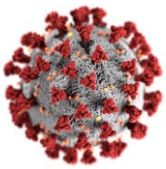

EU VERSUS COVID-19

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March 1st, 2021

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OUTLINE

- Epidemies in Europe: history
- Covid-19 in the EU:
  - What has been done
  - Comparison
  - Main problems
- Early evidence on the efficiency of measures taken.
- EU-wide measures.
- Vaccination policy
- Additional sources

2

EU INFORMATION SITES:

- European Union: The Common EU Response to Covid-19
  - https://europa.eu/european-union/coronavirus-response_en
- European Council: Covid-19 coronavirus Pandemic: the EU's Response
  - https://www.consilium.europa.eu/en/policies/coronavirus/
- European Commission: Coronavirus Response
  - https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response_en
- Timeline of EU action
  - https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/timeline-eu-action_en
- European Centre for Disease Prevention and Control
  - https://www.ecdc.europa.eu/en

3

HISTORICAL ASPECTS

4

PANDEMICS IN HISTORY

Name	Time period	Type / Pre-human host	Death toll
Antonine Plague	165-180	Believed to be either smallpox or measles	5M
Japanese smallpox epidemic	735-737	Variola major virus	1M
Plague of Justinian	541-542	Yersinia pestis bacteria / Rats, fleas	30-50M
Black Death	1347-1351	Yersinia pestis bacteria / Rats, fleas	200M
New World Smallpox Outbreak	1520 – onwards	Variola major virus	56M
Great Plague of London	1665	Yersinia pestis bacteria / Rats, fleas	100,000
Italian plague	1629-1631	Yersinia pestis bacteria / Rats, fleas	1M
Cholera Pandemics 1-6	1817-1923	V. cholerae bacteria	1M+
Third Plague	1885	Yersinia pestis bacteria / Rats, fleas	12M (China and India)
Yellow Fever	Late 1800s	Virus / Mosquitoes	100,000-150,000 (U.S.)
Russian Flu	1889-1890	Believed to be H2N2 (avian origin)	1M
Spanish Flu	1918-1919	H1N1 virus / Pigs	40-50M
Asian Flu	1957-1958	H2N2 virus	1.1M
Hong Kong Flu	1968-1970	H3N2 virus	1M
HIV/AIDS	1981-present	Virus / Chimpanzees	25-35M
Swine Flu	2009-2010	H1N1 virus / Pigs	200,000
SARS	2002-2003	Coronavirus / Bats, Civets	770
Ebola	2014-2016	Ebolavirus / Wild animals	11,000
MERS	2015-Present	Coronavirus / Bats, camels	850
COVID-19	2019-Present	Coronavirus – Unknown (possibly pangolins)	6,400 (as of Mar 25, 2020)

Note: Many of the death toll numbers listed above are best estimates based on available research. Some, such as the Plague

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BLACK DEATH (BUBONIC PLAGUE)

- Timing: 1346-1353
- Death toll: 75-200 mil. (Europe, Africa, Asia)
- Originated in Asia, brought to Europe by merchant ships
- Ports (major trading posts) hit very hard: Venice
- Europe lost about 1/4-1/3 of its population

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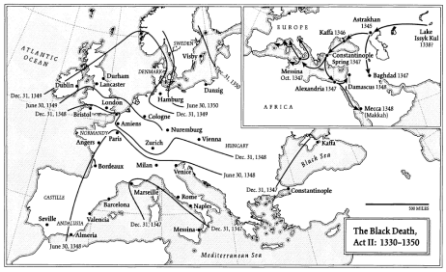

Source: Bernstein (2008)

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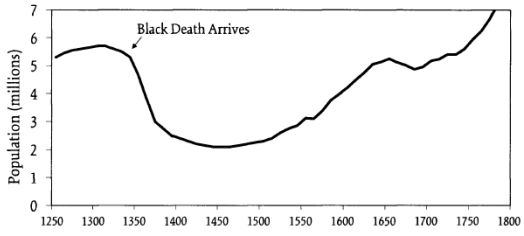

Figure 6-1. Population of Medieval England

Source: Bernstein (2008)

