

# **Supplementary Document**

## **Further Analysis of Integrated Care 2021 Data Collection**

# Contents

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**This document presents material that supplements:**

Barrenho, E, Haywood, P, Kendir, C, Klazinga, N (2022), "International comparisons of the quality and outcomes of integrated care: findings of the OECD pilot on stroke and chronic heart failure", *OECD Health Working Papers, No. 142*, OECD Publishing, Paris, <https://doi.org/10.1787/480cf8a0-en>.

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## 1 List of indicators

- IC1a. Ischemic Stroke – All-cause hospital readmissions within 365 days after discharge
- IC1b. Ischemic Stroke – Disease-specific hospital readmissions within 365 days after discharge
- IC2. Ischemic Stroke – All-cause mortality within 365 days after discharge
- IC3a. Ischemic Stroke – Mortality or all-cause readmission within 365 days after discharge
- IC3b. Ischemic Stroke – Mortality or disease-specific readmission within 365 days after discharge
- IC4. Ischemic Stroke - Prescribed antihypertensive medicines between 12 and 18 months after ischemic stroke
- IC5a. Haemorrhagic Stroke – All-cause hospital readmissions within 365 days after discharge
- IC5b. Haemorrhagic Stroke – Disease-specific hospital readmissions within 365 days after discharge
- IC6. Haemorrhagic Stroke – All-cause mortality within 365 days after discharge
- IC7a. Haemorrhagic Stroke – Mortality or all-cause readmission within 365 days after discharge
- IC7b. Haemorrhagic Stroke – Mortality or disease-specific readmission within 365 days after discharge
- IC8. Haemorrhagic Stroke - Prescribed antihypertensive medicines between 12 and 18 months after haemorrhagic stroke
- IC9a. CHF – All-cause hospital readmissions within 365 days after discharge
- IC9b. CHF - Disease-specific hospital readmissions within 365 days after discharge
- IC10. CHF - All-cause mortality within 365 days after discharge
- IC11a. CHF – Mortality or all-cause readmission within 365 days after discharge
- IC11b. CHF – Mortality or disease-specific readmission within 365 days after discharge
- IC12. CHF - Prescribed medicines between 12 and 18 months after heart failure
- IC13. CHF – Case fatality within 30 days of the admission date

# 1. Tables

The data provided consisted both of totals by sex for each indicator and also by sex, age and ICD categorisation. There were small inconsistencies when comparing these different sets of data, for example some countries did not report numbers below five or ten. In this case the summation of the totals reported for each age may not add to the total reported for the sex as a whole. The table below demonstrates the potential difference in the crude rates when calculating them by using the reported totals or summing them from each of the ages for the indicator of ischaemic stroke mortality (IC2). For the vast majority of cases there was no observable difference in between the different methods of calculation.

In order to avoid impossible results, for example a negative rate, a number of consistency checks were adhered to. These were:

- The result within an age group had to be at least equal to the sum of sum of the results for the individual ICD categorisations.
- The indicator for all readmissions had to be at least as large as the indicator for disease specific readmissions
- The combined indicator for all readmissions and morality had to be at least as large as the combined indicator for disease specific readmissions and mortality.
- The combined indicator (IC3a, 3b, 7a, 7b, 11a, 11b) could not exceed the sum of the individual indicators. The following indicators were used (see 1 List of indicators for indicator definitions):
  - IC3a vs IC1a + IC2
  - IC3b vs IC1b + IC2
  - IC7a vs IC5a + IC6
  - IC7b vs IC5b + IC6
  - IC11a vs IC9a + IC10
  - IC11b vs IC9b + IC10

**Table A Error! No text of specified style in document..1. Crude rates for ischaemic stroke mortality (IC2) for 2018 (or nearest year) using provided totals and summation of age-sex categories**

Country	Crude rate using provided totals	Crude rate using summation of age-sex categories	Differences between rates
CAN	12.75%	12.75%	0.00%
CRI	5.61%	5.18%	0.44%
CZE	19.68%	19.68%	0.00%
DNK	10.25%	10.25%	0.00%
EST	25.33%	25.33%	0.00%
FIN	12.87%	12.87%	0.00%
GBR-NIR			0.00%
ISR	11.72%	11.72%	0.00%
ITA	20.64%	20.64%	0.00%
JPN	2.03%	2.03%	0.00%
LTU	22.45%	22.45%	0.00%
NOR	12.49%	12.49%	0.00%
SGP	8.90%	8.90%	0.00%
SWE	12.24%	12.24%	0.00%

Note: Several small alterations were made to ensure consistency, for strokes in the age-sex breakdown, the total number was required to be at least the sum of the individual ICD' reported.

Source: OECD Pilot Data Collection on Integrated Care.

The table below shows the differences for one year ischaemic stroke mortality when comparing the total population collected or restricting it to 45 and above. There is a small increase in the calculated mortality rate when using the cohort aged 45 and above. This is consistent with the mortality rate being lower in the younger age groups.

