Making Data Count

Measuring Diabetes and Obesity in the Indian Health System

December 18-20, 2007
IHS Division of Diabetes Treatment and Prevention

Achieving Best Health Care Outcomes for the Population

Cindy Hupke, RN, MBA

Session: Plenary F

Achieving Best Health Care Outcomes for the Population

Cindy Hupke
Institute for Healthcare Improvement

Achieving Best Health Care Outcomes for the Population

- **What are the "best" health care outcomes?**
- How can we measure those elements?
- Who is the "population" that we refer to?

Various Perspectives on "Best" Outcomes

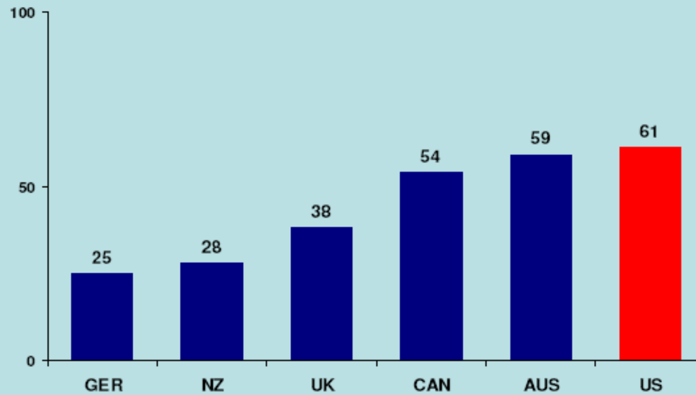
Entity	Best Outcome(s)
Providers and Care Team	Clinical outcomes: BP in control, HbA1c, etc.
Administrators	Per capita costs, productivity
Patient	Culturally sensitive and respectful care, access to care, continuity
IOM	Safe, Timely, Effective, Efficient, Equitable, and Patient Centered care
Risk Manager	No medication errors

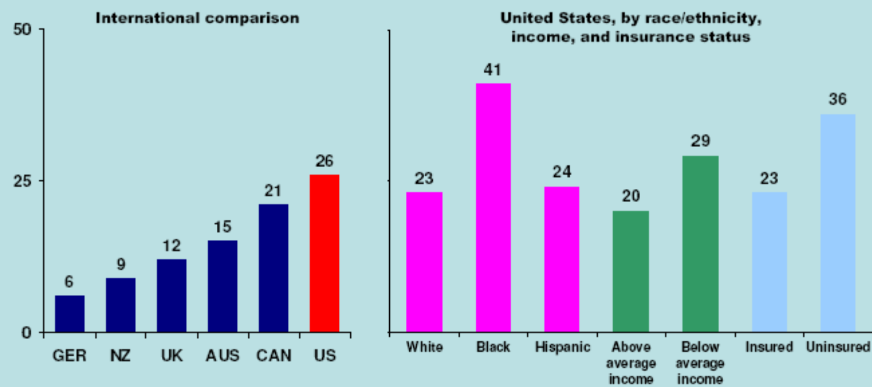
Major Biomedical Successes:

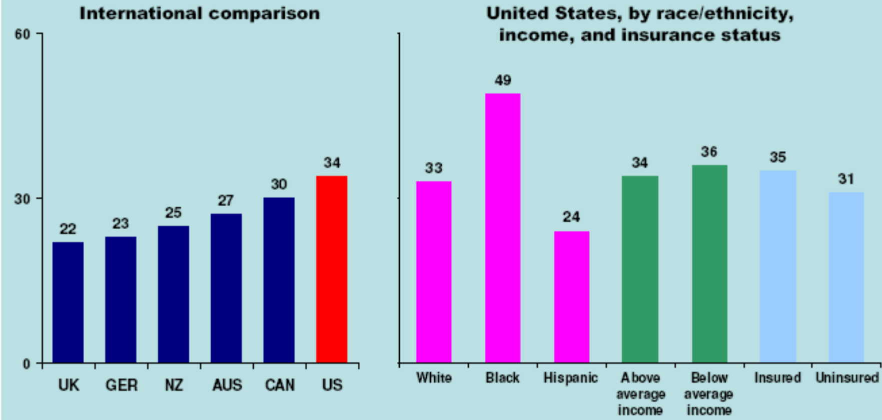
- *Acute Lymphoblastic Leukemia*
- *Coronary Heart Disease*
- *Acute Myocardial Infarction*
- *Erythroblastosis Fetalis*
- *Diabetes Mellitus*
- *Asthma*
- *Organ Transplantation*

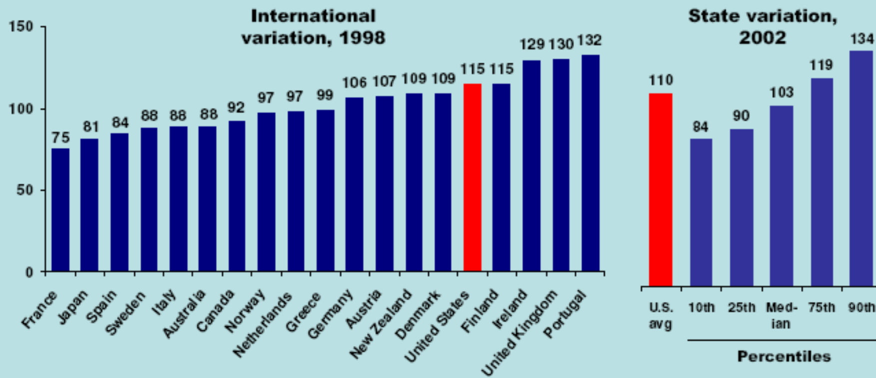
Defects…for example…

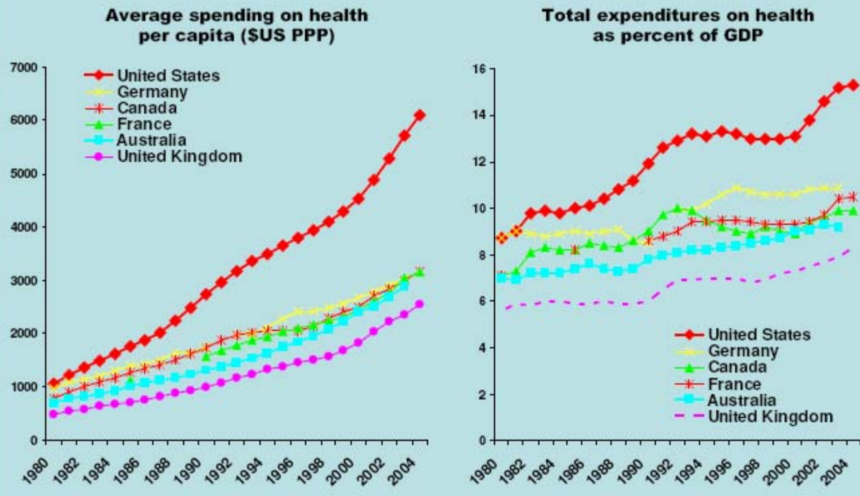
- 45% of needed care is not received
- 22% of chronically ill adults report a “serious error” in their care
- 74% of chronically ill adults say the system needs “fundamental change” or “complete rebuilding
- Case-mix adjusted hospital death rates vary 400%
- Resource use in the last six months of life varies >500% among 77 top-rated US hospitals
- Per capita annual health care costs:
  - US: ~$6000
  - Sweden: ~$2800