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BLACK DEATH: EFFECTS

- Interesting long run effects
  - Reduction in K/L influenced relative income distribution, perhaps of until up to 17th century!
    - Munro (2005):
      - *One of the most common myths in European economic history, and indeed in Economics itself, is that the Black Death of 1347-48, followed by other waves of bubonic plague, led* ***to an abrupt rise in real wages, for both agricultural labourers and urban artisans*** *– one that led to the so-called 'Golden Age of the English Labourer', lasting until the early 16th century.*
      - *Thus the undisputed rise in nominal or money wages following the Black Death was literally 'swamped' by the post-Plague inflation, so that real wages fell.*
- Some unexpected possible side effects too:
  - Negative impacts on the most advanced commercial societies
    - Middle East (Muslim civilizations)
    - Entrepots of India and China

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BLACK DEATH: EFFECTS (2)

- Europe as the last man standing? Bernstein (p. 149-150)
  - *The nearly total destruction of Egypt's trading and industrial structure, the disappearance of the Mongols from the world stage, and the withdrawal of China from the Indian Ocean created* ***a vacuum that Europe—the last man standing, if just barely—filled only too happily.***
  - *Yersinia pestis, which had helped smooth the way for the rise of Muslim power by attacking the Byzantine and Persian empires in the sixth and seventh centuries,* ***greased the skids of Islamic decline in the fourteenth and fifteenth centuries.***

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HISTORY OF MEASURES AGAINST PANDEMICS

- Explicit quarantines: probably date back to 14th century
  - Ships arriving to Venice required to wait for 40 days before landing
  - 40 days – quaranta giorni
- Statistical and scientific approach: Cholera outbreak in London (1854)
  - Dr. Snow tracked the disease on maps and identified infected clusters

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EU MEASURES

- Maastricht Treaty (1992): member states first agreed to some cooperation in the area of public health (Lezaun & Groenleer, 2006).
- The mad cow crisis (BSE, 1998), member states agreed to stronger cooperation in the form of a 'communicable diseases network' (Parliament and Council, 1998).
- That network, which is still in operation today (operated by ECDC) has been expanded to include all cross-border health threats and is used for surveillance, early detection of diseases, and early communication of response measures.
- Further crises, including the Dioxin Scandal (1999) and SARS (2002) **highlighted European vulnerabilities to health threats** (MacLehose, McKee, & Weinberg, 2002).
- The ECDC was founded in 2004 in Stockholm - in response to concerns that member states were not adequately prepared for communicable diseases.
  - *Mission: Identify, assess, and communicate current and emerging threats to human health from communicable diseases*
- After the emergence of **H5N1 avian influenza in 2005**, ministers agreed that "**EU member states need to coordinate efforts in the face of a risk of a human pandemic**" and agreed to 'ensure strong coordination and information sharing' to minimize uncertainties during a pandemic outbreak (Press Release, 2005).
- The EU is authorized to place certain communicable diseases on a watch list for monitoring and tracking (Commission, 2007).
- The 2009 H1N1 pandemic (also known as the 'swine flu') lead to a raft of new measures related to planning, situation monitoring and assessment.

Based on Boin, Rhinard, Ekengren (2014)

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HOW PREPARED WAS EUROPE/WORLD FOR THE PANDEMICS?

- Mounier-Jack & Coker (2006): How prepared is Europe for pandemic influenza? Analysis of national plans. The Lancet
  - 21 national plans were eligible for inclusion for analysis.
  - Although preparation for surveillance, planning and coordination, and communication were good, **maintenance of essential services, putting plans into action, and public-health interventions were probably inadequate**.
  - **Few countries have addressed in their plans the need for collaboration with adjacent countries**, **despite this being an acknowledged imperative.** Similarly, plans for the timely distribution of available medical supplies are notably absent.
- Boin, Rhinard, Ekengren (2014): Managing Transboundary Crises: The Emergence of European Union Capacity
  - The European Union (EU) has modest but promising capacities to assist member states overwhelmed by disaster through its Civil Protection Mechanism.
  - The EU also routinely sends civil and military missions to hotspots outside EU territory.
  - **But these capacities do not suffice in the face of transboundary crises: threats that cross geographical and policy borders within the Union.** Examples include **epidemics,** financial crises, floods, and cyber terrorism.
  - Nation states cannot cope with these threats without international collaboration.

