# Lessons from other Industries for Transforming Health Care

Will Falk

April 22, 2009

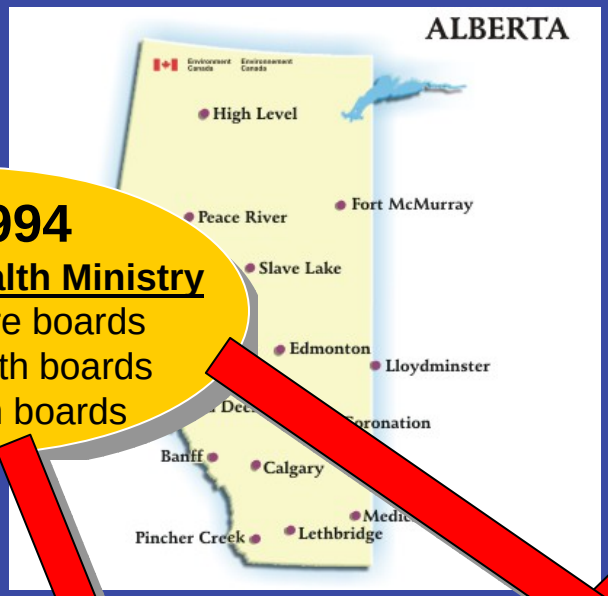
# Lessons from Other Industries: Purpose

- Provide some examples that raise fundamental questions
- “De-anchor”. Hopefully without giving offence
- Be leading edge while remaining relevant to the challenges of today
- Have some fun with it!

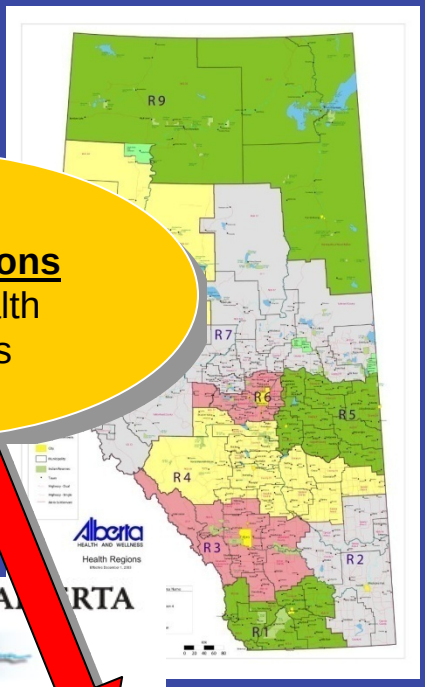
# Reorganizing and Restructuring: What do We Have to Learn from Telecoms?

*Source: The Colbert Report*

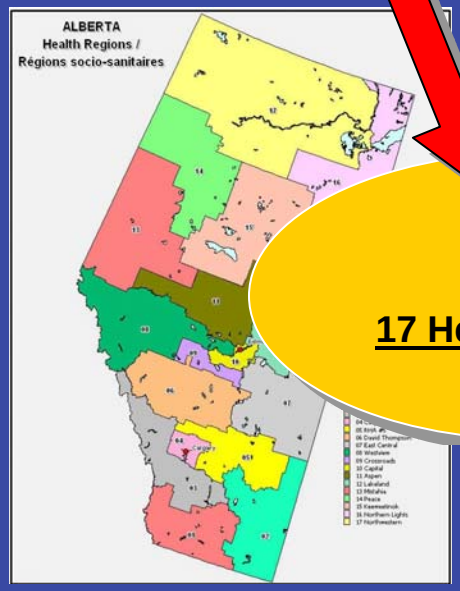
# Not Much! Healthcare Leads the Way.



