Institute for Healthcare Improvement

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Presenter has nothing to disclose

Achieving Value through Improved Quality and Patient Safety

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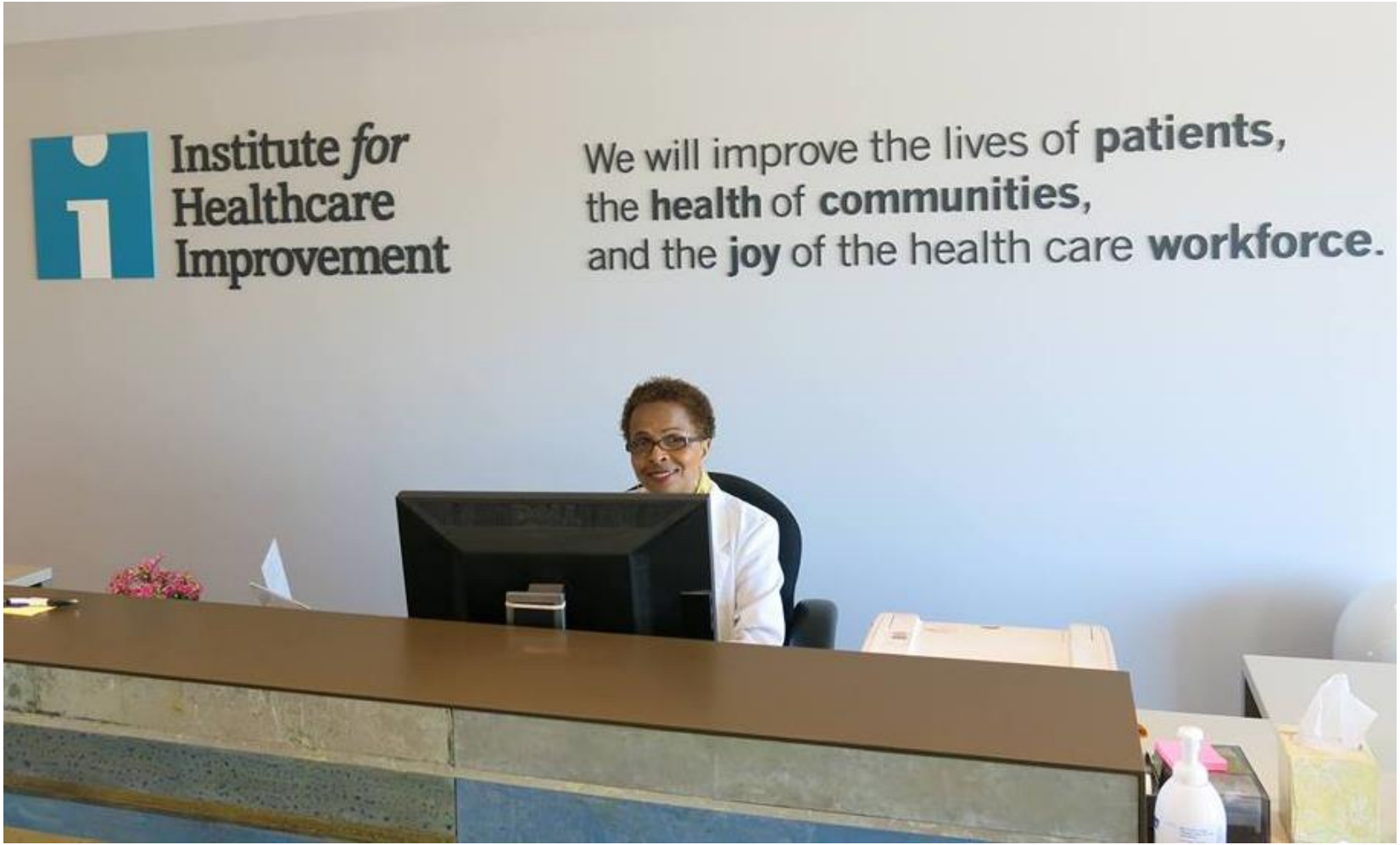

Institute for Healthcare Improvement
We will improve the lives of patients,
the health of communities,
and the joy of the health care workforce.

Our Mission

To improve health and health care worldwide.

Our Vision

Everyone has the best care and health possible.

Who We Are

IHI is a leading innovator in health and health care improvement worldwide, joining forces with the IHI community to spark bold, inventive ways to improve the health of individuals and populations.

