

การก้าวสู่องค์กรพยาบาลที่มีประสิทธิภาพสูงสุด  
Steps to be  
the Highest efficient Nursing organization

ผศ.นพ.วิศิษฐ์ วามวาณิชย์

ผู้อำนวยการ รพ.ศิริราช

# Nurses

are **critical** to the delivery of  
High Quality , Efficient care



Dictionary

## **efficiency**

*noun* ef·fi·cien·cy \i- 'fi-shən-sē\

: the ability to do something or produce something without wasting materials, time, or energy

: the quality or degree of being efficient ( *technical* )

*Effectiveness is...*  
*"Doing the right thing"*

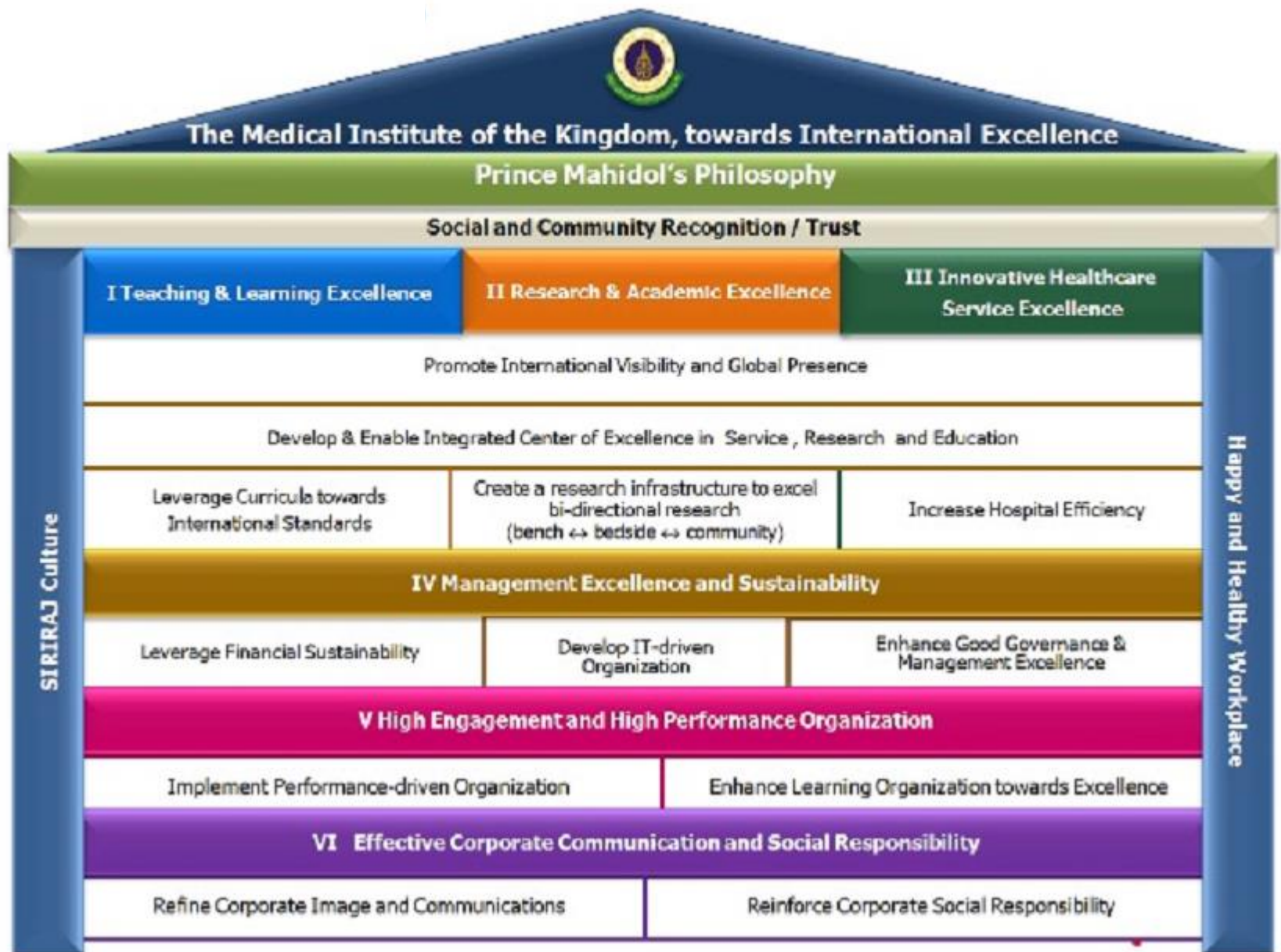
*Efficiency is*  
*"Doing the thing right"*



# Why efficiency is so important?



# Siriraj Strategic Map 2015-2018





# ปรัชญาของเศรษฐกิจพอเพียง

ทางสายกลาง



**ความรู้**

รอบรู้ รอบคอบ ระมัดระวัง

**คุณธรรม**

ซื่อสัตย์สุจริต ขยันอดทน สติปัญญา แบ่งปัน

นำไปสู่

เศรษฐกิจ/สังคม/สิ่งแวดล้อม/วัฒนธรรม

สมดุล/พร้อมรับการเปลี่ยนแปลง

# Siriraj Hospital Strategic initiatives

## Increase Hospital Efficiency

### High Value International Healthcare System

ระบบบริการสุขภาพที่มีคุณค่าและได้มาตรฐานสากล

- **Provide High Quality & Reliability Treatment and Care with International Standard**

ให้การรักษาและบริการที่มีคุณภาพและความน่าไว้วางใจสูงตามมาตรฐานสากล

- **Deliver High Productivity Health Care System**

จัดระบบการให้บริการผู้ป่วยอย่างมีประสิทธิภาพสูง

- **Integrate Services and Establish Networks to Provide Complete Circles of Care for Complicated Disease**

บูรณาการและสร้างเครือข่ายของการรักษาพยาบาลผู้ป่วย โรคซับซ้อนอย่างครบวงจร



# Siriraj Hospital's Four Pillars to Excellence

Sustainable Excellence

Safety

Quality

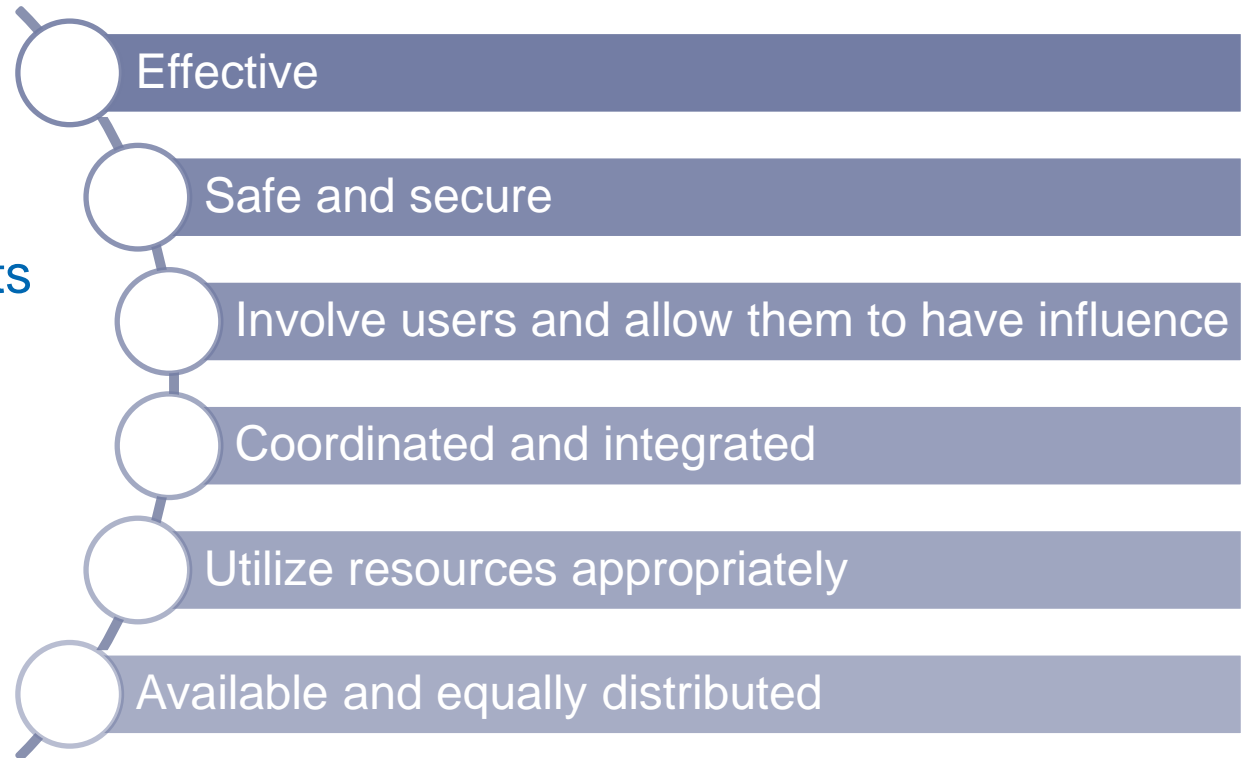
Productivity

Innovation

# International Quality Frameworks: Norway

## National Strategy for Quality Improvement for the Health and Care Services, 2005-2015

Six aims/elements  
of high-quality  
health services



# International Quality Frameworks: United Kingdom

**2008:** Quality should include patient safety, patient experience, & effectiveness of care. (Source: Lord Darzi, National Health Service Next Stage Review)

**2013-2014:** Five domains for quality improvement derived from the quality definition outlined by Lord Darzi (Source: NHS Outcomes Framework 2013/14)

Domain 1

Preventing people from dying prematurely;

Domain 2

Enhancing quality of life for people with long-term conditions;

Domain 3

Helping people to recover from episodes of ill health or following injury;

Domain 4

Ensuring that people have a positive experience of care; and

Domain 5

Treating and caring for people in a safe environment; and protecting them from avoidable harm.

