Pandemie ztráty soudnosti

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Viral infections ain’t fun

• Smallpox: Variola virus
• Case Fatality Rate 20–80%
• Killed 500 million people during the 20th century
• Eradicated in 1979 as the first and only (apart from rinderpest)!
• Inoculation (variolation) known since 10th century in China
• Brought to Europe by the wife of British ambassador to Turkey (Montagu, 1720s)
• Banned by the French parliament :-)

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Coronavirus SARS-CoV-2

- Over 100 million cases
- Over 2.5 million deaths
- More PCR tests then people on the planet!
- Up to 2 deaths per thousand inhabitants
- 10% prevalence in badly hit regions
Covid-19:
- Over 100 million cases
- Over 2.5 million deaths
- More PCR tests than people on the planet!
- Up to 2 deaths per thousand inhabitants
- 25 cases per 1000 in badly hit countries
- Spectacular failure in the Century of Data

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Source: Financial Times analysis of data from the Johns Hopkins CSSE, the Covid Tracking Project, the World Health Organization, the UK Government coronavirus dashboard and the Swedish Public Health Agency.
Data updated February 21 2021 10.35am GMT. Interactive version: ft.com/covid19
Death rates have climbed far above historical averages in many countries that have faced Covid-19 outbreaks

Number of deaths per week from all causes, 2020 vs recent years: Shading indicates total excess deaths since 100 confirmed cases in the country

UK: 116,952 excess deaths (+21% vs expected)
Armenia: 7,870 (+49%)
Austria: 9,829 (+14%)
Belgium: 20,169 (+21%)
Bolivia: 29,306 (+72%)
Brazil: 222,449 (+23%)
Bulgaria: 18,697 (+21%)

Chile: 19,779 (+20%)
Czech Republic: 19,143 (+21%)
Denmark: 1,301 (+3%)
Ecuador: 39,309 (+69%)
France: 63,869 (+11%)
Germany: 48,801 (+5%)
Israel: 4,118 (+10%)

Italy: 83,685 (+18%)
Mexico: 335,525 (+52%)
Netherlands: 19,617 (+14%)
Norway: 351 (+1%)
Peru: 107,021 (+97%)
Poland: 69,508 (+21%)
Portugal: 22,390 (+22%)

Russia: 356,436 (+27%)
South Africa: 123,855 (+28%)
S Korea: 596 (+0%)
Spain: 80,526 (+21%)
Sweden: 11,769 (+16%)
Switzerland: 10,117 (+17%)
US: 467,897 (+19%)

*Adjusted for trend over recent years
Sources: FT analysis of national mortality statistics and Karlinsky & Kobak's World Mortality Dataset. Data updated February 20
FT graphic: John Burn-Murdock / @burnmurdock
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We need data to estimate

- The size of the compartments
- Their overlap
- The fluxes between them
- Ask the right questions

- Non-susceptibles (mucous membrane, MALT)
- Can we measure?
- How large is this compartment?
- Cell-mediated immunity (T-cells, phagocytosis, cytokines)
- The first test in CR last week!
- Antibody-based immunity (immunoglobulins)
- Rapid tests, PREVAL and many non-systematic studies
- COVID-19 symptoms
- SARS-CoV-2 is not COVID-19 (whatever WHO says)
- Viral RNA presence in a nasal swab (or other material)
  - PCR detection: how it works
- Spike protein presence in a nasal swab
  - Antigen test
Q: How many people are non-susceptible and who are they?
A: We don’t know (we may guess from natural experiments: Diamond Princess, Charles de Gaulle)

Q: How many people activated cell-mediated response and who are they?
A: We don’t know (the first test appeared last week)

Q: How many people have antibodies?
A: We have no idea (our guesses in CR have uncertainty in the order of millions)

Q: What are the parameters of PCR testing?
A: We don’t know (10 million tests performed, no one asked)

Q: What is the relation of PCR result (CT) to infection spreading?
A: We don’t know (UZIS does not collect the data on CT, they are not standardized)

