HEALTH INEQUALITY

WHAT IS IT? WHAT IS THE IMPACT? HOW CAN WE AVOID IT?

PROF. JAN MAINZ SØREN VALGREEN KNUDSEN MARIA ADELE BONDE

AGENDA

- Welcome and presentation
- Setting the scene: Danmark and its health care system
- What influences health inequality?
- The Danish infrastructure for measuring quality and inequality
- Identifying health inequality using the Danish quality data
- Did COVID-19 contribute to health inequality?
- The importance of the patients' voice: Patients lived experiences
- How can the health system cocreate with patients and relatives?
- Reflections and debate with the audience: What can we act on?

SETTING THE SCENE: DENMARK AND ITS HEALTH CARE SYSTEM

JAN MAINZ PROFESSOR - DIRECTOR - MD - PHD - MPA

KINGDOM OF DENMARK





DENMARK

Capital: Copenhagen

Population: 5.8 million

Area: 43,094 km²

GDP_{per capita}: **59,831**\$

Language: Danish



DENMARK – HAPPIEST COUNTRY

The world's 15 happiest nations

Index ranking of happiness worldwide from 2013 to 2015



DANISH HEALTHCARE SYSTEM



THE DANISH INFRASTRUCTURE FOR MEASURING QUALITY AND INEQUALITY

JAN MAINZ PROFESSOR – EXECUTIVE DIRECTOR – MD – PHD – MPA





World Health Organization



QUALITY OF CARE

"the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge"

Sorce: World Health Organization, Organisation for Economic Cooperation and Development, and The World Bank. Delivering quality health services: a global imperative for universal health coverage. Geneva: 2018

DEFINING QUALITY OF CARE



DENMARK HAS UNIQUE OPPORTUNIES FOR QUALITY MEASUREMENT AND BENCHMARKING

Denmark has Unique Personal Identifier (UPI)

 Denmark has developed Health and National Quality Registries

THE CIVIL PERSONAL REGISTER (CPR) NUMBER



The Danish data infrastructure

- One of the unique features of Denmark's healthcare system is its robust data infrastructure, which uses the Danish Civil Personal Register number (CPR-number), which is assigned to residents in Denmark and enables individual-level record linkage of Danish databases and clinical quality registers.
- This infrastructure facilitates lifelong follow-up, making the entire population an open cohort for research purposes

Fig. 3 Examples of Danish data sources linkable at the individual-level using the Civil Personal Register (CPR) number





NATIONAL QUALITY IMPROVEMENT INITIATIVES

- National clinical guidelines
- National clinical quality registries (databases)
- National patient experience surveys in somatic and psychiatic hospital and ambulatory care
- National relatives experience surveys in psychiatic hospital and ambulatory care
- National Agency for Patients` Rights and Complaints and reporting of Adverse Events
- The Danish Health Quality Programme
- Public disclosure of quality of care data

PUBLIC DISCLOSURE OF QUALITY OF CARE DATA

- The Danish e-health portal, sundhed.dk, is a public, internet based portal that collects and distributes health care information and information on the quality of care,
- Including waiting times at all hospitals and ratings of hospitals, departments and clinical units among the Danish residents and health care professionals
- At country, regional and hospital level

NATIONAL QUALITY IMPROVEMENT INITIATIVES

National clinical guidelines

- National clinical quality registries (databases)
- National patient satisfaction surveys in somatic and psychiatic hospital and ambulatory care
- National relatives satisfaction surveys in psychiatic hospital and ambulatory care
- Danish Patient Safety Authority reporting of Adverse Events
- The Danish Health Quality Programme
- Public disclosure of quality of care data

QUALITY IMPROVEMENT IN DENMARK



DANISH CLINICAL REGISTRIES - FRAMEWORK

- Mandated by law
- Mandatory national coverage (Record completeness)
- Contain information about individual patients
- Fulfilment of national criteria for functionality, data safety and methodology
- Clinical ownership of and responsibility for content and analysis and interpretation and ACTION (professional board for each registry)
- Financed by the Regions
- Information can be used for surveillance and improvement of quality (and research)
- Provide accountability and transparency



IMPORTANT PHASES IN THE DANISH CLINICAL REGISTRIES



CAN QUALITY MEASUREMENT IMPROVE THE QUALITY OF CARE?

