What We Achieved in the 100k Lives Campaign
米国“10万人の命を救え”キャンペーンが実現したこと

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Senior Vice President and Chief Quality Officer
Henry Ford Health System
Chief Medical Officer, Henry Ford Hospital

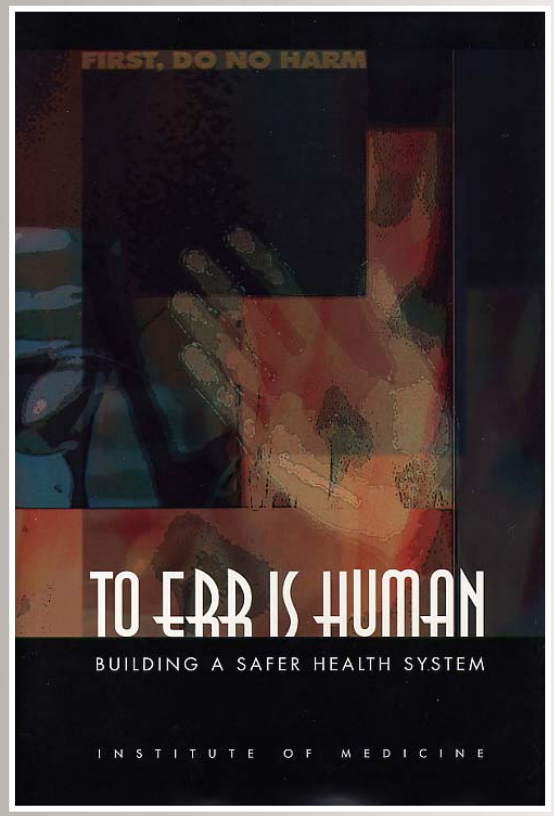
Objectives　目的

- Global interest in Health Care Safety
  - 医療安全のグローバルな関心
- The Henry Ford Experience
  - ヘンリーフォードにおける経験
- Tips for rapid improvement
  - 速やかな改善のための秘訣

Fast and dramatic improvement in safety is possible.

医療安全における速やかで劇的な改善は可能である。

The Beginning of the Change in the Health Care Environment:
In 1999 - “To Err is Human”「人は誰でも間違える」
(Institute of Medicine) (米国医学研究所)



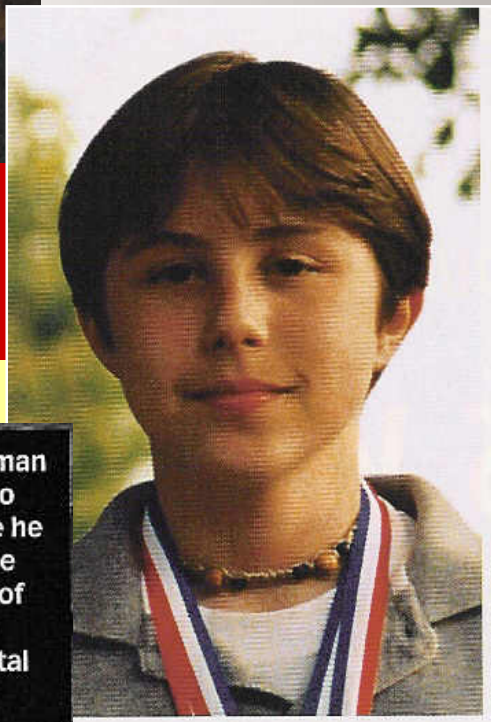
- Described a ***fragmented health care system*** prone to ***errors*** and ***detrimental to the goal of safe patient care***.
- Up to 100,000 people die each year from medical error
  - More people die from medical errors than from breast cancer, or AIDS or motor vehicle accidents

The U.S. Reaction
米国における反応

- Hospitals collaborate to improve
  - 病院は状況を改善するために協力した
- Multiple regulatory rules
  - 複数の規制に関する法規
- Public performance reports
  - パフォーマンスの公表
- Many news media reports
  - 数々のニュースやメディアによるレポート

When Bad Medicine Happens to Good People

"If pilots make mistakes, they go down with the plane. In medicine we don't have that kind of personal incentive."



Lewis Blackman at age 13, two years before he died from the side effects of a painkiller, which hospital residents ignored.

"Everyone was reluctant to disturb the chief doctor at home because they were afraid he'd get angry."

Don't Let It Happen to You

The Boston Globe

Higher toll cited from hospital errors

Wider definition used in new tally

By Scott Allen, Globe Staff | July 27, 2004

amednews.com

THE NEWSPAPER FOR AMERICA'S PHYSICIANS

PROFESSIONAL ISSUES

Sponges, surgical instruments miscounted in 13% of surgeries

Getting the count right in the operating room is a challenge. New technologies could make things easier.

By Kevin B. O'Reilly, *AMNews* staff. Sept. 22/29, 2008.

San Francisco Chronicle

July 11, 2008

Hospital error blamed for more infant Heparin overdoses

msnbc

Categories

U.S. news

World news

In-hospital errors kill thousands in U.S., but go unreported in New Hampshire

By NANCY WEST

The Union Leader

updated 1:18 a.m. ET, Sun., Oct. 12, 2008

The State

Columbia, South Carolina Sunday, Jun. 16, 2002

How a hospital failed a boy who didn't have to die

by JOHN MONK


HealthGrades - Guiding America to Better Healthcare ® - Windows Internet Explorer
http://www.healthgrades.com/consumer/index.cfm?fuseaction=mod&modtype=hospitals&modact=hospitals_search_resul
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America's 50 Best Hospitals
Clinical Excellence DHA
Patient Safety DHA
Specialty Excellence
Quality Reports
2009 Hospital Quality Ratings: Prostatectomy
★★★★★ Best
★★★ As Expected
★ Poor
Hospital Name
Location
Major Complications
High Volume Hospitals
Henry Ford Hospital
Detroit, MI
★★★★★
Sinai-Grace Hospital
Detroit, MI
★★★
Harper University Hospital
*Detroit, MI
★★★
Saint John Hospital & Medical Center
Detroit, MI
★★★
Low Volume Hospitals
There are no low volume hospitals in this area

Greater Detroit Area Health Council

Greater Detroit Area Health Council
http://gdahc.org/save_report.asp

Report on Hospital Performance

within 20 miles of Detroit, MI

New Search | Change Hospitals

About the Data
FAQ

Print entire report
Print this page
Email report

Summary | Heart Attack | Heart Failure | Pneumonia | Infection Prevention | Mortality | Safety - Process | Safety - Volume

Name	Heart Attack	Heart Failure	Pneumonia	Infection Prevention	Mortality	Safety - Process	Safety - Volume
Detroit Receiving Hospital & University Health Center	⊕	⊕	○	○	○	⊕	N/A
Henry Ford Hospital	⊕	○	○	⊕	⊕	⊕	⊕
St John Hospital & Medical Center	⊕	⊕	○	⊕	⊕	⊕	○
William Beaumont Hospital	⊕	○	⊖	⊕	○	⊕	⊕

Legend

⊕ Scored in the top 25% of all hospitals for a given indicator

○ Scored in the middle 50% of all hospitals for a given indicator

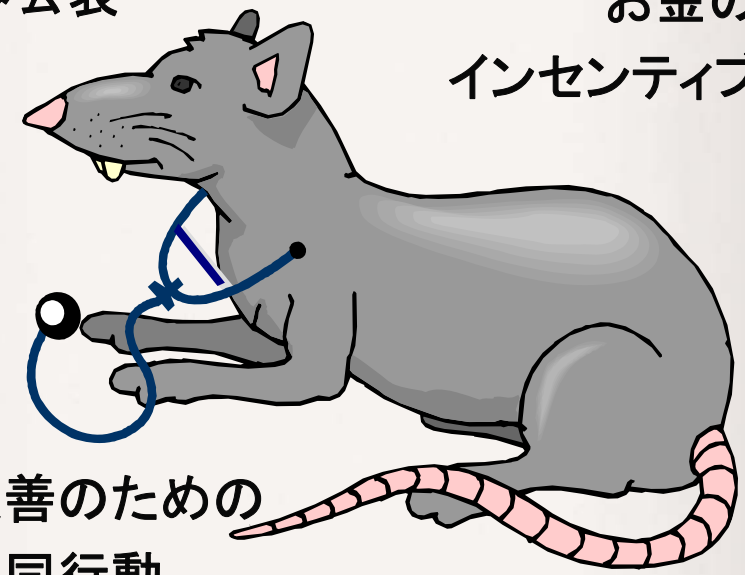
⊖ Scored in the bottom 25% of all hospitals for a given indicator

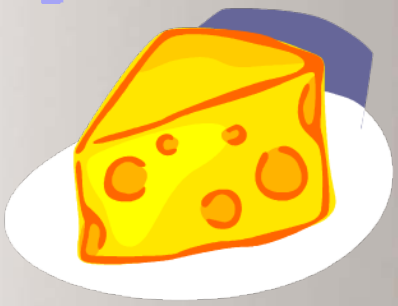
n/a: Indicates that a value would not be meaningful. For a hospital, it means that there were too few cases for the indicator to be meaningful, or that the hospital chose not to report the information. For a National or 7 County Average, it means that the indicator is not meaningful at that level.

Stimulating U.S. Hospitals to Improve
米国の病院に改善を促す方法

Public Report データ公表

お金の
インセンティブ **Pay Incentive**





Improvement Collaborative 改善のための
共同行動

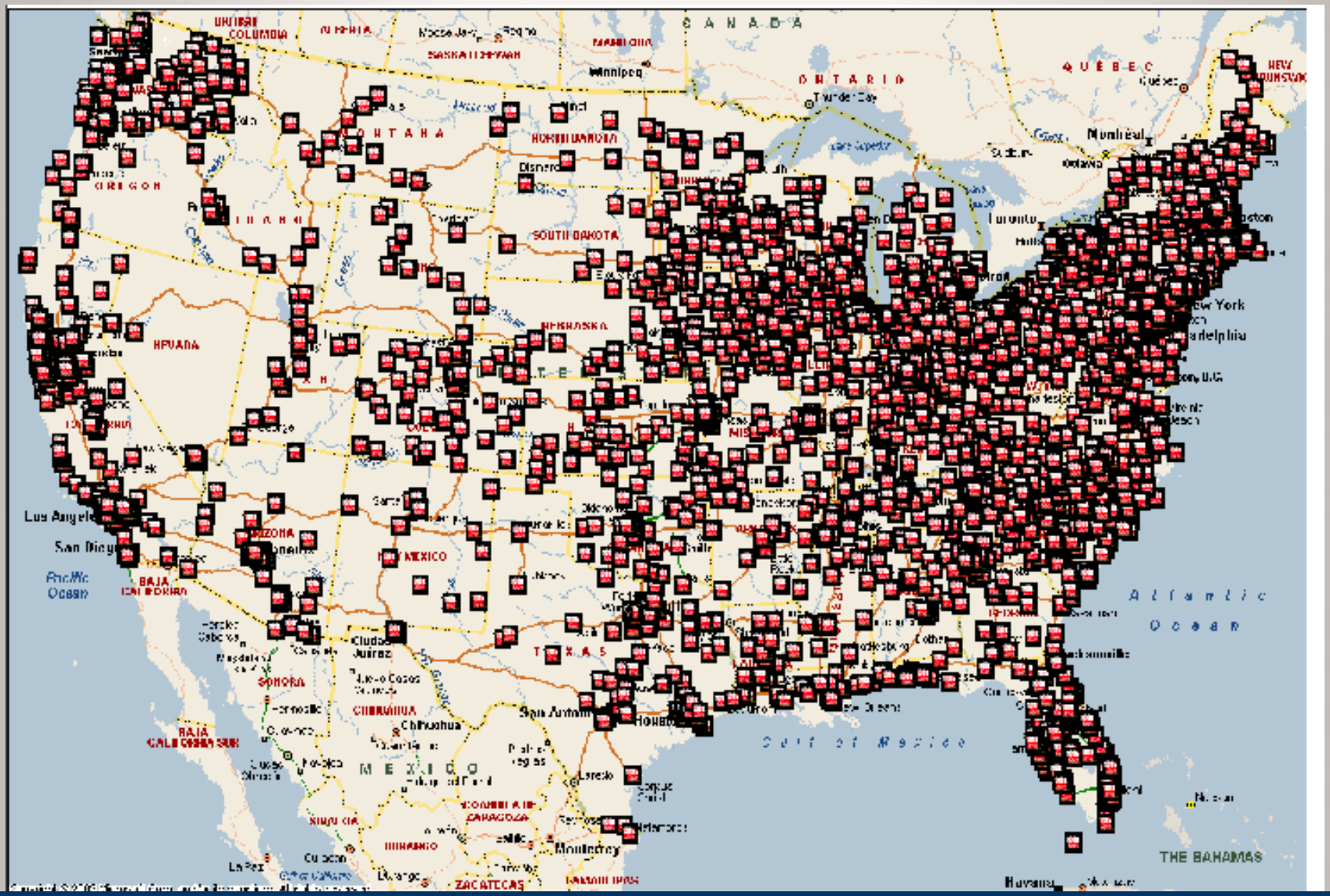
Punish 処分

IHI Collaboratives
米国100Kキャンペーン

Six Changes That *Saved* Lives

1. Rapid Response Teams
2. Reliable Care for Acute Myocardial Infarctions
3. Reliable Use of Ventilator Associated Pneumonia bundles
4. Reliable Use of Central Venous Line Bundles
5. Surgical Site Infection Prophylaxis
6. Prevention of Adverse Drug Events with Reconciliation