Q: What is the effect of non-pharmaceutical interventions?
A: We don’t know (but we do them anyway and if they fail, blame it on the lack of compliance)

Q: What is the IFR and CFR of the disease?
A: We have not translated the terminology to Czech yet
Scientific community failed to deliver Evidence Based approach

Three ways to know: speculation, expert knowledge, EB knowledge

The standard EB approach to knowing – prospective randomized studies: not used

Spectacular failure of mathematical modeling

Strong opinions outside fields of competence

Political and economic interests beat EB approach

Media preference of "prophets of doom" and "deniers"

The fake-news blame game

"V březnu někdo přišel s tím matematickým modelem a v srpnu někdo, sice byl to ten samý člověk, ale už přišel v nějakém čase. A ti, kteří měli přijít, nepřišli."
An example of spectacular failure: SARS-CoV-2-CZ-Preval

Mathematical case pre-assessment:

- Prevalence 0%, specificity 99% at least 260 positive results
- Prevalence 0%, specificity 95% at least 1300 positive results

Rapid test WANTAI
Manufactured in China
Sensitivity 95.6%
Specificity 95.2%
**Předběžné odhady výskytu pozitivity protilátek**

<table>
<thead>
<tr>
<th>Kohorta / populace</th>
<th>Rozmezí hodnot prevalence SARS-CoV-2 pozitivních se zohledněním parametrů testů</th>
</tr>
</thead>
<tbody>
<tr>
<td>ČSÚ – populární výběry</td>
<td></td>
</tr>
<tr>
<td>Hlavní město Praha</td>
<td>0 – 1,478 %</td>
</tr>
<tr>
<td>Brno / Jihomoravský kraj</td>
<td>0 – 1,873 %</td>
</tr>
<tr>
<td>Olomouc / Olomoucký kraj</td>
<td>0 – 4,056 %</td>
</tr>
<tr>
<td>AV ČR / IKEM</td>
<td></td>
</tr>
<tr>
<td>ČR – populární výběr</td>
<td>0 – 1,291 %</td>
</tr>
<tr>
<td>IKEM</td>
<td></td>
</tr>
<tr>
<td>Chroničtí pacienti</td>
<td>0 – 0,632 %</td>
</tr>
</tbody>
</table>

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<tr>
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<th>Rozmezí hodnot prevalence SARS-CoV-2 pozitivních se zohledněním SENZ a SPEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brno / Jihomoravský kraj</td>
<td>0 – 0,219 %</td>
</tr>
<tr>
<td>Hlavní město Praha</td>
<td>0 – 0,400 %</td>
</tr>
<tr>
<td>Město Litoměřice</td>
<td>0 – 0,598 %</td>
</tr>
<tr>
<td>Olomouc / Olomoucký kraj</td>
<td>0 – 1,293 %</td>
</tr>
<tr>
<td>Města – Břevničkov</td>
<td>0 – 3,335 %</td>
</tr>
</tbody>
</table>

Ve všech kohortách bylo celkově zachyceno 107 osob s pozitivním testem na protilátky. Stupeň imunizace české populace je velmi nízký a ani v největší zatížených lokalitách nedosahuje hodnoty cca 4% - 5%.
A message for the government

1. Undo the damage
2. Stop piling up more damage
3. Give simple advice based on data
4. Go ahead with vaccination

„Základním deficitem tohoto postupu je však okolnost, že z žádného relevantního zdroje není patrné, na základě čeho vláda dospěla právě k tomuto řešení.“
A message for the citizen

1. Your health is not a property of the state
2. Do not panic, cheer up, switch off the TV and go for a walk (without a mask)
3. Read a history textbook (on epidemics, and totality)
4. “On a long enough timeline, the survival rate of everyone drops to zero”
A message for the Academia

1. Observe the private sector: No twaddle, and then the vaccine
2. Recall the Scientific approach: EB
3. Beware the loss of prestige
4. Remember the coronavirus DataGeddon when making the next global warming forecast 😊
Buďte zdraví a veselí
Skončil rok KRYSY a začal rok BUVOLA