**Table A Error! No text of specified style in document..2. Crude rates for ischaemic stroke mortality (IC2) for 2018 (or nearest year) using provided totals and summation of age-sex categories**

Country	2013 or year used in calculation			2018 or year used in calculation		
	All ages	45 and up	Difference	All ages	45 and up	Difference
JPN	2.0%	2.0%	0.0%	2.0%	2.1%	0.0%
CRI	7.9%	8.2%	-0.3%	5.2%	5.4%	-0.2%
SGP	9.2%	9.6%	-0.3%	8.9%	9.2%	-0.3%
DNK	10.4%	10.8%	-0.4%	10.3%	10.6%	-0.2%
ISR	14.7%	15.2%	-0.5%	11.7%	12.0%	-0.3%
SWE	13.7%	14.0%	-0.3%	12.2%	12.5%	-0.2%
NOR	12.7%	13.1%	-0.4%	12.5%	12.9%	-0.4%
FIN	13.9%	14.4%	-0.4%	12.9%	13.2%	-0.3%
CZE	19.7%	20.2%	-0.5%	19.7%	20.2%	-0.5%
ITA	20.6%	21.1%	-0.5%	20.6%	21.1%	-0.5%
LTU	21.7%	22.0%	-0.3%	22.5%	22.8%	-0.4%
EST				25.3%	25.8%	-0.5%
CAN				12.8%	13.1%	-0.4%

Source: OECD Pilot Data Collection on Integrated Care.

## Findings from correlation analysis across outcome indicators

1. Correlations measure the strength of association and direction of the linear relationship between two variables. The correlation coefficient can range from -1 to +1, with -1 indicating a perfect negative correlation, +1 indicating a perfect positive correlation, and 0 indicating no correlation at all. Correlation is a relationship between two variables: whenever one changes, the other is likely to also change. However, a change in one variable does not necessarily mean that it causes the other to change – a correlation it is not causation. For instance, this include the case of spurious correlations in which two or more variables are associated but not causally related, due to either coincidence or the presence of a certain confounding factor.

2. Analysing multiple indicators for integrated care is important as integrated care is multi-dimensional. Even in the sole dimension of health system outcomes it is important to ensure that all important impacts are captured. For example, it may be expected that increased integrated care may result in a reduction in mortality and a reduction in unnecessary and emergent care. In this case both mortality and readmissions may be reduced. However, there may some concern that reducing care (including readmissions) may result in increasing mortality. This concern may also occur with prioritising care of a specific disease, for example stroke, in a multi-morbid population that may result in increased admissions due to the sequelae of treatment, for example falls with aggressive hypertensive therapy. In these situations it is important to collect a variety of indicators as was undertaken in the pilot data collection.

3. Below we present three tables with the main findings resulting from the correlation analysis for indicators for ischaemic stroke (Table A Error! No text of specified style in document..3.), haemorrhagic stroke (Table A Error! No text of specified style in document..4.) and CHF (Table A Error! No text of specified style in document..5.). Each table includes:

- Correlation analysis between all-cause and disease-specific indicators;
- Correlation analysis between readmission indicators and mortality;
- Correlation between readmissions and/or mortality and prescribed medicines;
- Correlation analysis using both crude and standardised (using 2018 disease population) rates;
- Sub-analysis considering only older patients (i.e., 45+, 65+).

**Table A Error! No text of specified style in document..6. Correlation analysis: main results for ischaemic stroke**

Correlation between indicators	Crude rates	Standardised rates
<b>Correlation between readmissions</b> <ul style="list-style-type: none"> <li>• IC1a: Ischemic Stroke – All-cause hospital readmissions within 365 days after discharge</li> <li>• IC1b: Ischemic Stroke – Disease-specific hospital readmissions within 365 days after discharge</li> </ul>	<ul style="list-style-type: none"> <li>• Strong positive correlation [0.89] between IC1a and IC1b;</li> <li>• Results are quantitatively when restricting the analysis to older patient cohorts (i.e. age 45+ and age 65+).</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with the results found for crude rates;</li> <li>• Strong positive correlation [0.91] between IC1a and IC1b;</li> <li>• Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>
<b>Correlation between mortality and readmissions</b> <ul style="list-style-type: none"> <li>• IC1a: Ischemic Stroke – All-cause hospital readmissions within 365 days after discharge</li> <li>• IC1b: Ischemic Stroke – Disease-specific hospital readmissions within 365 days after discharge</li> <li>• IC2: Ischaemic Stroke – All-cause mortality within 365 days after discharge</li> <li>• IC3a: Ischaemic Stroke – Mortality or all-cause readmission within 365 days after discharge</li> <li>• IC3b: Ischaemic Stroke – Mortality or disease-specific readmission within 365 days after discharge</li> </ul>	<ul style="list-style-type: none"> <li>• Negative correlation [-0.44] between IC2 and IC1b;</li> <li>• Weak correlation [-0.14] between IC2 and IC1a;</li> <li>• Strong positive correlation [0.92] between IC1a and composite indicator IC3a;</li> <li>• Strong positive correlation [0.71] between IC1b and IC3a;</li> <li>• Results are quantitatively when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with the results found for crude rates;</li> <li>• Negative correlation [-0.28] between IC2 and IC1b;</li> <li>• No correlation [-0.04] when compared with IC1a;</li> <li>• Strong positive correlation [0.91] between IC1a and composite indicator IC3a;</li> <li>• Strong positive correlation [0.74] between IC1b and IC3a;</li> <li>• Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>
<b>Correlation between readmissions/mortality and prescribed medicines</b> <ul style="list-style-type: none"> <li>• IC1a: Ischemic Stroke – All-cause hospital readmissions within 365 days after discharge</li> <li>• IC1b: Ischemic Stroke – Disease-specific hospital readmissions within 365 days after discharge</li> <li>• IC2: Ischaemic Stroke – All-cause mortality within 365 days after discharge</li> <li>• IC3a: Ischaemic Stroke – Mortality or all-cause readmission within 365 days after discharge</li> <li>• IC3b: Ischaemic Stroke – Mortality or disease-specific readmission within 365 days after discharge</li> <li>• IC4: Ischemic Stroke - Prescribed antihypertensive medicines between 12</li> </ul>	<ul style="list-style-type: none"> <li>• Strong negative correlation [-0.76] between IC1a) and IC4;</li> <li>• Strong negative correlation [-0.93] between IC1b and IC4;</li> <li>• Strong negative correlation [-0.50] between IC4 and composite indicator IC3a;</li> <li>• Positive correlation [0.24] between IC4 and composite indicator IC3b;</li> <li>• Positive correlation [0.65] between IC2 and IC4;</li> <li>• Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with the results found for crude rates;</li> <li>• Strong negative correlation [-0.78] between IC1a and IC4;</li> <li>• Strong negative correlation [-0.92] between IC1b and IC4;</li> <li>• Strong negative correlation [-0.51] between IC4 and composite indicator IC3a;</li> <li>• Positive correlation [0.13] between IC4 and composite indicator IC3b;</li> <li>• Positive correlation [0.51] between IC2 and IC4;</li> <li>• Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>