3,000 Hospitals Join Collaborative（3000の病院が協力）



INSTITUTE FOR HEALTHCARE IMPROVEMENT

Results June 2006
結果　2006年6月

- 120,000 unnecessary deaths avoided each year
  - 年間12万人もの不必要な死が避けられた。
- Country wide hospital mortality dropped 5% from 2004-2006
  - 2004年から2006年にかけて、国全体の病院死亡も5%減少した。

IHI Collaboratives
5Mキャンペーン

New interventions targeted at harm

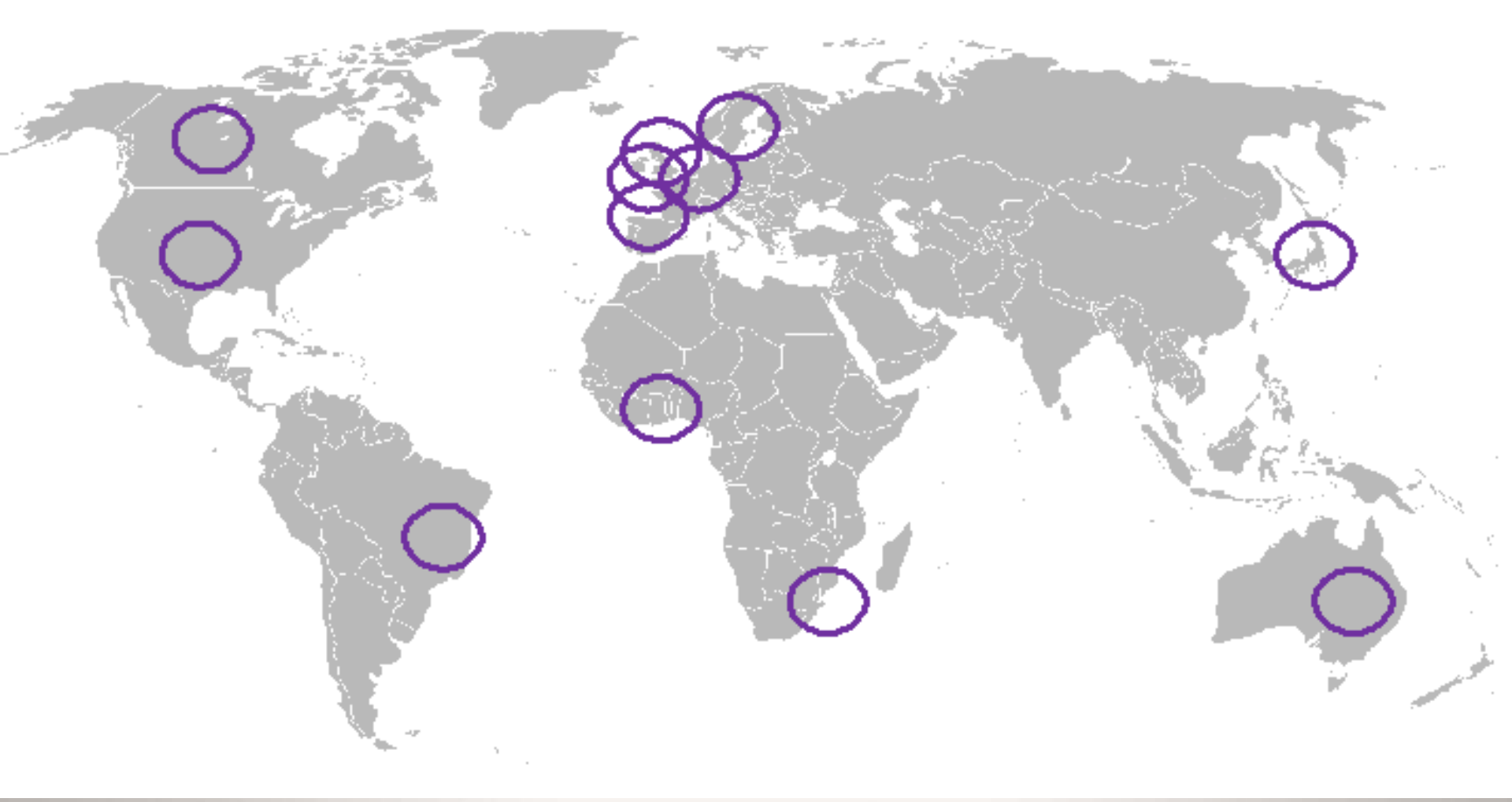
- Prevent Harm from High-Alert Medications
- Reduce Surgical Complications
- Prevent Pressure Ulcers
- Reduce Methicillin-Resistant Staphylococcus aureus (MRSA)
- Deliver Reliable, Evidence-Based Care for Congestive Heart Failure
- Get Boards on Board

Preliminary Results
予備報告

- 150 New Jersey hospitals decreased pressure ulcers by 70%
  - ニュージャージーの150の病院では、褥瘡が70%減った。
- Many hospitals report no central line or ventilator infections for a whole year.
  - 多くの病院が1年間、中心静脈カテーテルや人工呼吸による感染がなかったと報告した。

The Scottish Patient Safety Programme (SPSP)

Global Change: Movements Abroad
世界での活動

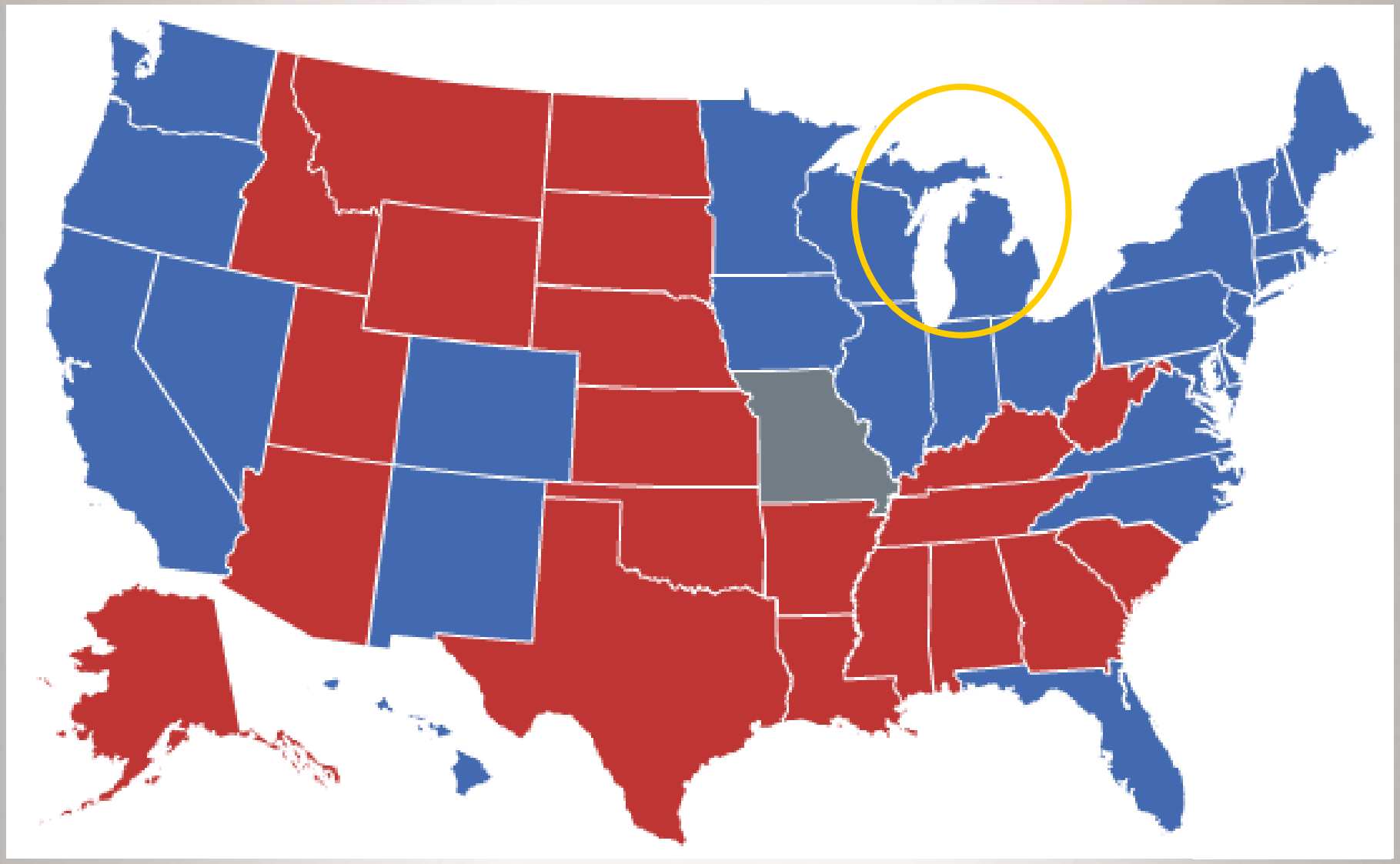


The Henry Ford Hospital Story
ヘンリーフォード病院物語

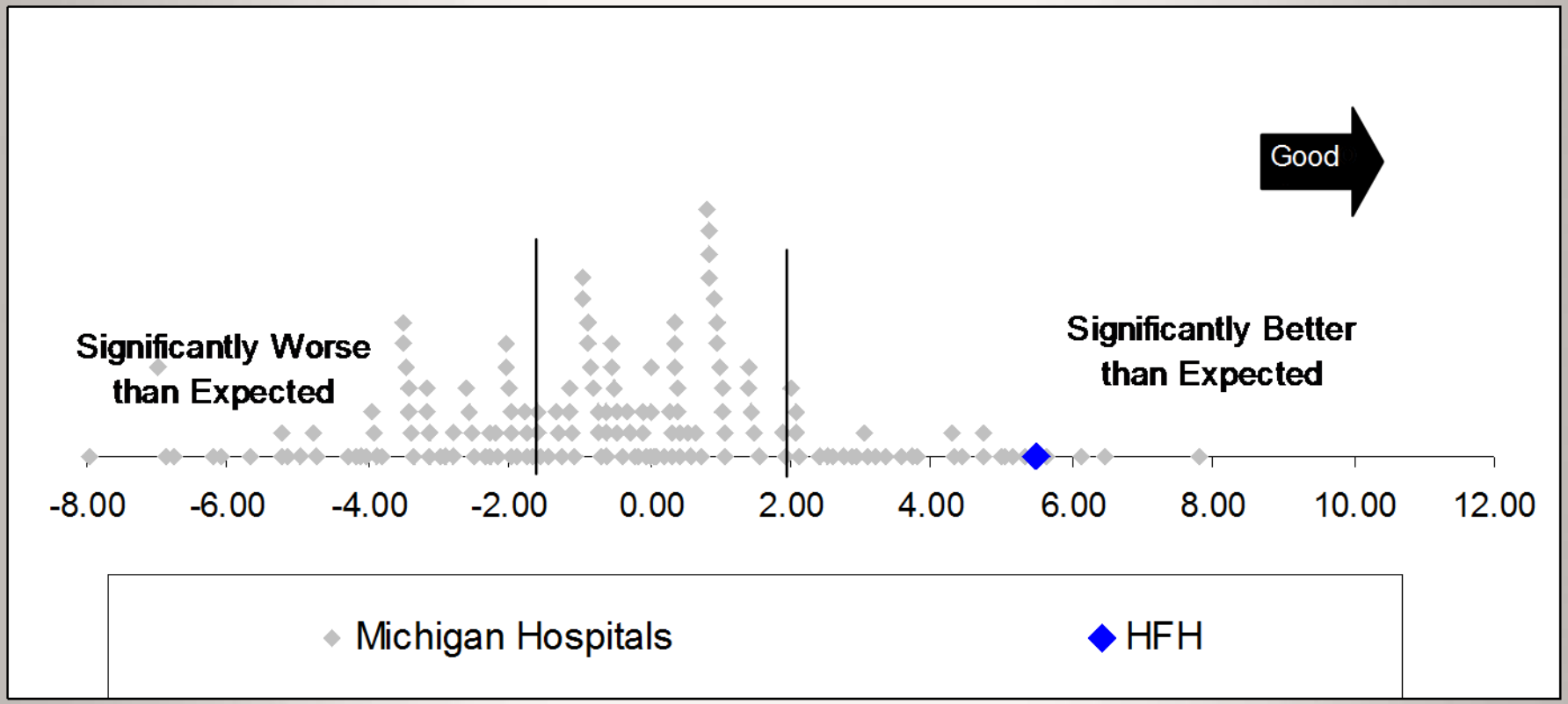
Henry Ford Hospital
ヘンリーフォード病院

- 903-bed academic medical center （903病床）
- 1,000 group practice physicians, 650 residents
- Level One Trauma Center
- Multi-Organ Transplant Institute
- 26 ambulatory care centers
- $65M research

