Value-Driven Care

- The role of Allied Healthcare Professionals

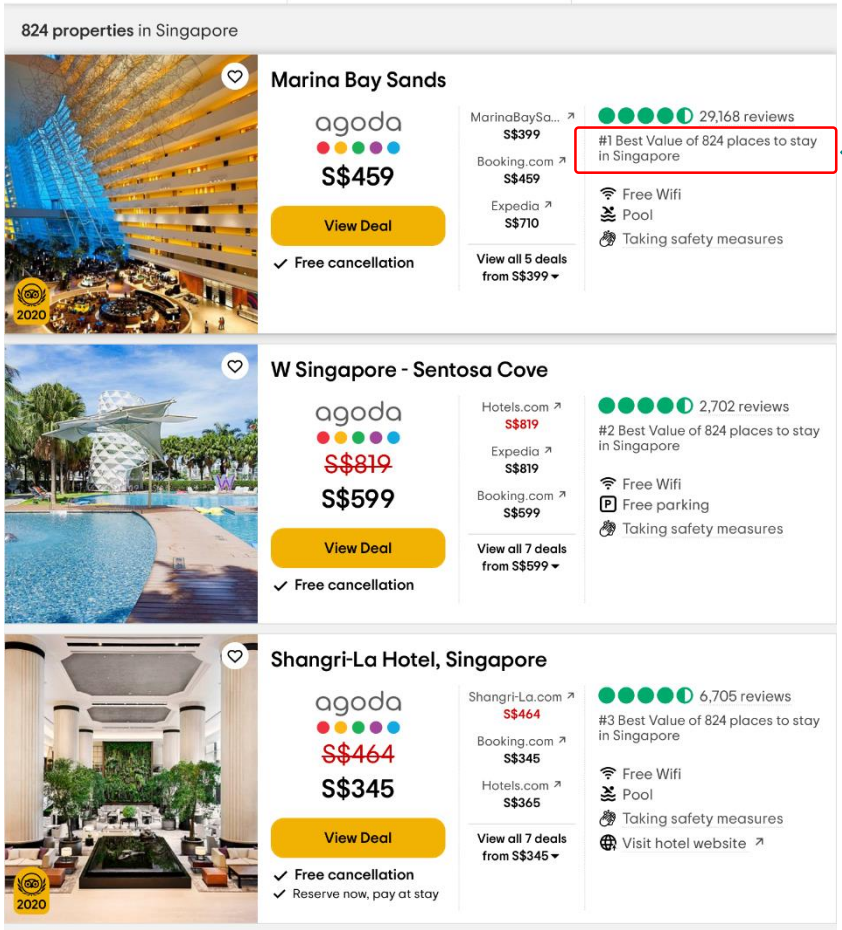
Singapore Allied Health Conference
8 March 2021

1500 – 1545	Plenary: Value-Driven Care: The Role of Allied Healthcare Professionals Dr Lim Eng Kok, Director, Office of Value-Driven Care, SingHealth

SingHealth DukeNUS ACADEMIC MEDICAL CENTRE

PATIENTS. AT THE HEART OF ALL WE DO.®

We seek Value in everything we do….



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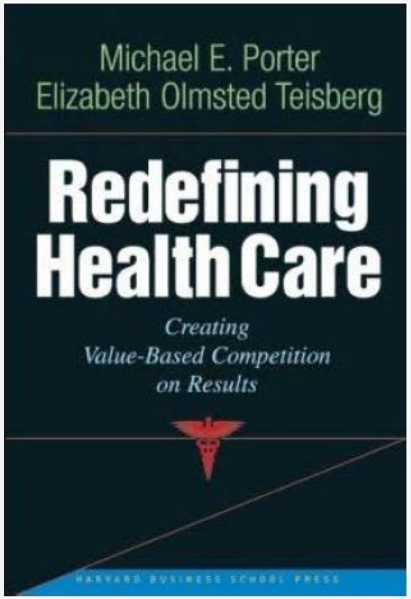
Value in healthcare….



Published in 2006

$$\text{Value} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering these outcomes}}$$

Value is defined as the outcomes that patients experience relative to the cost of delivering those outcomes. Value-based Healthcare, or VBHC, is healthcare that delivers the best possible outcomes to patients for the lowest possible cost.

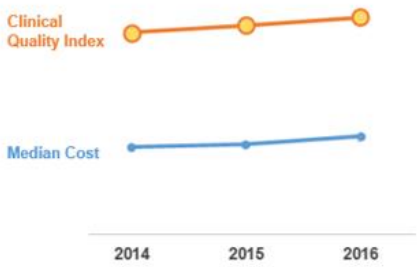
- International Consortium for Health Outcomes Measurement (ICHOM)

In Singapore, the National Value-Driven Care (VDC) initiative was introduced in 2017 as part of the Ministry of Health's "*3 Beyonds*"….

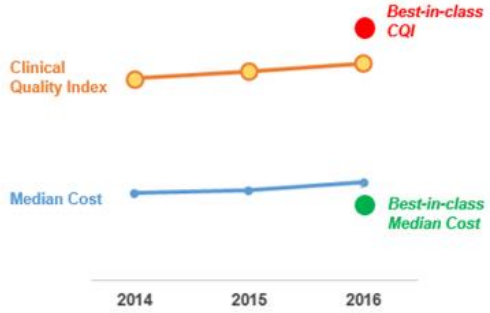
Aim: Provide transparency in Value to drive improvements across PHIs

From	To…. (but still not enough)	To…

- We know our (own) Clinical Outcomes and Costs; and
- We are continually working to improve on them



- We know our Clinical Outcomes and Costs, and also of the '*Best-in-Class*'; and
- We are continually working to achieve '*Best-in-Class*'



Key question: *How can we do better in providing care to our patients?*

VDC methodology is broadly summarised as follows….

