



European data sources: cases and deaths

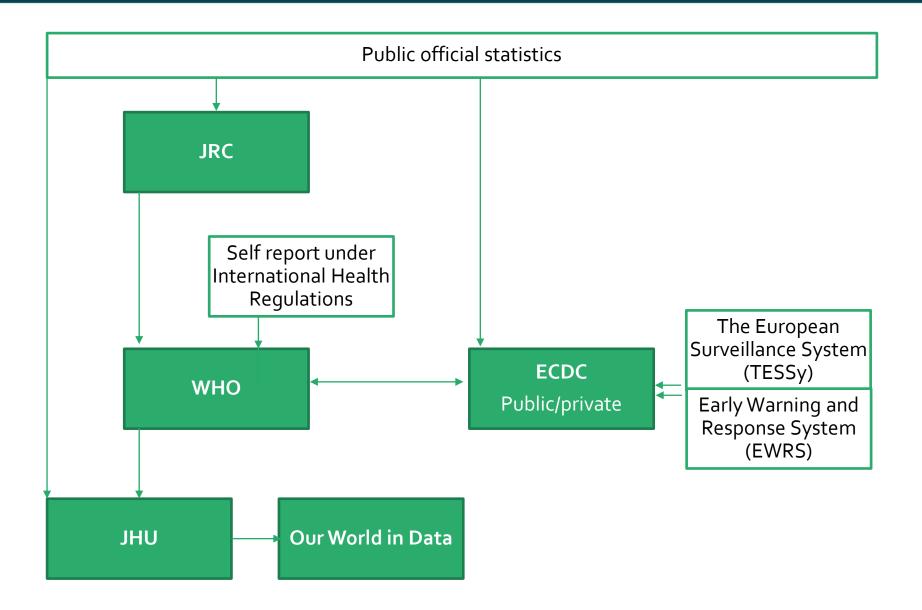


• 6 sources compared for Covid-19 cases and deaths

Provider	Referenced as	Data available at	Data sources from
European Commission Joint Research Centre	JRC	https://github.com/ec-jrc/COVID-19	https://covid- statistics.jrc.ec.europa.eu/QlikDashboard?sheet =multidim
World Health Organisation	WHO	https://covid19.who.int/info/	https://worldhealthorg.shinyapps.io/euro- covid19/
Johns Hopkins University	JHU	https://github.com/CSSEGISandData/ COVID-19	https://github.com/CSSEGISandData/COVID- 19#covid-19-data-repository-by-the-center-for- systems-science-and-engineering-csse-at-johns- hopkins-university
European Centre for Disease Control	ECDC – public	https://www.ecdc.europa.eu/en/public ations-data/data-daily-new-cases- covid-19-eueea-country	https://www.ecdc.europa.eu/en/publications-data/sources-eueea-regional-data-covid-19 https://www.ecdc.europa.eu/en/covid-19/data-collection
ECDC – data shared privately	ECDC – private	N/A	Unknown
Our World in Data	OWID	https://github.com/owid/covid-19-data/tree/master/public/data/	https://ourworldindata.org/coronavirus-source-data