WHAT HAVE WE ACHIEVED?

THE LESSONS FROM DENMARK

- The quality of care can be improved in a public health care system
- No economic incentives
- But involvement and ownership of health professionals
- Increasing political and management focus
- Transparency and accountability
- Danish Clinical Registries is part of the new Danish Quality Program

NATIONAL QUALITY IMPROVEMENT INITIATIVES

- National clinical guidelines
- National clinical quality registries (databases)
- National patient satisfaction surveys in somatic and psychiatic hospital and ambulatory care and PROMs
- National relatives satisfaction surveys in psychiatic hospital and ambulatory care
- National Agency for Patients` Rights and Complaints and reporting of Adverse Events
- The Danish Health Quality Programme
- Public disclosure of quality of care data

THE DIFFERENT PREMS (LUP)



LUP Psykiatri 2021 Patienter

Resultaterne kort

- på tværs af de fem patientundersøgelser i LUP Psykiatri



...af patienterne er i høj eller meget høj grad **tilfredse** samlet set.

Der er forskel mellem regionerne på patienternes **samlede tilfredshed**.

ŪΡ

Størst tilfredshed Personalet var venligt og imødekommende.



Ingen af områderne har et resultat, som er bedre eller værre end sidste år, når vi ser på det samlede resultat for patientgrupperne. Det er de samme områder, der scorer højt, og de samme der scorer lavt, som i 2020.

Otte ud af ni spørgsmål har i år et gennemsnit på 4,00 eller derover. Kun spørgsmålet om en bestemt læge tog et overordnet ansvar har et gennemsnit under 4,00.

4,05 4,04 2020 2021

Gennemsnitsscore på skala fra 1 til 5

Patientens oplevelse af at være med til at træffe beslutninger om undersøgelse/ behandling er hverken bedre eller værre end i 2020.

Spørgsmålet udgør sammen med spørgsmålet ovenfor om samlet tilfredshed det nationale mål om øget patientinddragelse.

> Find flere resultater på psykiatrivndersögelser.dk

PATIENT REPORTED OUTCOME MEASURES IN DANISH HEALTH CARE MARIA ADELE BONDE FORMER PATIENT, SOCIAL WORKER, PEER CO-WORKER



PRO-PSYCHIATRY IN BRIEF

Is purposed to develop and test Patient Reported Outcome Measures (PROMs) and an indicator measurement concept for use in the clinical databases for depression and schizophrenia

PRO-Psychiatry is nested within the Danish National Clinical Databases

Is a national action oriented research initiative leading to daily use nationally

Is led by Aalborg University Hospital -Psychiatry

Builds upon widely involvement of service users

Values "nothing about us without us"

PATIENT REPORTED OUTCOME (PRO)

"A PRO is a measurement based on a report that comes from the patient (i.e., study subject) about the status of a patient's health condition without amendment or interpretation of the patient's report by a clinician or anyone else"². MY HEALTH STATUS!

1. Bech P, Timmerby N. An overview of which health domains to consider and when to apply them in measurement-based care for depression and anxiety disorders. Nord J Psychiatry 2018 May 1;1-7.

2. https://www.fda.gov/Drugs/DevelopmentApprovalProcess/DrugDevelopmentToolsQualificationProgram/ucm370262.htm#pro

ITERATIVE CO-CREATION



Patient Peer Board Workshops







Steering Committee Mails, meetings, TC





PATIENT PEER BOARD TOPICS

Which health outcome topics are most relevant to patients? Which questions are most relevant to patients? How to phrase the questions?

Which information do patients need? In the patient's view, which information do clinicians need?

How to collect data? How to design the online PROM graphically? How to design an online self-management portal graphically?

Pro's and con's regarding involvement of family and friends? Which information do family and friends need?

Are there implications related to <u>answering</u> the PROM when involuntary treatment might be at stake? Are there implications related to <u>using</u> the PRO results when involuntary treatment might be at stake?