<i>and 18 months after ischemic stroke</i>		
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Note: Standardised rates are calculated using as reference population the 2018 disease population for ischaemic stroke. See indicator definitions in Table 2.4 in the Health Working Paper.

Source: Authors

**Table A Error! No text of specified style in document..7. Correlation analysis: main results for haemorrhagic stroke**

Correlation between indicators	Crude rates	Standardised rates
<b>Correlation between readmissions</b> <ul style="list-style-type: none"> <li>IC5a: Haemorrhagic Stroke – All-cause hospital readmissions within 365 days after discharge</li> <li>IC5b: Haemorrhagic Stroke – Disease-specific hospital readmissions within 365 days after discharge</li> </ul>	<ul style="list-style-type: none"> <li>Strong positive correlation [0.88] between IC5a IC5b;</li> <li>Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+);</li> <li>Results are quantitatively similar when restricting the analysis to ICD-10 I60.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the results found for crude rates;</li> <li>Strong positive correlation [0.90] between IC5a IC5b.</li> <li>Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+);</li> <li>Results are quantitatively similar when restricting the analysis to ICD-10 I60.</li> </ul>
<b>Correlation between mortality and readmissions</b> <ul style="list-style-type: none"> <li>IC5a: Haemorrhagic Stroke – All-cause hospital readmissions within 365 days after discharge</li> <li>IC5b: Haemorrhagic Stroke – Disease-specific hospital readmissions within 365 days after discharge</li> <li>IC6: Haemorrhagic Stroke – All-cause mortality within 365 days after discharge</li> <li>IC7a: Haemorrhagic Stroke – Mortality or all-cause readmission within 365 days after discharge</li> <li>IC7b: Haemorrhagic Stroke – Mortality or disease-specific readmission within 365 days after discharge</li> </ul>	<ul style="list-style-type: none"> <li>Weak positive correlation [0.17] between IC6 and IC5b;</li> <li>Negative correlation [-0.25] when compared with IC5a;</li> <li>Strong positive correlation [0.83] between IC5a and composite indicator IC7a;</li> <li>Strong positive correlation [0.96] between IC5b and IC7a;</li> <li>For patients aged 45+, there is positive correlation [0.07] between IC6 and IC5b;</li> <li>For patients aged 65+ correlation becomes negative correlation [-0.11];</li> <li>All other results are quantitatively and qualitatively similar.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the results found for crude rates;</li> <li>Positive correlation [0.18] between IC6 and IC5b;</li> <li>Negative correlation [-0.20] when compared with IC5a;</li> <li>Strong positive correlation [0.77] between IC5a and composite indicator IC7a;</li> <li>Strong positive correlation [0.94] between IC5b and IC7a.</li> </ul>

Note: Standardised rates are calculated using as reference population the 2018 disease population for haemorrhagic stroke. See indicator definitions in Table 2.4 in the Health Working Paper.

Source: Authors



**Table A** Error! No text of specified style in document..**8. Correlation analysis: main results for congestive heart failure**

Correlation between indicators	Crude rates	Standardised rates
<b>Correlation between readmissions</b> <ul style="list-style-type: none"> <li>IC9a: CHF – All-cause hospital readmissions within 365 days after discharge</li> <li>IC9b: CHF – Disease-specific hospital readmissions within 365 days after discharge</li> </ul>	<ul style="list-style-type: none"> <li>Strong positive correlation [0.69] between IC9a IC9b;</li> <li>Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the results found for crude rates;</li> <li>Strong positive correlation [0.69] between IC9a IC9b.</li> </ul>
<b>Correlation between readmissions and mortality</b> <ul style="list-style-type: none"> <li>IC9a: CHF – All-cause hospital readmissions within 365 days after discharge</li> <li>IC9b: CHF – Disease-specific hospital readmissions within 365 days after discharge</li> <li>IC10: CHF – All-cause mortality within 365 days after discharge</li> <li>IC11a: CHF – Mortality or all-cause readmission within 365 days after discharge</li> <li>IC11b: CHF – Mortality or disease-specific readmission within 365 days after discharge</li> </ul>	<ul style="list-style-type: none"> <li>Weak positive correlation [0.12] between IC10 and IC9b;</li> <li>Strong positive correlation [0.60] when compared with IC9a;</li> <li>Strong positive correlation [0.97] between IC9a and composite indicator IC11a;</li> <li>Strong positive correlation [0.59] between IC9b and IC11a;</li> <li>Results are quantitatively similar when restricting the analysis to older patients (i.e. age 45+ and age 65+).</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the results found for crude rates;</li> <li>Weak positive correlation [0.02] between IC10 and IC9b;</li> <li>Stronger positive correlation [0.58] when compared with IC9a.</li> </ul>

Note: Standardised rates are calculated using as reference population the 2018 disease population for CHF. See indicator definitions in Table 2.4 in the Health Working Paper.  
Source: Authors

## Main findings from panel data analysis

4. Panel data analysis refers to the statistical analysis of two-dimensional (typically cross sectional and longitudinal) panel data. In this case, the data are collected over time and over the same country and then a regression is run over these two dimensions. Our panel data regression model looks like:

$$y_{i,t} = c + bx_{i,t} + e_{i,t}$$

5. Where  $y_{i,t}$  is the dependent variable, in this case the outcome variable of interest (in our case, the 19 piloted indicators, please see Table 2.4 of the Health Working Paper) and  $x_{i,t}$  is the independent variable,  $c$  and  $b$  are coefficients,  $i$  and  $t$  are indices for countries and time = 2013,...,2020.  $e_{i,t}$  is the error term in this analysis.