We’re in a Blue State（民主党の州）



Michigan Hospitals
Risk Adjusted Mortality 2007
ミシガン州の病院のリスク調整死亡率（2007年）



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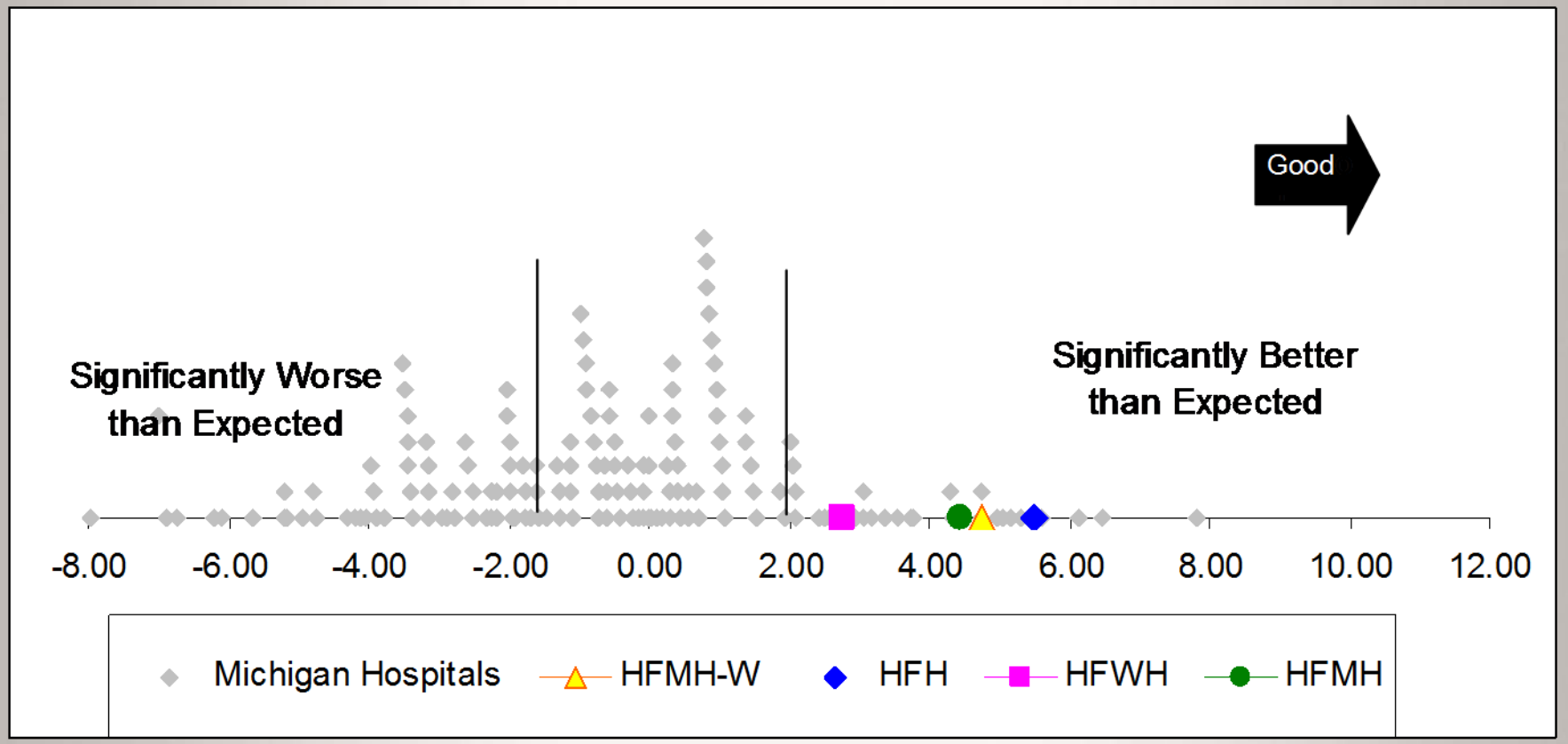


Some Changes that Reduce Mortality
死亡率を下げる変化

- Hospital acquired infections
  - 院内感染
- Rapid Response Teams
  - 緊急対応チーム
- High risk medication
  - 危険薬
- Deep venous thrombosis
  - 深部静脈血栓症
- Sepsis
  - 敗血症

Hospital Acquired Infections
The Big 5
院内感染の5大原因

- Central Venous Catheter （CVカテーテル）
- Methicillin-resistant Staphylococcus aureus （MRSA感染）
- Surgical Incision （術後傷感染）
- Ventilator Associated Pneumonia
  （人工呼吸器関連肺炎）
- Urinary Tract （尿路感染）

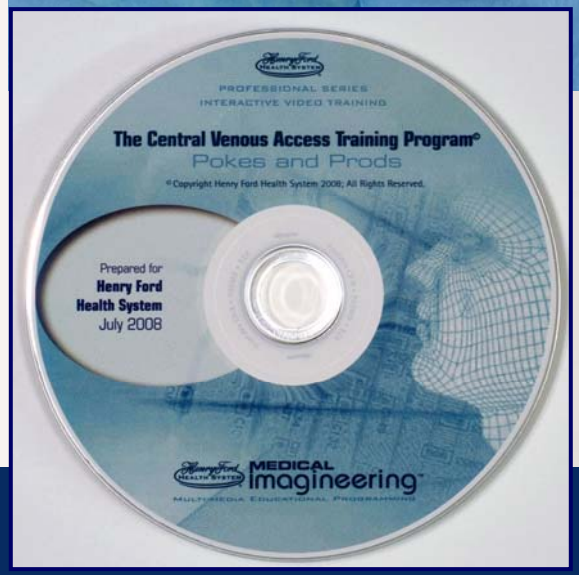
Preventing Central Line Infections Bundle

中心静脈ライン感染防止のセット項目

- Maximal sterile precautions
- Chlorhexidine skin antisepsis
- Catheter site care
- Prompt removal

Key Process Changes：キーとなるプロセス変化

- A single kit with all supplies
- One care process with education
- Nurse empowered to stop procedure if any violations

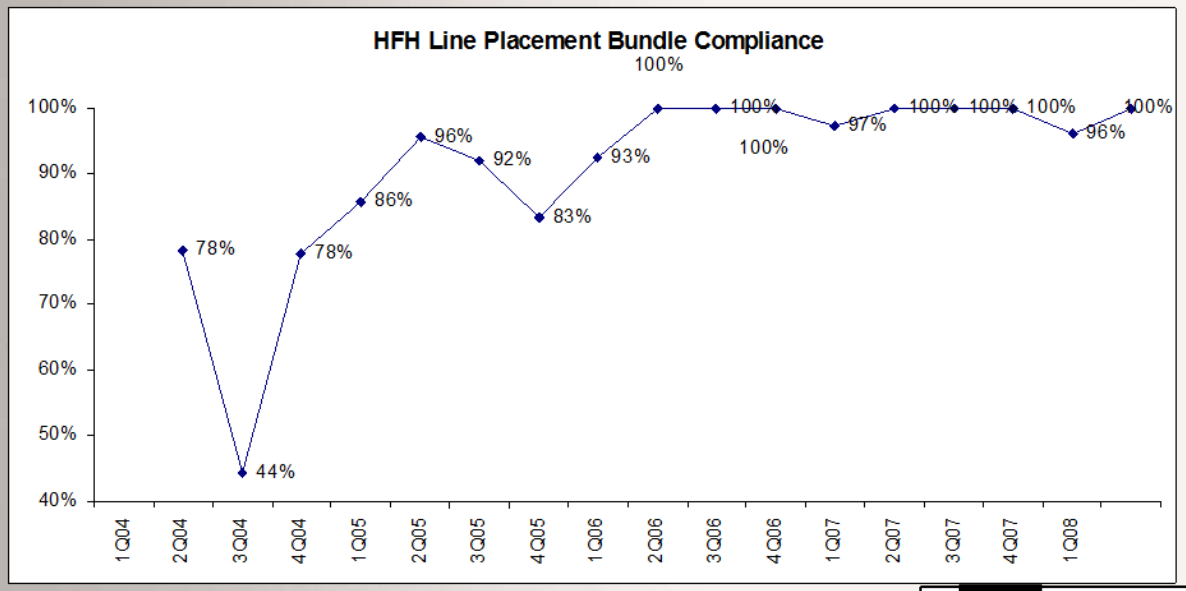


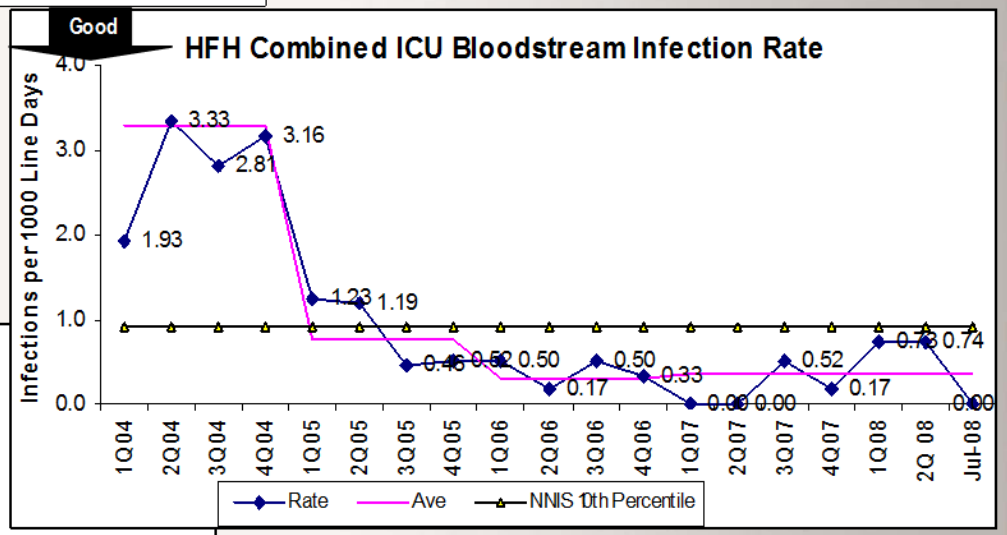
What is a Bundle?

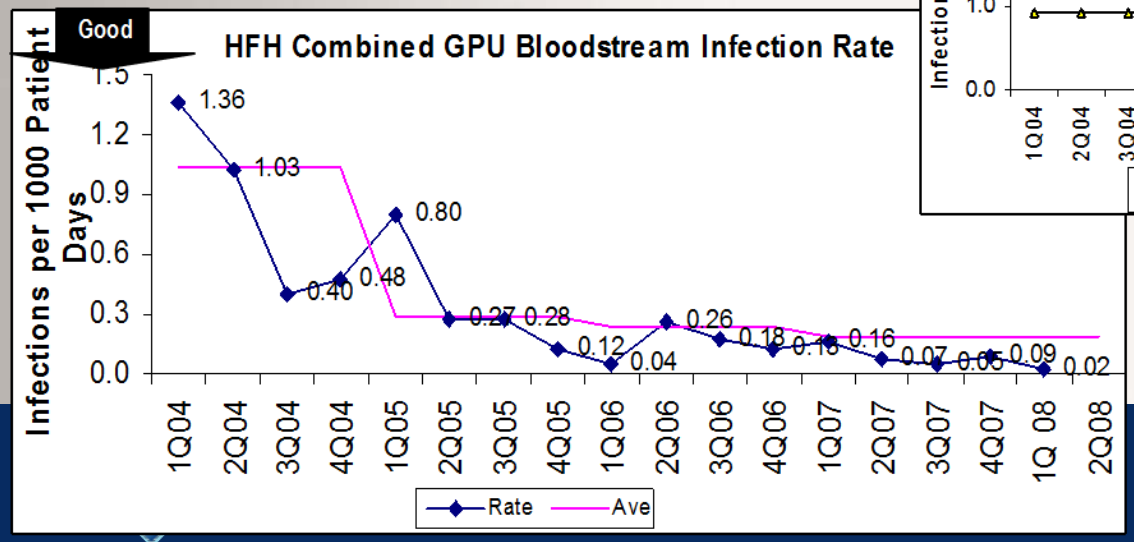
- All or Nothing Measure of Multiple Requirements.
- Central Line Placement Bundle
- All Five Requirements must be met for Bundle Measure