Start here…

Target Specific Condition, and Define it

- Single episode
- Multiple episodes
- Complex “RHS” episodes

Clinicians

Define Quality Measures

- Clinical Outcomes
- Cost
- Patient Reported Outcomes
- Appropriateness of Care

Clinicians, Clinical Quality, Finance, Casemix

Value Data Analysis

- Clinical and Finance data integration
- Data visualization
- Drill-down

Clinicians, Clinical Quality, Finance, Casemix, Ops, IT

Drive Value Optimisation

- Value Improvement plans
- Data-driven monitoring
- Aligning incentives

Clinicians, Clinical Quality, Finance, Casemix, Ops, IT, etc.

Care Value

Always approach from a Clinical Outcome viewpoint first

- Start with identifying how to derive the best Clinical Outcomes for our patients
- The Cost component comes (almost) as a secondary objective to derive Value for patients and sustainability for the system

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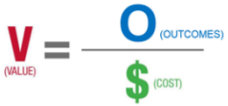
MOH identified 17 '*high impact*' conditions from the national perspective, and convened cross-PHI clinician workgroups to identify indicators….

Aim: Standardised Clinical Outcome indicators for '*like-for-like*' benchmarking across PHIs



How were clinicians involved?

For each '*high impact*' condition[1]:

a) CMBs from every PHI invited to nominate a Clinician Lead

b) Commenced with Clinical Outcomes that can be derived using Administrative data

c) Work being extended to include Patient Reported Outcomes

Similar approach for SingHealth institution-initiated VDC projects

VDC conditions to date: MOH and SingHealth institution-initiated

S/n	MOH VDC Conditions	SingHealth institution-initiated VDC
1	Cataract Surgery	Hip Fracture
2	Total Knee Replacement	Root Canal Treatment
3	Laparoscopic Cholecystectomy	Colonoscopy
4	Hysterectomy (Non-malignancy)	Lymphoma
5	Coronary Artery Bypass Grafting	Chronic Obstructive Pulmonary Disease
6	Hernia Repair	Cellulitis
7	Caesarean Section	Pancreatectomy
8	Tonsillectomy	Thyroidectomy
9	Haemorrhoidectomy	Total Knee Replacement
10	Total Hip Replacement (Elective)	Ischaemic Stroke
11	Acute Myocardial Infarction	Community-acquired Pneumonia
12	Congestive Heart Failure	Colorectal Resection
13	Ischaemic Stroke	Blocked Vascular Access
14	Spinal Fusion	Acute Gout
15	Pneumonia	Diabetic Foot
16	Colorectal Resection	
17	Breast Cancer (Surgery)	

Note: [1]High volume, high cost and/ or high variation;

To measure quality from the Patients' perspective, the '*All or none*' methodology is applied against agreed-upon Clinical Outcome indicators ….

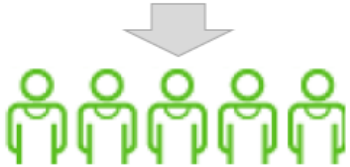
Key question:

"Am I getting the care I need for my specific condition?"

For example,
Total Knee Replacement

S/n	Indicator	Desired direction	1	2	3	4	5	Result
1	LOS of ≤ 5 days rate	↑	●	●	●	●	●	100%
2	(No) Blood Transfusion rate	↑	●	●	●	●	●	80%
3	(No) 30-day Complication rate	↑	●	●	●	●	●	80%
4	(No) Return to Operation Theatre rate	↑	●	●	●	●	●	80%
5	(No) 30-day Readmission rate	↑	●	●	●	●	●	80%
6	(No) Inpatient Mortality rate	↑	●	●	●	●	●	60%

Legend: Indicator result:
- Met
- Unmet



Clinical Quality Index (or 'All-or-none' Composite):
Percentage of cases where all indicators were met.

✗ ✓ ✗ ✓ ✗ 40%

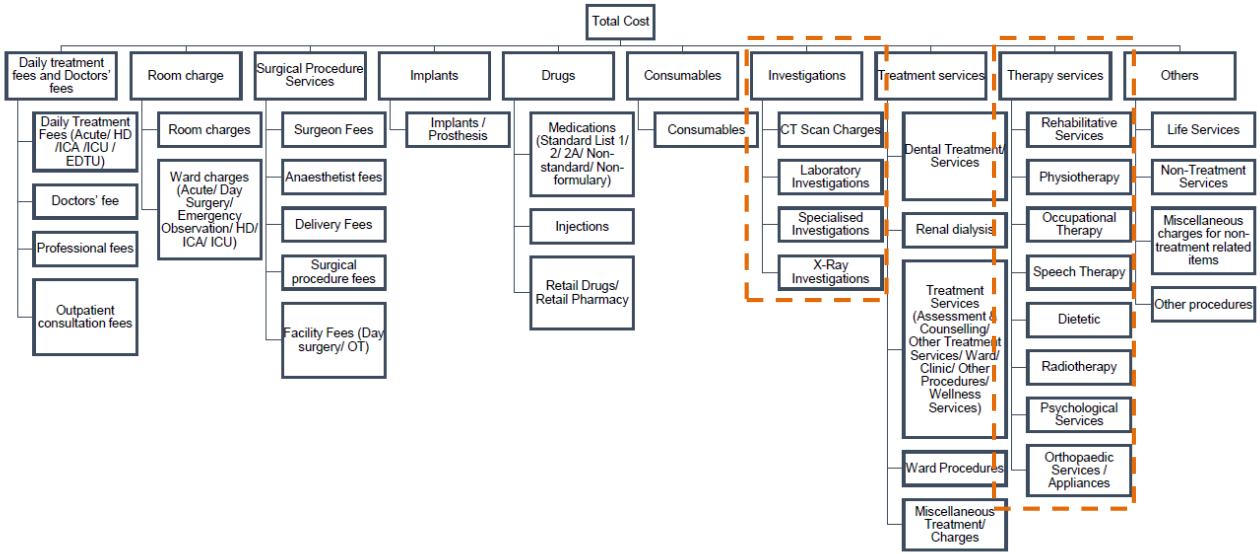
MOH also worked with the CFOs to standardize Cost allocation methodologies, and standardized '*Cost buckets*' to facilitate 'drill down'…

Aim: Standardised Cost indicators for '*like-for-like*' benchmarking across PHIs

$$V_{(VALUE)} = \frac{O_{(OUTCOMES)}}{\$_{(COST)}}$$

How do we get Costs that are comparable?