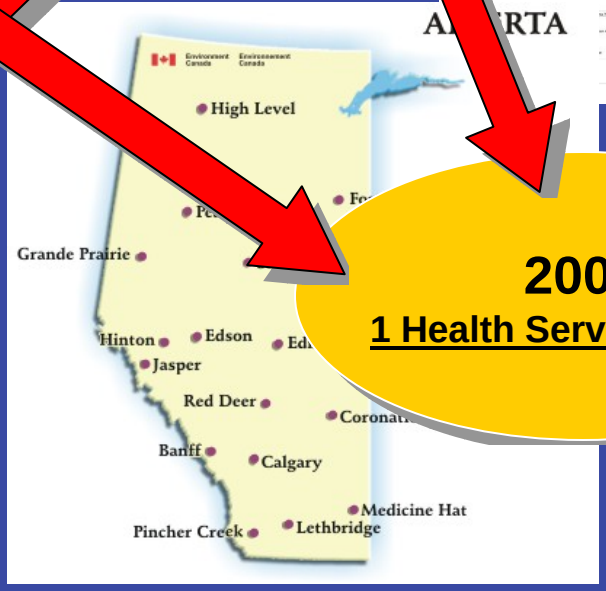

**Pre-1994**
**1 Provincial Health Ministry**
128 acute care boards
25 public health boards
40 long-term boards




**2003**
**9 Health Regions**
+ Mental Health
+ Addictions
+ Cancer



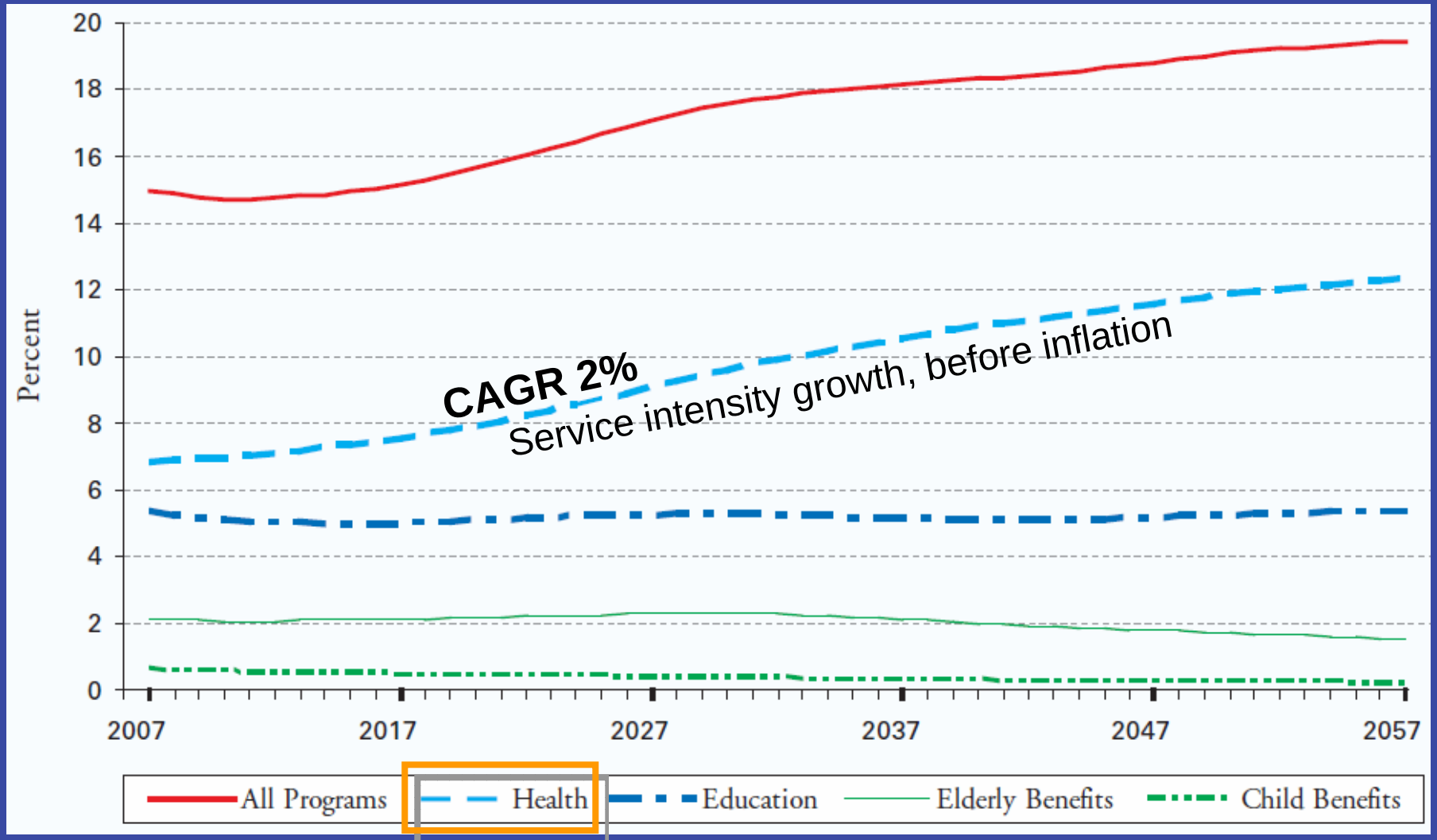

**1994**
**17 Health Regions**




**2008**
**1 Health Services Board**

# Healthcare Has A Core Belief in: The Straight Line of Death!

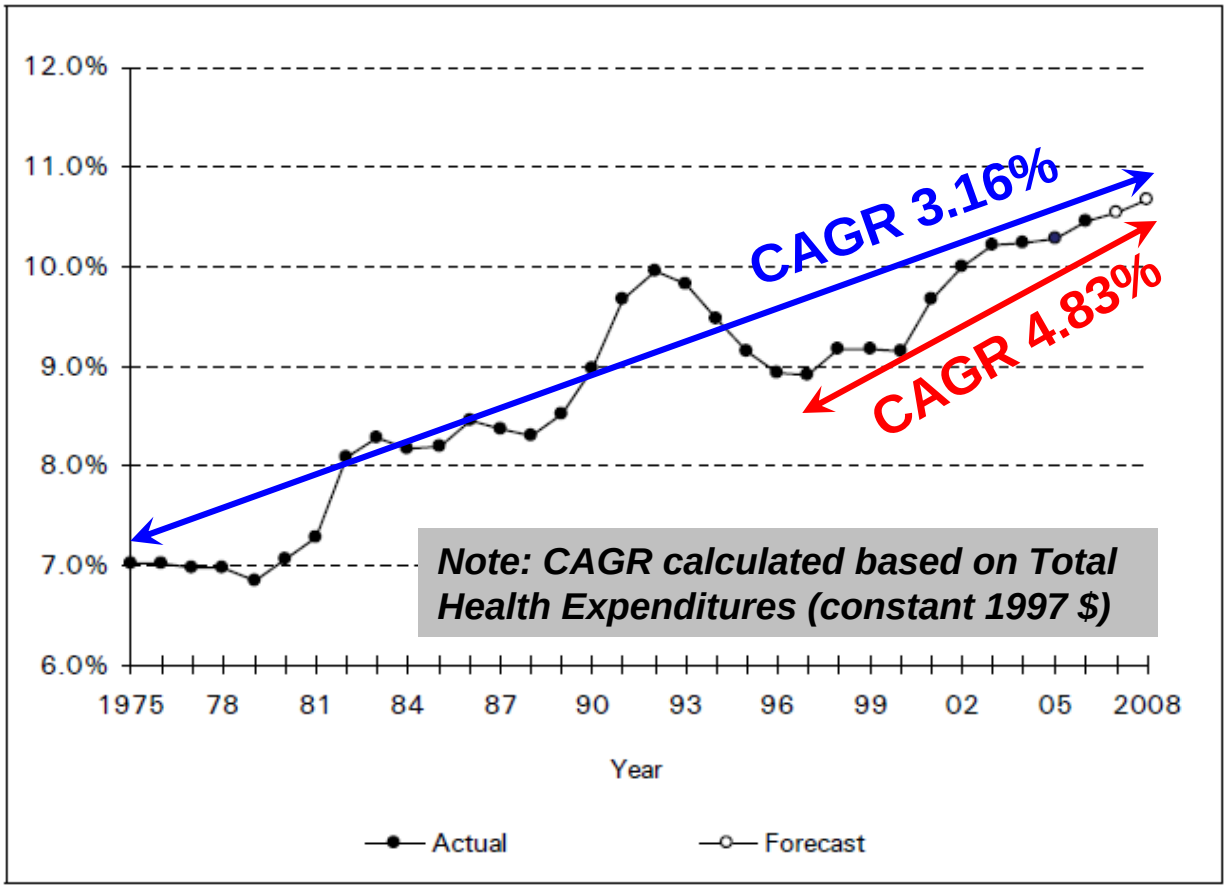
Major Demographically Driven Program as Share of GDP: National Total




