HEALTH CARE QUALITY AND OUTCOMES

Presentation by Ian Brownwood, Health Division, OECD

Joint Meeting of IHF and OECD
17 May 2017
Paris
HEALTH CARE QUALITY INDICATORS PROGRAM
Coordinated by Professor Niek Klazinga

Development work commenced in 2002

Work is overseen by an expert group

– Representation from all 35 OECD countries
– Meets twice a year (May/November)
– Reports to the OECD Health Committee

Biennial data collection on > 50 indicators

Ongoing R&D agenda
Broad Objectives

– **Report** on variations in quality of care

– **Explore** key drivers of variations

– **Share** effective policy responses
Existing suite of indicators

Prevention
- Vaccination programs

Primary care
- Avoidable hospital admissions
- Prescribing
- Patient experiences
Existing suite of indicators

Acute care

- AMI and stroke 30-day mortality
- Waiting times for hip fracture surgery
- Postoperative complications
- Obstetric trauma
Acute care – outcome

8.11. Thirty-day mortality after admission to hospital for AMI based on patient data, 2003 to 2013 (or nearest years)

Age-sex standardised rate per 100 admissions of adults aged 45 years and over

Note: 95% confidence intervals represented by H. Three-year average for Luxembourg.
Information on data for Israel: http://oe.cd/israel-disclaimer
Acute care – process

8.14. Hip fracture surgery initiation after admission to hospital, 2013 (or nearest year)

% of patients aged 65 years and over

Note: Three-year average for Iceland.
Acute care – safety

8.16. Postoperative pulmonary embolism (PE) or deep vein thrombosis (DVT) in hip and knee surgeries, 2013 (or nearest year)

<table>
<thead>
<tr>
<th>Country</th>
<th>DVT</th>
<th>PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
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<td>Finland</td>
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<td>United Kingdom</td>
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<td>Switzerland</td>
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<tr>
<td>Ireland</td>
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<tr>
<td>United States</td>
<td></td>
<td></td>
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<tr>
<td>Israel</td>
<td></td>
<td></td>
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<tr>
<td>OECD9/9</td>
<td></td>
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<tr>
<td>Slovenia</td>
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<td></td>
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<tr>
<td>Canada</td>
<td></td>
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<tr>
<td>Australia</td>
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<tr>
<td>New Zealand</td>
<td></td>
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<tr>
<td>France</td>
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</tr>
</tbody>
</table>

Note: Rates have not been adjusted by the average number of secondary diagnoses.
1. The average number of secondary diagnoses is < 1.5.
Acute care – safety

8.19. Obstetric trauma, vaginal delivery with instrument, 2013 (or nearest year)

Crude rates per 100 instrument-assisted vaginal deliveries

1. Based on registry data.
Existing suite of indicators

- Diabetes care
- Cancer care
- Mental health care
OECD Health Policy Studies

Cardiovascular Disease and Diabetes
POLICIES FOR BETTER HEALTH AND QUALITY OF CARE

OECD Health Policy Studies
Cancer Care
ASSURING QUALITY TO IMPROVE SURVIVAL
Share high-level messages

• Strengthen primary care

• Activate the patient voice

• Improve access and use of data
Ongoing program of work

• Patient reported quality measures
• Hospital performance
• Low value care
• Patient safety
• Dementia
• Health data infrastructure
LOW VALUE CARE
Low value care

- Key theme in *Tackling Wasteful Spending on Health* report.

- OECD working with *Choosing Wisely* initiatives:
  - Bottom-up, profession-led identification of LVC
  - Started in US and now in over 10 countries (Australia, Canada, England, Germany, Italy, Japan, Netherlands, New Zealand, South Korea and Wales)

- Next meeting of international collaboration in the Netherlands 2017
Real challenges in monitoring progress

• Emerging international collaboration on monitoring *Choosing Wisely*:
  – Australia, Canada, Sweden and US
  – Canada CW & CIHI report in April 2017

• Initial OECD priorities:
  – Antibiotics for common colds
  – Imaging for lower back pain
  – Prescription of sedatives for older people
1. Prescribing sedatives for older people

8.8. Elderly people prescribed long-term benzodiazepines or related drugs, 2013 (or nearest year)

8.9. Elderly people prescribed long-acting benzodiazepines or related drugs, 2013 (or nearest year)


Information on data for Israel: http://oe.cd/israel-disclaimer
2. Antibiotics for common colds

- Linking utilisation data to diagnosis....
3. Imaging for lower back pain

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**6.5. MRI exams, 2013 (or nearest year)**

**6.6. CT exams, 2013 (or nearest year)**

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1. Exams outside hospital not included (in Ireland, exams in private hospital also not included).
2. Exams on public patients not included.
3. Exams privately-funded not included.