How to present aggregated patient level results most meaningful to the public?

PATIENT PEER BOARD PARTICIPANTS



- Appointed through the patient organisations
- One patient in each of the five regions
- Experiences from in- and out patient pathways
- Not in an active disease phase
- Able to participate in whole day workshops
- Able to prepare for the participation (2xA4 pages)



PPB: WORKING MODE

Five whole day work shops

- Alone
- Two and two
- In groups of 3-4
- Everybody together
- Brainstorming
- Reflections & commenting
- Dialogues
- Rating
- Prioritising

Hearing and pilot (extended beyond the PPB)

THE SELECTED PRO TOPICS - 20 ITEMS

HEALTH ((2 items by SF-36)

SYMPTOMS (5 items by PRO-Psychiatry)

SIDE EFFECT (1 item by PRO-Psychiatry)

WELL-BEING (5 items WHO-5¹ and 2 items by PRO-Psychiatry)

SOCIAL FUNCTION (5 items inspired byWSAS²)

1) WHO's Well-being Index 2) Work and Social Adjustment Scale
MEASUREMENT CONCEPT





CPR: 900000011 (ID: 11)

PRO-psykiatri

| | tor 21. jun 18 | man 25. jun 18 | |
|----------------------------|--------------------|--|--|
| Trivsel | | | |
| 📵 1. Glad og i godt humør | 0 | 6 | |
| 🚺 2. Rolig og afslappet | • | 6 | |
| 🚯 3. Aktiv og energisk | • | 6 | |
| 🜖 4. Frisk og udhvilet | • | 1 | |
| 🚯 5. Interessant dagligdag | • | (| |
| 🚺 6. Glæde ved aktiviteter | • | 6 | |
| 🚺 7. Håb | • | 0 | |
| Mistrivsel | | | |
| 🚯 8. Glemt vigtige ting | • | 6 | |
| 🚯 9. Koncentration | 1 | 6 | |
| 🚯 10. Spisevaner | 1 | ••••••••••••••••••••••••••••••••••••• | |
| 🟮 11. Tanker om døden | • | () | |
| 🚺 12. Selvskade | • | (| |
| Funktion | | | |
| 🚯 13. Arbejde/uddannelse | 8 | 6 | |
| 🚺 14. Holde hus og hjem | 3 | (| |
| 🚺 15. Sammen med andre | 1 | 0 | |
| 🚯 16. Alene | • | · · · · · · · · · · · · · · · · · · · | |
| 🚺 17. Nære relationer | 3 | 6 | |
| Helbred | | | |
| 🕄 18. Fysisk helbred | 3 | 0 | |
| 🟮 19. Psykisk helbred | 8 | 6 | |
| 🚺 Kort besked | Udfyldt: Ja | Udfyldt: Ja | |





Side 2 af ialt 21 sider

For teknisk support ring til 7843 3567



- USING THE DANISH DATABASES SØREN VALGREEN KNUDSEN

PREHOSPITAL DATABASE

 <u>Mackenhaur J</u>: Disparities in emergency care among patients with mental illness. Ph.D.-thesis. Aalborg University Press. 2022



GETTING THE HIGHEST LEVEL OF URGENCY







| None | 53% | 86% | 48% |
|----------|-----|-----|-----|
| Minor | 53% | 86% | 67% |
| Moderate | 48% | 84% | 38% |
| Major | 45% | 83% | 25% |