*Source: "Boomer Bulge", Robson, January 13, 2009*

# We believe this because of our history
# Costs: Health Spending vs. GDP

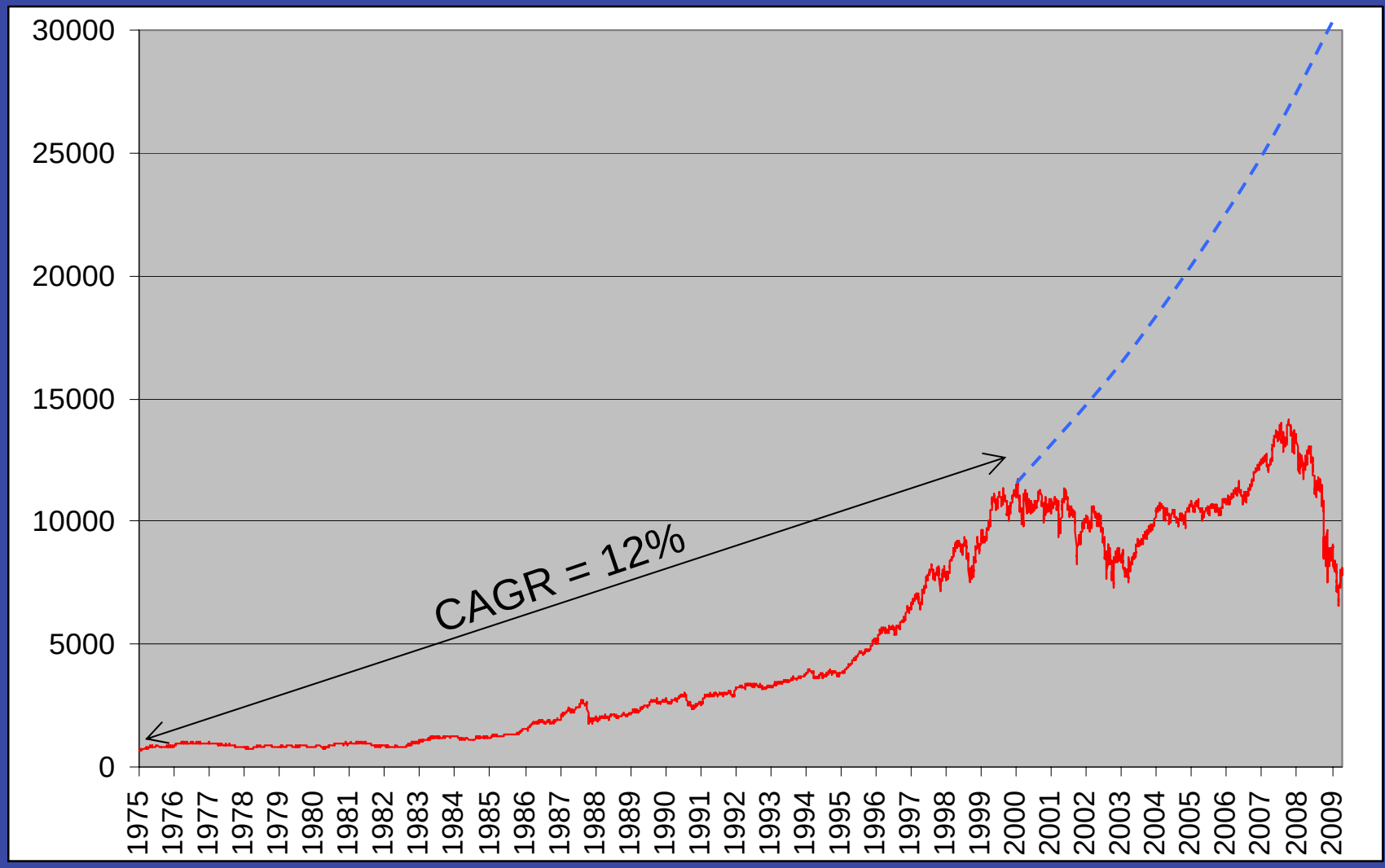
Figure 5 Total Health Expenditure as a Percentage of Gross Domestic Product, Canada, 1975 to 2008




Sources
National Health Expenditure Database, Canadian Institute for Health Information; Gross Domestic Product, Statistics Canada.

*Sources: Canadian Institute for Health Information; Statistics Canada*

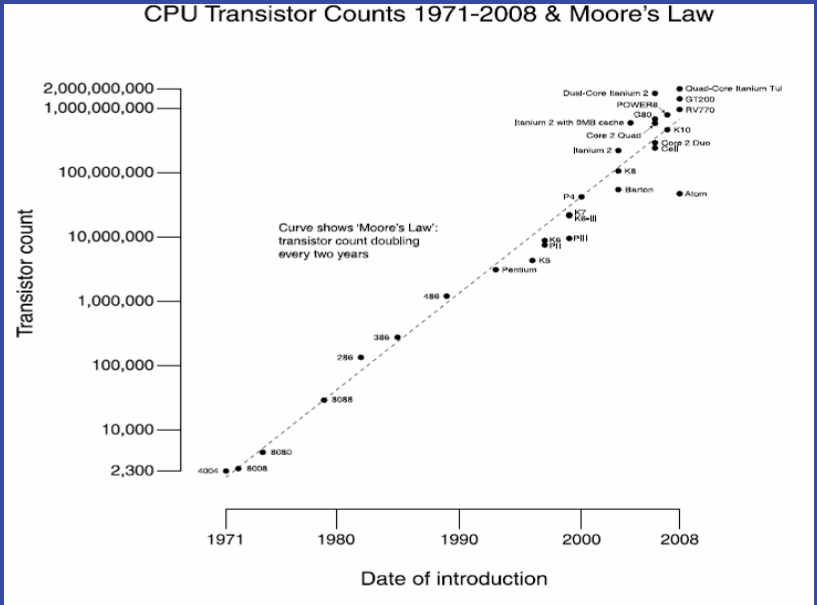
# Lessons from Other Industries…
# Another Straight Line: Dow Jones 30,000!

