平成26年度
事業報告書

がんプロフェッショナル
養成基盤推進プラン

がん看護学教育国際セミナー

ケアの質改善をめざす実践と研究

－米国における高度実践看護師の取り組み－

慶應義塾大学大学院

報告書について

慶應義塾大学大学院健康マネジメント研究科
教授　小松　浩子

平成 24 年度よりスタートしたがんプロフェッショナル養成基盤推進プラン「高度がん医療開発を先導する専門家の養成」事業も３年目を迎え、折り返し地点に立ちました。慶應義塾大学大学院健康マネジメント研究科では、【高度最先端がん医療を支える専門看護師養成コース（修士課程）】【がん看護トランスレーショナルリサーチコース（博士課程）】を推進しています。これらのコースではグローバルな視点から活躍できるがん看護研究者と高度実践看護師の育成をめざしています。これまでにグローバルに活躍できる看護師をめざし、がん看護学教育国際セミナーを継続開催してきました。

第３回がん看護学教育国際セミナーでは米国スタンフォード大学附属病院 Garrett Chan 博士をお招きし、「米国における APRN（高度実践看護師）の役割機能の発展」および「APRN による質保証・改善の活動・研究」についてご講演頂きました。高度実践看護師が＜患者中心のがん医療＞を先導するためには常に患者にとっての最善のアウトカムを保証するケアの創出に責任を持たなければなりません。

Garrett Chan 博士はナースプラクティショナーと専門看護師の２つの認定を受け、スタンフォード大学におけるケアの質保証を先導しておられます。博士から、理論と実践との研究の連関によるケアの質保証について基盤となる理論および研究について貴重な内容をご講演頂きました。

がん看護ケアの質改善に取り組んでおられる看護師の皆様に広くご活用頂くことを考え、講演の内容を報告書にまとめました。どうぞご一読頂き、ご意見や今後の課題についてフィードバック頂ければ幸いに存じます。

ケアの質改善をめざす実践と研究

ー米国における高度実践看護師の取り組みー

爽やかな秋風を感じる2014年10月、東京丸の内のJPタワーホール＆カンファレンスにて、がん看護学教育国際セミナーが開催されました。
平成24年度より慶応義塾大学を主幹に10大学が連携し取り組んでいる、がんプロフェッショナル養成基盤推進プラン ＜ 高度がん医療開発を先導する専門家の養成 ＞ 事業の一環である今回のセミナーは、昨年に引き続き、米国スタンフォード大学附属病院のGarrett Chan先生をお招きして、高度実践看護師の取り組みについてご講演頂きました。

Garrett Chan, PhD, APRN, FAEN, FPCN, FNAP, FAAN
Stanford Hospital & Clinics（米国スタンフォード大学付属病院）

Garrett Chan, PhD, APRN, FAEN, FPCN, FNAP, FAAN
Director of Advanced Practice
Stanford Hospital & Clinics

Seminar Schedule

日　　時：2014 年10月25日（土）13:30～16:50

会　　場：JP タワーホール&カンファレンス 4 階
カンファレンスルーム　A3

司　　会：小松浩子
（慶應義塾大学大学院健康マネジメント研究科　教授）

講　　師：Garrett Chan, PhD, APRN,
FAEN, FPCN, FNAP, FAAN
Stanford Stanford Hospital & Clinics
（米国スタンフォード大学附属病院）

Lecture1
高度実践看護師によるケアの質保証と改善 < P6 ~ 18 >

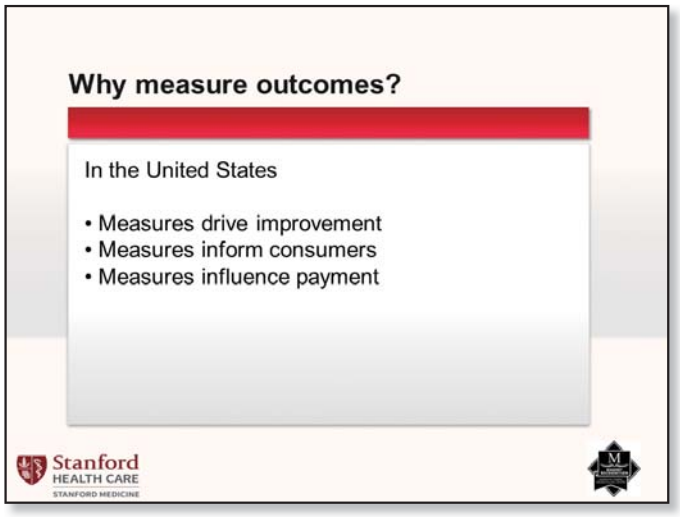
Lecture2
ケアの質改善のための実践と研究 < P19 ~ 23 >

Q&A

Lecture1

高度実践看護師によるケアの質保証と改善

レクチャー1では、何故、質保証・質改善が医療において重要なのか、質改善プロジェクトに参加するために必要なAPRN のスキル、プロセスの改善に役立つ2つの方法論について講義が行われました。



Nurses' Roles in Ensuring Quality Outcomes

- Direct providers: RNs/ APRNs
- Administrators
- Health Policy Makers
- Regulators
- Academia

Stanford HEALTH CARE STANFORD MEDICINE

Overview of Advance Practice Nursing

- 4 Advanced Practice Registered Nursing (APRN) roles in the US:
  - Clinical Nurse Specialist (CNS)
  - Nurse Practitioner (NP)
  - Certified Nurse Midwife (CNM)
  - Certified Registered Nurse Anesthetist (CRNA)
- APRNs are nurses with advanced education and training. APRNs are **not** junior physicians.
- APRNs practice from the core philosophy of nursing.

Stanford HEALTH CARE STANFORD MEDICINE

Defintion of Advanced Practice Registered Nursing

APRNs: practice from both an ***expanded*** and ***specialized*** knowledge and skills

Expanded: practice knowledge and skills that may overlap traditional boundaries of medical [and other discipline's] practice.

Specialized: concentrating or delimiting one's focus to part of the whole field of professional nursing

ANA, 2003

Stanford HEALTH CARE STANFORD MEDICINE

APRNs' Roles in Quality Improvement

- Expert and direct patient care of managing and directing care of patients.
- Educate and support interdisciplinary staff.
- Facilitate change and innovation in healthcare institutions.