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COVID-19 AND THE EU

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TIMELINE: THE EARLY DAYS

- **December 31, 2019:** Wuhan Municipal Health Commission, China, reported a cluster of cases of pneumonia in Wuhan, Hubei Province. A novel coronavirus was eventually identified.
- **January 1, 2020:** WHO had set up the IMST (Incident Management Support Team)
- **January, 4:** WHO reported on social media that there was a cluster of pneumonia cases – with no deaths – in Wuhan, Hubei province.
- **January, 9:** Directorate General for Health and Safety (DG SANTE) opened an alert notification on the Early Warning and Response System (EWRS) where most Member States have since been sharing information on response and communication measures.
- **January, 13**: Officials confirm a case of COVID-19 in Thailand, the first recorded case outside of China
- **January, 17:** The Health Security Committee held their first meeting on the novel coronavirus.
- **January, 23**: Wuhan cut off by the Chinese authorities
- **January, 24:** The first European case was reported from France
- **January, 31**: "Public health emergency of international concern" declared by WHO
- **January 31:** First funds mobilised for research on the new coronavirus outbreak
- February 3: US Declares Public Health Emergency
- February 25: CDC Says COVID-19 Is **Heading Toward Pandemic Status**

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EU RESPONSE: BIGGER PICTURE

- Support for healthcare systems
- Support for R&D related to the development of vaccines
  - €660+ million, Horizon 2020 funding in research on COVID-19
  - Adapting EU rules to accelerate vaccine development
- Assistance for economic effects of the pandemics
  - A recovery plan for Europe
- Coordination of trade and transport measures
  - Common criteria to take into account when considering measures and a common definition of risk zones

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COMMON APPROACH TO COVID-19 TRAVEL MEASURES

Measures	Orange area	Red area	Dark red area
Measures should be proportionate and respect differences in the epidemiological situation	✓	✓	✓
In principle, entry should not be refused to travellers but requirements could be applied	✓	✓	✓
All non-essential travel should be discouraged		✓	✓ strongly discouraged
Possible requirements for travellers: quarantine/ self-isolation and/ or COVID-19 testing prior to/ after arrival	✓	✓	
Requirements for travellers: quarantine/ self-isolation and COVID-19 testing prior to arrival			✓
Inform other affected EU countries 48 hours before applying measures	✓	✓	✓
Green area No restriction of free movement of persons should be applied in green areas			
Measures similar to those applied to dark red areas could apply to areas with a high prevalence of variants of concern			
Travellers could be asked to submit passenger locator forms			
Exceptions No quarantine requirement for travellers with essential function or need while performing that function. No COVID-19 testing in principle for transport workers and people who cross borders frequently for work, study or family reasons			

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EU RESPONSE: FINANCIAL SIDE

- Redirection of EU funds (SMEs, structural funds, EU Solidarity Fund)
- Safety nets for workers, businesses and member states (May 2020)
  - **€540 billion**
  - Support package for jobs and workers, businesses and member states.
- Covid-19 recovery package (July 2021)
  - One-off "Next Generation EU" (NGEU) fund of **€750 billion** to help countries recover from the covid-19 recession (both figures in 2018 prices)
    - About 4.7% of EU annual GDP
    - Funded by borrowing over six years, bonds issued at maturities extending to 2058.
    - €390bn of the €750bn will be distributed as grants, and hence will not add to governments' debt loads
    - The regulation establishing the Recovery and Resilience Facility (RRF) was adopted by the Council on 11 February 2021
  - New features
    - Common borrowing!
    - Intra-EU fiscal transfers! (and under German leadership)
- Long-term EU budget for 2021-2027
- Optimistic sum:
  - Together with the €540 billion of funds already in place for the three safety nets (for workers, for businesses and for member states), the overall EU's recovery package amounts to **€2 364.3 billion.**

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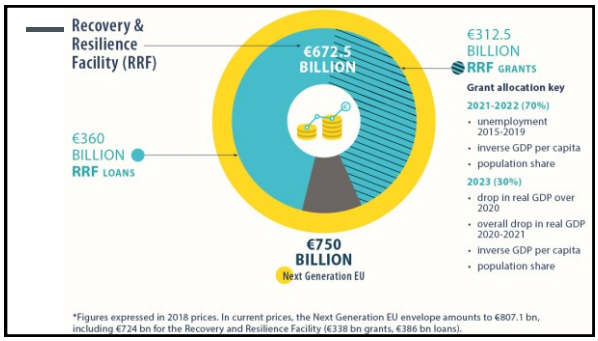

