Accountable Care in Germany – Using Ambulatory Networks to Improve the Healthcare in 4 German Regions

Patient-sharing networks – a new concept to link research and health policy

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Motivation & Background

- **Background**
  - Extent of chronic diseases
    Prevalence of diabetes mellitus in Germany 2015: 9,8%[1]

- **Structural framework**
  - No gatekeeping system in Germany
  - Continuity of care is challenging *but could reduce hospitalizations[2]*
  - Accountability of care in the outpatient sector *but no systematical feedback on quality of care*
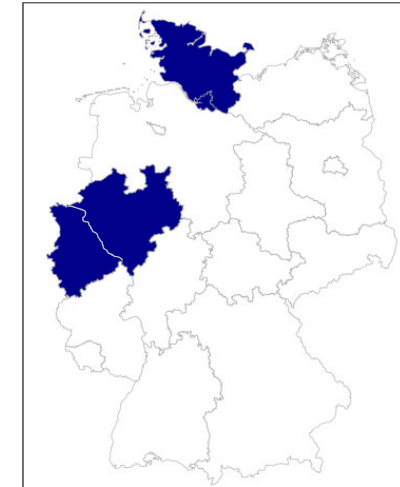
> ➤ **A better cooperation among (outpatient) physicians and regular feedback improve the *quality* of healthcare and reduce avoidable hospitalizations?**

[1] Goffrier B, Schulz Mandy, Bätzing-Feigenbaum J.:Administrative Prävalenzen und Inzidenzen des Diabetes mellitus von 2009 bis 2015,Zentralinstitut für die kassenärztliche Versorgung in Deutschland (Zi). Versorgungsatlas-Bericht Nr. 17/03.
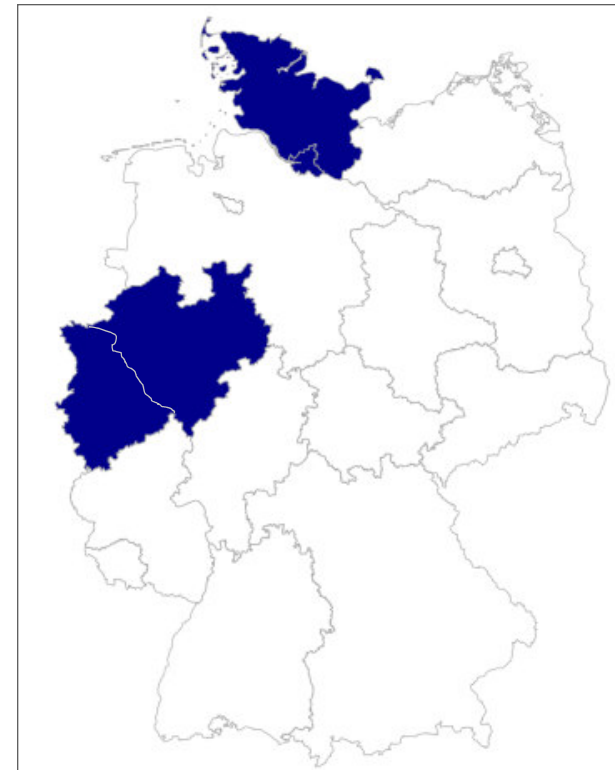[2] Rümenapf, G., Geiger, S., Schneider, B., Amendt, K., Wilhelm, N., Morbach, S., und Nagel, N. (2013). Readmissions of patients with diabetes mellitus and foot ulcers after infra-popliteal bypass surgery: attacking the problem by an integrated case management model. Eur. J. Vasc. Med. 42, 56–67.

Project information

Accountable Care in Deutschland (ACD)

- Financed by the *Gemeinsamer Bundesausschuss* for a three-year term

- Interdisciplinary research team
  - Health insurances
  - Associations of statutory health insurance physicians and their scientific institute
  - Universities (health economics, medical science, biostatistics)

- Outpatient networks are constructed based on administrative data in 4 German regions

- **Intervention (RCT):
  Structured quality circles and regular feedback**

Improve the quality of health care, patient outcomes and job satisfaction through coordination