Lewandowski & Adamle, 2009

Stanford HEALTH CARE STANFORD MEDICINE

Skill Sets and Practice in QI

- Change theories and Transformation theories
- Performance improvement methodologies
- Evaluation and sustaining changes

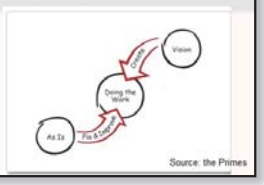
Stanford HEALTH CARE STANFORD MEDICINE

The New Stanford Hospital

Change versus Transformation

Change Definition
- To substitute or replace something
- Change fixes the past.
- Can be small and incremental or it can be large and complex
- Needs to be constantly monitored and maintained

Transformation Definition:
- Complete change, usually into something with an improved appearance or usefulness
- Transformation creates the future



Source: the Primes

http://theprimes.com/change-vs-transformation/
http://www.cioinsight.com/it-management/expert-voices/the-difference-between-change-and-transformation

Stanford HEALTH CARE STANFORD MEDICINE

Change Theories

Understanding and using change theories is essential to ensuring that quality improvement projects go as well as they can.

There are different change theories that can be used in certain situations.

Most change theories are based on Lewin's Force Field Analysis and Three Stages of Change theories.

National Cancer Institute document is valuable in understanding how change theories can apply in different situations.
http://www.cancer.gov/cancertopics/cancerlibrary/theory.pdf

Stanford HEALTH CARE STANFORD MEDICINE

Change in Advanced Nursing Practice

- Change is constant in practice
  - Planned
  - Unplanned
  - Crisis

Stanford HEALTH CARE STANFORD MEDICINE

Change Theories in Direct Patient Practice

- Behavior change of patients
  - Health Belief Model
  - Risk Reduction Model
  - Stages of Change (Transtheoretical Model)
  - Theory of Planned Behavior/ Theory of Reasoned Action

Stanford HEALTH CARE STANFORD MEDICINE

Change Theories for Interpersonal Situations

- Social Cognitive Theory/ Social Learning Theory

Stanford HEALTH CARE STANFORD MEDICINE

Change Theories in Community or Agency Settings

- Can be used in health care agencies, schools, community groups, and governmental agencies
  - Community organization and other participatory models
  - Diffusion of Innovations Theory
  - Communication Theory
  - Quality/Process Improvement

Stanford HEALTH CARE STANFORD MEDICINE

Community Organization/ Participatory Action

- Locality development
- Social planning
- Social action

Stanford HEALTH CARE
STANFORD MEDICINE

Psychology of Change

Jellison (2007) *Managing the Dynamics of Change*

STANFORD HOSPITAL & CLINICS

The J-Curve of Change

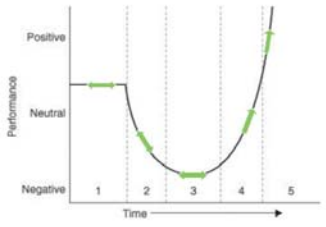


Figure 1.1 The J Curve of Change

- **Plateau:** Employees follow a comfortable routine, tradition, and established patterns of work.
- **Cliff:** Resistance due to fear and panic as employees attempt to do things in a new way.
- **Valley:** Transition becomes visible. Employees gain confidence as performance evens out.
- **Ascent:** Characterized by rapid performance improvement. Successes reinforce further success.
- **Mountaintop:** Performance and proficiency exceed original levels. Change is fully achieved.

Diffusion of Innovations

- Diffusion of Innovations Theory (Everett Rogers, 1962)

Source: Wikipedia

Stanford HEALTH CARE
STANFORD MEDICINE

Communication Theory

- Explores who says what, in which channels, to whom, and with what effects?
- Investigates how messages are created, transmitted, received and assimilated.
- In public health, health promotion- seeks to change behavior through information
- Two generic types: Media effects, Agenda setting

Stanford HEALTH CARE
STANFORD MEDICINE

Lewin's Force Field Analysis

- Investigate the balance of power
- Identify most important stakeholders and target groups
- Identify opponents and allies
- Identify how to influence each target group

www.valuebasedmanagement.net/methods_lewin_force_field_analysis.html

Stanford HEALTH CARE
STANFORD MEDICINE

Lewin's Force Field Analysis

- Describe current situation
- Describe desired situation
- Identify where current situation will go if no action
- List all driving forces
- List all restraining forces

www.valuebasedmanagement.net/methods_lewin_force_field_analysis.html

Stanford HEALTH CARE
STANFORD MEDICINE

Lewin's Force Field Analysis

- Discuss and interrogate all forces
  - Are they valid?
  - Can they be changed?
  - Which are the critical ones?
- Allocate score (0-10)
- Chart the driving and restraining forces
- Determine whether change is viable

www.valuebasedmanagement.net/methods_lewin_force_field_analysis.html

Stanford HEALTH CARE STANFORD MEDICINE

Lewin's Force Field Analysis

- Discuss how change can be affected by increasing strength of driving forces, decreasing strength of restraining forces
- Think about the unintended consequences of increasing driving forces, decreasing restraining forces
  - May decrease/increase other forces
  - May create new driving/restraining forces

www.valuebasedmanagement.net/methods_lewin_force_field_analysis.html

Stanford HEALTH CARE STANFORD MEDICINE

Lewin's Force Field Analysis

Driving Forces			Restraining Forces	
Increased Census	5	Desired State	4	Lack of Leadership
Patient Satisfaction	4	Or	5	"Usual" practice
Decrease wait time	4	Present State	3	No organization
Total:	13		12	:Total

Stanford HEALTH CARE STANFORD MEDICINE

Lewin's 3 Stage Change Theory

- Unfreeze
- Move/change
- Freeze

Stanford HEALTH CARE STANFORD MEDICINE

Unfreezing

- Unfreeze the existing situation or status quo (equilibrium state)
- Increase driving forces
- Decrease restraining forces
- Combination of the two
  - Prepare and motivate group
  - Build trust and recognition
  - Invite active participation- brainstorming

Stanford HEALTH CARE STANFORD MEDICINE

Move/Change

- Move target system to a new equilibrium
  - persuading employees to agree that status quo is not beneficial and encouraging them to view the problem from a fresh perspective
  - work together on a quest for new process
  - connect the views of the group to well-respected, powerful leaders that also support the change