# Quality- Efficiency Link

**Efficiency is achieved by reducing waste...**



**Quality is essential to Efficiency because Quality and Waste are inextricably linked**

# Safety & Quality Management Framework

## II-1 การบริหารความเสี่ยง คุณภาพ และความปลอดภัย

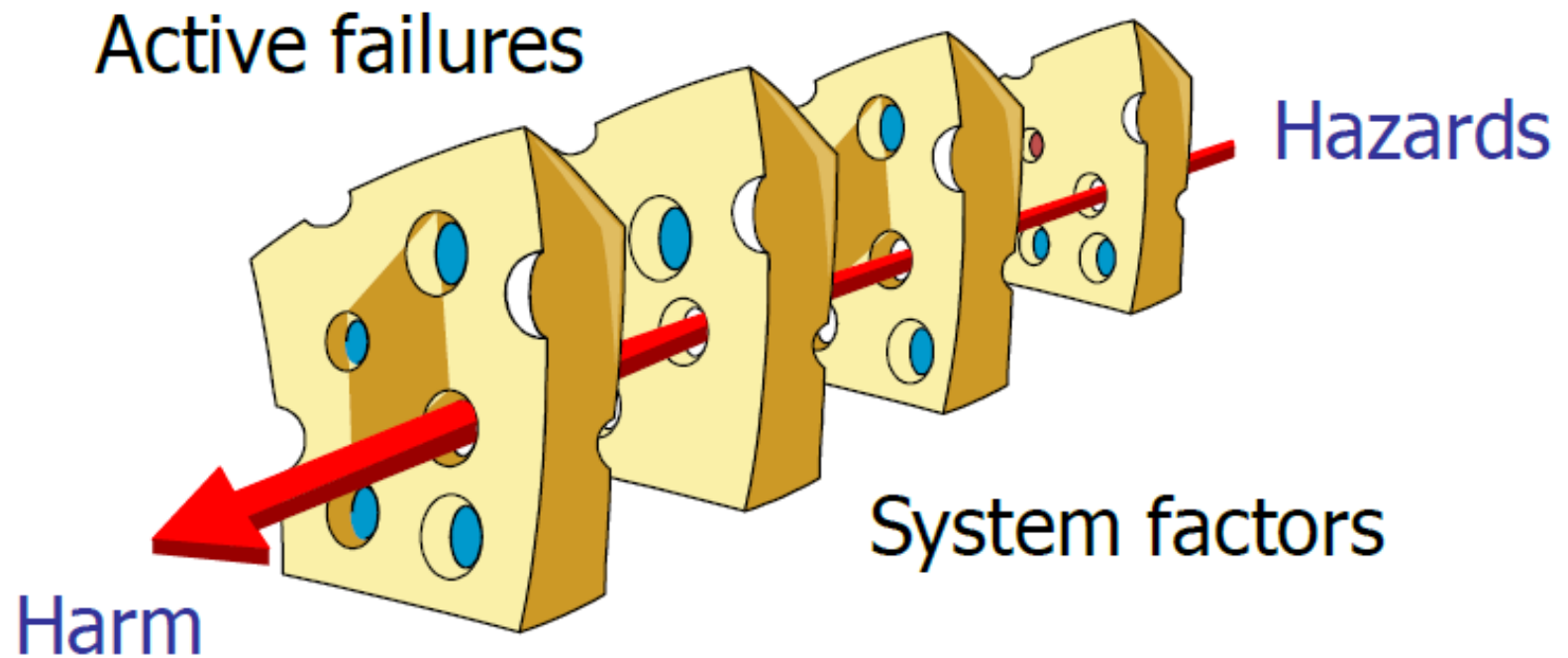


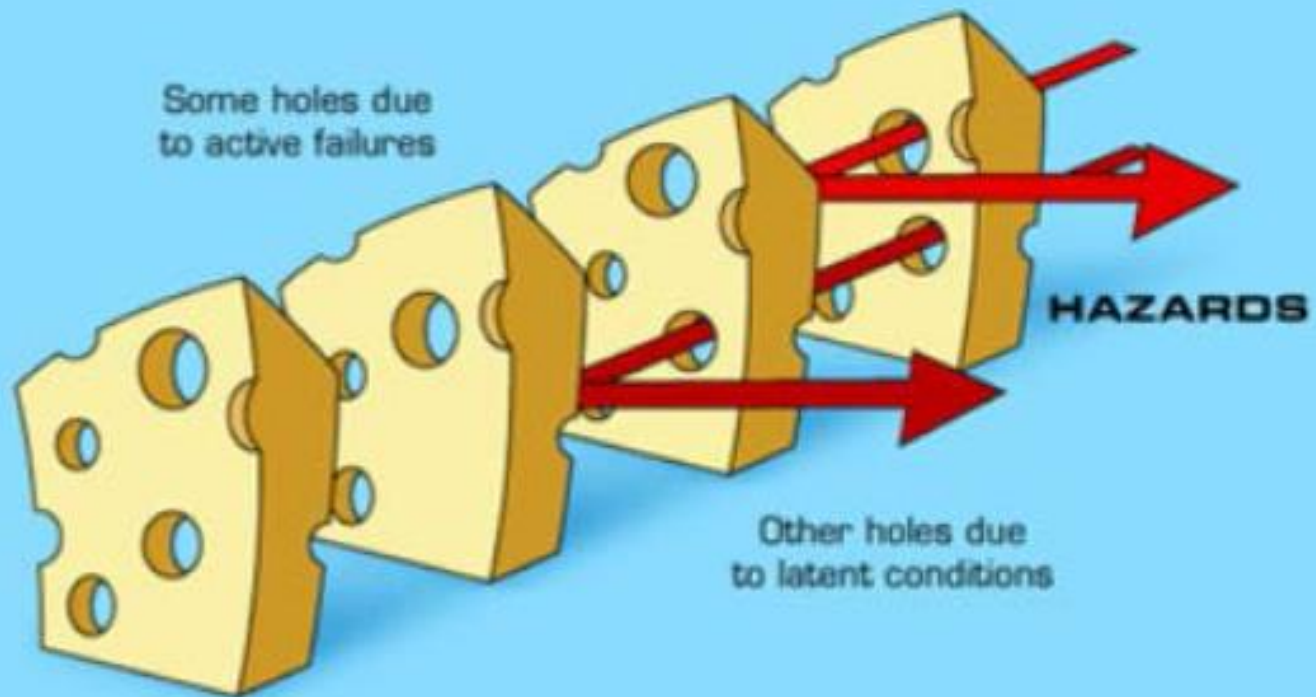
# Effective Risk and Safety Management

- Risk Management
  - Risk identification
  - Risk Prevention



# The Causes of Safety Failures





**SUCCESSIVE LAYERS OF DEFENSES**

# Siriraj's Patient Safety Goals

## 1. Safe surgical team

### 1.1. Correct procedure at correct body site

### 1.2. Surgical safety checklist

## 2. Hand Hygiene/Clean Hand

## 3. Safe from ADE

### 3.1. Improve the safety of High-Alert Drug

#### 1. Safe surgical team

##### Surgical safety checklist



#### SIRIRAJ SURGICAL SAFETY CHECKLIST/ MARKING SITE

### 2. Hand Hygiene/Clean Hand



จัดเตรียมยาที่มีความเสี่ยงสูงให้พร้อมใช้  
เพื่อป้องกันการคำนวณขนาดยาผิดพลาด และการมียาเหลือทิ้ง

#### การผลิตยา

- Morphine injection 1 mg/mL,
- Morphine 0.5 mg/mL no preservative,
- Pethidine 10 mg/mL, Fentanyl 10 mcg/mL

ในรูปแบบ Prefilled syringe พร้อมใช้

#### Poka Yoke



Succinylcholine



Dobutamine



Dopamine



Fentanyl



Thiopental



Midazolam



## การจัดการ Dispensing error

ยา Look Alike จัดวางแยกชั้นกัน



Tobrex eye oint



Tobradex eye oint

Sound-Alike

ใช้ระบบ IT สร้างความแตกต่างที่ชื่อยา

| ชื่อยาที่เปลี่ยน     | ชื่อยาที่คงเดิม    |
|----------------------|--------------------|
| SULFA-DIAZINE        | SALAZOPYRIN        |
| DOBU-TAMINE          | DOPAMINE           |
| LORA-TADINE          | LORAZEPAM          |
| TO-BRA-DEX           | TOBREX             |
| CE-BA-RAX            | CELEBREX           |
| DAIWO-BET OINTMENT   | DAIWOX OINTMENT    |
| GENTEAL **EYE GEL    | GENTEAL EYE DROP   |
| LASIX TAB **500 MG   | LASIX TAB 40 MG    |
| ANTHELIOS XL **FLUID | ANTHELIOS XL CREAM |

## TPN Calculator

**Bundle**

การสื่อสารให้บุคลากรต่างๆ ทราบ

ติด sticker MDR (Multiple Drugs Resistance) ลงบน sticker CP (Contact Precautions) ที่หน้าเพิ่มรายงานผู้ป่วยใน/เพิ่มผู้ป่วยนอก

**การแยกผู้ป่วย**

แยกอุปกรณ์ : Stethoscope เครื่องวัดความดัน BP cuff ป้อนหลอดลม  
ชุดอุปกรณ์ Bed bath bed pan ขวดสีสวaze /Urinal/เครื่องใช้/อาหารและน้ำดื่ม  
ให้ใช้เฉพาะราย

**การทำความสะอาดมือ-ออนและหลังสัมผัสผู้ป่วย**

**การลดปริมาณเชื้อด้วยยาพื้นเมือง**

**การเคลื่อนย้ายผู้ป่วย**

TPN Calculator ver. 2.3

Name: \_\_\_\_\_

Vit: \_\_\_\_\_ kg Total Volume (ไม่เติมน้ำยา) \_\_\_\_\_ mL Rate \_\_\_\_\_ mL/hr

**Ingredients**

| Ingredients                    | Requirement  | mL    |
|--------------------------------|--------------|-------|
| 50% Glucose                    | _____ %      | _____ |
| 20% KCl (2 mEq/mL)             | _____ g/kg   | _____ |
| 3% NaCl (0.5 mEq/mL)           | _____ mEq/kg | _____ |
| 10% Na Acetate (3 mEq/mL)      | _____ mEq/kg | _____ |
| 10% Ca Gluconate (0.45 mEq/mL) | _____ mEq/kg | _____ |
| 50% Mg SO4 (4 mEq/mL)          | _____ mEq/kg | _____ |

☒ Pedtrace (1 mL/kg/day; Max 15 mL)

☒ Soluvit N (1 mL/kg/day; Max 10 mL)

☒ Heparin (1 U/1 mL TPN)

**Fat Emulsion (ไม่เติมน้ำยา)**

Fat = \_\_\_\_\_ g/kg

Vitalipid N Infant (4 mL/kg; Max 10 mL)