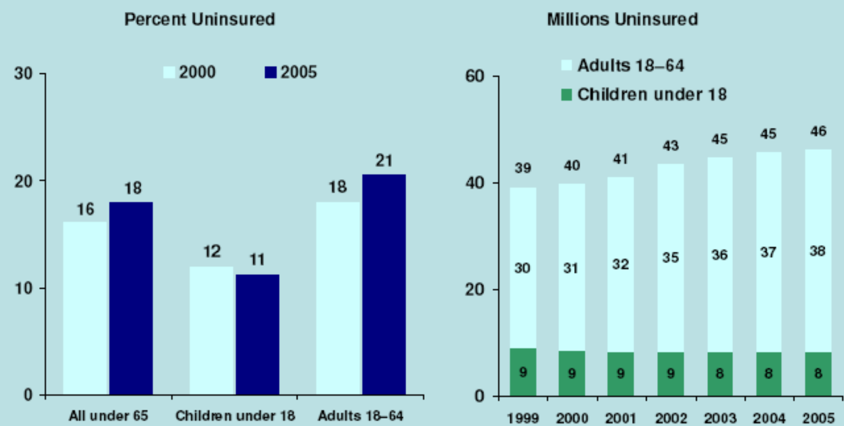

QUALITY: PATIENT-CENTERED, TIMELY CARE
Difficulty Getting Care on Nights, Weekends, Holidays Without Going to the ER, Among Sicker Adults in Six Countries, 2005
Percent of adults who sought care reporting "very" or "somewhat" difficult
100
50
0
25
28
38
54
59
61
GER
NZ
UK
CAN
AUS
US
GER=Germany; NZ=New Zealand; UK=United Kingdom; CAN=Canada; AUS=Australia; US=United States.
Data: 2005 Commonwealth Fund International Health Policy Survey of Sicker Adults (Schoen et al. 2005a).
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
41


EFFICIENCY
Went to ER for Condition That Could Have Been Treated by Regular Doctor, Among Sicker Adults, 2005
Percent of adults who went to ER in past two years for condition that could have been treated by regular doctor if available
International comparison
50
25
0
6
9
12
15
21
26
GER
NZ
UK
AUS
CAN
US
United States, by race/ethnicity, income, and insurance status
23
41
24
20
29
23
36
White
Black
Hispanic
Above average income
Below average income
Insured
Uninsured
GER=Germany; NZ=New Zealand; UK=United Kingdom; AUS=Australia; CAN=Canada; US=United States.
Data: Analysis of 2005 Commonwealth Fund International Health Policy Survey of Sicker Adults; Schoen et al. 2005a.
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
62


QUALITY: SAFE CARE
Medical, Medication, and Lab Errors Among Sicker Adults, 2005
Percent reporting medical mistake, medication error, or lab error in past two years
International comparison
United States, by race/ethnicity, income, and insurance status
UK 22
GER 23
NZ 25
AUS 27
CAN 30
US 34
White 33
Black 49
Hispanic 24
Above average income 34
Below average income 36
Insured 35
Uninsured 31
UK=United Kingdom; GER=Germany; NZ=New Zealand; AUS=Australia; CAN=Canada; US=United States.
Data: Analysis of 2005 Commonwealth Fund International Health Policy Survey of Sicker Adults; Schoen et al. 2005a.
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
37


LONG, HEALTHY & PRODUCTIVE LIVES
Mortality Amenable to Health Care
Mortality from causes considered amenable to health care is deaths before age 75 that are potentially preventable with timely and appropriate medical care
Deaths per 100,000 population*
International variation, 1998
France 75
Japan 81
Spain 84
Sweden 88
Italy 88
Australia 88
Canada 92
Norway 97
Netherlands 97
Greece 99
Germany 106
Austria 107
New Zealand 109
Denmark 109
United States 115
Finland 115
Ireland 129
United Kingdom 130
Portugal 132
State variation, 2002
U.S. avg 110
10th 84
25th 90
Med-ian 103
75th 119
90th 134
Percentiles
* Countries' age-standardized death rates, ages 0–74; includes ischemic heart disease.
See Technical Appendix for list of conditions considered amenable to health care in the analysis.
Data: International estimates—World Health Organization, WHO mortality database (Nolte and McKee 2003);
State estimates—K. Hempstead, Rutgers University using Nolte and McKee methodology.
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
6

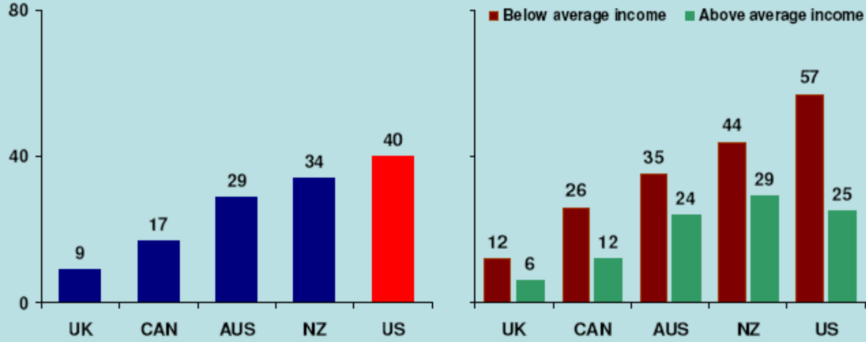

EFFICIENCY
International Comparison of Spending on Health, 1980–2004
Average spending on health per capita ($US PPP)
Total expenditures on health as percent of GDP
United States
Germany
Canada
France
Australia
United Kingdom
Data: OECD Health Data 2005 and 2006.
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
58


ACCESS: UNIVERSAL PARTICIPATION
Population under Age 65 Without Health Insurance
Percent Uninsured
2000
2005
All under 65
Children under 18
Adults 18–64
Millions Uninsured
Adults 18–64
Children under 18
Data: Analysis of Current Population Survey, March 1995–2005 supplements; P. Fronstin. 2005. Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2005 Current Population Survey. Employee Benefit Research Institute (Figures 1, 2, and 3).
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
50

ACCESS: UNIVERSAL PARTICIPATION

Access Problems Because of Costs in Five Countries, Total and by Income, 2004

Percent of adults who had any of three access problems* in past year because of costs



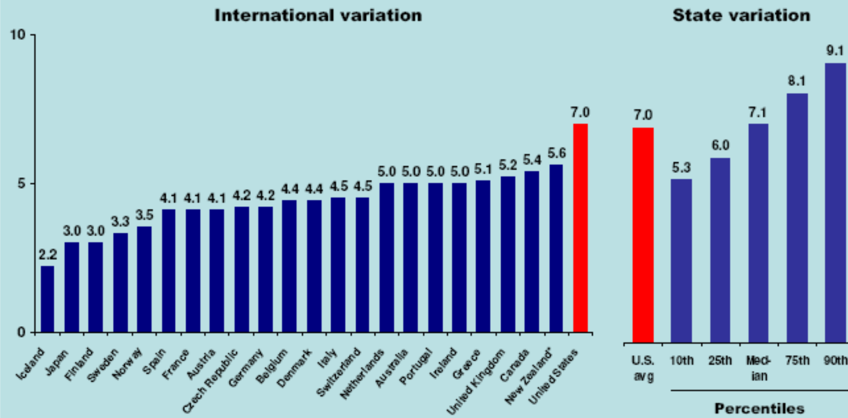
* Did not get medical care because of cost of doctor's visit, skipped medical test, treatment, or follow-up because of cost, or did not fill Rx or skipped doses because of cost.
UK=United Kingdom; CAN=Canada; AUS=Australia; NZ=New Zealand; US=United States.
Data: 2004 Commonwealth Fund International Health Policy Survey of Adults' Experiences with Primary Care (Schoen et al. 2004; Huynh et al. 2006).

Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006 49

LONG, HEALTHY & PRODUCTIVE LIVES

Infant Mortality Rate, 2002

Infant deaths per 1,000 live births



* 2001.
Data: International estimates—OECD Health Data 2005;
State estimates—National Vital Statistics System, Linked Birth and Infant Death Data (AHRQ 2005a).

Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006 7

Aims for Great Health Care

- Safety
- Effectiveness
- Patient-centeredness
- Timeliness
- Efficiency
- Equity

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What Should We Aim For?

- No Needless Deaths
- No Needless Pain or Suffering
- No Unwanted Waits
- No Helplessness
- No Waste

……For Anyone

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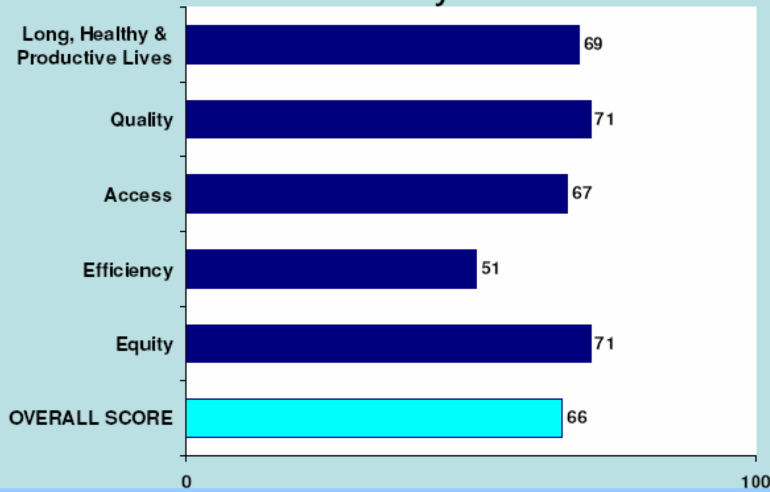
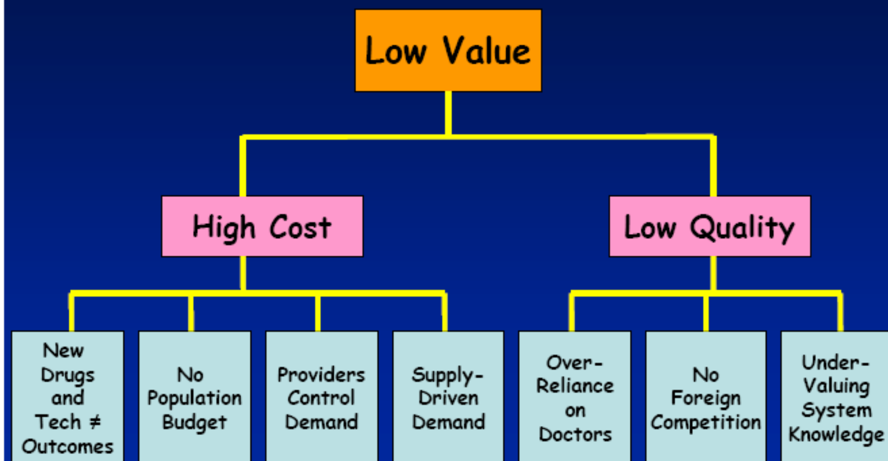
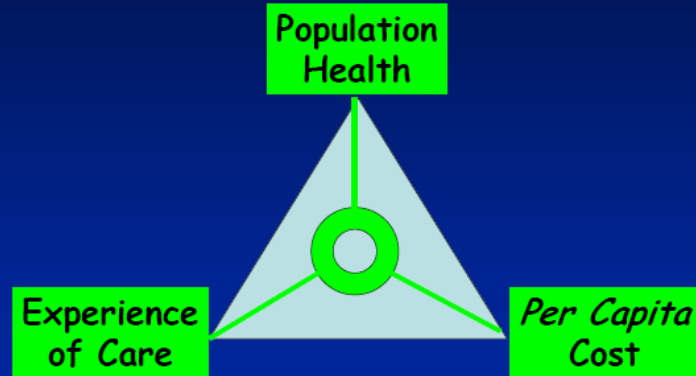

Scores: Dimensions of a High Performance Health System
Long, Healthy & Productive Lives
69
Quality
71
Access
67
Efficiency
51
Equity
71
OVERALL SCORE
66
0
100
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006
4

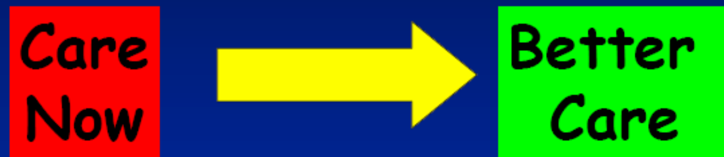

Drivers of a Low-Value System
(Tom Nolan, PhD)
Low Value
High Cost
Low Quality
New Drugs and Tech ≠ Outcomes
No Population Budget
Providers Control Demand
Supply-Driven Demand
Over-Reliance on Doctors
No Foreign Competition
Under-Valuing System Knowledge

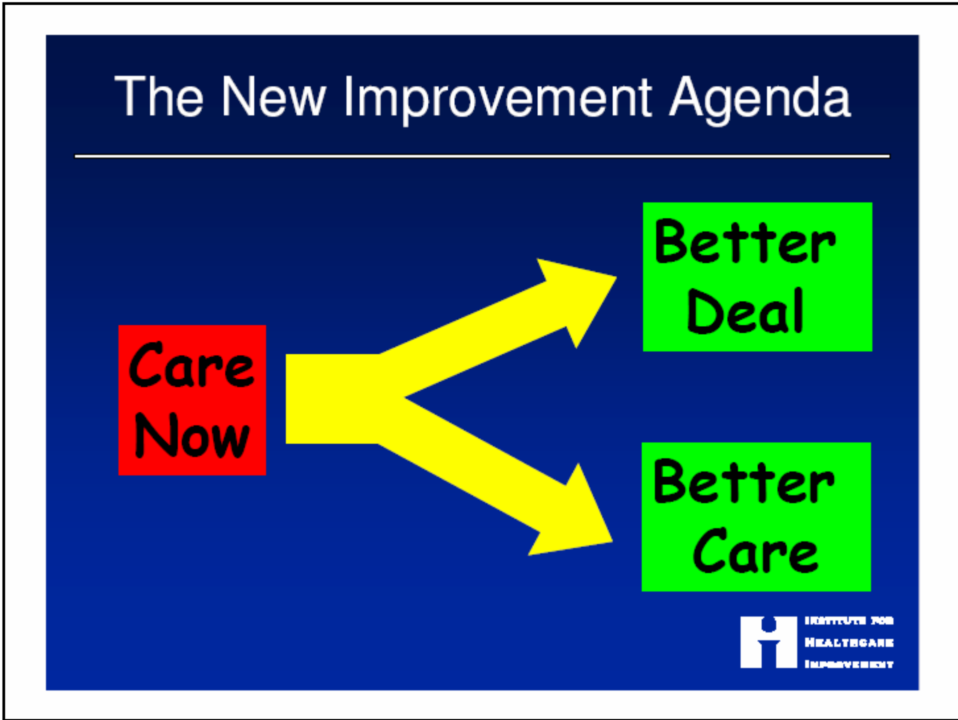
The "Triple Aim"

