Quality (and Safety)

Managing and Researching Health Care Systems

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&

European Observatory on Health Systems and Policies
WHO building blocks

THE WHO HEALTH SYSTEM FRAMEWORK  21 Nov

SYSTEM BUILDING BLOCKS  27 Nov

SERVICE DELIVERY  23 Nov
HEALTH WORKFORCE  24 Nov
INFORMATION  22 Nov (seminar)
MEDICAL PRODUCTS, VACCINES & TECHNOLOGIES  24 Nov
FINANCING  21 to 23 Nov
LEADERSHIP / GOVERNANCE  23 Nov

OVERALL GOALS / OUTCOMES

ACCESS  28 Nov

IMPROVED HEALTH (LEVEL AND EQUITY)  29 Nov
RESPONSIVENESS  30 Nov
SOCIAL AND FINANCIAL RISK PROTECTION  28 Nov
IMPROVED EFFICIENCY  30 Nov

WHO 2007
# Outline of the course - Week 1

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and Outline of the course</td>
<td>20.11.2017 15-17 Uhr</td>
<td>Wilm Quentin and Daniel Opoku</td>
</tr>
<tr>
<td>Introduction and frameworks</td>
<td>21.11.2017 09-12 Uhr</td>
<td>Reinhard Busse</td>
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<tr>
<td>Financing I: Raising Resources</td>
<td>13.30-17 Uhr</td>
<td>Wilm Quentin</td>
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<tr>
<td><em>Seminar on health system relevant databases and information for term paper</em></td>
<td>22.11.2017 10-12 Uhr (H8173/74)</td>
<td>Anne Spranger</td>
</tr>
<tr>
<td>Financing II: Pooling and re-allocation</td>
<td>13.30-17 Uhr</td>
<td>Reinhard Busse</td>
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<tr>
<td>Financing III: Purchasing and payment systems</td>
<td>23.11.2017 09-12 Uhr</td>
<td>Wilm Quentin</td>
</tr>
<tr>
<td>Leadership and Governance + Care Delivery</td>
<td>13.30-17 Uhr</td>
<td>Reinhard Busse</td>
</tr>
<tr>
<td>Medical products</td>
<td>24.11.2017 9-10.30 Uhr</td>
<td>Reinhard Busse</td>
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<tr>
<td><em>Introduction to group exercise</em></td>
<td>10.30-12 Uhr</td>
<td>Anne Spranger</td>
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<tr>
<td>Workforce</td>
<td>13.30-17 Uhr</td>
<td>Claudia Maier</td>
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# Outline of the course - Week 2

<table>
<thead>
<tr>
<th>Topic</th>
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<tbody>
<tr>
<td>Preliminary Summary of building blocks</td>
<td>27.11.2017 09-10.30 Uhr</td>
<td>Reinhard Busse</td>
</tr>
<tr>
<td><em>Presentation by GIZ on health system related German development cooperation</em></td>
<td>10.30-12 Uhr</td>
<td>Ursula Bürger, Fachplanerin Kompetenz-Center Gesundheit und Soziale Sicherung, GIZ</td>
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<tr>
<td>Access and Coverage</td>
<td>13.30-17 Uhr</td>
<td>Reinhard Busse</td>
</tr>
<tr>
<td>Quality and Safety</td>
<td>28.11.2017 09-12 Uhr</td>
<td>Reinhard Busse</td>
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<tr>
<td>Financial and social risk protection</td>
<td>13.30-17 Uhr</td>
<td>Wilm Quentin</td>
</tr>
<tr>
<td>Improved Health</td>
<td>29.11.2017 13.30-17 Uhr</td>
<td>Wilm Quentin</td>
</tr>
<tr>
<td>Efficiency and Responsiveness</td>
<td>30.11.2017 09-12 Uhr</td>
<td>Reinhard Busse</td>
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<tr>
<td>Summary of Health System Performance Assessment</td>
<td>13.30-17 Uhr</td>
<td>Reinhard Busse</td>
</tr>
<tr>
<td><em>Group Presentations and Wrap-up</em></td>
<td>01.12.2017 09-12 Uhr</td>
<td>Reinhard Busse or Wilm Quentin</td>
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</tbody>
</table>
Overview

• Defining quality of care

• Frameworks for health care quality measurement
  – Donabedian framework
  – OECD Health Care Quality Indicator (HCQI) Project

• Indicators measuring quality of care

• Quality strategies
Why is quality of care important?

OECD Health Policy Studies
Improving Value in Health Care
MEASURING QUALITY

Quality of care
A PROCESS FOR MAKING STRATEGIC CHOICES IN HEALTH SYSTEMS

28 November 2017
Defining quality of care
Background

(1) “Quality” is one of the most often quoted principles of health policy, e.g. in EU health systems’ common values and principles.

(2) Understanding the term and what it encompasses varies.