- Building on existing methodologies used for costing DRGs, CFOs agreed on standardized methodology for deriving Cost* figures



*Note: This is 'Cost to hospital'

Standardised Value indicators can then be applied for benchmarking…

Example: Total Knee Replacement

DATA FOR ILLUSTRATION ONLY

$$V = \frac{O_{(OUTCOMES)}}{\$_{(COST)}}$$

(VALUE)

- *Hospital A Costs less but appears to have better Outcomes than Hospital F*
- *Relationship between Outcomes and Cost is not simple*

"If you improve outcomes without escalating cost, you have succeeded. If you have delivered equally good outcomes more efficiently, you have succeeded. If you didn't do any of these two, you have failed."

Michael Porter

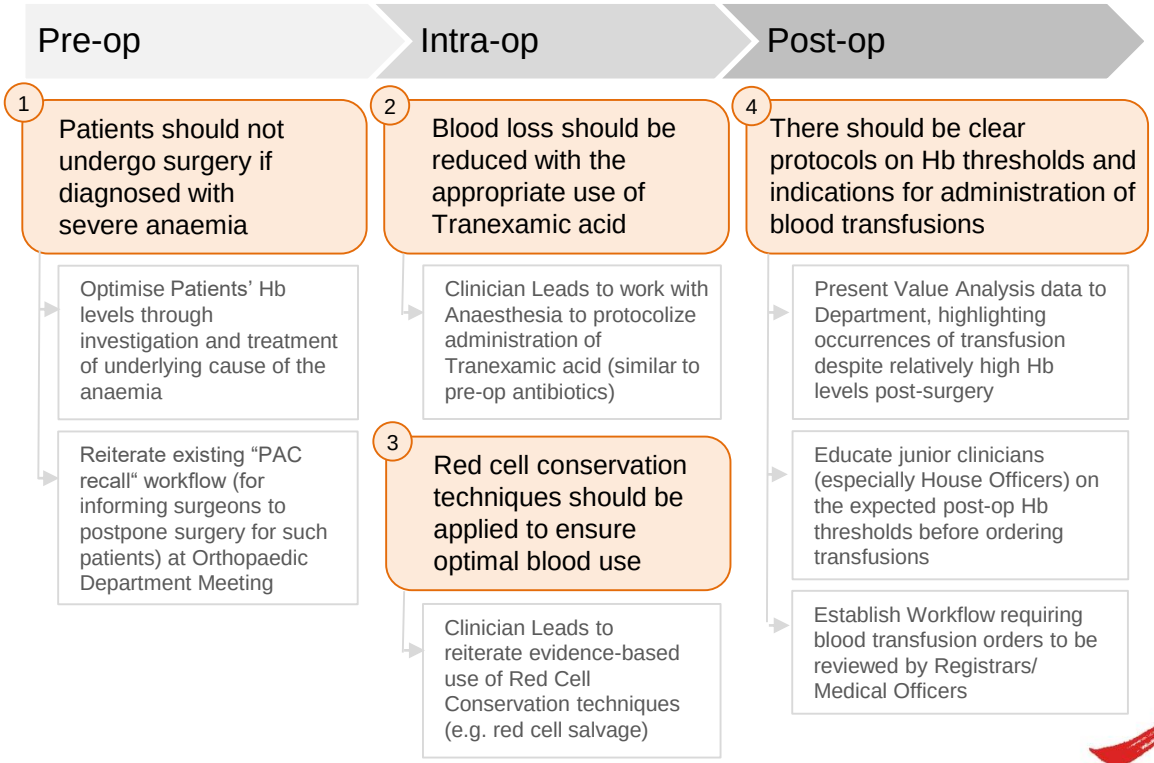
With drill-downs facilitating identification of opportunities for Value Improvement…

At one hospital:

a) Value Analysis highlighted Blood Transfusion Rates as an area for improvement for several conditions

b) Orthopaedic Clinician Leads, Anaesthetists, and Haematologists came together to establish clear principles for patient blood management

- These principles to standardize patient blood management and optimization protocols are being applied beyond identified VDC conditions, and adopted hospital-wide (and more recently, shared across SingHealth institutions)



Some examples of Allied Healthcare Professional involvement in Value Improvement…

- Across the various VDC conditions, Allied Healthcare Professionals are actively involved
- Through a multi-disciplinary collaboration, we can continue to bring about Value Improvement to enhance care provided to our patients

Some examples….

Directly via a clinical outcome

- POD 1 mobilisation for patients following hip fracture
- PT/ OT assessment for patients with stroke
- Early mobilisation for patients with community acquired pneumonia

Via multi-disciplinary collaboration…

- Pre-operative Physiotherapy / Occupational Therapy sessions for patients undergoing TKR / THR
- Post discharge Physiotherapy home visits for patients following THR
- Radiologist for fracture screening / BMD scans for patients with hip fractures
- Prehabilitation programme for Frail Elderly undergoing elective colorectal surgeries (Dietetics / Physiotherapy)
- Action plans for patients with COPD

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Let’s look at some data…

“In God we trust.
All others must bring data.”

- Dr. W. Edwards Deming

An early Case Study

Total Hip Replacement

How it all started….

Condition	Discussion	Indicators
Total Hip Replacement (Elective)	Inaugural MOH VDC Total Hip Replacement Clinician Workgroup Meeting: July 2018	Clinician Workgroup agreed that the '*Clinical Quality Index*' would comprise 6 indicators:

S/n	Indicators
1	Length of stay ≤ 4 days
2	(No) Blood Transfusion
3	(No) 30-day Complications
4	(No) Return to Operation Theatre
5	(No) 30-day Readmissions
6	(No) Inpatient Mortality

When Workgroup looked at lengths of stay across PHIs…

Question:

Do you see anything that surprises you?