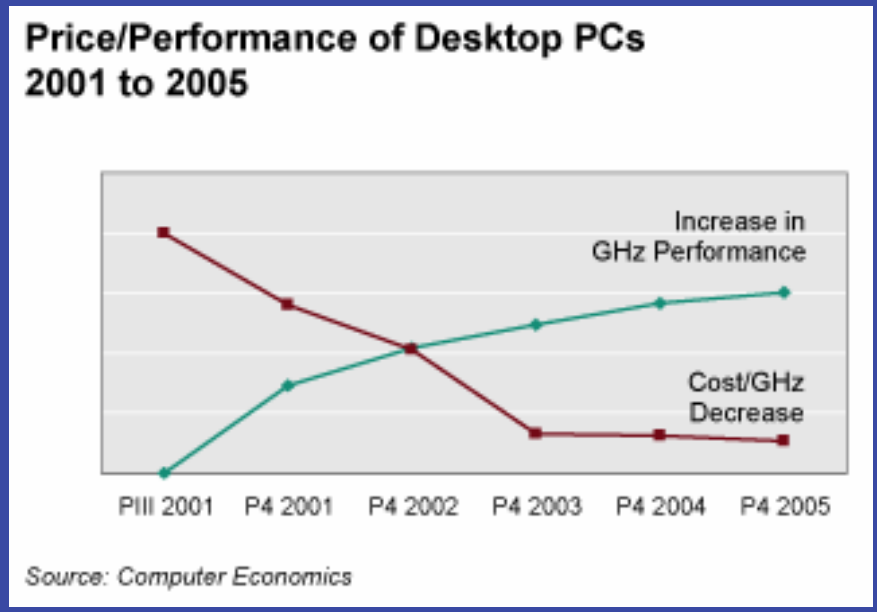



*Source: Yahoo! Finance*

# Costs: Lesson from the Computer Industry

Moore's Law: Transistor count doubles every two years




What is its application to health care?

*Source: Four students from MGT 2017 (J. Clayman, S. Yang, A. Lo, T . Looi)*

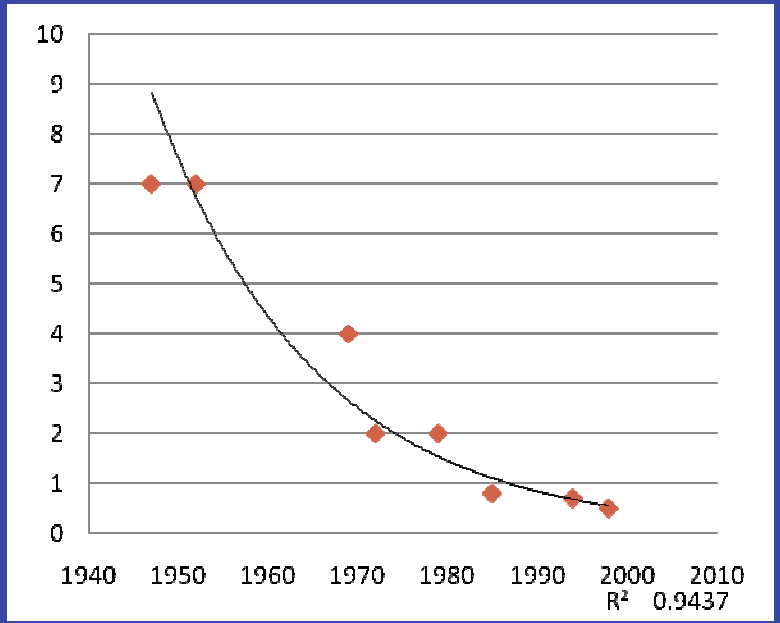
# Case Study #1:
# Centre of Excellence in Cataracts

Direct to Patients

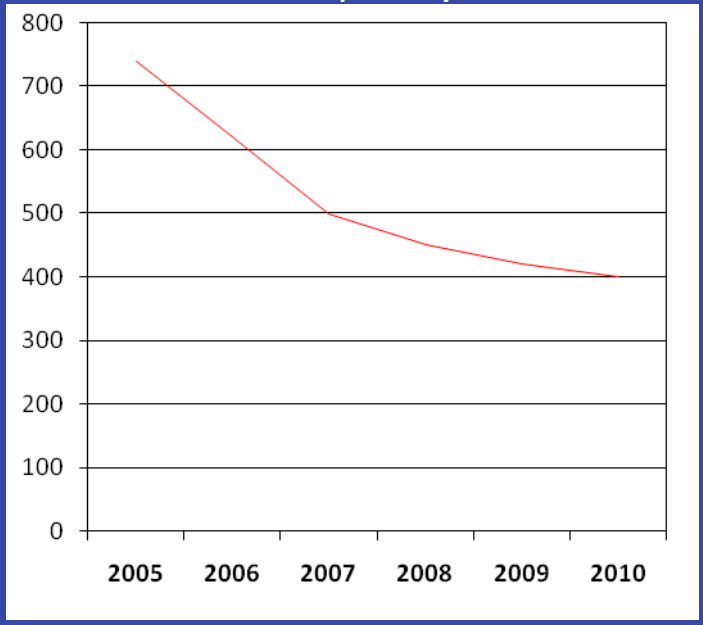
KEI

Patients

Cost in Inpatient Nights




Price per Eye




| Cost | Quality | Access | Value |
|---|---|---|---|
| 40% reduction in cost (from 2005 to 2008) | >40% reduction of resident's falls at KEI (other measures of comfort, outcomes, and safety also improved) | KEI responsible for 58% Decrease in wait times in <2 years, volume of 7200/yr, capacity of 12, 000/yr | ↑ |