6. For each outcome variable regression analysis was performed using four different model specifications (i.e. Ordinary least squares, Panel fixed effects, Panel weighted fixed effects, and Panel random effects).

Assumptions about the error term  $e_{i,t}$  determine whether we speak of fixed effects or random effects. In a fixed effects model,  $e_{i,t}$  is assumed to vary non-stochastically over  $i$  and  $t$  making the fixed effects model analogous to a dummy variable model in one dimension. The panel weighted fixed effects weights observations, in this case according to the disease specific population of country  $i$  in year  $t$ . In a random effects model,  $e_{i,t}$  is assumed to vary stochastically over  $i$  and  $t$  requiring special treatment of the error variance matrix. Finally, the Ordinary least squares pools observations and disregards both the cross sectional and longitudinal qualities of the data.

7. Below we present three tables with the main findings on the statistical significance ( $[-/+]$   $p < 0.05$ ;  $[-/+]$   $p < 0.01$ ;  $[-/+]$   $p < 0.001$ ) for the variables sex, age and year when explaining variation on crude rates for outcomes for ischaemic stroke (Table A Error! No text of specified style in document..9.), haemorrhagic stroke (Table A Error! No text of specified style in document..10.) and CHF (Table A Error! No text of specified style in document..11.). Overall, results suggest that variation of the outcome variables mortality or readmission rates, is not is explained by common time differences over time across countries, once controlling for country and age-sex group fixed effects. The tables present results derived from the panel weighted fixed effects model, which are robust to the other model specifications. Results for standardised rates are qualitatively similar.

## Table A Error! No text of specified style in document..12. Panel data analysis: main results for ischaemic stroke

Crude rates at country-year level, 2013-2020

Indicator	Sex	Age	Year
IC1a	[-]	65-74 [++] 75-84 [+++] 85+ [+++]	
IC1b		25-34 [++] 35-44 [+] 45-54 [+] 55-64 [+] 65-74 [++] 75-84 [+++] 85+ [+]	
IC2		45-54 [++] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	2020 [-]
IC3a		55-64 [+] 65-74 [+++] 75-84 [+++] 85+ [+++]	
IC3b	[+++]	25-34 [+++] 35-44 [+++] 45-54 [+++] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	
IC4		25-34 [+++] 35-44 [+++] 45-54 [+++]	

		55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	
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Note: [-/+ ] p<0.05; [--/++] p<0.01; [---/+++ ] p<0.001. See indicator definitions in Table 2.4 (in the Health Working Paper). Baseline: female sex (i.e. being male as compared to being female); age group 15-24 years old and year baseline 2013. Results derived from the panel weighted fixed effects model, which are robust to the other model specifications. Results for standardised rates are qualitatively similar.

Source: OECD Pilot Data Collection on Integrated Care.

### Table A Error! No text of specified style in document..13. Panel data analysis: main results for haemorrhagic stroke

Crude rates at country-year level, 2013-2020

Indicator	Sex	Age	Year
IC5a		65-74 [+++] 75-84 [+++] 85+ [+++]	2020 [---]
IC5b		45-54 [+] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	
IC6		45-54 [+] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	
IC7a		55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	2017 [-]
IC7b	[+]	35-44 [+] 45-54 [+++] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	
IC8	[+++]	25-34 [+++] 35-44 [+++] 45-54 [+++] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	

Note: [-/+ ] p<0.05; [--/++] p<0.01; [---/+++ ] p<0.001. See indicator definitions in Table 2.4 (in the Health Working Paper). Baseline: female sex (i.e. being male as compared to being female); age group 15-24 years old and year baseline 2013. Results derived from the panel weighted fixed effects model, which are robust to the other model specifications. Results for standardised rates are qualitatively similar.

Source: OECD Pilot Data Collection on Integrated Care.

**Table A** Error! No text of specified style in document..**14. Panel data analysis: main results for congestive heart failure**

Crude rates at country-year level, 2013-2020

Indicator	Sex	Age (baseline )	Year (baseline 2013)
IC9a	[+]	25-34 [---] 35-44 [---] 45-54 [---] 55-64 [NS] 65-74 [NS] 75-84 [+] 85+ [+]	2020 [---]
IC9b	[+]	25-34 [NS] 35-44 [NS] 45-54 [NS] 55-64 [NS] 65-74 [+] 75-84 [++] 85+ [++]	2020 [---]
IC10	[NS]	25-34 [NS] 35-44 [NS] 45-54 [NS] 55-64 [++] 65-74 [+++] 75-84 [+++] 85+ [+++]	
IC11a	[NS]	25-34 [-] 35-44 [---] 45-54 [-] 55-64 [NS] 65-74 [+] 75-84 [+++] 85+ [+++]	2020 [---]
IC11b	[+++]	25-34 [NS] 35-44 [NS] 45-54 [NS] 55-64 [+++] 65-74 [+++] 75-84 [+++] 85+ [+++]	2020 [---]
IC12			
IC13	[NS]	25-34 [NS]	