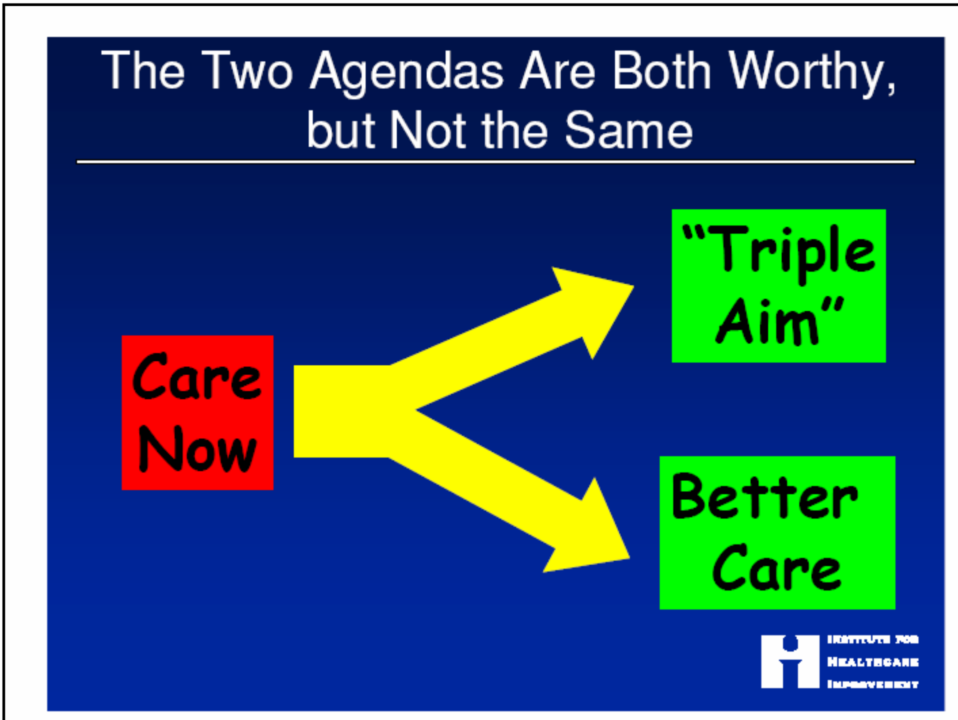
(John Whittington, et al.)



The Old Improvement Agenda




The New Improvement Agenda
Care Now
Better Deal
Better Care


The Two Agendas Are Both Worthy, but Not the Same
Care Now
"Triple Aim"
Better Care

The "Triple Aim" and Acute Care

"Health care systems have evolved around the concept of infectious disease, and they perform best when addressing patients' episodic and urgent concerns. However, the acute care paradigm is no longer adequate for the changing health problems in today's world. Both high- and low-income countries spend billions of dollars on unnecessary hospital admissions, expensive technologies, and the collection of useless clinical information. **As long as the acute care model dominates health care systems, health care expenditures will continue to escalate, but improvements in populations' health status will not.**"

World Health Organization. Innovative care for chronic conditions: building blocks for action: global report. (Geneva: WHO; 2002.)

"Triple Aim" Components

- The health of a defined population
- The experience of care by people in this population
- The cost *per capita* of providing care for this population

Best Outcomes for 5 Million Lives Campaign

- A reduction of five million instances of harm from December 2006 through December 2008.
  - No needless deaths
  - No needless pain
  - No helplessness
  - No unwanted waiting
  - No waste
  - …for anyone.

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The Campaign Platform

The 100,000 Lives Planks

- Rapid Response Teams
- Acute Myocardial Infarction
- Medical Reconciliation
- Central Line Infections
- Ventilator Associated Pneumonia
- Surgical Site Infection

The 5 Million Lives Planks

- Pressure Ulcers
- Congestive Heart Failure
- High Alert Medications
- Surgical Complications ("SCIP")
- Methicillin-Resistant *Staphylococcus aureus*
- "Boards on Board"