Cases and deaths: reporting process



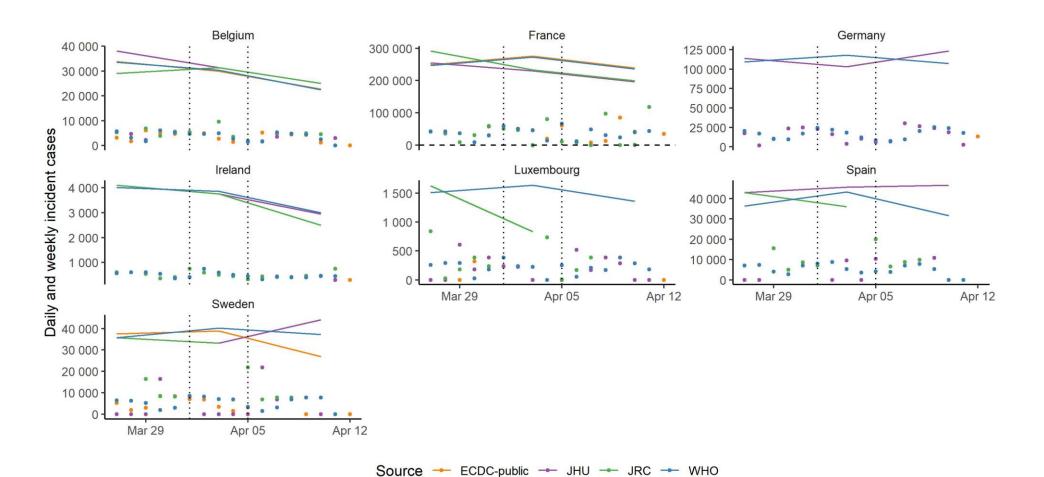


JHU differs from WHO in some countries: cases



Daily and weekly incidence cases

Countries where JHU has named an alternative public country data source

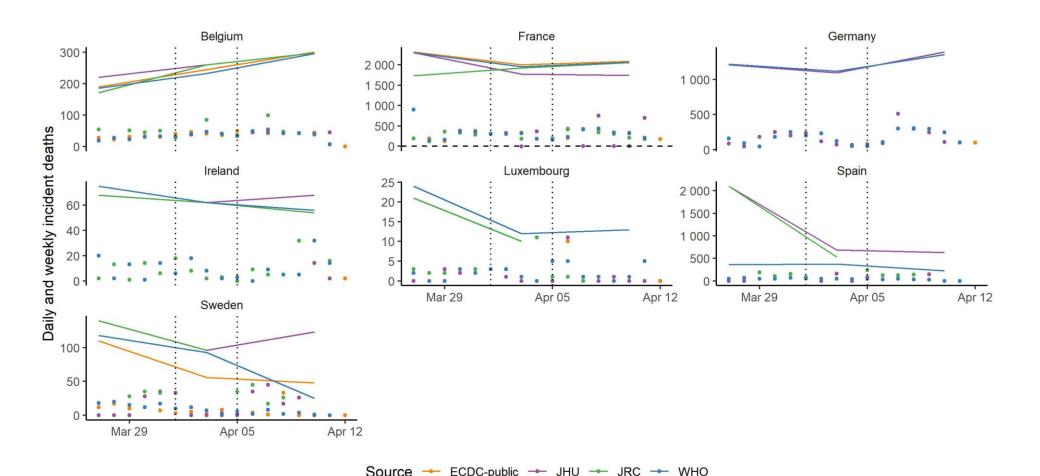


JHU differs from WHO in some countries: deaths



Daily and weekly incidence deaths

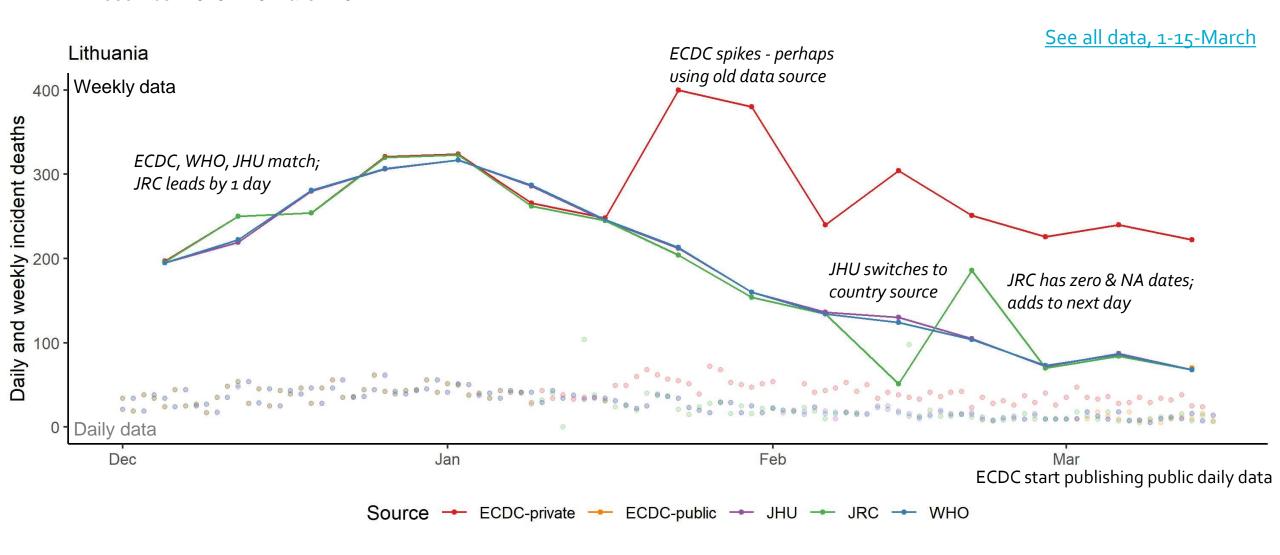
Countries where JHU has named an alternative public country data source



Example: Lithuania, incident deaths, Dec - Mar



1 December 2020 - 15 March 2021



Cases and deaths: summary



MEDICINE MEDICINE					
	Source	Missingness	Revisions	Negative values	Overall
JRC	 Public country data 	 Missing: 8% deaths 7% cases Added next day: large outliers 	 Claim to update with revisions Data suggests this doesn't always happen 	Negative values:o.4% deathso.3% cases	+ Timely (leads WHO by 1 day) - Large anomalies, missing + negative values
WHO	 JRC ECDC Country self-report (IHR) Public country data 	No missing valuesMissing set to zero	Updates with revisions	Negative values:o.o3% deathso.o3% cases	+ Smoother version of JRC data (more consistent revision) + Fewer negative values
JHU	• WHO	No missing values	 Updates with revisions 	Negative values:	- Negative values