Wash Hands	**Yes**	**Yes**
Gloves	**Yes**	**Yes**
CHG Prep	**No**	**Yes**
Mask & Gown	**Yes**	**Yes**
Full Drape	**No**	**No**
Bundle	**No (3/5)**	**Yes (4/5)**
	60%	**80%**

Results
結果


HFH Line Placement Bundle Compliance
100%
90%
80%
70%
60%
50%
40%
78%
44%
78%
86%
96%
92%
83%
93%
100%
100%
100%
97%
100%
100%
100%
96%
100%
1Q04
2Q04
3Q04
4Q04
1Q05
2Q05
3Q05
4Q05
1Q06
2Q06
3Q06
4Q06
1Q07
2Q07
3Q07
4Q07
1Q08


Good
HFH Combined ICU Bloodstream Infection Rate
Infections per 1000 Line Days
4.0
3.0
2.0
1.0
0.0
1.93
3.33
2.81
3.16
1.23
1.19
0.46
0.52
0.50
0.17
0.50
0.33
0.00
0.00
0.52
0.17
0.74
0.00
1Q04
2Q04
3Q04
4Q04
1Q05
2Q05
3Q05
4Q05
1Q06
2Q06
3Q06
4Q06
1Q07
2Q07
3Q07
4Q07
1Q08
2Q 08
Jul-08
Rate
Ave
NNIS 10th Percentile


Good
HFH Combined GPU Bloodstream Infection Rate
Infections per 1000 Patient Days
1.5
1.2
0.9
0.6
0.3
0.0
1.36
1.03
0.40
0.48
0.80
0.27
0.28
0.12
0.04
0.26
0.18
0.16
0.07
0.09
0.02
1Q04
2Q04
3Q04
4Q04
1Q05
2Q05
3Q05
4Q05
1Q06
2Q06
3Q06
4Q06
1Q07
2Q07
3Q07
4Q07
1Q 08
2Q08
Rate
Ave

MRSA Reduction Bundle

MRSA 減少のためのセット項目

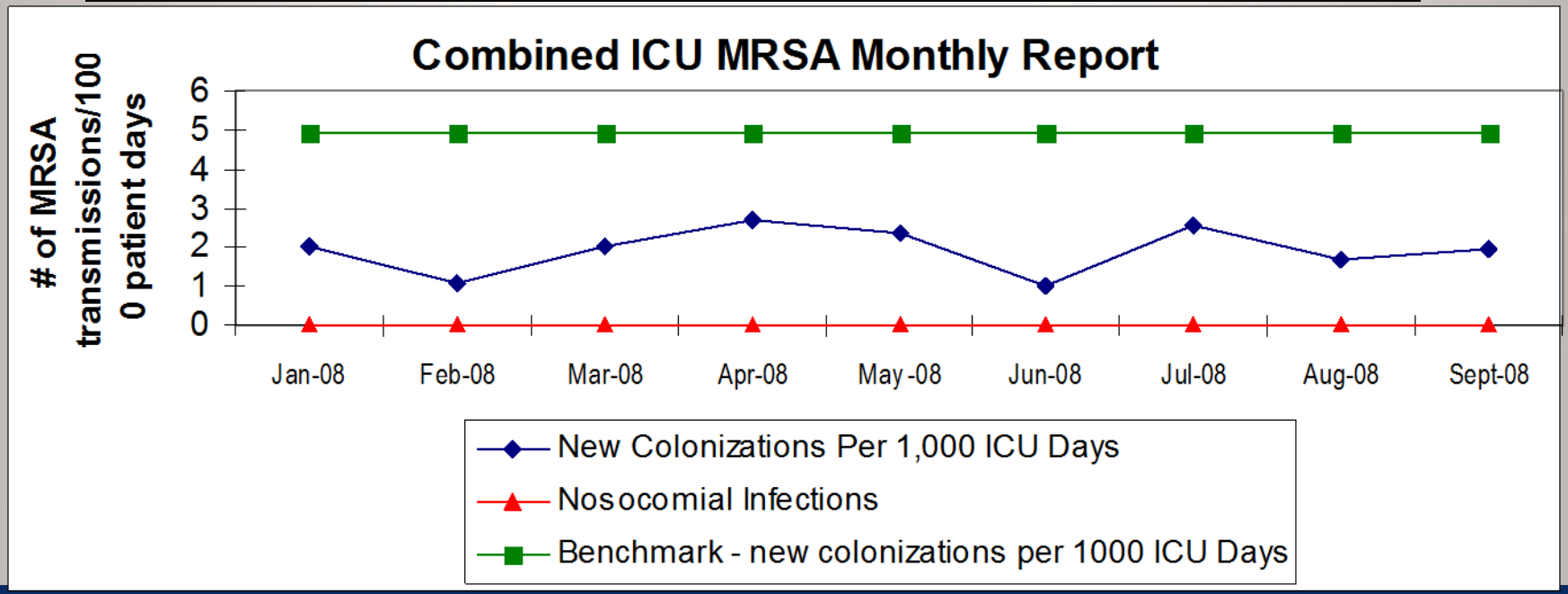
- Nasal swab all ICU admissions
- Rapid polymerase chain reaction test
- Contact isolate the 23% who are carriers
- Handwashing Campaign
- Special cleaning
- No shared equipment

HFW MRSA

Variable	Control Period	Intervention Period	P-Value
New MRSA Carrier from ICU	0.70	0.42	0.37
Hospital-wide MRSA Infections	0.63	0.31	0.02*

* Statistically significant, P < 0.05

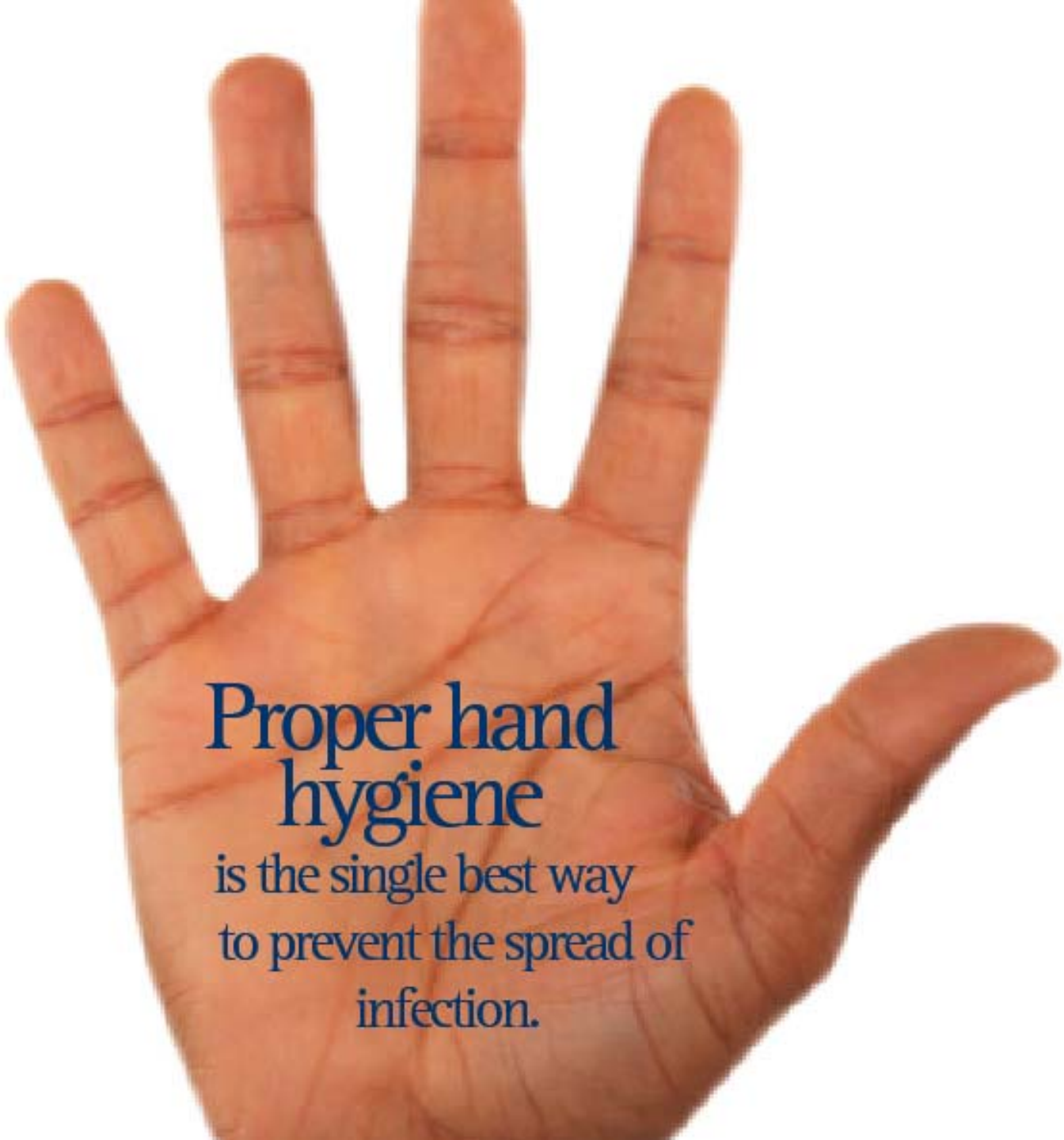
** Infections are per 1,000 days



Handwashing 手洗い

"Health care's dirty secret"

- Frequent reminders
  - Screen savers
  - Tent cards
- Observational audits with report by unit and specialty
- Alcohol dispensers everywhere

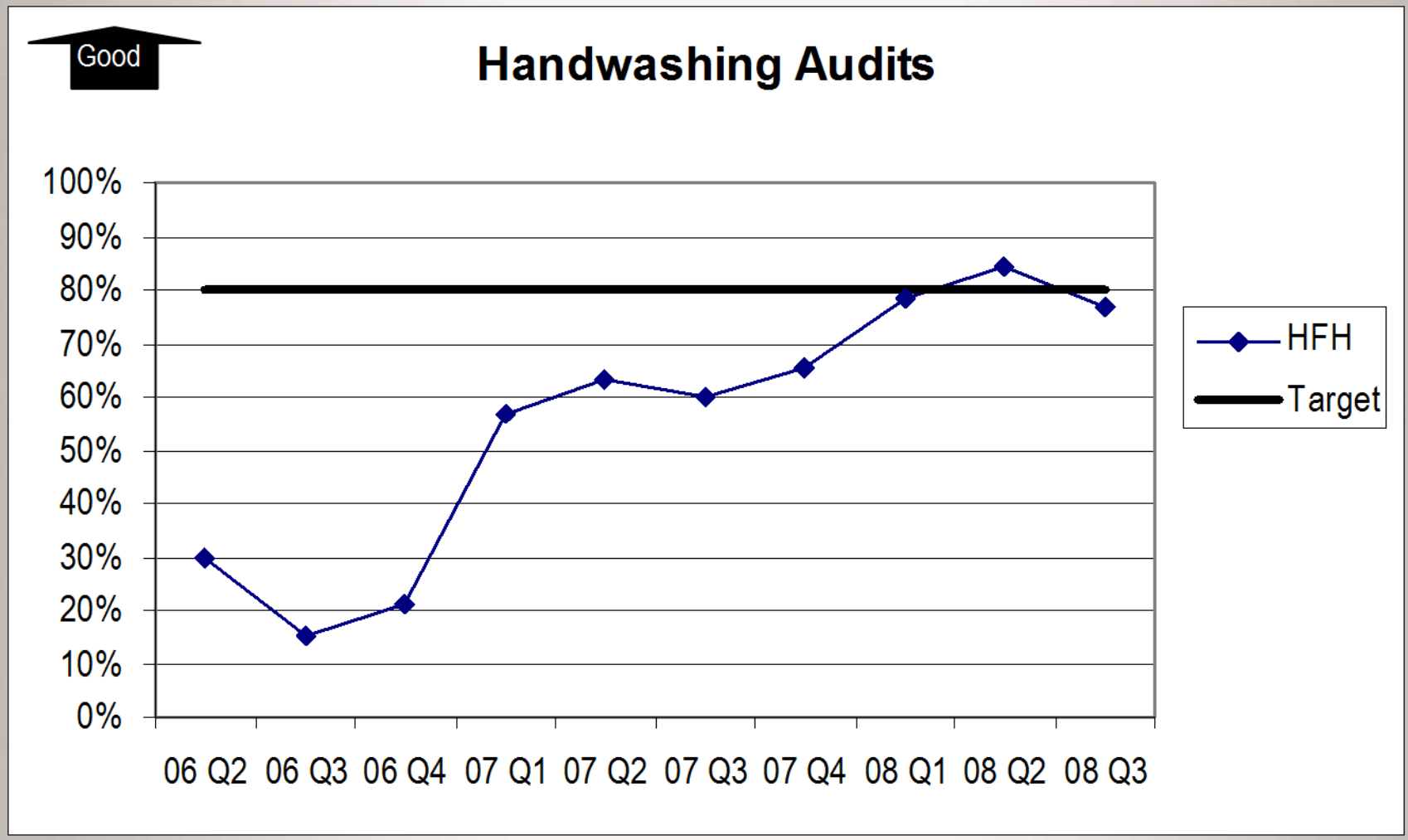

Proper hand
hygiene
is the single best way
to prevent the spread of
infection.


