“Structuring your organisation for success in quality and safety”

The experience of Sydney Children’s Hospitals Network

International Forum on Quality and Safety in Healthcare:
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Director of Clinical Governance and Medical Administration
Introduction

My first day....

Who am I?

A little about Sydney Children’s Hospitals Network

The challenge from Great Ormond Street
“A system is perfectly designed to get the results it gets”

If you are not happy with your results look at your organisational structure, as well as looking at specific programs to improve performance.

If your results depend on high levels of quality your structure must be designed to support and deliver high quality.

Quality programs delivered in an unstructured way may not be successful or sustainable.

Your structure provides a framework for making quality programs business as usual.
Setting the scene: theory

Michael E Porter

Robert S Kaplan

John P Kotter

Accountant and Electrical Engineer, Electrical Engineer, Aerospace and Mechanical Engineer

Harvard Business School
Michael E Porter

University Professor at Harvard Business School

5 Forces analysis of competition
Competitive Strategy
Competitive Advantage

Most cited author in business and economics

In 2005 he turned his hand to healthcare…..
Michael E Porter

Redefined value as “health outcomes achieved per dollar spent”

Outcomes are what matters for patients and unites the interests of all actors in the system.

Good outcomes which are inherently better for patients are better for the system.

High quality care now has value.

Designing your organisation to deliver high quality care makes sense.
“The essence of strategy is choosing what not to do”.

“The essence of strategy is that you must set limits on what you’re trying to accomplish”

“Change brings opportunities. On the other hand, change can be confusing”. 
Robert S Kaplan

Emeritus Professor of Business Leadership
Harvard Business School

Inducted into the Accounting Hall of Fame
2004

*The Balanced Scorecard: Measures That Drive Performance.* 1992

He focuses on ways to help organisations deliver on strategy
Robert S. Kaplan

The Execution Premium
Linking Strategy to Operations for Competitive Advantage

Alignment
Using the Balanced Scorecard to Create Corporate Synergies

Authors of The Strategy-Focused Organization

The Sydney children's Hospitals Network
care, advocacy, research, education
Robert S Kaplan

“If you can measure it, you can manage it.”

“If those at the top are not energetic leaders of the process, change will not take place, strategy will not be implemented, and the opportunity for breakthrough performance will be missed.”

Leadership

“A mere 7% of employees today fully understand their company's business strategies and what's expected of them in order to help achieve company goals”

Transparency, information
John P. Kotter
Professor of Leadership, Emeritus Harvard Business School
“Leading Change” 1996

Kotter’s 8 Step Process

1. CREATE Sense of Urgency
2. BUILD Guiding Coalition
3. FORM Change Vision
4. COMMUNICATE Vision Buy-in
5. EMPOWER Broad Action
6. GENERATE Short Term Wins
7. SUSTAIN Momentum
8. INSTITUTE Culture Change

The Big Opportunity

mattyford.com

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Increasingly rapid change in markets (health) and the inability of hierarchies to keep up.

Suggested dual operating systems, networks and the hierarchy,

Strategic networks of many people are more agile in dealing with challenges

More heads are better than one

Better problem solving, collaboration and creativity
Takeaways

Porter “High Quality creates Value”

Kaplan “Execution requires Alignment”

Kotter “Networks are essential for rapid responses to change”

Quality = Value
Alignment
Networks
The Sydney Children’s Hospitals Network was created in June 2010 in response to concerns regarding the performance of the NSW Health system.
## Challenges

<table>
<thead>
<tr>
<th>≤ 2010</th>
<th>≥ 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Single vision “children first and foremost”</td>
</tr>
<tr>
<td>Competitive</td>
<td>Collaborative and Competitive</td>
</tr>
<tr>
<td>Finance &amp; performance focus</td>
<td>Patient focus</td>
</tr>
<tr>
<td>Separate universities</td>
<td>University research collaboratives</td>
</tr>
<tr>
<td>Different demographics</td>
<td>Single multicultural demographic</td>
</tr>
<tr>
<td>Tradition v Nouveau</td>
<td>Respect the differences, bring ideas to the table</td>
</tr>
<tr>
<td>Little sharing of ideas, staff, research, fundraising</td>
<td>Sharing of ideas, staff, research</td>
</tr>
<tr>
<td></td>
<td>Networked management structures</td>
</tr>
</tbody>
</table>

The Sydney children's Hospitals Network

care, advocacy, research, education
Children’s Hospital Westmead Clinical Governance Structure