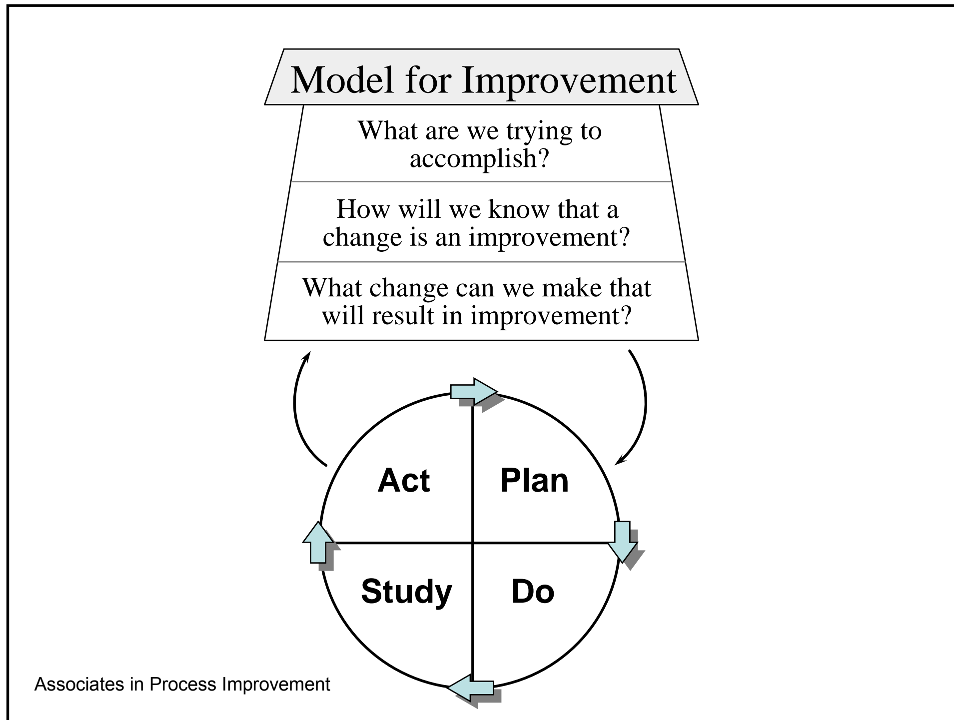
IHS Chronic Care Initiative: IPC-IHS

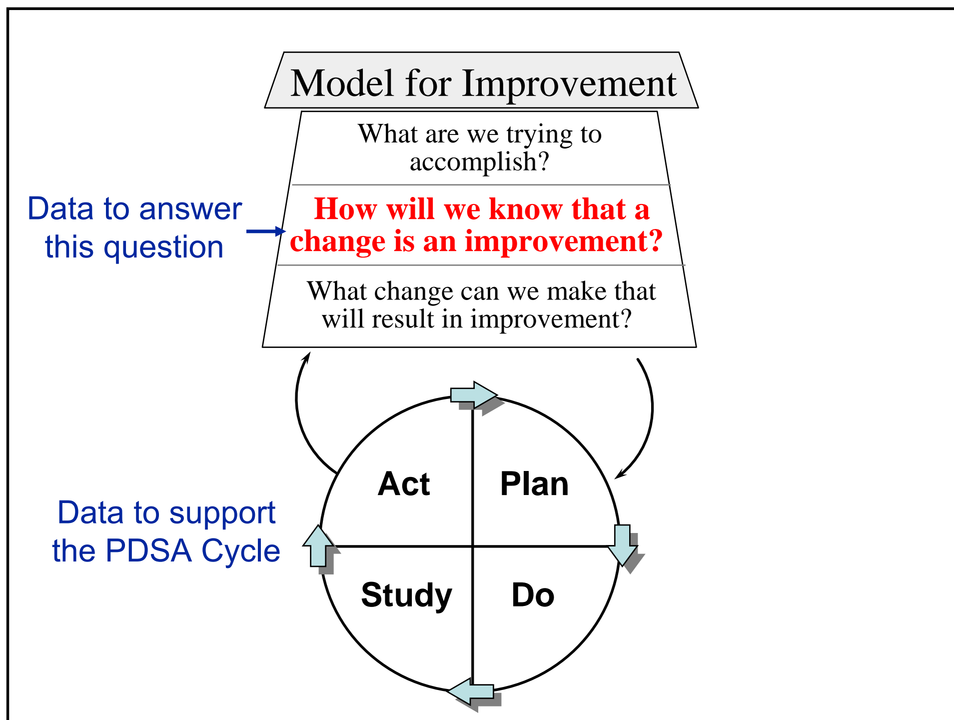
Best Healthcare Results reflected within Four "domains"

1. Patient Experience
2. Clinical Prevention
3. The Management and Prevention of Chronic Disease
4. Cost Control

Achieving <u>Best</u> Health Care Outcomes for the <u>Population</u>

- **What are the "best" health care outcomes?**
- **How can we measure those elements?**
- Who is the "population" that we refer to?


Model for Improvement
What are we trying to accomplish?
How will we know that a change is an improvement?
What change can we make that will result in improvement?
Act
Plan
Study
Do
Associates in Process Improvement


Model for Improvement
What are we trying to accomplish?
How will we know that a change is an improvement?
What change can we make that will result in improvement?
Data to answer this question
Data to support the PDSA Cycle
Act
Plan
Study
Do

Effective Use of Data

- Seek usefulness not perfection
- Develop a balanced set of measures
- Plot data over time
- Use pencil and paper until the information system is ready
- Use qualitative and quantitative data

Measurement for Improvement

- Develop a measurement system to guide improvement work and assess results
  - Summary measures to monitor status of system (vital signs, not estimates of parameters, plot over time, balanced)
  - More focused measures to determine how well changes are being adapted
- Integrate data collection into daily work

Sometimes gathering data can bring new and surprising knowledge!

Three Different Purposes for Measurement

Aspect	Improvement	Accountability	Research
Aim:	**Improvement of care, processes, outcomes**	Comparison, choice, reassurance	New knowledge

Fit-Kid Program

Dennis Styne, MD

Three Different Purposes for Measurement

Aspect	Improvement	Accountability	Research
Aim:	**Improvement of care**	Comparison, choice, reassurance	New knowledge
Methods:	**Test observable**	No test, evaluate current performance	Test blinded or controlled

Special Diabetes Program for Indians: Competitive Demonstration Projects

Three Different Purposes for Measurement

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Aim:	**Improvement of care**	Comparison, choice, reassurance	New knowledge
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Bias:	**Accept consistent bias**	Measure and adjust to reduce bias	Design to eliminate bias

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Bias:	**Accept consistent bias**	Measure and adjust to reduce bias	Design to eliminate bias
Sample Size:	**"Just enough" data, small sequential samples**	Obtain 100% of available, relevant data	"Just in case" data

- Test on 2 patients
- Testing receptionist initiating self management goal setting
- Data to be collected: Number of patients having completed SM goal setting done prior to provider entering the room

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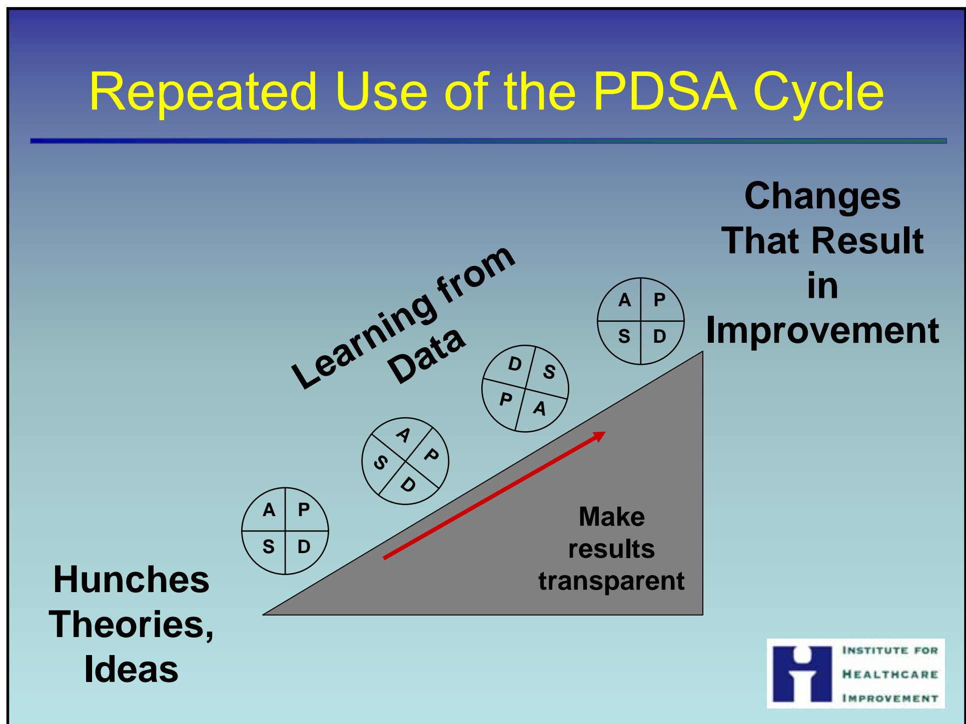
Testing Strategy:	**Sequential tests**	No tests	One large test