Please wash
your hands *with*
soap and water or use
alcohol-based hand
sanitizer.

What is the #1 way to prevent the spread of infection and disease?

Proper hand hygiene.

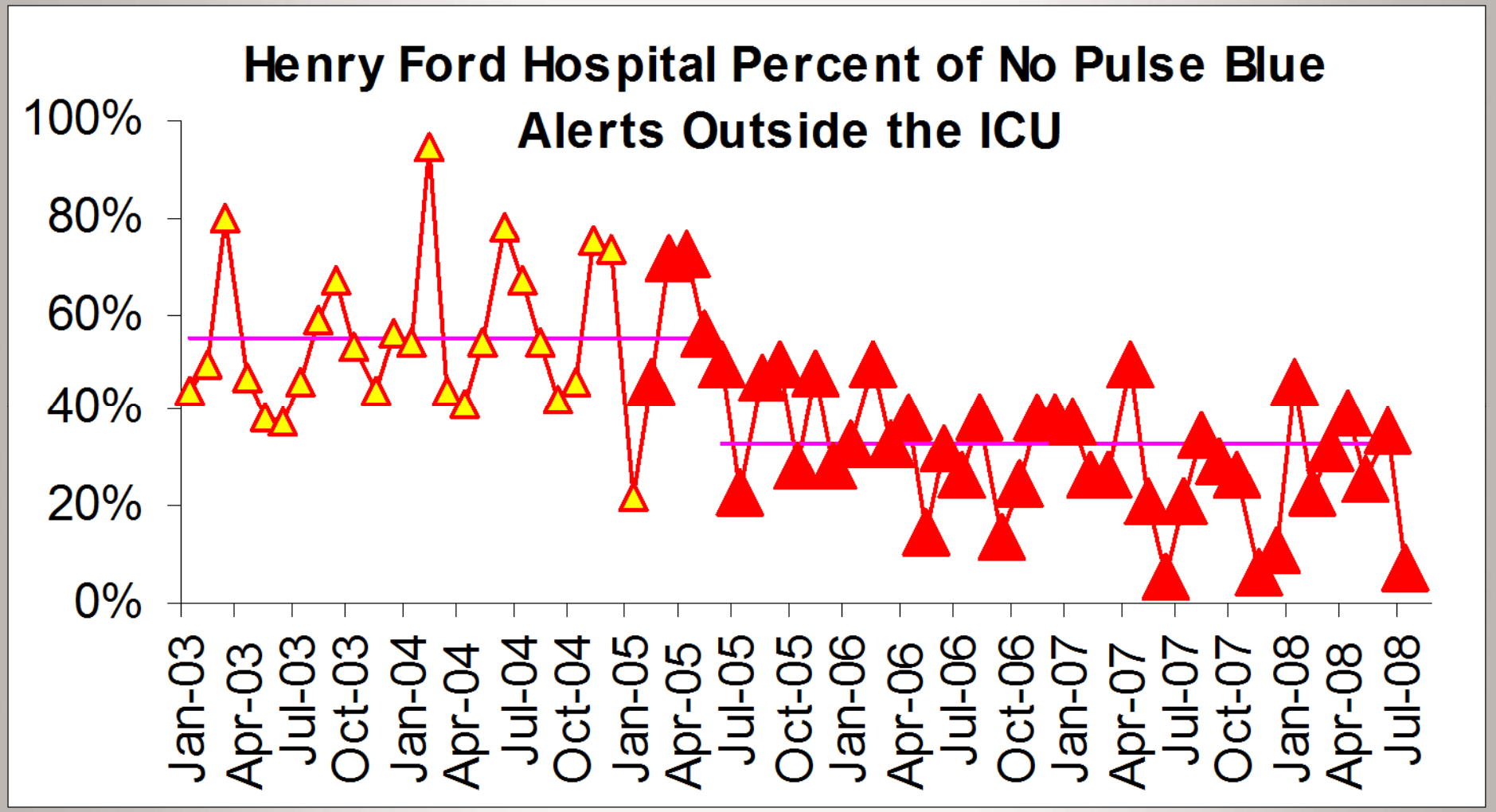
Handwashing Audits
手洗いの観察評価



Rapid Response Team
緊急対応チーム

- Development of physiology criteria to guide calls
- Respectful and experienced critical care nurses
- Collaborate with unit staff and residents
- Call on others when help is needed

ヘンリーフォード病院のICU以外での院内蘇生コールの割合

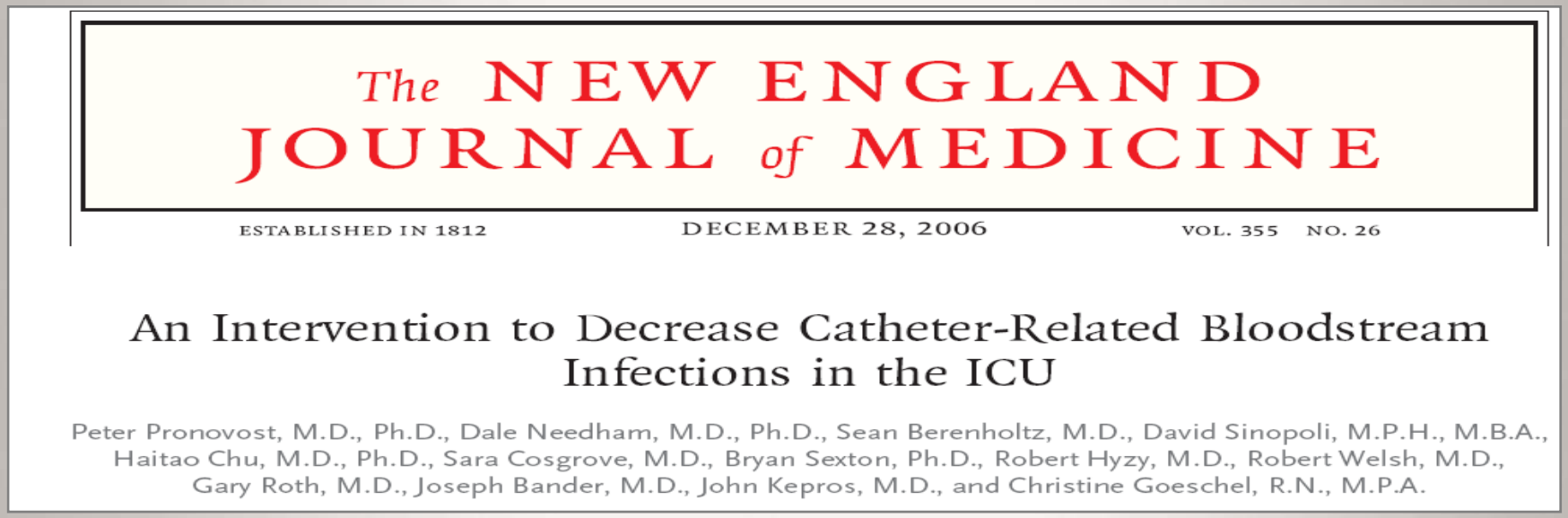


Does Improving Safety Save Money?
安全にすることで、お金を節約できるか？

IMPROVEMENT	COST	SAVINGS	NET
SURGICAL INFECTIONS	($110,000)	$540,000	$430,000
BLOODSTREAM INFECTIONS	($22,500)	$4,780,000	$4,757,500
VENTILATOR PNEUMONIAS	($0)	$1,166,400	$1,166,400
RAPID RESPONSE TEAMS	($390,000)	?	($390,000)
TOTAL	**($522,500)**	**$6,486,400**	**$5,963,900**

Does Improving Safety Save Money?

安全にすることで、お金を節約できるか？



The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 DECEMBER 28, 2006 VOL. 355 NO. 26

An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU

Peter Pronovost, M.D., Ph.D., Dale Needham, M.D., Ph.D., Sean Berenholtz, M.D., David Sinopoli, M.P.H., M.B.A., Haitao Chu, M.D., Ph.D., Sara Cosgrove, M.D., Bryan Sexton, Ph.D., Robert Hyzy, M.D., Robert Welsh, M.D., Gary Roth, M.D., Joseph Bander, M.D., John Kepros, M.D., and Christine Goeschel, R.N., M.P.A.

103 ICUs Working on Central Line Infections:

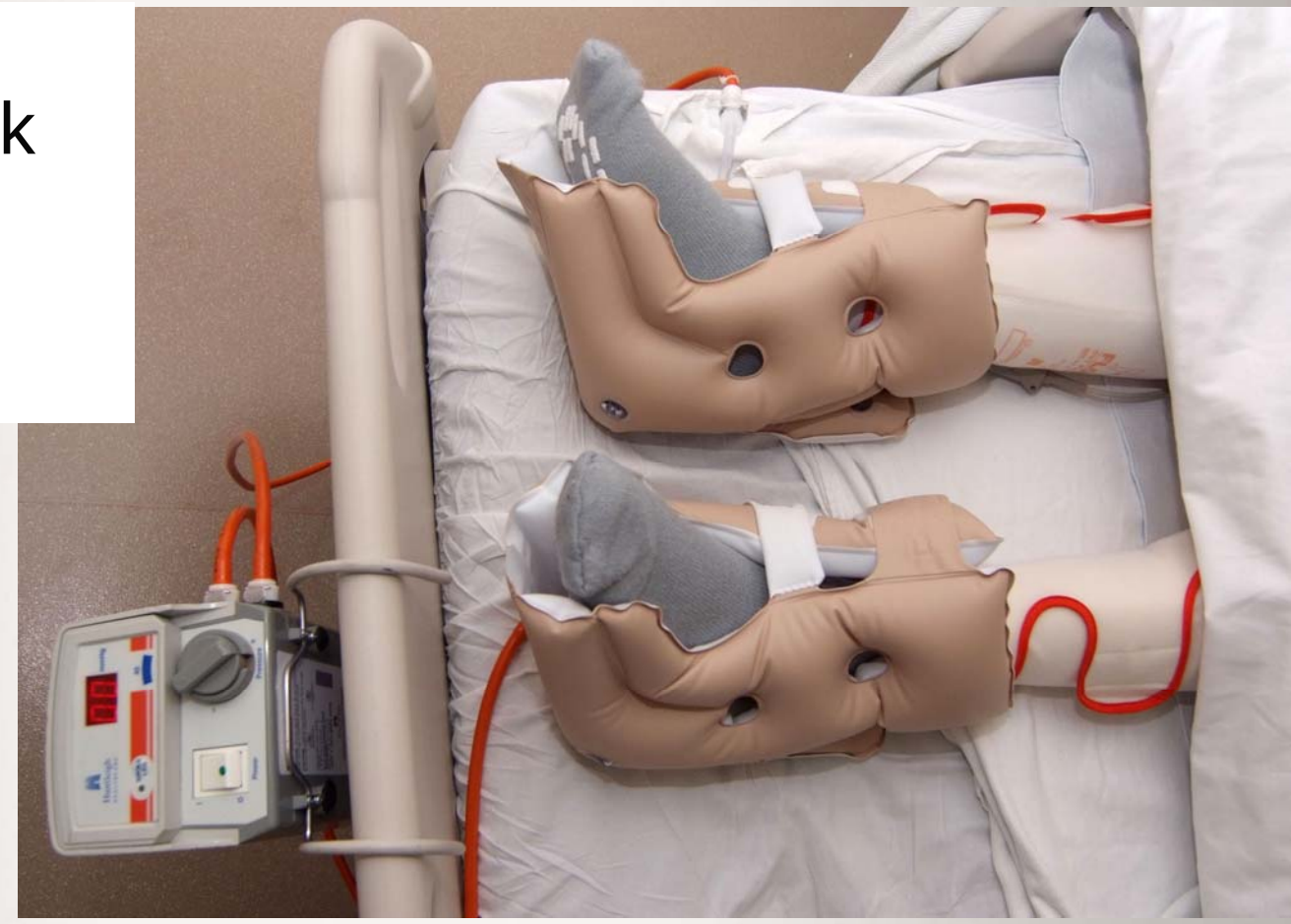
- 82% Reduction in Mean Rate
- 1,578 Lives Saved
- 81,020 Hospital Days Saved
- Over $165,000,000 in Costs Averted

