CORONA PUZZLE

Japanese Chamber of Commerce and Industry, Feb. 12, 2021

online presentation handout

Dita Salova

Puzzle - dictionary definition:

• cause (someone) to feel confused because they cannot understand something	• 人を悩ませる難題

Specific features

• non-eradicable, we shall get used to it • incredible global measures - absolutely new response (1st time in the history)	• 絶滅不可、なれるしかない • 今までのない対応、グローバル対応は初体験（唯一な対応）

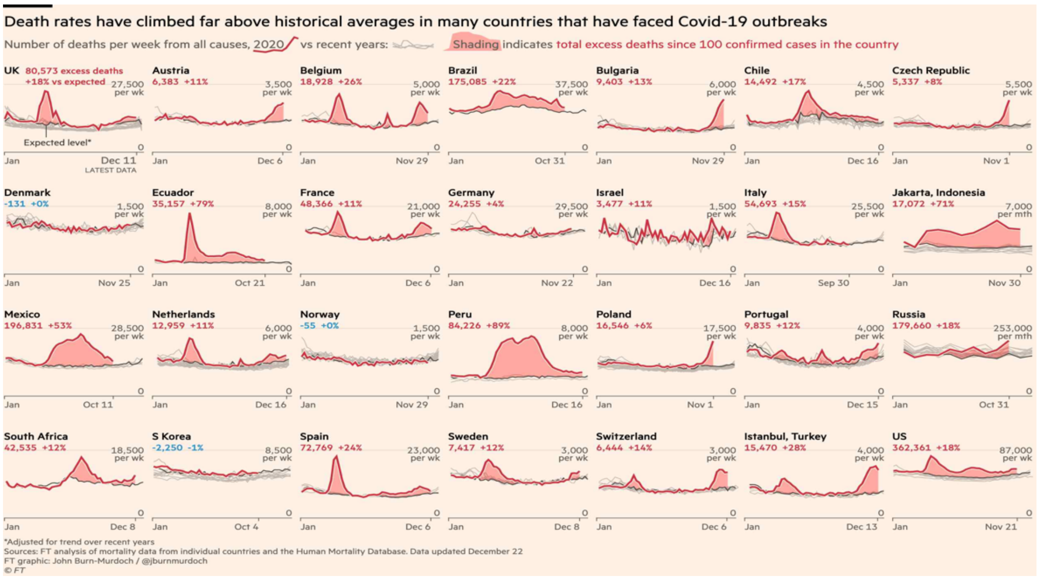
Czech specific example

• uncomparable with flu epidemics in 1995 • 1995　worse flu, less and targeted measures (11% of population) • 2020　draconic measures despite lack of data, different from history (partially ongoing)	• チェコ国内・１９９５年の風邪ほどひどくもないのに、対応範囲比較不(当時の有病率 11%) • 当時、地域限定、指定した箇所のみ・病院など）、2020年以降、比較もできない激しい措置長期的に続く
http://medicina.cz/clanky/2689/34/Chripka/	
https://www.czso.cz/csu/czso/13-7222-03--vyvoj_umrtnosti	
https://onemocneni-aktualne.mzcr.cz/covid-19	

Corona puzzle

Epidemics	**流行性**
more than 1 mil. patients reported (mid Feb. 2021)	チェコ国内有病率（患者数）百万人以上 （2021年2月中旬現在）
corona tracker (Finacial Times)　https://www.ft.com/content/a2901ce8-5eb7-4633-b89c-cbdf5b386938	

Importance of data visuaization (less misunderstanding due to data display)

<table>
<tr><td>Ex.from the Corona-Tracker FYT homepage: visualization of death-rate baseline</td><td>（例・死亡率基準ビジュアル化）</td></tr>
<tr><td colspan="2">


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

*Adjusted for trend over recent years
Sources: FT analysis of mortality data from individual countries and the Human Mortality Database. Data updated December 22
FT graphic: John Burn-Murdoch / @jburnmurdoch
© FT
</td></tr>
<tr><td colspan="2">Searchable global data - refer to (US):
https://covid.cdc.gov/covid-data-tracker/#datatracker-home
検索可能なデータベス（グローバルデータあり）（米国）</td></tr>
</table>