Drip in \_\_\_\_\_ hr Rate \_\_\_\_\_ mL/hr

**Standard Formula (พ่วงโภชนาการ)**

Glucose \_\_\_\_\_ % Calo. \_\_\_\_\_ %

**Prediction of precipitation**

10% Aminosol, 10% Ampiparen and 8% Aminosol

5.5% Yaminofact

พิกัดกะลาล



# Siriraj's Patient Safety Goals

## 4. Patient Identification

การระบุตัวบุคคลให้ถูกต้อง :

การเชื่อมโยงข้อมูลกับสำนักทะเบียนราษฎร์ กรมการปกครอง  
อ่านข้อมูลจากบัตรประชาชน (smart card)

## 5. Communication

### 5.1. Effective Communication –SBAR

### 5.2. Communication during patient care handovers

## 6. Preventing common complication

### 6.1. Preventing Pressure Ulcers

### 6.2. Preventing Patient Falls



แนวทางปฏิบัติใช้ SBAR

1. จัดสรรเวลาให้เพียงพอ ไม่  
ขัดจังหวะ มีการทวนซ้ำ อ่านซ้ำ

2. ให้ข้อมูล

1) สถานะผู้ป่วย

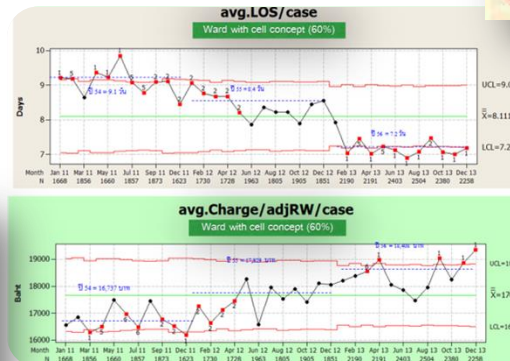
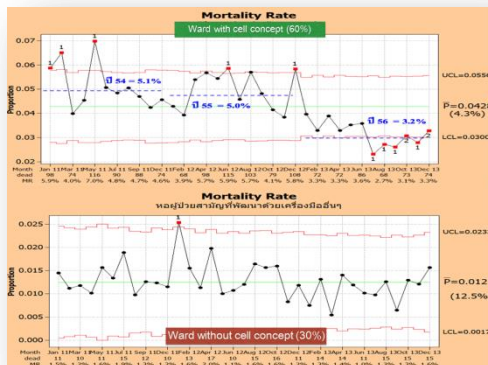
2) ยาที่ได้รับ

3) แผนการรักษา

4) advance directive

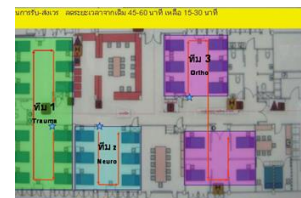
5) การเปลี่ยนแปลงที่สำคัญ

4. จำกัดการส่งมอบเฉพาะข้อมูล  
จำเป็นเพื่อการดูแลผู้ป่วยที่ปลอดภัย



## Patient care handovers

ดูแลผู้ป่วยแบบ Cell Concept : Reduce Patient Risk



• ลดระยะเวลาการส่งเวรได้วันละ 30-60 นาที/วัน

• ลดระยะเวลาการทำงานลง 1,095 ชั่วโมง/ปี คิดเป็นมูลค่า 818,337.50 บาท/ปี

# Effective Risk and Safety Management

- Risk Management
  - Risk identification
  - Risk Prevention
- Safety Management
  - Incident report
  - Patient care review
  - Management & Learning
- Risk Awareness
- Safety Culture

