

2016-17 Teaching Academy

All Rush University Faculty Members

are invited to the 2016-17 Teaching Academy for skill and knowledge enhancement!

Presentations will be held every third Tuesday of the month from

12 – 1 p.m. in Room 994, Armour Academic Center.

Lunch will be provided.

Teaching Academy Workshops/Seminar Series

(Tentative Schedule and Topics)

July 19, 2016	Assessment in Education
Aug. 16, 2016	Simulation in Health Professions Education
Sept. 20, 2016	Leadership Skills Focus: Building Constructive Working Relationships
Oct. 18, 2016	The Convoluted World of “Big”/Messy Data
Nov. 15, 2016	Cybersecurity Trends in Healthcare and Higher Education
Dec. 20, 2016	Teaching Strategies to Facilitate Learning
Jan. 17, 2017	Learning Through Case Studies
Feb. 21, 2017	Ethics & Professionalism
March 21, 2017	Ethics: Dealing with Questions that Don't Have an Answer
April 18, 2017	Identifying Learning Styles and Creating Opportunities for Diverse Learning Styles
May 16, 2017	Healthcare Provider Burnout
June 20, 2017	Are you Managing Your Email or Is It Managing You?

For more information and to RSVP,
Contact Office of Faculty Affairs at
Faculty_Affairs_@rush.edu or (312) 942-8873.



Rush University Teaching Academy

ASSESSMENT IN EDUCATION

Elizabeth Baker, MD, MHPE
Associate Dean of Education
Rush Medical College

Vice Chair for Education
Department of Internal Medicine

At the end of today's session, participants will be able to:

- Define assessment
- Explain the concepts of reliability and validity
- Describe different types of assessment
- List strengths and weaknesses of commonly used assessment methods

“Any systematic method of obtaining information from tests and other sources, used to draw inferences about characteristics of people, objects or programs.”

Standards for Educational and Psychological Testing
AERA, APA and NCME, 1999

Who?

When?

What?

Where?

Why?

How?

FORMATIVE

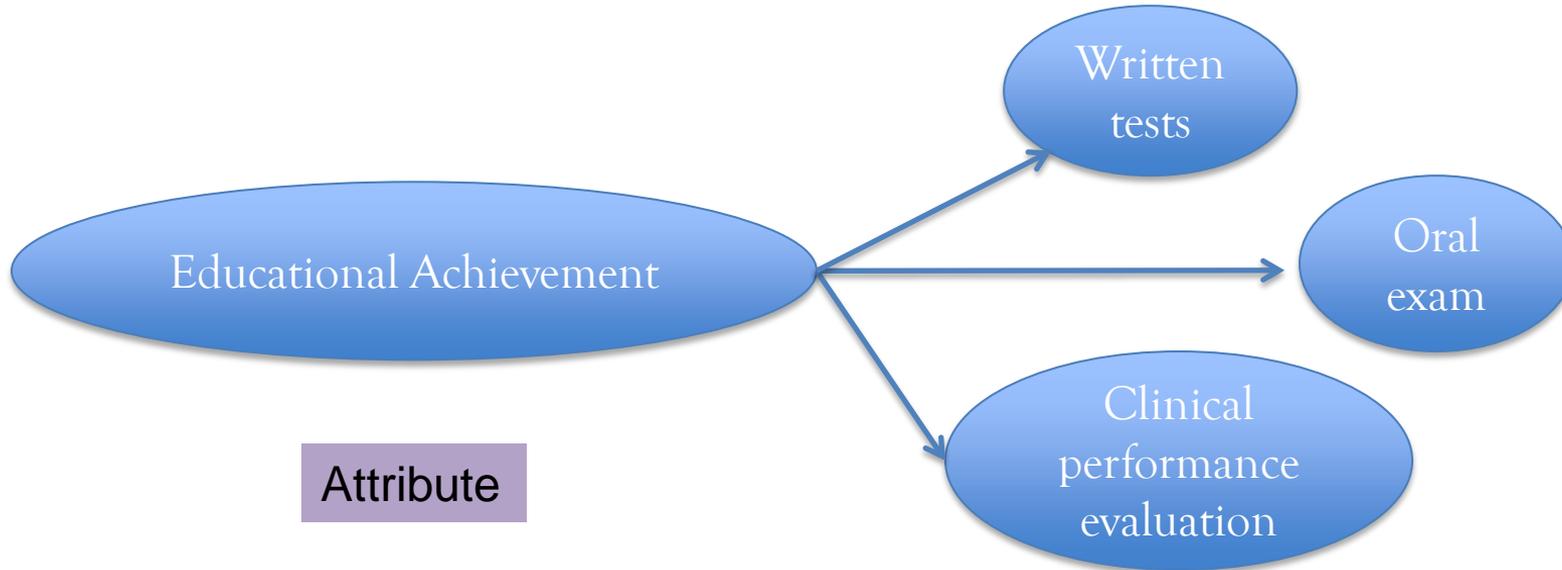
VS

SUMMATIVE

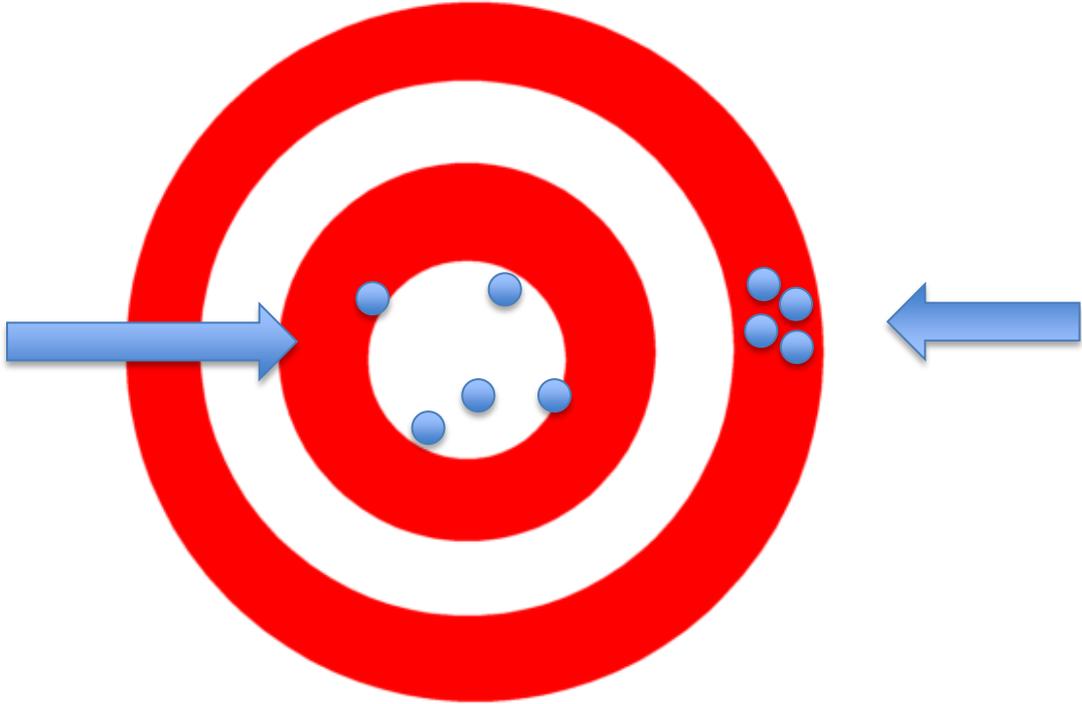
Evidence presented to support or refute the meaning or interpretation assigned to assessment data or results

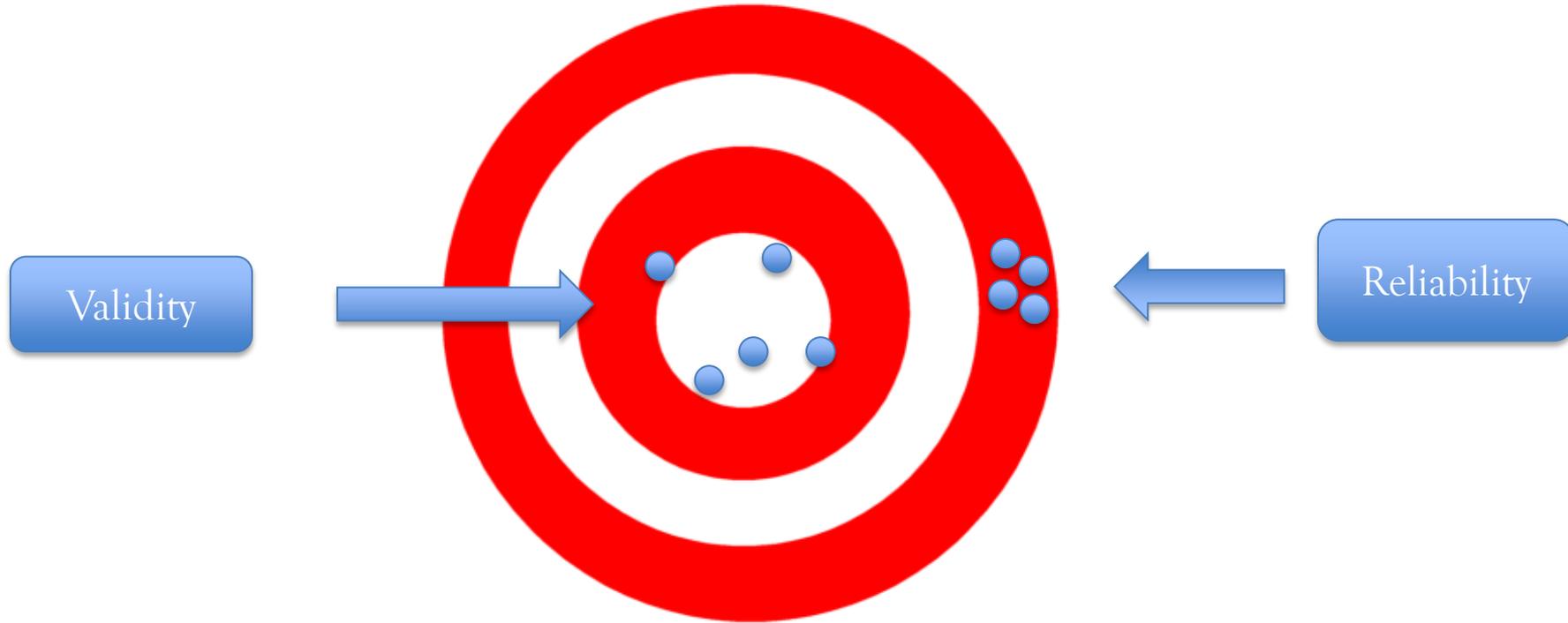
Messick, 1989

Construct = a hypothesized attribute assumed to be tested by the assessment



Validity and Reliability



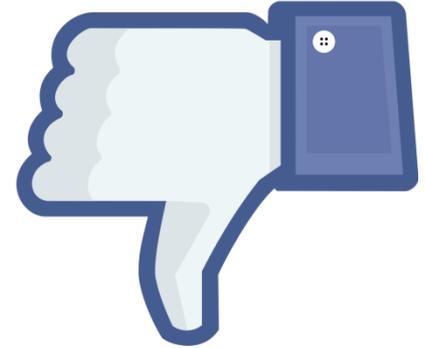


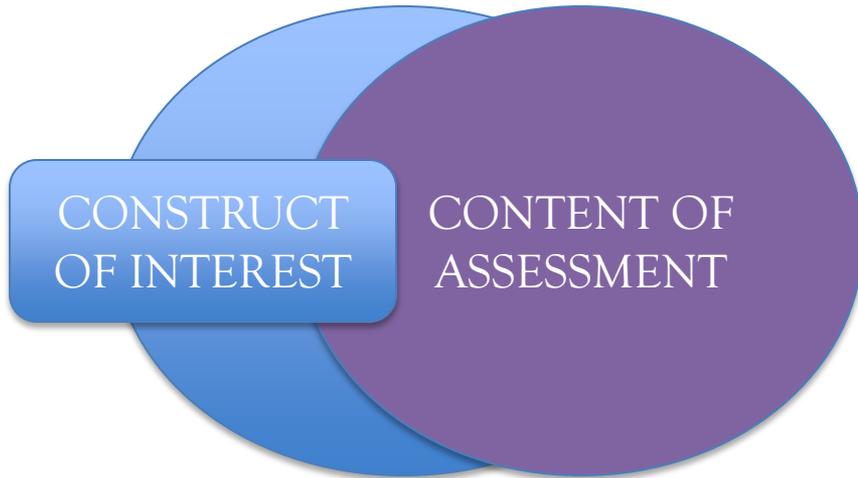
- Content
- Response Process
- Internal Structure
- Relationship to other variables
- Consequences of testing

Messick, 1989

CONSTRUCT
OF INTEREST

CONTENT OF
ASSESSMENT

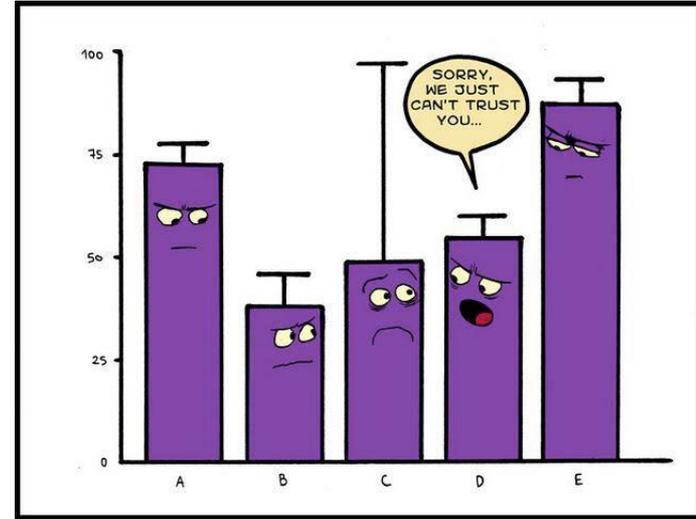




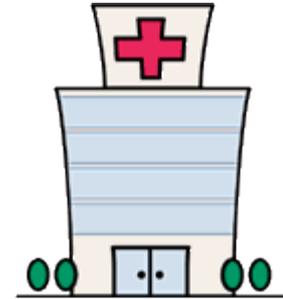
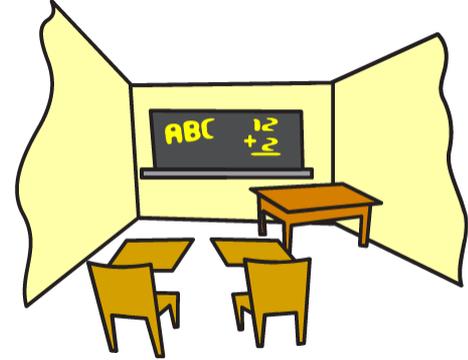
- QA
- Accuracy of scoring
- Interpretation of scores
- Setting pass/fail decisions



- Internal Data
- Inter-rater Reliability
- Item statistics

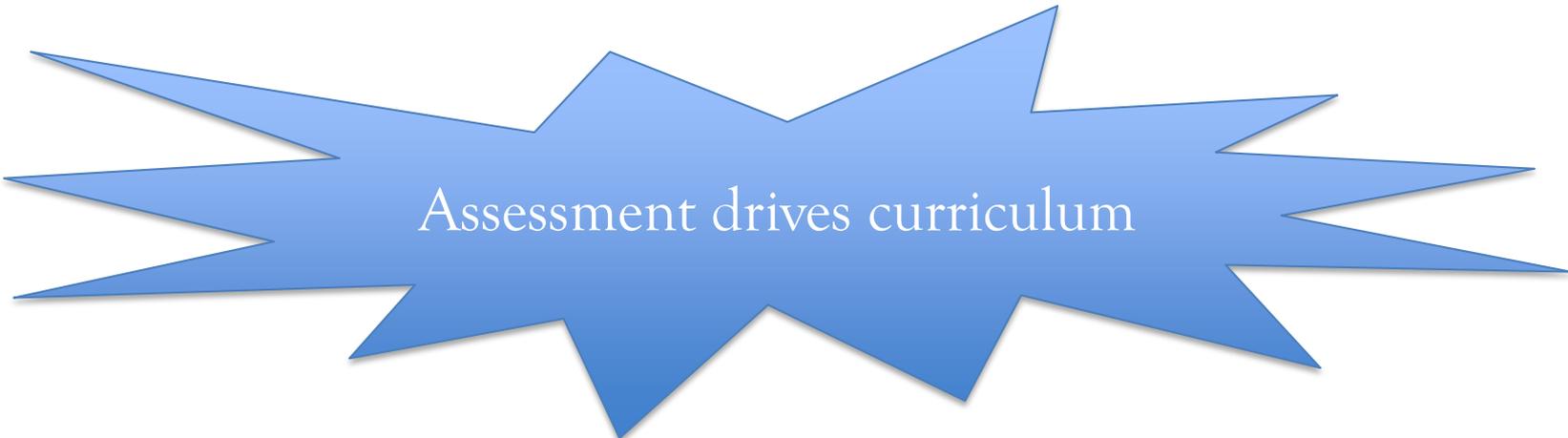


- In classroom-based courses:
 - Quizzes
 - Midterm
 - Final
- In clinical clerkships:
 - Clinical Performance Evaluations
 - Final exam