Stanford HEALTH CARE STANFORD MEDICINE

Freeze

- Establish the change as the new equilibrium
  - Formalize new process through policy/procedure
  - Reinforce through directed feedback
- Requires active management for a period of time to prevent reverting back to old equilibrium

Stanford HEALTH CARE
STANFORD MEDICINE

The New Stanford Hospital Atrium

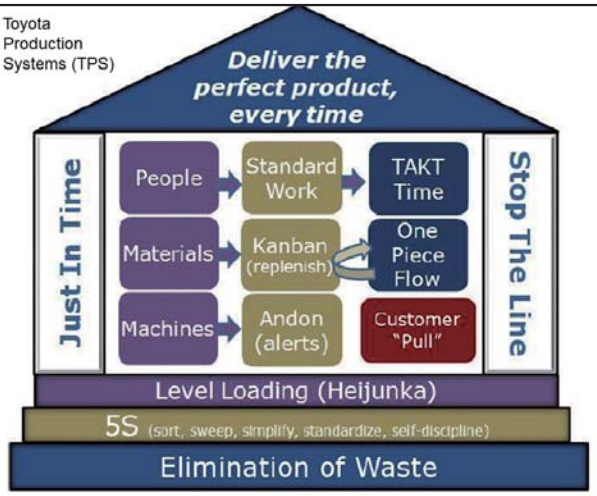
Process/Quality Improvement

Models for Quality Improvement

- Lean/Six Sigma (Toyota)
- Plan-Do-Check-Act

Stanford HEALTH CARE
STANFORD MEDICINE

Toyota
Production
Systems (TPS)

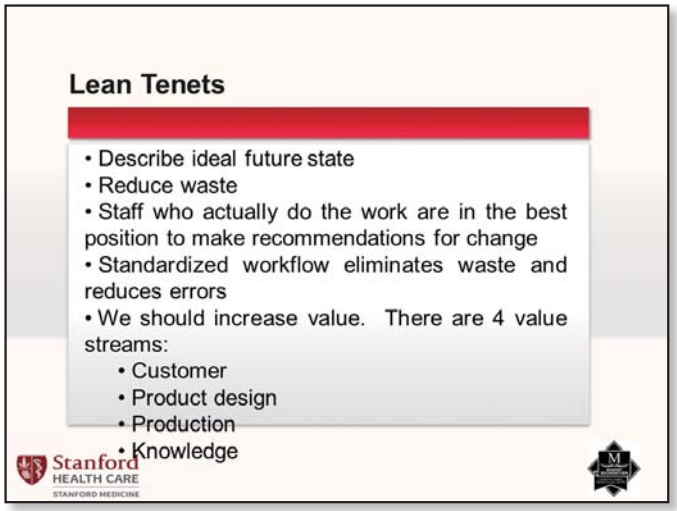


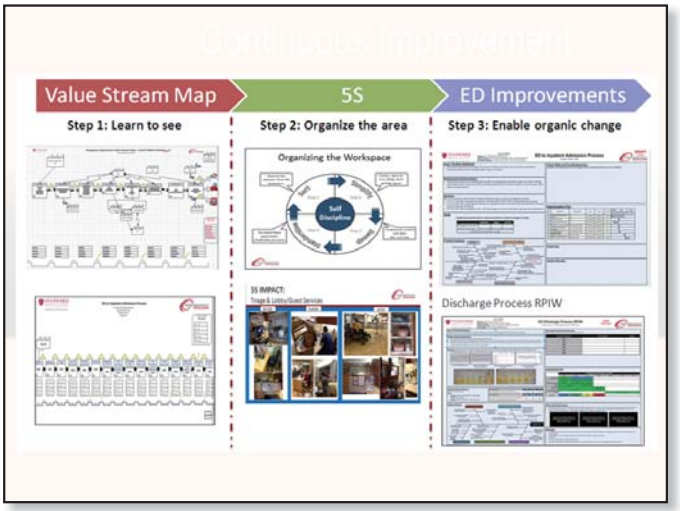
Lean

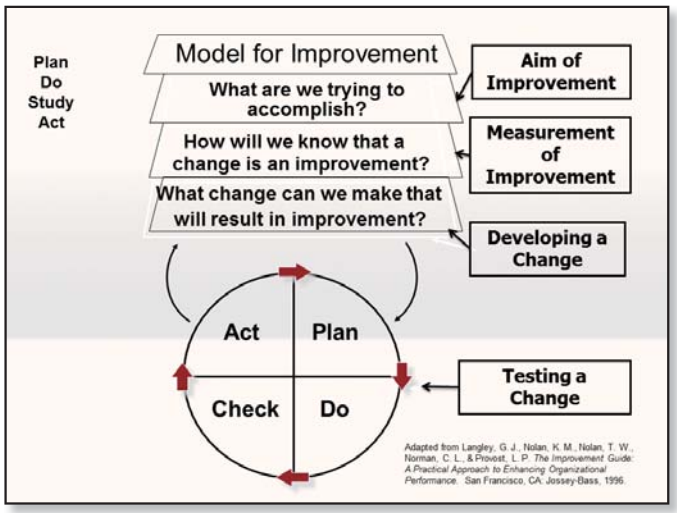
- Concept: preserving value with less work
- 7+1 wastes (muda/無駄) in healthcare
  - Motion
  - Defects
  - Transport
  - Nature
  - Inventory
  - Over-production
  - Time
  - Processing