<table>
<tr><td colspan="2">Data from online seminar of the Czech Alergology and Immune Section of the Czech Medical Association (Feb. 11, 2021) - webinar, not open to public (sponsored by Takeda)</td></tr>
<tr><td>• asymptomatic, mild symptoms 81% patients
• serious (hospitalization) 14% patients
• critical 5% patients
• mortality 1,56 % (usu older patients with comorbidity)</td><td>• 無症状、軽度 81%
• 深刻症状 14%
• 危険 5%
• 致死率 1,56% (共存症あり年輩患者)</td></tr>
</table>

Disease picture

Symptoms	**症状**
flu (cough, fever, tiredness, sleepiness)	風邪ぎみの感じ（咳、熱、疲れ、眠たいなど）
Typical symptoms. loss of taste, loss of smell	典型的 嗅覚消失、味覚消失
Other symptoms diarrhoea, exanthema etc. individual - patient specific	その他 下痢、皮膚炎症など 患者の個人差もあり（病状増える可能性あり）

Risk factors	危険因子
age, comorbidity (high blood pressure, abdominal obesity, diabetes, immune pathology, anxiety syndrom, life-work dysbalance, unwelcome loneliness, anxiety etc.)	年齢、共存症（特に高血圧、腹部肥満、糖尿病、免疫障害、不快感、ワーク・ライフ・バランス崩れ、孤独感、不快感など）

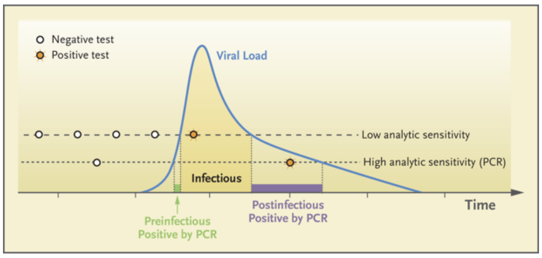
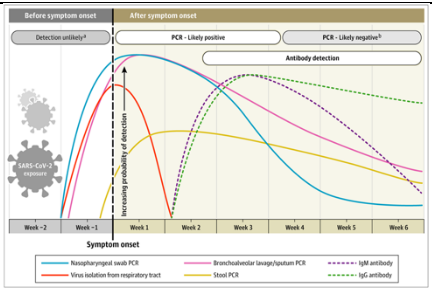
TESTING PUZZLE

Testing rationale

<table>
<tr><th>WHY / WHEN / WHOM</th><th>検査の考え方</th></tr>
<tr><td colspan="2">National strategy of testing
(NÁRODNÍ STRATEGIE TESTOVÁNÍ) - in Czech</td></tr>
<tr><td>• diagnostic - in case of symptoms
• epidemiological - during incubation period, in case of hospitalization, due to epidemic reasons (return from defined regions etc.)
• preventive - defined groups, regular</td><td>• 診断を目的とする検査（病状あり）
• 防疫を目的とする検査（潜伏期間、入院時など）
• 予防を目的とする検査（指定者、定期的）</td></tr>
</table>

TESTING TIMING - Importance of data visuaization (less misunderstanding due to data display)

ご参考までに検査タイミングの重要性を表す図

<table>
<tr><td>
</td><td>
</td></tr>
<tr><td>Mina, Michael J., Roy Parker, a Daniel B. Larremore. 2020. „Rethinking Covid-19 Test Sensitivity — A Strategy for Containment". *New England Journal of Medicine* 383(22):e120. doi: 10.1056/NEJMp2025631.</td><td>Sethuraman, Nandini, Sundararaj Stanleyraj Jeremiah, a Akihide Ryo. 2020. „Interpreting Diagnostic Tests for SARS-CoV-2". *JAMA* 323(22):2249. doi: 10.1001/jama.2020.8259.</td></tr>
</table>

Testing accuracy

Validity and reliability of: • testing method itself • testing proces in whole	検査精度 - 検査の妥当性、確実性 • 検査自体 • 検査工程
DATA LITERACY IS IMPORTANT	
test sensitivity (true positive rate) (concern for ill)	検査の感度（病人への関心）
test specificity (true negative rate) (concern for healthy)	検査の特異度　（健康人への関心）
• low sensitivity (many false negative cases) • high specifity (few false positive cases)	• 感度低いの場合　偽陰性　多い • 高特異度の場合　偽陽性　少ない
• high sensitivity (few false negative) • low specificity (many false negative)	• 高感度の場合　　偽陰性　少ない • 低特異度の場合　偽陽性　多い
current tests: • manufacturer information and real test results are different • difficult to verify current publicly available data by third party	現検査 • 製造者のデータと検査結果が異なる • 第三者によるデータ検証難しい
臨床検査の偽陽性と偽陰性について　https://www.jslm.org/committees/COVID-19/20200427.pdf	
Incidence - number of cases Prevalence - proportion of cases	発生数（患者数） 有病率（パーセント）