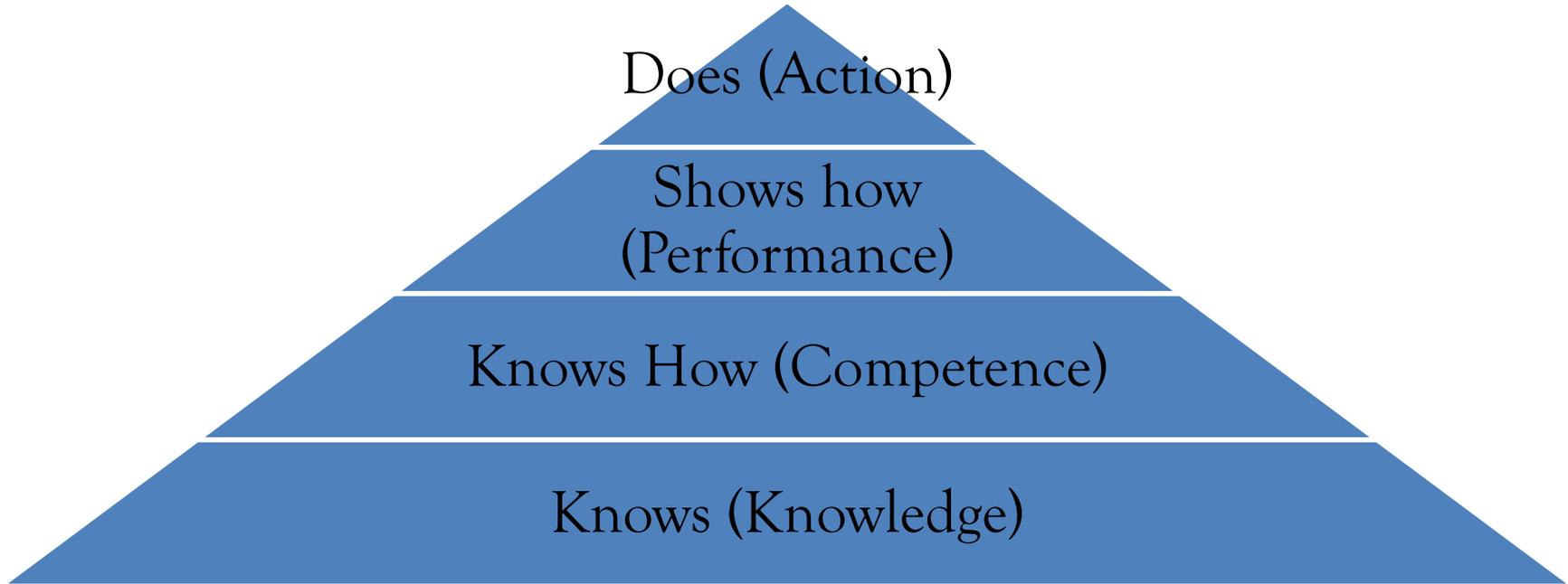
Examples:

- Improve patient care
- Decrease graduation rate

A large, multi-pointed blue starburst graphic with a white outline, centered on the slide.

Assessment drives curriculum

- Written tests
- Performance tests
- Observational assessment
- Portfolios



Miller, 1990

Knows How (Competence)

Knows (Knowledge)

Constructed Response

- Short and long answer
- Easy to write
- Subjective scoring
- Reasoning
- Partial credit

Selected Response

- MCQ, T/F, matching
- Hard to write
- Accurate
- Reproducible
- Efficient

- Content
- Response Process
- Internal Structure
- Relationship to other variables
- Consequences of testing

- Content: Blueprint
- Response Process: QA- quality of items
- Internal Structure: inter-item correlation, item characteristics, inter-rater reliability
- Relationship to other variables: other exams
- Consequences: standard setting

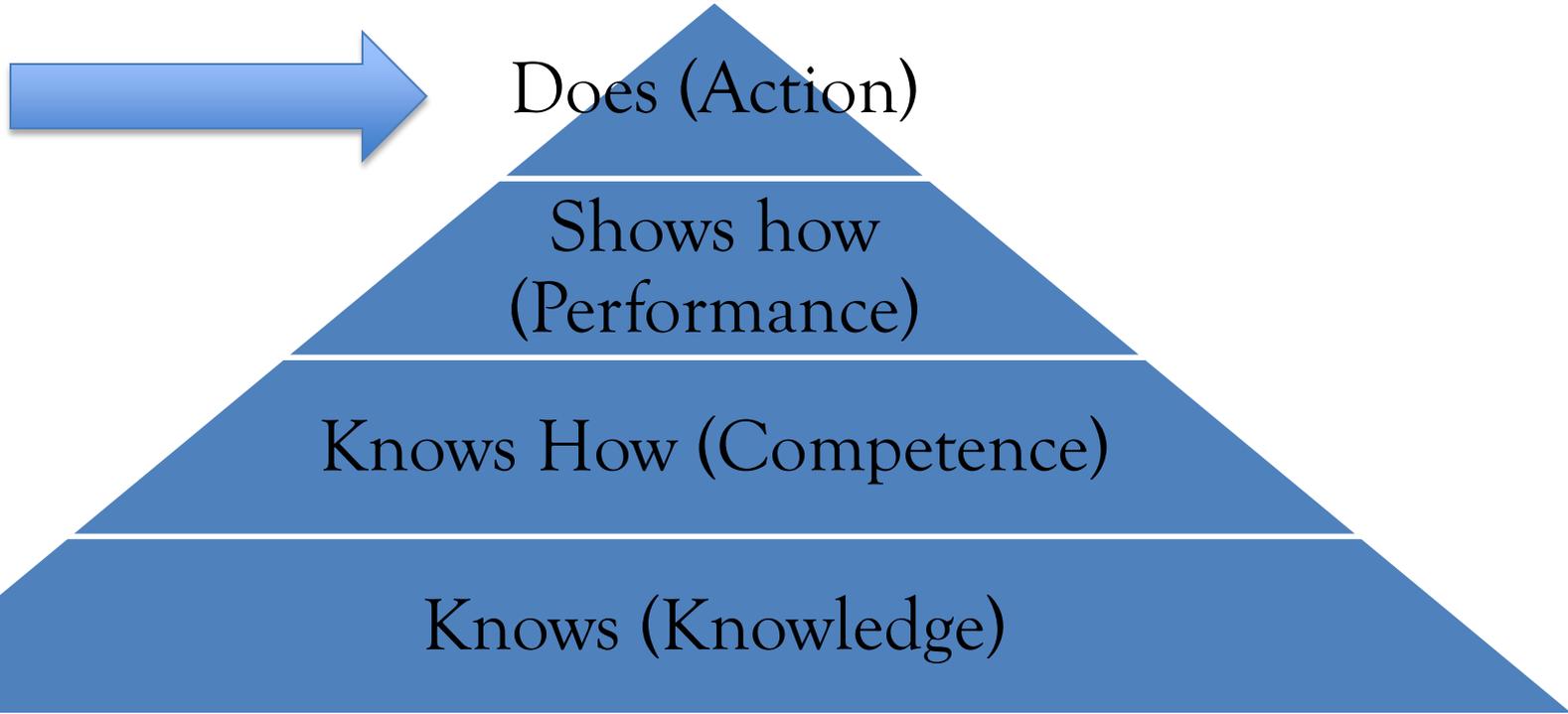


Shows how
(Performance)

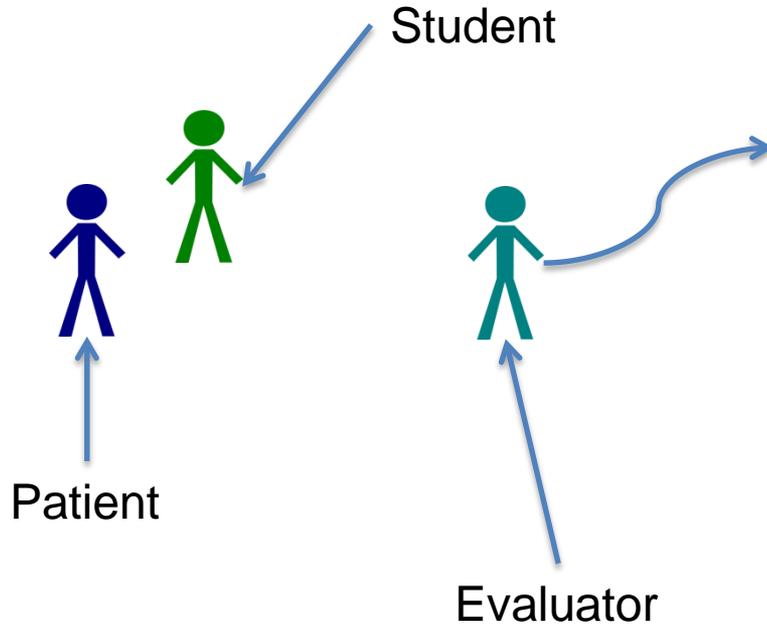
- Controlled observation of student performance
- Standardized patients
- OSCE- Objective Structured Clinical Exam
- Simulation: ACLS, team training

- Content
- Response Process
- Internal Structure
- Relationship to other variables
- Consequences of testing

- Content: Blueprint
- Response Process: QA- quality of items
- Internal Structure: inter-rater (SP) reliability
- Relationship to other variables: written exams, observational assessment
- Consequences: standard setting, pass/fail determination



- Describes learner behavior
- Embedded in the clinical environment
- “Authentic”



- Observes
- Interprets
- Records
- Judges

- Direct observation/video-recording
- Mini-CEX
- Medical record audit
- Peer assessment
- 360 evaluation

- Content
- Response Process
- Internal Structure
- Relationship to other variables
- Consequences of testing

- Content: Tool must match objectives
- Response Process: Rater training, choice of patient and situation
- Internal Structure: Inter-rater reliability
- Relationship to other variables: Written examinations, OSCE
- Consequences: Standard setting

A collection of evidence documenting progress, accomplishments, and achievements over time

Tekian and Yudkowsky. *Assessment Portfolios, Assessment in Health Professions Education*. 2009.

- A vehicle to promote reflective learning
- Evidence of that reflection and other learning
- Guide development of competencies
- Monitor progress
- Assessment of competency
- Self-assessment/reflection

- Private, reflective responses to learning experiences

VS

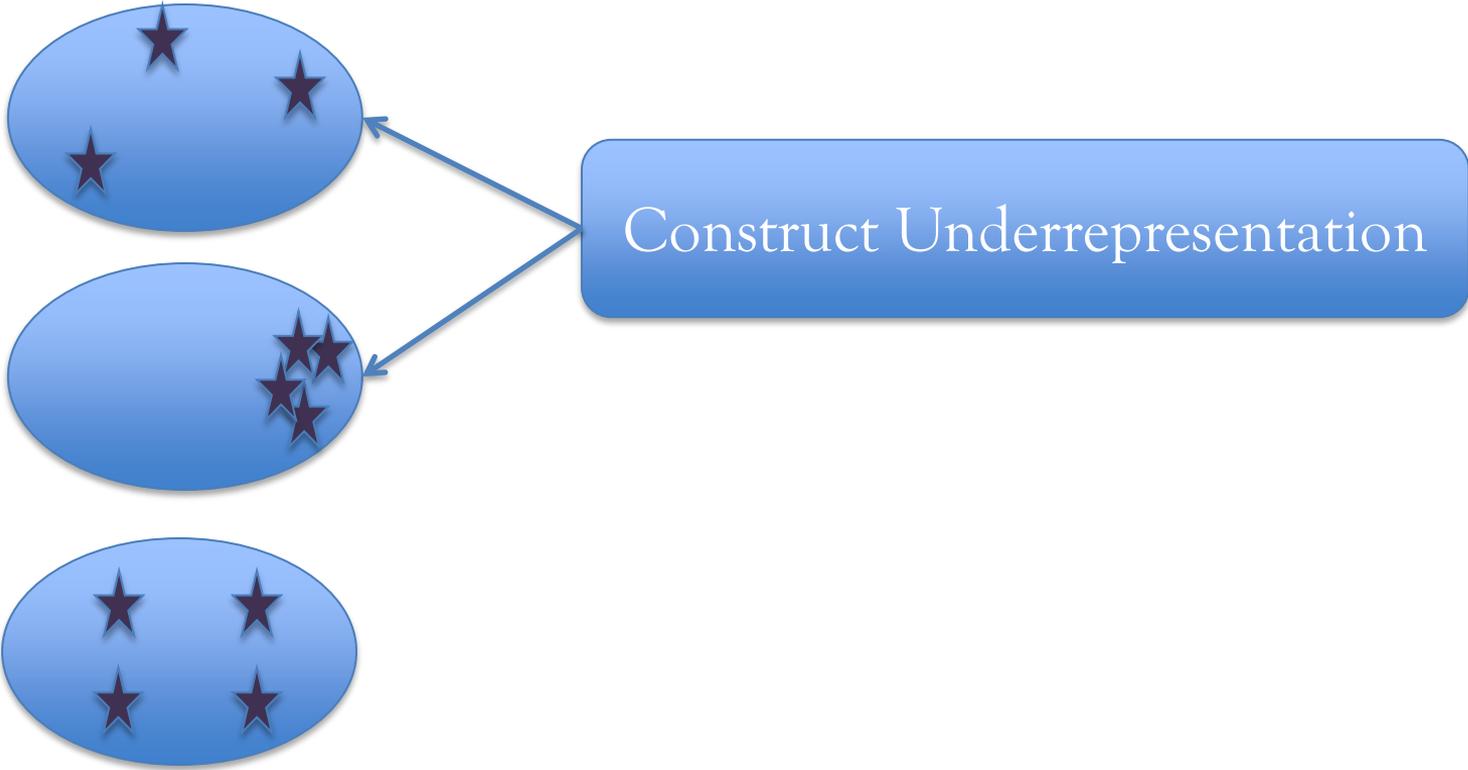
- Public compilation of evidence of work samples-learner's best work

- Define purpose
- Determine competencies
- Define content
- Develop marking system
- Select and train raters
- Timeline
- Orient students
- Develop guidelines
- Establish validity
- Evaluate system

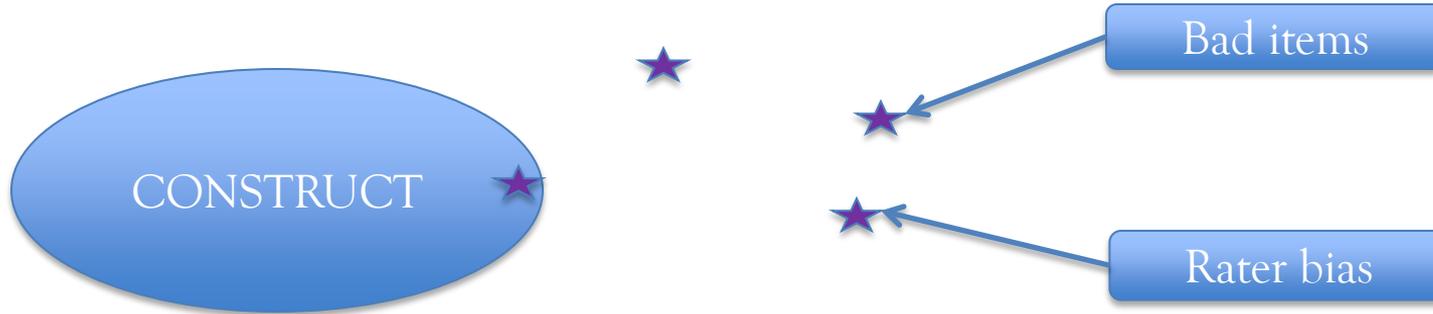
- Content
- Response Process
- Internal Structure
- Relationship to other variables
- Consequences of testing

- Content: Match to program objectives
- Response Process: Rater training, scoring- compensatory or conjunctive
- Internal Structure: Inter-rater reliability
- Relationship to other variables: Written examinations, OSCE
- Consequences: Standard setting- high stakes or lower stakes





Construct-irrelevant Variance = Noise



- Is the performance good enough?
- The process used to create boundaries between categories
 - Pass/fail
 - Pass/high pass/honors
 - Proficient/needs remediation

Cut scores need to be:

- Credible
- Defensible
- Acceptable

A blue oval with a gradient from light blue at the top to a darker blue at the bottom, containing white text.