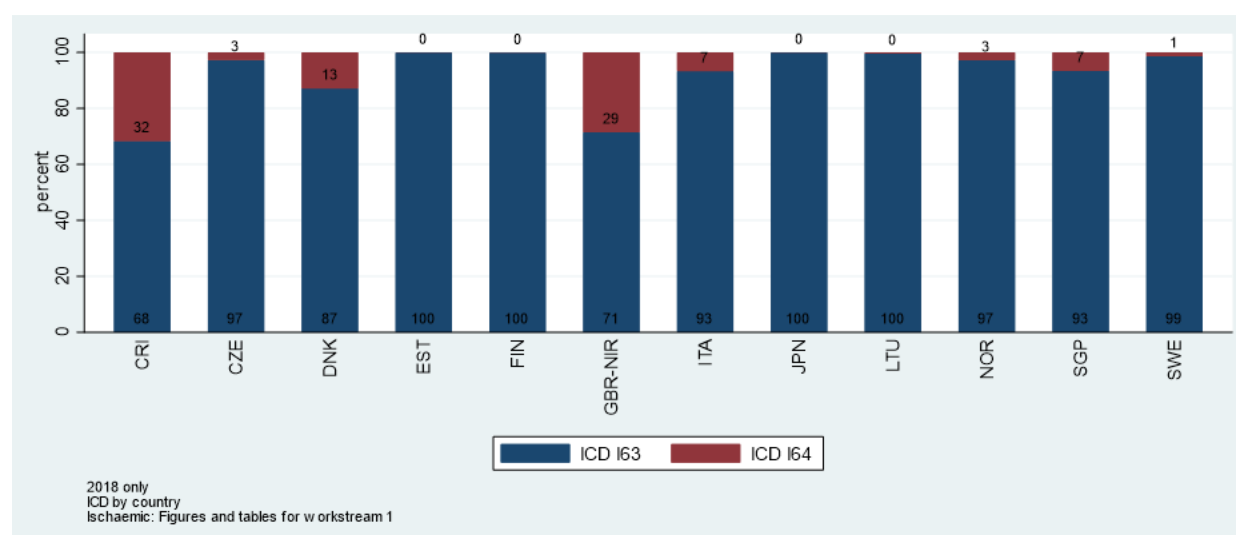
		35-44 [--]	
		45-54 [---]	
		55-64 [NS]	
		65-74 [NS]	
		75-84 [+++]	
		85+ [+++]	

Note: [-/+ ] p<0.05; [--/++ ] p<0.01; [---/+++ ] p<0.001. See indicator definitions in Table 2.4 (in the Health Working Paper). Baseline: female sex (i.e. being male as compared to being female); age group 15-24 years old and year baseline 2013. Results derived from the panel weighted fixed effects model, which are robust to the other model specifications. Results for standardised rates are qualitatively similar.

Source: OECD Pilot Data Collection on Integrated Care.

## 2. Figures

**Figure A Error! No text of specified style in document..1. Ischemic stroke, relative proportions of different ICD codes, 2018**

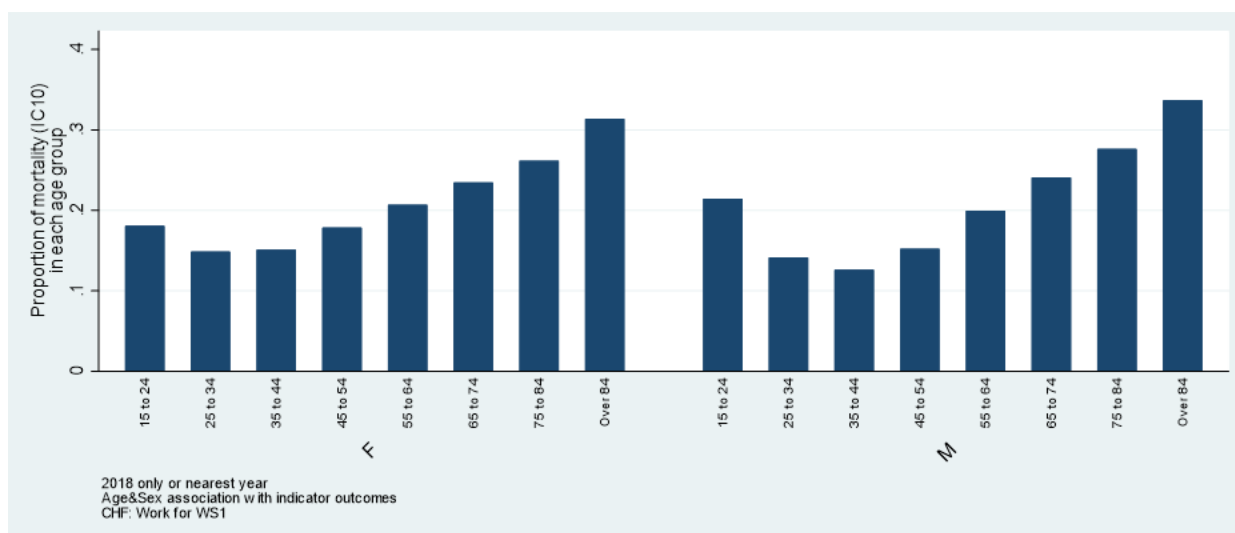


Note: ICD I63 is cerebral infarction; ICD I64 is stroke not specified as haemorrhage or infarction.

Source: OECD Pilot Data Collection on Integrated Care.

There were small differences between the sexes. For one-year mortality in CHF women had a slightly increased mortality at younger ages while men had a slightly increased mortality in the older age cohorts.