QUALITY OF PREHOSPITAL CARE

| Getting telephone advice rather than | n an ambulance (n=281,473) | RR (95%CI) | Hospital contact within 7 days after release at scene (n=124,928) | RR (95%CI) |
|--|-------------------------------|--------------------|---|--------------------|
| % recieving telephone advice = 17% No history of mental illness | ●Ref | | % with contact within 7 days = 9% No history of mental illness • Ref | |
| Minor - unadjusted | | 0.96 (0.91 - 1.01) | Minor - unadjusted | 1.40 (1.31 - 1.48) |
| Adjusted Model 1 | | 1.05 (1.01 - 1.10) | Adjusted Model 1 | 1.25 (1.17 - 1.33) |
| Adjusted Model 2 | +●+ | 1.08 (1.04 - 1.13) | Adjusted Model 2 | 1.25 (1.17 - 1.33) |
| Moderate - unadjusted | | 1.49 (1.39 - 1.60) | Moderate - unadjusted | 1.63 (1.51 - 1.77) |
| Adjusted Model 1 | | 1.29 (1.23 - 1.36) | Adjusted Model 1 | 1.68 (1.55 - 1.81) |
| Adjusted Model 2 | +●-1 | 1.30 (1.24 - 1.37) | Adjusted Model 2 | 1.68 (1.55 - 1.81) |
| Major - unadjusted | • | 1.70 (1.60 - 1.80) | Major - unadjusted | 2.14 (1.98 - 2.31) |
| Adjusted Model 1 | | 1.58 (1.50 - 1.67) | Adjusted Model 1 | 2.10 (1.94 - 2.28) |
| Adjusted Model 2 | | 1.61 (1.53 - 1.70) | Adjusted Model 2 | 2.10 (1.94 - 2.28) |
| | 1.0 1.2 1.4 1.6 1.8 2.0 2.4 2 | 2.8 | 1.0 1.2 1.4 1.6 1.8 2.0 2.4 | 4 2.8 |

TIME FROM SYMPTOM ONSET TO HOSPITAL ARRIVAL





| None | 5h 44min | 5h 30min |
|----------|----------|-----------|
| Minor | 5h 30min | 4h 59min |
| Moderate | 6h 3min | 6h 56min |
| Major | 8h | 10h 58min |

GETTING REPERFUSION THERAPY



| Reperfusion therapy: Arrival within 4 hours (n= | =8 413) |) | | RR (95%CI) |
|--|---------|---------|----------------|--------------------|
| Proportion recieving reperfusion therapy = 38.2% | | | | |
| No history - reference | | | ●Ref | |
| Minor - unadjusted | | | | 0.77 (0.71 - 0.84) |
| Adjusted Model 1 | | | ⊢ i i | 0.85 (0.78 - 0.92) |
| Adjusted Model 2 | | | | 0.85 (0.79 - 0.93) |
| Moderate - unadjusted | | ⊢ | | 0.95 (0.82 - 1.10) |
| Adjusted Model 1 | | | • + i | 0.89 (0.77 - 1.03) |
| Adjusted Model 2 | | - | → + | 0.90 (0.78 - 1.04) |
| Major - unadjusted | | | • | 0.86 (0.71 - 1.03) |
| Adjusted Model 1 | | • | | 0.84 (0.70 - 1.01) |
| Adjusted Model 2 | | | | 0.83 (0.69 - 0.99) |
| | 0.6 | 0.7 0.8 | 0.9 1.0 1.1 | 1.2 |

GETTING FAST SURGERY



| SURGERY DELAY (minutes) 2004-20 | 018 | _ | | - | | Diff | erence, minutes (95%Cl |
|---|-----|----------|-----|---|-----|------|------------------------|
| <i>Time-to-surgery (all) 6.0 h (iqr;3.6;10.7,</i> No history - reference |) | ● Ref | | | | | |
| Minor - unadjusted | F | | | | | | 3 (-16 - 22) |
| Adjusted Model 1 | ⊢ | - | | | | | -4 (-23 - 15) |
| Adjusted Model 2 | F | + | | | | | 0 (-19 - 19) |
| Moderate - unadjusted | ⊢ | - | | | | | 19 (-21 - 59) |
| Adjusted Model 1 | ⊢ | +• | | | | | 21 (-19 - 61) |
| Adjusted Model 2 | F | +• | | | | | 21 (-19 - 61) |
| Major - unadjusted | | ı — | • | н | | | 44 (3 - 85) |
| Adjusted Model 1 | | — | • | H | | | 45 (4 - 85) |
| Adjusted Model 2 | | ļ | • | 4 | 1 | - | 47 (7 - 88) |
| | -40 | 0 4 | 0 8 | 0 | 120 | 160 | 200 |