# Coordinated Effort for Quality Program

- Leadership Support

ผู้นำให้การสนับสนุนอย่างไร

- Teamwork

การทำงานเป็นทีมในระดับต่างๆเป็นอย่างไร

- Integration & Coordination

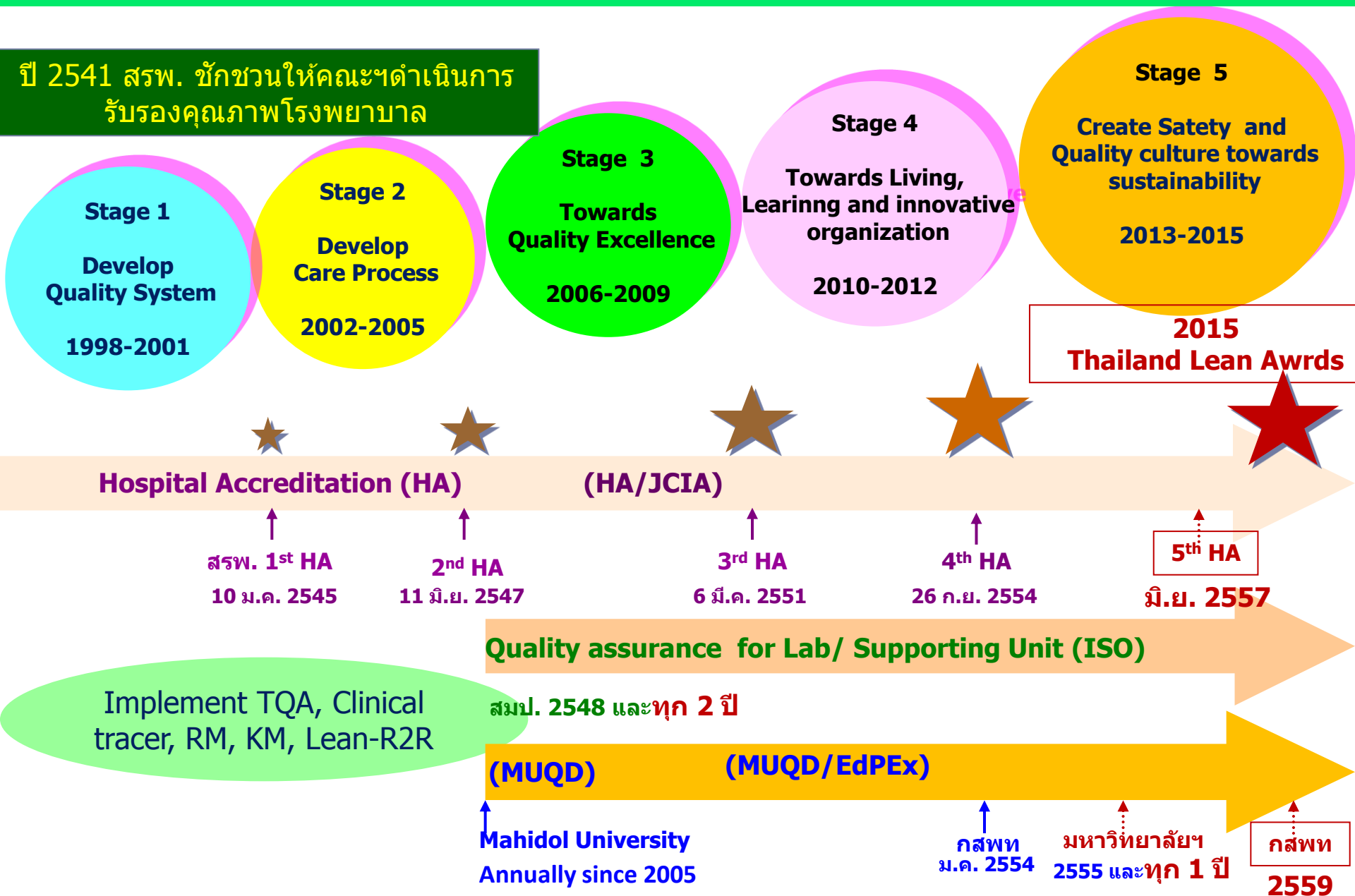
มีการเชื่อมโยงประสานงานดีเพียงไร

- Self assessment

มีการใช้ประโยชน์จากการประเมินตนเองอย่างไร

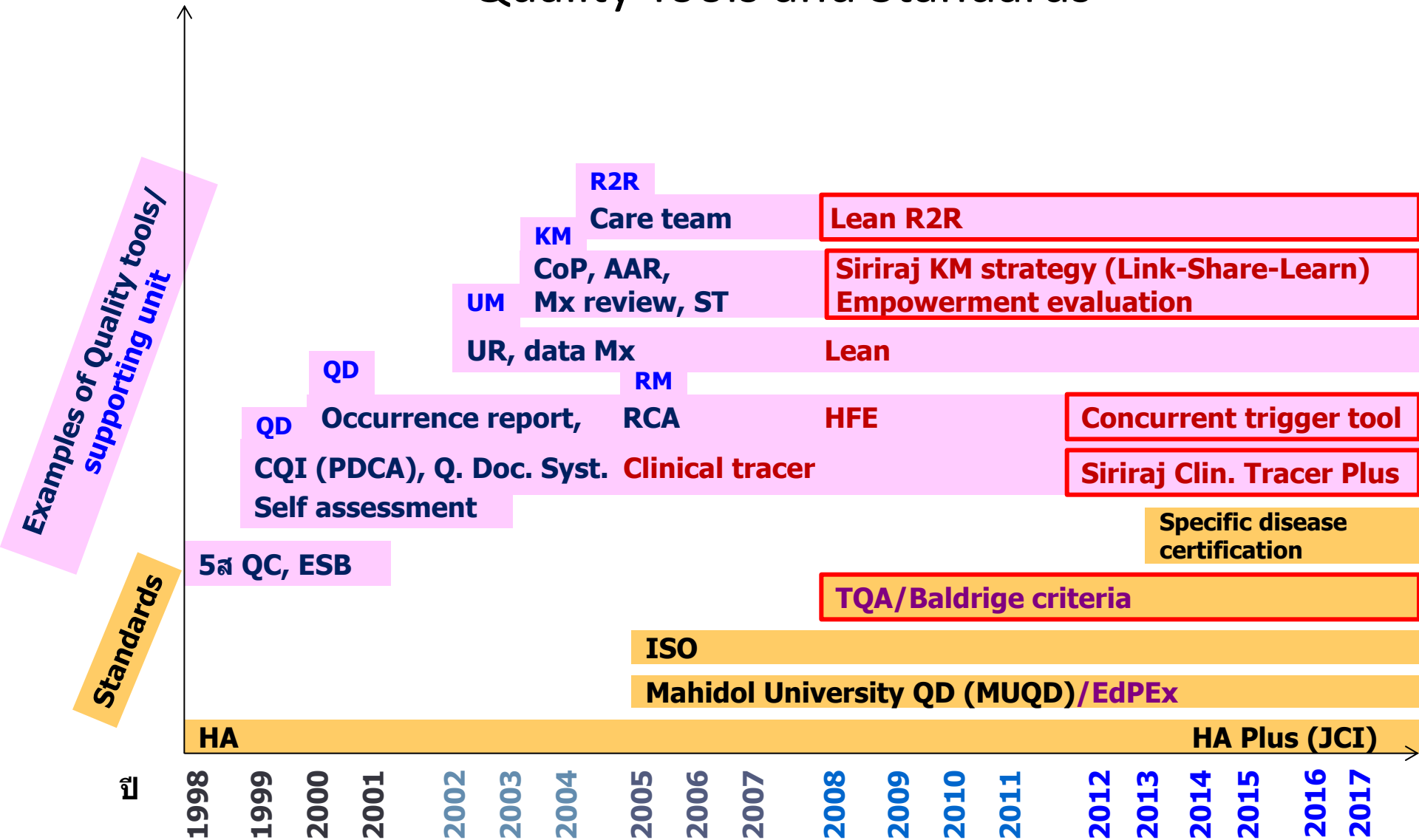


# Siriraj Hospital's Journey to Quality Excellence and Sustainability



# Siriraj Hospital's Journey to Quality Excellence and Sustainability

## Quality Tools and Standards



# High Efficiency

High Recognition

High Reliability

High Performance

High Profitability

High Productivity



$$\text{Value} = \frac{\text{Quality}^*}{\text{Payment}^\dagger}$$

\* A composite of patient outcomes, safety, and experiences

† The cost to all purchasers of purchasing care

WALLACE J. HOPP

WILLIAM S. LOVEJOY



# HOSPITAL OPERATIONS



## Principles of High Efficiency Health Care

Co-authored with Jeffrey Desmond, MD; Christopher Friese, RN, PhD; Stephen Kronick, MD;  
Michael Mulholland, MD, PhD; and Jeffrey Myers, MD

**Cost of Quality**

**≠**

**Cost of Operation**

# Cost of Quality

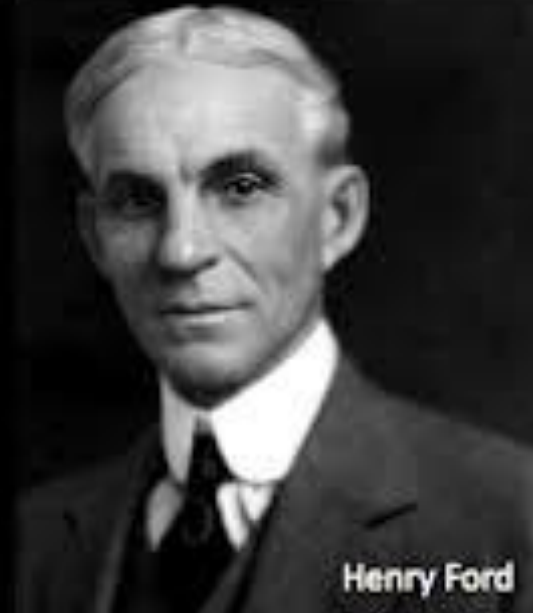
- The "cost of quality" isn't the price of creating a quality product or service.
- It's the cost of NOT creating a quality product or service the first time
- Every time work is redone, the cost of quality increases



**THINK QUALITY!**

**DO IT RIGHT  
THE FIRST TIME  
WE DON'T ALWAYS  
GET A SECOND  
CHANCE**

**"Quality means  
doing it right  
when no one is  
looking"**



Henry Ford

# COQ – It is not Free

- Total Quality Costs are the total of the cost incurred by:
  - Investing in the prevention of nonconformance to requirements.
  - Appraising a product or service for conformance to requirements.
  - Failing to meet requirements.
  - Failure to meet customer satisfaction

# Traditional COQ Model

## **Conformance**

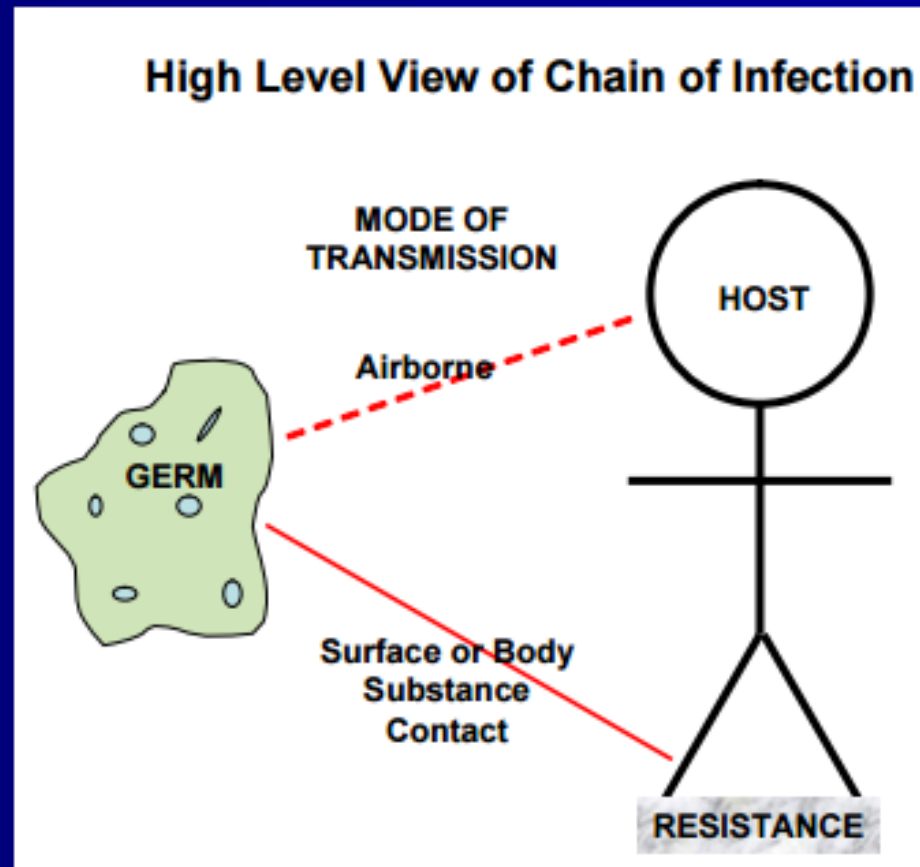
- **Prevention Costs**
- **Appraisal Costs**

## **Non-Conformance**

- **External Failure Costs**
- **Internal Failure Costs**

# Ventilator Acquired Pneumonia (VAP)

- Pneumonia is a common and deadly infection.
- Vented patients are at increased risk.
- Six Sigma project to reduce VAP rate



# Prevention Cost

- Developing systems, procedures, or communication systems to prevent errors and ensure high quality.

# VAP Prevention

- Pre: No Activity
- Post: Improvement Project
  - Labor Cost of Project: \$10,800
  - Staff Training: \$2,700
  - Supply Kit: \$12,000



# Appraisal Cost

- Review to assess the level of quality or conformance
- Excludes evaluation portion of clinical care process.

# VAP Appraisal

- Pre: VAP Rate Collection: \$2,160
- Post: VAP Rate Collection & Monitor Protocol Compliance: \$4,320

# Internal Failure Cost

- Correctable failures caught during the patient visit
- Non-correctable failures not resulting in harm to the patient beyond the patient visit
- System failures which did not result in harm to the patient.

# VAP Internal Failure

- Pre: Avoidable treatment with VAP rate of 6.5%: \$208,000
- Post: Avoidable treatment with VAP rate of 4.6%: \$144,000

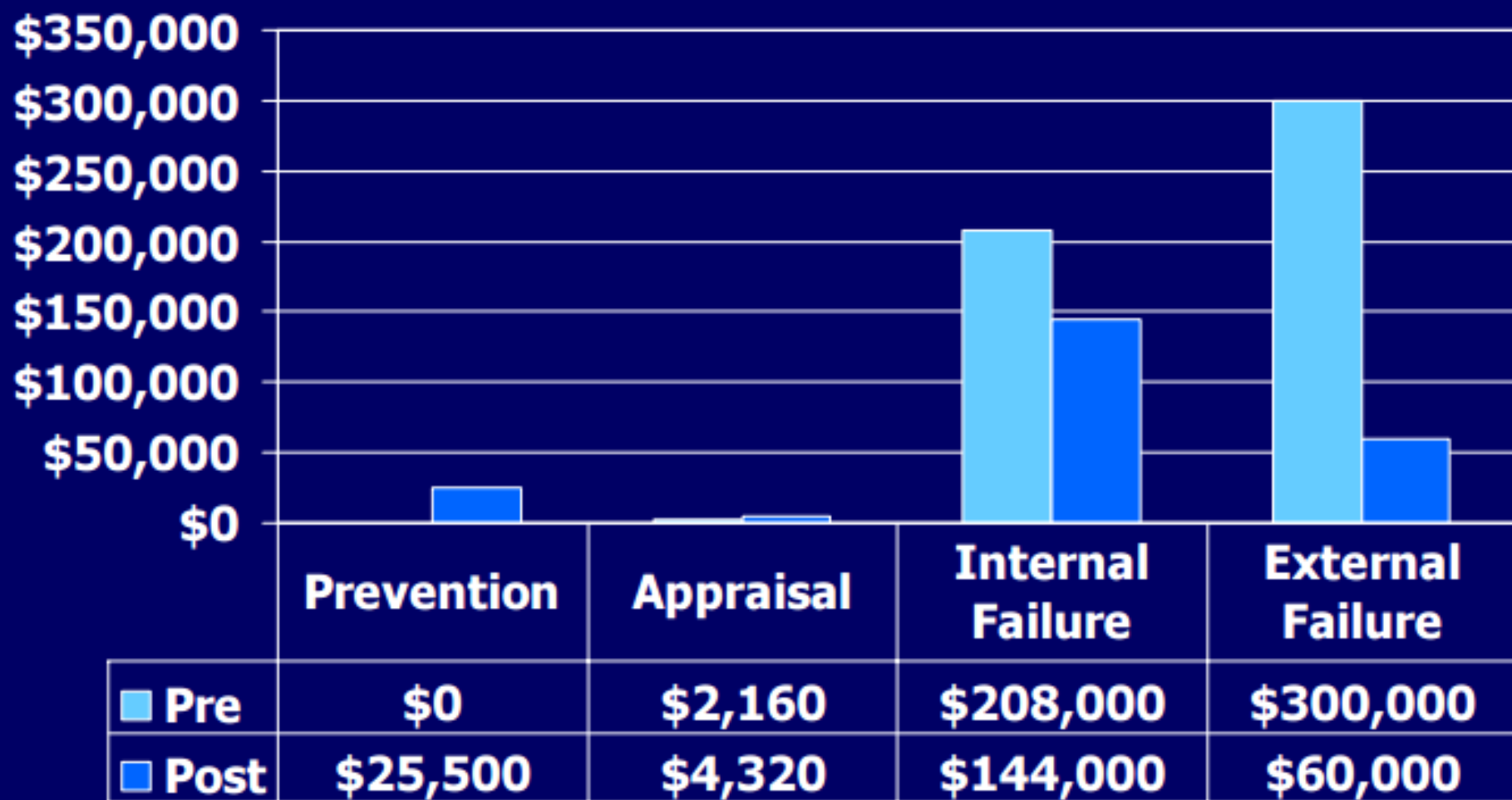
# External Failure Cost

- Correctable failures caught after the patient visit
- Non-correctable failures resulting in harm to the patient beyond the patient visit.