WHO Updates with revisions No missing values Negative values: - Negative values Missing set to zero o.4% deaths Public country + Public

data

data

JRC

TESSy

Public country

No data for

Switzerland, UK

ECDC -

private

ECDC -

public

Missing: 7% deaths 6% cases

Missing:

3% deaths

3% cases

from source data ?

+ Better data quality

- Appears lagged on

WHO/JHU data

• ?

(few negatives) - Extensive missingness - Some missingness

Negative values:

0.01% deaths

0.2% cases

o.o1% cases

Negative values:

0.1% deaths

o.1% cases

European data sources: healthcare



• 4 sources compared for Covid-19 hospitalisations and ICU

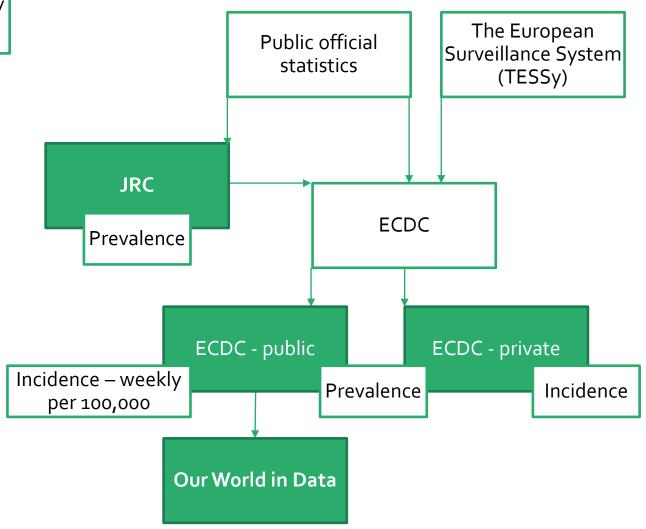
Provider	Referenced as	Data available at	Data sources from
European Commission Joint Research Centre	JRC	https://github.com/ec-jrc/COVID-19	<pre>https://covid- statistics.jrc.ec.europa.eu/QlikDashboard?sheet =multidim</pre>
European Centre for Disease Control	ECDC – public	https://www.ecdc.europa.eu/en/publica tions-data/download-data-hospital- and-icu-admission-rates-and-current- occupancy-covid-19	https://www.ecdc.europa.eu/sites/default/files/documents/2021-01- 13 Variable Dictionary and Disclaimer hosp icu all_data.pdf
ECDC – data shared privately	ECDC – private	N/A	Unknown
Our World in Data	OWID	https://github.com/owid/covid-19-data/tree/master/public/data/	https://ourworldindata.org/coronavirus-source-data