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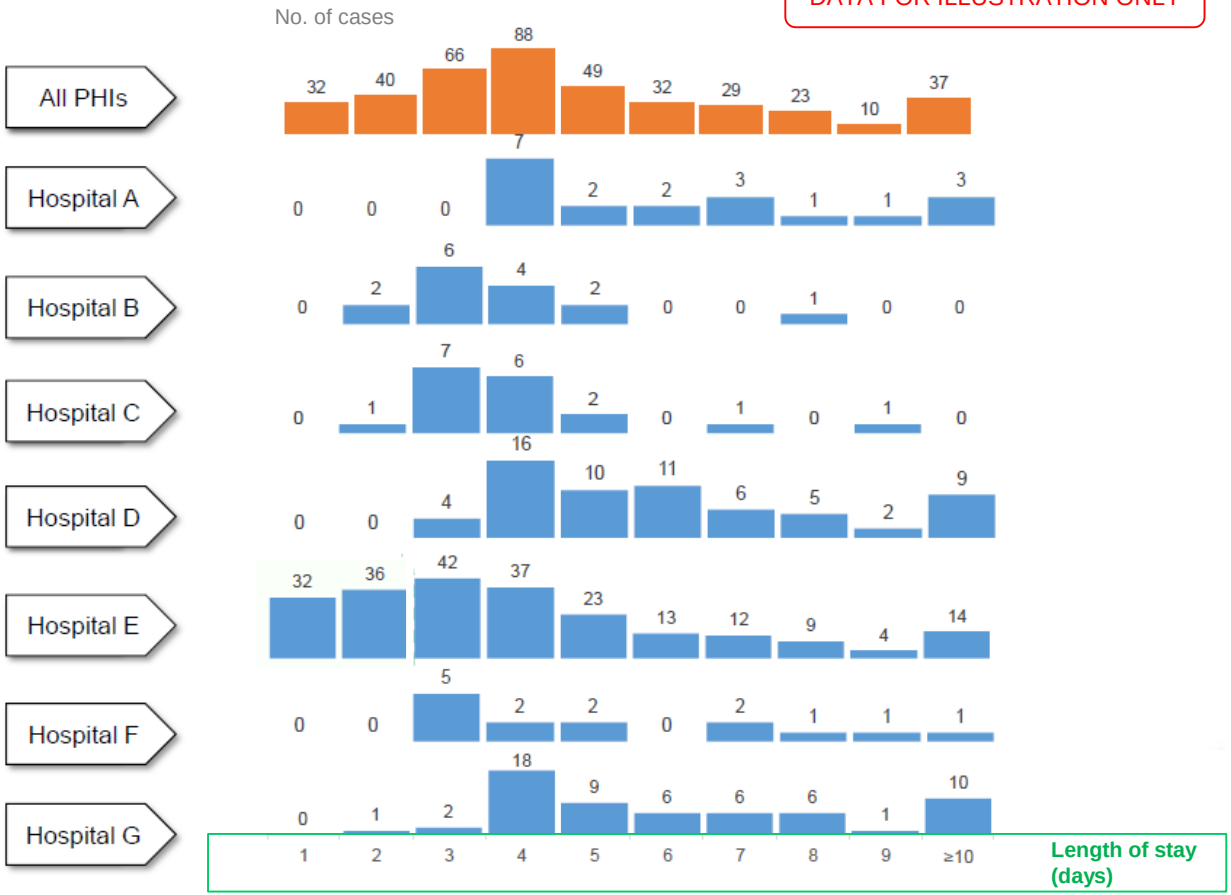

When Workgroup looked at lengths of stay across PHIs…

Question:

Do you see anything that surprises you?

Variation within each hospital as great as between hospitals

- Opportunity to learn?
- Patient variation or Provider variation?
- ‘Positive outlier’

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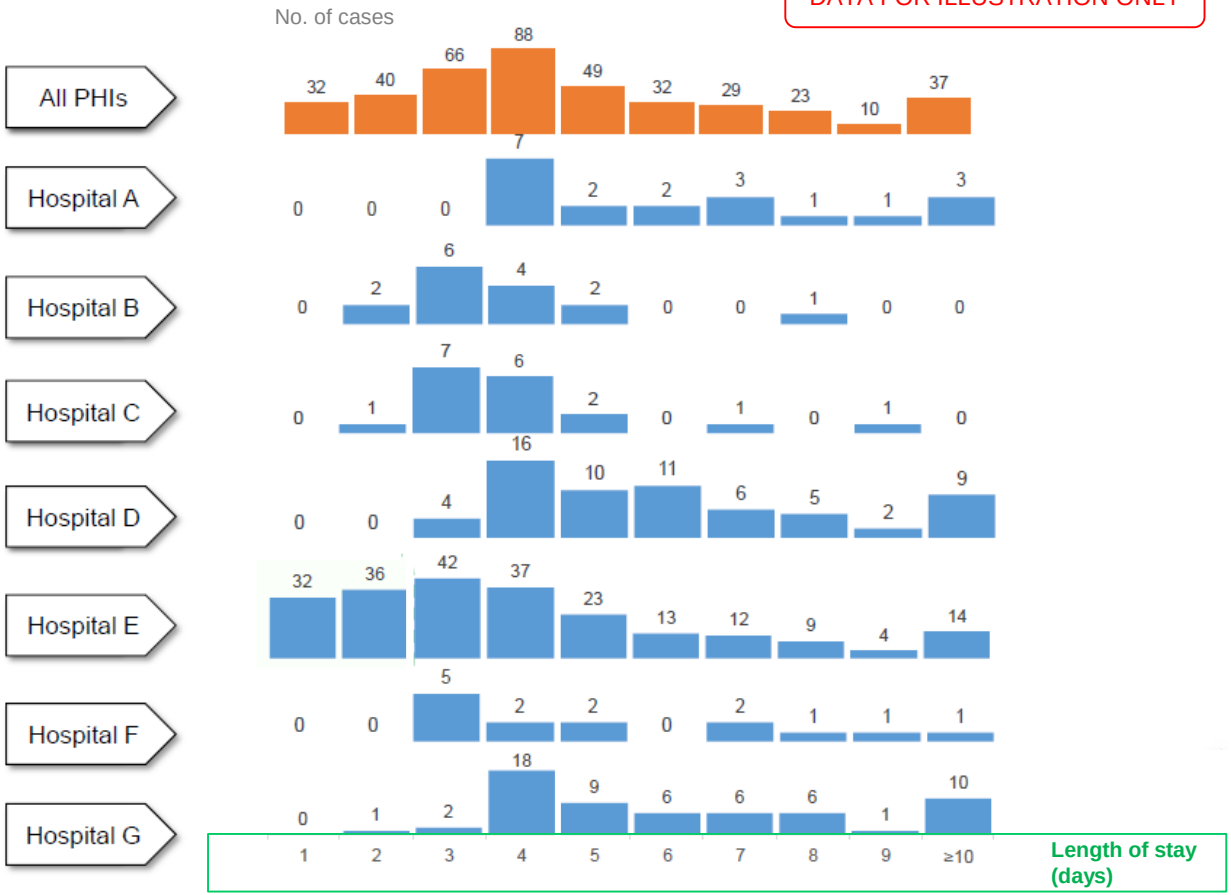

The responses from the clinicians was interesting….