(3) Most definitions take a very broad perspective on quality which includes not only effectiveness and efficiency, but – confusingly – also access, safety, equity, appropriateness and timeliness.
## How do we define quality of care? (I)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute of Medicine, IOM (1990)</td>
<td>Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.</td>
</tr>
<tr>
<td>Council of Europe (1998)</td>
<td>Quality of care is the degree to which the treatment dispensed increases the patient’s chances of achieving the desired results and diminishes the chances of undesirable results, having regard to the current state of knowledge.</td>
</tr>
<tr>
<td>WHO (2000)</td>
<td>Quality of care is the level of attainment of health systems’ intrinsic goals for health improvement and responsiveness to legitimate expectations of the population.</td>
</tr>
<tr>
<td>European Union (2010)</td>
<td>Health care that is effective, safe and responds to the needs and preference of patients. Other dimensions of quality of care, such as efficiency, access and equity are seen as being part of a wider debate and are being addressed in other fora.</td>
</tr>
</tbody>
</table>
How do we define quality of care? (II)

Table 1.2 Dimensions of quality of care

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Efficiency</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Access</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Safety</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Equity</td>
<td>X</td>
<td>X</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Appropriateness</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Timeliness</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Acceptability</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Respect</td>
<td>Choice</td>
<td>Information</td>
<td>Patient-centredness</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>(X)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health improvement</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Other</td>
<td>Technical</td>
<td>Efficacy</td>
<td>Availability</td>
<td>Prevention/early detection</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relevance</td>
<td></td>
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Notes: IOM: Institute of Medicine; JCAHO: Joint Commission on Accreditation of Healthcare Organizations.
My attempt to bring more clarity ... (I)

Health system performance

Access(ibility) \( \times \) Quality (for those who receive services) = Outcomes

„Improved health“

„Responsiveness“/ „patient experience“
My attempt to bring more clarity ... (II)

Health system performance

Access(ibility) \( \times \) Quality (for those who receive services) = Efficiency

Ressources (money, personnell etc.)

"TRIPLE AIM":

Access ↑
Quality ↑
Costs ↓
Frameworks for health care quality measurement

**Structure:**
- Material Resources
- Operational Characteristics
- Organizational Characteristics

**Process:**
- Clinical Care
- Policy and Procedure
- Adherence to standards

**Outcome:**
- Health status of patients
- Clinical measures
Danobedian’s quality dimensions

**Structure**
attributes of settings in which care occurs & resources needed for health care
- material resources (facilities, capital, equipment, drugs, etc.)
- intellectual resources (medical knowledge, information systems)
- human resources (health care professionals)

**Process**
use of resources (services and treatments patients receive)
- patient-related processes (intervention rates, referral rates, etc.)
- organizational aspects (supply with drugs, management of waiting lists, payment of health care staff, collection of funds, etc.)

**Outcome**
effects of health care on health status of patients and populations
- mortality, morbidity, disability or quality of life,
- intermediate outcomes (instance, blood pressure, body weight, personal well-being, functional ability, coping ability, improved knowledge)
**Figure 0.1 OECD framework for health care system performance measurement**

- **Health**
- **Non-health care determinants of health**

**Health Care System Performance**
- How does the health system perform?
- What is the level of quality of care across the range of patient care needs?
- What does the performance cost?

**Current focus of HCQI project**

<table>
<thead>
<tr>
<th>Health care needs</th>
<th>Dimension</th>
<th>Quality</th>
<th>Access</th>
<th>Cost/expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Health care needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Primary prevention</td>
<td></td>
<td>Effectiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Getting better</td>
<td></td>
<td>Responsiveness/patient centredness</td>
<td></td>
<td>Accessibility</td>
</tr>
<tr>
<td>3. Living with illness or disability/chronic care</td>
<td></td>
<td>Individual patient experiences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Integrated care</td>
<td></td>
<td></td>
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<tr>
<td>4. Coping with end of life</td>
<td></td>
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</tbody>
</table>

**Efficiency**
- Macro and micro-economic efficiency

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Quality dimensions defined by HCQI project

- **Effectiveness**: The degree of achieving desirable outcomes, given the correct provision of evidence-based healthcare services to all who could benefit *but not to those who would not benefit*. Includes appropriateness of care.

- **Safety**: degree to which health care processes avoid, prevent, and ameliorate adverse outcomes or injuries that stem from the process of health care itself

- **Responsiveness**: How a system treats people to meet their legitimate non-health expectations

Combining OECD and Donabedian

- Structures
  - Effectiveness
  - Safety
  - Responsiveness
- Processes
  - Effectiveness
  - Safety
  - Responsiveness
- Outcomes
  - Effectiveness
  - Safety
  - Responsiveness

Healthcare processes:
- Staying healthy
- Getting better
- Living better with illness
- Coping with end-of-life

Date: 28 November 2017
Measuring quality of care: OECD indicators by areas of care

Primary Care
Acute Care
Mental Health Care
Cancer Care
Patient Safety
Primary care ➔
“Ambulatory-care sensitive hospitalisations”

- Asthma hospital admission rates*
- COPD hospital admission rates*
- Congestive heart failure hospital admission rates*
- Hypertension hospital admission rates
- Diabetes hospital admission rates*
- Diabetes lower extremity amputation rates

* See data on next slide!