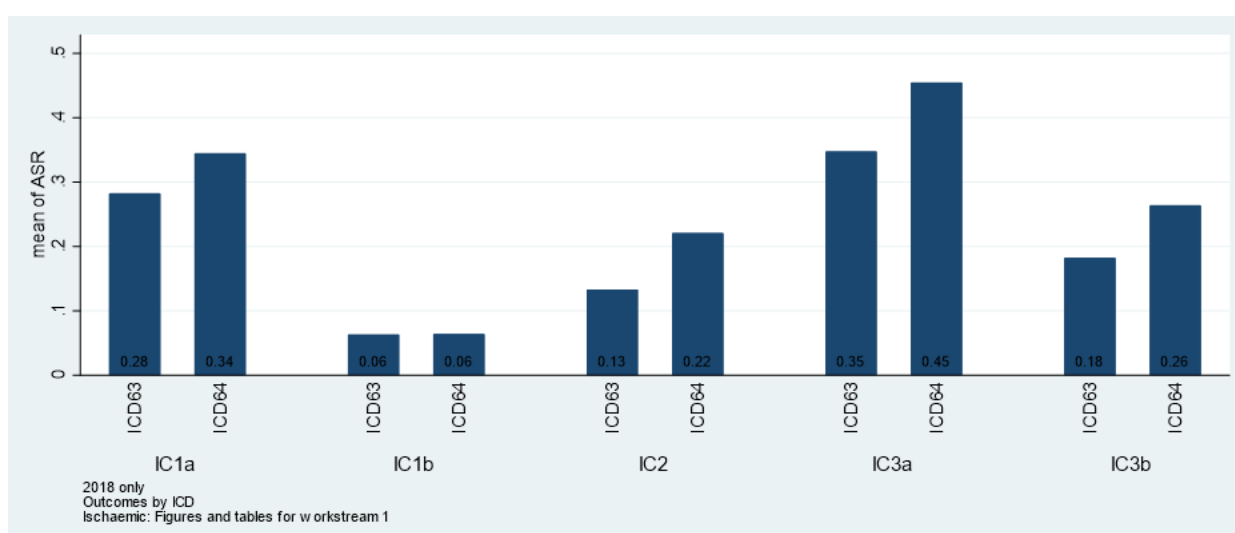
**Figure A Error! No text of specified style in document..2. Congestive Heart Failure: Age-sex association with mortality (2018 or nearest year)**



Note: 2018 or nearest year, includes all countries.

Source: OECD Pilot Data Collection on Integrated Care. IC6: Haemorrhagic stroke – All-cause mortality within 365 days after discharge.

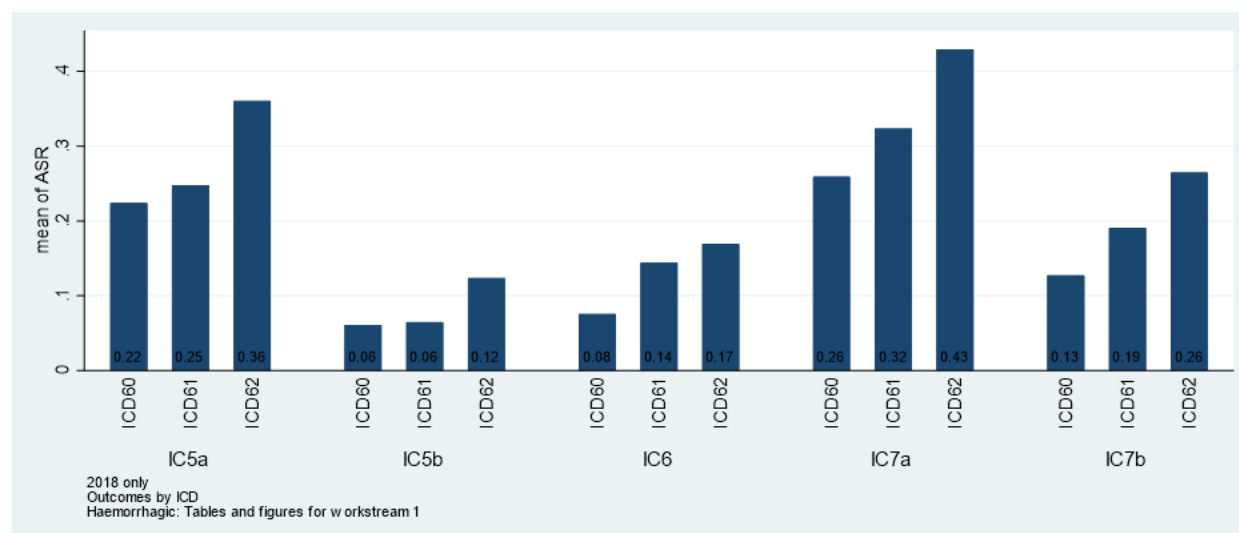
**Figure A Error! No text of specified style in document..3. Ischaemic stroke: association of outcomes with ICD assignment (2018 or nearest year)**



Note: 2018, includes all countries reporting ischaemic stroke by ICD-10 categorisation. ICD-10 63 is cerebral infarction and ICD-10 64 is Stroke, not specified as haemorrhage or infarction. See indicator definitions in Table 2.4 (in the Health Working Paper).

Source: OECD Pilot Data Collection on Integrated Care.