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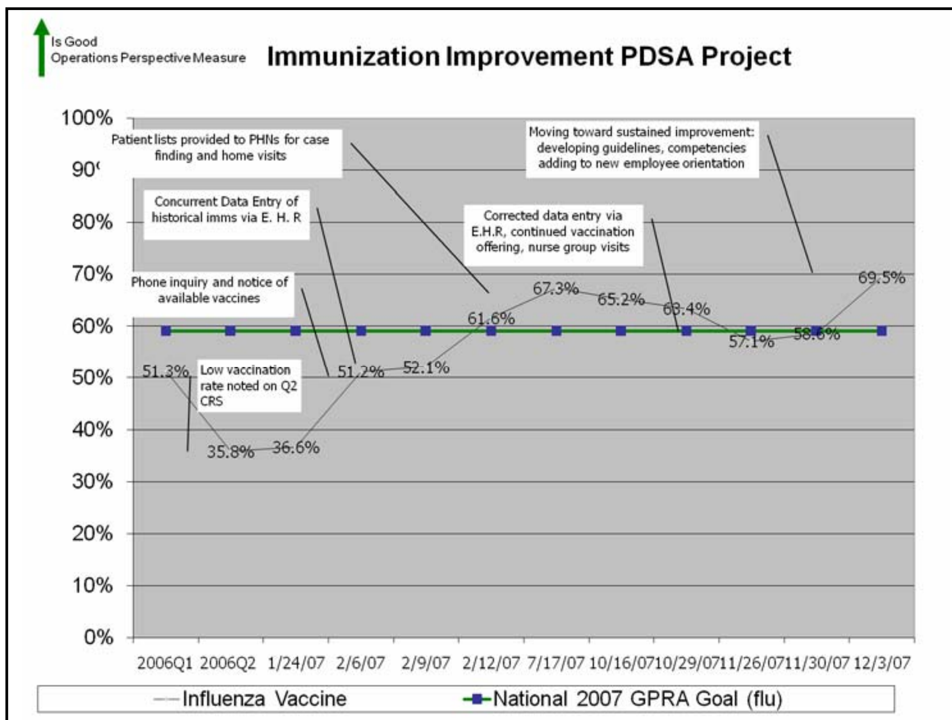
Determining if a Change is an Improvement:	**Run charts or Shewhart control charts**	No change focus	Hypothesis, statistical tests (t-test, F-test, chi square, p-values)



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Confidentiality of the Data:	**Data used only by those involved with improvement**	Data available for public consumption and review	Research subjects’ identities protected

Aspect	Improvement	Accountability	Research
Aim:	**Improvement of care, processes**	Comparison, choice, reassurance	New knowledge
Methods:	**Test observable**	No test, evaluate current performance	Test blinded or controlled
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Frequency of Use:	**Daily, weekly, monthly**	Quarterly, annually	At end of project

IPC Measures (Fall 2007)

Measurement Domain	Areas of Focus/Coverage
Clinical Prevention	Keeping current on intake screenings
	Keeping current on cancer related screenings
	Keeping current on Immunizations
Management and Prevention of Chronic Conditions	Control of Blood Pressure
	Control of Lipids
	Diabetes Care
	Obesity
	Asthma

IPC Measures (Fall 2007)

Measurement Domain	Areas of Focus/Coverage
Costs	Dollars spent outside primary care
Patient Experience	Experience and Efficiency
	Activation
	Satisfaction
	Building relationships for care
	Access

Intake Screening Bundle

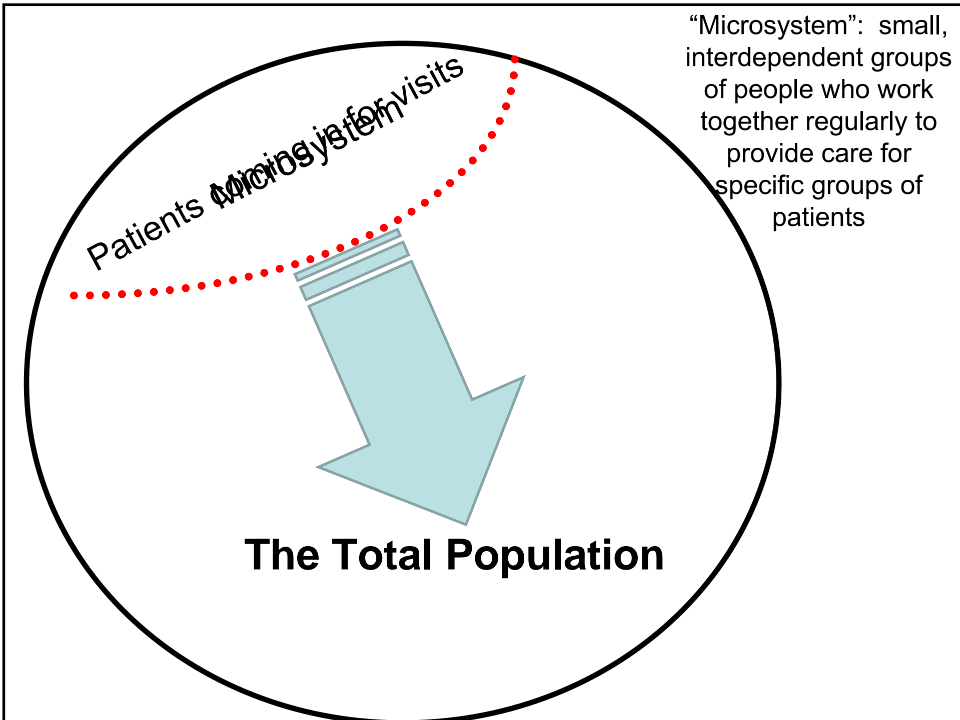
Alcohol Misuse Screening	Female patients screened for alcohol use, who have alcohol-related diagnoses, or who have received alcohol-related education or counseling during the Report Period, including refusals in the past year	Female Active Clinical patients ages 15 to 44 (child-bearing age).
Depression Screening	Patients screened for depression or diagnosed with mood disorder at any time during the Report Period, including documented refusals in past year.	Active Clinical patients ages 18 and older
Domestic/IPV Screening	Patients screened for or diagnosed with intimate partner (domestic) violence during the Report Period, including documented refusals in past year.	Female Active Clinical patients ages 15-40.
Tobacco Use and Assessment	Patients screened for tobacco use during the Report Period	Active Clinical patients ages 5 and older
BMI /Obesity Assessed	All patients for whom BMI can be calculated, including refusals in the past year.	Active Clinical patients ages 2 through 74
BP Assessed	Patients with BP values documented within the last year	All Active Clinical patients ages 20 and over, broken down by gender

Achieving Best Health Care Outcomes for the Population

- What are the "best" health care outcomes?
- How can we measure those elements?
- **Who is the "population" that we refer to?**

INSTITUTE FOR HEALTHCARE IMPROVEMENT

“Every
Single
One”


“Microsystem”: small, interdependent groups of people who work together regularly to provide care for specific groups of patients
Microsystem
The Total Population

Doug Eby's Challenge

"The very BIGGEST impact on healthcare in EVERY DIMENSION - quality of life, effectiveness of treatments, financial costs of care, satisfaction, etc, etc. – and would drive down hospital days, drive down ER use, decrease medication costs, decrease medication misadventures, etc, etc. --- is to **create a system where EVERY patient and family has an individual who is expert, personable, knowledgeable, and accessible to walk with them on their health journey** as their advisor, coordinator, interpreter, counselor, cheerleader."