DANISH DEPRESSION DATABASE

 <u>Knudsen SV</u>: Inequalities in quality of care and clinical outcomes among Danish inpatients with major depressive disorder. Ph.D.thesis. Aalborg University Press. 2021

https://vbn.aau.dk/en/publications/ulighed-ibehandlingskvalitet-og-kliniske-outcomes-blandtpatient



SYSTEMATIC REVIEW



EXPOSURES AND OUTCOMES

Exposures Level of education Income level Migrant status



The quality of mental care

<u>Clinical outcomes</u> <u>All-cause mortality</u> <u>Suicidal behaviour</u> <u>Readmission for depression</u> <u>All-cause readmission</u>

INDICATORS OF QUALITY OF CARE IN THE DANISH DEPRESSION DATABASE FOR INPATIENTS

- Examination by psychiatrist
- Somatically examined
- Depression severity examination (in)
- Depression severity examination (out)
- Suicide risk assessment (in)
- Suicide risk assessment (out)
- Assessment by social worker
- Contact with relatives
- Psychiatric aftercare

SOCIOECONOMIC STATUS AND QUALITY OF CARE

Low-level education and low-level income was associated with worse quality of care

<u>https://www.dovepress.com/inequities-in-</u> <u>mental-health-care-quality-and-clinical-</u> <u>outcomes-among-i-peer-reviewed-fulltext-</u> article-CLEP



SOCIOECONOMIC STATUS AND MORTALITY

Low-level education and low-level income was associated with a higher risk of 1-year mortality

Low-level education was associated with a higher risk of 1-year suicidal behaviour



SOCIOECONOMIC STATUS AND READMISSION

Low-level education and low-level income was associated with a lower chance of 1-year readmission with depression, but not with all-cause readmission

-0.5

RR (95% CI) Outcome Prop. (%) High quality of care Low-level education 0.92 (0.85-0.99) 31.14 33.27 0.99 (0.92-1.06) Middle-level education (ref. high-level education) 32.96 Low-income tertile 31.07 0.87 (0.81-0.94) Middle-income tertile 32.58 0.98 (0.92-1.05) (ref. high-level income) 33.18 All-cause mortality Low-level education 4.86 1.22 (0.87-1.70) Middle-level education 1.04 (0.79-1.36) 3.54 (ref. high-level education) 3.67 Low-income tertile 6.21 1.41 (0.96-2.08) Middle-income tertile 3.92 1.19 (0.84-1.71) (ref. high-income tertile) 2.23 Suicidal behaviour Low-level education 1.28 (0.96-1.70) 5.78 Middle-level education 4.56 1.05 (0.82-1.34) (ref. high-level education) 4.19 Low-income tertile 4.60 1.05 (0.82-1.35) Middle-income tertile 5.44 1.19 (0.94-1.50) (ref. high-income tertile) 4.64 Readmission - MDD 0.91 (0.85-0.97) Low-level education 42.05 -----Middle-level education 46.17 0.97 (0.91-1.02) -(ref. high-level education) 48.25 Low-income tertile 41.74 0.87 (0.83-0.93) Middle-income tertile 44.94 0.91 (0.87-0.97) -----(ref. high-income tertile) 48.79 Readmission - All 1.02 (0.99-1.05) Low-level education 83.93 Middle-level education 83.93 1.02 (1.00-1.05) (ref. high-level education) 81.94 Low-income tertile 83.81 0.99 (0.97-1.01) Middle-income tertile 83.46 0.99 (0.97-1.02) (ref. high-income tertile) 83.39 0 0.5 1 1.5 2

MIGRANT STATUS AND QUALITY OF CARE

Patients with low-level education and low-level income received worse quality of care than patients with high-level education or income