Information on data for Israel: [http://oe.cd/israel-disclaimer](http://oe.cd/israel-disclaimer)
Don’t do imaging for lower-back pain unless red flags are present

30% of patients who visit their physician for lower-back pain have at least one scan within 6 months, in Alberta

Data Source: Canadian Institute for Health Information’s Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Patient Level Physician Billing (PLPB), 2012-2013.
Ongoing work on patient safety

• Another aspect of clinical waste in the *Tackling Wasteful Spending on Health* report.

• Global Ministerial Summit on Patient Safety in Germany in March 2017
  – Following on from initial summit in London during 2016
  – OECD paper on Economy and Efficiency of Patient Safety
    ➢ System costs of failure
    ➢ Strategies for reducing harm
Strengthening international metrics

- European Commission Grant for Ongoing R&D:
  - Strategies to improve ‘actionability’ of existing indicators
  - Build support for patient reported safety indicators
  - Explore opportunities for indicators in long term care
  - Refine and extend existing acute care indicators
DEMENTIA CARE
Collaborative action on dementia

- International Workshop of how big data can support research and care
- WHO Ministerial Conference on Global Action Against Dementia
- Joint framework for improving policies around dementia care

‘Need for comparative metrics on dementia care to assess performance and success of policies’
Dementia care indicators

- **2017 international pilot data collection:**
  1. All-cause hospital admissions
  2. Hospital admissions for hip fracture
  3. Hip fracture surgery initiated within 2 calendar days after admission to the hospital
  4. Average length of stay for hip fracture surgery
  5. Mortality following surgery for hip fracture
  6. Proportion of people aged 65 and over prescribed antipsychotics
Improving quality of life is the ultimate goal of many dementia policies.

Patient-reported measures are an OECD priority.

OECD is partnering with Geoff Anderson and Ivy Wong from the University of Toronto (UT) to carry out exploratory research on carer-reported measures.

UT held an expert meeting in November to explore the possibility of developing standardised carer-reported measures.

UT is working with countries interested in participating in this study.
HEALTH DATA INFRASTRUCTURE
Better use of health data

• Scope to improve quality of care:
  ➢ Linking data across providers
  ➢ Providing access via EHR systems

• Data privacy protection issues

• OECD Council Recommendation
  ➢ Establish effective governance:
    – 12 high-level principles
    – ongoing monitoring of progress
HOSPITAL PERFORMANCE
Variation at the national level

8.11. Thirty-day mortality after admission to hospital for AMI based on patient data, 2003 to 2013 (or nearest years)

Note: 95% confidence intervals represented by H. Three-year average for Luxembourg.


Information on data for Israel: http://oe.cd/israel-disclaimer
Variation at the regional level

Coronary bypass rates across and within a selected set of countries (2011 or latest year)

<table>
<thead>
<tr>
<th>Country</th>
<th>Crude rate</th>
<th>Std rate</th>
<th>Coeff. of variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israel</td>
<td>301</td>
<td>340</td>
<td>0.12</td>
</tr>
<tr>
<td>Switzerland</td>
<td>235</td>
<td>242</td>
<td>0.17</td>
</tr>
<tr>
<td>Belgium</td>
<td>275</td>
<td>261</td>
<td>0.18</td>
</tr>
<tr>
<td>Germany1</td>
<td>358</td>
<td>371</td>
<td>0.18</td>
</tr>
<tr>
<td>Germany2</td>
<td>358</td>
<td>370</td>
<td>0.18</td>
</tr>
<tr>
<td>Canada</td>
<td>207</td>
<td>212</td>
<td>0.22</td>
</tr>
<tr>
<td>Italy</td>
<td>225</td>
<td>187</td>
<td>0.22</td>
</tr>
<tr>
<td>France</td>
<td>272</td>
<td>247</td>
<td>0.23</td>
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<tr>
<td>Australia</td>
<td>226</td>
<td>208</td>
<td>0.24</td>
</tr>
<tr>
<td>Portugal</td>
<td>120</td>
<td>111</td>
<td>0.27</td>
</tr>
<tr>
<td>Finland</td>
<td>179</td>
<td>189</td>
<td>0.30</td>
</tr>
<tr>
<td>Spain</td>
<td>145</td>
<td>135</td>
<td>0.30</td>
</tr>
</tbody>
</table>
Unit of measurement