The Children's Hospital at Westmead – Clinical Governance Structure

1. Head of the CGU
   1.0 HSM 4
   680938

   2. Improvement Coordinator
      1.0 HSM 2

   2a. Clinical Practice Improvement Coordinator
       1.0 HSM 3

   2b. Service Improvement Project Officer
       1.0 HSM 2

   4. Consumer Participation Coordinator
      1.0 HSM 3

   9. Carer Support Coordinator (0.6)
      HSM 2

   9a. Carer Support Project Officer (0.6)
       HSM 1

   3. Clinical Practice Improvement Coordinator
      1.0 HSM 3

   10. Administrative Officer (Job share NW & RG)
       1.0 AD LEVEL 3

   11. Administrative Officer
       1.0 AD LEVEL 3

   5. Patient Safety Manager
      1.0 HSM 3

   5a. Medication Safety Pharmacist (0.6)
       Senior Pharmacist
       HSM 3

   5b. IMS Manager (0.6)
       HSM 2

   5c. Best Practice Project Officer
       1.0 HSM 2

   6. Patients’ Friend
      1.0 HSM 3

   7. Clinical Risk Manager
      Staff Doctor (0.4)

   8. Policy & Procedure Coordinator
      1.0 HSM 2

   1.0 HSM 4

   1.0 HSM 4

   1.0

   1.0
Sydney Children’s Hospital Clinical Governance Structure

Both hierarchical and transactional.
Both do traditional stuff but not mission aligned
Australian NSQHS standards September 2012

1. Governance for Safety and Quality in Health Service Organisations
2. Partnering with Consumers
3. Preventing and Controlling Healthcare Associated Infections
4. Medication Safety
5. Patient Identification and Procedure Matching
6. Clinical Handover
7. Blood and Blood Products
8. Preventing and Managing Pressure Injuries
9. Recognising and Responding to Clinical Deterioration in Acute Health Care
10. Preventing Falls and Harm from Falls
Alignment

1. Alignment of standards with our mission, committees, reports and language
Alignment
Networks
DCGMA SCHN

Network Governance and Administration Manager
Network Manager Consumer Engagement
Network Manager Policy and Procedures
Network Manager Improvement
Network Manager Patient Safety
Network Manager Medicolegal

CCU CHW Admin 2.0

Pathway Officer SCH (0.6)
Policy Procedure Officer
Clinical Practice Improvement Coordinator CHW
Quality Manager SCH
Service Improvement Project Officer CHW
Clinical Improvement Project Officer (0.6)

Between the Flags SCH (0.5)
Best Practice Project Officer CHW
Medication safety Officer SCH
Medication safety Pharmacist CHW (0.6)
Patient safety Officer SCH
HS Manager CHW (0.6)

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What happened next

In order to assess the impact on quality and safety, we assessed data from both before and after SCHN formation.

Total inpatient activity data was used as the denominators for all graphs and calculations.

Two populations were defined, pre and post SCHN formation. Statistical significance was calculated using the Z score for comparing two non-parametric populations and then calculating the p score.

Split control charts were created using NSW Clinical Excellence Commission data collection tools found at:

Comparisons with the USA have also been made using solutionsforpatientsafety.org
Framework

IHI dimensions of quality; providing care that is

• safe,
• effective,
• patient-centred,
• timely,
• efficient,
• and equitable
Timeline

Prior to 2010

Two individual hospitals with limited collaboration

2008
Garling Review

2010
SCHN formation

2012
Clinical Governance Portfolio restructure

2015
Current state
### Inpatient Activity

<table>
<thead>
<tr>
<th>Years</th>
<th>SCH</th>
<th>CHW</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>13868</td>
<td>26702</td>
<td>40570</td>
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<tr>
<td>2006</td>
<td>14182</td>
<td>26775</td>
<td>40957</td>
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<tr>
<td>2007</td>
<td>14556</td>
<td>27625</td>
<td>42181</td>
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<tr>
<td>2008</td>
<td>15025</td>
<td>25732</td>
<td>40757</td>
</tr>
<tr>
<td>2009</td>
<td>14987</td>
<td>27347</td>
<td>42334</td>
</tr>
<tr>
<td>2010</td>
<td>15617</td>
<td>28880</td>
<td>44497</td>
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<tr>
<td>2011</td>
<td>17994</td>
<td>28987</td>
<td>46981</td>
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<td>2012</td>
<td>18284</td>
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<td>47699</td>
</tr>
<tr>
<td>2013</td>
<td>18862</td>
<td>29985</td>
<td>48847</td>
</tr>
<tr>
<td>2014</td>
<td>18878</td>
<td>31800</td>
<td>50678</td>
</tr>
<tr>
<td>2015</td>
<td>17930</td>
<td>32224</td>
<td>50154</td>
</tr>
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</table>