MIGRANT STATUS AND MORTALITY

Bing a migrant was associated with a higher risk of 1-year mortality, while not associated with suicidal behaviour

| linical endpoint | Prop. | Adj. risk difference | HRR (95% CI) | | | |
|---|--|--|--|--------------|----|----|
| Dead | | | | | | |
| Immigrant (all) | 4.14% | 1.66% | 1.55 (1.19:2.01) | · | • | I. |
| Non-Western | 2.60% | -0.32% | 1.22 (0.81:1.83) | | | |
| Western | 6.77% | 3.04% | 1.86 (1.34:2.59) | | •• | |
| Danish (ref.) | 4.04% | | | | | |
| Suicidal behaviour | | | | | | |
| Immigrant (all) | 5.32% | -0.1% | 0.93 (0.74:1.16) | ⊢ −− | | |
| Non-Western | 5.19% | -0.2% | 0.87 (0.65:1.16) | · • · · · | | |
| Western | 5.52% | 0.0% | 1.04 (0.73:1.49) | • | | |
| Danish (ref.) | 5.47% | | | | | |
| Immigrant (all) | 46.88% | -1.07% | 0.93 (0.86:1.01) | ⊢ ●-1 | | |
| Non-Western Western | 47.03% 46.58% | -2.49% -1.06% | 0.93 (0.85:1.03) 0.93 (0.82:1.05) | | | |
| Non-Western Western Danish (ref.) | 47.03% 46.58% 47.87% | -2.49% -1.06% | 0.93 (0.85:1.03) 0.93 (0.82:1.05) | | | |
| Non-Western Western Danish (ref.) Readmission all | 47.03% 46.58% 47.87% | -2.49% -1.06% | 0.93 (0.85:1.03) 0.93 (0.82:1.05) | | | |
| Non-Western Western Danish (ref.) Readmission all Immigrant (all) | 47.03% 46.58% 47.87% 82.41% | -2.49% -1.06% -2.89% | 0.93 (0.85:1.03) 0.93 (0.82:1.05) 0.88 (0.83:0.94) | | | |
| Non-Western Western Danish (ref.) Readmission all Immigrant (all) Non-Western | 47.03% 46.58% 47.87% 82.41% 82.88% | -2.49% -1.06% -2.89% -3.90% | 0.93 (0.85:1.03) 0.93 (0.82:1.05) 0.88 (0.83:0.94) 0.89 (0.83:0.96) | | | |
| Non-Western Western Danish (ref.) Readmission all Immigrant (all) Non-Western Western | 47.03% 46.58% 47.87% 82.41% 82.88% 81.55% | -2.49% -1.06% -2.89% -3.90% -3.47% | 0.93 (0.85:1.03) 0.93 (0.82:1.05) 0.88 (0.83:0.94) 0.89 (0.83:0.96) 0.88 (0.80:0.96) | | | |

MIGRANT STATUS AND READMISSION

Being a migrant was associated with a lower chance of 1-year readmission with depression and all-cause readmission

| Clinical endpoint | Prop. | Adj. risk difference | HRR (95% CI) | I | | | |
|--------------------|--------|-------------------------|------------------|----------------|--------|---|-----|
| Dead | | | | | | | |
| Immigrant (all) | 4.14% | 1.66% | 1.55 (1.19:2.01) | | • • | | |
| Non-Western | 2.60% | -0.32% | 1.22 (0.81:1.83) | H | • | | |
| Western | 6.77% | 3.04% | 1.86 (1.34:2.59) | | H | • | |
| Danish (ref.) | 4.04% | | | | | | |
| Suicidal behaviour | | | | | | | |
| Immigrant (all) | 5.32% | -0.1% | 0.93 (0.74:1.16) | ·• | 4 | | |
| Non-Western | 5.19% | -0.2% | 0.87 (0.65:1.16) | • | I | | |
| Western | 5.52% | 0.0% | 1.04 (0.73:1.49) | | | | |
| Danish (ref.) | 5.47% | | | | | | |
| Readmission depres | sion | | | | | | |
| Immigrant (all) | 46.88% | -1.07% | 0.93 (0.86:1.01) | ⊢ ●1 | | | |
| Non-Western | 47.03% | -2.49% | 0.93 (0.85:1.03) | ⊢ ●-+ | | | |
| Western | 46.58% | -1.06% | 0.93 (0.82:1.05) | ⊢ ●- -' | | | |
| Danish (ref.) | 47.87% | | | | | | |
| Readmission all | | | | | | | |
| Immigrant (all) | 82.41% | -2.89% | 0.88 (0.83:0.94) | ⊷ | | | |
| Non-Western | 82.88% | -3.90% | 0.89 (0.83:0.96) | ⊢● −1 | | | |
| Western | 81.55% | -3.47% | 0.88 (0.80:0.96) | ⊢ ●–- | | | |
| Danish (ref.) | 85.32% | | | | | | |
| -1.5 -1 | | -0.5 | 0 0.5 | 1 | 1.5 | 2 | 2.5 |