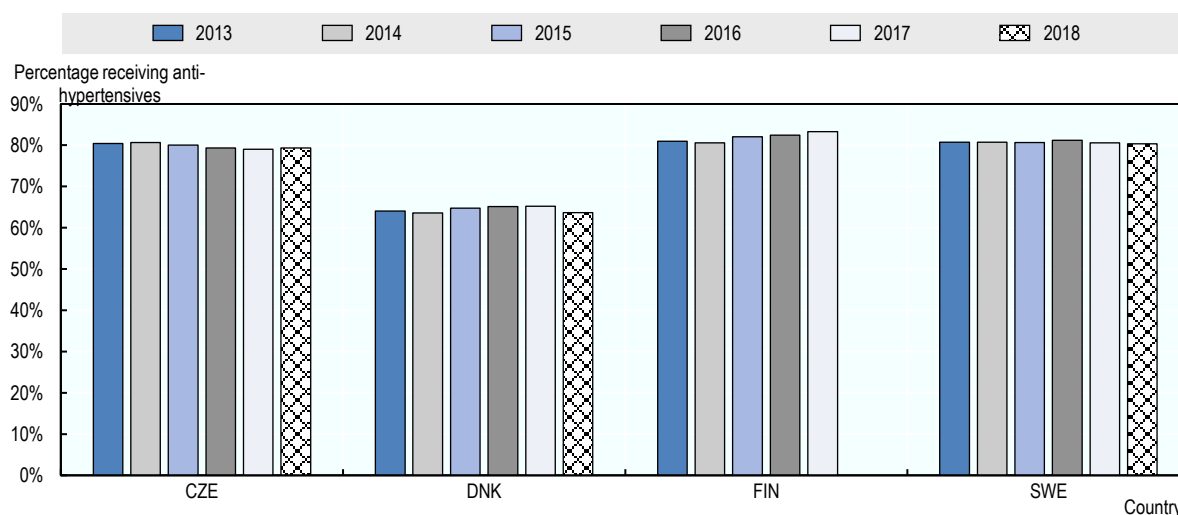
**Figure A Error! No text of specified style in document..4. Haemorrhagic stroke: Association of outcomes with ICD assignment (2018 or nearest year)**



Note: 2018, includes all countries reporting ischaemic stroke by ICD-10 categorisation. ICD-10 60 is sub-arachnoid hemorrhage; ICD-10 I61 is intracerebral hemorrhage and ICD-10 I62 is other and unspecified nontraumatic intracranial hemorrhage. See indicator definitions in Table 2.4 (in the Health Working Paper).

Source: OECD Pilot Data Collection on Integrated Care.

**Figure A Error! No text of specified style in document..5. Ischemic stroke: relative proportions of prescribed anti-hypertensive by year, crude rates**



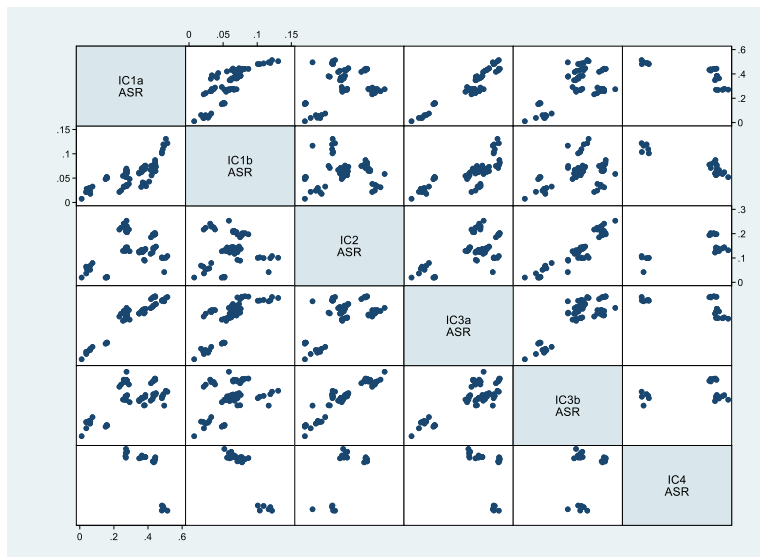
Note: Prescribing indicators (IC4) were supplied by four countries, CZE, DNK, FIN and SWE. No 2018 data were available for FIN. IC4: Ischemic stroke – Prescribed antihypertensive medicines between 12 and 18 months after haemorrhagic stroke. See indicator definitions in Table 2.4 (in the Health Working Paper). The data presented are crude rates without standardisation.

Source: OECD Pilot Data Collection on Integrated Care.



## Figure A Error! No text of specified style in document..6. Correlation matrix for ischaemic stroke

Crude rates using pooled country-year observations



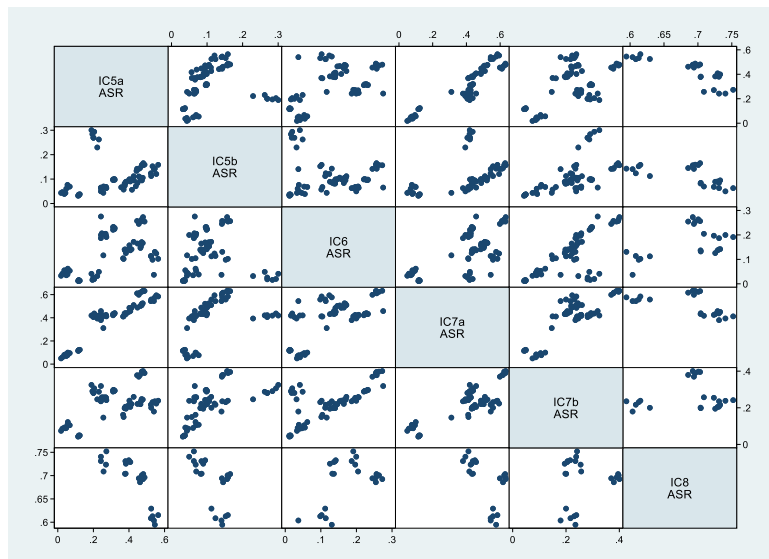
	ASRIC1a	ASRIC1b	ASRIC2	ASRIC3a	ASRIC3b	ASRIC4
ASRIC1a	1.0000					
ASRIC1b	0.8913	1.0000				
ASRIC2	-0.1435	-0.4421	1.0000			
ASRIC3a	0.9183	0.7138	0.2439	1.0000		
ASRIC3b	0.2973	0.0319	0.8801	0.6423	1.0000	
ASRIC4	-0.7556	-0.9253	0.6511	-0.5027	0.2397	1.0000

Note: See indicator definitions in Table 2.4 (in the Health Working Paper).