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MONETARY POLICY AND ECB

- Pandemic Emergency Purchase Programme (PEPP)
- €750 billion pandemic emergency purchase programme for purchases during 2020 (March 2020)
  - An extra boost on 4 June 2020, with an additional €600 billion, bringing the total to €1 350 billion.
- New temporary asset purchase programme of private and public sector securities
  - Aim: to counter the serious risks to the monetary policy transmission mechanism and the outlook for the euro area posed by the outbreak and escalating diffusion of the coronavirus, COVID-19

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MAIN PROBLEMS (1)

- There was quiet **a lot of effort, but...**
- The results clearly indicate several problems:
  - Speed:
    - Identification of the problem
    - Finding solution
  - Possible clash with basic values and policies of the EU
    - Mobility as one of the four freedoms
    - Worries that the epidemics might reignite inter-regional tensions in Europe
  - Incentives unbalanced: only carrots, very few sticks
    - Instrument to motivate member states:
      - to discuss changes in their policies with their neighbours'
      - to share best practices
  - Problem with public image of the fight against the Covid
    - Plus: geopolitical level
      - Russia and China attempting to use "vaccine diplomacy"

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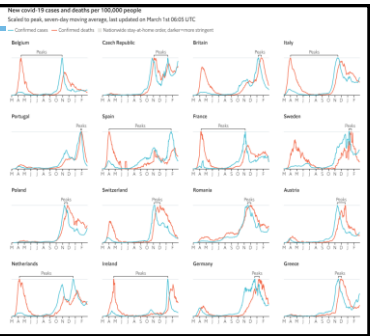
CROSS-COUNTRY DIFFERENTIATION IN EUROPE



Source: The Economist

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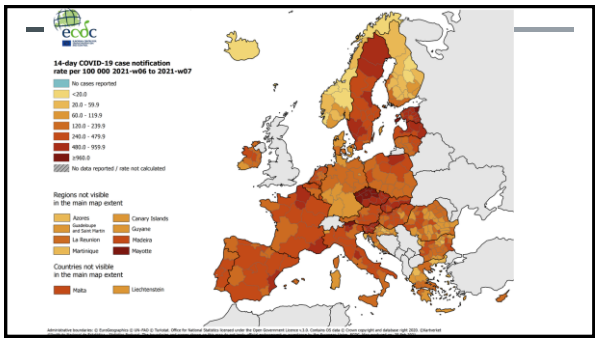

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MAIN PROBLEMS (2)

- Besides traditional coordination issues...
- Very unreliable initial information

- Differences in quality of compliance with the measures
  - Differences in attitude to law and law enforcement
    - Cultural and historical differences?

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COVID AND CULTURAL DIFFERENCES?

- Toan Luu Duc Huynh (2020): **Does culture matter social distancing under the COVID-19 pandemic?**
  - Data from the Google COVID-19 community mobility reports and the **Hofstede cultural factors** for 58 countries over the period from 16 February to 29 March 2020
    - Control for wealth status, GDP per capita.
  - Higher 'Uncertainty Avoidance Index' predicts the lower proportion of people gathering in public such as retail and recreation, grocery and pharmacy, parks, transit stations, workplaces.
    - However, they do find any relationship with the percentage of citizens staying in their residential areas.

25

TOAN LUU DUC HUYNH (2020): DOES CULTURE MATTER SOCIAL DISTANCING UNDER THE COVID-19 PANDEMIC?

Country-level OLS regression for the efficiency of social distancing.

