Understanding Different Methodological Approaches to Measuring Access to Health Care

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Access to health care

• An important health policy concerns
• A lot of inquiries regarding where, to what degree, and why access problems occur
• However, systematic understanding of the literature has become increasingly difficult due to the wide diversity in studies
Diversity in studies

• Types of health care
  – General practitioners, specialists, hospital…

• Dimensions of inequity
  – Income, education, immigration status, visible minority status, Aboriginal, geography…

• Statistical methods
  – Overall use, use/non-use, frequency…
  – Model specifications
  – Need adjusters
Overlooked type of diversity

• Methodological approaches
  – For example,
    • Asking directly health care users about their experience
    • Examining utilization in a variety of ways…
Goal and objectives

• Goal
  – To characterize different methodological approaches to measuring access to health care for systematic understanding of the literature

• Objectives
  – To classify commonly used methodological approaches
  – To identify strengths and weaknesses of each approach
Inequality vs. inequity

• Inequality ≠ inequity
  – Inequality = difference
  – Inequity = unfairness and injustice
    • Inequalities that are ethically or morally problematic
  – In health care
    • Distribution according to need: equitable
    • Systematic differences after adjustment for need: inequitable
Inequity in *what of* health care?
Inequity in what of health care?
Inequity in what of health care?

- Access
- Utilization
- Quality

Potential use
Opportunity for use
Inequity in what of health care?

Affordability
Availability
Accessibility
Acceptability

Access
Utilization
Quality

Potential use
Opportunity for use
Inequity in what of health care?

Access

- Affordability
- Availability
- Accessibility
- Accommodation
- Acceptability

Preferences

Potential use
- Opportunity for use

Utilization

- Realized access

Quality
Inequity in what of health care?

Access

Utilization

Quality

Potential use

Opportunity for use

Realized access
Inequity in *what of* health care?

- **Access**: Potential use, Opportunity for use
- **Utilization**: Realized access
- **Quality**
Inequity in what of health care?
A standard health care utilization

• Defines what types and/or amount of health care should be used according to level of need
• Utilization is inequitable when it deviates systematically from the standard
• Different ways to operationalize and set a standard ~ different methodological approaches to measuring access problems
Three methodological approaches

• Measuring access to health care according to:
  (1) Collective expert judgments
  (2) Average health care use based on need
  (3) Assessments of health care users or providers
(1) Collective expert judgments

- Sets a standard for health care use using consensus views by experts based on evidence expressed in clinical standards or guidelines
- Used in a broad range of clinical areas
  - Screening
  - Preventive care
  - Prescription drugs
  - Surgical care
Examples

• Greater uptake among the pro-advantaged:
  – Pap smear (Katz & Hofer 1994, Lee et al 1998, Quan et al 2006)
  – Clinical breast exam (Katz & Hofer 1994)
  – Mammogram (Gentleman & Lee 1997, Quan et al 2006)
  – Prostate specific antigen test (Quan et al 2006)
  – Influenza vaccination (Kwong et al 2007)
Strengths and weaknesses

• **Strengths**
  – Evidence-based
  – Can address quality of care

• **Weaknesses**
  – Evidence often not available
  – Insufficient data to assess if the standard is met
  – Applicable often only for limited conditions and procedures

• **Improvement**
  – Use of multiple indicators for a composite index
(2) Average health care use based on need

- Uses statistical models of health care utilization to develop a standard
- Often called a need-standardization approach
Health care use

**Need indicators**
- Age, sex
- Health status
  (e.g., Self-rated health)

**Non-need indicators**
- Socioeconomic status
- Immigration status
- Availability of care
  (e.g., having regular doctor)

- Estimate a model to explain utilization
- Examine the significance of the non-need indicator after adjustment for need indicators
Non-need indicators
- Socioeconomic status
- Immigration status
- Availability of care
  (e.g., having regular doctor)

Need indicators
- Age, sex
- Health status
  (e.g., Self-rated health)

Need-expected health care use

- Set a standard by average health care use based on need
- Compare observed health care use against the standard
- Quantify systematic variation of this need-standardized use by an index
### Examples

<table>
<thead>
<tr>
<th>Overall use</th>
<th>General practitioners</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Pro-poor</td>
<td>Pro-rich (middle of OECD)</td>
</tr>
<tr>
<td>Province</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use/non-use</th>
<th>General practitioners</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro-rich</td>
<td>Pro-rich (except PEI)</td>
<td>Pro-rich</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pro-rich</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency</th>
<th>General practitioners</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro-poor</td>
<td>Pro-poor</td>
<td>Pro-rich in AB &amp; PEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pro-rich / no association</td>
</tr>
</tbody>
</table>

Strengths and weaknesses

• Strengths
  – Pragmatic when evidence is lacking
  – Use of an index increases comparability and estimates population impact

• Weaknesses
  – Ambiguity in standard setting
    • Use of average
    • Focus on relative (rather than absolute) health care use

• Improvements
  – Different methods to set a standard
    • Use of best practices
    • Use of effective services (e.g., services for ambulatory care sensitive conditions)
Strengths and weaknesses

• **Strengths**
  – Pragmatic when evidence is lacking
  – Increased comparability and estimates of population impact when quantified by index

• **Weaknesses**
  – Lack of consensus on setting a standard
    • Use of average
    • Choice of need and non-need indicators
    • Model specification

• **Improvements**
  – Use of benchmarks
  – Use of effective services (e.g., services for ambulatory care sensitive conditions)
(3) Assessments of health care users or providers

- Relies on health care users’ or providers’ assessments on need
- Sets a standard according to their judgments on what type/amount of health care should be used given need
- Often termed as “unmet need”
  - “Was there a time in the past year you felt you needed care but did not receive it?”
Examples

• Unmet need:

• Personal experience in preferential access in specialized cardiovascular care in Ontario (Alter et al 1998):
  – 80% of a representative sample of physicians
  – 53% of a representative sample of administrators
Strengths and weaknesses

• Strengths
  – Intuitiveness
  – Can reveal “private” information including preferences

• Weaknesses
  – Cannot capture unrecognized need
  – Captures demand rather than need

• Improvement
  – Differentiate different reasons for access problems
    • Personal vs. system reasons
Different results by different approaches?

• Appropriate comparison difficult due to diversity in studies

  – Collective expert judgments vs. assessments of health care users
  – The socioeconomiclly advantaged patients
    • Received more specialized cardiac care, after adjustment for clinical factors
    • Less satisfied with the care received
Conclusions

• No clear winner
• Different approaches: Different constructs and applications
• Comparison of different approaches can deepen our understanding of access problems further
• Choice of measurement approaches should be more than data availability, familiarity, and tradition
Thank you!

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