Hospitalisation & ICU: reporting process



Prevalence: current occupancy

Incidence: new admissions



Hospitalisation & ICU: summary



- JRC
- Prevalence only
- Covers nearly all locations but not on all dates
 - Only covers around half of all date/location combinations
- One location missing altogether: Czechia
- ECDC private
 - Incidence and prevalence
 - Covers all locations but not on all dates
 - Very little ICU data

- ECDC public daily
 - Prevalence only
 - Hospital prevalence identical to private ECDC data
 - Covers nearly all locations but not on all dates
 - Five locations missing altogether:
 - Greece, Malta, United Kingdom, Liechtenstein, Switzerland
- ECDC public weekly
 - Incidence per 100,000
 - Identical to ECDC private data incidence
 - Covers nearly all locations but not on all dates

Summary



Cases and deaths:

- JHU
 - More stable than JRC; more consistent (not missing) than ECDC
 - Little difference compared to WHO
 - Pro: JHU issues are public and maintainers are responsive
 - Con: WHO may have better correction for negative data

Hospitalisation and ICU:

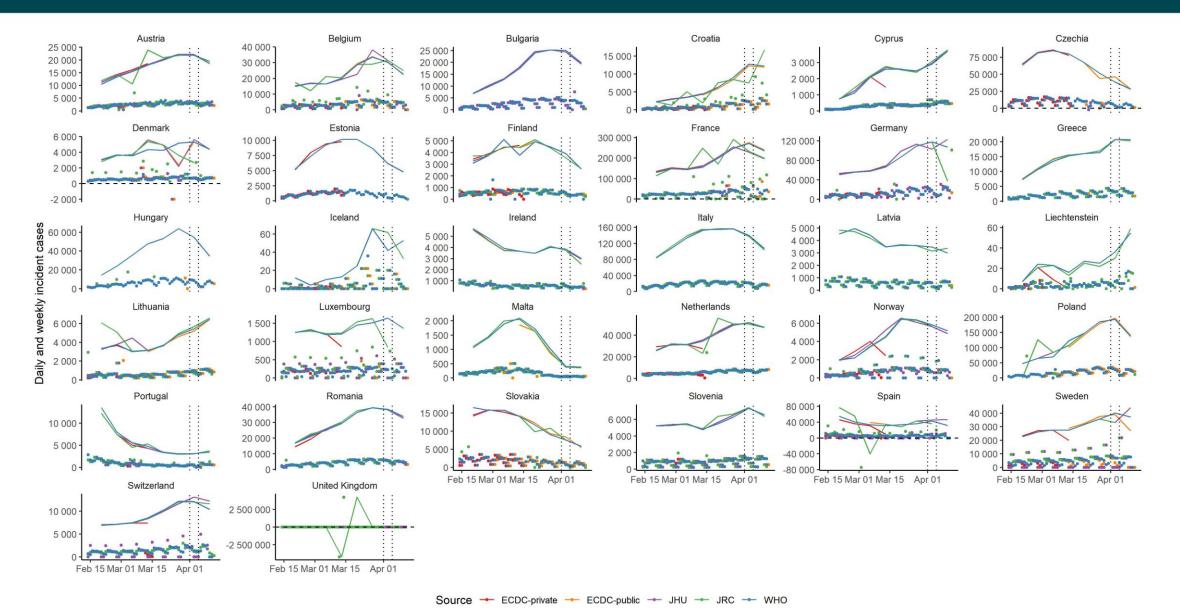
- ECDC public data
 - Best coverage for hospital occupancy
 - Coverage more consistent across the timeseries than JRC
 - No good option for ICU or European healthcare data in general