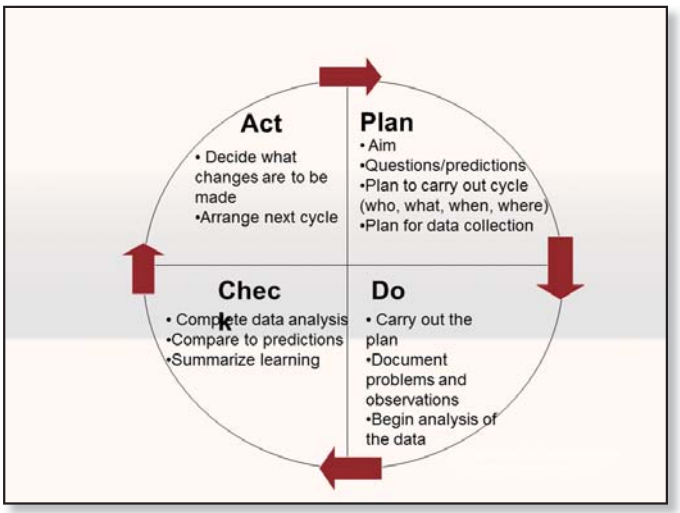
Stanford HEALTH CARE
STANFORD MEDICINE

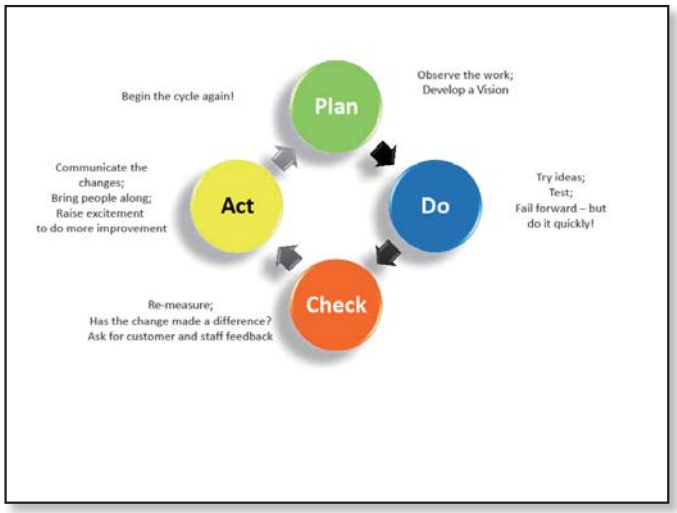
http://www.healthcaredesignmagazine.com/blogs/hks-inc/lean-design-what-s-it-all-about

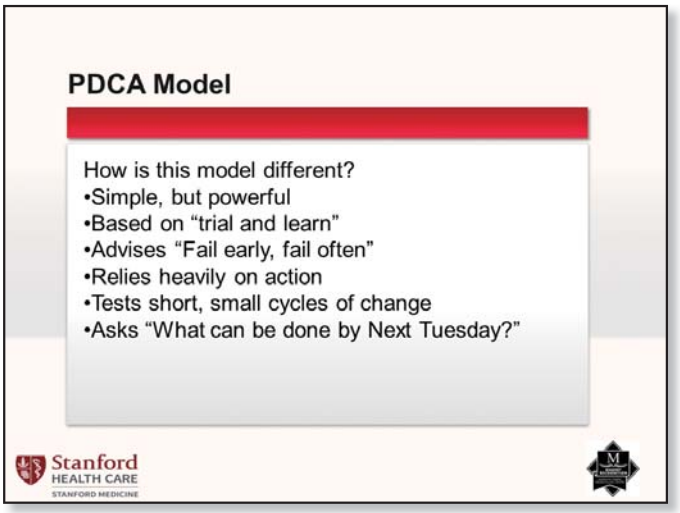

Lean Tenets
• Describe ideal future state
• Reduce waste
• Staff who actually do the work are in the best position to make recommendations for change
• Standardized workflow eliminates waste and reduces errors
• We should increase value. There are 4 value streams:
• Customer
• Product design
• Production
• Knowledge
Stanford HEALTH CARE
STANFORD MEDICINE

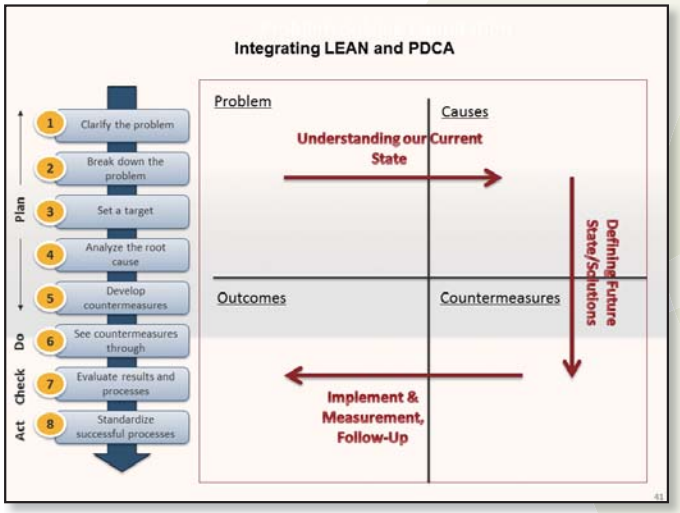

Continuous Improvement
Value Stream Map
5S
ED Improvements
Step 1: Learn to see
Step 2: Organize the area
Step 3: Enable organic change
Organizing the Workspace
Discharge Process RPIW


Plan
Do
Study
Act
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?
Aim of Improvement
Measurement of Improvement
Developing a Change
Act
Plan
Check
Do
Testing a Change
Adapted from Langley, G. J., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. San Francisco, CA: Jossey-Bass, 1996.


Act
• Decide what changes are to be made
•Arrange next cycle
Plan
• Aim
•Questions/predictions
•Plan to carry out cycle (who, what, when, where)
•Plan for data collection
Chec
• Complete data analysis
•Compare to predictions
•Summarize learning
Do
• Carry out the plan
•Document problems and observations
•Begin analysis of the data


Begin the cycle again!
Plan
Observe the work;
Develop a Vision
Communicate the changes;
Bring people along;
Raise excitement
to do more improvement
Act
Do
Try ideas;
Test;
Fail forward – but
do it quickly!
Re-measure;
Has the change made a difference?
Ask for customer and staff feedback
Check


PDCA Model
How is this model different?
•Simple, but powerful
•Based on "trial and learn"
•Advises "Fail early, fail often"
•Relies heavily on action
•Tests short, small cycles of change
•Asks "What can be done by Next Tuesday?"
Stanford HEALTH CARE
STANFORD MEDICINE



US Quality Agencies: NQF

- National Quality Forum (NQF)
  www.qualityforum.org

Mission:
- Building consensus on national priorities and goals for performance improvement and working in partnership to achieve them;
- Endorsing national consensus standards for measuring and publicly reporting on performance; and
- Promoting the attainment of national goals through education and outreach programs.