Outline

- Six domains of quality
- Global burden of unsafe care
- Value through patient safety
- Continuous Value Management (CVM)
- Lessons from the field
- Conclusion

Mega trends

- Chronic disease
- Ageing and population growth
- Volume to value
- Economics (tighter budgets, rising costs of healthcare)
- Consumerism and Personalization
- Healthcare everywhere
- Wellness

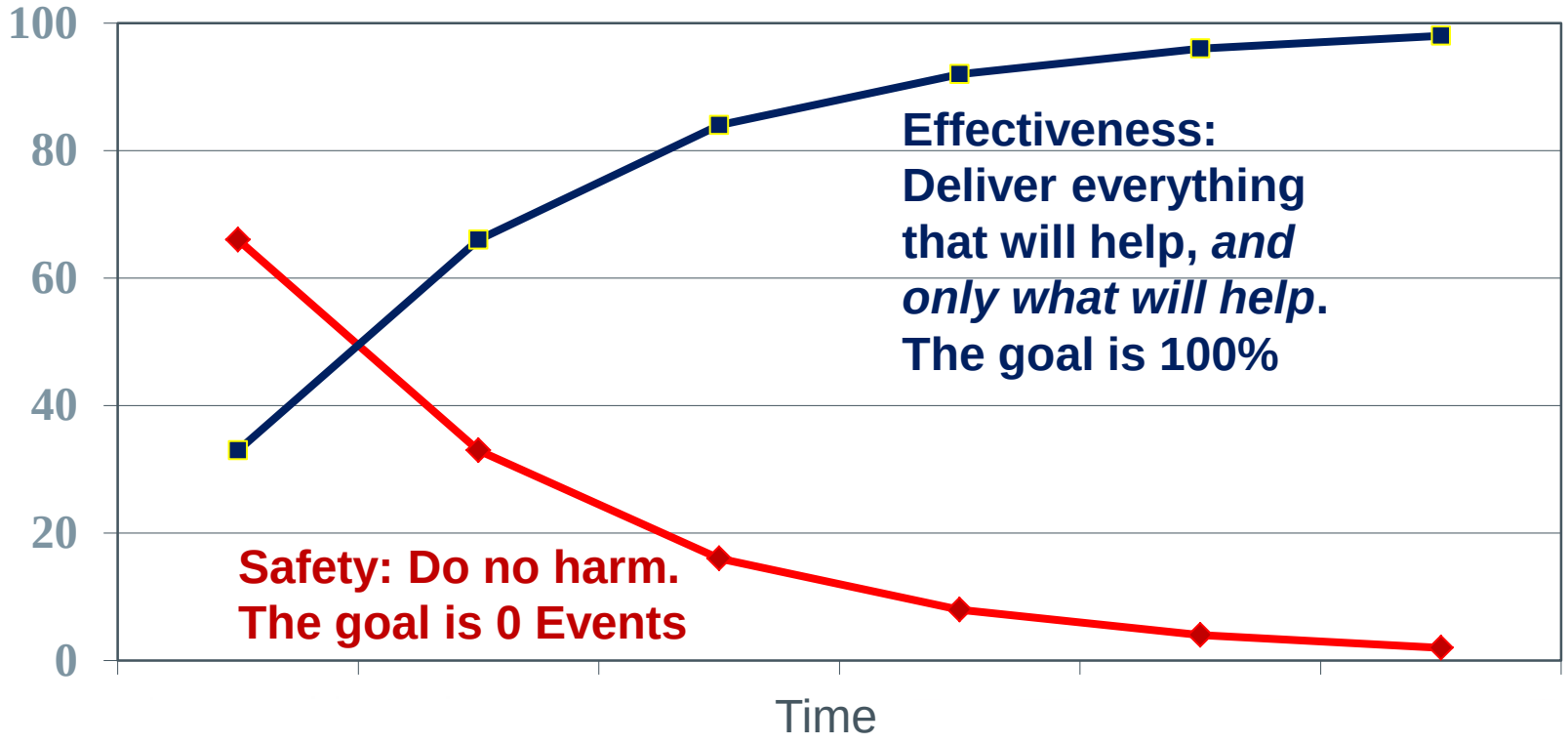
Are we providing the best care?