Prescribing in primary care

- Diabetic patients with at least one prescription of cholesterol lowering medication
- Diabetic patients with prescription of first choice antihypertensive medication
- Elderly patients with prescription of long-term benzodiazepines or related drugs
- Elderly patients with prescription of long-acting benzodiazepines or related drugs
- Patients with long-term prescription of any anticoagulating drug in combination with an oral NSAID
- Total volume of antibiotics for systemic use
- Volume of second line antibiotics as a share of total volume
- Rate of childhood vaccination for pertussis
- Rate of childhood vaccination for measles
- Rate of influenza vaccination for elderly people
Hospital admissions of patients with these conditions are generally considered to be avoidable!


Source: Blümel & Quentin, 2017
the rates of death within 30 days following hospital admissions for ...
- acute myocardial infarction (AMI)
- for ischemic stroke
- for hemorrhagic stroke

the rate of patients who received their surgery within 48 hours following an admission for hip fracture
Inpatient AMI mortality (during hospital stay)

... and taking 30 days follow-up into account
6.20. Thirty-day mortality after admission to hospital for AMI based on linked data, 2013-2015 (or nearest years)

Age, sex, co-morbidity standardised mortality rates per 100 admissions of adults aged 45 years and over

Note: Each dot in the figure represents a single hospital, unless otherwise stated. Results for Canada do not include deaths outside of acute care hospitals. UK data are limited to England and is presented at trust-level (i.e. multiple hospitals).
Source: OECD Hospital Performance Data Collection 2017.

StatLink http://dx.doi.org/10.1787/888933603716

Table 6.1. Number of hospitals by AMI admissions based on unlinked data, 2013-2015 (or nearest years)

<table>
<thead>
<tr>
<th>AMI admissions</th>
<th>CAN</th>
<th>DNK</th>
<th>FIN</th>
<th>ISR</th>
<th>IRE</th>
<th>ITA</th>
<th>KOR</th>
<th>LVA</th>
<th>NOR</th>
<th>SVN</th>
<th>SWE</th>
<th>GBR</th>
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<tbody>
<tr>
<td>&gt; 300</td>
<td>151</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>20</td>
<td>336</td>
<td>67</td>
<td>6</td>
<td>35</td>
<td>3</td>
<td>62</td>
<td>142</td>
</tr>
<tr>
<td>50-300</td>
<td>158</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>8</td>
<td>160</td>
<td>83</td>
<td>11</td>
<td>17</td>
<td>7</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>&lt; 50</td>
<td>261</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>328</td>
<td>155</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>59</td>
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</table>
In-patient suicides among people diagnosed with ...
- a mental disorder
- schizophrenia or bipolar disorder

Deaths after discharge from suicide among people diagnosed with ...
- a mental disorder
- schizophrenia or bipolar disorder

Excess mortality for patients with schizophrenia
Measuring the quality of mental health care

6.29. Inpatient suicide amongst patients with a psychiatric disorder, 2014 (or nearest year)

6.30. Suicide following hospitalisation for a psychiatric disorder, within 30 days and one year of discharge, 2015 (or nearest year)

Note: multiple year average when data available. 95% confidence intervals have been calculated for all countries, represented by grey areas.

StatLink: http://dx.doi.org/10.1787/888933603887

Note: 95% confidence intervals have been calculated for all countries, represented by grey areas.
Health Care Quality
Indicators: Cancer Care

- 5-year relative survival rates (%)
  - Breast cancer
  - Cervical cancer
  - Colorectal cancer

6.34. Breast cancer five-year net survival, 2000-2004 and 2010-2014

Note: 95% confidence intervals have been calculated for all countries, represented by grey areas. Expected updates in the data may reduce the survival estimate for Costa Rica.

1. Data with 100% coverage of the national population.

Source: CONCORD programme, London School of Hygiene and Tropical Medicine.
Health Care Quality Indicators

Patient Safety

- Foreign body left in during procedure
- post-operative wound dehiscence
- post-operative pulmonary embolism or deep vein thrombosis
- post-operative sepsis
- obstetric trauma

6.24. Foreign body left in during procedure, 2015 (or nearest year)

Note: Given very low incidence of events, 95% confidence intervals have been calculated for all countries as represented by grey areas. Source: OECD Health Statistics 2017.
6.25. Postoperative pulmonary embolism (PE) or deep vein thrombosis (DVT) in hip and knee surgeries, 2015 (or nearest year)

Per 100 000 hip and knee surgical discharges


6.26. Postoperative sepsis in abdominal surgeries, 2015 (or nearest year)

Per 100 000 abdominal surgical discharges

Quality strategies: how to improve quality of care
Health care outcome: satisfaction, complications etc.

Structures and organisation
- Professional/provider (re-)certification
- Institutional provider (re-)accreditation
- Health Technology Assessment
- Volume and quality standards

Population health status (need)

Health gain/Outcome

Quality indicators based on clinical and adm. data, registers & patient surveys → public reporting & pay-for-performance

Human resources

Technologies

Financial resources

• “Do the right thing“: *ex ante* Guidelines/ disease management programmes; *ex post* Review/Medical audit
• “Do the thing right“: Quality indicators, Patient safety
• “Do the things better“: Quality improvement strategies