From	To....
"The data must be wrong"	*"How was this done?"*

Especially since subsequent drill-down showed that the cases with LOS=1 day had better CQI and comparable Cost vs the 'All PHI' benchmark…

Some more recent data

Value Improvements in SingHealth

Some institutions have started seeing Value Improvements, achieving improved Clinical Outcomes and lower Costs for some conditions…

For example, "*Hysterectomy (Benign Conditions)*" at one hospital….

DATA FOR ILLUSTRATION ONLY

So, why measure Value?

1. To identify opportunities for improvement

Clinicians or groups that ‘compete’ with themselves to continually achieve lower costs without compromising quality of care drive Value-based healthcare delivery

2. To reveal variation

Comparing clinical outcomes and costs may reveal variations which can lead to:

a) Critical insights in opportunities to improve, or

b) Learning from ‘*positive outliers*’ who are achieving better outcomes at lower costs

3. To compare the cost-effectiveness of various treatments and procedures

Continuous measurement and analysis allows for more rapid evaluation of the comparative cost-effectiveness of different interventions

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Key question: *How can we do better in providing care to our **Patients**?*

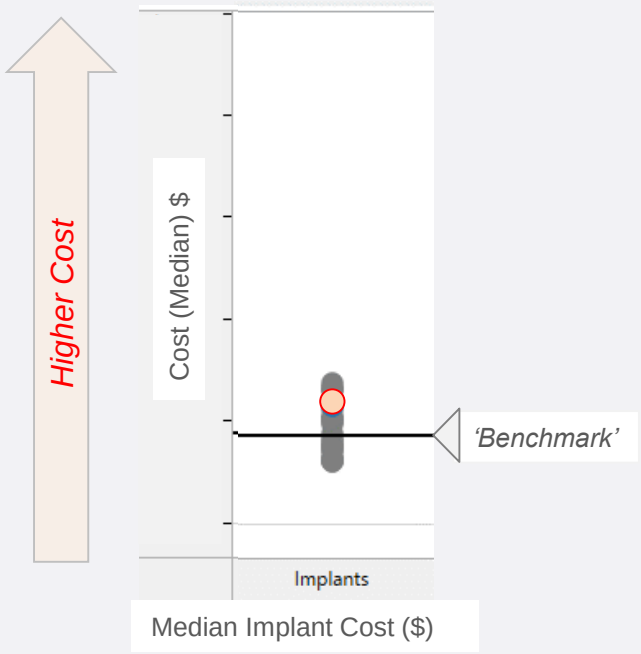
VDC and Innovation

A tale of (high) Implant Costs

Implant Costs for Total Hip Replacement (Elective)…

DATA FOR ILLUSTRATION ONLY

1 Clinician X's median '*Implant Cost*' was higher than the '*Benchmark*'



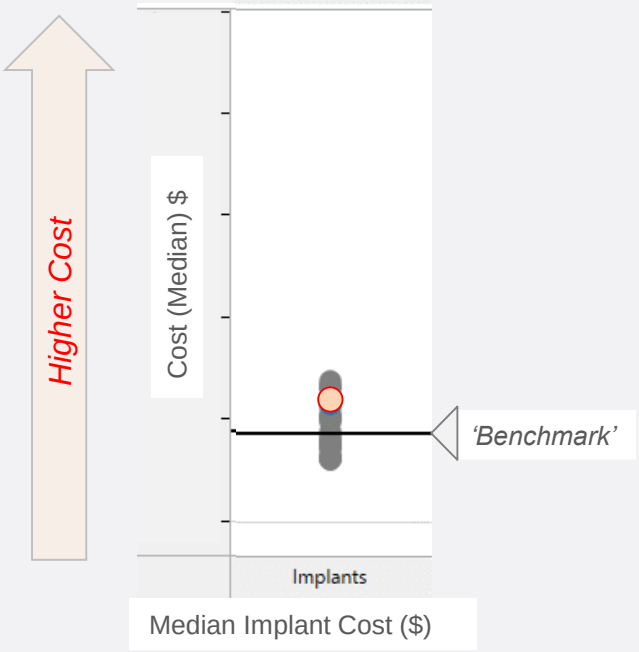
Notes:

- Each 'bubble' represents a clinician, with the size representing his/ her volume of cases
- '*Benchmark*' is median result for hospital