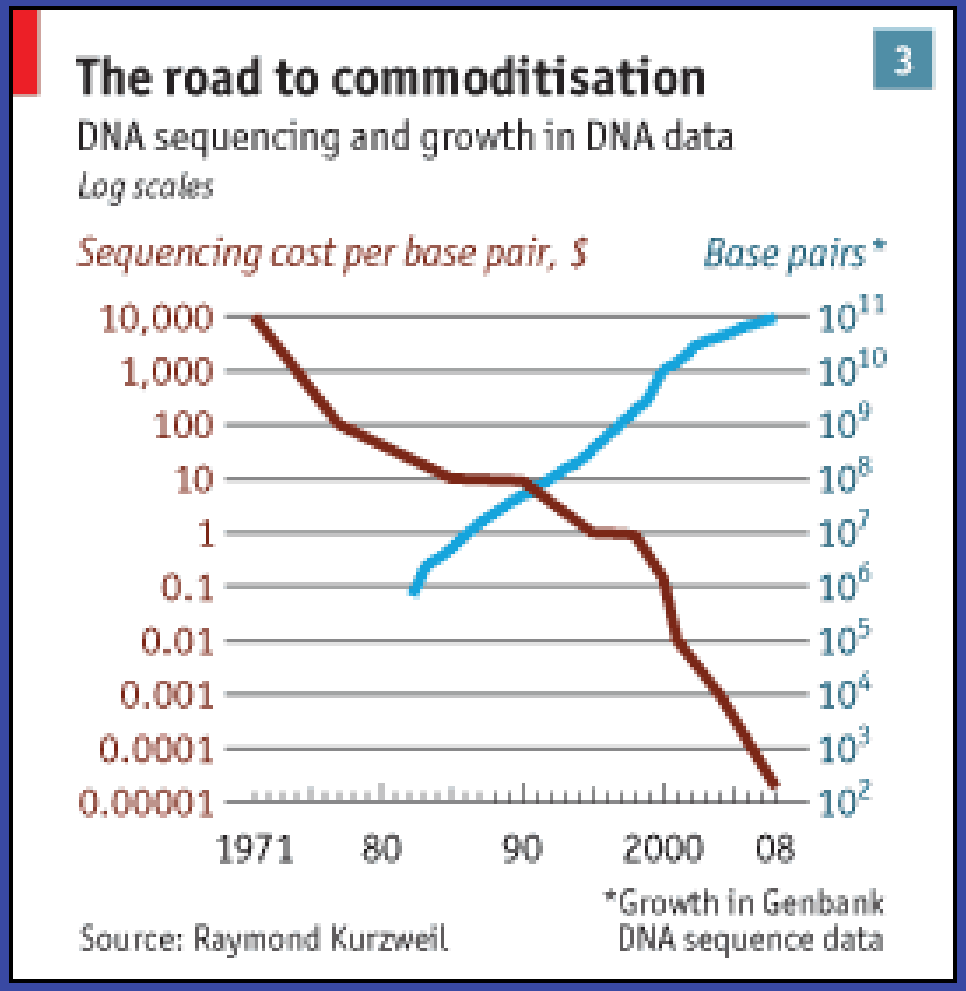
*Source: Four students from MGT 2017 (J. Clayman, S. Yang, A. Lo, T . Looi)*

# Case Study #2: Diagnostic Imaging Across Canada

- Clinicians in urban centres can review images of patients in rural areas instantly, reducing lag time for diagnosis, need for travel and lowering costs
- **On average, DI delivers 25-30% improvement in radiologists' productivity**
- More than half of referring physicians indicate DI improved efficiency of clinical decision-making by 30 to 90 minutes per week; capacity increase equivalent of up to 500 additional specialists across Canada
- 39% of radiologists now reporting for new remote sites; improved remote reporting enables radiologists to support care delivery and improve access for remote geographies and populations
- **30-40% improvement in turnaround times** (clinical decisions and subsequent treatment of patients now occurs 10-24 hours sooner)
- Eliminates 10,000-17,000 patient transfers each year

*Source: Dick Alvarez at MGT 2017*

# Case Study #3:
# Moore's Law and the Genome



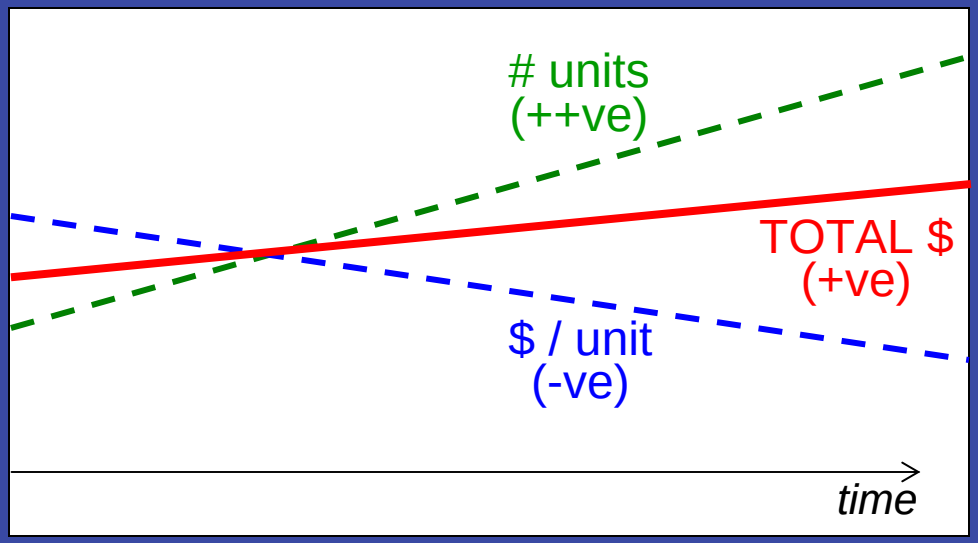

- Sequencing equipment has been improving even faster than Moore's law!
- In the last decade the pace has been increasing.