Joint Principles of the Patient-Centered Medical Home (March 2007)

- ***Personal physician***
- ***Physician directed medical practice***
- ***Whole person orientation***
- ***Care is coordinated and/or integrated***
- ***Quality and safety are hallmarks***
- ***Enhanced access to care***
- ***Payment***

American Academy of Family Physicians (AAFP)
American Academy of Pediatrics (AAP)
American College of Physicians (ACP)
American Osteopathic Association (AOA)

Reduction or Elimination of Disparities in Health Care

- **Closing the Divide: How Medical Homes Promote Equity in Health Care: Results From The Commonwealth Fund 2006 Health Care Quality Survey**

- A. C. Beal, M. M. Doty, S. E. Hernandez, K. K. Shea, and K. Davis, Closing the Divide: How Medical Homes Promote Equity in Health Care: Results From The Commonwealth Fund 2006 Health Care Quality Survey, The Commonwealth Fund, June 2007

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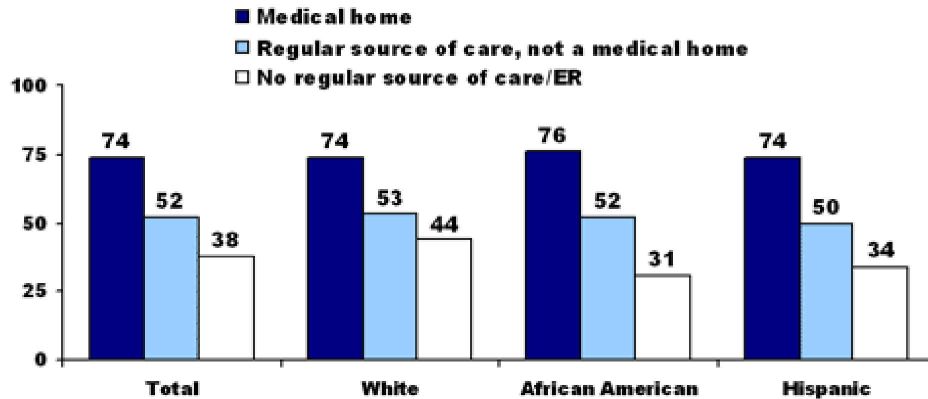
End Medical Homelessness!

- The Commonwealth Fund Health Care Quality Survey finds that, when patients have a medical home, racial and ethnic disparities in terms of access to and quality of care are reduced or eliminated

A. C. Beal, M. M. Doty, S. E. Hernandez, K. K. Shea, and K. Davis, Closing the Divide: How Medical Homes Promote Equity in Health Care: Results From The Commonwealth Fund 2006 Health Care Quality Survey, The Commonwealth Fund, June 2007



Key Changes

- Survey respondents who have a medical home, report the following four features:
  - they have a regular provider or place of care;
  - they experience no difficulty contacting their provider by phone;
  - they experience no difficulty getting care or advice on weekends or evenings; and
  - they report that their office visits are always well organized and on schedule.

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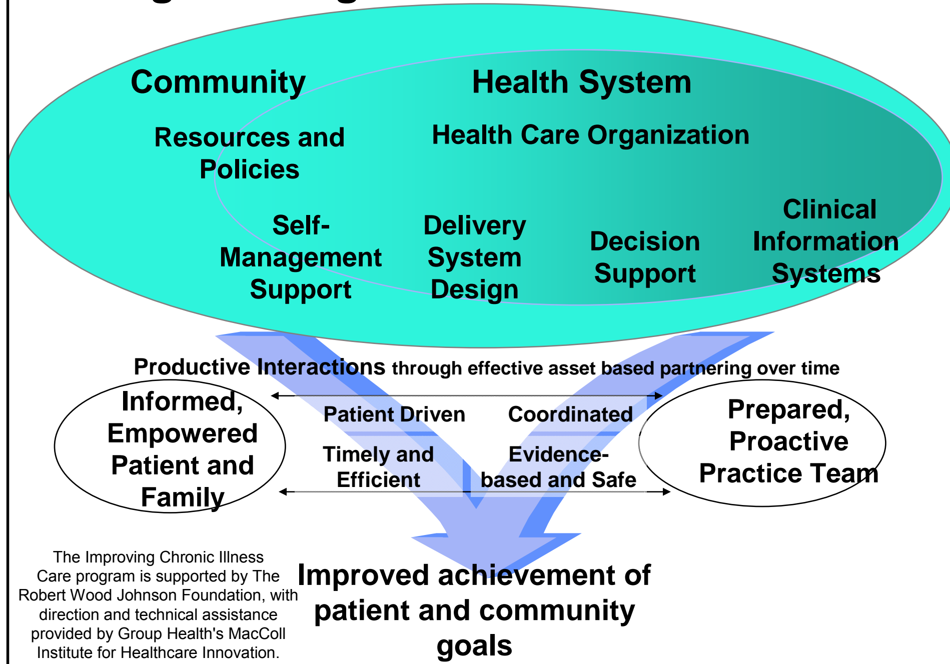
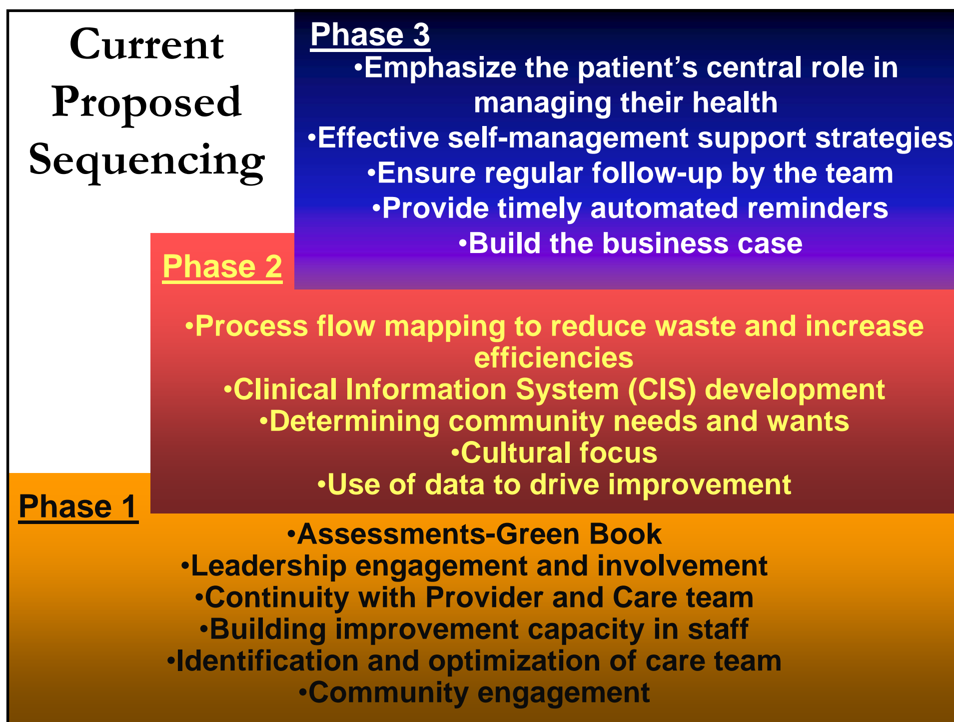
INSTITUTE FOR HEALTHCARE IMPROVEMENT