Cut score= an
operational
statement of
policy

- Norm referenced → relative
- Criterion referenced → absolute

- There is no “gold standard”
- The choice of content expert judges is key
- Judges must be trained and understand
- QA is essential
- Iterative procedures may be needed to establish consensus
- In the final analysis, standards are not set by content experts but by policy decision makers

“Any systematic **method** of obtaining information from tests and other sources, used to **draw inferences** about characteristics of people, objects or programs.”

Standards for Educational and Psychological Testing
AERA, APA and NCME, 1999

- Content
- Response Process
- Internal Structure
- Relationship to other variables
- Consequences of testing

Messick, 1989

Types of Assessments:



Written tests



Performance tests

Observational assessment



Portfolios

Questions?

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Feel free to contact me at
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- Downing and Yudkowsky. 2009. *Assessment in Health Professions Education*. NY: Routledge.
- Harden and Laidlaw. 2012. *Essential Skills for a Medical Teacher*. Edinburgh: Elsevier.
- Dent and Harden. 2013. *A Practical Guide for Medical Teachers*. London: Elsevier.



Simulation in Health Professions Education

Teaching Academy Series – August 16, 2016

Beverley Robin, MD, CHSE

Rush University Medical Center

Department of Pediatrics

Director of Pediatric Interprofessional Education and Simulation



Disclosures

- No disclosures

Objectives

1. Describe the history of simulation in health professions education.
2. Recognize the drivers of simulation-based training in health professions education.
3. Distinguish the various simulation modalities and their application.
4. Describe a framework for instructional design in healthcare simulation.
5. Recognize the benefits of simulation-based education for patient outcomes and safety.

History of Medical Simulation

- Origins in aviation
 - Link trainer (1929)
 - Army (1934)
 - CREW (1978)
- NASA - Apollo first digital simulators
- Nuclear power plants
- 1980s military flight simulators, naval/submarine simulators



SKY TRAILS *in a* **LINK TRAINER**

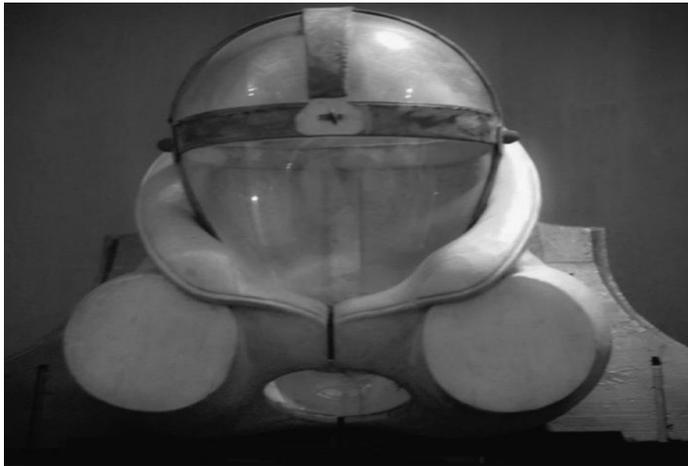
Perfection in Instrument Flying and Radio Navigation Technique can be attained quicker, safer and more economically in the LINK INSTRUMENT FLYING TRAINER

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Every Aviation Cadet receives instruction in the LINK TRAINER

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History of Medical Simulation



Owen H. Early use of simulation in medical education.
Simulation in Healthcare. 2012;7(2):102-116.

History of Medical Simulation

- 1960s
 - Resusci-Anne
 - Sim-One
 - SPs
 - VR
 - Harvey
- Screen-based simulation
- 1980s prototype mannequin simulators (anesthesia)



Why Simulation?

- Duty hour restrictions
- Fewer inpatients
- Patient acuity
- EMR
- Legal implications
- Patient safety
- Quality improvement
- Ethical imperative?



Why Simulation?

Falck AJ, Escobado MB, Baillargeon JG, et al. Proficiency of Pediatric Residents in Performing Neonatal Endotracheal Intubation. *Pediatrics* 2003; 112 (6): 1242-47.

- Pediatric residents (n=449)
- Observed endotracheal intubations
- Competence = successful intubation on 1st or 2nd attempt \geq 80% of the time
 - 35% of attempts never successful
 - 1st or 2nd attempt success:
 - PGY1 50%
 - PGY2 55%
 - PGY3 62%
 - None reached defined level of competence

Mulcaster, JT, Mills J, Hung OR, et al. Laryngoscopic Intubation. Learning and Performance. *American Society Anesth* 2003; 98 (1): 23-27

- Medical, RT, paramedic students naïve to intubation
 - Observed actual intubations (438)
 - 18 - 35 intubation trials/subject
 - 90% probability for “good” intubation required 47 attempts

Why Simulation?

Hunt EA, Patel S, Vera K, et al. Survey of Pediatric Resident Experiences with Resuscitation Training and Attendance at Actual Cardiopulmonary Arrests. *Pediatr Crit Care Med* 2009; 10 (1): 96-105.

- Cross-sectional survey (2009)
- Pediatric residents' resuscitation training and attendance at pediatric resuscitations
- Attendance at resuscitations:
 - PGY1: 2 (1-3)
 - PGY2: 5 (3-8)
 - PGY3: 10 (5-12)
- Discharge defibrillator:
 - 12% on actual patient
 - 33% neither on actual patient nor during training

Why Simulation?

Hayden JK, Smiley RA, Alexander M, et al. The NCSBN National Simulation Study: A Longitudinal, Randomized, Controlled Study Replacing Clinical Hours with Simulation in Prelicensure Nursing Education. *Journal Nurs Reg*, 2014;(5)2supp:1-66.

- Pre-licensure nursing students (n=666)
- RCT:
 - Control
 - 25% simulation
 - 50% simulation
- Outcomes:
 - 1) knowledge
 - 2) clinical competence
 - 3) NCLEX pass rates
- Results:
 - No statistically significant differences:
 - knowledge ($p=0.478$)
 - clinical competence ($p=0.688$)
 - NCLEX pass rates ($p = 0.737$)
 - Post-graduation clinical practice
 - no differences in manager ratings of readiness for practice and overall clinical competence
 - at 6 weeks ($p = 0.706$)
 - 3 months ($p = 0.511$)
 - 6 months ($p = 0.527$)

Why Simulation?

Hunt EA, Vera K, Diener-West M, et al. Delays and errors in cardiopulmonary resuscitation and defibrillation by pediatric residents during simulated cardiopulmonary arrests. Resus 2009; 80 (7): 819-25.

- Pediatrics residents (n=70)
- PALS trained
- High fidelity simulation – pulseless V-tach
 - 66% compressions > 1 min of pulselessness
 - 33% no compressions
 - 54% defibrillated ≤ 3 mins of pulselessness

Pediatric Patient to Learner Ratio for Typical Inpatient RUMC Team (Medical Students and Residents)

Inpatient Unit	ADC (n) †	Medical students (n)	PGY1 (n)	PGY2/3 (n)	Learners/ team (n)**	Patients: Learners (max)
Gen peds ward	11.6	4-7	2-3	2	12	11.6:12
PICU stepdown	4.7	3	1	1	5	4.7:5
MBU	10.7	2-3	1	1	5	10.7:5

Total Patients	Total Learners (max)	Total Patients: Learners
27	22	27:22

† Stable over past 3 years. NICU not included

** RN learners and medical students on electives/subspecialty not included

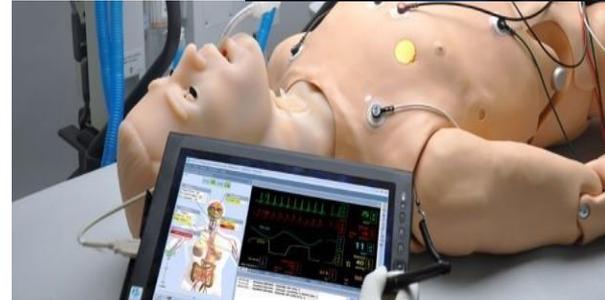
Simulation Modalities

- Task trainers
- On-line computer based
- Cadaveric
- Live tissue
- Virtual reality

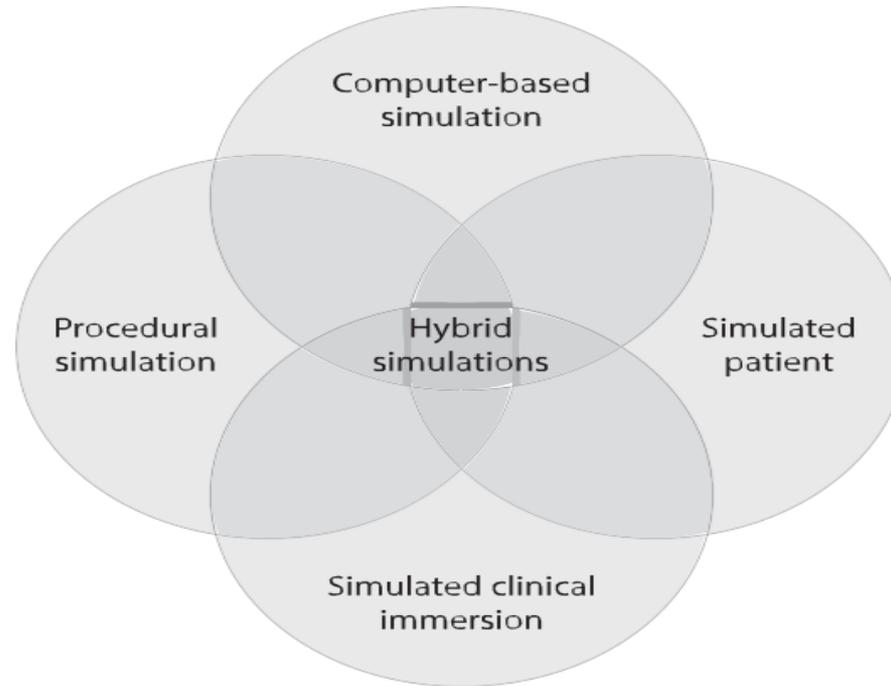


Simulation Modalities

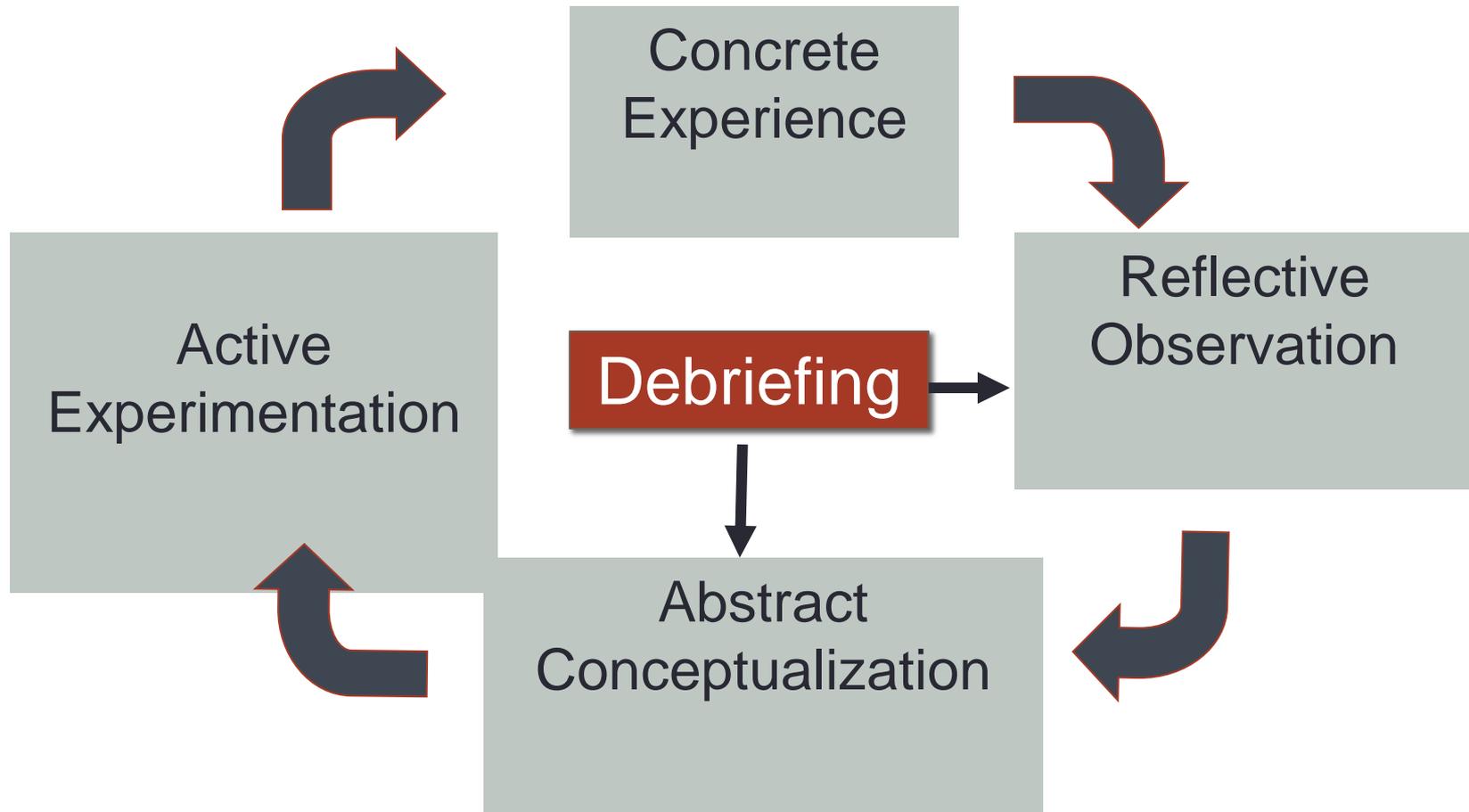
- Mannequin
- Standardized patients
- Standardized participants