# VAP External Failure

- Pre: Litigation & Settlement:  
\$300,000
- Post: Litigation & Settlement:  
\$60,000

# VAP Cost of Quality Summary



COQ Pre = \$330,160

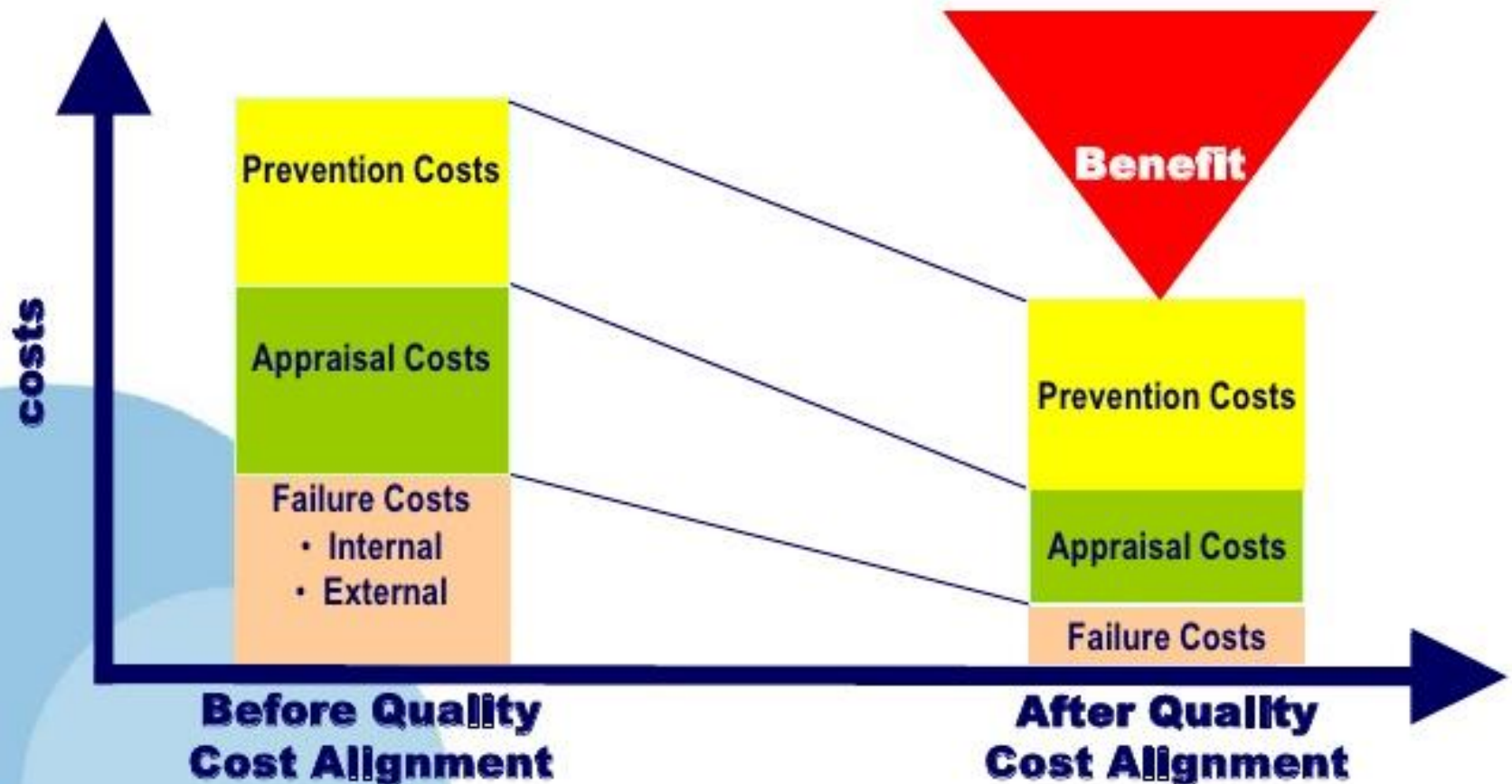
COQ Post = \$229,820



AQM

# Cost of Quality

## Return on Quality





# Strategic Initiatives for High Value Healthcare System

**Improved  
Operation  
Efficiency**

**Improved Outcome**

**Improved Cost  
Management**

**Improved Throughput**

**Balanced Productivity Improvement**

**Improved Clinical & Service Quality**

**Pathway Implementation & Process Improvement**

# Lean Application in Healthcare



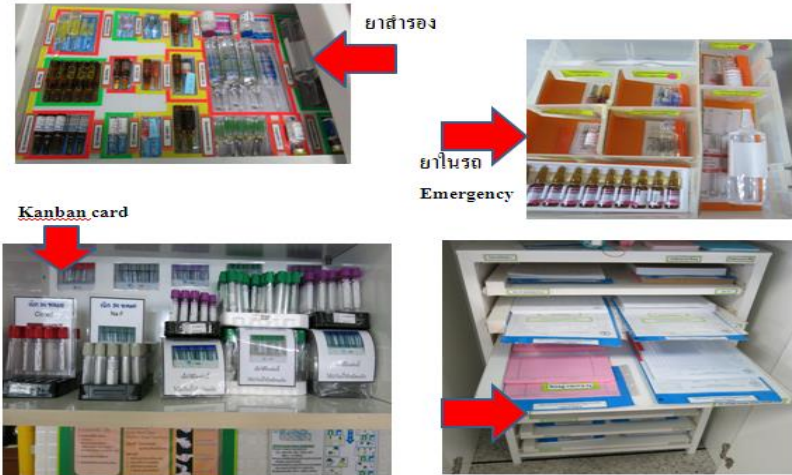
**Table 3.4 The Eight Types of Waste**

| <i>Type of Waste</i> | <i>Brief Description</i>  | <i>Hospital Examples</i>   |
|----------------------|---|--|
| Defects              | Time spent doing something incorrectly, inspecting for errors, or fixing errors   | Surgical case cart missing an item; wrong medicine or wrong dose administered to patient |
| Overproduction       | Doing more than what is needed by the customer or doing it sooner than needed   | Doing unnecessary diagnostic procedures  |
| Transportation       | Unnecessary movement of the "product" (patients, specimens, materials) in a system  | Poor layout, such as the catheter lab being located a long distance from the ED          |
| Waiting              | Waiting for the next event to occur or next work activity   | Employees waiting because workloads are not level; patients waiting for an appointment   |
| Inventory            | Excess inventory cost through financial costs, storage and movement costs, spoilage, wastage                              | Expired supplies that must be disposed of, such as out-of-date medications               |
| Motion               | Unnecessary movement by employees in the system   | Lab employees walking miles per day due to poor layout                                   |
| Overprocessing       | Doing work that is not valued by the customer or caused by definitions of quality that are not aligned with patient needs | Time/date stamps put onto forms, but the data are never used                             |
| Human potential      | Waste and loss due to not engaging employees, listening to their ideas, or supporting their careers                       | Employees get burned out and quit giving suggestions for improvement                     |

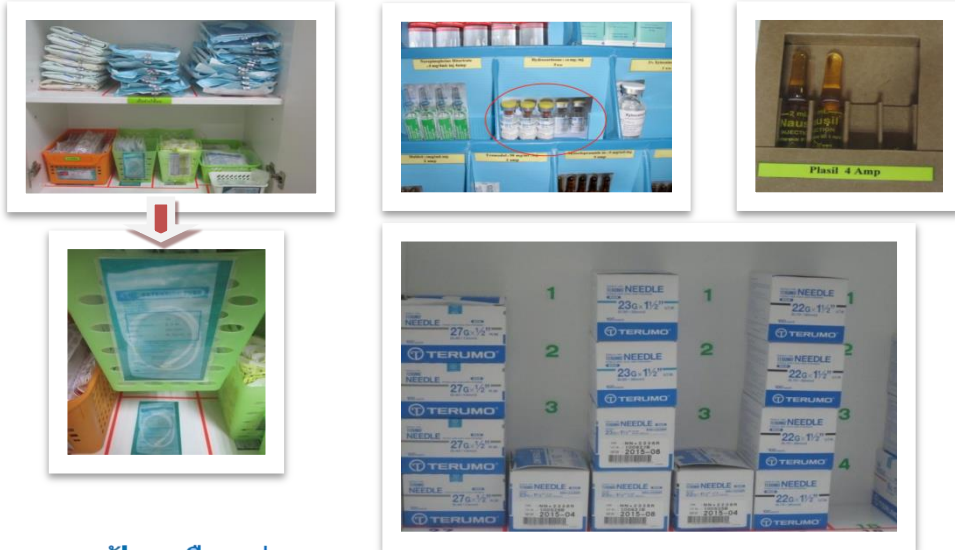
# 5 S & Visual Management

## มาตรฐานการปฏิบัติงานที่เป็นรูปภาพใช้ทั่วทั้งองค์กร

การเก็บยาสำรองในหอผู้ป่วยอายุรศาสตร์ และการเก็บยาในรถ Emergency ของทุกหน่วยงาน ในฝ่ายฯ



