Beyond Quality to Value

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Ministry of Health, Singapore
## Overview of Singapore

### Snapshot of Singapore in numbers (2017)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population ((mil))</td>
<td>5.61</td>
</tr>
<tr>
<td>Median age ((years))</td>
<td>40.5</td>
</tr>
<tr>
<td>Total land area ((sq \text{km}))</td>
<td>719.9</td>
</tr>
<tr>
<td>GDP ($ billion)</td>
<td>447</td>
</tr>
<tr>
<td>Life expectancy at birth ((years))</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>80.7</td>
</tr>
<tr>
<td>Female</td>
<td>85.2</td>
</tr>
</tbody>
</table>

Source: Singapore Health Facts, [www.moh.gov.sg](http://www.moh.gov.sg)
Department of Statistics, Singapore
Healthcare is extremely complex with significant variation. Error rates are high

Are you a thrill seeker? Do you enjoy death-defying experiences? Get admitted to a hospital!!
You might be safer off doing dangerous sports

Chance of dying from HAI or medical error if hospitalised?

When doctors go on strike or attend major conferences, paradoxically less patients may die.
We often do not know or agree what is best for our patients.

One third of healthcare is waste
- IOM

Doctors often choose not to have the treatments that they prescribe for their patients.
We cannot afford the healthcare that is coming
Infinite Needs, Finite Resources

“Medical science has made such tremendous progress that there is hardly a healthy human left.”

- Aldous Huxley

Three dimensions to consider when moving towards universal coverage
2015 – the Agency for Care Effectiveness was formed within the Ministry of Health

Vision
To improve patient outcomes and healthcare value through health technology assessment

Mission
✓ To issue objective and credible healthcare guidance
✓ To enable stakeholders to optimise health benefits within finite resources
✓ To advance the values of evidence-based practice and appropriate care
Health Technology Assessment (HTA) tells us whether a new technology is better (value) than the current standard of care

- Established **scientific research methodology** to compare the clinical- and cost-effectiveness of health technologies
- Measures the **differences in health outcomes and costs** of a new technology compared to the current standard of care over a period of time
Markov modeling to assess probable clinical outcomes and economic impact.
Differences in health outcomes and costs are measured by the Incremental Cost-Effectiveness Ratio (ICER)

\[
\text{ICER} = \frac{(C_1 - C_0)}{(E_1 - E_0)}
\]

- $C_1$ = cost in intervention group
- $C_0$ = cost in control group
- $E_1$ = effect in intervention group
- $E_0$ = effect in control group

Cost-effective does not mean cheap

• Hepatitis C drugs are extremely expensive

• However they are also cost-effective because they are often curative

• Most new high cost technologies are not cost-effective because the clinical improvements tend to be marginal and insufficient to justify the price increases
Drivers of Better Decision-Making in Healthcare

Understanding the Value of Devices and Procedures

Case study: Robot-assisted surgery (RAS)

- RAS (prostatectomy) was introduced as a pilot project in 2003. Did not show significant improvements vs conventional surgery and was therefore not subsidized.

- Nonetheless, several public and private hospitals subsequently bought robots using their own funds

Should it be used, and if so how?

- The current evidence for clinical superiority is weak, is clearest for prostatectomy with very little evidence in most other areas.

- Outcomes are dependent on the experience of the individual surgeon and a certain minimum volume is required for proficiency

- RAS is usually not cost effective unless favourable prices are obtained for consumables and volumes are above 150-200 per year
Hospitals can also conduct mini-HTAs to assist in decision making

The Norwegian mini-HTA-form

The form is divided into 3 parts:

**Part 1:** Completed by the proposer
- physician, nurse, head of department etc.

**Part 2:** Completed by a peer reviewer
- An "unbiased" person, for instance from another hospital
- Is the evaluation in part one performed satisfactorily?