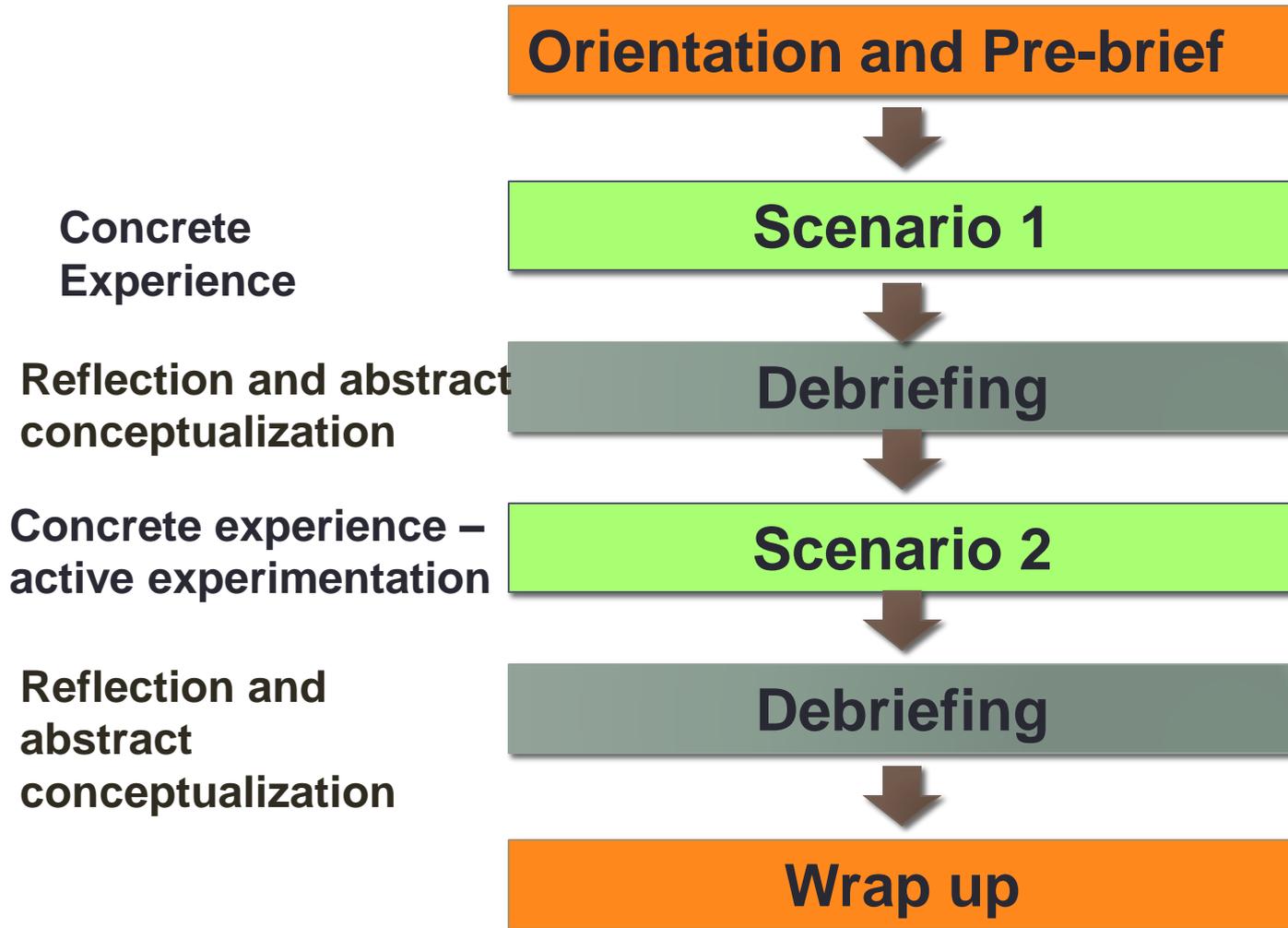
Simulation Modalities



Experiential Learning (Kolb)

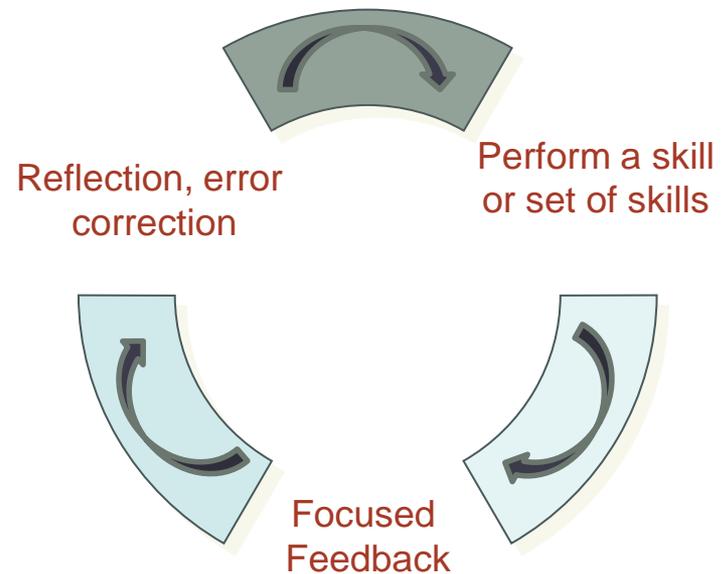


Reflection on Action



Deliberate Practice - Ericsson

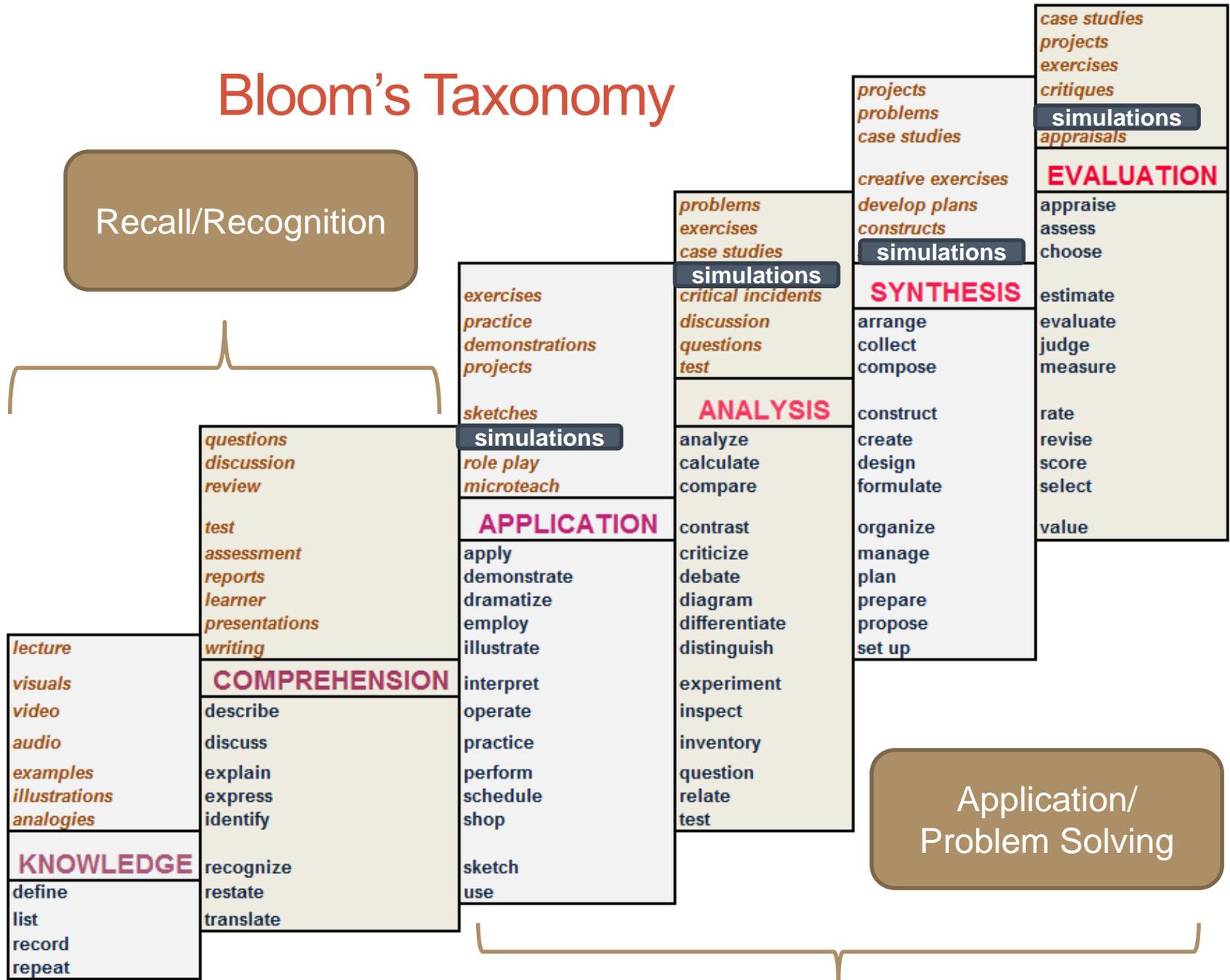
- Importance of *how* one practices, rather than merely performing a skill multiple times
1. Focused, repetitive performance of psychomotor skill
 2. Rigorous skill assessment
 3. Specific, focused feedback
 4. Repeated performance of the skill



Adult Learners (Malcolm Knowles)

- Internally motivated, self directed
- Motivated by the need to solve problems
- Goal oriented
- Relevancy oriented
- **Bring previous experiences and knowledge to new learning experiences**

Bloom's Taxonomy



Bloom's Learning Taxonomy

```
graph TD; A[Bloom's Learning Taxonomy] --> B[Cognitive]; A --> C[Psychomotor]; A --> D[Affective]; B --- E[Increase knowledge]; C --- F[Build physical/perceptual skill]; D --- G[Change Attitude/behavior];
```

Cognitive

Increase
knowledge

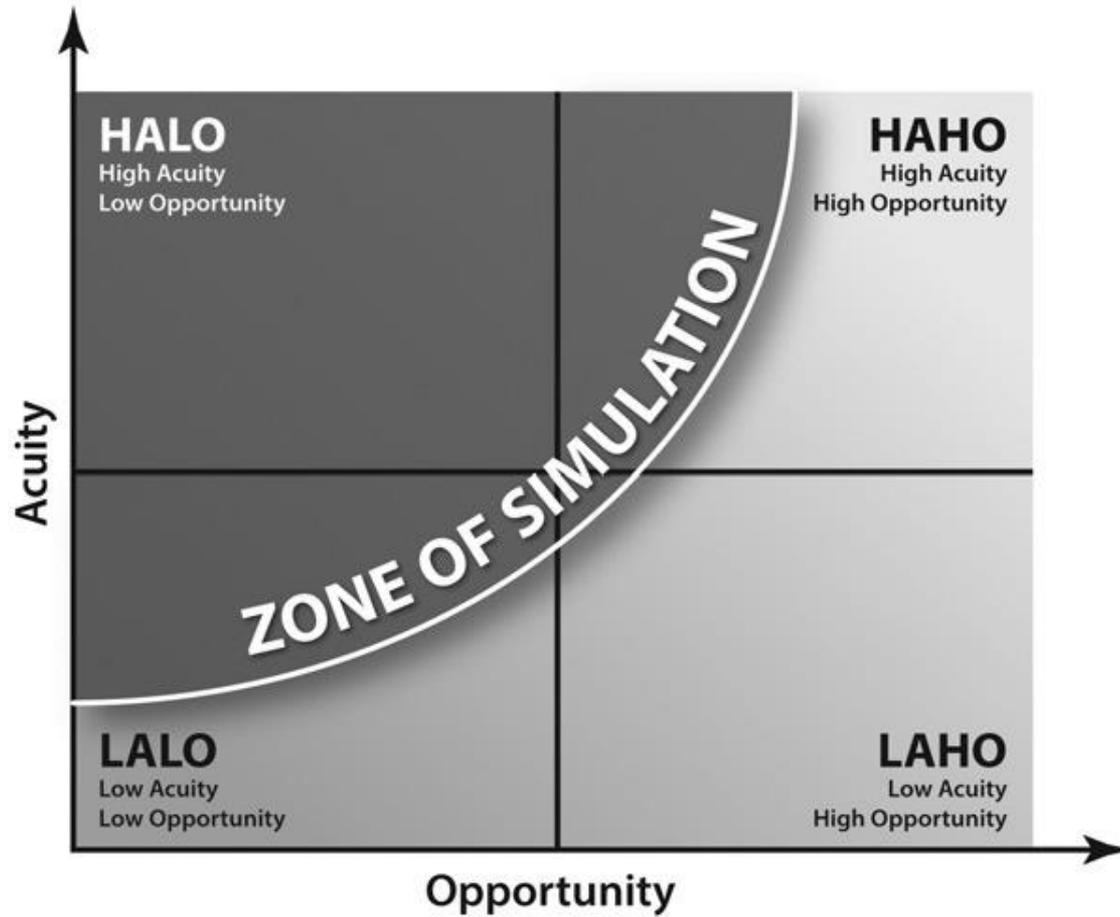
Psychomotor

Build
physical/perceptual
skill

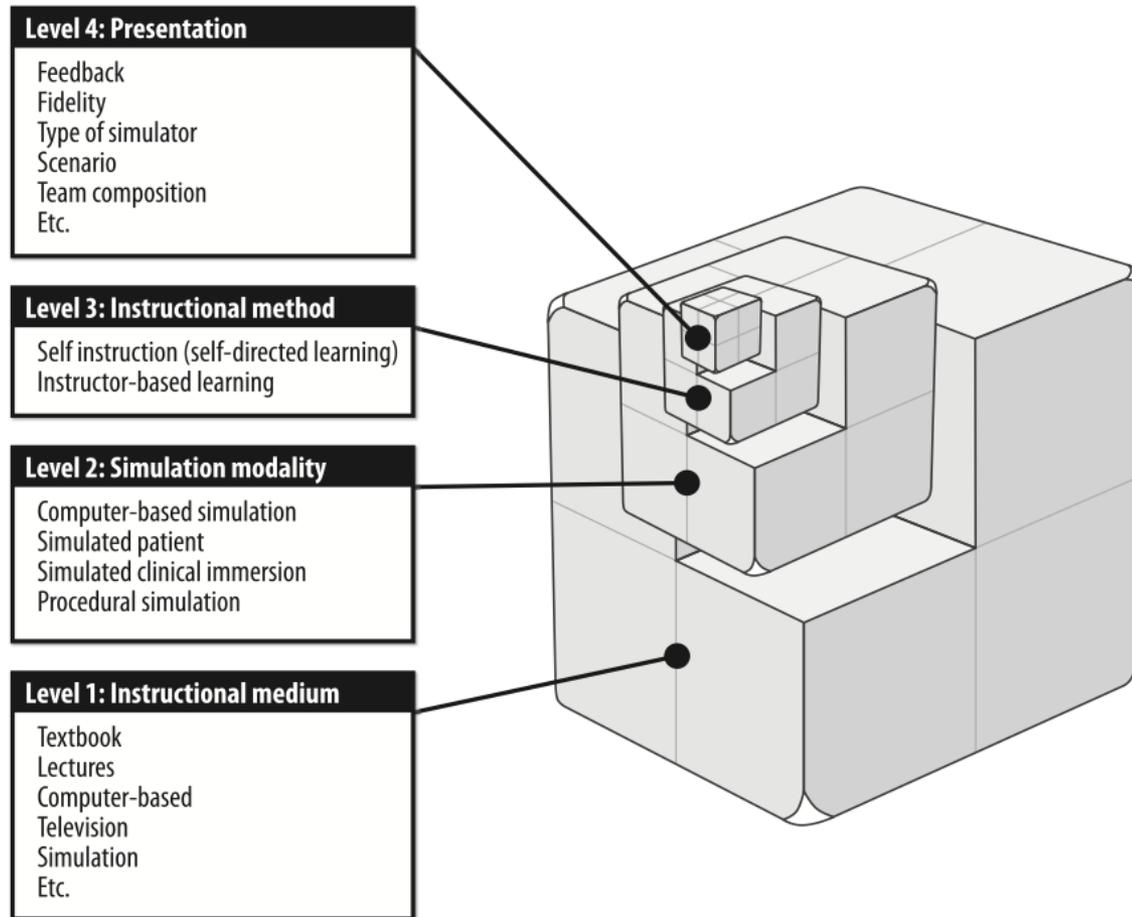
Affective

Change
Attitude/behavior

Zone of Simulation



Instructional Design Model



Simulation-based education –Patient Benefits

Barsuk JH, McGaghie WC, Cohen ER, et al. Simulation-based mastery learning reduces complications during central venous catheter insertion in a medical intensive care unit. Crit Care Med 2009; 37 (10): Pediatrics 2003; 112 (6): 2697-701.

- Objective: To determine the effect of simulation-based mastery learning on central venous catheter insertion skill and prevalence of procedure related complications
- IM and ED residents (n=76)
- Controls (n=26)
- Simulation-based training – internal jugular and subclavian central line insertion
 - Pre-determined minimum passing score
 - Procedural checklist
 - Written pre- and post-test
- Simulation-trained residents:
 - Fewer needle passes ($p < .0005$)
 - Fewer arterial punctures ($p < .0005$)
 - Higher success rates ($p = .005$)
 - Clinical skills:
 - IJ: Pre 50.6% (SD 23.4%) Post 93.9% (SD 10.2%) ($p < .0005$)
 - SC: pre 48.4% (SD 26.8%) Post 91.5% (DS 17%) ($p < .0005$)

Simulation-based education – Patient Benefits

Ahlberg G, Hultcrantz R, Jaramillo E, et al. Virtual reality colonoscopy simulation: a compulsory practice for the future colonoscopist? *Endoscopy* 2005;37(12):1198 -204.