Deep Venous Thrombosis / Pulmonary Embolism
深部静脈血栓症と肺塞栓症

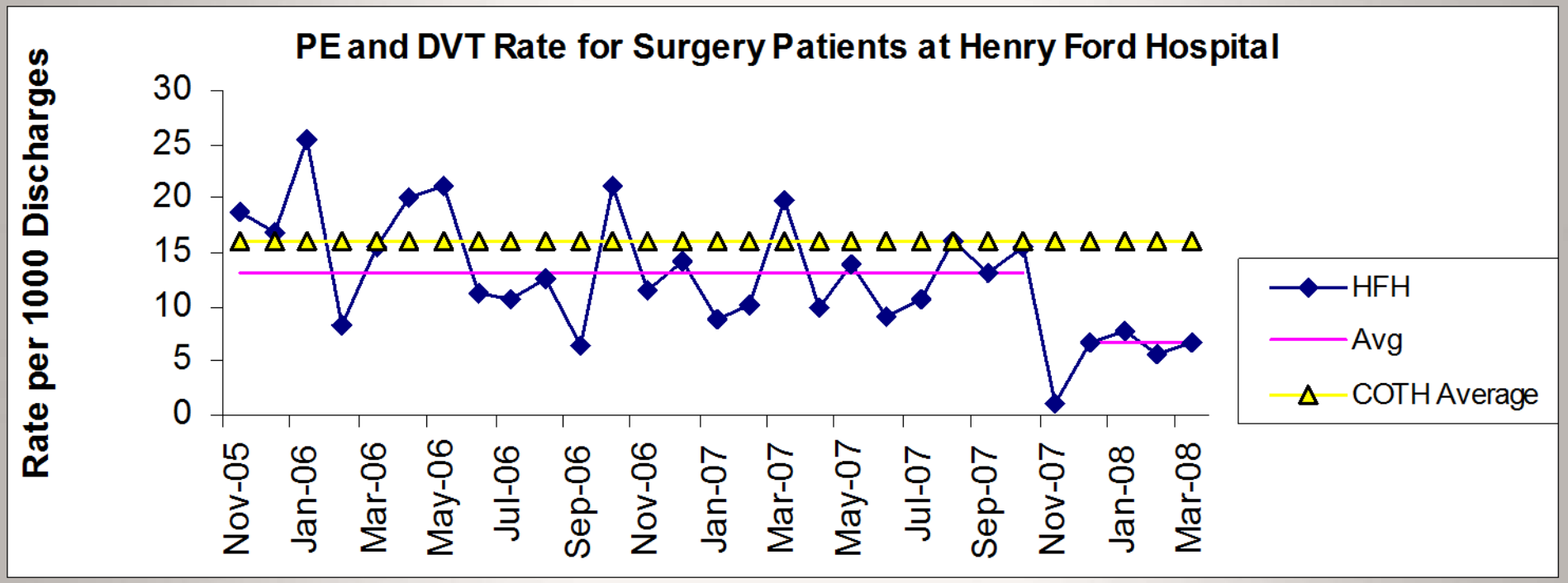
- Admission risk screening
- Standing orders for pneumatic leg compression or anticoagulants
- Leg compression in operating room

Key Process Change
キーとなるプロセス変化

- Every patient screened for risk
- Treatment standardized



Deep Vein Thrombosis and Pulmonary Embolism in Surgical Patients
外科患者の深部静脈血栓症と肺塞栓症



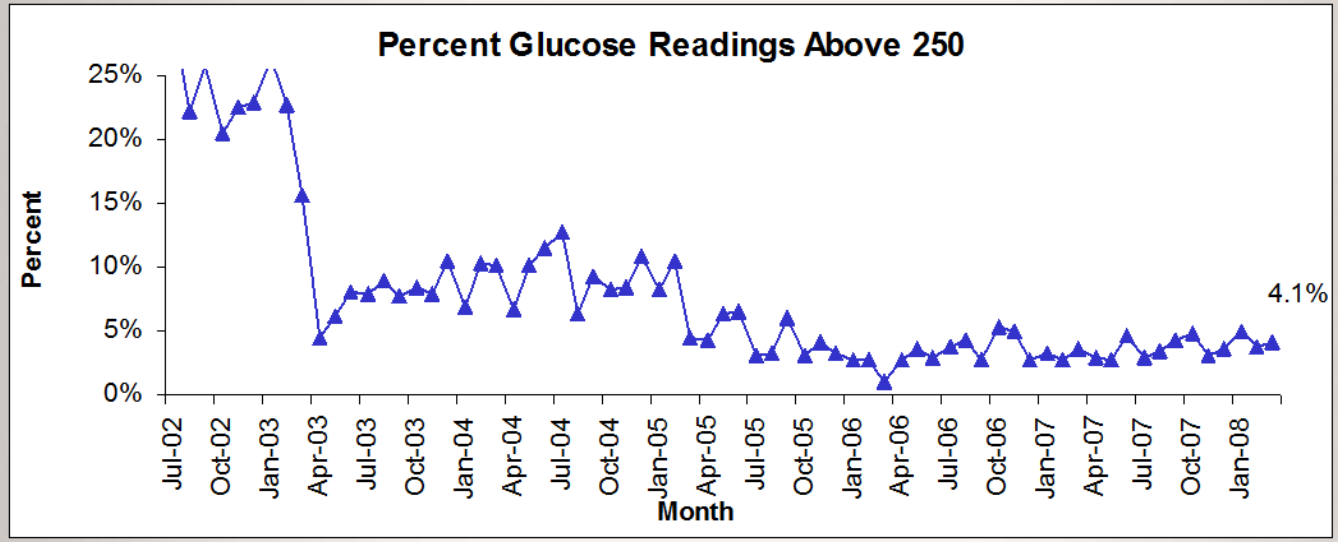
Medication Safety
薬の安全投与

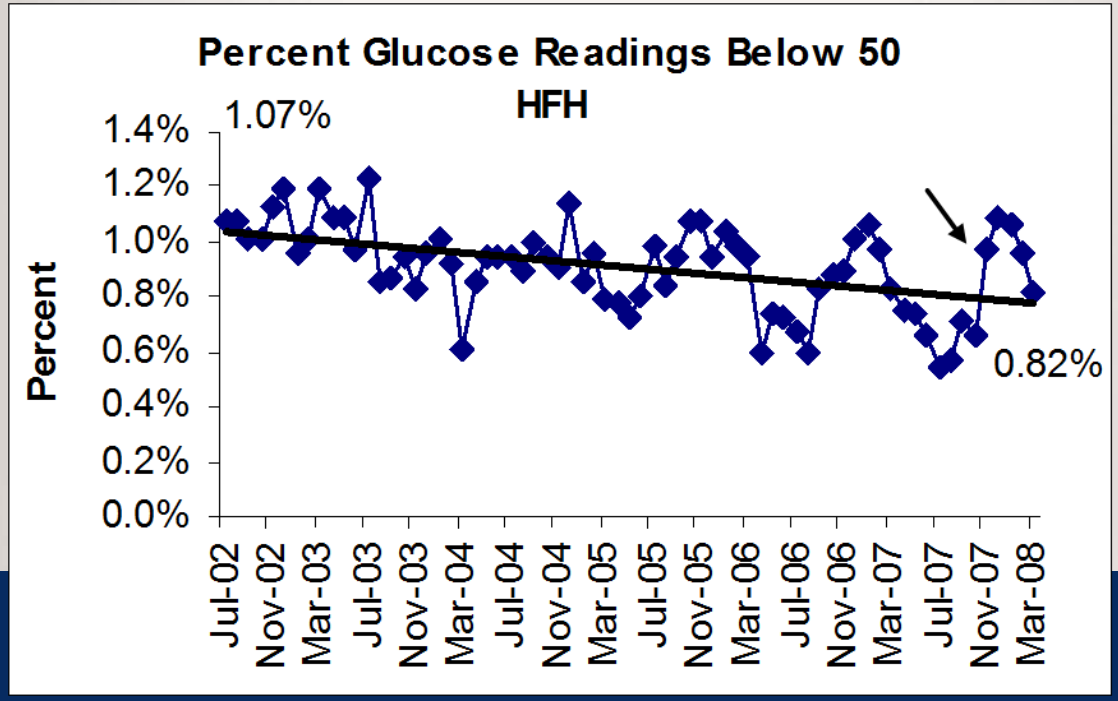
- Standardize care for most dangerous drugs
  （危険薬の投与方法のスタンダード化）
  - Insulin, narcotics, anticoagulant
- Reconcile medication list for every care transition
  （転科・転院などの際に薬のリストを作成し、照合確認）

Key Process Step
キーとなるプロセスステップ

- Medical staff agree on one protocol administered by nurse and pharmacist
  - 医療スタッフ（医師ら）が看護師・薬剤師の行う1つのプロトコールに合意する。