Variables	Dependent variable: Social distancing							
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
PDI	−0.007	−0.003					−0.015	−0.010
	[−1.208]	[−0.444]					[−1.924]	[−1.310]
IDV			−0.004	−0.007			−0.015*	−0.015
			[−0.692]	[−0.919]			[−2.224]	[−1.686]
UAI					−0.015**	−0.013*	−0.016**	−0.014*
					[−2.895]	[−2.116]	[−3.411]	[−2.690]
Log (GDP/cap)		0.247		0.421		0.193		0.316
		[1.324]		[1.952]		[1.290]		[1.692]
Costant	0.301	−2.501	0.167	−4.112*	0.987**	−1.272	2.627**	−1.183
	[1.051]	[−1.185]	[0.505]	[−2.129]	[2.739]	[−0.753]	[3.519]	[−0.643]
R-squared	1.84	4.68	0.9	6.5	11.4	12.7	19.91	18.9
Observations	58	50	58	50	58	50	58	50
Multicollinearity	No	No	No	No	No	No	No	No

Notes: * < 0.05, ** < 0.01, *** < 0.001. The robust standard errors are in brackets. PDI, IDV, and UAI stand for Power Distancing Index, Individualism Versus Collectivism, Uncertainty Avoidance Index, respectively.

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VACCINATION

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EU AND COVID VACCINES

- EU vaccine strategy (June 2020): two pillars
  - Securing the production: joint procurement program (Commission)
    - Advance Purchase Agreements + financing of costs
      - Financing from Emergency Support Instrument + European Investment Bank
    - "all-for-one and one-for-all"
  - Adapt the EU rules to the current urgency in order to accelerate the development, authorisation and availability of vaccines while maintaining the standards for vaccine quality, safety and efficacy.
    - Centralized evaluation (EMA)

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OBJECTIVES OF THE EU VACCINE STRATEGY

- Ensuring the quality, safety and efficacy of vaccines
- Securing timely access to vaccines for Member States and their population while leading the global solidarity effort
- Ensuring equitable and affordable access for all in the EU to an affordable vaccine as early as possible
- Making sure that preparations are made in EU countries regarding the roll-out of safe and effective vaccines, addressing transportation and deployment needs, and identifying priority groups which should gain access to vaccines firs

- The vaccine strategy should act as a reference point for Member States when formulating their national strategies.

Source: https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/public-health/coronavirus-vaccines-strategy_en

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VACCINE DEPLOYMENT: PLANS AND PROGRESS

- EU goals:
  - At least 80% of people over the age of 80, and 80% of health and social care professionals in every Member State, should be vaccinated by March
  - Vaccinate a minimum of 70% of population by the summer of 2021 (Jan 19, 2021)
- All EU/EEA countries have developed strategies or plans for the deployment of the COVID-19 vaccine at the national level
  - The selection of priority groups by phase of implementation, as well as key elements of the logistics of implementation.
- All Member States will have access to COVID-19 vaccines at the same time on the basis of the size of their population
- All EU/EEA countries have initiated their national COVID-19 vaccination campaigns
  - In majority of the countries (26) – not mandatory
  - First doses delivered in December, vaccination campaigns started between 26th and 31st December 2020
    - Czech Republic: December 27th

Source: ECDC report, 2021

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EU AND VACCINES (1)

- Situation as of January 8th:
- EU Commission negotiated contracts with existing suppliers of vaccines

Contracts	Number of Doses
AstraZeneca	400 mil.
Sanofi-GSK	300 mil.
BioNTech-Pfizer	600 mil.
CureVac	405 mil.
Moderna	160 mil.

Exploratory Talks	Number of Doses
Novavax	Up to 200 mil.
Valneva	Up to 60 mil.

- Overall portfolio: > 2.3 bil. doses

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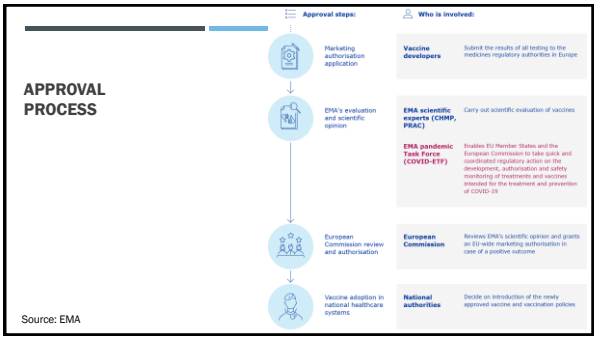
APPROVAL PROCESS



Source: EMA

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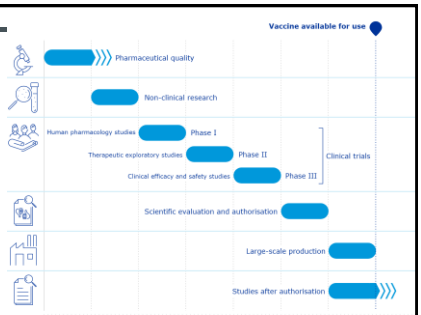
STANDARD VACCINES