Stanford HEALTH CARE STANFORD MEDICINE

US Quality Agencies: NQF Process

- Convene expert members including patients to define quality with uniform standards and measures.
- Information gleaned from measuring performance is reported and analyed to pinpoint where patient care falls short.
- Caregivers examine information about the care they are providing and use it to improve. Measure. Report.

NQF organizes the National Priorities Partnership (NPP). NPP is a collaborative of national organizations to influence healthcare delivery and quality.

Stanford HEALTH CARE STANFORD MEDICINE

Types of Quality Indicators: Process

Process measures
- Show whether steps proven to benefit patients are followed correctly.
- Measure whether the action was completed.

Examples:
- Initial antibiotic received within 6 hours of hospital arrival.
- Cervical cancer screening
- Childhood immunization status

Stanford HEALTH CARE STANFORD MEDICINE http://www.qualityforum.org/Measuring_Performance/ABCs/The_Right_Tools_for_the_Job.aspx

Types of Quality Indicators: Outcomes

Outcomes measures
- Take stock not of the process, but actual results of care.
- Most relevant for patients.
- Providers want to change the most.

Examples:
- Falls with injury
- Surgical site infection
- Acute myocardial infarction 30-day mortality

Stanford HEALTH CARE STANFORD MEDICINE http://www.qualityforum.org/Measuring_Performance/ABCs/The_Right_Tools_for_the_Job.aspx

Types of Quality Indicators: Patient Experience

Patient Experience measures
- Record patients' perspecives on their care.

Example:
- HCAHPS: Hospital Consumer Assessment of Healthcare Providers & Services

Stanford HEALTH CARE STANFORD MEDICINE http://www.qualityforum.org/Measuring_Performance/ABCs/The_Right_Tools_for_the_Job.aspx

Types of Quality Indicators: Structural

Structural measures
- Reflect the conditions in which providers care for patients.
- Measures provide valuable information about staffing and the volume of procedures provided.

Examples:
- Nursing Care Hours per Patient Day (HPPD)
- Adoption of medication e-prescribing

Stanford HEALTH CARE STANFORD MEDICINE http://www.qualityforum.org/Measuring_Performance/ABCs/The_Right_Tools_for_the_Job.aspx

Types of Quality Indicators: Composite

Composite measures
- Combine the result of multiple performance measures.
- More comprehensive picture of quality of care.

Example:
- In-hospital mortality for myocardial infarction

Stanford HEALTH CARE STANFORD MEDICINE http://www.qualityforum.org/Measuring_Performance/ABCs/The_Right_Tools_for_the_Job.aspx

Case Study #1- Pressure Ulcers (PU) Plan

- Nurse sensitive indicator
- Estimated cost of treating Stage III: $40,000
- Reimbursement by insurance companies

- Centers for Medicare/Medicaid Services (CMS)
- California Dept of Public Health (Senate Bill1301, 2006)

Stanford HEALTH CARE STANFORD MEDICINE

Case Study #1- Plan

- Assemble planning team: Staff RN, WOCN RN, Quality Council, Practice Council, Education Council, administrators

- Determine educational content

- Determine outcome variables

- Determine process variables

Stanford HEALTH CARE STANFORD MEDICINE

Case Study #1- Outcome Measures

Process measures
- PU daily risk assessment documented
  - Skin assessement
  - Braden score
- PU plan of care documented
  - Education of patient/family regarding pressure ulcers (California Department of Public Health requirement)

Stanford HEALTH CARE STANFORD MEDICINE

Case Study- Outcome Measures

NQF Outcomes measures: PU prevalence (hospital)

Numerator: At least one category/stage II or greater hospital-acquired pressure ulcer on the day of the prevalence measurement episode.

Denominator: All patients surveyed for the measurement episode.

Adjustment: Stratified by hospital size and Type of Unit

Stanford HEALTH CARE STANFORD MEDICINE

Case Study- Outcome Measures

Outcomes measures: PU prevalence (hospital)

Exclusion:
- Patients less than 18 years of age
- Patients who refuse to be assessed
- Patients who are off the unit at the time of the prevalence measurement, i.e., surgery, x-ray, physical therapy, etc.
- Patients who are medically unstable at the time of the measurement for whom assessment would be contraindicated at the time of the measurement, i.e., unstable blood pressure, uncontrolled pain, or fracture waiting repair.
- Patients who are actively dying and pressure ulcer prevention is no longer a treatment goal.

Stanford HEALTH CARE
STANFORD MEDICINE

Case Study #1- Do

Interventions:

- Wound warriors
- Wound/Ostomy Nurses
- Wound/Ostomy Clinical Nurse Specialist
- Ensuring risk assessment completed
- Prevalence studies

Stanford HEALTH CARE
STANFORD MEDICINE

Case Study #1- Study

SHC Skin Assessment & PUP Chart Check

	January - 2014	February - 2014	March - 2014	April - 2014	May - 2014	June - 2014	July - 2014	August - 2014	September - 2014	Total
	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate	Compliance Rate
Skin assessment for devices is documented (drains, splints, collars, catheters, tubes/tubing)?	99%	100%	99%	100%	100%	100%	100%	100%	100%	99%
	(74/75)	(74/74)	(101/103)	(82/82)	(51/51)	(51/51)	(37/37)	(36/36)	(36/36)	(540/543)
Is Braden score documented daily, within 24 hours of admission, at every unit transfer, & after long procedures?	99%	99%	100%	100%	100%	100%	100%	100%	100%	100%
	(130/131)	(131/132)	(101/101)	(127/127)	(91/91)	(91/91)	(66/66)	(57/57)	(57/57)	(944/946)
Measurements are documented in the flowsheet(pressure ulcer LOA?)(LxWxD - QMonday, admission, transfers, and discharge)	0%	100%	100%	100%	80%	100%	100%	0%	100%	87%
	(0/1)	(9/9)	(1/1)	(4/4)	(3/5)	(2/2)	(2/2)	(0/1)	(1/1)	(27/31)
Is there documentation in the education section of patient and/or family education re: pressure ulcer(s)?(CDPH requires documentation pt/family informed of PU - documented education to pt or family is evidence)	100%	100%	80%	100%	100%	100%	100%	100%	100%	97%
	(5/5)	(11/11)	(4/5)	(4/4)	(4/4)	(2/2)	(2/2)	(2/2)	(1/1)	(35/36)

Stanford HEALTH CARE
STANFORD MEDICINE

Case Study #1- Act

- CNSs round on difficult patients
- Staff nurses get involved in the procedural areas (e.g., operating room)
- Continued prevalence studies, observe for changes in prevalence
- Contribute to the CALNOC database for surveillance
- Focused investigation with staff to understand barriers to 100%. Ask their opinion to help the process improve

Stanford HEALTH CARE
STANFORD MEDICINE

Case Study #2- ICU Length-of-Stay

Inadequate communication between health professionals and patients/families in the ICU.