- National
- Regional
- Organisation
- Person
Hospital performance project

• Objectives
  – Establish sustainable international data pipeline
  – Encourage capacity in member countries
  – Provide policy-driven analytics

• Scope
  – Cost, quality, access
  – Initial focus on quality and outcomes
  – Looking ahead to explore dimensions of value
Program of work: 2015-2016

• **Descriptive stream**
  – Establish conceptual framework
  – Explore current national reporting and use

• **Empirical stream**
  – Consider key methodological issues
  – Undertake supporting pilot data collections
State of the art in OECD countries

• Semi-structured interviews with experts in 25 countries during 2015 revealed:
  – Most countries have national indicator programs but are at very different stages of development
  – Use of data by hospitals and clinical community is becoming more relevant as systems mature
  – P4P programs are being established to align financial incentives with care outcomes
  – Most countries provide some kind of public reporting on hospital performance
What information can I get about hospitals?

You can get a "snapshot" of the quality of the hospitals in your area and across the nation by looking at:

- **Hospital Compare overall rating**: Summarizes up to 64 quality measures on Hospital Compare reflecting common conditions that hospitals treat. Hospitals may perform more complex services or procedures not reflected in the measures on Hospital Compare.

- **General information**: Name, address, telephone number, type of hospital, and other general information about the hospital.

- **Patients’ experiences**: How recently discharged patients responded to a survey about their hospital experience. The survey asked questions such as how well a hospital’s doctors and nurses communicated with the patient?

- **Timely & effective care**: How often a hospital gives recommended treatments for certain conditions, such as heart attack, heart failure, pneumonia, children’s asthma, stroke, influenza, and blood clots, and how quickly recommended treatments are administered, as well as how often a hospital follows best practices to prevent surgical complications.

- **Complications**: How likely it is that patients will suffer from complications while in the hospital or after having certain inpatient surgical procedures.

- **Complications**: How often patients in the hospital experience certain serious conditions that could have been prevented if the hospital followed procedures based on best practices and scientific evidence.

- **Readmissions & deaths**: How each hospital’s performance on the readmission and death (mortality) measures compares to the national rate.

- **Use of medical imaging**: How a hospital uses outpatient medical imaging tests (like CT scans and MRIs).

- **Payment & value of care**: The average hospital payment for care given to heart attack patients, heart failure patients, or pneumonia patients, as compared to the national average payment for each condition. Providing information on payment measures and patient outcomes together allows for an assessment of a hospital’s value of care. How much is paid for a hospital’s patients (from time in the hospital to 30 days after leaving the hospital) compared to the national average.
The **Bureau of Health Information** is a board-governed organisation that publishes independent reports about the performance of the NSW public healthcare system.
병원평가정보

병원에서 실시한 수술, 치료 및 약제 등의 평가결과를 제공해 드립니다.

- 요양병원/광주/요양병원으로 12개의 병원이 검색되었습니다. [다시검색하기]
- 요양병원은(은) 5개 등급으로 평가되었으며, 1등급이 가장 우수한 등급입니다. [등급안내]

요양병원(12)

표시를 클릭하시면 병원비교 목록에 추가하실 수 있습니다.
Your Health System

This site's interactive tools will help you learn more about your health system and the health of Canadians.

Choose one of the following:

- Your Health System **In Brief**
  - Explore 15 indicators representing 5 themes that Canadians told us were important.