- RTC
- Residents (n=12)
- Control (standard training) or simulation-based
- 10 actual patient colonoscopies:
 - Success rate
 - Time to reach cecum
 - Patient discomfort
- Results
 - Success rate: simulation-trained 52% vs. controls 19% (p=0.0011). Simulation-trained OR 4.53
 - Time to reach cecum: simulation-trained 30 mins (IQR 17-38 mins) vs. controls 40 mins (IQR 25-45 mins) (p = 0.037)
 - Patient discomfort: simulation-trained, median 4 (IQR 2.5-6) vs. controls, median 5 (IQR 4-7) (p=0.001)

Simulation-based education – Patient Benefits

Barsuk JH, Cohen ER, Potts S. et al. Dissemination of a simulation-based mastery learning intervention reduces central line-associated bloodstream infections. *BMJ Qual Saf* 2014;23:749–756.

- Monthly central line infection rates prior to and after simulation-based training
- Infections per 1000 catheter days:
 - Prior to training: 3.82 (20 infections/5235 catheter-days)
 - After training: 1.29 (6 infections/4670 catheter-days) ($p=0.02$)
- 74% reduction in incidence of central line infections post intervention

Simulation-based education – Patient Benefits

Larsen CR, Soerensen JL, Grantcharov TP, et al. Effect of virtual reality training on laparoscopic surgery: randomised controlled trial. *BMJ* 2009;338:b1802.

- RTC
- 1st and 2nd year registrars (Ob/gyne)
- Laparoscopic salpingectomy
- Controls vs. simulation-based
- Outcome measures (on actual patients)
 - Technical performance (objective structured assessment of laparoscopic salpingectomy; max 50 points)
 - Simulation trained - median 33 (IQR 32-36), vs. controls 23 (IQR 22-27) ($p=0.001$)
 - Operating time (mins)
 - Simulation-trained – median 12 (IQR 10-14), vs. controls 24 (IQR 20-29) ($p=0.001$)

References

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2. Cooper JB, Taqueti VR. A brief history of the development of mannequin simulators for clinical education and training 2004; 13 (supp): i11-i18.
3. Falck AJ, Escobado MB, Baillargeon JG, et al. Proficiency of Pediatric Residents in Performing Neonatal Endotracheal Intubation. *Pediatrics* 2003; 112 (6): 1242-47.
4. Mulcaster, JT, Mills J, Hung OR, et al. Laryngoscopic Intubation. *Learning and Performance. American Society Anesth* 2003; 98 (1): 23-27.
5. Barsuk JH, McGaghie WC, Cohen ER, et al. Simulation-based mastery learning reduces complications during central venous catheter insertion in a medical intensive care unit. *Crit Care Med* 2009; 37 (10): *Pediatrics* 2003; 112 (6): 2697-701.
6. Hunt EA, Patel S, Vera K, et al. Survey of Pediatric Resident Experiences with Resuscitation Training and Attendance at Actual Cardiopulmonary Arrests. *Pediatr Crit Care Med* 2009; 10 (1): 96-105.
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10. Barsuk JH, Cohen ER, Potts S. et al. Dissemination of a simulation-based mastery learning intervention reduces central line-associated bloodstream infections. *BMJ Qual Saf* 2014;23:749–756.
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Teaching Academy

Leadership Skills Focus: Building Constructive Working Relationships

Mary M. Nash, PhD

AVP Talent Management & Leadership Development

Dr. Nash has disclosed that there is no actual or potential conflict of interest in regards to this presentation.

The planners, editors, faculty and reviewers of this activity have no relevant financial relationships to disclose.

This presentation was created without any commercial support.

IT'S HOW MEDICINE SHOULD BE®



Rush is a not-for-profit health care, education and research enterprise comprising Rush University Medical Center, Rush University, Rush Oak Park Hospital and Rush Health.

Learning Objectives

At the conclusion of this course participants will be able to

- Express that self-awareness is an important aspect of being an effective leader
- Integrate my personality and behavior styles into an effective leadership strategy
- Interact with and/or manage individuals with respect to personality and behavior style preferences in order to foster acceptance and appreciation

To obtain credit you must:

- **Be present for the entire session**
- **Complete an evaluation form**
- **Return the evaluation form to staff**

Certificate will be sent to you by e-mail upon request.

This course is eligible for 1 (four) *AMA PRA Category 1 Credits™*

Accreditation and Designation Statement: Rush University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. Rush University Medical Center designates this live activity for a maximum of 4 AMA PRA Category 1 Credit(s)™. Physicians should claim only credit commensurate with the extent of their participation in the activity.

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Rush University is an approved provider for physical therapy (216.000272), occupational therapy, respiratory therapy, social work (159.001203), nutrition, speech-audiology, and psychology by the Illinois Department of Professional Regulation. Rush University designates this live activity for 4 Continuing Education credit(s).

Think of the most stressful day
you've had recently.

What did you do to bust that stress?

MBTI



What is *Personality* or *Type*?

- The essence of who you are as an individual
- An organized pattern of characteristics or qualities
- It is reflected in what you say, how you feel about yourself, how you act and how you choose to live your life

Myers-Briggs Type Indicator

- A well-researched, reliable and valid instrument, based on the work of Carl Jung
- Created by mother-daughter team of Katharine Briggs and Isabel Briggs-Myers
- Most widely used assessment by practitioners globally to understand personality preferences

Jung's Theoretical Base

Much apparently random variation in human behavior is actually quite orderly and consistent, and is based on

- the way people direct their energy,
- gather information,
- make decisions about that information, and
- approach their life

3 more questions

Preferences for Gaining Energy

- **Extraversion**: focus on the outside world to get energy through interacting with people and/or doing things
- **Introversion**: Focus on the inner world and get energy through reflecting on information, ideas and/or concepts

Facets

Extraversion:

- Initiating
- Expressive
- Gregarious
- Active
- Enthusiastic

Introversion:

- Receiving
- Contained
- Intimate
- Reflective
- Quiet

Preferences for Gathering or Becoming Aware of Information

- **Sensing:** Notice and trust facts, details, and present realities
- **INtuiting:** Attend to and trust inter-relationships, theories, and future possibilities

Facets

Sensing:

- Concrete
- Realistic
- Practical
- Experiential
- Traditional

INtuiting:

- Abstract
- Imaginative
- Conceptual
- Theoretical
- Original

Preferences for Deciding or Coming to a Conclusion About Information

- **Thinking**: Make decisions using logical, objective analysis
- **Feeling**: Make decisions to create harmony by applying person-centered values

Facets

Thinking:

- Logical
- Reasonable
- Questioning
- Critical
- Tough

Feeling:

- Empathetic
- Compassionate
- Accommodating
- Accepting
- Tender

Preferences for Dealing with the World Around Us

- **Judging:** Tendency to be organized and orderly and to make decisions quickly
- **Perceiving:** Tendency to be flexible and adaptable and to keep options open as long as possible

Facets

Judging:

- Systematic
- Planful
- Early starting
- Scheduled
- Methodical

Perceiving:

- Casual
- Open-ended
- Pressure-prompted
- Spontaneous
- Emergent

Personality Dimensions

Differences in personality can be attributed to preferences for eight paired personality dimensions:

- Extraversion or Introversion (E or I)
- Sensing or iNtuiting (S or N)
- Thinking or Feeling (T or F)
- Judging or Perceiving (J or P)

Myers-Briggs Type Indicator (MBTI)

(E) Extraverting	Energy ————— What is the source of your energy?	(I) Introverting
(S) Sensing	Perception ————— How do you prefer to gather information?	(N) iNtuiting
(T) Thinking	Judgment ————— How do you prefer to make decisions?	(F) Feeling
(J) Judging	Environment ————— How do you deal with the outer world?	(P) Perceiving

MBTI Chart of Group

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

Group Style:

Important to Remember:

MBTI indicates **preferences**, not ability

Stereotypes, labels – and the **key!**

No right or wrong answers!

All are strengths, and all can be drawbacks

You decide your preferences – not the assessment
(although the assessment is usually an accurate
indicator)

Leadership Skills Focus – Building Constructive Working Relationships

Part 2:

DiSC – Understanding Your Behavior Style Preferences

DiSC

- Everything DiSC[®] is another tool that offers personalized information to help you understand yourself and others better
- The DiSC model includes four basic **behavioral styles** that describe how people approach their work and relationships

What is DiSC?

- Describes BEHAVIOR – a person's manner of doing things
- Behavior is a function of Personality and Environment

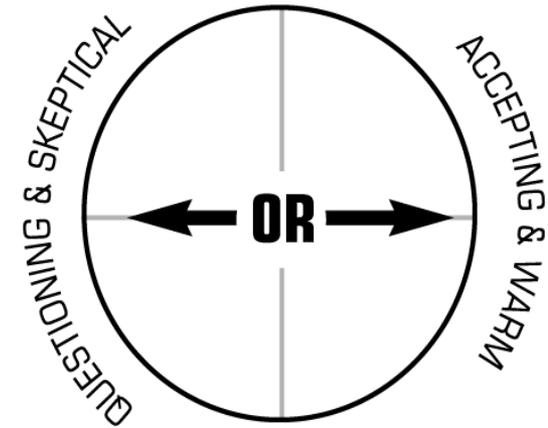
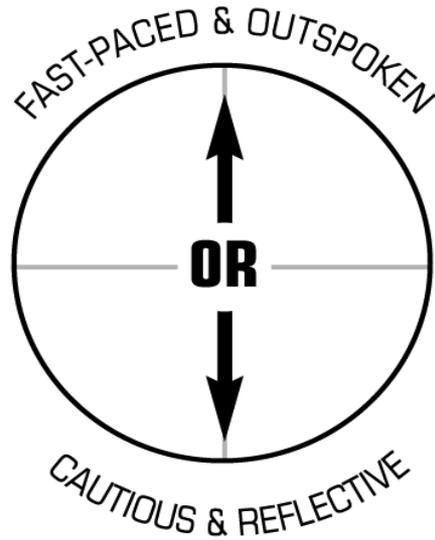
$$B = f(P/E)$$

- Promotes understanding our own behavior, and that of others, for enhanced effectiveness

What is DiSC? *(continued)*

- A four quadrant model, based on two continuums: speed, and focus (relationships or task)
- NO right or wrong answers!
- ALL styles have strong points, and all have potential weaknesses, especially when “used” to the extreme
- “D”, “i”, “S”, and “C” are the labels for the four quadrants, or dimensions of behavior
- We all use all four styles, and prefer one or two

DiSC



Dominance

Influence

Conscientiousness

Steadiness



DiSC Dimensions

Dominance

- Direct
- Results-oriented
- Firm
- Strong-willed
- Forceful
- Analytical
- Reserved
- Precise
- Private
- Systematic

Influence

- Outgoing
- Enthusiastic
- Optimistic
- High-spirited
- Lively
- Even-tempered
- Accommodating
- Patient
- Humble
- Tactful



Conscientiousness

Steadiness

Reminder: MBTI and DiSC Key Principles, Part 1

- All personality and behavior styles are **equally valuable**, and people with all styles can be effective managers
- Your management style is also influenced by **other factors**, such as life experiences, education, and maturity
- **Understanding yourself** better is the first step to becoming more effective with your employees and your manager
- Learning about other people's personality and behavior style preferences can help you **understand their priorities** and how they may differ from your own, and help you build more **effective relationships**

MBTI and DiSC Key Principles, Part 2

- ALL styles have strong points, and all have potential weaknesses, especially when “used” to the extreme
- Our ultimate goal is to
 - **Understand** all preferences,
 - **Accept** that they may be different from ours, and
 - **APPRECIATE** all styles and preferences and what they bring to the table
 - **ADAPT our own behavior** when it best meets the needs of the relationship or situation

DiSC Dimensions

- **D**ominance - *How we approach problems and deal with challenges*
- **i**nfluence - *How we interact with and attempt to influence people*
- **S**teadiness - *How we respond to the pace of the environment*
- **C**onscientiousness - *How we respond to rules and procedures set by others*
- **We all use all four**, and have a preference for one or two

How can I tell other people's behavior style preferences? Some “People Reading” Principles:

- Not for labelling – for **understanding**
- No good or bad styles
- All have strengths and limitations
- Everyone is a mixture of styles

People Reading

Observe actual behavior

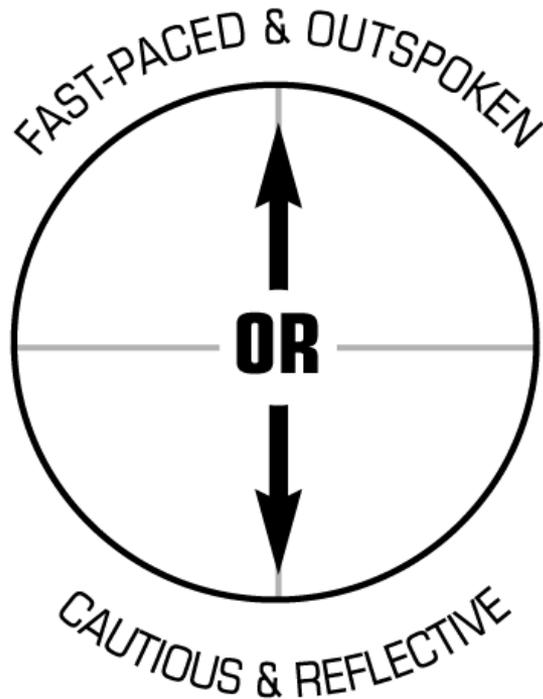
- Body language
- Tone of voice and expression
- Choice of words
- Pace
- Focus

People Reading

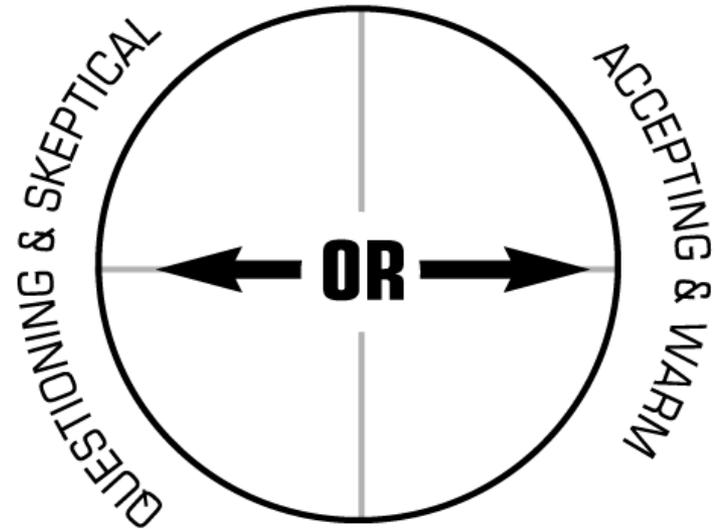
- Think of someone who you have a hard time connecting with, or have some conflict with
- With that person in mind, let's try to determine their preferred style

People Reading Method

1.



2.



People Reading Method

3.



Individually:

- Your preference is _____
- The person you are thinking about seems to have a preference of _____
- How are your preferred styles different?
- In what circumstances do you/might you feel tension with someone with a different DiSC profile?
- How might you adapt your style when collaborating, to best meet the needs of the situation and/or the relationship?

Wrap Up

- Reminder of Key Principles

MBTI and DiSC Key Principles, Part 1

- All personality and behavior styles are **equally valuable**, and people with all styles can be effective managers
- Your management style is also influenced by **other factors**, such as life experiences, education, and maturity
- **Understanding yourself** better is the first step to becoming more effective with your employees and your manager
- Learning about other people's personality and behavior style preferences can help you **understand their priorities** and how they may differ from your own, and help you build more **effective relationships**

MBTI and DiSC Key Principles, Part 2

- ALL styles have strong points, and all have potential weaknesses, especially when “used” to the extreme
- Our ultimate goal is to
 - **Understand** all preferences,
 - **Accept** that they may be different from ours, and
 - **APPRECIATE** all styles and preferences and what they bring to the table
 - **ADAPT our own behavior** when it best meets the needs of the relationship or situation

Wrap Up

What is one **highlight** you are taking away from today's session?



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Leadership Skills Focus: Building Constructive Working Relationships

Thank you!!

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Characteristics Frequently Associated with Each Type

Sensing Types

Intuitive Types

Introverts

ISTJ

Quiet, serious, earn success by thoroughness and dependability. Practical, matter-of-fact, realistic, and responsible. Decide logically what should be done and work toward it steadily, regardless of distractions. Take pleasure in making everything orderly and organized—their work, their home, their life. Value traditions and loyalty.