Source: EMA

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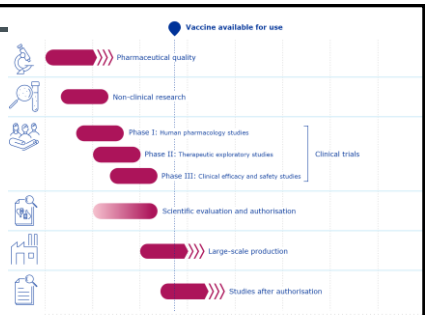
COVID-19



Source: EMA

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EUROPEAN MEDICINES AGENCY / EMA

Currently under rolling reviews
- CVnCoV (CureVac AG)
- COVID-19 Vaccine Janssen
- NVX-CoV2373 (Novavax CZ AS)

Marketing authorisation application submitted
- COVID-19 Vaccine Janssen

Authorised for use in the European Union
- Comirnaty
- COVID-19 Vaccine Moderna
- COVID-19 Vaccine AstraZeneca

Source: EMA, February 2021

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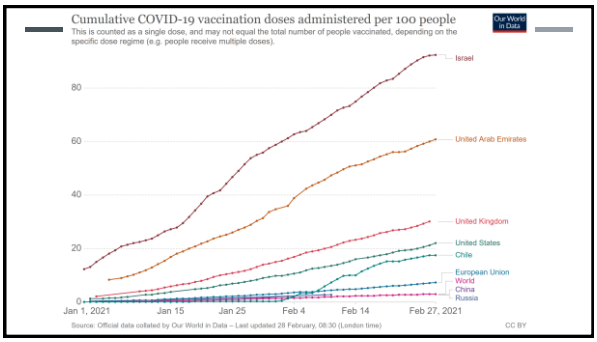

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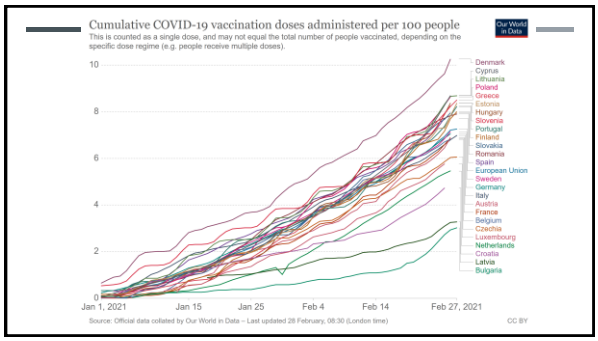

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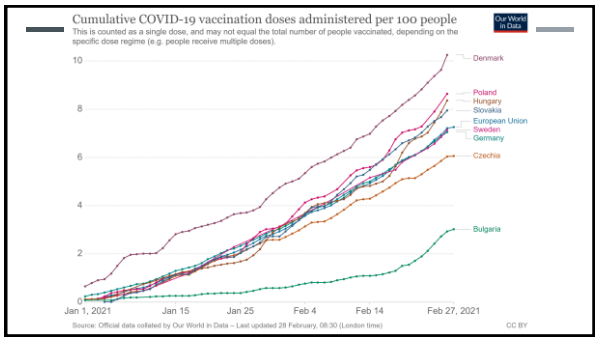

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EU AND VACCINES (2)

- Problems:
  - Delays of supplies
  - Efficiency of distribution at local level (Czech Republic)
- Delays: AstraZeneca issue
  - UK v. the EU?
- Final outcomes
  - EU average: slower vaccination than in the UK or Israel
  - Unbalanced results within the EU
  - Reputation issues
  - Delayed response + spread of the disease → increased risk of mutations (and of invalidation of the previous effort)

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CONCLUSION?

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REFERENCES AND ADDITIONAL SOURCES OF DATA

- ECDC: Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA
- EP: on measures to control Foot and Mouth Disease in the European Union in 2001 and future measures to prevent and control animal diseases in the European Union
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- EU: Questions and answers – Covid Vaccination in the EU
  - https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_2467
- https://www.mphonline.org/worst-pandemics-in-history/
- Bernstein: A Splendid Exchange: How Trade Shaped the World
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