- Your Health System **In Depth**
  - Take a look at an expanded suite of indicators: find comparable results for hospitals and regions.

- Your Health System **Insight**
  - Health care providers and analysts can use this analytical tool to dig deeper into indicator results. Login required.

Follow us:  

[Social media icons]  

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Your Health System

Results by theme and indicator for Toronto East General Hospital.

<table>
<thead>
<tr>
<th>Type of Hospital</th>
<th>Number of Acute Care Hospital Stays</th>
<th>Number of Acute Care Beds</th>
<th>Average Length of a Hospital Stay (Days)</th>
<th>Number of Emergency Department Visits</th>
</tr>
</thead>
</table>

Select a theme below to see the most recent year of indicator results within it. Explore the overall results for this hospital, long-term care organization or health region by selecting the Overall Results icon, where available. Or select the indicator results in the circles to explore indicator details.

Difference from average is based on a statistical assessment and the desirable direction of the indicator. If a higher result is more desirable (e.g., Life Expectancy) and the result is significantly higher than the Canadian or peer group average, the result is above average and colour-coded as green. If a higher result is less desirable (e.g., Referring to Hospital), and the rate is significantly higher than the Canadian or peer group average, the result is below average and colour-coded as pink. For indicators in the efficiency theme that are non-directional, the difference from average, higher than or lower than, is based on the numerical difference in relation to the overall national average. For more information, see Help.

Access
Getting needed care at the right time, without financial, organizational or geographical barriers.

Safety
Receiving the safest possible care every time a person uses the health system.

Appropriateness and Effectiveness
Providing care to only those who could benefit; this reduces the incidence, duration, intensity and consequences of health problems.

Efficiency
A health system that avoids waste of equipment, supplies, ideas and energy; more services can be delivered with fewer resources.

Appropriateness and Effectiveness
Providing care to only those who could benefit; this reduces the incidence, duration, intensity and consequences of health problems.
### Acute Myocardial Infarction Mortality

**Analysis axis:** Basic descriptive  |  **Year:** 2014

**Filter:** None  
**Grouping criteria:** Anonymized hospitals

<table>
<thead>
<tr>
<th>Anonymized hospitals</th>
<th>Denominator discharges</th>
<th>Numerator discharges</th>
<th>Rate %</th>
<th>Mortality adjusted by age and sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total discharges</td>
<td>51,150</td>
<td>3,662</td>
<td>7.159 %</td>
<td>9.150 %</td>
</tr>
<tr>
<td>Hospital 609</td>
<td>372</td>
<td>22</td>
<td>5.914 %</td>
<td>3.765 %</td>
</tr>
<tr>
<td>Hospital 13</td>
<td>387</td>
<td>29</td>
<td>7.494 %</td>
<td>5.332 %</td>
</tr>
<tr>
<td>Hospital 217</td>
<td>30</td>
<td>1</td>
<td>3.333 %</td>
<td>0.544 %</td>
</tr>
<tr>
<td>Hospital 461</td>
<td>7</td>
<td>2</td>
<td>20.571 %</td>
<td>3.860 %</td>
</tr>
<tr>
<td>Hospital 246</td>
<td>5</td>
<td>1</td>
<td>20.000 %</td>
<td>1.203 %</td>
</tr>
<tr>
<td>Hospital 445</td>
<td>416</td>
<td>39</td>
<td>9.375 %</td>
<td>7.106 %</td>
</tr>
<tr>
<td>Hospital 240</td>
<td>114</td>
<td>6</td>
<td>5.263 %</td>
<td>2.939 %</td>
</tr>
<tr>
<td>Hospital 385</td>
<td>194</td>
<td>7</td>
<td>3.608 %</td>
<td>4.211 %</td>
</tr>
</tbody>
</table>
Empirical development: AMI outcomes

- Aim is to establish internationally comparable hospital level data collection:
  - Initial consideration largely limited to existing AMI 30-day mortality indicator
  - Progressive methodological development with ongoing expert advice on key issues
  - Testing of feasibility and robustness of agreed approaches through pilot data collections
Key methodological issues