Unwanted or ineffective treatments can occur when patient goals of care are unknown or unwanted increasing costs and care.

Stanford HEALTH CARE
STANFORD MEDICINE

Ahrens, et al., 2003, AJCC, 12(4), 317-324.

Case Study #2- Plan

Team: Clinical nurse specialists (CNSs), physicians, social worker, case manager, chaplain, staff nurses

Quality Improvement, Case Control Study: intervention and experimental group

Stanford HEALTH CARE
STANFORD MEDICINE

Ahrens, et al., 2003, AJCC, 12(4), 317-324.

Case Study #2- Plan

Intervention:

- ICU CNS & Physician daily communication and trust building with patients/families, resolve unresolved issues
- Educated RNs about end-of-life care

Stanford HEALTH CARE STANFORD MEDICINE

Ahrens, et al., 2003, AJCC, 12(4), 317-324.

Case Study #2- Plan

Inclusion criteria (at least 2 of the following):

- AIDS (CD4 count < 0.04×10^9/L)
- Conditions with unacceptable quality of life (anoxia)
- Imminent demise (APACHE risk of death >80%)
- Lethal condition (lack of success of first-line therapy)
- Mechanical ventilation >3 days
- Prehospitalization NYHA Class IV heart failure

Stanford HEALTH CARE STANFORD MEDICINE

Ahrens, et al., 2003, AJCC, 12(4), 317-324.

Case Study #2- Plan

Outcome Measure:

- Mortality

Structural Measures:

- ICU length of stay (LOS)
- Hospital LOS
- Hospital variable direct/indirect charges per case
- Hospital fixed charges per case
- LOS for the intervention physician in preceding year
- LOS of the intervention physician in study year

Stanford HEALTH CARE STANFORD MEDICINE

Ahrens, et al., 2003, AJCC, 12(4), 317-324.

Case Study #2- Do

- Data collected from 1 January, 2000 – 31 December 2000
- CNS-MD dyad working with patients, families, multidisciplinary team according to the protocol

Stanford HEALTH CARE STANFORD MEDICINE

Case Study #2- Study

Table 1 Demographics of subjects

Characteristic	Control group (n = 108)	Intervention group (n = 43)	P
Ethnicity			.76
White	60 (65)	58 (25)	
African American	39 (42)	40 (17)	
Asian	1 (1)	2 (1)	
Diagnosis			.53
Primary cardiac	15 (16)	21 (9)	
Primary respiratory	35 (38)	28 (12)	
Primary gastrointestinal	15 (16)	14 (6)	
Cancer	6 (6)	12 (5)	
Others	30 (32)	26 (11)	
Sex			.74
Male	45 (49)	51 (22)	
Female	55 (59)	49 (21)	
Mean APACHE score	28.6	32.1	.01
Mean age, years	61.1	65.3	.11

Values are percentages (No. of patients) unless otherwise indicated. Percentages may not total 100% because of rounding. APACHE indicates Acute Physiology and Chronic Health Evaluation.

Stanford HEALTH CARE STANFORD MEDICINE

Case Study #2- Study

Table 2 Group comparisons

Variable	Control group (n = 108)	Intervention group (n = 43)	P
Hospital length of stay, days	16.4 (17.91)	11.3 (9.88)	.03
Intensive care unit length of stay, days	9.5 (10.16)	6.1 (5.41)	.009
Hospital variable direct charge per case, US$	24 080 (27413)	15 559 (13613)	.01
Hospital variable indirect charge per case, US$	8035 (8969)	5087 (4130)	.007
Hospital fixed charge per case, US$	8485 (9551)	5320 (4293)	.006
Mortality, % (No. of patients)	93 (100)	74 (32)	.14

Values are mean (SD) unless otherwise indicated.

Stanford HEALTH CARE STANFORD MEDICINE

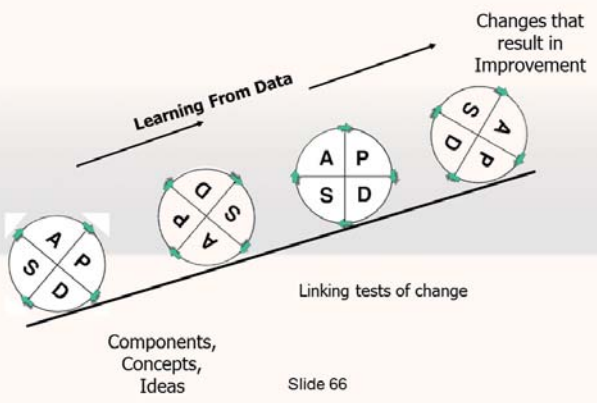
Case Study #2- Act

Next steps could include:

- Working with Palliative Care Team to supplement ICU team
- Perform Return on Investment analysis to see the actual costs saved
- Larger sample size
- Work with more than one ICU attending physician

Stanford HEALTH CARE STANFORD MEDICINE

Repeated Use of the PDSA Cycle



Slide 66

The Hoover Pavilion

Guidelines for Developing a Change

- Think critically and creatively about current process
  - Simplify
  - Rearrange the order of steps
  - Minimize handoffs
  - Do tasks in parallel
- Use technology
- Focus on the patient

Stanford HEALTH CARE STANFORD MEDICINE

Measurement Guidelines

- Plot data over time, not simply before and after your change
- Create several measures specific to your improvement aims
- Make data easy to collect in your daily routine
- Try to collect data in a shorter period of time (from quarterly to weekly; monthly to daily)

Stanford HEALTH CARE STANFORD MEDICINE

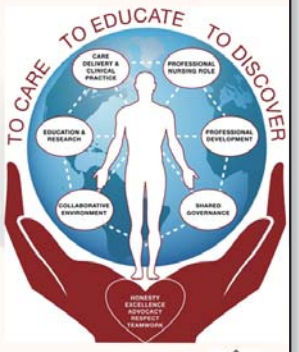
Sustaining the Gains

- Support processes developed
- Change built into the organization
- Ongoing analysis of variation in systems
- Constant improvement
- Create culture of quality
- Active daily management

Stanford HEALTH CARE STANFORD MEDICINE

Summary

- National initiatives are intended to improve access to quality care, add value while decreasing costs, and educate the healthcare workforce for an ever evolving healthcare system.
- Use quality improvement methodologies such as PDSA to implement rapid-cycle changes.
- Advanced practice nurses are key to improving the care delivered.