## ตำแหน่งการวางยา อุปกรณ์ ของใช้ภายในหอผู้ป่วย/หน่วยงาน



## ป้ายเตือนต่างๆ

จุด pink dot และป้ายเตือนต่างๆ เช่น เมื่อใช้ High Alert Drug



ป้ายเตือนระมัดระวังการเสดตก หกล้ม



ข้อแนะนำในการติดป้าย  
ติดตามผลการใช้ยาที่มีความเสี่ยงสูง

## สีและตัวเลขบอกตำแหน่งวางเวชภัณฑ์ ตามระบบ FIFO





## Patient Care Process

- ดูแลผู้ป่วยแบบ Cell Concept

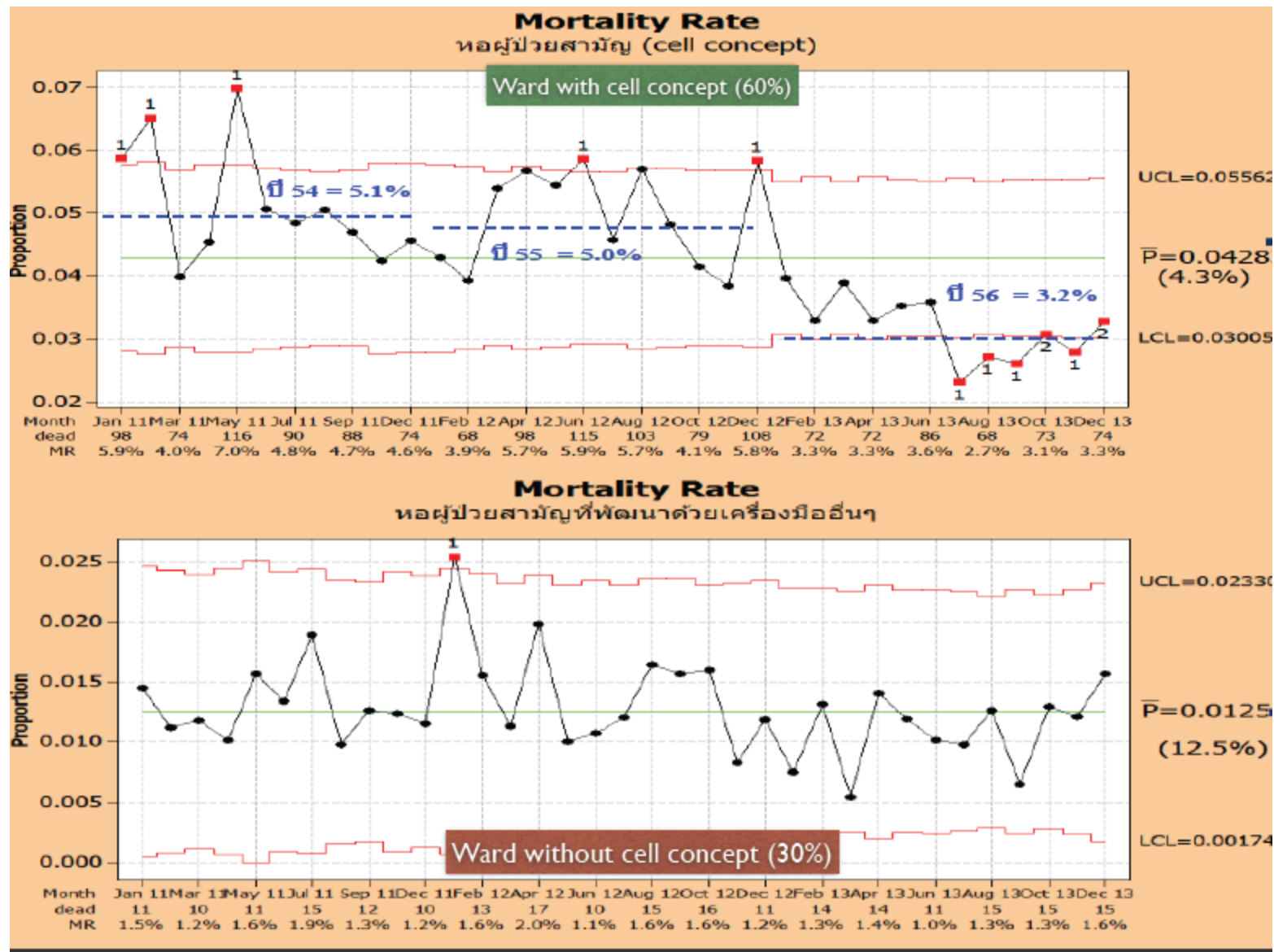
## Reduce Patient Risk

ในการรับ-ส่งเวร ลดระยะเวลาจากเดิม 45-60 นาที เหลือ 15-30 นาที

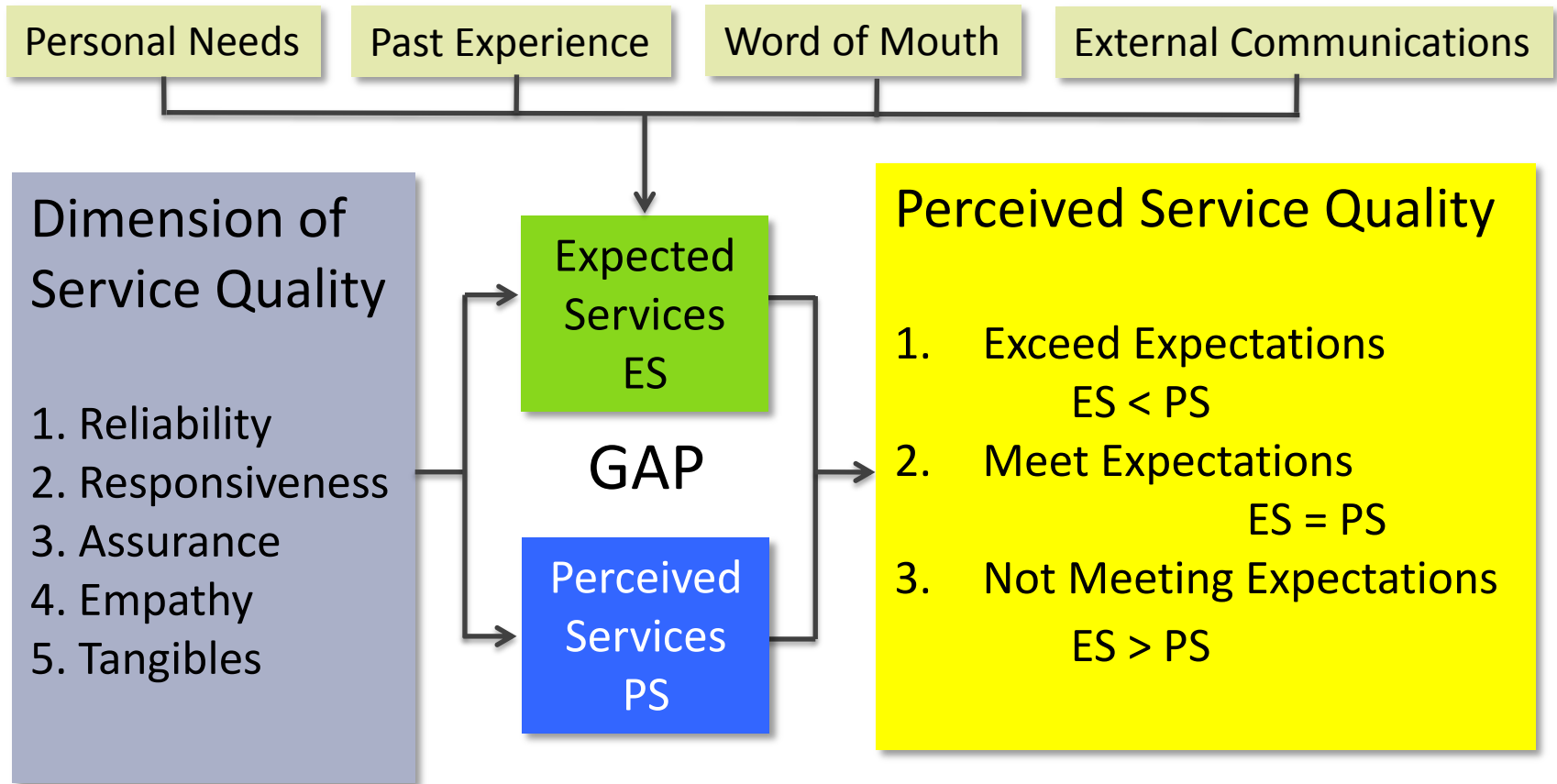
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24