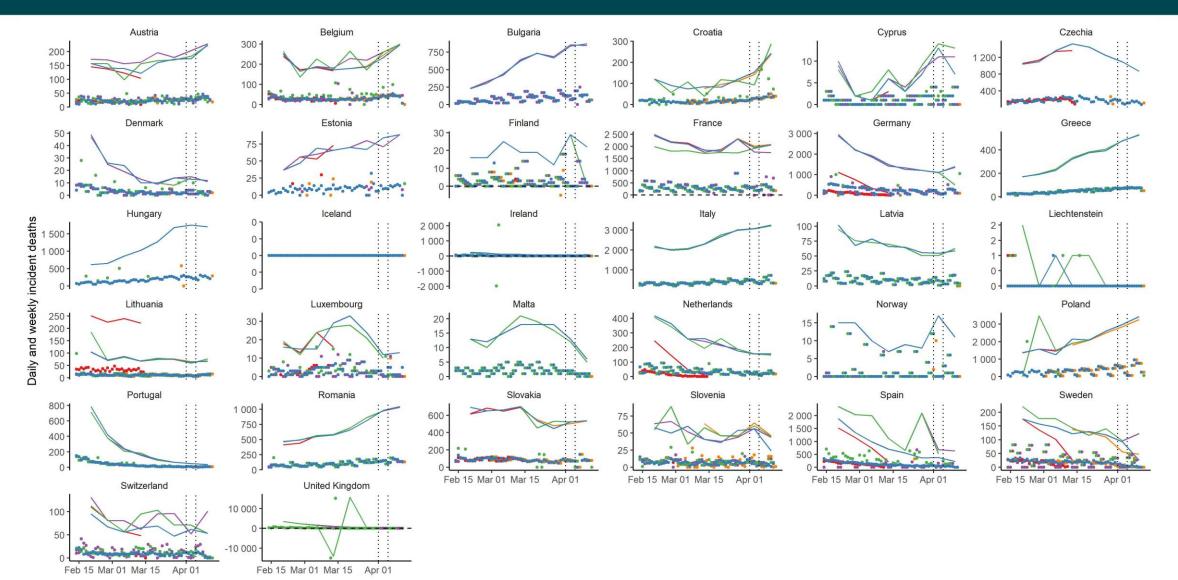
Cases by source, 15 Feb – now





Deaths by source, 15 Feb - now





JHU: country public sources

https://coronavirus.data.gov.uk/#category=nations&map=rate

UK



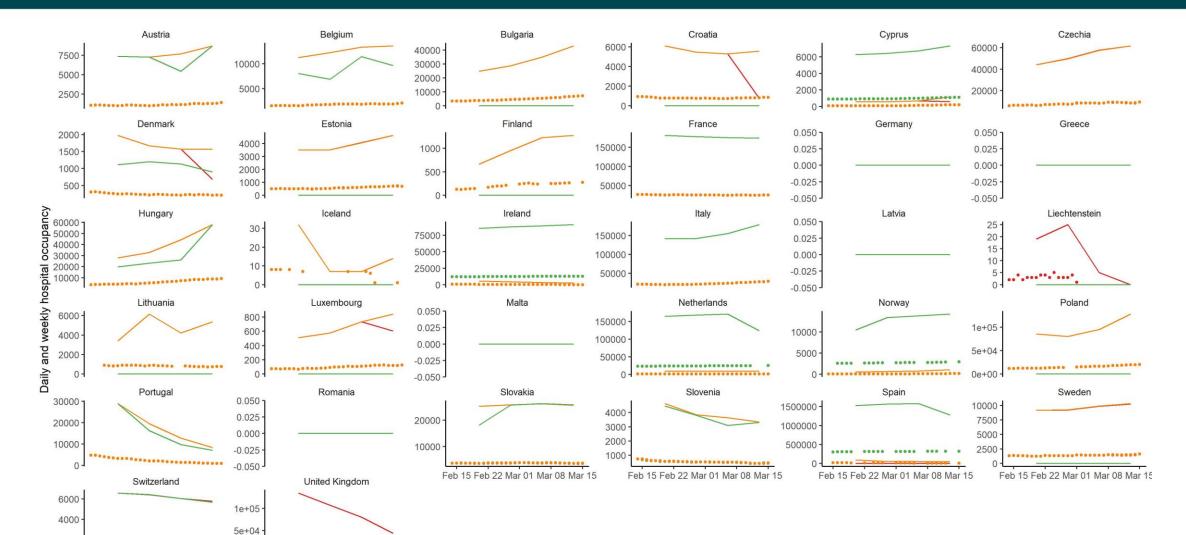
Country	Source
Belgium	https://datastudio.google.com/embed/reporting/c14a5cfc-cab7-4812-848c-0369173148ab/page/giyUB
Czechia	https://onemocneni-aktualne.mzcr.cz/covid-19
France	https://dashboard.covid19.data.gouv.fr/ https://www.data.gouv.fr/en/datasets/donnees-relatives-a-lepidemie-de-covid-19-en-france-vue-densemble/ https://github.com/opencovid19-fr
Germany	https://interaktiv.morgenpost.de/corona-virus-karte-infektionen-deutschland-weltweit/
Iceland	https://www.covid.is/data
Ireland	https://covid19ireland-geohive.hub.arcgis.com/
Italy	http://www.salute.gov.it/nuovocoronavirus https://github.com/pcm-dpc/COVID-19/tree/master/dati-regioni
Kosovo	https://corona-ks.info/?lang=en and https://raw.githubusercontent.com/bgeVam/Kosovo-Coronatracker-Data/master/data.json
Lithuania	https://osp.maps.arcgis.com/apps/MapSeries/index.html?appid=c6bc9659aoo449239eb3bdeo62d23caa
Luxembourg	https://data.public.lu/fr/datasets/covid-19-rapports-journaliers/#_
Netherlands	https://experience.arcgis.com/experience/eao64o47519o4o469acb8dao5cof1ood
Serbia	https://covid19.rs/homepage-english/
Slovakia	https://korona.gov.sk/
Spain	https://www.rtve.es/noticias/20200514/mapa-del-coronavirus-espana/2004681.shtml
Sweden	https://experience.arcgis.com/experience/o9f821667ce64bf7be6f9f87457ed9aa
Turkey	https://covid19.saglik.gov.tr/EN-69532/general-coronavirus-table.html