- 25% increase in activity
- Ratio of staff to patients has been maintained
- Bed increases limited due to structural limitations and funding
- New models of care
- 1,000,000 occasions of service in 2014
Safety: SAC 1 and 2 incidents (potentially preventable harm) as a % of separation

The current average rate for SAC 1 and 2 incidents within SCHN is 0.08% of admissions whereas in NSW it is 0.20% of admissions.
The numbers of SAC 1 events are always very low, but they appear to be less frequent.
Total incidents reported SChN and facility as a percentage of separations

<table>
<thead>
<tr>
<th>Year</th>
<th>CHW</th>
<th>SCH</th>
<th>SChN</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0.062226244</td>
<td>0.097554273</td>
<td>0.074417392</td>
<td>0.081</td>
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<tr>
<td>2008</td>
<td>0.068941396</td>
<td>0.100366057</td>
<td>0.080526045</td>
<td>0.0825</td>
</tr>
<tr>
<td>2009</td>
<td>0.065491644</td>
<td>0.08774271</td>
<td>0.073368923</td>
<td>0.088</td>
</tr>
<tr>
<td>2010</td>
<td>0.07465374</td>
<td>0.09220721</td>
<td>0.080814437</td>
<td>0.09</td>
</tr>
<tr>
<td>2011</td>
<td>0.075654604</td>
<td>0.059575414</td>
<td>0.069496179</td>
<td>0.093</td>
</tr>
<tr>
<td>2012</td>
<td>0.07254802</td>
<td>0.056442792</td>
<td>0.066374557</td>
<td>0.093</td>
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<tr>
<td>2013</td>
<td>0.071168918</td>
<td>0.056356696</td>
<td>0.06544926</td>
<td>0.0815</td>
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<tr>
<td>2014</td>
<td>0.064213836</td>
<td>0.061447187</td>
<td>0.063183235</td>
<td>0.0815</td>
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<tr>
<td>2015</td>
<td>0.069182036</td>
<td>0.061447187</td>
<td>0.063183235</td>
<td>0.0815</td>
</tr>
</tbody>
</table>

SCH decrease Z = 22 p<0.01

CHW increase Z = -4.868. p < 0.01

SCHN Z = 9.981. p = 0. The result is significant at p < 0.01.
Time delay in years between incident and legal action

<table>
<thead>
<tr>
<th>Year</th>
<th>Claims</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1y</td>
<td>109</td>
<td>57%</td>
</tr>
<tr>
<td>2y</td>
<td>30</td>
<td>73%</td>
</tr>
<tr>
<td>3y</td>
<td>24</td>
<td>86%</td>
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<tr>
<td>4y</td>
<td>9</td>
<td>91%</td>
</tr>
<tr>
<td>5y</td>
<td>4</td>
<td>93%</td>
</tr>
<tr>
<td>6y</td>
<td>4</td>
<td>95%</td>
</tr>
<tr>
<td>&gt;6y</td>
<td>9</td>
<td>100%</td>
</tr>
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</table>

SCHN claims 1986 - 2013
n=189 incidents

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Safety: new medico legal cases by year

Medicolegal cases SCHN

The Z-Score is 2.7184. The p-value is 0.00652. p <0.01.
Benchmarking: CVAD infections per 1000 line days SCHN

SCHN CVAD infections per 1000 line days

North America 0.132

Rate %
Mean (Average)
Upper control limit (2sd + mean)
Lower control limit (2sd - mean)
Safety: Annual Medication Error Rate including IV fluids SCHN

The Z-Score is 2.3075. The p-value is 0.02088. The result is significant at p <0.05.
Benchmarking: SCHN Medication and IV fluids adverse event rate 2014-15

SCHN medication & IV fluids errors by separation 2014-15

North America 3.2%
Safety: Total number of unexpected arrests per 1000 admissions SCHN

SCHC total number of ward cardiorespiratory arrests per 1000 admissions

- CCH 0.31 per 1000
- SCHN 0.21 per 1000

SCHN Total number of Cardiorespiratory Arrests per 1000 admissions

Linear (SCHN Total number of Cardiorespiratory Arrests per 1000 admissions)
Effective: Readmissions as a percentage of separations pre and post Network