- 54 year old gentleman with a history of diabetes, high blood pressure and recurrent lung clots
- Had an IVC (inferior vena cava) filter and was on Tinzaparin (low molecular weight Heparin)
- Admitted for an unrelated urological problem and then discharged to attend the clinic
- Attended the ER for a refill of medication. All his medication was renewed except his Tinzaparin.
- About 10 days later he presented with signs and symptoms of acute thrombosis in his left leg.
- Patient required an above-knee amputation

Six domains of Quality (IOM 2001)

- **Safe**: Avoiding harm to patients from the care that is intended to help them.
- **Effective**: Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and misuse, respectively).
- **Patient-centered**: Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- **Timely**: Reducing waits and sometimes harmful delays for both those who receive and those who give care.
- **Efficient**: Avoiding waste, including waste of equipment, supplies, ideas, and energy.
- **Equitable**: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

Two sides of the same coin



Global burden of unsafe care

- 2000: *To Err is Human* **48-98,000 avoidable deaths** in US hospitals due to harm (1)
- 2013: *UK Francis Report* long-standing quality and safety failures leading to unnecessary harm and suffering (2)
- 2013: Estimated global burden of medical error = **42.7million adverse events** (10% of all hospitalizations) (3)
- 2016: Medical error as 3rd leading cause of death in US (after heart disease and cancer) with c250,000 deaths per year (4)

1. Kohn LT, Corrigan J, Donaldson MS (2000) To err is human : building a safer health system. Washington, D.C
2. Francis R (2013) Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry. London: The Stationery Office.
3. Jha AK, et al. (2013) The global burden of unsafe medical care: analytic modelling of observational studies. BMJ Qual Saf 22: 809-815.
4. Makary MA, Daniel, M (2016) Medical error the third leading cause of death in the US. BMJ. 3;353

Cost of Safety (AHRQ 2013)

Hospital Acquired Condition	Estimated Additional Cost* per HAC	Estimated Additional Inpatient Mortality per HAC
Adverse Drug Events	$5,000	.020
Catheter-Associated Urinary Tract Infections	$1,000	.023
Central Line-Associated Bloodstream Infections	$17,000	.185
Falls	$7,234	.055
Obstetric Adverse Events	$3,000	.0015
Pressure Ulcers	$17,000	.072
Surgical Site Infections	$21,000	.028
Ventilator-Associated Pneumonia	$21,000	.144
Postoperative Venous Thromboembolism	$8,000	.104

Proven Methodology: Science of Improvement

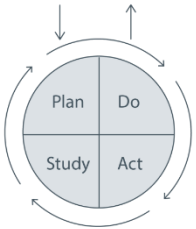
W. Edwards Deming
1900-1993

API's Model for Improvement

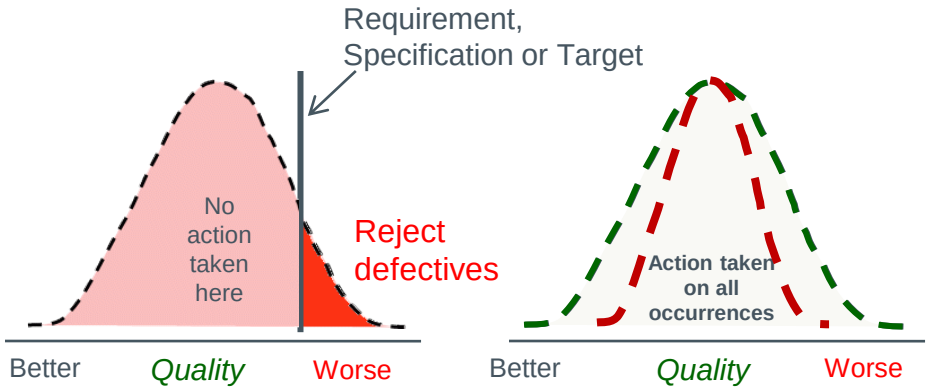
What are we trying to accomplish?

How will we know that the change is an improvement?

What changes can we make that will result in improvement?