*Source: "Getting Personal", The Economist, April 16, 2009*

# Costs: What's really happening?

Things become clearer when you consider trends over longer periods of time…

- Surgery and Diagnostic Imaging
- Cardiac Devices?
- Lab Tests?
- Individual drugs?

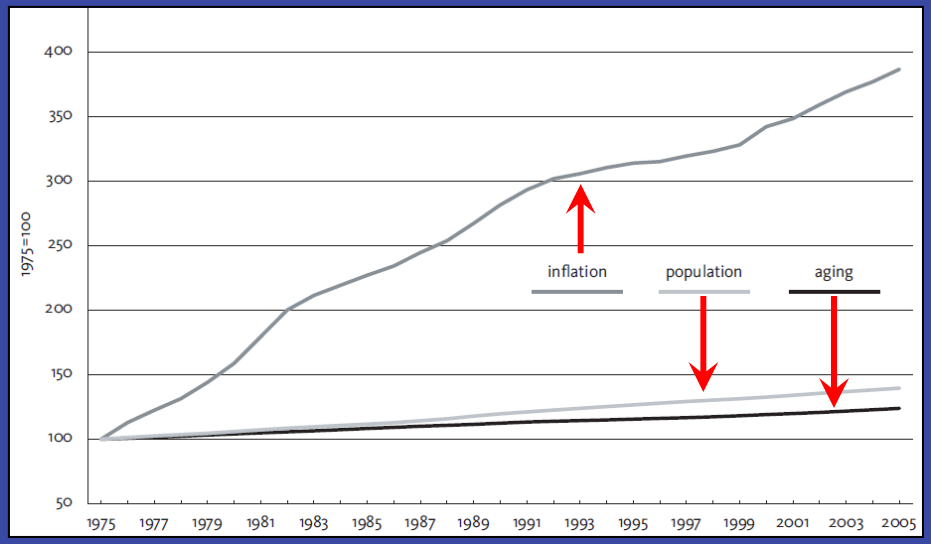



***Lessons:***

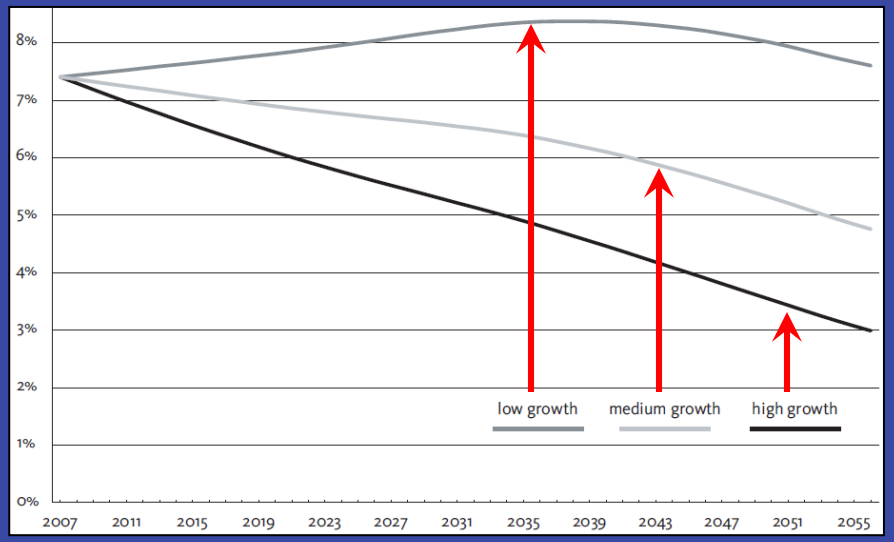
- ***We have mistaken rising total costs for rising unit costs. Many unit costs are actually declining!***
- ***We need to manage at the cost per unit & basket level***
- ***Some VERY good news in our future around the end of the next decade – "The Healthcare Dividend?"***

# Lessons in Costs:
# It Costs More Because We Want More!

**Comparison of Cost Drivers, 1975-2005**




**Three Economical Growth Scenarios: Health as % of GDP**




- Aging and population only account for 0.8% and 1.0% per year cost growth; inflation accounts for 2.5%
- The real challenge is in financing the enrichment of health care: new drugs, surgical techniques, DI technologies, and end-of-life care (30-50% of health care expenditures happen in the final year of life)
- Canadians now receive 1.5X the health care of Canadians 30 years ago
- Even with medium growth in GDP, health care costs are controllable within the current basket; the tough decisions will be in managing the "enrichment" of services offered. We need to create room to buy more!

*Source: "How Sustainable is Medicare", CCPA, September 2007*

# New Customer Service Technologies: Lessons from My Lawyer

*"Hi Daniel, it's Will. How are you?"*

"Good. What's up? I am in the middle of a closing."

*"My neighbour's runway crosses on to my farm for fifty feet. Am I OK if he names me as an insured? Anything else I need to do?"*

"Probably should get him to acknowledge that he doesn't have any ownership by right of continued use."

*"Could you draft me something?"*

"Sure. When do you need it? Send me the details by email."

# New Customer Service Technologies: Lessons from My Accountant

He emails me with advice and I pay his bills!

Imagine how it would affect <u>OUR</u> productivity (both his and mine) if I had to go see him for this question…

**From:** Allan Jubenville [ajubenville@kbllp.ca]
**Sent:** Monday, January 12, 2009 9:58 AM
**To:** Falk, William F.
**Subject:** RRSP Limits

WF – 9,999
KF – 9,999

If you have any questions, please let me know.

Regards,
*Allan Jubenville, C.A.*
*Manager*
*Kraft Berger LLP*
*ajubenville@kbllp.ca*
*www.kbllp.ca*

# Technology Adoption in Context

- We are spending billions to implement modern eHealth systems and we will not let providers use 19th and 20th century technology in their daily practice
- This is purely a false economy that results in HHR shortages and deadweight loss to consumers who have to physically see their provider for a visit to happen
- Kaiser Permanente published evidence that its digital efforts have cut visits per patient by an average of 26% thanks to more e-mail & telephone consultations… patients seem to like it too[1]
- If we don't act, we will now see extra-billing and a two tier system
- WE COULD FIX THIS!