Within IPC-IHS, the focus is on…

A Sample of Changes Being Tested, Implemented, and Spread across IPC-IHS Sites

- **Empanelling**
- **Care team**
- Use data to drive improvement
- Optimize use of HIT
- **Remove waste**
- Plan for every pt
- Segment care
- **Reminders system**
- Move work to appropriate licensure
- **Reliable follow-up**
- Max packing
- **Proactive care across spectrum**
- Self-Management
- **Huddles**
- Integration into community
- BH integrated into PC
- Building QI capacity in workforce
- Transportation for pts
- Integration of traditional medicine
- **Guidelines of care**
- **Advanced access**



IHI: Who We Are

- **We are a reliable source of energy, knowledge, and support for a never-ending campaign to improve health care world-wide.**

What We Will Accomplish

- We will improve the lives of patients, the health of communities, and the joy of the health care workforce.
- We work with health care providers and others to accelerate the measurable and continual progress of health care systems throughout the world toward:
  - Safety
  - Effectiveness
  - Patient-Centeredness
  - Timeliness
  - Efficiency
  - Equity

What Will We Become?

- We will be a recognized and generous leader, a trustworthy partner, and the first place to turn for expertise, help, and encouragement for anyone, anywhere who wants to change health care fundamentally for the better.

IHI's Strategies

Strategy 1: Motivate

Strategy 2: Get Results

Strategy 3: Innovate

Strategy 4: Raise Joy in Work

Strategy 5: Stay Vital for the Long Haul

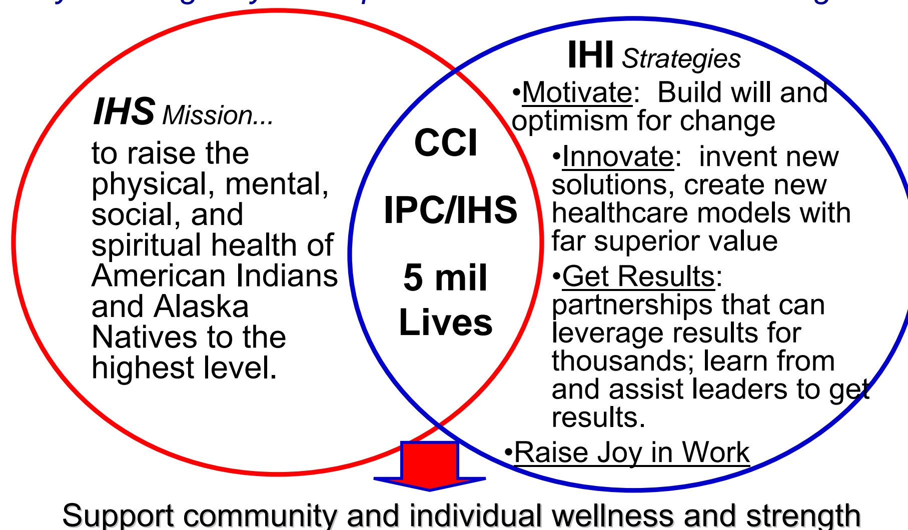
IHI's Core Principles

- **Health care quality is not nearly as good as it should be**
- **Our patients deserve better**
- **It is exponentially easier to improve together than it is alone**

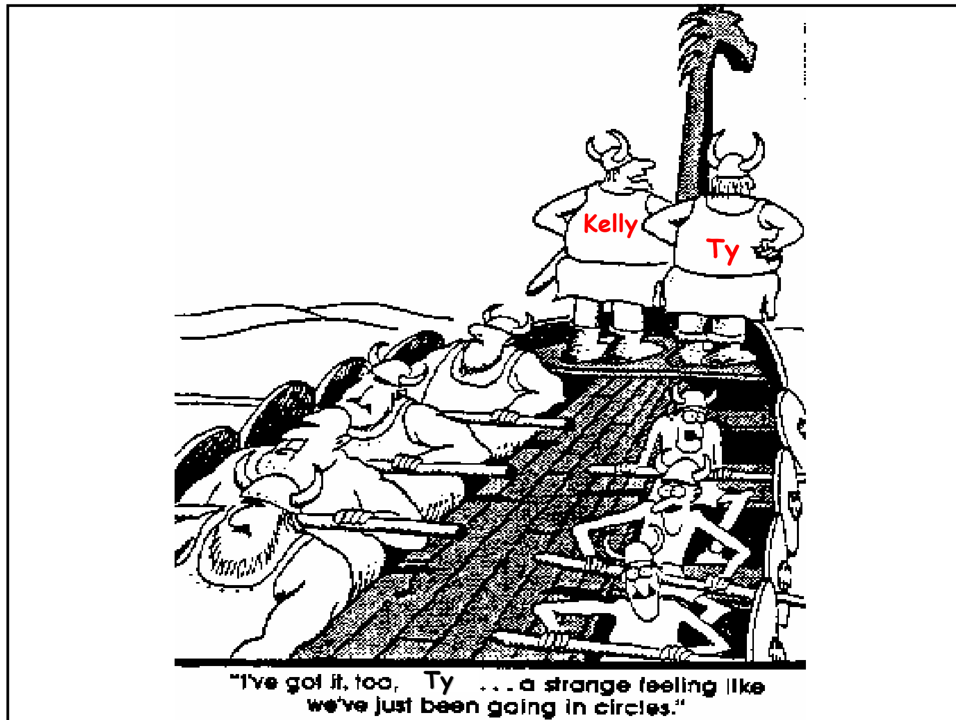
"All Teach….All Learn"

Synergy

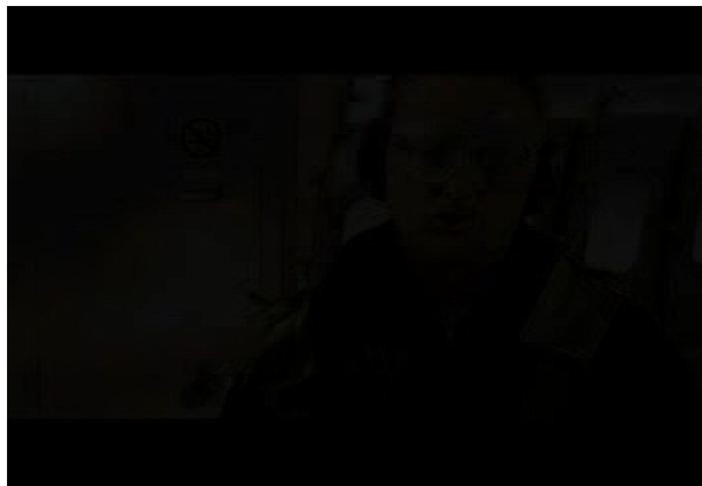
"the phenomenon in which two or more discrete influences or agents acting together create an effect greater than that predicted by knowing only the separate effects of the individual agents"



Support community and individual wellness and strength



Building Planes in the Air…



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“These people back here, that’s why I come to work….that’s why I build airplanes in the sky.”

“We’re not just building a plane here, we’re building a dream”

“I never lost a game. I just ran out of time on a few occasions.”

Vince Lombardi

Soon is not a time

Some is not a number

INSTITUTE FOR HEALTHCARE IMPROVEMENT