Improvement vs Control



(Quality Control) (Quality Improvement)

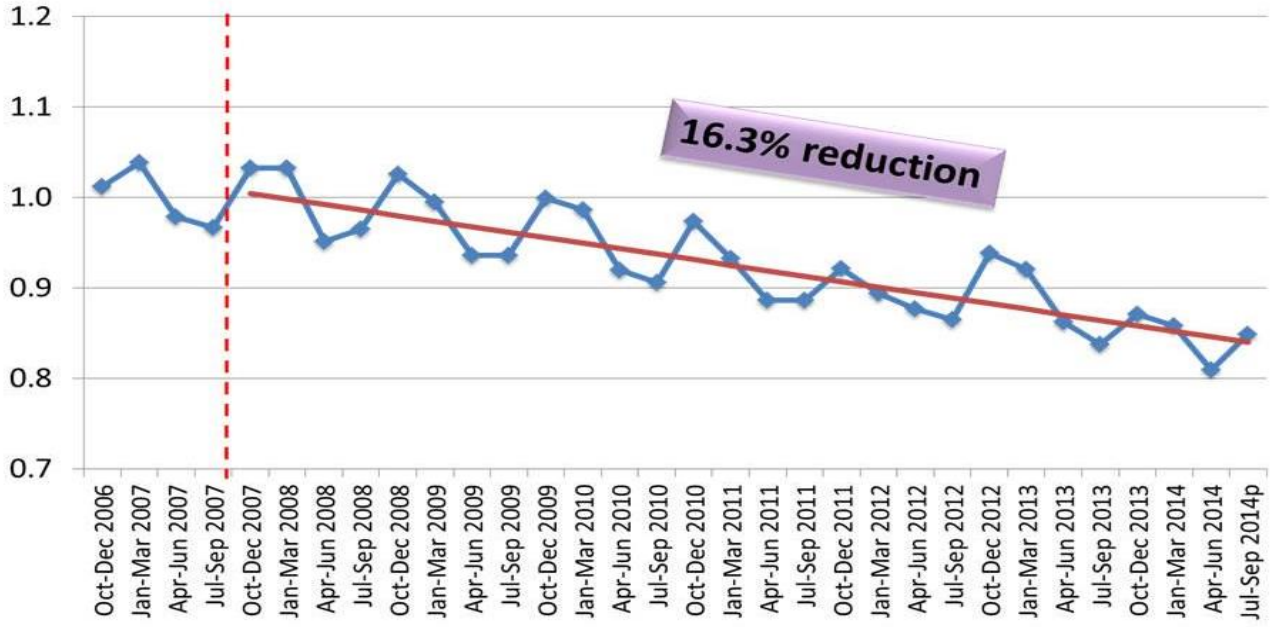
Source: Robert Lloyd, Ph.D.

SPSP Outcome Aim Set In 2008

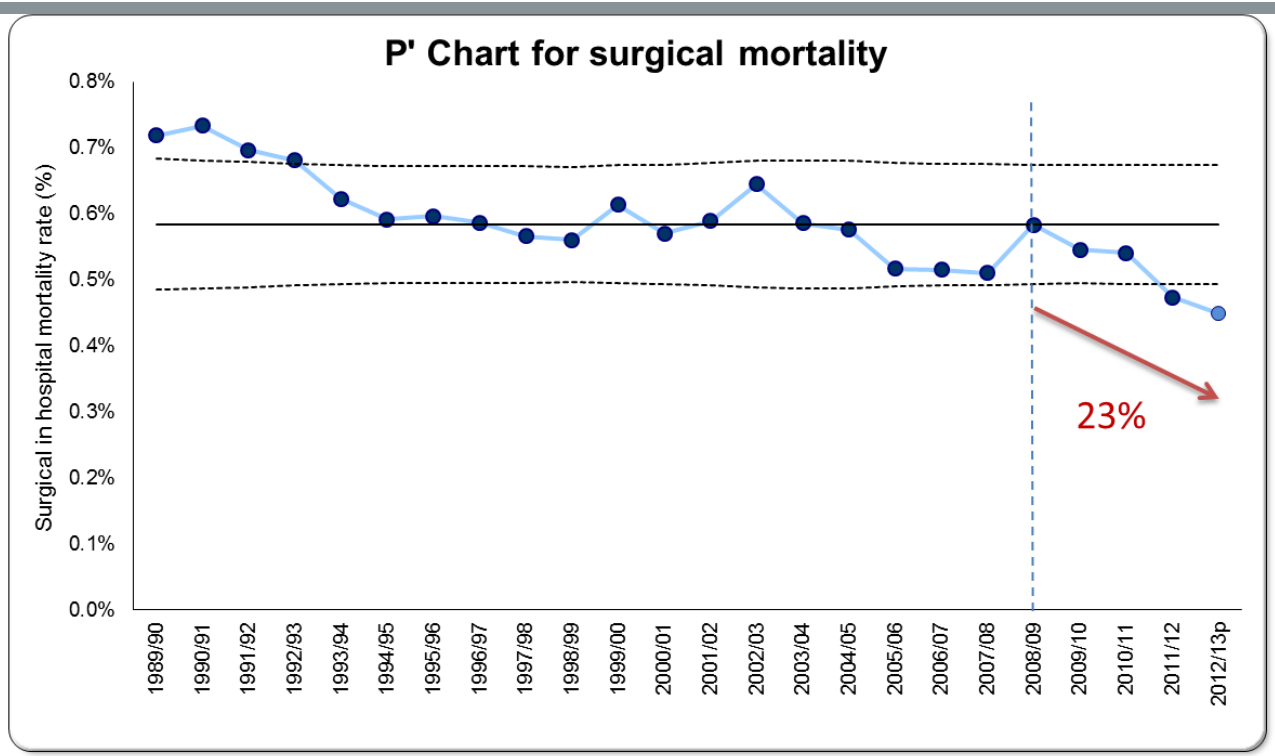
- Mortality: 15% reduction
- Adverse Events: 30% reduction
  - Ventilator Associated Pneumonia: 0 or 300 days between
  - Central Line Bloodstream Infection: 0 or 300 days between
  - Blood Sugars w/in Range (ITU/HDU): 80% or > w/in range
  - MRSA Bloodstream Infection: 30% reduction
  - Crash Calls: 30% reduction