Vaccination

in-progess - Czech not Israel… Strategy of anti-Covid vaccination　Ministry of Health	接種・イスラエルと比較不可
https://koronavirus.mzcr.cz/wp-content/uploads/2020/12/Strategie_ockovani_proti_covid-19_aktual_221220.pdf _(in Czech)	

CZECH PUZZLE

Health Care Systems in general

I. **Insurance based**	I. **保険制度**
a. public (mandatory): - Bismarck model (see bellow)	a. 強制保険精度　ビズマルクモデル (下記参照)
b. private (voluntary): USA	b. 民間保険精度　米国
II. **State / National**	II. **国営制度**
a. Semashko model: former USSR, Cuba	a. セマシュコモデル　旧ソ連、キューバ
b. Beveridge model: UK, Canada, Norway, Italy … etc.	b. ベヴェリッジモデル　イギリス、カナダ、イタリアなど

MODELS

BISMARCK MODEL Otto von Bismarck (1815-1898)	
cognomen: Iron and Blood founder of the social and health system - policy of „Zuckerbrot und Peitsche“	異名　鉄血宰相 社会保障制度の創立者 『アメとムチ政策』
SOCIAL HEALTH CARE INSURANCE MODEL	強制社会保険制度
adopted in: • Germany, France, Austria, Netherlands, Belgium, Swiss, Czech (from 90ties) , Slovakia, Poland, Hungary et. • country specific (insurance company public/private/both, different number etc.)	• ドイツ、フランス、オーストリア、オランダ、ベルギー、スイス、チェコ（90 年代以降）、スロバキア、ポーランド、ハンガリーなど • それぞれの国が多少異なる、それぞれの特徴あり（それぞれの国における業者タイプや業者数が異なる）
• mandatory insurance • principle of solidarity • duty of insurance company to insure a person (regardless of his/her heath state) • not paying insurance is a criminal offence	• 強制保険制度 • 社会連帯の原則 • 保険会社の保険義務あり（被保険者の健康状態問わない） • 険料払わない場合、刑法上罪とみなす

• dencetralization of service • high costs of health care service • high administrative and other costs • compilicated indirect relationship between client and provider (insurance company step-in)	• 医療業界における分散化行政管理 • 医療費、経費などが高い • 被保険者と医療サービス提供者間の間接的な関係（保険会社介入）
SEMASHKO MODEL Nikolai Semashko (1874 - 1949)	
SOCIALIST HEALTH CARE MODEL	社会主義医療制度
BEVERIDGE MODEL William Beveridge (1879 - 1963)	
WELFARE STATE MODEL	福祉国家モデル

Health Care Systems in Czech compared to Japan - examples

• in Japan - insurance card is a gate to the system - not so in Czech	• 日本国内で、保険証さえあれば、医療へのアクセス保障
• in case of emergency - health care available regardless of insurance	• 緊急事態のみ保険問わず医療可能
• insurance valid for contract providers only • numerus clausus of contract providers • health care provided under public insurance is a regulated service („ úhradová vyhláška“) • regulation limits („úhradová vyhláška“) updated annualy • contract providers subject to limits set by insurance company • for non-listed items - special request necessary (so called § 16) • non-contract providers - service must be paid in full	• 保険上の医療サービスは契約提供者のみに限る • 契約提供者数制限あり • 公的保険は行政管理・規制対象　（チェコの特殊の規制あり） • 対象規制毎年更新 • 契約提供者に対する様々な制限適用 • 公的保険対象医療リストあり、リストに含まれていない項目（医療サービス、医薬品など）が特別な申請対象（§16） • 非契約提供者のサービスは全額自己負担になる
• pay-up systems („doplatky“) - pay-up amount vary, usu. dentistry, gynaecology/obstetrics etc.	• 医療において追加費が頻繁的発生（追加額は提供者ごとに違う場合多い） ◦ 例　歯科、産婦人科ケア

• premium service - provider specific (not systematic) o ex.: combination of club membership and insurance coverage	• 高級サービス体制　（サービス範囲、料金など）は医療提供者のスキームによる（公的保険上高級サービス体制なし） o 例　公的保険　＋クラブ会員制度のコンビネーション