Implant Costs for Total Hip Replacement (Elective)…

DATA FOR ILLUSTRATION ONLY

1 Clinician X's median '*Implant Cost*' was higher than the 'Benchmark'



2 Yet, Clinician X's:

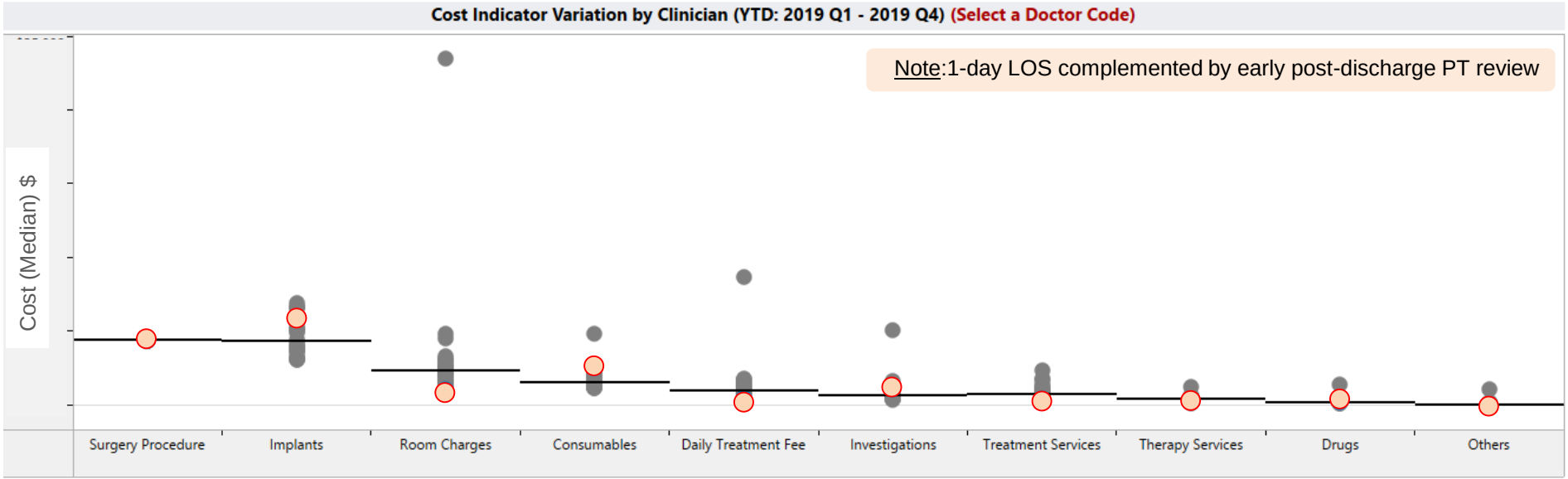
a) Median '*Total Cost*' for the procedure was <u>at</u> the 'benchmark', and

b) (Most importantly), his/ her CQI was <u>much better</u> than 'benchmark'

So how did Clinician X do it?

DATA FOR ILLUSTRATION ONLY

③ Clinician X's median '*Total Cost*' was lower as the more costly implants were associated with a procedure which allowed cases to have a shorter LOS (of 1 day vs the hospital median of 3 days), leading to substantially lower '*Room Charges*'/ '*Daily Treatment Fee*', offsetting the higher '*Implant Costs*'



By providing visibility of both Clinical Outcomes and Total Costs of care provision, VDC supports Safe and Sustainable introduction of Innovations in care delivery

Covid has intensified our need to focus on Clinical Outcomes…

What we need to do?

How does VDC help?

Help our Patients:

- Stay Home as far as possible
- Reduce Commuting-related exposure
- Reduce Community-related exposure

Total Knee Replacement example….

S/n	Indicator	Desired direction
1	LOS of ≤ 5 days rate	↑
2	(No) Blood Transfusion rate	↑
3	(No) 30-day Complication rate	↑
4	(No) Return to Operation Theatre rate	↑
5	(No) 30-day Readmission rate	↑
6	(No) Inpatient Mortality rate	↑

And Costs too…

What we need to do?

VIEWPOINT

First, Do No (Financial) Harm

Christopher Moriates, MD
University of California, San Francisco.

Neel T. Shah, MD, MPP
Harvard Medical School, Boston, Massachusetts.

Vinoet M. Arora, MD, MAPP
University of Chicago, Chicago, Illinois.

"First, do no harm" is a well-established mantra of the medical profession, but it may need to be reconceptualized in an era of unsustainable health care spending. Medical bills are now a leading cause of financial harm[1] and physicians decide what goes on the bill. The possible consequential harm is substantial, often leading to lost homes and depleted savings.[1] While the Affordable Care Act will ensure expanded coverage, newly insured Americans will not necessarily be immune from increased costs of their care. More Americans than ever before are enrolled in high-deductible insurance plans, meaning that seemingly simple decisions that physicians make about testing could directly lead to thousands of dollars in out-of-pocket costs.[1] This strain on household budgets can cause further erosion of personal health. Lack of money to pay for medical bills and medications has consistently topped the list of financial concerns for Americans on the monthly *Consumer Reports* Index survey, in many cases leading patients to postpone or forgo needed care.[2]

Some physicians may be resigned to a reality that financial adverse effects are a known and unavoidable harm of medical care. However, the same argument had been made previously about central line infections, yet central line infections are almost universally avoidable through specific actions of physicians.[3] Just as physicians play an important role in preventing serious infections, physicians can also help patients avoid experiencing financial harm as a result of medical care (Box).

Box. Example Scenario: Assessing Possible Financial Harm for a Patient With Low Back Pain for 3 Weeks Without "Red Flag" Symptoms

Screen for financial harm

"Are you worried about how your medical care will be paid for?"

"Are you having trouble paying for your medications at home?"

Adopt a universal approach

"Even though your insurance will cover it, I don't think that back imaging will help us. Most back pain like yours gets better on its own within 4 to 6 weeks. The risks of radiation and the high cost outweigh any possible benefits. What were you hoping to find out with a scan?"

Understand financial ramifications and value of recommendations

"Physical therapy has been shown to be beneficial in some back pain cases like yours if the pain lasts more than 4 weeks. I could refer you to physical therapy if you are interested, but it may not be covered by your insurance and would likely cost you up to a couple hundred dollars out-of-pocket. Would that be OK with you? If you would prefer to not spend the time and the money, I could instead give you some examples of exercises that you can do on your own for now and we can reevaluate the need for physical therapy next time if your pain is not getting better. What do you think?"

Optimize care plans for individual patients

"Your insurance will not cover physical therapy, but you could go to your local yoga class if you want for much cheaper. Yoga has also been shown to be helpful for low back pain. Do you think that you would want to try that?"

Screen for Financial Harm

First, physicians can help patients avoid financial harm by screening each patient to determine financial risk and preferences. For instance, patients can be asked if they have any concerns about how their medical care will be paid for and how much they personally may owe. Similar to advance directives, making such screening routine could help alleviate patient or physician discomfort broaching this delicate topic. The consideration of severe financial strain directly resulting from care must also be balanced with the need for care. Such an approach does raise the important concern that patients will be stratified and treated differently based on their insurance and financial status. To avoid the legitimate concern of exacerbating inequities, a "universal precautions" approach to providing fiscally responsible care can be adopted.