- To be achieved across the nation by 2012
- Mortality aim amended to 20% by 2015

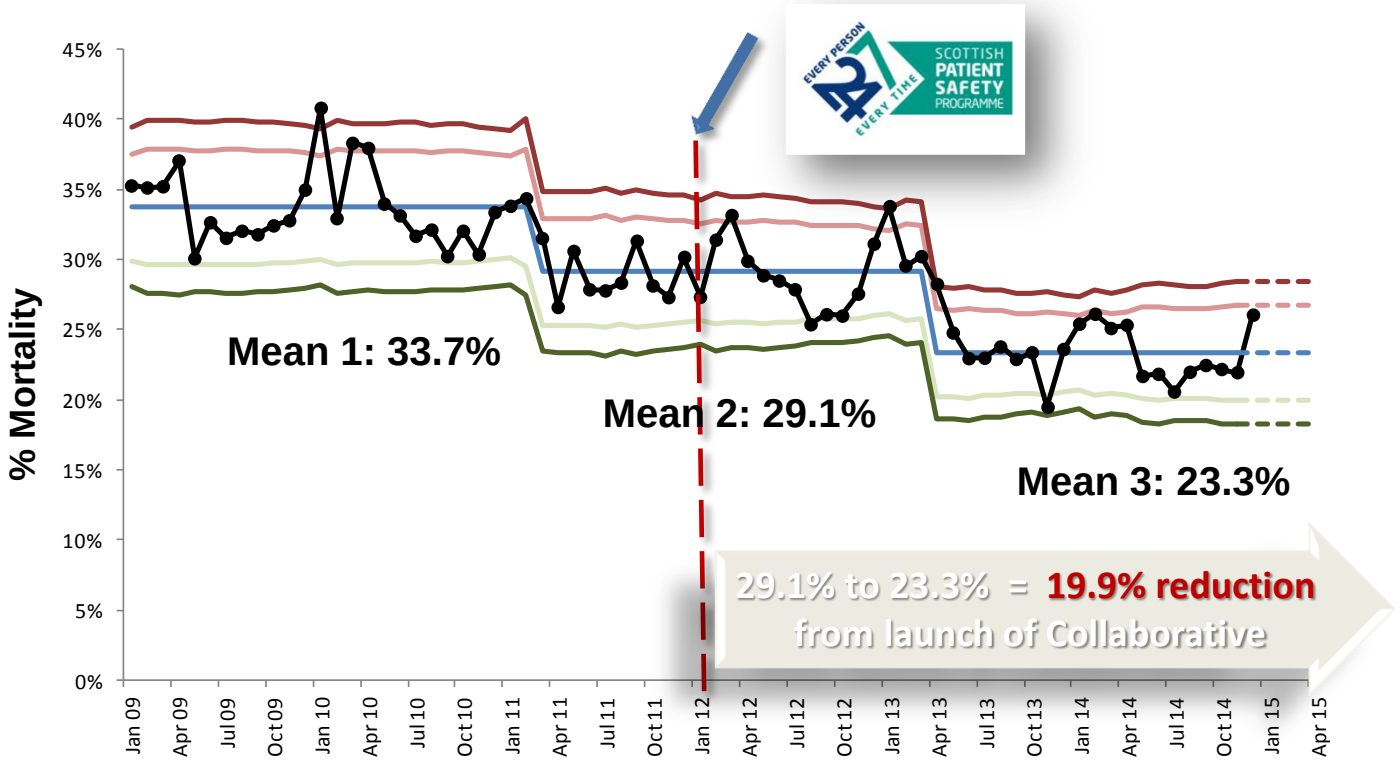
Hospital Standardised Mortality Ratio 10/06 – 9/14