1. Unit of Measurement
2. Indicator Specification
3. Risk Variables
4. Standardisation
5. Reference Population
6. Data Reliability
7. Small Cell Size
8. Graphic Representation
9. Further Data Development
10. Integration into HCQI Suite of Indicators
Pilot data collections

• 2015
  – initial pilot data collection to test feasibility of collecting simple dispersion measures

• 2016
  – Extensive hospital-level data collection reflecting agreed approach to key methodological issues
  – 15 countries participated in the data collection

• 2017
  – More focussed hospital-level data collection to address remaining methodological issues
  – Over 17 countries involved including additional countries such as France and Ireland.
Participation

17 countries contributed data:

- Australia
- Canada
- Chile
- Denmark
- Estonia
- Finland
- Ireland
- Israel
- Italy
- Korea
- Latvia
- Malta
- Mexico
- Singapore
- Slovenia
- Sweden
- U.K.
Database

• **Currently:**
  – Over 3,000 public and private hospitals
  – From 17 countries
  – Includes 15 variables
    • Crude and standardised (indirect and direct) AMI case fatality

• **Near future:**
  – Hospital characteristics
    • Size
    • Location
    • Ownership
    • Academic status
    • Existence of a cardiac catheter laboratory
Variation across countries

Note: Mexico admission and patient-based rates are drawn from different samples of national data and are not directly comparable.
LOOKING TO THE FUTURE
Future development priorities

• **Shorter term**
  – Expand indicators beyond AMI outcomes
  – Explore hospital and system drivers of variation
  – Provide access to analytics via interactive portal

• **Longer term**
  – Value of hospital care
  – Pathways of care
What drives performance?

- Size
- Location
- Ownership
- Academic status
- Availability of specialist services
- Management and leadership capacity
- Workforce availability, capability, flexibility
- Enabling policy, regulatory, payment systems
Leadership and management practices

A one point increase in management practice is associated with:

- 6.5% reduction in risk adjusted 30 days AMI mortality rates
- 33% increase in income per bed
- 20% increase in the probability that the hospital is above average in terms of patients satisfaction

Ongoing measurement development

- Application of IHF set of leadership competencies:
  - Professionalisation of leadership in healthcare
  - International measurement of effective healthcare service leadership practices
  - Early discussions to explore potential for ongoing collaboration between IHF and OECD
VALUE OF HOSPITAL CARE
Value-Based Health Care Delivery

Based on the research of Professor Michael Porter, Value-Based Health Care Delivery is a framework for restructuring health care systems around the globe with the overarching goal of value for patients—not access, cost containment, convenience, or customer service.

Key Concepts

**Choice & Competition**
for patients are powerful forces to encourage continuous improvement in value and restructuring of care.

**Value** = Patient Health Outcomes per Dollar Spent

**Positive-Sum Competition**
on value for patients is fundamental to health care reform in every country.
Efficiency: outputs and outcomes

Cost of hospital outputs

- Pilot data collection 2016:
  - Hospital-level data
    - Average length of stay
    - Average cost
  - Selected outputs
    - AMI with PTCA and CABG
    - Others (e.g. C-section)
  - Participating countries:
    - Canada, (Alberta) France, Ireland and Israel
  - Pilot provided proof of concept
    - Additional data collection 2017
    - Capacity to link datasets
PATHWAYS OF CARE
Hospitals do not stand alone

- Hospitals
- Primary Care
- Social Care
- Long Term Care
AMI Pathway of Care

**Immediate**
- Self Care
- Health Literacy

**Within 2 hours**
- Ambulance
- Hospital ED

**1-30 days**
- Acute inpatient
- PCI/CABG

**1-5 years**
- Primary Care
- Community Care

**Mortality**
- 30-day case fatality
- 1 year survival
- 5 year survival

**Complications**
- Acute renal failure
- Postoperative infection
- Reoperations

**PROMS**
- Fatigue and tiredness
- Depression and anxiety
- Shortness of breath
Underpinning system reforms

**Governance**
- Bring hospitals and other care providers into one organisation

**Funding**
- Bundle services together to form unified payment arrangements

**Accountability**
- Focus on outcomes attributed to broader service capabilities
Thank you

Health Care Quality Indicator Program

Key Contacts:

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– Ian Brownwood (ian.brownwood@oecd.org)