Selection of patient population

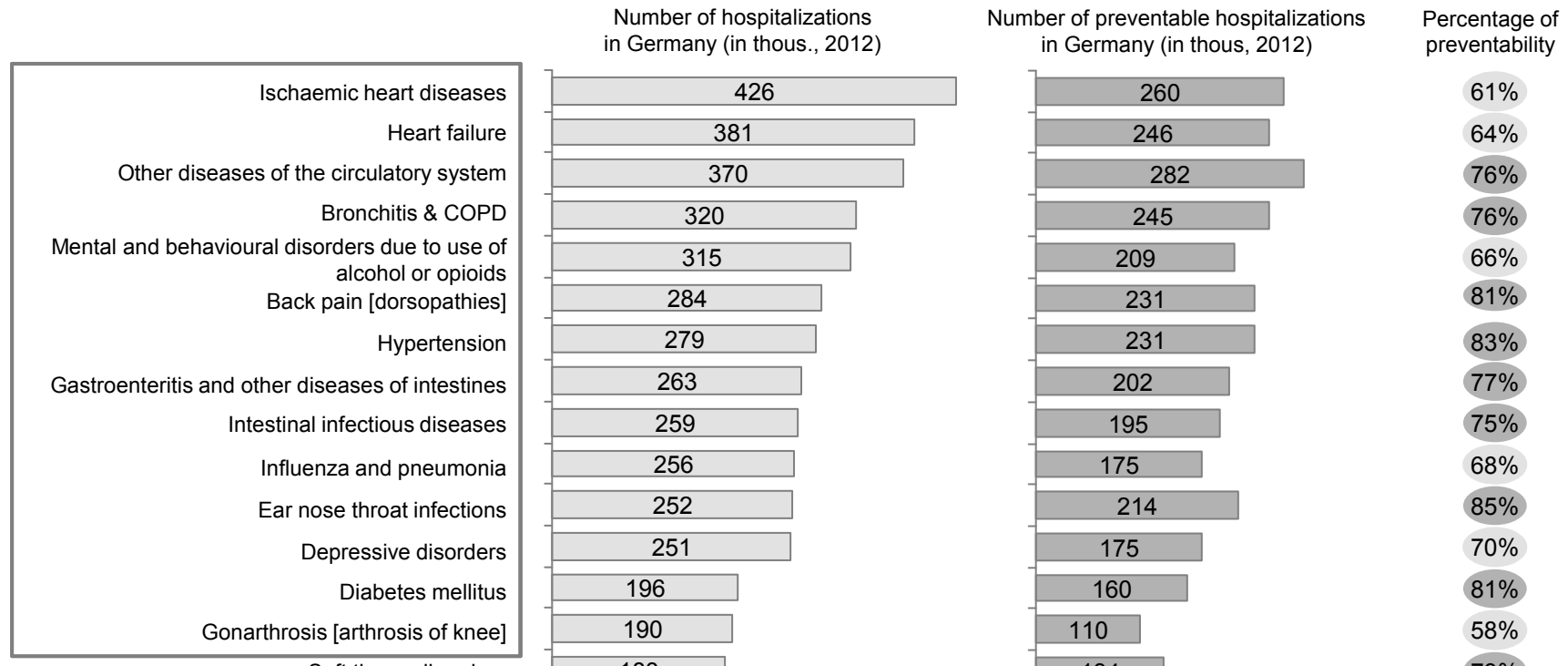|	Number of hospitalizations in Germany (in thous., 2012)	Number of preventable hospitalizations in Germany (in thous, 2012)	Percentage of preventability
Ischaemic heart diseases	426	260	61%
Heart failure	381	246	64%
Other diseases of the circulatory system	370	282	76%
Bronchitis & COPD	320	245	76%
Mental and behavioural disorders due to use of alcohol or opioids	315	209	66%
Back pain [dorsopathies]	284	231	81%
Hypertension	279	231	83%
Gastroenteritis and other diseases of intestines	263	202	77%
Intestinal infectious diseases	259	195	75%
Influenza and pneumonia	256	175	68%
Ear nose throat infections	252	214	85%
Depressive disorders	251	175	70%
Diabetes mellitus	196	160	81%
Gonarthrosis [arthrosis of knee]	190	110	58%
Soft tissue disorders	183	134	73%
Other avoidable mental and behavioural disorders	175	129	74%
Diseases of the eye	153	124	81%
Diseases of urinary system	146	126	86%
Sleep disorders	127	105	83%
Diseases of the skin and subcutaneous tissue	125	96	77%
Malnutrition & nutritional deficiencies	49	42	85%
Dental diseases	36	33	94%

Sundmacher, L.; Fischbach, D.; Schüttig, W.; Naumann, C.; Faisst, C. (2015) Which hospitalisations are ambulatory care-sensitive, to what degree, and how could the rates be reduced? Results of a group consensus study with German providers. Published in: Health Policy.