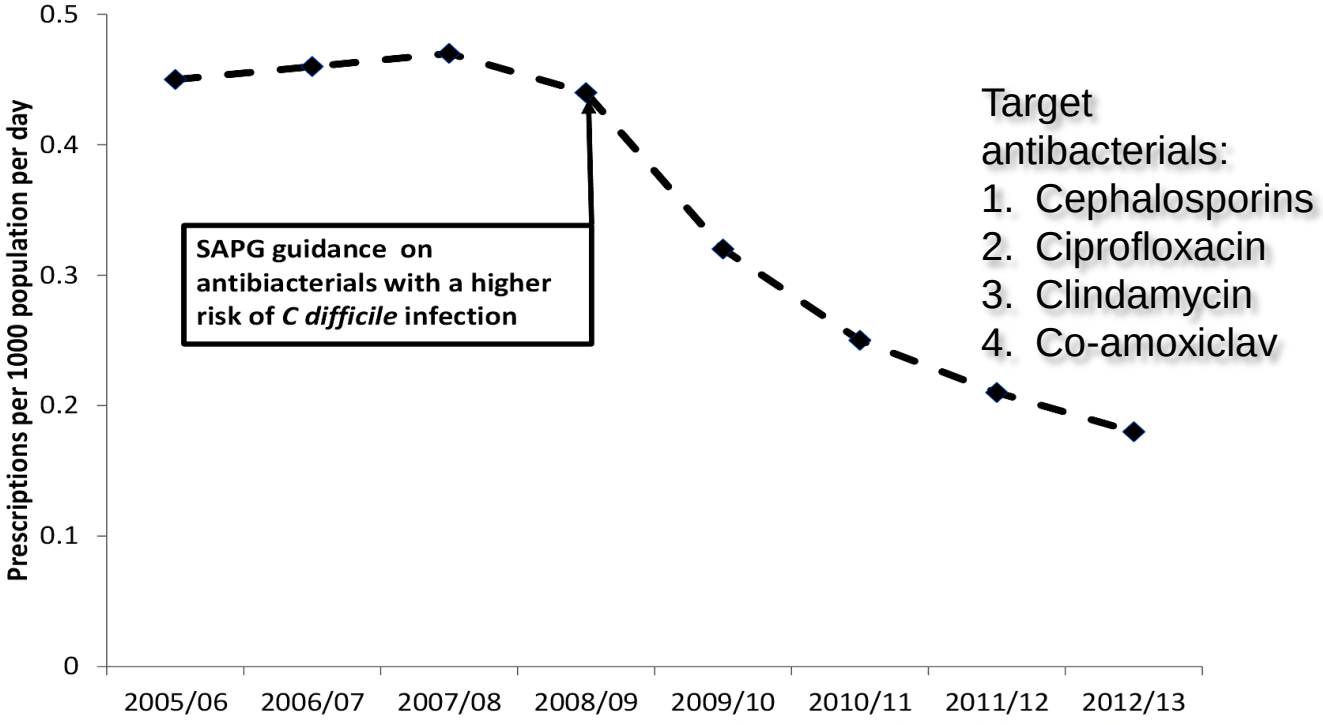
NHSScotland Surgical Mortality



%30 Day Mortality of ICD 10 (A40/A41)