SCHN Z = 2.7898. p = 0.00528. p <0.05.
Access: Did not wait SCHN

<table>
<thead>
<tr>
<th></th>
<th>DNW</th>
<th>Total</th>
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<tr>
<td>≤ 2010</td>
<td>15797</td>
<td>172226</td>
</tr>
<tr>
<td>≥ 2011</td>
<td>28224</td>
<td>340230</td>
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</table>

The result is significant at p < 0.01
Patient Centred: Complaints by facility as a percentage of separations

<table>
<thead>
<tr>
<th>Year</th>
<th>SCHN</th>
<th>CHW</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0.0093</td>
<td>0.0107</td>
<td>0.0067</td>
</tr>
<tr>
<td>2008</td>
<td>0.0078</td>
<td>0.009</td>
<td>0.0057</td>
</tr>
<tr>
<td>2009</td>
<td>0.0083</td>
<td>0.0092</td>
<td>0.0066</td>
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<tr>
<td>2010</td>
<td>0.0078</td>
<td>0.0089</td>
<td>0.0056</td>
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<tr>
<td>2011</td>
<td>0.0077</td>
<td>0.0097</td>
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<td>2012</td>
<td>0.0071</td>
<td>0.0079</td>
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<td>2013</td>
<td>0.0074</td>
<td>0.0089</td>
<td>0.005</td>
</tr>
<tr>
<td>2014</td>
<td>0.0083</td>
<td>0.0095</td>
<td>0.0065</td>
</tr>
<tr>
<td>2015</td>
<td>0.0093</td>
<td>1.0%</td>
<td>0.0078</td>
</tr>
</tbody>
</table>

SCHN Z-Score is 1.1282. The p-value is 0.12924. The result is not significant at p <0.10

Increased activity by 20%
But this is not evidence!

Multiple interventions not one.

No direct relationship with any one intervention

Many programs going on across NSW health

There have been improvements system wide.

You are not so special.
Prior to 2010
Two individual hospitals with little collaboration

BTF
Jan 2010

SCHN
June 2010

PBC Challenge
2013

PRAT
2015

Falls
2009

Open Disclosure
2013

Sepsis Kills
2012

Clinical Governance Portfolio restructure

2007
Hand Hygiene

2008 Garling Review

2004 CEC

2005 HAI

2012

2013

2015 Current state

2010

Current state

2012 Sepsis

Kills

2013 Open Disclosure

2015 PRAT

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Cause and effect: Transparency

Trend of three SAC1 over six months where calling criteria had been changed

Message from the DCG

Road show “Tales of the Expected”

ED transfer calling criteria enforced

Attendings did not know criteria were being changed

Behaviour changed
Paediatric Intensive Care Outreach Service – Urgent Calls

Number

<table>
<thead>
<tr>
<th>Year</th>
<th>Between the Flags</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tr>
<td>2009</td>
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<td>550</td>
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<td>2011</td>
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Cause and Effect?

My intention is to get fit
Several factors influenced this goal
  Mother-in-law
  Home alone with kids
  Accreditation survey
  12 week fitness program
Repeat fitness test
  Objectively I am fitter

Monitoring performance, aligning activities to become fit and being aware of the pitfalls contributed to achieving the goal intended.

66 bpm
resting heart rate
How did this happen?

Was it the pushups?
Was it the weights?
Was it the running?
Was it the diet?

No one individual activity was responsible

Working within a framework, designed to improve fitness was the key.
Outcome

Restructuring of clinical governance at SCHN was done on the basis of forming cross facility networks and alignment with agreed standards and objectives.

Sustained reduction in serious harm and medico legal cases has been observed as well as other improvements.

Programs rolled out across NSW Health including SCHN have not shown the same improvements elsewhere.

The new structure in addition to improved awareness and strong leadership from CE and Board has created an environment where communication is improved, there is clarity of purpose and programs can thrive.
Have we seen this in health?

“Do large-scale hospital and system wide interventions improve patient outcomes: a systematic review”
Clay-Williams et al. BMC Health Services Research 2014, 14:369

Improved outcomes were observed for studies where outcomes were measured at least two years after the intervention. Associations between organisational factors, intervention success and patient outcomes were undetermined:

This does suggest the answer is yes.
“A system is perfectly designed to get the results it gets”