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Selection of 14 diagnosis groups

- Interdisciplinary accountability of care
- Chronical diseases
- High relevance because of high prevalence

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Network Construction

- **Technical approach**
  - Administrative data is used to develop physicians' patient lists
  - Control for connections between physicians
  - Construct the network

- **Network characteristics**
  - Physician based
  - Weighted edges (no. of shared patients)
 - Modularity algorithm to detect communities

- **Challenges**
  - Threshold of no. of shared patients?   → 20 Patients
  - Patients assigned to multiple networks   → Define a usual provider
  - Physicians in a 'bridge' position   → Allocation based on no. of patients
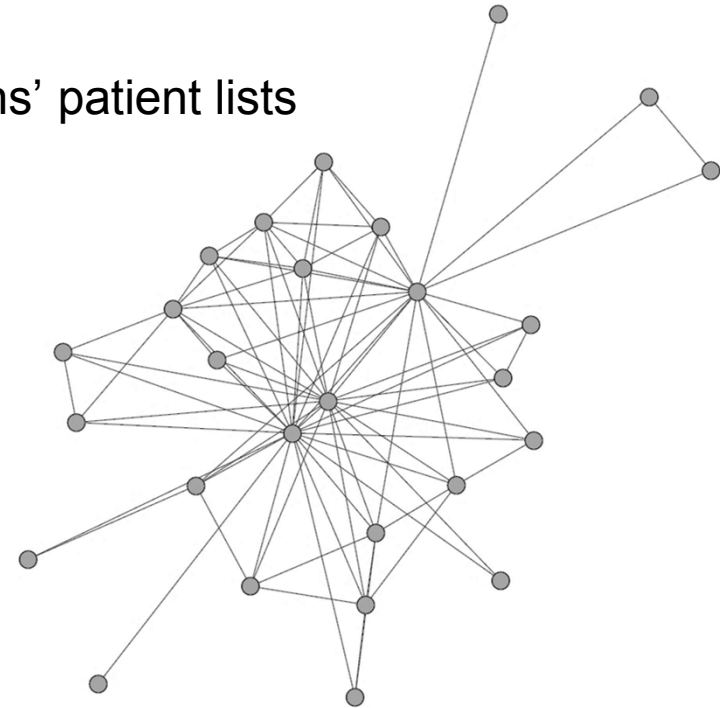
Intervention

- **Organization**
  - Cluster randomization of networks within the regions
  - Intervention through organized quality circles every 6 months with structured and moderated dialogue
  - Quarterly provided **feedback** on patient outcomes and medical guideline adherence
  - **Feedback** through patient based indicators aggregated on a network level
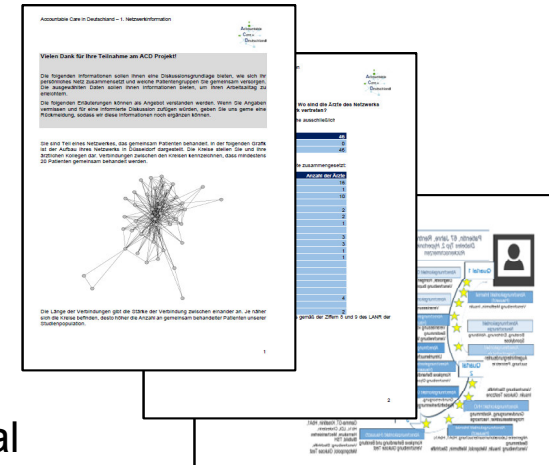
| Structural indicators	Process indicators	Outcome oriented indicators
No. of physicians (per specialization)	Rate of diabetes patients consulting a general practitioner at least 4 times a year	Mortality rate (per diagnosis group)
No. of patients (per diagnosis group)	Rate of diabetes patients consulting an eye specialist	No. of hospital cases (per diagnosis group)
No. of shared patients on average	Rate of diabetes patients getting a HbA1c test	No. of patients with more than 1 hospital case (per diagnosis group)
Demographical information about the patients	Rate of ischaemic heart disease a prescription of statins	No. of cases in the emergency department of heart failure patients

Objectives and Implications

- **Networking improves the quality of care?**
  - Analyze the current status
  - Identify strengths and weaknesses
  - Define and pursue joint indicator targets
  - Identify typical patient pathways
  - Avoid unintended incidents

- **Evaluation**
  - After two years of intervention
  - Improvements in health care, based on quality indicators and job satisfaction
  - Comparison between selected and not selected networks

Moderation
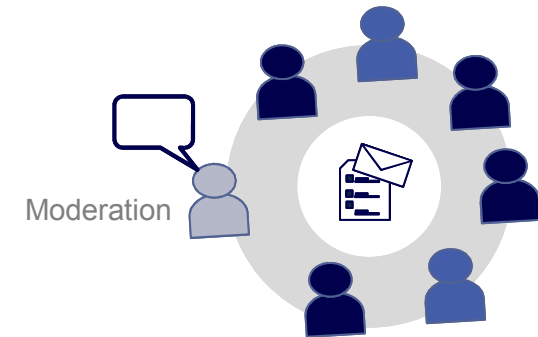
ACD – Summary

1. Construction and identification of physicians' networks
2. Cluster randomization
3. Intervention
4. Evaluation

Thank you
for your attention!

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