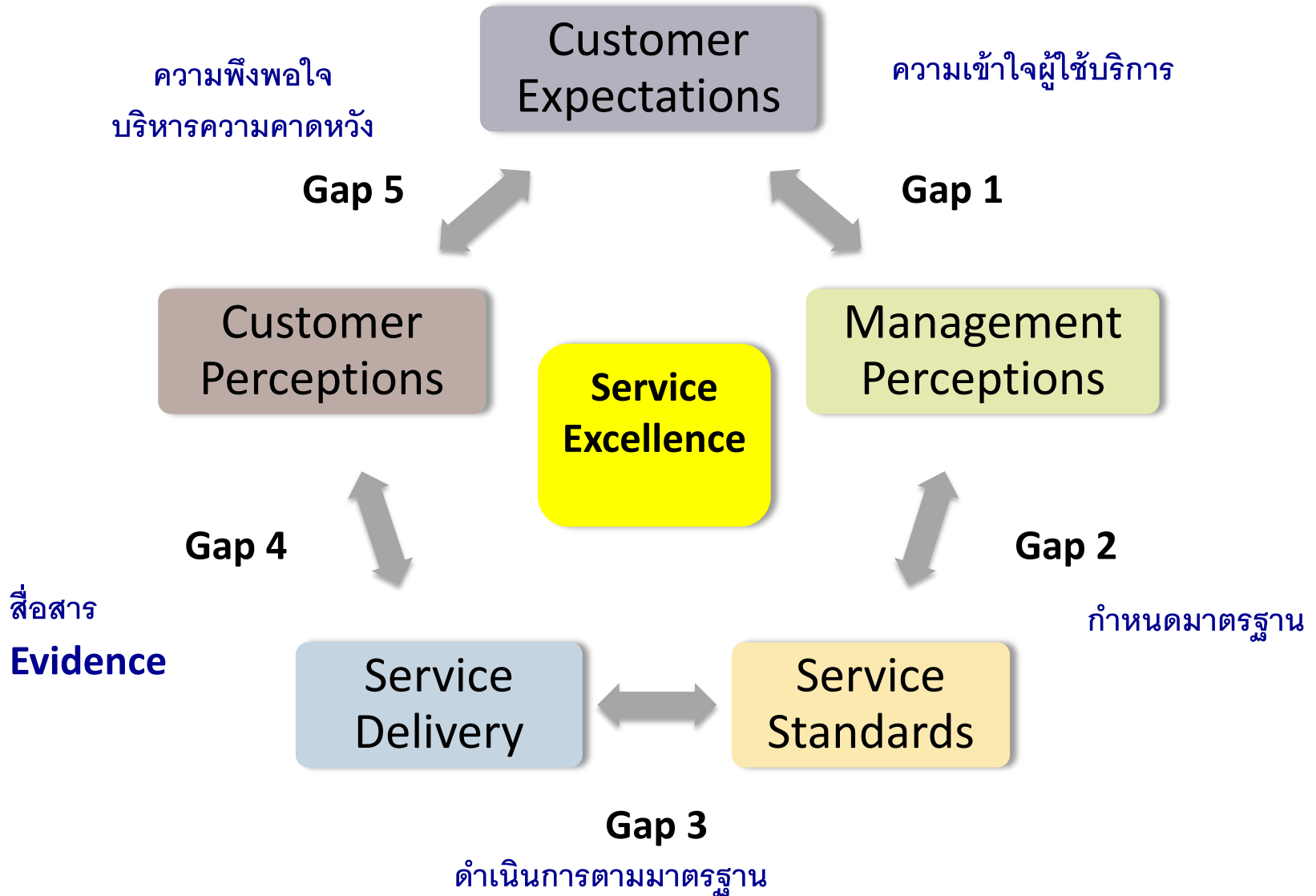
# Mortality Rate



# Gap Model of Service Quality



# Service Quality Gaps



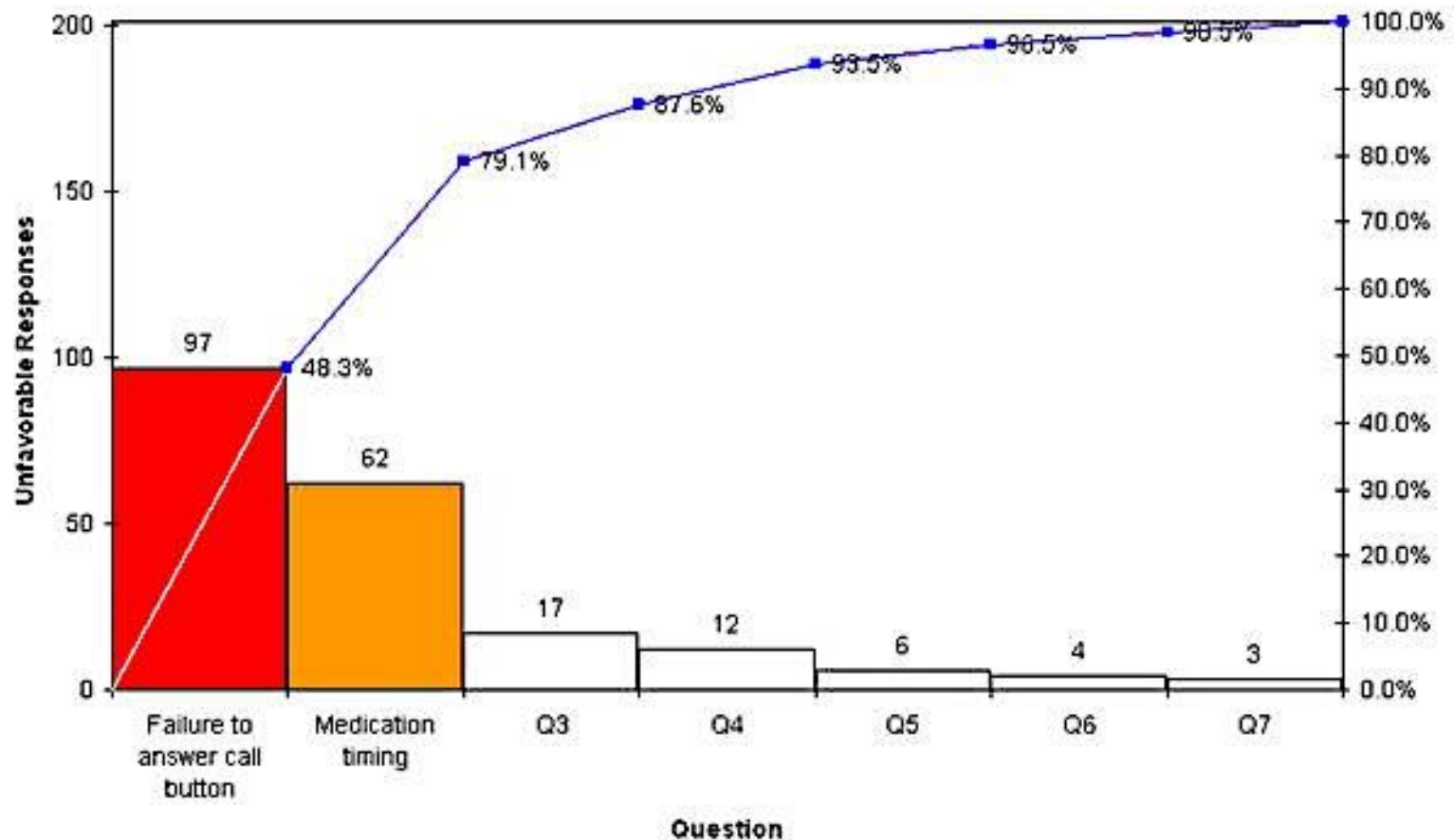


# 4 Key Questions to Improve Service Quality



# Pareto 80:20

## Unfavorable Responses - Surgical



# Importance-Performance Matrix

high

I  
M  
P  
O  
R  
T  
A  
N  
C  
E



**Fix**



**Excel**



**Low Priority**



**Overkill**

low

P E R F O R M A N C E

high

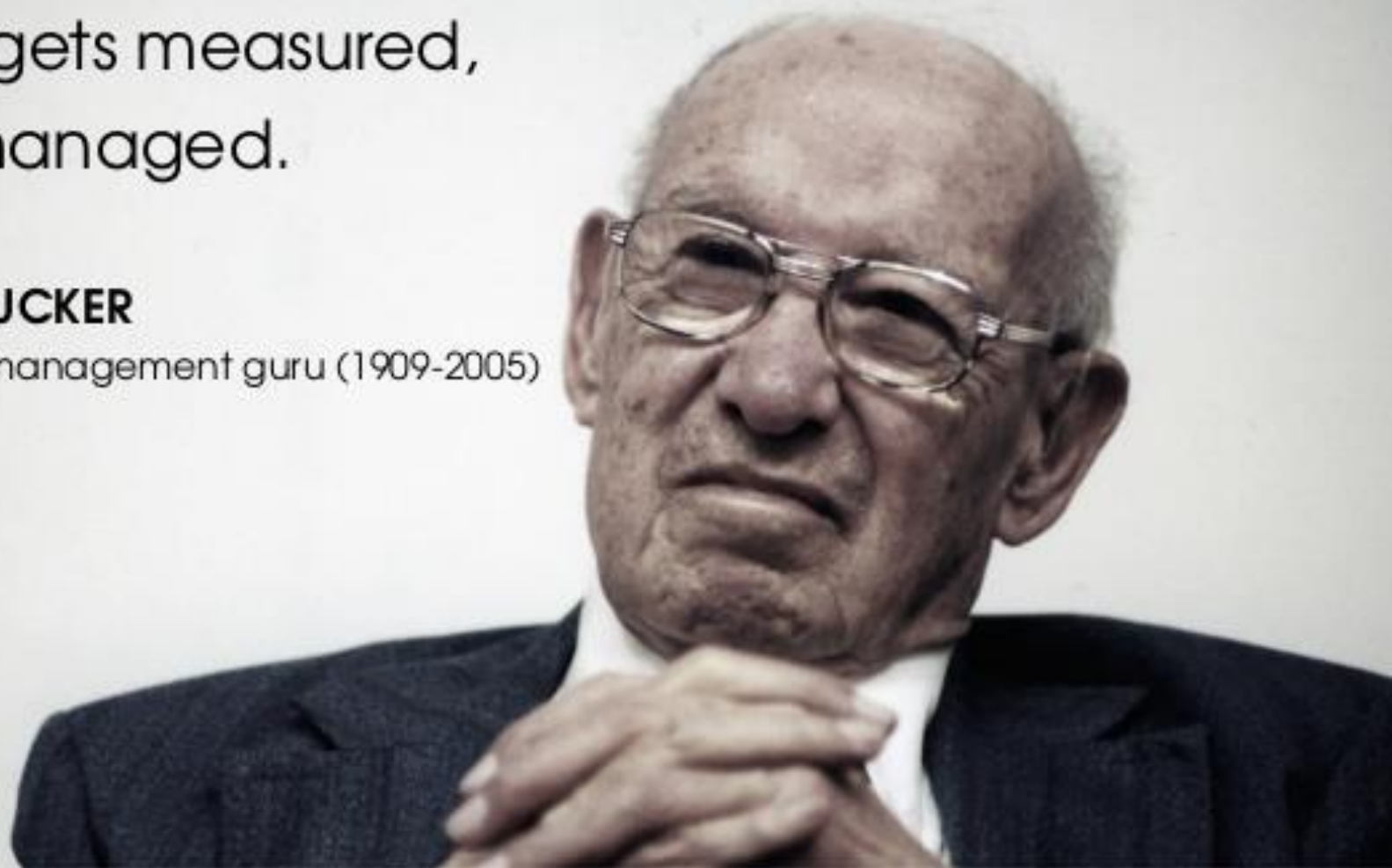
# Value Innovation Questions

1. Which of the factors that our industry takes for granted should be eliminated? เลิกอะไรได้บ้าง
2. Which factors should be reduced well below the industry's standard? ลดอะไรได้บ้าง
3. Which factors should be raised well above the industry's standard? เพิ่มอะไรได้บ้าง
4. Which factors should be created that the industry has never offered? เริ่มอะไรใหม่ได้บ้าง

What gets measured,  
gets managed.

**PETER DRUCKER**

American management guru (1909-2005)



การก้าวสู่องค์กรพยาบาลที่มีประสิทธิภาพ**สูงสุด**

Steps to be  
the **Highest** efficient Nursing  
organization

## Efficient Organization

- Task specialization
- Standardization of Performance
- Centralized decisions
- Uniform Policies
- No duplication of functions
- Job descriptions
- Team structures
- Reporting relationships
- Compensation systems
- Hiring Procedures
- Information Practices
- Decision – making prerogatives
- Norms or habits

## High Performance Organization

- Individual objectives aligned to the group objectives
- Transparency among groups / information shared freely
- Feel like “owners of the business”
- Business strategy understood and accepted
- Multiskills
- Variances / deviations from the ideal process controlled
- Interdependent roles
- Support congruence (same practices, rewards, systems)
- Design around human values and individual talents
- Principled driven decisions

# High-Performance Work Systems

- *High-performance work system* – right combination of people, technology, and organizational structure that makes full use of the organization's resources and opportunities in achieving its goals.
- Each of these elements must fit well with the others in a smoothly functioning whole.



