Spend	3%	1%	29%	21%	14%	0%	29%	2%
Ireland	per capita, spend	132	123	1179	1010	647	42	915	123
	% of Total Spend	3%	3%	28%	24%	16%	1%	22%	3%
Norway	per capita, spend	465	71	1605	1770	658	0	1336	164
	% of Total Spend	8%	1%	26%	29%	11%	0%	22%	3%
Sweden	per capita, spend	210	88	1058	1387	661	33	1504	169
	% of Total Spend	4%	2%	21%	27%	13%	1%	29%	3%

## CONCLUSIONS

- From the results, it is clear that Ireland need to improve the efficiency of their healthcare spend as the performance of the HCS does not justify the amount of resources provided within the sector. This is evident especially when compared to the Norwegian, Swedish and Icelandic systems, who are either spending more per capita and receiving stronger outcomes, or are spending less and still producing a high-performing HCS.
- The areas in which Ireland performed poorly, amongst others, require improvements to ensure high quality care (comparative to the Nordic countries) is being delivered within the Irish HCS.
- This can be achieved by adopting a similar model to the high-performing Nordic HCS to ensure the resources utilised are providing high quality care to individuals, and may help to improve health outcomes. This could involve placing more emphasis on initiatives which focusses on e-Health, introducing new cancer strategies, integrating and improving care pathways, and potentially focussing on increasing the resources allocated to primary care and improving the efficiency within secondary care.

## LIMITATIONS AND FURTHER RESEARCH

- This research focusses only on the quality indicators and expenditure data as provided in the listed sources. HCS are increasingly complex areas and assessing their true quality and efficiency requires further, extensive research, which accounts for other areas within the sector.

## REFERENCES

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