ISFJ

Quiet, friendly, responsible, and conscientious. Committed and steady in meeting their obligations. Thorough, painstaking, and accurate. Loyal, considerate, notice and remember specifics about people who are important to them, concerned with how others feel. Strive to create an orderly and harmonious environment at work and at home.

INFJ

Seek meaning and connection in ideas, relationships, and material possessions. Want to understand what motivates people and are insightful about others. Conscientious and committed to their firm values. Develop a clear vision about how best to serve the common good. Organized and decisive in implementing their vision.

INTJ

Have original minds and great drive for implementing their ideas and achieving their goals. Quickly see patterns in external events and develop long-range explanatory perspectives. When committed, organize a job and carry it through. Skeptical and independent, have high standards of competence and performance—for themselves and others.

ISTP

Tolerant and flexible, quiet observers until a problem appears, then act quickly to find workable solutions. Analyze what makes things work and readily get through large amounts of data to isolate the core of practical problems. Interested in cause and effect, organize facts using logical principles, value efficiency.

ISFP

Quiet, friendly, sensitive, and kind. Enjoy the present moment, what's going on around them. Like to have their own space and to work within their own time frame. Loyal and committed to their values and to people who are important to them. Dislike disagreements and conflicts, do not force their opinions or values on others.

INFP

Idealistic, loyal to their values and to people who are important to them. Want an external life that is congruent with their values. Curious, quick to see possibilities, can be catalysts for implementing ideas. Seek to understand people and to help them fulfill their potential. Adaptable, flexible, and accepting unless a value is threatened.

INTP

Seek to develop logical explanations for everything that interests them. Theoretical and abstract, interested more in ideas than in social interaction. Quiet, contained, flexible, and adaptable. Have unusual ability to focus in depth to solve problems in their area of interest. Skeptical, sometimes critical, always analytical.

ESTP

Flexible and tolerant, they take a pragmatic approach focused on immediate results. Theories and conceptual explanations bore them—they want to act energetically to solve the problem. Focus on the here-and-now, spontaneous, enjoy each moment that they can be active with others. Enjoy material comforts and style. Learn best through doing.

ESFP

Outgoing, friendly, and accepting. Exuberant lovers of life, people, and material comforts. Enjoy working with others to make things happen. Bring common sense and a realistic approach to their work, and make work fun. Flexible and spontaneous, adapt readily to new people and environments. Learn best by trying a new skill with other people.

ENFP

Warmly enthusiastic and imaginative. See life as full of possibilities. Make connections between events and information very quickly, and confidently proceed based on the patterns they see. Want a lot of affirmation from others, and readily give appreciation and support. Spontaneous and flexible, often rely on their ability to improvise and their verbal fluency.

ENTP

Quick, ingenious, stimulating, alert, and outspoken. Resourceful in solving new and challenging problems. Adept at generating conceptual possibilities and then analyzing them strategically. Good at reading other people. Bored by routine, will seldom do the same thing the same way, apt to turn to one new interest after another.

Extraverts

ESTJ

Practical, realistic, matter-of-fact. Decisive, quickly move to implement decisions. Organize projects and people to get things done, focus on getting results in the most efficient way possible. Take care of routine details. Have a clear set of logical standards, systematically follow them and want others to also. Forceful in implementing their plans.

ESFJ

Warmhearted, conscientious, and cooperative. Want harmony in their environment, work with determination to establish it. Like to work with others to complete tasks accurately and on time. Loyal, follow through even in small matters. Notice what others need in their day-by-day lives and try to provide it. Want to be appreciated for who they are and for what they contribute.

ENFJ

Warm, empathetic, responsive, and responsible. Highly attuned to the emotions, needs, and motivations of others. Find potential in everyone, want to help others fulfill their potential. May act as catalysts for individual and group growth. Loyal, responsive to praise and criticism. Sociable, facilitate others in a group, and provide inspiring leadership.

ENTJ

Frank, decisive, assume leadership readily. Quickly see illogical and inefficient procedures and policies, develop and implement comprehensive systems to solve organizational problems. Enjoy long-term planning and goal setting. Usually well informed, well read, enjoy expanding their knowledge and passing it on to others. Forceful in presenting their ideas.

The Convoluted World of “Big”/Messy Data

Bala Hota MD MPH

10/18/2016

Learning Objectives

- Develop knowledge about the concept of a learning healthcare system, and how large, often messy, data sets are a necessary part of this approach
- Re-evaluate benchmarking data, including the US News and World Report Hospital Ranking, based on limitations in the measures
- Employ critical assessment in the way data are combined and used in various venues

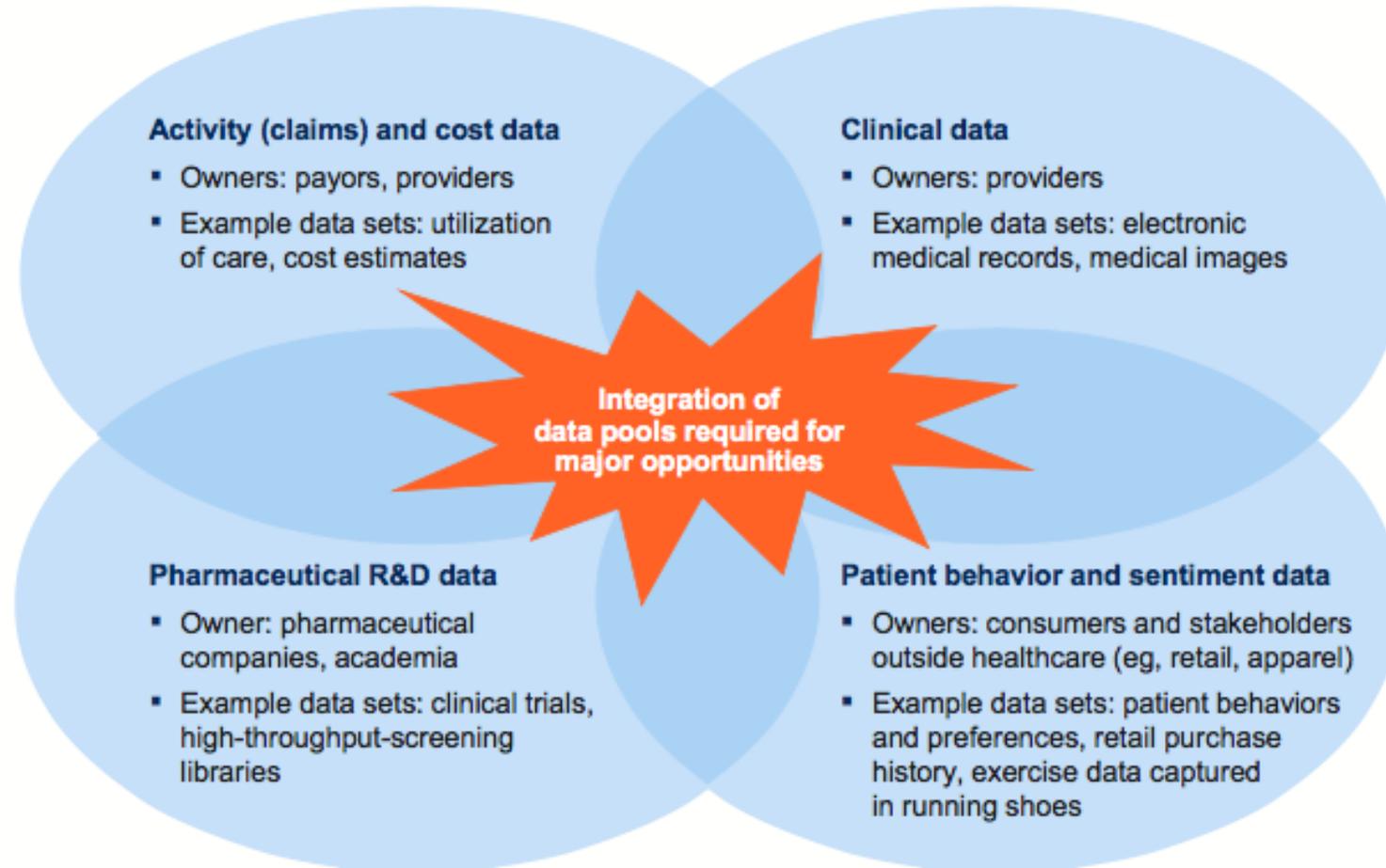
Big data

- What is “Big data”?
 - Data sets characterized by large volume, complexity, diversity, and generation/timeliness
- Healthcare – digitization/use of electronic records/consumer collection
- The amount of health care data worldwide is estimated to be 25,000 petabytes by 2020
 - 2 petabytes is the size of all the information in all of the academic research libraries in the US today

Rush Data Warehouse

- Over 100 million rows of data for individual healthcare transactions across the Rush Enterprise
- For research: removed identifying information, which permits use of the data to learn about ways to improve healthcare
- For 2012 – 2013,
 - 2.6 million service encounters,
 - 6.9 million medication orders,
 - 8.7 million medication doses given,
 - 28 million laboratory assessments,
 - 9.3 million diagnoses,
 - And constantly growing

Exhibit 2: Primary data pools are at the heart of the big-data revolution in healthcare.



Source: McKinsey Global Institute analysis

“The ‘big data’ revolution in healthcare; Accelerating value and innovation”, McKinsey and Co, 2013

BIG DATA AND QUALITY MEASUREMENT



News

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Medicare's New Hospital Ratings Draw Immediate Ire

Medicare released new hospital ratings Wednesday, but the hospital industry and Congress criticized them.

By [Steve Sternberg](#) | Senior Writer July 27, 2016, at 4:52 p.m.

CMS star rating

- Overall composite score for hospitals based on Hospital Compare Data
- 64 potential quality measures in 7 domains
- Not all measures reported by all hospitals
- In general:
 - Reporting fewer measures was better: fewer than 10% of hospitals reporting fewer than 38 measures included received either 1 or 2 stars
 - AAMCs disproportionately received 1 or 2 stars (62%) (worst)
 - Rush: 4 stars; best AAMC in Chicago area, top 15.8% of teaching hospitals nationally

How measure categories are weighted

For each hospital, a hospital summary score is calculated by taking the weighted average of the hospital's scores for each measure group or category. The table below shows the weight applied to each measure category. The hospital summary score is then used to calculate the overall rating.

Measure Category	Weight Used in Calculation
Mortality	22%
Safety	22%
Readmission	22%
Patient Experience	22%
Effectiveness of Care	4%
Timeliness of Care	4%
Efficient Use of Medical Imaging	4%

Star Rating CMS measure components

- Mortality (MI, CABG, COPD, CHF, PNA, CVA)
- Safety of Care (Central Line Associated Bloodstream Infections[CLABSIs], CAUTI, SSI, MRSA BSIs, C diff, surgical complications and Patient Safety Indicators[PSIs])
- Readmission (unplanned readmissions)
- Patient Experience (Patient Sat Surveys)
- Effectiveness of Care (Vaccination, Screening, Protocol Driven Care)
- Timeliness of Care (ED throughput, time to care for MI)
- Efficient Use of Imaging (Outpatient MRI, CT, and Stress Test Use)

*Calculated from Medicare Billing Data or submitted via direct reporting methods

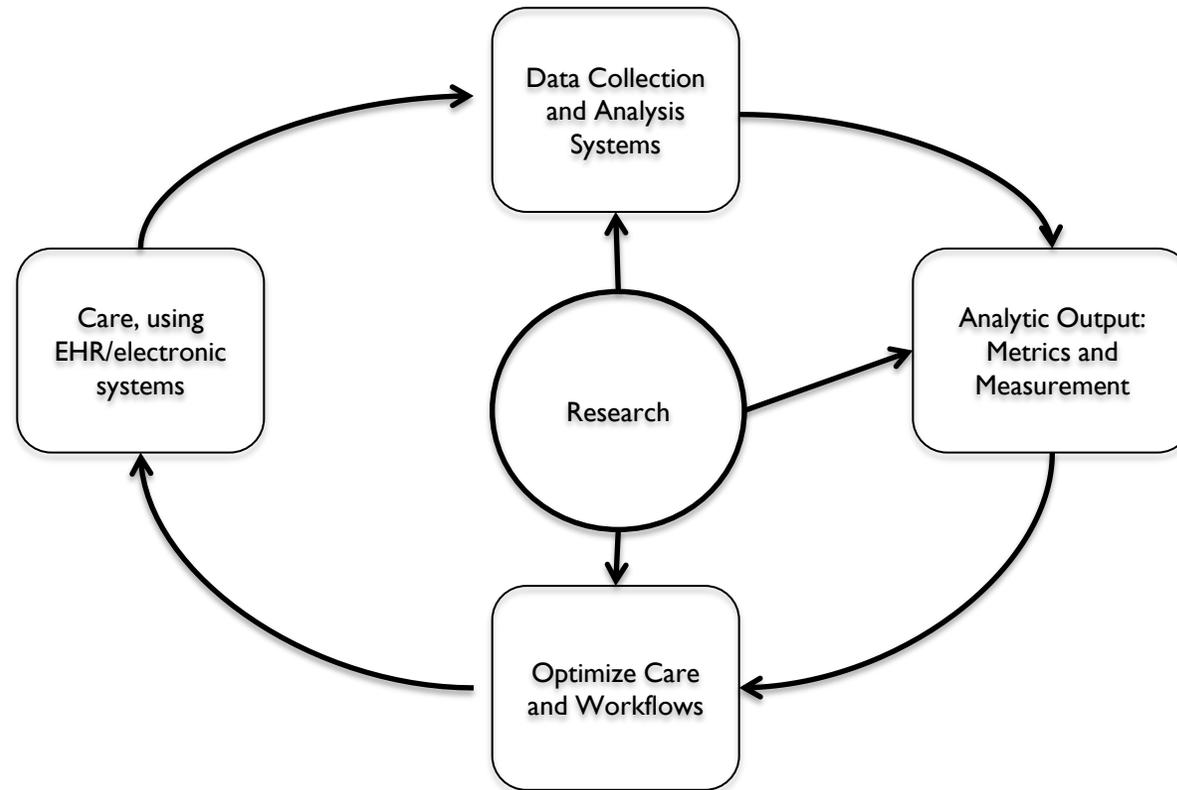
Why measure quality? Lots of reasons

- “That which is measured improves. That which is measured and reported improves exponentially.” – Pearson’s Law, Peter Drucker
- Hawthorne Effect
- Section 501(b) of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003
- Learning Healthcare System