COVID-19 IMPACT

Health care impact

Health care restraints • planned service restriction (surgery: hernia, gallbladder,orthopaedic surgery etc.) • delayed detection of disease incl. cancer etc. → worse prognosis, mortality may increase • postponing own treatment (eg. due to fear of nosocomial infections etc.) o death reported in media (April 2020, sepsis due to tooth pulp inflammation)	ヘルスケア・医療制約 • 計画治療一時停止（外科手術、整形外科、ヘルニア、胆のう手術など） • 診断遅れ（がん含む）→経過、致死率悪化考えられる • 治療遠慮（たとえ、院内病感染が怖い等） o 歯髄炎の患者さんが治療受けず、敗血症で死亡（２０２０年４月事件）
Conflict of obligations in medical health care Conflict of priorities in medical health care • Triage - (contract driven control of patient priority not possible) • Possible delay / non-performance of contractual obligations • Covid-19 - disclaimer of liability for damages?	医療における義務衝突 医療における優先順位衝突 • トリアージ方式適用可能性あり（患者治療順序は契約上管理不可） • 契約上の義務の履行ができなくなる恐れもあり • Covid-19: 特定責任の否認？

LOCK-DOWN, ETHICS ETC*

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[1] Should Governments Continue Lockdown to Slow the Spread of Covid-19?
[2] Current Lockdown Is Ageist (Against The Young)
[3] COVID-19 and vaccines: Equitable access to vaccination must be ensured
[4] Great Barrington Declaration
[5] John Snow Memorandum
[6] https://www.etikaepidemie.cz (Czech, Slovak)

*** Links (valid as of Feb 12, 2021)**

[1] https://www.bmj.com/content/369/bmj.m1924
[2] http://blog.practicalethics.ox.ac.uk/2021/01/current-lockdown-is-ageist-against-the-young/
[3] https://rm.coe.int/dh-bio-statement-vaccines-e/1680a12785
[4] https://gbdeclaration.org
[5] https://www.johnsnowmemo.com

WHAT CAN WE DO?

Immunity have three main pillars: ▪ biological ▪ psychological ▪ social	免疫の 3 柱の構造 ▪ 生物的構造 ▪ 精神的な構造 ▪ 社会的な構造
Stay healthy ▪ we cannot control the world, we can control only ourselves ▪ life-work balance ▪ healthy relationships ▪ accept uncertainty ▪ keep own data literacy ▪ focus on art of „letting go“	健康維持 ▪ 自己管理に注目（自制心を育て、常に心身の安定感、安心感を養う） ▪ ライフ・ワークバランス ▪ ヘルシー人間関係を大切にする ▪ 不安性を人生の一部として認める ▪ 意味のあるデータを常に追求する ▪ 執着の手放しに注目し、自由自在の心を育てる

LET US STRENGTHEN OUR IMMUNE SYSTEM

BE AWARE AND BE READY TO SHARE

PEACE, HAPPINESS, LOVE, JOY

TAKE PRECAUTIONS

NO PANIC

Sources and further reading :

Doshi, Peter. 2020. „Will Covid-19 Vaccines Save Lives? Current Trials Aren't Designed to Tell Us". *BMJ* m4037. doi: 10.1136/bmj.m4037.

Ioannidis, John P. A. 2020. *The Infection Fatality Rate of COVID-19 Inferred from Seroprevalence Data. preprint.* Infectious Diseases (except HIV/AIDS).

Krátká, Zuzana, Tomáš Fürst, Ondřej Vencálek, Věra Kůrková, Eva Šimečková, Jana Fleischmannová, Jan Strojil, a Martin Kuba. 2020. „Průzkumný vrt: jak správně připravit, provést a vyhodnotit séroprevalenční studii". [Exploration drilling: How to prepare, perform and evaluate seroprevalence study.] *Časopis lékařů českých* 159(6):217–25.

Melnick, Edward R., a John P. A. Ioannidis. 2020. „Should Governments Continue Lockdown to Slow the Spread of Covid-19?" *BMJ* m1924. doi: 10.1136/bmj.m1924.

Mina, Michael J., Roy Parker, a Daniel B. Larremore. 2020. „Rethinking Covid-19 Test Sensitivity — A Strategy for Containment". *New England Journal of Medicine* 383(22):e120. doi: 10.1056/NEJMp2025631.