Source: OECD Pilot Data Collection on Integrated Care.

## Figure A Error! No text of specified style in document..7. Correlation matrix for haemorrhagic stroke

Crude rates using pooled country-year observations



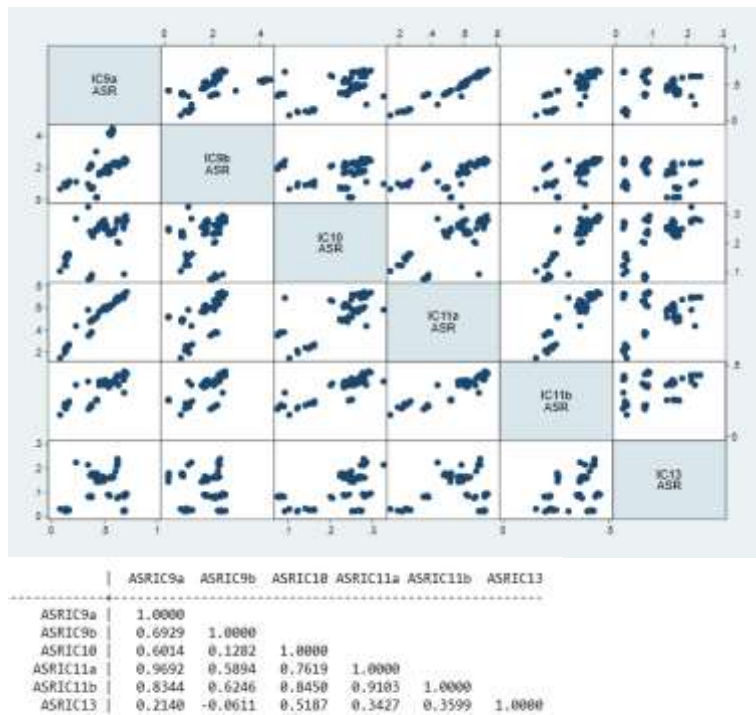
	ASRIC5a	ASRIC5b	ASRIC6	ASRIC7a	ASRIC7b	ASRIC8
ASRIC5a	1.0000					
ASRIC5b	0.8830	1.0000				
ASRIC6	-0.2450	0.1705	1.0000			
ASRIC7a	0.8311	0.9679	0.3156	1.0000		
ASRIC7b	0.1915	0.5934	0.8899	0.6949	1.0000	
ASRIC8	-0.8098	-0.6157	0.4979	-0.5524	0.1290	1.0000

Note: See indicator definitions in Table 2.4 (in the Health Working Paper).

Source: OECD Pilot Data Collection on Integrated Care.

## Figure A Error! No text of specified style in document..8. Correlation matrix for congestive heart failure indicators

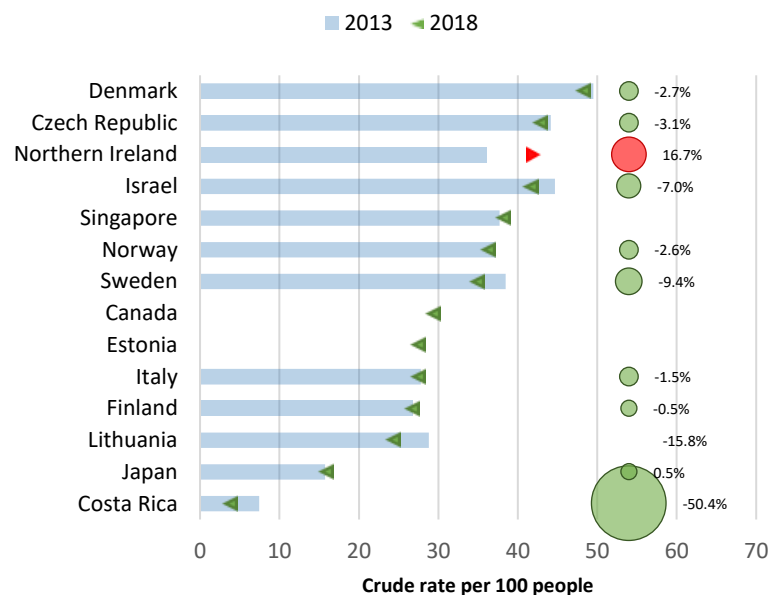
Crude rates using pooled country-year observations



Note: See indicator definitions in Table 2.4 (in the Health Working Paper).

Source: OECD Pilot Data Collection on Integrated Care.

**Figure A Error! No text of specified style in document..9. Patients readmitted due from any cause one year after discharge from ischaemic stroke, crude rates, 2013-2018**



Data labels report relative percentage change, 2013-2018. The graph plots indicator IC1a, Ischaemic Stroke -All-cause readmission within 365 days after discharge. See indicator definitions in Table 2.4 in the Health Working Paper.  
Source: OECD Pilot Data Collection on Integrated Care 2020-2021.