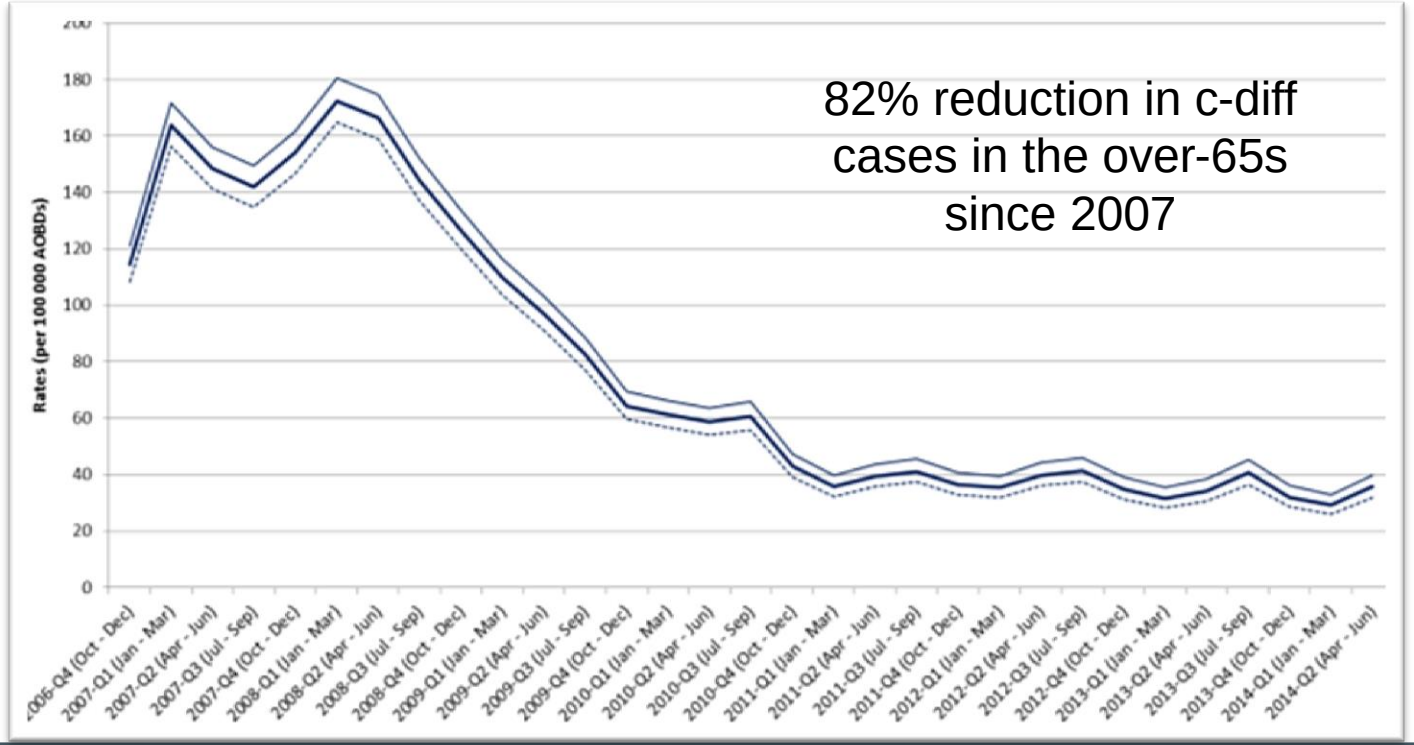


National reduction in “4C” antibacterials in primary care



Source: Scottish Antimicrobial Prescribing Group Primary Care Prescribing Indicators reports, 2010 and 2012-13