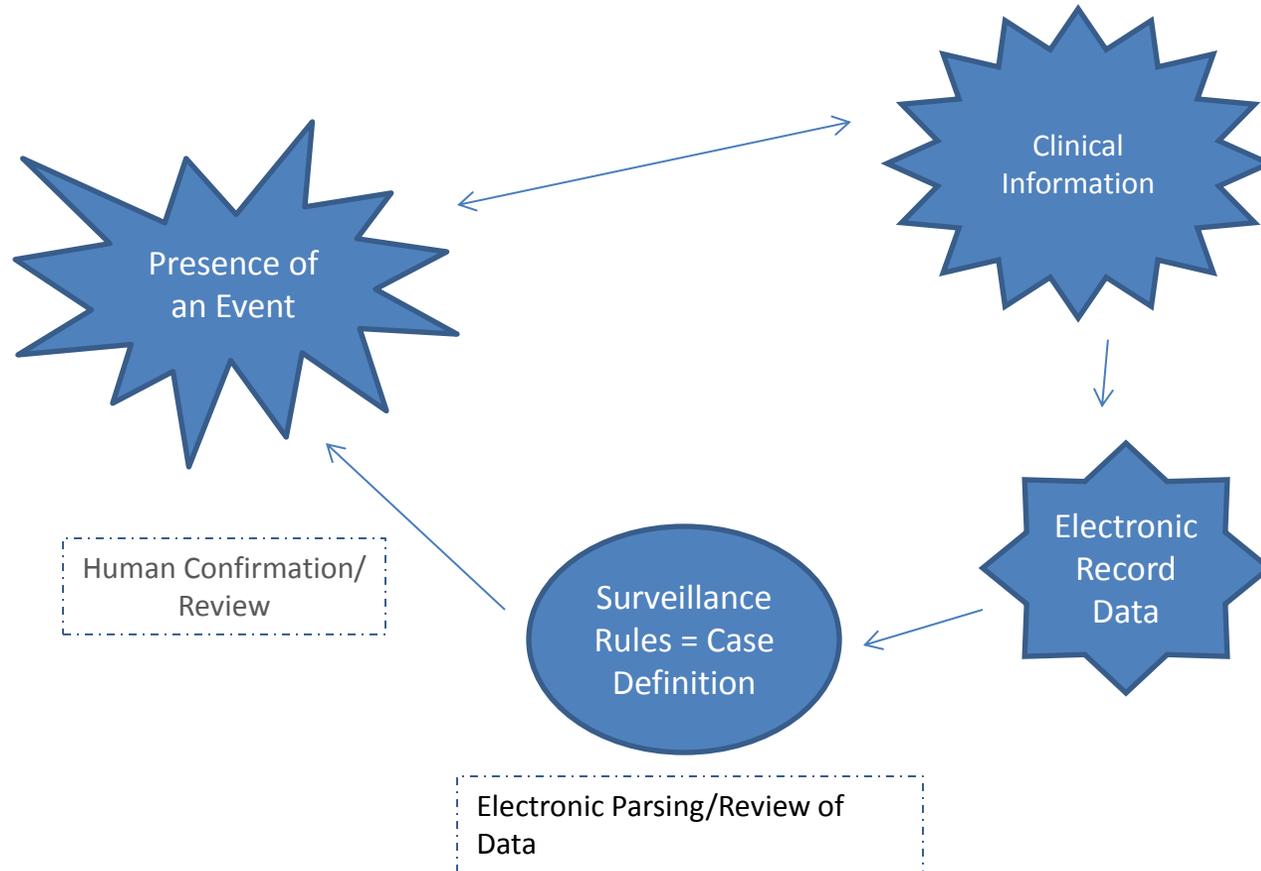
Learning Healthcare System

- “One in which knowledge generation is so embedded into the core of the practice of medicine that it is a natural outgrowth and product of the healthcare delivery process and leads to continual improvement in care”

Learning Healthcare System



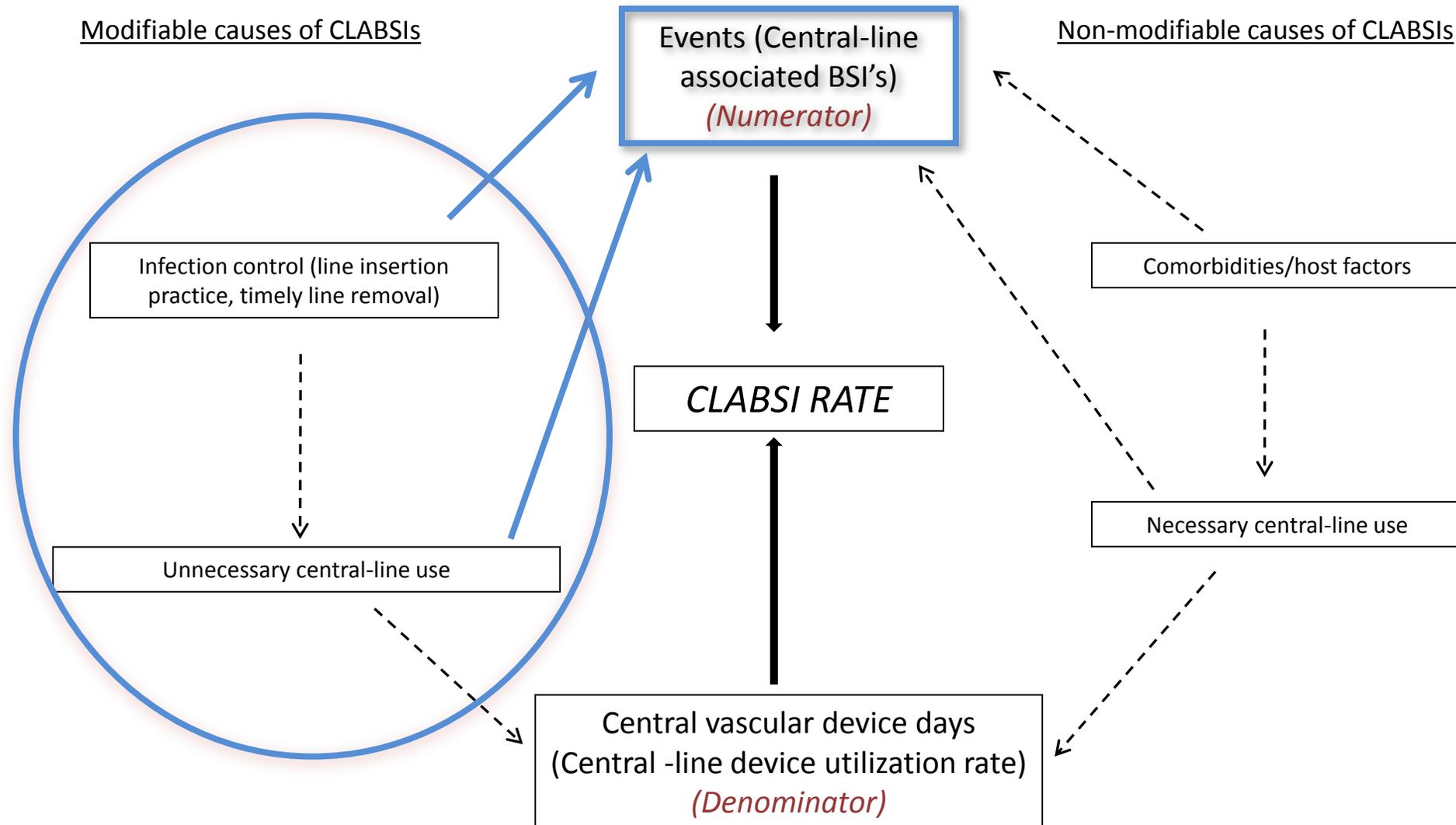
“Automated” measurement



Elements of measurement

- Denominator
- Numerator
- Avoid threats to validity

The central-line associated bloodstream infection (CLABSI) rate



Threats to Validity of Measures for Benchmarking

- Between System Bias in Denominator Specification
 - Are denominator criteria objective and comparable between facilities
- Between System Bias in Numerator Specification
 - Are numerator criteria objective and comparable between facilities
- Small Sample Sizes
 - Wide confidence intervals, point estimate of rate inaccurate
- Case Mix
 - Varying patient populations affect predicted rate

Flaws in measurement

- **Mortality (MI, CABG, COPD, CHF, PNA, CVA)**
- Safety of Care (**Central Line Associated Bloodstream Infections[CLABSIs]**, CAUTI, SSI, MRSA BSIs, C diff, surgical complications and **Patient Safety Indicators[PSIs]**)
- Readmission (unplanned readmissions)
- Patient Experience (Patient Sat Surveys)
- Effectiveness of Care (Vaccination, Screening, Protocol Driven Care)
- Timeliness of Care (ED throughput, time to care for MI)
- Efficient Use of Imaging (Outpatient MRI, CT, and Stress Test Use)

*Calculated from Medicare Billing Data or submitted via direct reporting methods

Objective measurement using electronic criteria

Quality of Traditional Surveillance for Public Reporting of Nosocomial Bloodstream Infection Rates

Michael Y. Lin, MD, MPH

Bala Hota, MD, MPH

Yosef M. Khan, MBBS, MPH

Keith F. Woeltje, MD, PhD

Tara B. Borlawsky, MA

Joshua A. Doherty, BS

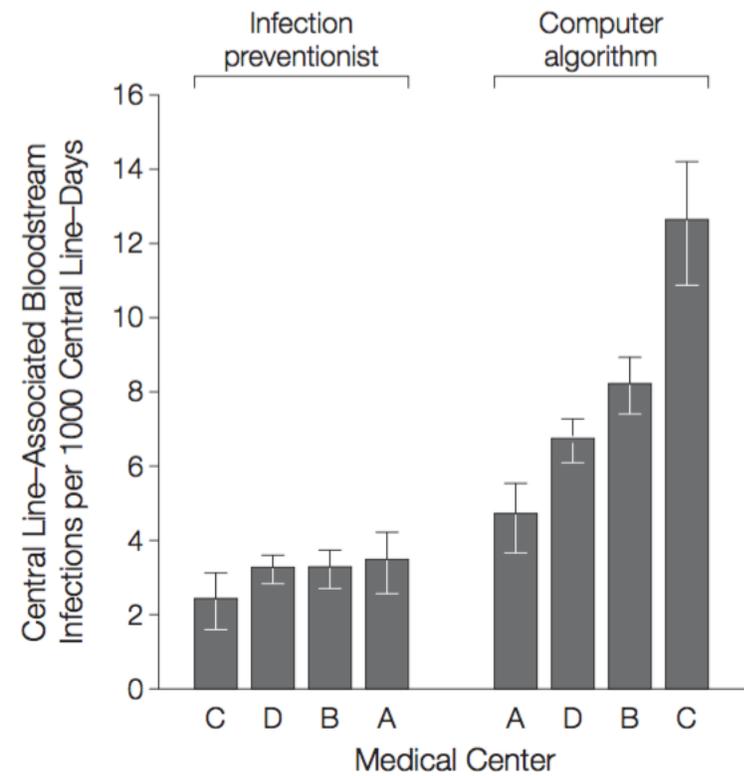
Kurt B. Stevenson, MD, MPH

Context Central line–associated bloodstream infection (BSI) rates, determined by infection preventionists using the Centers for Disease Control and Prevention (CDC) surveillance definitions, are increasingly published to compare the quality of patient care delivered by hospitals. However, such comparisons are valid only if surveillance is performed consistently across institutions.

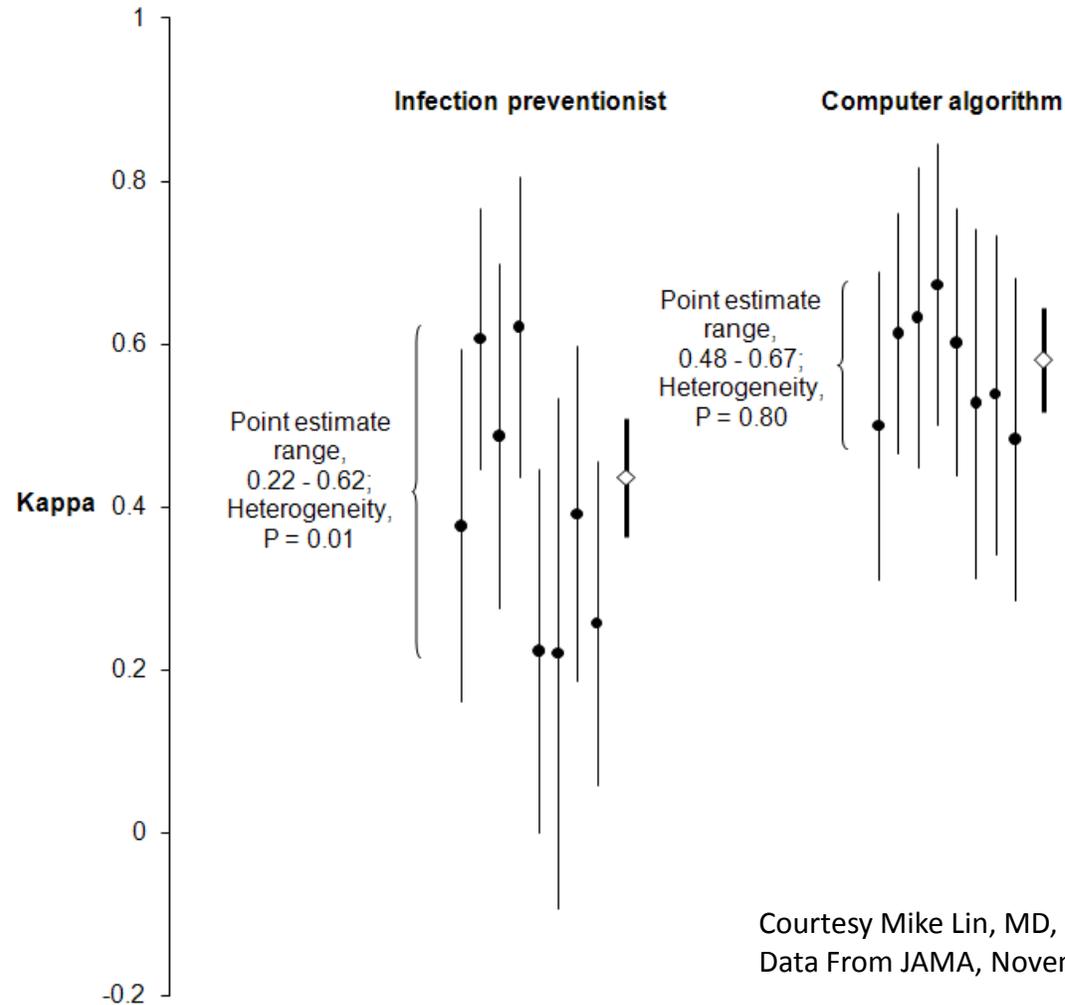
Objective To assess institutional variation in performance of traditional central line–associated BSI surveillance.

Design, Setting, and Participants We performed a retrospective cohort study of

Figure 4. Relative Ranking of 4 Medical Centers



Distribution of Kappas across ICUs: Study IP Review Compared to Original IP Review and Computer Algorithm



Courtesy Mike Lin, MD, MPH,
Data From JAMA, November 10, 2010—Vol 304, No. 18 2035

ORIGINAL ARTICLE

Probabilistic Measurement of Central Line–Associated Bloodstream Infections

Bala Hota, MD, MPH;¹ Paul Malpiedi, BS, MPH;² Scott K. Fridkin, MD;² John Martin, BS, MPH;³ William Trick, MD;⁴
for the CDC Prevention Epicenters Program

OBJECTIVE. To develop a probabilistic method for measuring central line–associated bloodstream infection (CLABSI) rates that reduces the variability associated with traditional, manual methods of applying CLABSI surveillance definitions.

DESIGN. Multicenter retrospective cohort study of bacteremia episodes among patients hospitalized in adult patient-care units; the study evaluated presence of CLABSI.

SETTING. Hospitals that used SafetySurveillor software system (Premier) and who also reported to the Centers for Disease Control and Prevention’s National Healthcare Safety Network (NHSN).

PATIENTS. Patients were identified from a stratified sample from all eligible blood culture isolates from all eligible hospital units to generate a final set with an equal distribution (ie, 20%) from each unit type. Units were divided a priori into 5 major groups: medical intensive care unit, surgical intensive care unit, medical-surgical intensive care unit, hematology unit, or general medical wards.

INTERVENTIONS. Episodes were reviewed by 2 experts, and a selection of discordant reviews were re-reviewed. Data were joined with NHSN data for hospitals for in-plan months. A predictive model was created; model performance was assessed using the c statistic in a validation set and comparison with NHSN reported rates for in-plan months.