Moritz, Stefan, Cornelia Gottschick, Johannes Horn, Mario Popp, Susan Langer, Bianca Klee, Oliver Purschke, Michael Gekle, Angelika Ihling, a Rafael Mikolajczyk. 2020. The Risk of Indoor Sports and Culture Events for the Transmission of COVID-19 (Restart-19). preprint. Epidemiology. doi: https://doi.org/10.1101/2020.10.28.20221580

Links:

Corona-tracker
https://www.ft.com/content/a2901ce8-5eb7-4633-b89c-cbdf5b386938

German Scientists Conduct Coronavirus Concert Experiment, Find Risk of Spread to Be "Low to Very Low"
https://pitchfork.com/news/german-scientists-conduct-coronavirus-concert-experiment-find-risk-of-spread-to-be-low-to-very-low/

Mismeasure of Coronavirus - dr. Tomáš Fürst - online webinar (Czech, presentation slides in English)
https://www.youtube.com/watch?v=Y7WN9pF6eF8

Vaccination strategy
https://koronavirus.mzcr.cz/wp-content/uploads/2020/12/Strategie_ockovani_proti_covid-19_aktual_221220.pdf

National Strategy of Covid-19 testing
https://koronavirus.mzcr.cz/wp-content/uploads/2020/07/prezentace-Narodni-strategie-testovani_20200730.pdf

臨床検査の偽陽性と偽陰性について
https://www.jslm.org/committees/COVID-19/20200427.pdf

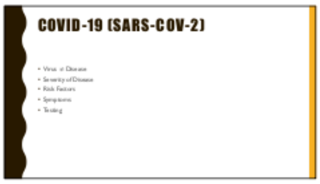
CORONA PUZZLE

DITA SÁLOVÁ
12.2.2021

DIFFICULT QUESTIONS

- **CORONA PUZZLE**
- Epidemics
- Clinical picture
- Risk factors
- Testing
- Vaccination

- **CZECH PUZZLE**
- Health care system in general
- Czech specifics
- Corona impact



COVID-19 (SARS-COV-2)

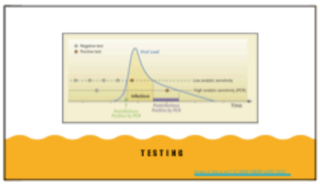
- Virus x Disease
- Severity of Disease
- Risk Factors
- Symptoms
- Testing

TESTING

- Data, data, data …
  - RELEVANT!
  - UNDERSTANDABLE!
  - VISUALIZATION IS IMPORTANT!

[redacted]

- Testing Rationale
  - why / by (methods)



TESTING

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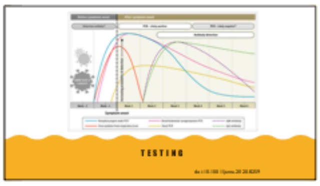


TESTING

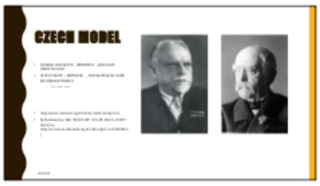
doi:10.1001/jama.2020.8259

COMMON SENSE REASONING OF TESTING

- Testing accuracy
  - Sensitivity
  - Specificity
  - Incidence / prevalence

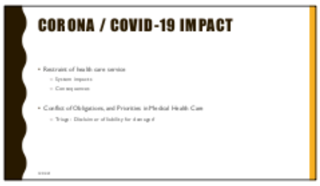
HEALTH CARE / CZECH HEALTH CARE

- Health care systems:
  I. Insurance – based
    - Public – mandatory insurance "Bismarck model" (Germany, France, Austria, Czech …)
    - Private – voluntary - USA
  II. State / National
    - Semashko (former USSR, Cuba)
    - Beveridge (UK, Canada, Australia, Norway, Italy etc.)



CZECH MODEL

[illegible]



CORONA / COVID-19 IMPACT

- Restraint of health care service
  - System impacts
  - Consequences
- Conflict of Obligations, and Priorities in Medical Health Care
  - Triage : Disclaimer of liability for damage?

WHAT CAN WE DO?

- Stay healthy
- Be aware of data literacy
- Keep common sense

WHAT ELSE?

- Handout will be sent.
- Materials for further reading will be provided.
- Later questions will be answered by either e-mail or phone:
- [illegible] +420 733 514 730

WISHING YOU LOVE
PEACE, HAPPINESS AND JOY.