***Lesson:***

- ***We have the technology; we just don't use it (or can't)***

*Source: [1] Health Affairs as quoted in The Economist*

# Healthcare Provider Technology Hype Cycle - Gartner

Huge # of new innovations
in the next 2-5 years

This material can be purchased from Gartner

# Solving HR Problems: Lessons from Nannies and Strippers

- In 2004, Canada imported[1]:
  - 5,000 live-in caregivers
  - 1,560 university professors
  - 661 exotic dancers

- According to CNA, we will be short by 113,000 nurses by 2010
- Philippines over-graduates nurses for export
- Capital Health figured this out first and hired 600+ in 2006 and then went back again
- In Nov. 2008, Philippine government signed a bilateral agreement with Canada to supply as many as 57,000 to 113,000 nurses until 2011[2]

*Surprisingly, there has been little press coverage of this initiative in Canada!*

*Sources:* [1] *Washington Post, December 5, 2004*
[2] *Manila Times, December 7, 2008*

# Solving HR Problems: Stimulus and Medical Tourism

- 62-year-old retired Bank of America executive needed surgery for a double hernia
- Private health insurance policy had a steep $10,000 deductible
- Operation would have cost $14,000 stateside
- Paid only $3,900 in hospital and doctor's bills in Costa Rica, and was home four weeks later with no complications

The New York Times — March 20, 2009

**Surgery Abroad**

Average costs of three procedures, including hospital and doctor fees but excluding travel and lodging.

| | Heart valve replacement with bypass | Hip replacement | Knee replacement |
|---|---|---|---|
| **U.S.** | $75,000 | $33,000 | $30,000 |
| **Thailand** | 25,000 | 12,700 | 11,500 |
| **Singapore** | 22,000 | 12,000 | 9,600 |
| **India** | 9,500 | 10,200 | 10,200 |

*Source: Healthy Travel Media*

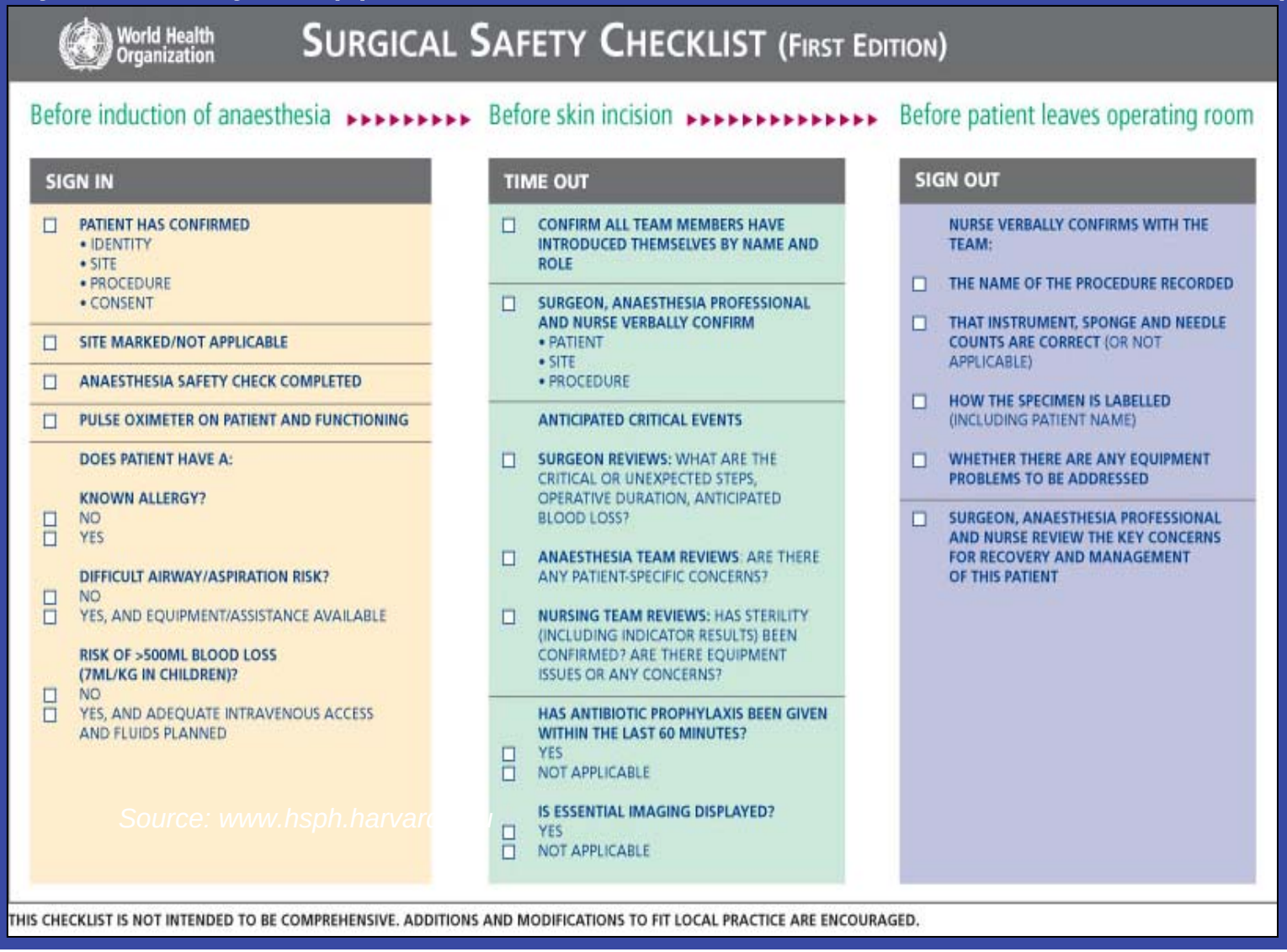
- Cost of surgery performed overseas can be as little as 20% of the price of the same procedure in the United States

*Should Canada be a medical tourism destination for the US?*
*What about remote diagnostics?*