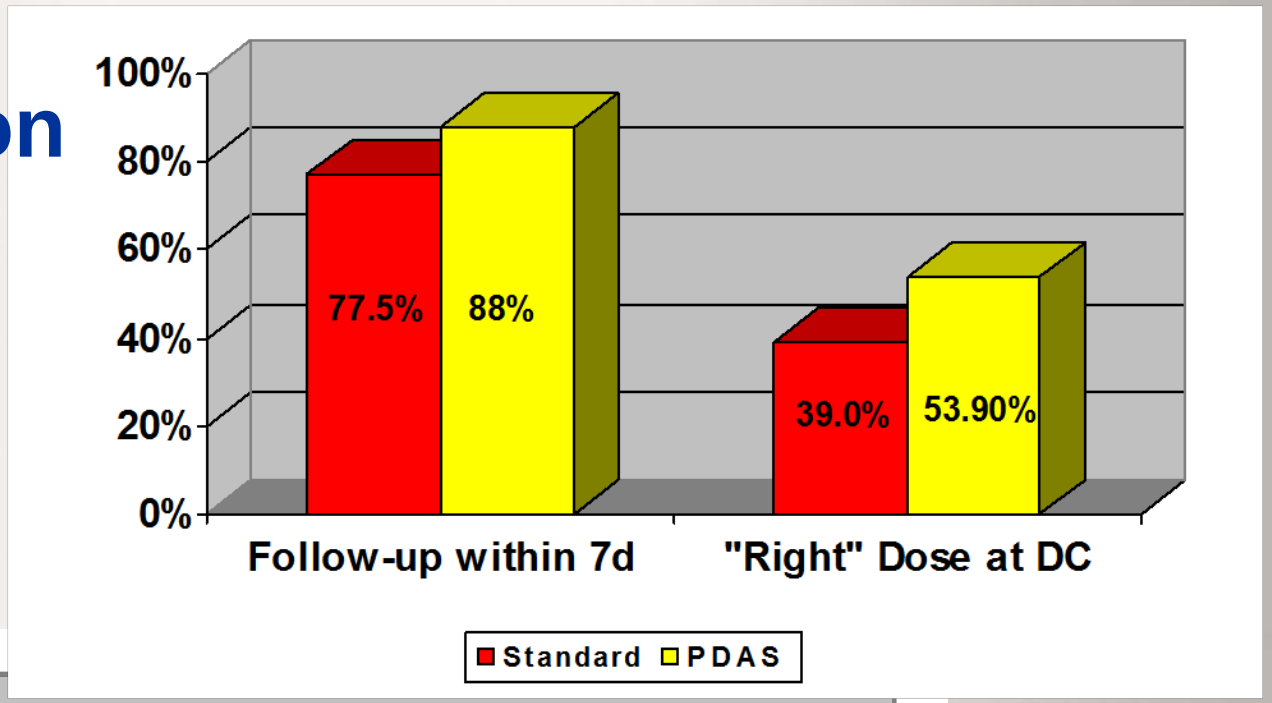
Glucose Control （血糖コントロール）

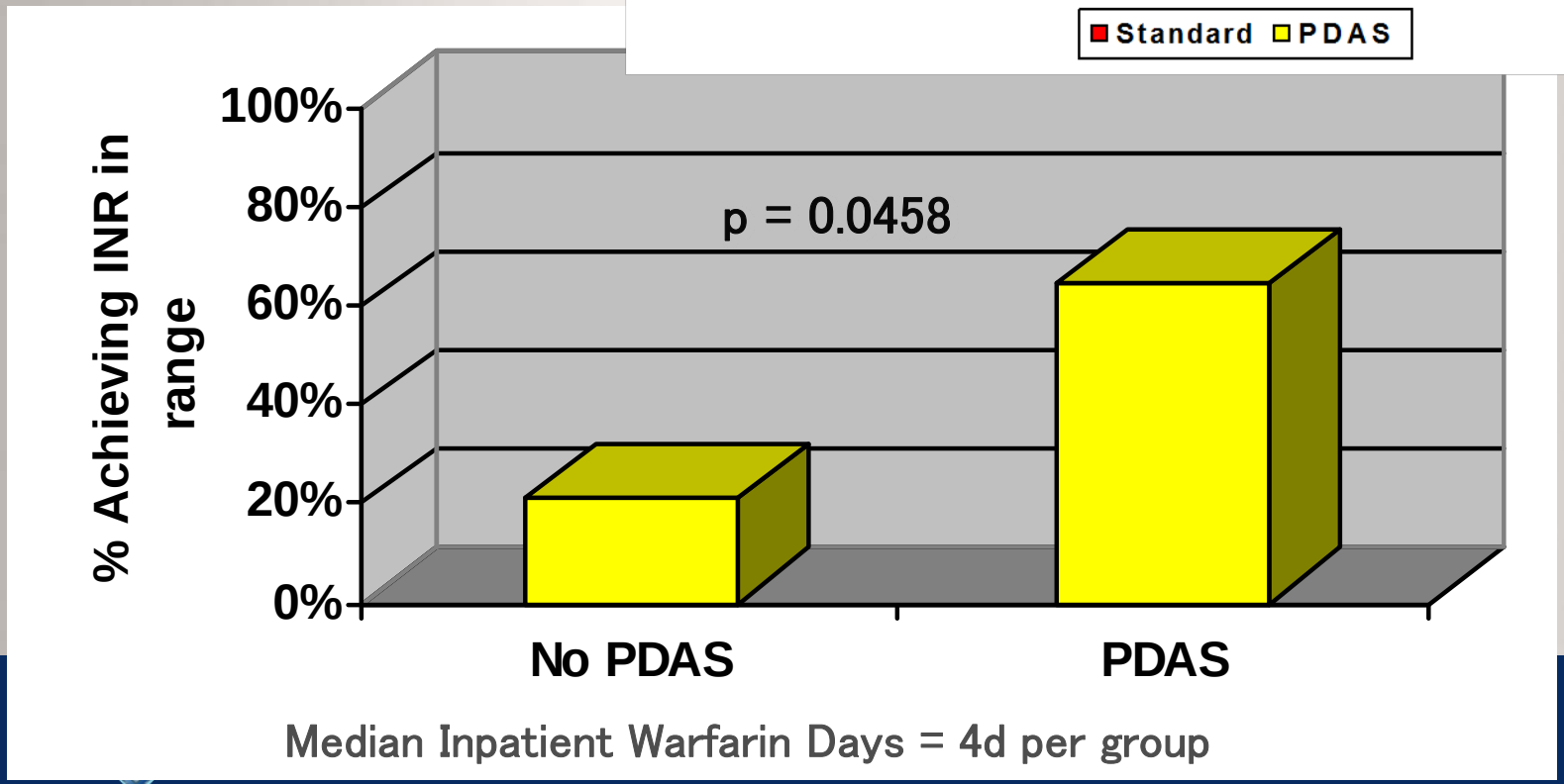




Anticoagulation Results

抗凝固剤結果





Median Inpatient Warfarin Days = 4d per group

Sepsis Treatment Bundle
敗血症治療セット項目

- Rapid identification -- 迅速な同定
- Antibiotics < 1 hour -- 抗生剤を1時間以内に
- Blood lactate level -- 血中乳酸値
- Fluid resuscitation -- 輸液蘇生
- Monitor venous O_2 level

-- 静脈血酸素レベルのモニター

Sepsis Key Process
敗血症キープロセス

- Nurse Educator/Process Manager

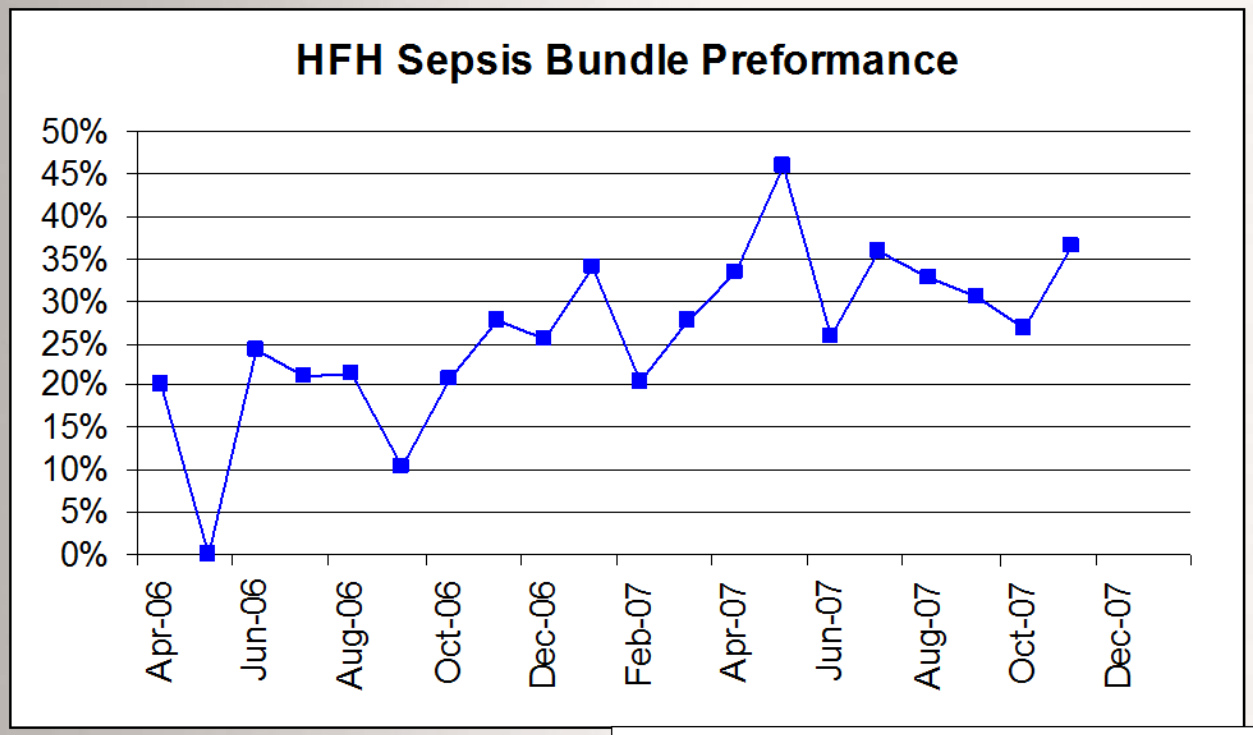
  看護師エジュケーター/プロセスマネージャー

  - Teach staff the protocol

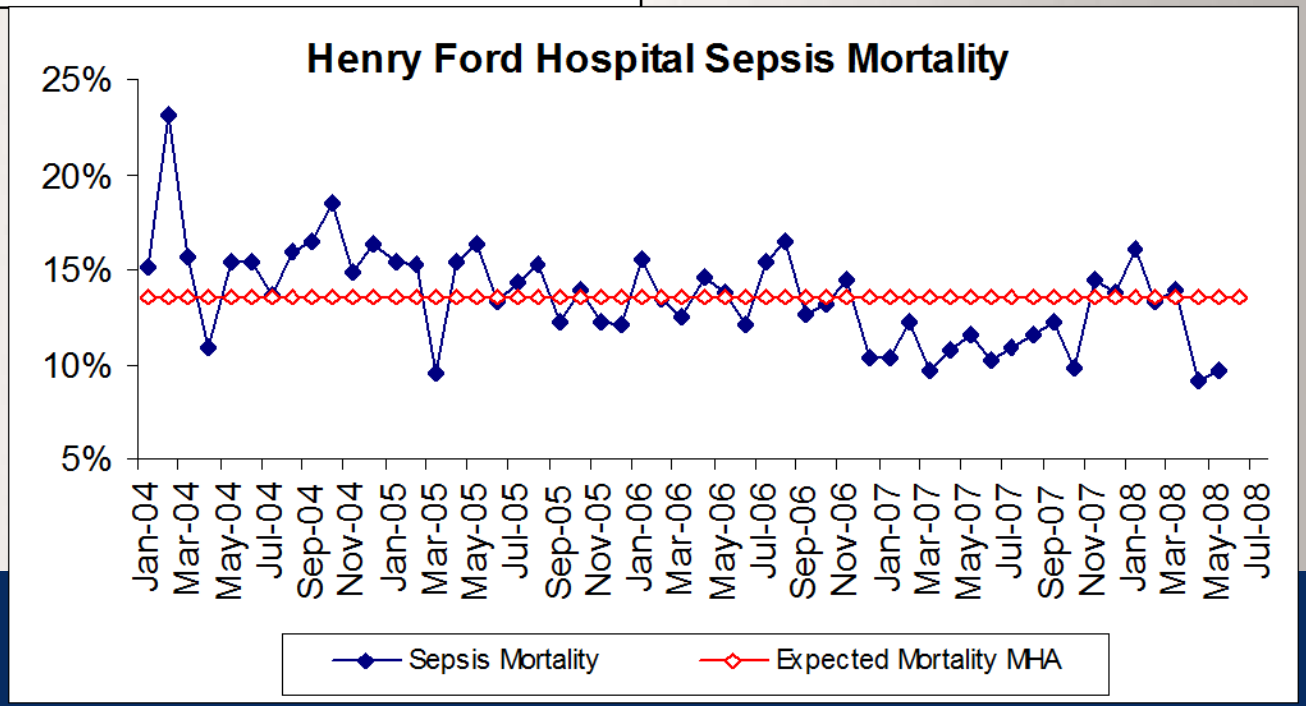
    （スタッフにプロトコールを教える）

  - Measure and feedback performance

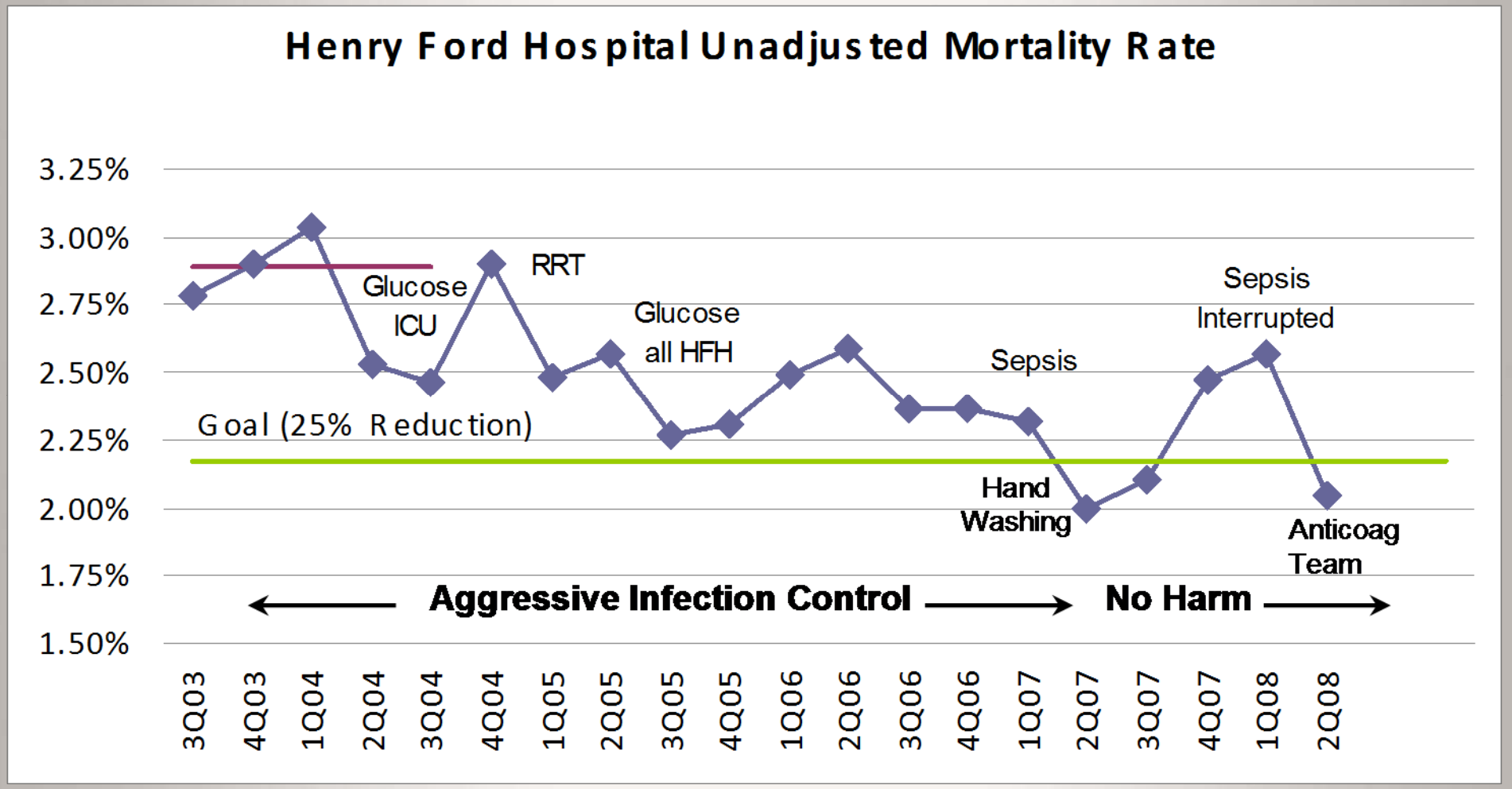
    （評価し、パフォーマンスにつきフィードバックを行う）


HFH Sepsis Bundle Preformance
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Apr-06
Jun-06
Aug-06
Oct-06
Dec-06
Feb-07
Apr-07
Jun-07
Aug-07
Oct-07
Dec-07