Stanford HEALTH CARE
STANFORD MEDICINE

Never doubt that a small group of committed citizens can change the world. Indeed, it is the only thing that ever has.

Margaret Mead

List of Abbreviations

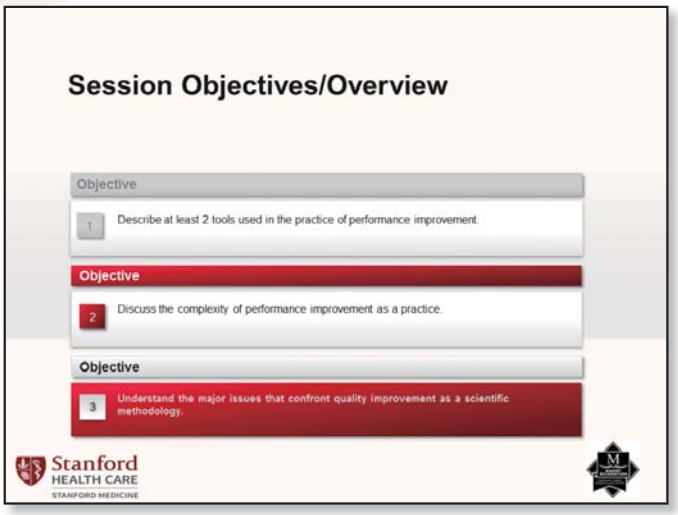
AACN: American Association of Colleges of Nursing
AANP: American Academy of Nurse Practitioners
AARP: American Association of Retired Persons
ACNM: American College of Nurse Midwives
ANA: American Nurses Association
ANCC: American Nurses Credentialing Center
CCNE: Commission on Collegiate Nursing Education
NACNS: National Association of Clinical Nurse Specialists
NCSBN: National Council of State Boards of Nursing
RWJF: Robert Wood Johnson Foundation

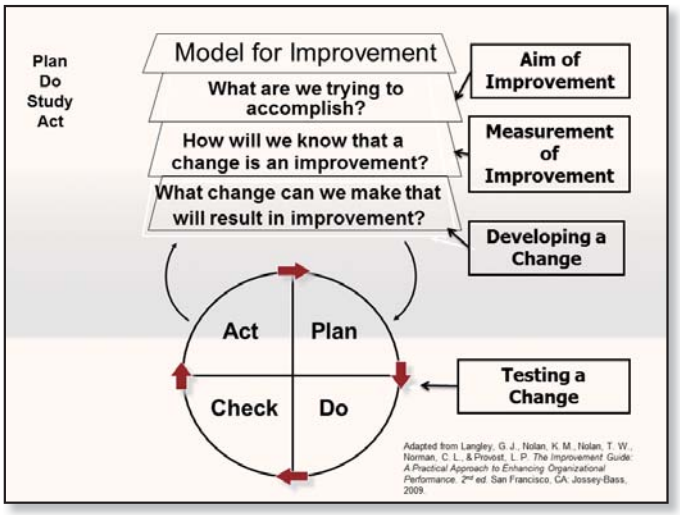
Stanford HEALTH CARE
STANFORD MEDICINE

Lecture2

ケアの質改善のための実践と研究

レクチャー2では、ケアの質改善の実践に用いる2つのツールに関すること、および科学的な方法として質改善に対する主要な課題について講義が行われました。





Forming the Team

- Who are the people who can make decisions?
- Who are the people who will be affected by the change?
  - Directly affected
  - Indirectly affected (e.g., support services)
- Who are the formal and informal leaders?
  - See Lewin's Force Field Analysis
    - Driving forces
    - Restraining forces

Stanford HEALTH CARE STANFORD MEDICINE

Setting Aims- Overarching Aims for Improvement

- Safe: Avoid injuries to patients from the care that is intended to help them.
- Effective: Match care to science; avoid overuse of ineffective care and underuse of effective care.
- Patient-centered: Honor the individual and respect choice.
- Timely: Reduce waiting for both patients and those who give care. (LEAN time wastes)
- Efficent: Reduce waste (LEAN無駄).
- Equitable: Close racial and ethnic gaps in health care.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/ImprovementStories/AcrossstheChasmSixAimsforChangingtheHealthCareSystem.aspx

Setting Aims- SMART Goals

S: Specific- target a specific area for improvement.
M: Measurable- quantify or at least suggest an indicator of progress.
A: Assignable- specify who will do it.
R: Realistic- state what results can realistically be achieved, given available resources.
T: Time-related- specify when the result(s) can be acheived.

Stanford HEALTH CARE STANFORD MEDICINE

Doran, G. T. (1981). "There's a S.M.A.R.T. way to write management's goals and objectives". *Management Review* (AMA FORUM) 70 (11): 35–36.