SOMATIC DATABASES

Heart failure COPD Stroke (apoplexy) Hip fracture





Januar 2019 - 9/2018

Rigsrevisionens beretning afgivet til Folketinget med Statsrevisorernes bemærkninger

Forskelle i behandlingskvaliteten på sygehusene



WHAT CHARACTERISES THESE PATIENTS?







- Male
- 45-64 years
- Employed
- Educated higher than primary school
- High household income
- Cohabitation
- No comorbidity
- Mild apoplexy on admission
- Woman
- 75-85 years
- Outside the workforce
- Primary school only
- Low household income
- Cohabitation
- Severe comorbidity
- Severity of apoplexy at admission unclear

PROPORTION OF PATIENTS WITH OPTIMAL TREATMENT STROKE 2007–2016



WHAT IS THE IMPACT OF INEQUITY IN QOC ON PATIENT OUTCOMES?



Total effect = indirect effect + direct effect

Mediation statistics

IMPACT OF DIFFERENCES IN QOC: 30 DAY MORTALITY IN PATIENTS WITH ACUTE STROKE

- Worst off patients had a much higher mortality compared with the best off patients (OR = 24.6)
- If the worst off patients had received the same QoC as the best off patients, the excess mortality would have been lower (OR = 20.0) (the direct effect).
- Inequity in QoC contributed with 23% of the excess mortality among the worst off patients (the indirect effect).

Odds ratio for 30 day mortality



DID COVID-19 CONTRIBUTE TO HEALTH INEQUALITY?

JAN MAINZ PROFESSOR – EXECUTIVE DIRECTOR – MD – PHD – MPA

INDIRECT EFFECTS OF THE COVID-19 PANDEMIC

- The OECD has assessed that the COVID-19 pandemic represents the largest global health crisis in the last 100 years. COVID-19 has challenged over 200 countries, threatened the global economy, social welfare, and the health of the world's population.
- The question is: What were the indirect effects of COVID-19 on other diseases?

DECREASE IN CANCER DIAGNOSES

- In the spring period, we saw a decrease in newly diagnosed cancers of 1/3 compared to the previous 5 years
- This corresponds to 2800 fewer people who had been diagnosed with cancer during the period.
- What are the short-term and long-term consequences of this?



Hidden morbidities: drop in cancer diagnoses during the COVID-19 pandemic in Denmark

Charlotte Wessel Skovlund , Søren Friis , Christian Dehlendorff , Mef Christina Nilbert & Lina Steinrud Mørch

THE COVID-19 PROJECT IN DENMARK

- The COVID-19 project in Denmark examined the indirect effects of the COVID-19 pandemic on the diagnosis and treatment and quality of treatment of other diseases
- The project was carried out by The Danish Clinical Quality Program

 National Clinical Registries (RKKP) in close collaboration with
 clinicians within each disease area

DISEASE AREAS

- The COVID-19 project examined indirect effects of the COVID-19 pandemic on several disease areas:
 - Cancer e.g., colorectal cancer and lung cancer
 - Cancer screening e.g., cervical cancer screening
 - Cardiovascular disease e.g., stroke
 - Chronic diseases e.g., COPD
 - Psychiatric disease e.g., schizophrenia
 - Unplanned hospital attendence