Source: New York Times, March 20, 2009

# Quality: Lessons from Aviation (Checklists)

The WHO developed a 19-step surgical safety checklist that is shocking in its simplicity. Mortality dropped from 1.5% to 0.8% across the 8 WHO hospitals



World Health Organization

## SURGICAL SAFETY CHECKLIST (FIRST EDITION)

Before induction of anaesthesia ▸▸▸▸▸▸▸▸▸ Before skin incision ▸▸▸▸▸▸▸▸▸▸▸▸▸ Before patient leaves operating room

### SIGN IN

☐ PATIENT HAS CONFIRMED
- IDENTITY
- SITE
- PROCEDURE
- CONSENT

☐ SITE MARKED/NOT APPLICABLE

☐ ANAESTHESIA SAFETY CHECK COMPLETED

☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:

KNOWN ALLERGY?
☐ NO
☐ YES

DIFFICULT AIRWAY/ASPIRATION RISK?
☐ NO
☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE

RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)?
☐ NO
☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED

### TIME OUT

☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE

☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
- PATIENT
- SITE
- PROCEDURE

ANTICIPATED CRITICAL EVENTS

☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?

☐ ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS?

☐ NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?

HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES?
☐ YES
☐ NOT APPLICABLE

IS ESSENTIAL IMAGING DISPLAYED?
☐ YES
☐ NOT APPLICABLE

### SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:

☐ THE NAME OF THE PROCEDURE RECORDED

☐ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)

☐ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)

☐ WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED

☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT

Source: www.hsph.harvard.edu

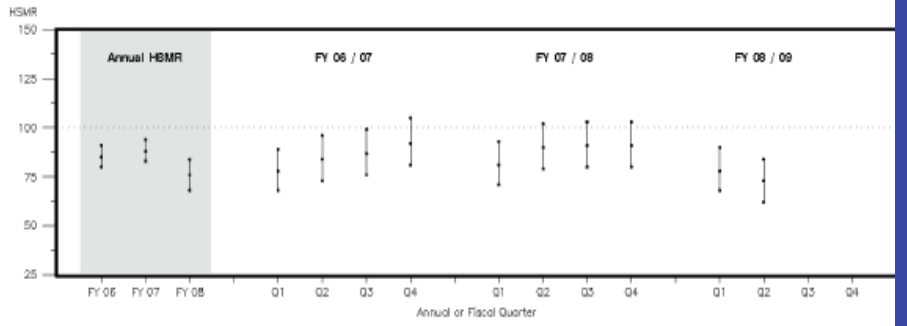
THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

# How Do We Create Value?

- Don’t kill the patient
- HSMR measures hospital risk of dying
- Good value based competition measure
- UHN is now down to 73!!
- Raw unadjusted mortality is down 40 per month

*Hospital Standardized Mortality Ratio (HSMR) - 2008-2009 Q2 Quarterly Report*
*CIHI HSMR Methodology version 3.0*

*University Health Network*




| Fiscal Quarter | Cases | Deaths | HSMR | 95% CI | Significance* | Peer Range | Peer QR |
|---|---|---|---|---|---|---|---|
| Q1 Apr-Jun 2008 | 3,091 | 218 | 78 | 68 - 90 | Yes | | |
| Q2 Jul-Sep 2008 | 2,867 | 178 | 73 | 62 - 84 | Yes | | |
| Q3 Oct-Dec 2008 | - | - | - | - | - | | |
| Q4 Jan-Mar 2009 | - | - | - | - | - | | |
| *YTD FY2008-2009* | *5,958* | *396* | *76* | *68 - 84* | *Yes* | *59 - 113* | *79 - 93* |

HSMR results with '!' should be interpreted with caution

* Significantly different from the FY2004/2005 baseline HSMR of 100 (p<0.05)

HSMR of 100 is the reference value for FY2004-2005

ID:53910, Peer Group: 4

Data submitted as of 05-Dec-08 Periods Outstanding: 0 Report created on 23-Jan-09

# Supply Chain: Lessons from Walmart

- Purchase a flashlight at Wal-Mart
- Cash register reads the bar code
- Within 14 seconds, the Wal-Mart central warehouse is notified that the retail store needs a new flashlight
- Manufacturer is also notified
- Even the raw material suppliers are notified


*Can this be applied to medical supplies?*
*What about medical providers for patient flow?*

# Service: Lessons from FedEx


- Parcel is picked up and tagged, and scanned
- Scanned at each connection point
- I can go online at any time and see the progress towards the end destination

***We should be able to see where a patient has received care starting from the initial diagnosis***

# Efficiency: Lessons from NASCAR


- Team fixes problem and is out of the way within 20 seconds
- Area is then free for next problem

*Can this concept of flexible work areas be applied in hospitals?*

## How do we overcome the Barriers

- Why don’t we learn from these examples from other industries and adopt the techniques?
- We Do!
- But we could do more:
  - Expect cost declines; insist on them
  - Reward those who build a better mousetrap
  - End fuzzy thinking on public/private
  - Continue investing in capital
  - Restrain the guilds in the public interest
  - Act for patients and regain the high ground

# Financial Incentives: Lessons from Telecom in the 80's

## Rate of Return Regulation

**Incentives**:

- Buy overly expensive equipment
- Employ excessive human capital
- Make volume forecasts unrealistically low

*1980s Deregulation*

## Price Cap Regulation

**Incentives**:

- Keep equipment costs low
- Improve human capital efficiency
- Lower prices to boost demand

- Capital efficiency leaped
- Human capital costs dropped by 45%[1]
- Prices dropped dramatically

***Lessons:***

- ***Cost-plus keeps prices high***
- ***Global budgets are raising total costs***
- ***We can change this and make a difference***

[1] http://www.cranbrook.kent.sch.uk/site/economics/A2/Docs/Unit%204/General/70281.pdf

# Financial Incentives: Lessons from Loblaw

## What would you do for 5¢ ?

- In January ‘09, Loblaw started charging 5¢ for each plastic bag
- 55% reduction in plastic bags used

***Lesson: Small incentives really matter to people***


*Source: CBC News, January 12, 2009*

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