Adopt a Universal Approach

In 2007, the majority of medical debtors had health insurance at the beginning of their illness, and an estimated 25 million Americans were underinsured.[1] Hence, it is increasingly difficult to know which patients will be faced with insurmountable medical bills in the near future. Since physicians cannot be sure which patients will ultimately have unaffordable medical bills, they should treat all patients as if they could be.

This approach applies to both inpatient and outpatient encounters because patients often face significant financial obligations in both settings. Although physicians may assume that hospitalizations for insured patients are automatically covered by health plans, in reality these patients may still face large co-payments. Thus, in some instances whether hospitalization can be avoided should be discussed. In addition, the payer may refute the appropriateness of admission or leave coverage gaps due to high deductibles, caps, or other cost-sharing mechanisms. In the ambulatory care setting, patients may pay a percentage of the fees for services. However, patients can be understandably confused whether they are being treated as inpatients or outpatients because emergency department care and "observation" status in the hospital are often considered ambulatory care sites.[4]

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Especially in view of…

WEDNESDAY AUGUST 12, 2020 SINCE 1845

THE STRAITS TIMES

S'pore economy suffers worst quarterly contraction on record

Q2 saw 13.2% dip from a year earlier; road to recovery set to be long and rough, says Chan

Ovais Subhani
Senior Correspondent

Singapore suffered its deepest economic slump on record in the second quarter, prompting the Government to trim its growth outlook for the year and warn of more job losses.

With the pandemic still raging, the road to recovery is likely to be long and rough, said Minister for Trade and Industry Chan Chun Sing.

The economy is expected to shrink between 5 per cent and 7 per cent this year, said the Ministry of Trade and Industry (MTI), dialling down its previous forecast of a 4 per cent to 7 per cent contraction.

The circuit breaker measures exacted a steep toll during the second quarter, as the economy shrank 13.2 per cent from a year earlier.

"This is our worst quarterly performance on record," said Mr Chan. "The forecast for 2020 essentially means the growth generated over the past two to three years will be negated.

RECESSION DEEPENS

TUESDAY SEPTEMBER 15, 2020 SINCE 1845

THE STRAITS TIMES

Retrenchments spike in Q2 as unemployment rises steadily

Total employment in Singapore contracted by 3.7 per cent, or 129,100, in the first half of the year. Foreigners accounted for more than half of this contraction.

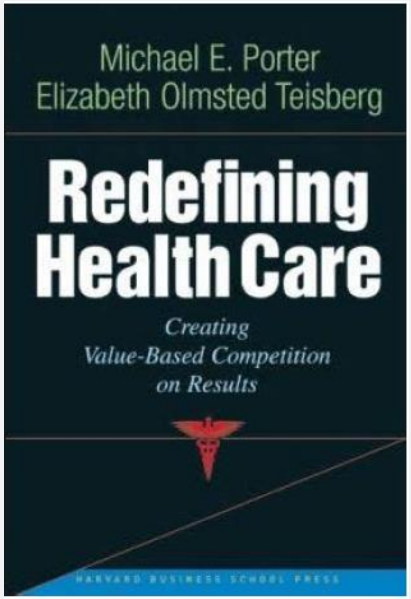
The bulk of the decline in local employment came from the service sector, while the decline in foreign employment was widespread across sectors.

Even amid the gloom, local employment held steady or edged up

Hence, we need to keep asking ourselves this question..

How does what we are doing add Value to Patients?

To recap, Value in healthcare….



Published in 2006

Can be further split into:

- *Provider-defined: Clinical Outcomes/ Quality + Safety*
- *Patient-defined: Patient Outcomes + Patient Experience*

$$\text{Value} = \frac{\text{Health outcomes that matter to Patients}}{\text{Costs of delivering these outcomes}}$$

What really matters to the Patient

Sustainable commitment of precious resources

How do we apply our limited & precious healthcare resources to help our Patients?

- *Its not about the money…*
- *Money is another way of signaling resource commitment…*
- *Resources are precious…*

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While we are still learning, some lessons learnt to date…

1. Clinician buy-in is key

Aim of VDC is to provide feedback to help healthcare providers improve

2. Clinicians need to be supported in this effort

Ideally by Clinical Quality, Clinical Coding, Finance and Analytics:

a) Clinicians require granular analysis to identify actionable opportunities
b) Targeted case-level review is crucial, to identify root causes for variation
c) Service-level data from Finance is necessary to:
    i. Understand variation in costs; and also
    ii. Reveal opportunities to streamline services

3. Clinicians may need to be supported in working with other Disciplines

If appropriate, convene multi-disciplinary Workgroups to coordinate and drive improvement efforts

4. Think big, but start small

For indicators, a pragmatic approach is to start with administrative data (i.e. to give an idea of '***How we are doing today***'?)

*<u>Key lesson</u>: The purpose of measurement is for **learning**, not judgment*

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And there is more to do….

1. To capture outcomes from the Patient's perspective
   - Current indicators do not routinely include PROMs, PREMs, etc. and hence may not sufficiently cover '*What is important to Patients*'
2. To expand the 'view' for Value
   - Current work is acute (and community) hospital-focused, and is progressively being expanded to cover the entire patient pathway
3. To drive comprehensive Culture change
   - Current work focused on 'high impact' conditions and may therefore not reach all specialties
   - VDC therefore being expanded to wider clinicians, as well as administrators and medical students

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And Allied Healthcare Professionals will continue to be actively involved…

1. To capture outcomes from the Patient's perspective

- Current indicators do not routinely include PROMs, PREMs, etc. and hence may not sufficiently cover '*What is important to Patients*'

AHPs are at the forefront of this as some AHPs currently perform outcome measures as part of their routine practice; also the upcoming one-Rehab initiative

2. To expand the 'view' for Value

- Current work is acute (and community) hospital-focused, and is progressively being expanded to cover the entire patient pathway

Various AHPs are involved in the entire care spectrum of our patients

3. To drive comprehensive Culture change

- Current work focused on 'high impact' conditions and may therefore not reach all specialties
- VDC therefore being expanded to wider clinicians, as well as administrators and medical students

AHPs can similarly drive comprehensive culture change within their departments.