Hospital occupancy by source, 15 February – 15 March





2000

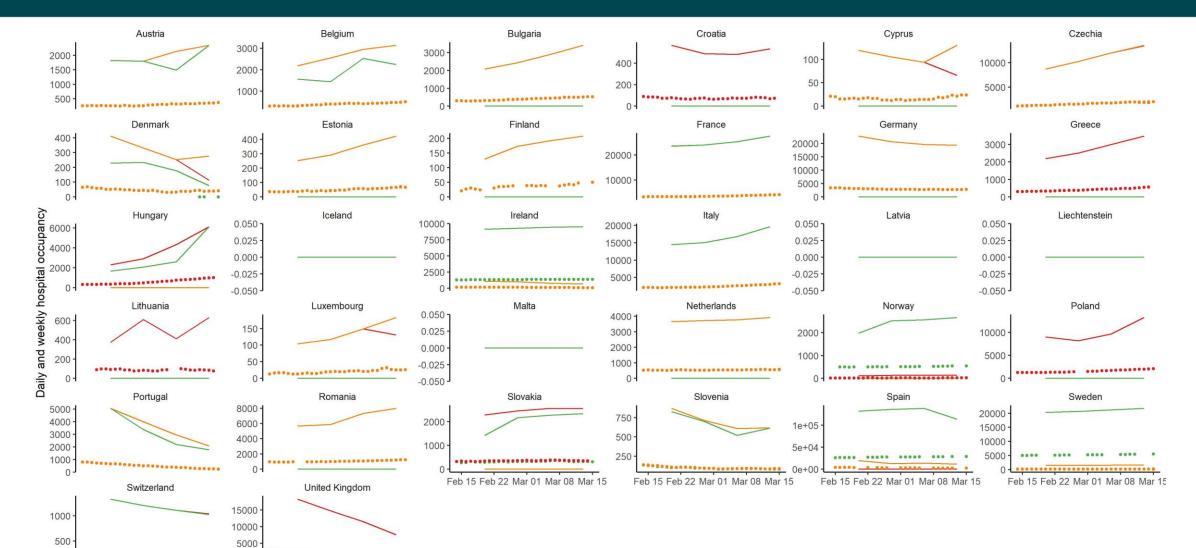
0e+00

ICU occupancy by source, 15 February – 15 March

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Feb 15 Feb 22 Mar 01 Mar 08 Mar 15

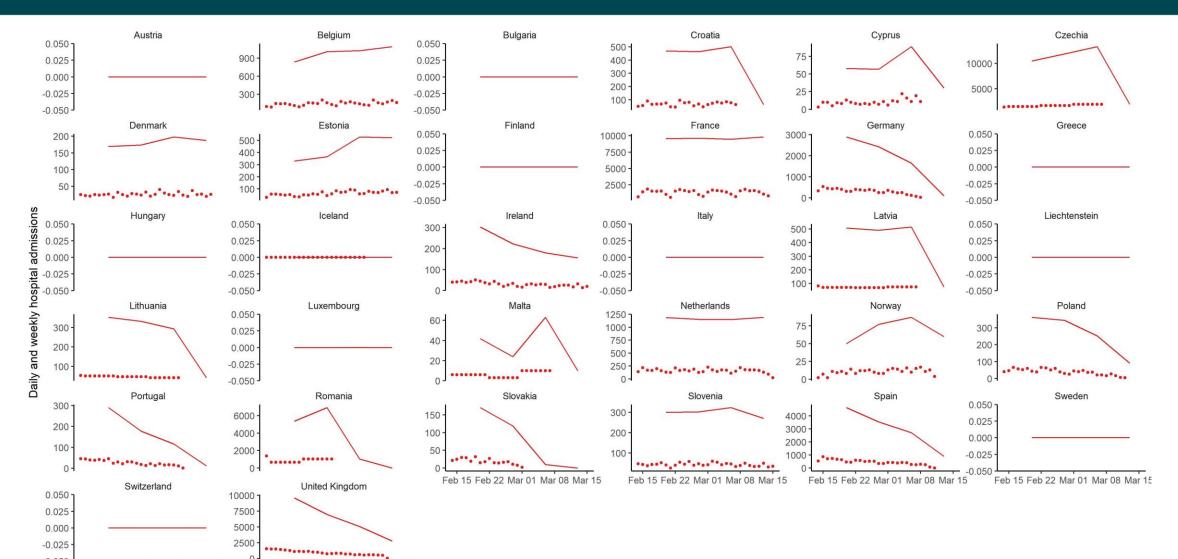




Hospital admissions by source, 15 February – 15 March

Feb 15 Feb 22 Mar 01 Mar 08 Mar 15





ICU admissions by source, 15 February – 15 March

Feb 15 Feb 22 Mar 01 Mar 08 Mar 15