Results
結果


Henry Ford Hospital Sepsis Mortality
25%
20%
15%
10%
5%
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
Jul-05
Sep-05
Nov-05
Jan-06
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sepsis Mortality
Expected Mortality MHA

ヘンリーフォード病院　非調整死亡率



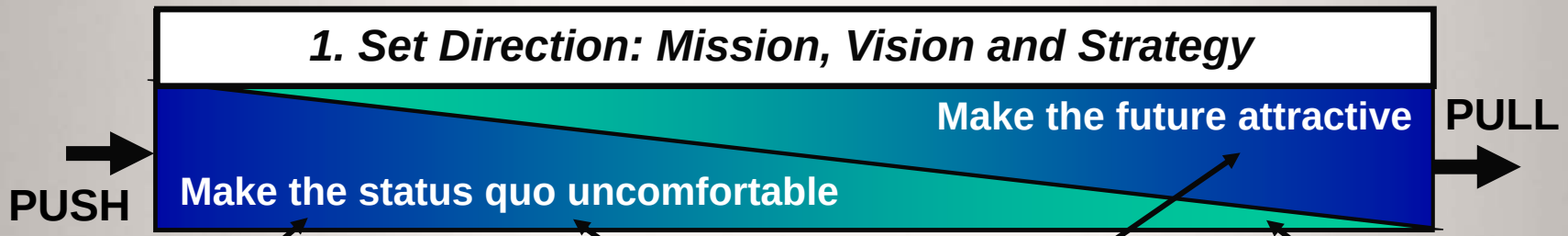
So How's That Happen
では、これはどのようにしたら起こるのか

Short answer:

A Multi Year Commitment to High Performance and Execution.

高いパフォーマンスのための長年の努力･責任感と、実行

Leadership for Improvement
改善のためのリーダーシップ



3. Build Will
- Plan for Improvement
- Set Aims/Allocate Resources (1, 5)
- Measure System Performance (5)
- Provide Encouragement
- Make Financial Linkages
- Learn Subject Matter

4. Generate Ideas
- Understand Organization as a System
- Read and Scan Widely, Learning from other Industries & Disciplines
- Benchmark to Find Ideas
- Listen to Patients
- Invest in Research & Development
- Manage Knowledge

5. Execute Change
- Develop a rational portfolio (2)
- Use Model for Improvement for Design and Redesign (4)
- Review and Guide Key Initiatives(5)
- Communicate & spread results (4)
- Sustain improved levels of performance (5)
- Deploy resources (3)

2. Establish the Foundation
- Reframe Operating Values
- Build Improvement Capability
- Prepare Personally
- Choose and Align the Senior Team
- Build Relationships
- Develop Future Leaders

Build Will
意志を育てよう

- Set Ambitious Aims
  - 野心的な目標を立てよう
- Coach Leaders
  - リーダーを指導しよう
- Feedback Performance
  - パフォーマンスをフィードバックしよう
- Recognition and Celebration
  - 認識して、祝福しよう
- Put patients on the Team
  - 患者をチームに入れよう

Execution of Change
変化の実行

- Plan and set priorities
  - 計画を立て、優先順位を決める
- Allocate personnel and resources
  - 人と資源を配分する
- Secure oversight
  - 監督する（できるようにする）
- Use small tests of change
  - 変化を検出できる小さなテストを行う

Table 1: Team Leadership Structure			
Project	**Resources and Responsibilities**		
	Senior Sponsor	***Lead***	***Driver***
Cardiac Care	Director of Cardiac Service Line	Senior Cardiologist	Nurse Manager
Medical Safety	Chief Operating Officer	Director of Pharmacy	PharmD Pharmacist
Patient Care Unit	Chief Operating Officer	Vice President of Nursing	Patient Safety Officer
Infection Control	Chief Medical Officer	Manager of Infection Control	Senior Infection Control Nurse
Intensive Care Unit Safety	Chief Medical Officer	Medical Director of Intensive Care Unit	Nurse Manager
Surgery Safety	Director of Surgery	Cardiac or Orthopaedics Director	Nurse Manager of Surgery

Execution of Change
変化の実行

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Create a Culture of Safety
安全文化を作ろう
Goal: To be safest health care system

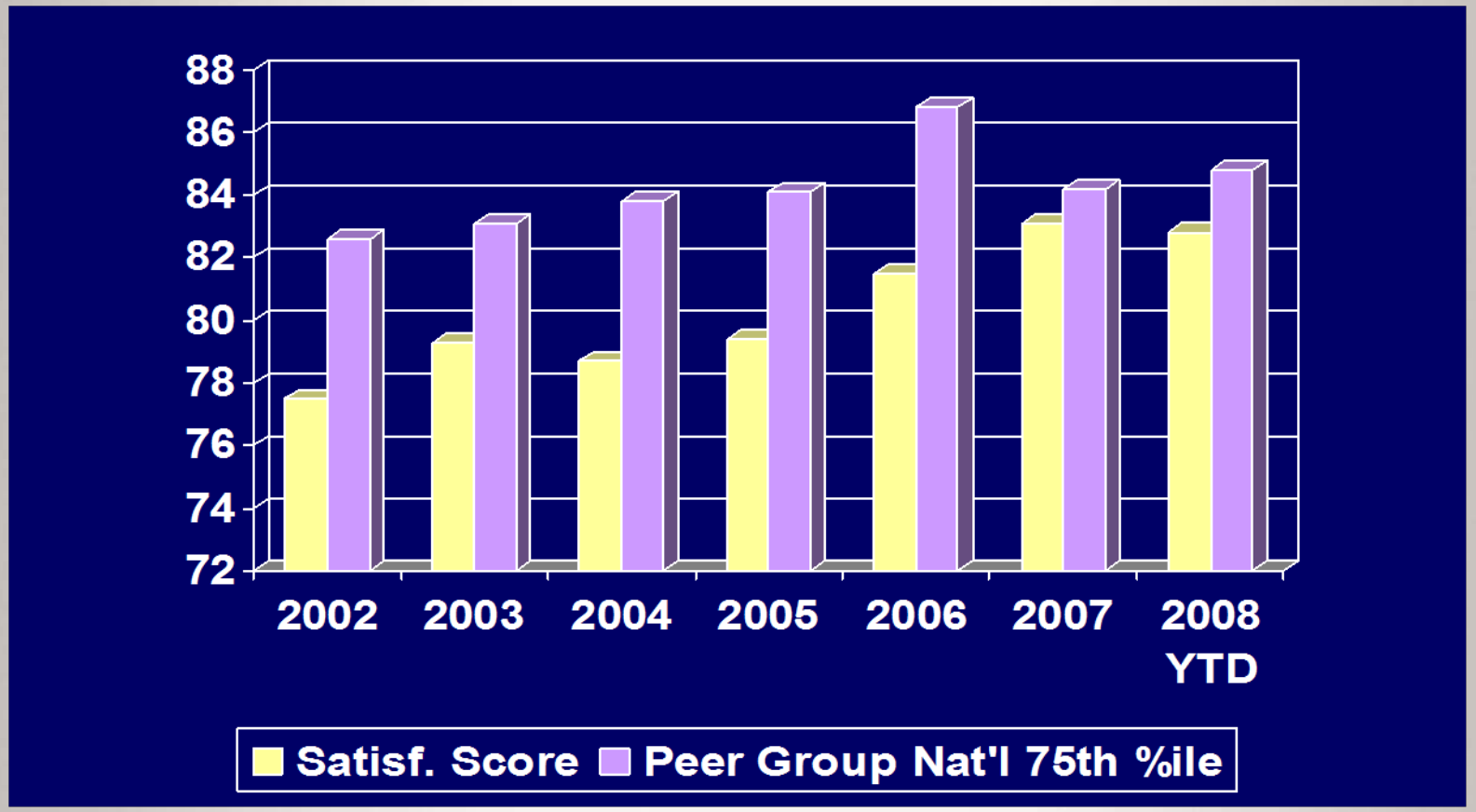
- Encourage adverse event reporting and share trends widely
- Implement team communication training and communication tools
- Support staff “Speaking out”

Create a Culture of Safety
安全文化を作ろう
Goal: To be safest health care system

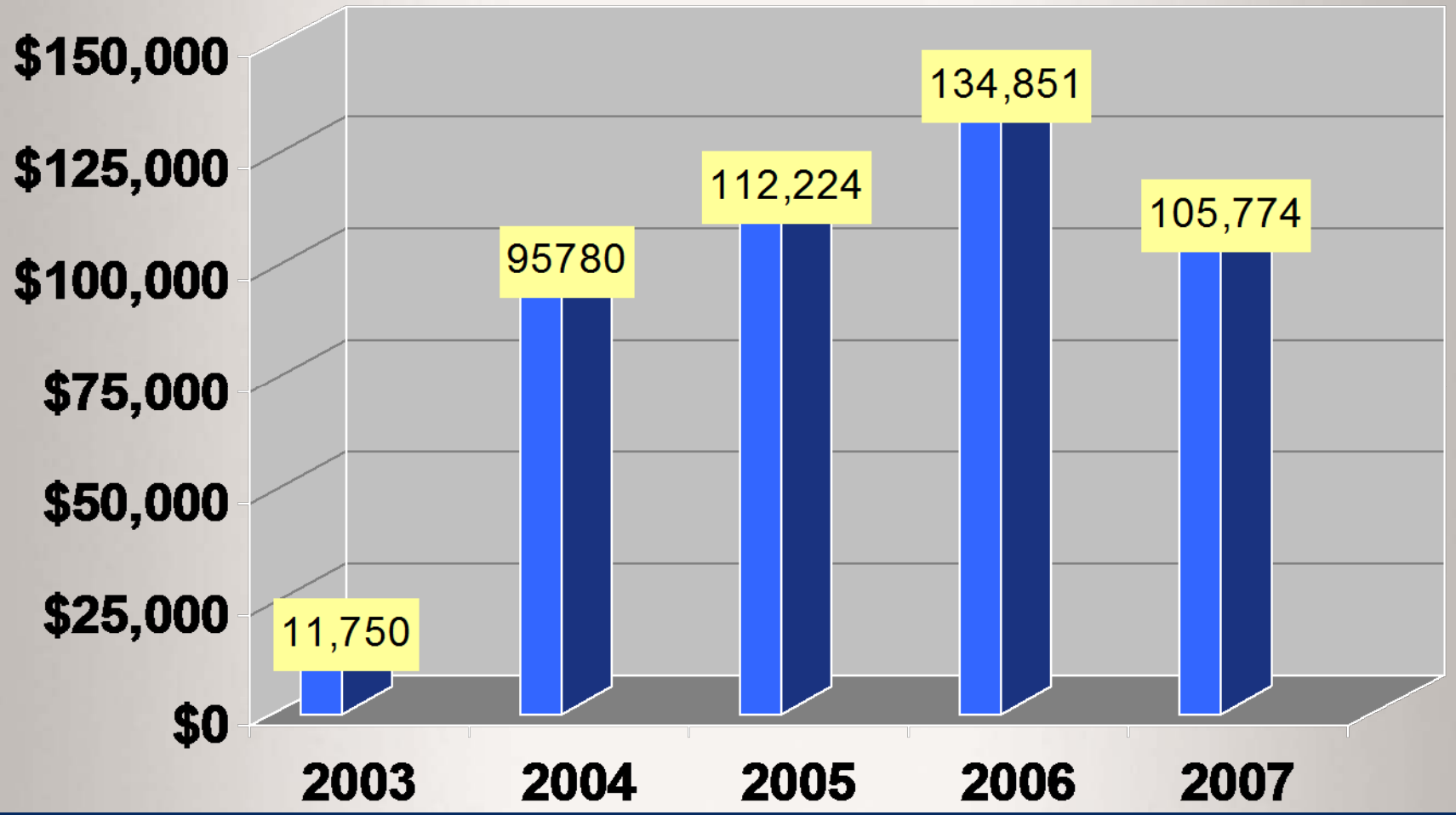
- Implement Just Culture
  - Balances the need to have a non-punitive learning environment with the need to hold individuals accountable for their actions
- Expect compliance with personal safe practices
- Engage patients to speak up

No Harm Improves Patient Satisfaction

有害事象がなくなることは、患者の満足度を改善する



And No Harm is Good Business
（そして病院経営にもよい）
Total Net Income (in thousands)



Fast and dramatic improvement in safety is possible.

医療安全における速やかで劇的な改善は可能である。

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