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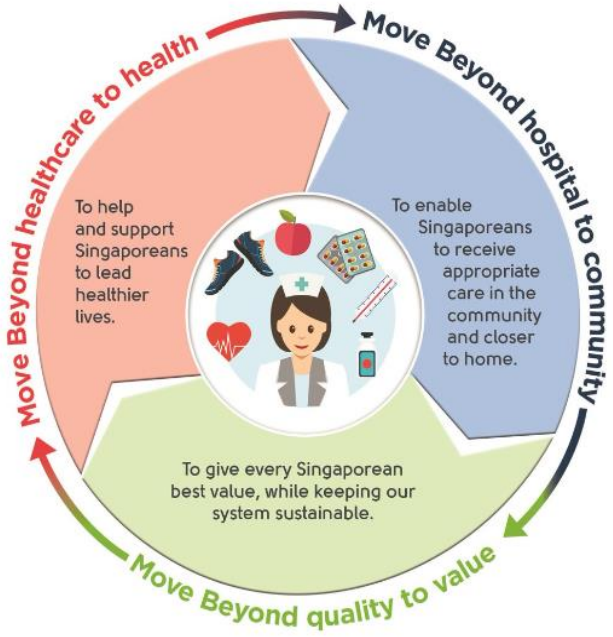
We all have a role to play in the quest for Value….

OPENING ADDRESS BY MR GAN KIM YONG, MINISTER FOR HEALTH, AT THE OPENING CEREMONY OF SINGAPORE GENERAL HOSPITAL'S 23RD ANNUAL SCIENTIFIC MEETING, 12 APRIL 2019



Optimising Healthcare Outcomes through Value-Driven Care

8. Our third strategy to move *Beyond Quality to Value* aims to keep our healthcare system sustainable and affordable, by looking into treatment protocols that provide the best value for patients. One key aspect is the optimisation of healthcare outcomes through the introduction of Value-Driven Care (VDC) programme.

9. On this front, MOH has identified 17 high-impact surgical and medical conditions such as Total Knee Replacement and Community-Acquired Pneumonia, which are high volume, high cost conditions that will benefit from the VDC programme. We have standardised quality indicators for most of the 17 conditions, and will be working closely with the various VDC workgroups to analyse data, and identify opportunities to improve clinical outcomes in a cost-effective way.

10. I am encouraged by the support from our public healthcare institutions for this key initiative. Many clinicians are involved in the VDC programme as members of the National Value-based Healthcare Workgroup or condition-specific VDC clinical workgroups.

11. The quest to constantly improve the value of our healthcare services is critical to the sustainability of our healthcare system. Everyone of us - clinicians, nurses, allied health professionals, quality and value officers, data analysts and administration and finance staff - has a key role to play in helping us drive value. I look forward to your support as SingHealth embarks on this value improvement journey with MOH.

So, how can I start?

1. Identify
   - Your department's 'high impact' conditions/ initiatives, i.e. those that either affect many people, or are of significant cost
2. Ask
   - *"What does good look like to Patients?"*
   - *"Where and what can I do better?"*
3. Seek out and Learn
   - From those who are doing better
4. Share
   - Your 'Best practices' with counterparts

If you are a Leader, work with Staff to understand what patients value as an outcome,
establish processes to share their learning and feedback,
allow a 'safe space' for innovation, and remember to celebrate success openly

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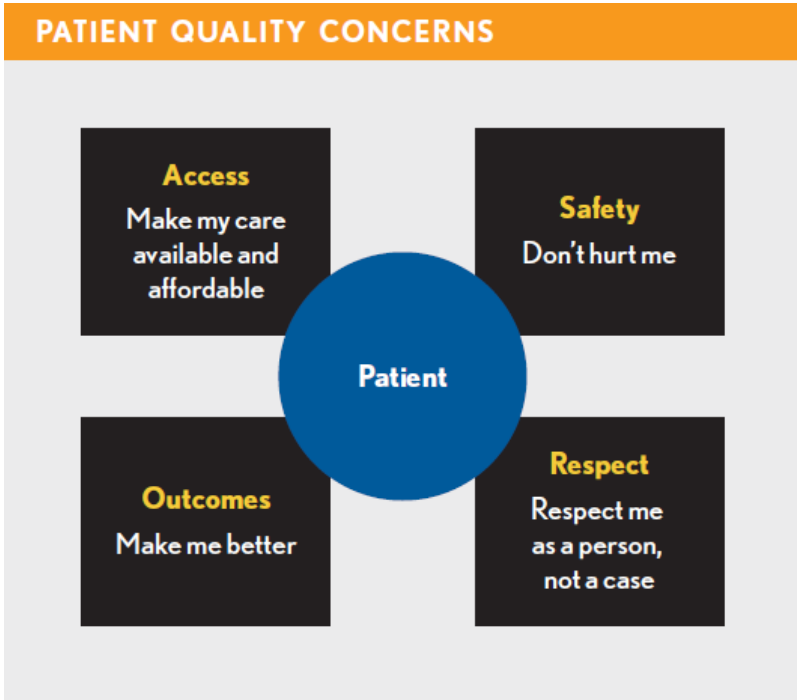
In conclusion…

- In the current environment, there is a critical need to understand and manage the Value we are delivering
- We need to systematically examine patients who have gone through our system and ask ourselves ***Could we have done better?***
- VDC methodology allows us to have data-enabled conversations on delivering the best possible outcomes to patients, at the lowest possible costs
- We <u>all</u> have a role to play



<u>Source</u>: The Healthcare Value Sourcebook; Healthcare Financial Management Association

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Q&A

- Clinicians working on VDC
- Institution Value Leads
- Clinical Quality colleagues
- Finance colleagues
- Clinical Coding colleagues
- Data Analytics colleagues
- SHS Group Finance Analytics
- SingHealth IPSQ
- and many others….

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