Setting Measures- Examples

- Nursing units will reduce complications of hospital stay by 40% within 12 months:
  - Development of deep vein thrombosis
  - Gastrointestinal bleeding from stress ulcers
  - Line infections
- Reduce adverse drug events (ADEs) in critical care by 75 percent within 1 year.
- Reduce waiting time to see a urologist by 50 percent within 9 months.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSettingAims.aspx

Selecting Changes

- Eliminate Waste
  - Look for ways of eliminating activity or resource in the organization that does not add value to an external customer (LEAN無駄).
- Improve Work Flow
  - Improving the flow of work in processes in an important way to improve the quality of the goods and services produced by those processes.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSelectingChanges.aspx

Selecting Changes

- Optimize Inventory
  - Inventory of all types is a possible source of wast in organizations; understanding where inventory is stored in a system is the first step in finding opportunities for improvement.
- Change the Work Environment
  - Changing the work environment itself can be a high-leverage opportunity for making all other process changes more effective.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSelectingChanges.aspx

Selecting Changes

- Producer/Customer Interface
  - To benefit from improvements in quality of products and services, the customer must recognize and appreciate the improvements.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSelectingChanges.aspx

Selecting Changes

- Manage Time
  - An organization can gain competitive advantage or optimize functions by reducing the time to develop new products, waiting times for services, lead times for orders and deliveries, and cycle times for all functions in the organization.
    - Lead time definition: the time between the initiation and completion of a *production* process.
    - Cycle time definition: Total time from beginning to end of your process. Cycle time includes both process time and delay time.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSelectingChanges.aspx

Selecting Changes

- Error Proofing
  - Organizations can reduce errors by redesigning the system to make it less likely for people in the system to make errors. One way to error proof a system is to make the information necessary to perform a task available in the external world, and not just in one's memory, by writing it down or by actually making it inherent in the product or process.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSelectingChanges.aspx

Selecting Changes

- Focus on the Product or the Service
  - Although many organizations focus on ways to improve processes, it is also important to address improvement of products and services.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSelectingChanges.aspx

Testing Changes

- Implement a small test of change first to see if the change will work.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementTestingChanges.aspx

Implementing Change

- Implementation is a permanent change to the way work is done and, as such, involves building the change into the organization.
- It may affect documentation, written policies, hiring, training, compensation, and aspects of the organization's infrastructure that are not heavily engaged in the testing phase.
- Implementation also requires the use of the PDSA cycle.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementImplementingChanges.aspx

Spreading Change

- Spread is the process of taking a successful implementation process from a pilot unit or pilot population and replicating that change or package of changes in other parts of the organization or other organizations.
- During implementation, teams learn valuable lessons necessary for successful spread, including key infrastructure issues, optimal sequencing of tasks, and working with people to help them adopt and adapt a change.
- Spread efforts will benefit from the use of the PDSA cycle. Units adopting the change need to plan how best to adapt the change to their unit and to determine if the change resulted in the predicted improvement.

Stanford HEALTH CARE STANFORD MEDICINE

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementSpreadingChanges.aspx

Donebedian Model of Quality Improvement

Structure	Process	Outcomes
Factors that affect the context where the care is delivered	The actions that make up health care	The effects of healthcare on patients and populations
Examples: physical facility, equipment, staff training programs	Examples: technical processes, how care is delivered	Examples: health status/indicators, behaviors, knowledge

Stanford HEALTH CARE STANFORD MEDICINE

Donebedian, A. (1966). Evaluating the Quality of Medical Care. *The Milbank Memorial Fund Quarterly*, 44(3), 166–203.

Stanford University

Research in Care Improvement

- There is a lot of debate whether care improvement activities meet the United States definition of research.
- The definition of research is:
  - *Research* means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.
    Title 45, Code of Federal Regulations, Part 46, Section 102. The Common Rule
  - Systematic investigation- there is no standard definition. It could mean being systematic and detailed about the process and protocol.
  - Generalizable knowledge- there is no standard definition. Most scholars think that it means reducing bias and error (ensuring internal and external validity) so that the results can be generalizable to populations.

Stanford HEALTH CARE STANFORD MEDICINE

Research and Quality Improvement

In the USA, research is tightly regulated to protect human subjects from unethical treatment.

- Institutional Review Boards (IRBs) review research protocols to ensure that human subjects are protected from unethical treatment and that the risks, benefits, alternatives, and care if something goes wrong are clearly described to the patient before participating in research.

Stanford HEALTH CARE STANFORD MEDICINE

Controversy- Research or QI?

- Given that research is tightly regulated and must adhere to national guidelines, the question has been raised whether quality improvement investigations meet the definition of research (systematic investigation, develop generalizable knowledge).
- If the quality improvement project is not intended to develop generalizable knowledge, then it does not need to **formally** follow the tight restrictions for research. However, as good clinical scientists and advanced practice nurses, we should always adhere to the principles of ethical treatment of participants.
- The question of whether a QI project will publish the results has been used as a determining factor whether the project seeks to develop generalizable knowledge. The answer- not always.

Stanford HEALTH CARE STANFORD MEDICINE

Morris & Dracup (2007). *Am J Crit Care September 2007 vol. 16 no. 5 424-426*

Stanford Research Council Definitions

Research	Evidenced-based Practice	Performance Improvement
Systematic Discovery of New Knowledge and Practice	Utilization and Integration of New Knowledge and Practice	Standardization of Knowledge and Practice
Intention: Learn something new, generalizable knowledge	Intention: Apply new knowledge to practice	Intention: Improve effectiveness, reliability, standardize practice

Stanford HEALTH CARE
STANFORD MEDICINE

Types of Research Similar to QI

- Patient Outcomes Research
  - This type of research focuses on the **end results** of particular healthcare practices and interventions[1]
- Comparative Effectiveness Research
  - This type of research is designed to inform healthcare decision by providing evidence on the effectiveness, benefits, and harms of different treatment options[2]
- Health Services Research
  - This type of research focuses on the structure and processes of healthcare on the outcomes (Donebedian Model)[3]

Stanford HEALTH CARE
STANFORD MEDICINE

1 http://www.ahrq.gov/research/findings/factsheets/outcomes/outfactIndex.html
2 http://effectivehealthcare.ahrq.gov/index.cfm/what-is-comparative-effectiveness-research1/
3 http://www.ncbi.nlm.nih.gov/books/NBK2660/

Summary

- The practice of performance and quality improvement focuses on the structure, processes, and outcomes of care.
- Models of PDCA and Lean are incorporated to implement those rapid cycle changes.
- Research and quality improvement have overlap and differences in their aims and goals.

Stanford HEALTH CARE
STANFORD MEDICINE

TOP 10
Training program for Oncology Professionals in 10 Universities

10大学事業

【主　催】 がんプロフェッショナル養成基盤推進プラン
高度がん医療開発を先導する専門家の養成
慶應義塾大学大学院健康マネジメント研究科看護学専修