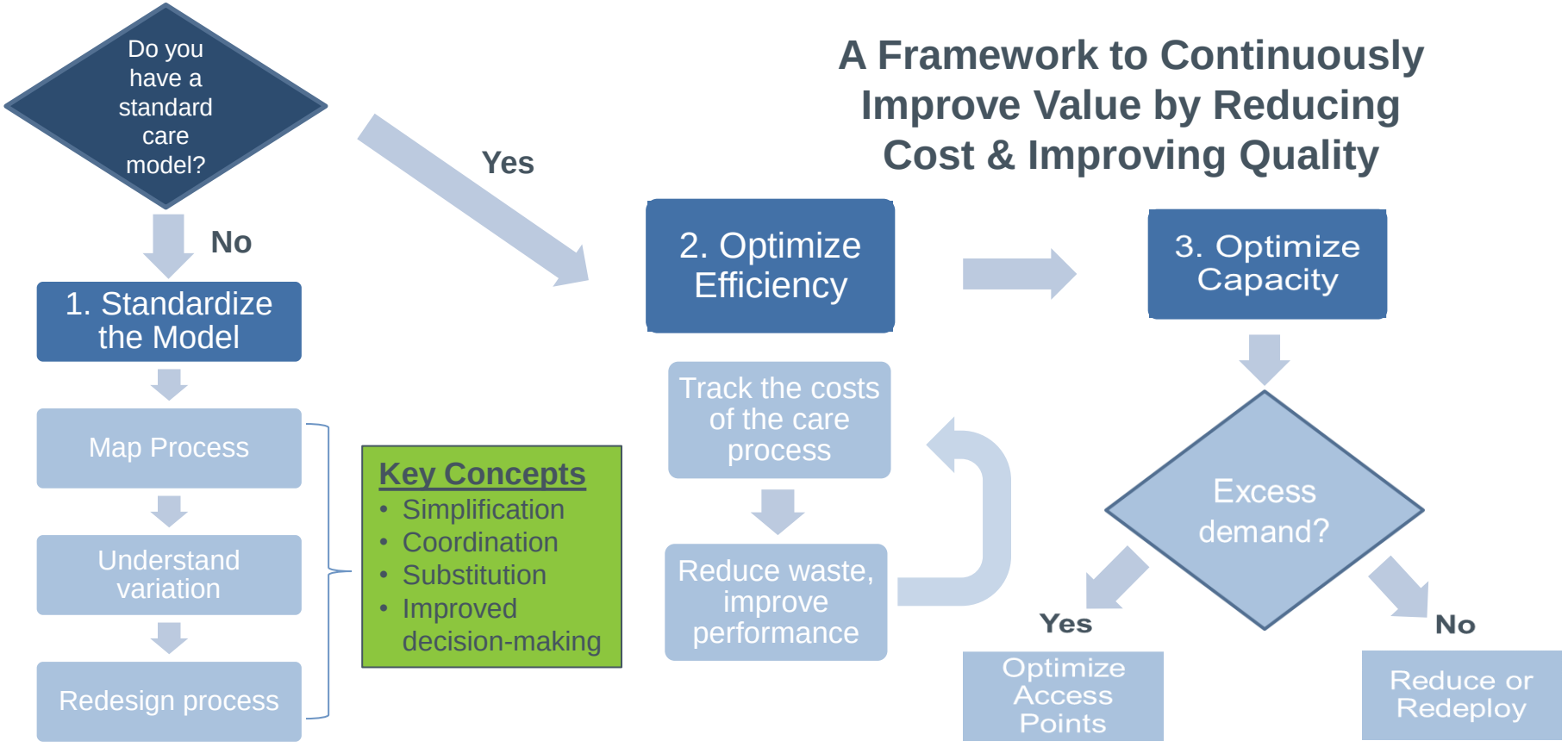
Quarterly rates of C Diff per 100,000 Bed Days (65+)



Source: Health Protection Scotland

Continuous Value Management (CVM)

A Framework to Continuously Improve Value by Reducing Cost & Improving Quality



Check Continuously:

- ✓ Is quality high and consistent?
- ✓ Is staff engagement high? What is the impact on job satisfaction?

Lessons from the field: Joint Replacement Learning Community

Aim Statement: Reduce costs of TJR by 5% (denominator) while maintaining or improving clinical and patient reported outcomes (numerator) by Dec 2014.

Additional detail:

- IHI efforts with Harvard Business School and 32 orthopedic teams
- Applied time-driven activity-based costing to estimate the cost of delivery care for hip and knee replacement
- Applied process improvement techniques to reduce costs and improve outcomes over time
- Evidence of limitations of ‘Biopsy” model of TDABC and need for new method of “Continuous Value Improvement”

JRLC: Examples of Value Added

STRAUB CLINIC & HOSPITAL

- 159-bed specialty hospital in Honolulu, HI
- Standardization steps:
  - routine dosing of pain medications for pain control,
  - bedside discharge medication delivery,
  - early inpatient rehab referral,
  - clearer communication with patients regarding d/c expectations and timing
- Results include change in LOS for hips from 2.43 to 1.92, improvement in scores for patient ability to control pain from 84% to 96%

GUNDERSEN HEALTH SYSTEM

- Comprehensive health network including 2 hospitals, 4 health centers, and 27 clinics in Midwestern U.S.
- Standardizations steps:
  - Enhanced communication between patients, teams, and families
- Results include improvement in Hip and Osteoarthritis Outcome Score (HOOS) of 44.4 points (median change)
- Also significant improvement in market share and contribution margins

Conclusion

- A System design that is one aim with three dimensions:
  - Improving the health of the populations;
  - Improving the patient experience of care
  - Reducing the per capita cost of health care.

When you come upon a wall, throw your hat over it, and then go get your hat.

— Irish Proverb

Thank You

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