The pre-pandemic period and different phases of the pandemic



Overview of the study populations (based on diseases), databases, study periods and number of patients or hospital contacts

| Main area | Disease area | Database | Period | Numbers |
|-------------------------|--|--|----------------------------|---|
| Emergency medicine | Emergency Hospital contacts | The Danish database for acute and emergency hospital contacts | 01.02.2019 - 03.01.2022 | 3,908,304 contacts / 1,847,369 patients |
| | Stroke | Danish Stroke Registry | 13.03.2019 – 27.01.2021 | 22,781 patients |
| Chronic Diseases | Chronic Obstructive Pulmonary Disease (COPD) | The Danish Register of Chronic Obstructive Pulmonary Disease | 01.01.2015 - 15.12.2021 | 150,355 admissions 122,041 outpatients |
| Cancer | Breast cancer | Danish Breast Cancer Group | 01.01.2015 - 30.06.2021 | 30,598 patients (women) |
| | Lung cancer | Danish Lung Cancer Registry | 01.01.2018 - 31.08.2021 | 18,113 patients |
| | Colorectal cancer | Danish Colorectal Cancer Group Database | 01.01.2018 - 31.12.2020 | 12,877 patients |
| Screening for cancer | Cervical cancer | Danish Quality Database for Cervical Cancer Screening | 01.01.2015 - 30.09.2021 | 2,220,000 invitations / 1,466,353 patients (women) |
| | Breast cancer | <u>Danish Quality Database for Breast</u> <u>Cancer Screening</u> | 01.01.2016 - 30.09.2021 | 1,828,791 invitations / 847,766 patients (women) |
| | Colon cancer | Danish Quality Database for Colon Cancer Screening | 01.01.2018 - 30.09.2021 | 3,133,947 invitations / 1,928,725 patients |
| Palliation | Palliative care | Danish Palliative Care Database | 01.01.2018 - 03.01.2022 | 69,696 referrals, 43,030 courses (admissions) |
| Psychiatry | Schizophrenia | <u>The Danish Schizophrenia Registry</u> | 01.01.2018 - 30.06.2022 | 7,079 new cases, 64,055 admissions / 12,296 patients, 733,343 outpatient contacts / 24,243 patients |

CONCLUSIONS

- Overall, the quality of care in Denmark was largely unchanged or slightly improved across healthcare areas during the pandemic
- Outcome measurements showed no significant change in quality of care

CONCLUSIONS

- Social disparities were observed in all sub-studies, with the pandemic exacerbating social inequalities in health.
- Immigrants, people living alone, those with short education, and lowincome individuals unfortunately had a negatively impacted pattern of healthcare contact during the pandemic.
- COVID-19 was a magnifying glass for inequalities in the Danish Health care system.

LIFE EXPECTANCY DURING COVID-19

- Among the 29 countries included in an international study, life expectancy decreased in 27 countries during COVID-19.
- The biggest decline was observed among men in the United States, where life expectancy dropped by 2.2 years. For countries such as Sweden, Spain, Italy, England, and Belgium, the declines were the largest experienced since World War II.
- However, in Denmark, the impact of the pandemic on mortality has been comparatively small. No observed decline in life expectancy was found in Denmark in 2020.


https://www.sdu.dk/da/nyheder/forskningsnyheder/faldende-levealder



https://www.sdu.dk/da/nyheder/forskningsnyheder/faldende-levealder

Conclusions

- The Danish healthcare system has demonstrated a high degree of resilience during the COVID-19 pandemic.
- Despite the challenging circumstances, hospital activity remained largely unaffected, and the quality of diagnosis and treatment in several healthcare areas remained high.
- This resilience reflects the system's ability to maintain essential functions and meet the healthcare needs of the population.
- BUT: COVID-19 was a magnifying glass for inequalities in the Danish Health care system.

THE IMPORTANCE OF THE PATIENTS' VOICE: PATIENTS LIVED EXPERIENCES

MARIA ADELE BONDE FORMER PATIENT, SOCIAL WORKER, PEER CO-WORKER

HOW CAN THE HEALTH SYSTEM COCREATE WITH PATIENTS AND RELATIVES?

MARIA ADELE BONDE FORMER PATIENT, SOCIAL WORKER, PEER CO-WORKER

REFLECTIONS AND DEBATE WITH THE AUDIENCE: WHAT CAN WE ACT ON?

FACILITATED BY MARIA ADELE BONDE FORMER PATIENT, SOCIAL WORKER, PEER CO-WORKER