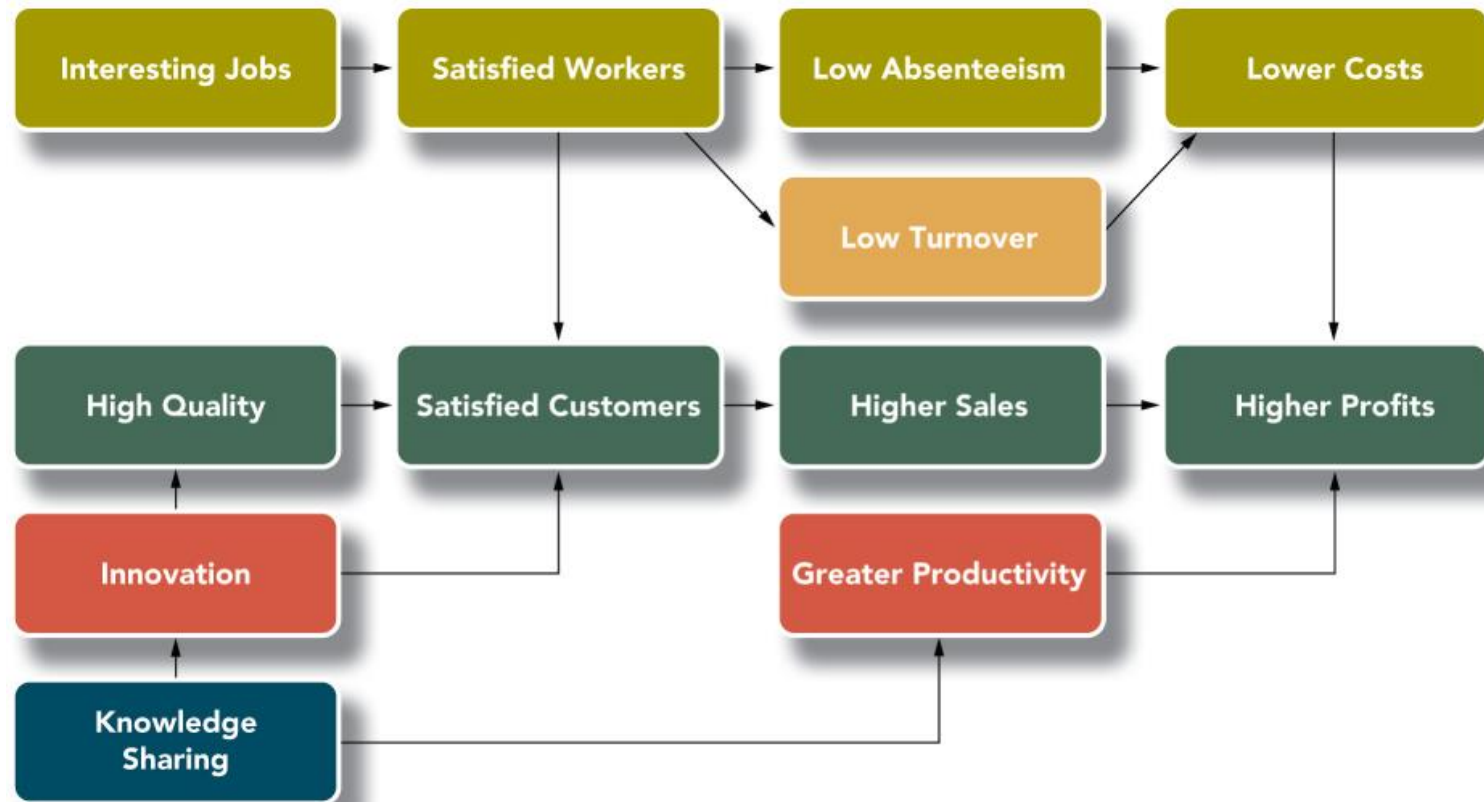
# Elements of a High-Performance Work System



# 5 Elements of a High-Performance Work System

1. ***Organizational structure:*** way organization groups its people into useful divisions, departments, and reporting relationships.
2. ***Task design:*** determines how details of the organization's necessary activities will be grouped, whether into jobs or team responsibilities.
3. ***People:*** well suited and well prepared for their jobs.
4. ***Reward systems:*** encourages people to strive for objectives that support organization's overall goals.
5. ***Information systems:*** enables sharing information widely.

# Outcomes of a High-Performance Work System



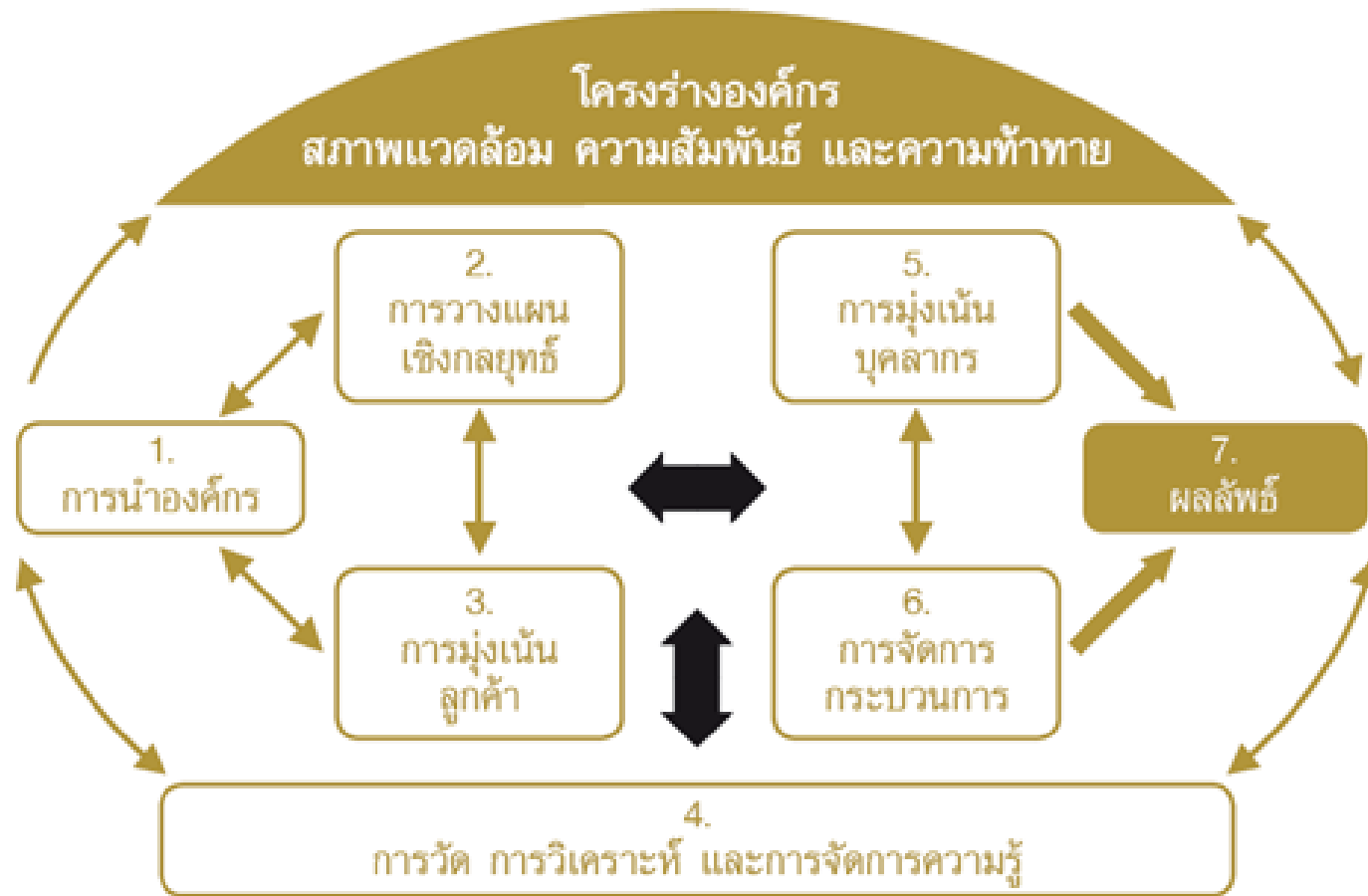
# 10 Conditions that Contribute to High Performance

1. Teams perform work.
2. Employees participate in selection.
3. Employees receive formal performance feedback and are involved in performance improvement process.
4. Ongoing training is emphasized and rewarded.
5. Employees' rewards and compensation relate to company's financial performance.
6. Equipment, work processes and technology encourage maximum flexibility and interaction among employees

# 10 Conditions that Contribute to High Performance

7. Employees participate in planning changes in equipment, layout, and work methods.
8. Work design allows employees to use variety of skills.
9. Employees understand how their jobs contribute to finished product or service.
10. Ethical behavior is encouraged.

# Thailand Quality Awards Model



# Common traits of world class organizations

- Leadership is the key
  - Mindset : From “Good to Great”
  - Consistently tells employee about philosophy and common value of the organization
  - Select the “BHAG” and “ Get on the bus”
  - Create environment
    - Be a change agent
    - Be visible, “on the floor”, Be a role model
    - “Walk the Talk” , full support
    - Create the system
  - Succession plan is important



# Common traits of world class organizations

- Strategy
  - Focus on strength and opportunity
  - High Value product for customer
  - Innovation driven
  - Collaborate with stakeholders, experts, partner, volunteers
- MBNQA/ TQA Criteria
  - Is a tool to improve performance
  - Is the guide of a journey to excellent
  - Self assessment device + Benchmarking
  - **Is not** an extra job
  - **Is not** the destination
  - **Award is not** the guarantee for long term success

# Common traits of world class organizations

- Customer (stakeholder)Focus
  - Know the customers
  - Find the ways to satisfy them: product design
  - Measure
- Staff Focus
  - Motivate employee by financial or mission driven
  - Use necessary rewards
  - Performance evaluation: pay attention to behavior desired: Teamwork, quality
  - Engage people: communicate, involve, respect
- Information, Analysis, Knowledge Mgt
  - The essential to grow business toward excellence
  - What gets measured gets managed

# Common traits of world class organizations

- Process Management
  - Closing gap design to fit with strategy
  - Close loop design to improve productivity
  - Integrated along value chain
- Results
  - Look at trend and benchmark, not just one point
  - Benchmark with the best in class, across industry



Let the Journey Begin