**Part 3:** Recommendation for decision-maker
- Head of the department, managing director etc.
- Should the new technology be introduced into the health service?
Beyond Healthcare 2020: The 3 Beyonds were announced in 2016

To give every Singaporean best value, while keeping our system sustainable

The 3 Beyonds were introduced during the MOH Committee of Supply Speech Budget 2016
What is Value? – MOH Work Plan Seminar 2017

**Value in healthcare**

Defined as “patient health outcomes achieved per dollar spent”

The National Value Driven Care programme measuring outcomes and costs at surgeon level for selected surgical procedures was announced.
Variation in care and costs in public healthcare institutions is substantial

Large variation in care elements. Variation between doctors in the same hospital is larger than variation between hospitals. For TKR, largest cost variation is related to the type of implant used.
We need the right data to drive improvement and decision making

2 surgeons were consistently able to perform THR with ALOS = 1-2 days
Value Driven Care (Adapted from Value Driven Outcomes)

![Graph showing the relationship between 'Clinical Quality Index' (CQI) and Median episodic cost.](image)

- **CQI:** 86.2%
- **Median Cost:** $15,194

### Indicators

<table>
<thead>
<tr>
<th>S/n</th>
<th>Indicators</th>
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<tbody>
<tr>
<td>1</td>
<td>Length of Stay within target (4 days for THR)</td>
</tr>
<tr>
<td>2</td>
<td>(No) Blood Transfusion</td>
</tr>
<tr>
<td>3</td>
<td>(No) 30-day Complication Rate</td>
</tr>
<tr>
<td>4</td>
<td>(No) 30-day Return to Operation Theatre</td>
</tr>
<tr>
<td>5</td>
<td>(No) 30-day Readmission</td>
</tr>
<tr>
<td>6</td>
<td>(No) Inpatient Mortality</td>
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*Driving better decision-making in healthcare*
Spreading best practices

• Who has the best outcomes?
• What are they doing differently?
• Can this be replicated?
• If so, how do we replicate it?
Getting stakeholder buy in
Communication is key to transformation

• Is your case for a burning platform clear?
• Is your vision inspiring?
Right Care – The principles underlying Value transformation in Singapore

• Right Choice – Often there are no ‘correct’ decisions. Uncertainty in many areas is high.
• Right Perspective – Shared decision making. The patient must understand the uncertainty and risks.
• Right Practice – Poor outcomes can result from failures are multiple levels: Patient, Doctor, Organization, System
• Right Time – Balance trade-offs
• Right Place – Social vs medical, primary vs tertiary
• Right Price – Understanding Value
• Right Data – Collecting the right data
## Beyond Quality to Value

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Six Domains of Quality</th>
<th>Right Care</th>
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<tbody>
<tr>
<td>Patient’s Voice</td>
<td>Patient Centred Care</td>
<td>Shared Decision Making</td>
</tr>
<tr>
<td>Safety</td>
<td>Safe</td>
<td>No change</td>
</tr>
<tr>
<td>Evidence Based Treatment</td>
<td>Effective</td>
<td>Understanding uncertainty Real World Evidence</td>
</tr>
<tr>
<td>Time to Treatment</td>
<td>Accessibility</td>
<td>Achievable target setting</td>
</tr>
<tr>
<td>Minimise Waste</td>
<td>Efficient Care</td>
<td>Minimize process waste Minimize waste in clinical care</td>
</tr>
<tr>
<td>Fairness</td>
<td>Equitable</td>
<td>No change</td>
</tr>
<tr>
<td>Optimal site of care</td>
<td>-</td>
<td>Convenience Medical vs social</td>
</tr>
<tr>
<td>Value based care</td>
<td>-</td>
<td>Benchmarking value Continuous value improvement</td>
</tr>
<tr>
<td>Data-driven Decision Making</td>
<td>-</td>
<td>Quality vs quantity Improvement vs measurement</td>
</tr>
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</table>
Driving better decision-making in healthcare

Right Choice

[Diagram showing comparison of benefits and harms between arthroscopic surgery and conservative management, including long-term and short-term benefits, harms, and key practical issues.]
Right Perspective – Patient perspective

Shared Decision Making
Implementing Right Care

Establishment of the ACE Appropriate Care Office, MOH

- Research/Knowledge
- Technical Appraisal Team
- Policy/Management Decision

- Research/Knowledge
- Appropriate Care Office
- Clinical Practice
Driving better decision-making in healthcare

This is just cost-cutting!
You’re not supporting innovation!!
The data is wrong!
You don’t know the literature
But my cases are sicker than everyone else’s
You don’t know how to measure costs
What kind of outcomes must we measure?
We don’t understand what you mean
We have no data
This is rationing
We’re the experts.
You’re depriving the patients of proper care
You don’t understand what you mean
We have no data
This is rationing
We don’t know how to measure costs
What kind of outcomes must we measure?
We don’t understand what you mean
The Healthcare Leaders of Today will need to lead people to where they do not want to go
Leadership
Passion
Commitment
TRUST
Thank You and Good Luck!