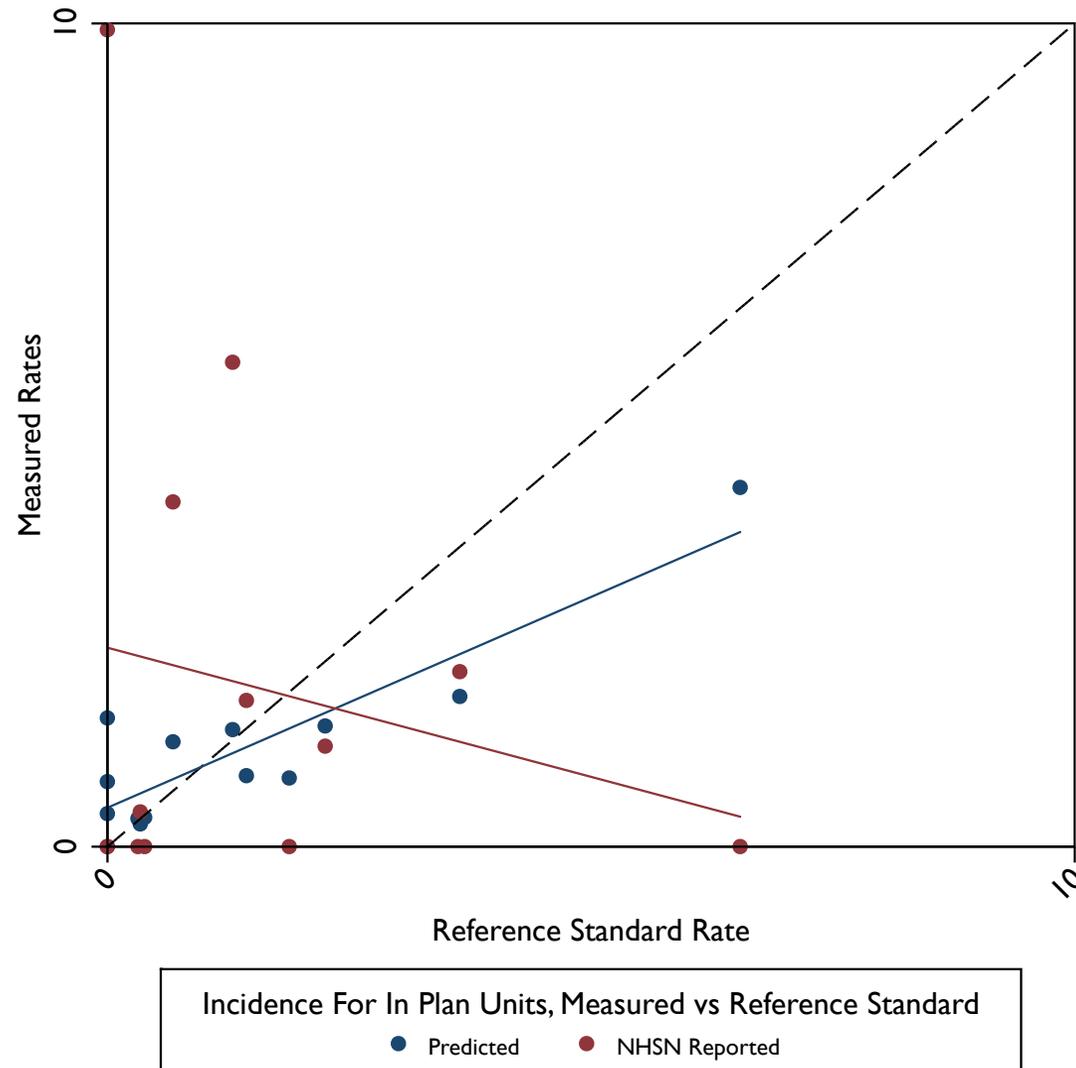
RESULTS. A final model was created with predictors of CLABSI. The c statistic for the final model was 0.75 (0.68–0.80). Rates from regression modeling correlated better with expert review than NHSN-reported rates.

CONCLUSIONS. The use of a regression model based on the clinical characteristics of the bacteremia outperformed traditional infection preventionist surveillance compared with an expert-derived reference standard.

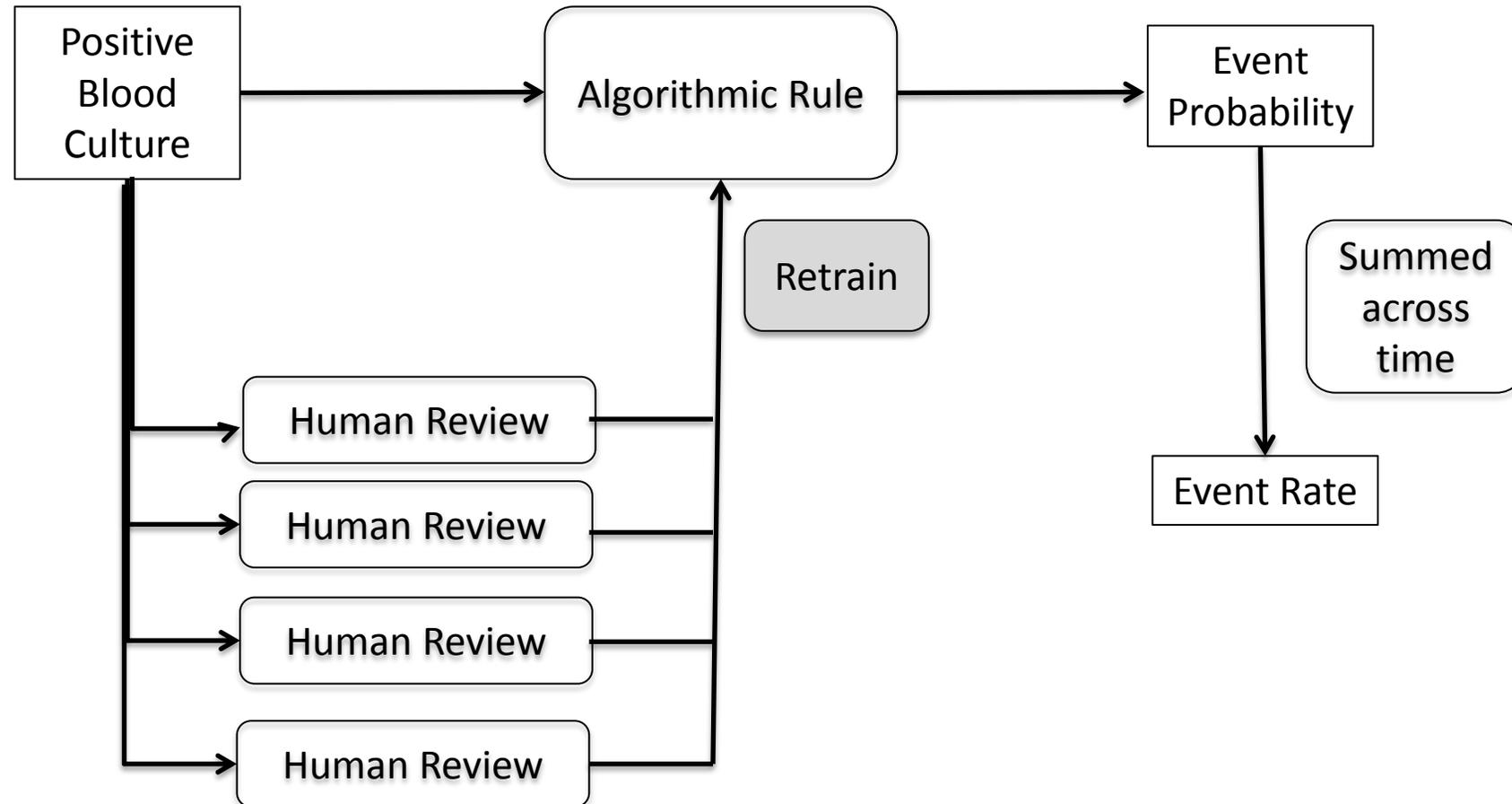
Multivariate Predictors of CLABSI

<i>Factor</i>	<i>Estimate</i>	<i>OR</i>	<i>p value</i>
Constant	-2.35 (-2.84--1.95)	0.1 (0.06-0.14)	0.0000
Streptococcus	-1.9 (-2.97--1.2)	0.15 (0.05-0.3)	0.0031
Anaerobes	-1.81 (-3.4--0.98)	0.16 (0.03-0.37)	0.0070
Culture from other site -3 and +7 days of blood culture	-1.25 (-1.99--0.75)	0.29 (0.14-0.47)	0.0055
Number of additional blood cultures in episode beyond first	0.46 (-0.02-0.72)	1.59 (0.98-2.06)	0.0536
Enterococcus	-0.68 (-1.15--0.21)	0.51 (0.32-0.81)	0.0577
Length of Stay > 7 days	0.66 (0.28-1.05)	1.94 (1.32-2.85)	0.0421
Gram Negative Aerobe	-0.45 (-0.92--0.04)	0.64 (0.4-0.96)	0.1819
General Medical Ward Location	0.5 (0.12-0.89)	1.65 (1.13-2.43)	0.1108
Hematology Ward Location	0.71 (0.34-1.09)	2.04 (1.4-2.98)	0.0203
Staphylococcus aureus SICU Location	0.57 (-0.04-1.11)	1.77 (0.96-3.04)	0.1939
Staphylococcus aureus in SICU Interaction	-1.27 (-21.83--0.28)	0.28 (0-0.75)	0.1659
c statistic	0.75(0.68-0.8)		
Hosmer Lemeshow	0.7422		

Calibration of Incidence, Predicted vs NHSN reported



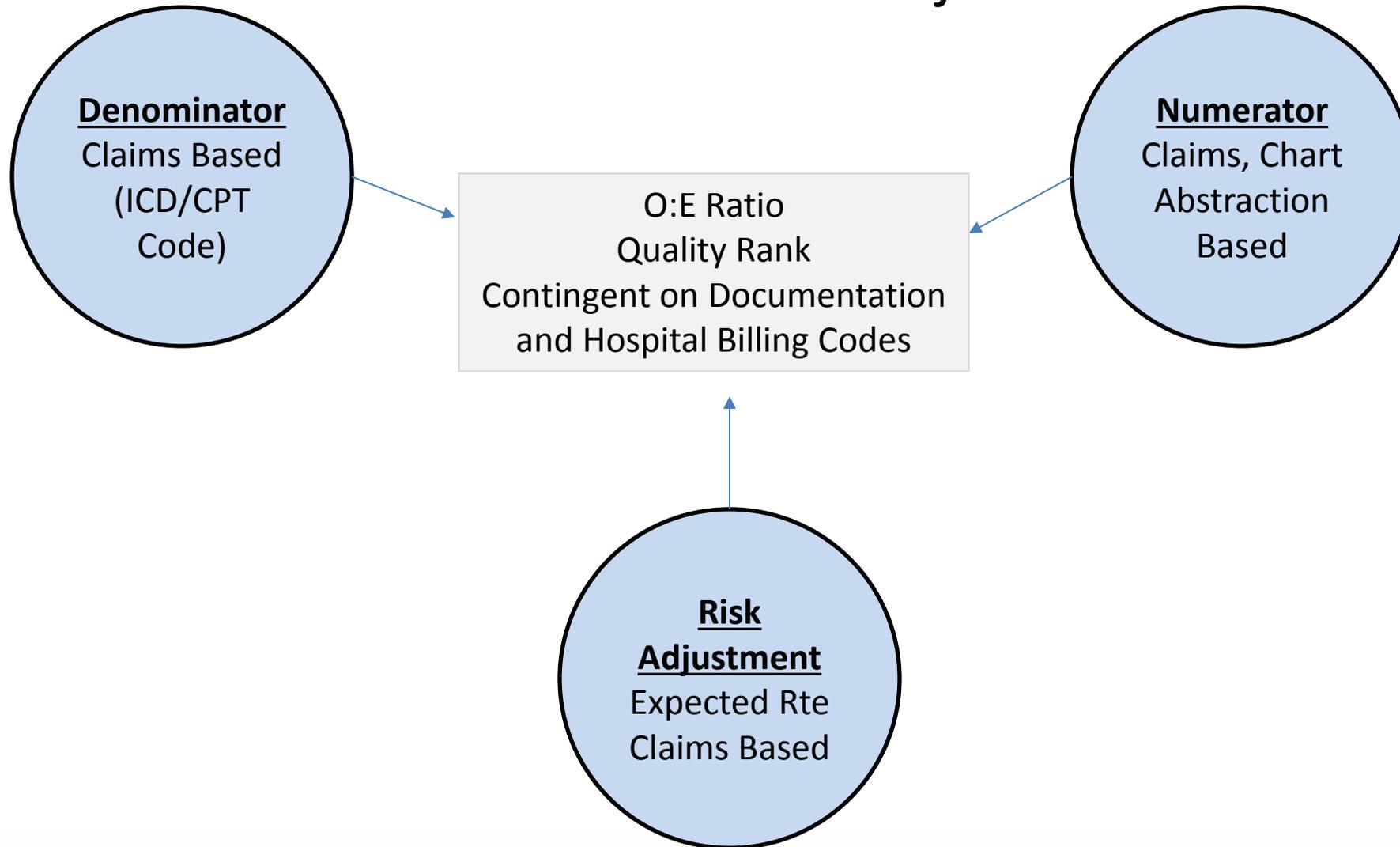
Learning Algorithm



Case Mix Adjustment

- Adjustment of measures based on illness burden in measured population
- Covariate used to standardize measurement
 - Charlson score, SAPS score etc.
- Observed : Expected (“O:E”) ratio
 - Calculate an expected value based on comorbidities or patient factors, compare numerically to measured rate

CMS Mortality, Safety, and Readmission rates based on measured values and case mix adjustment



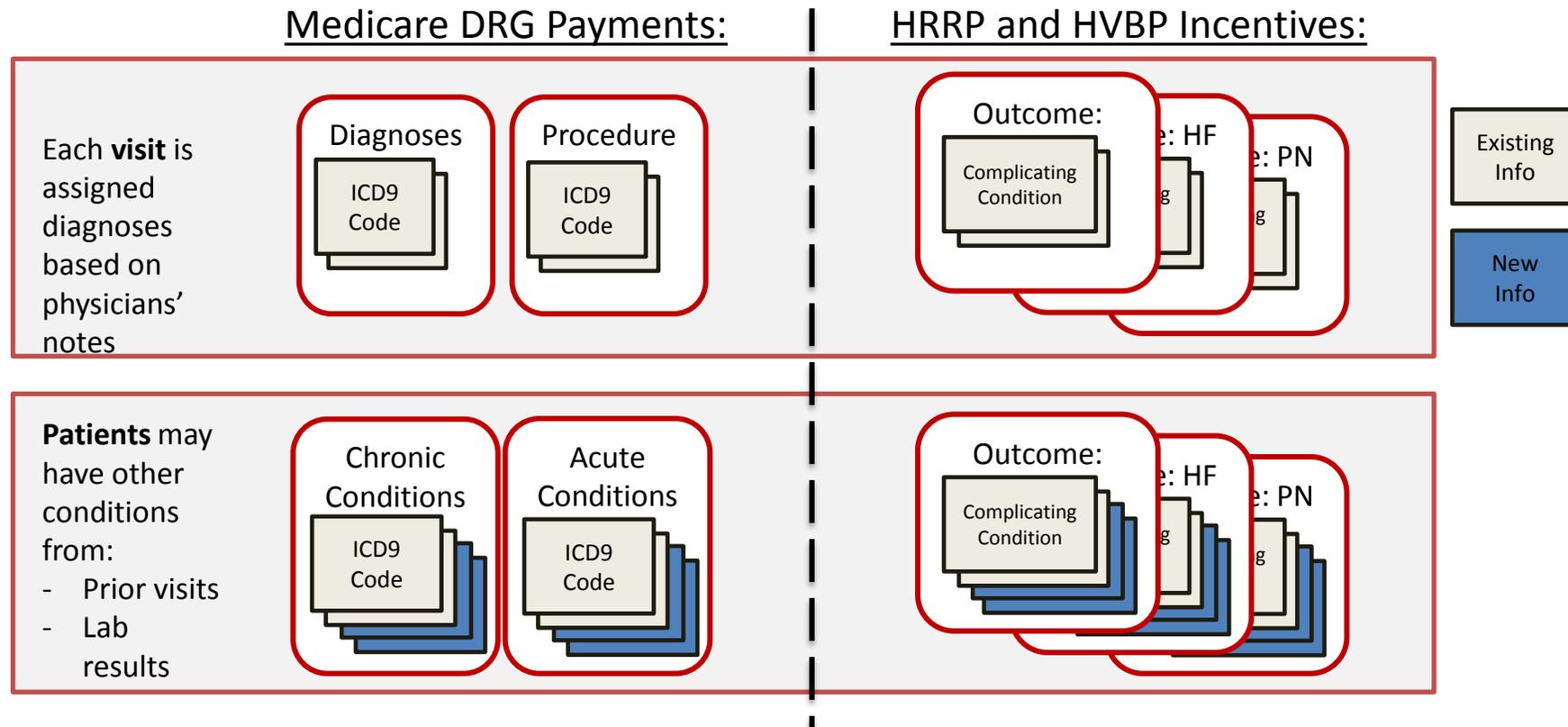
The Rush UHC Case Mix

Surgical CC/MCC Capture										
Discharge Quarter	Total Cases	CC/MCC	% Capture	<u>UHC Baseline</u>						
2013-1	2,558	1,226	47.9%	Total	54.6%					
2013-2	2,735	1,290	47.2%	Mean	55.0%					
2013-3	2,720	1,300	47.8%	Minimum	40.9%					
2013-4	2,826	1,338	47.3%	25th Percentile	50.8%					
2014-1	2,663	1,274	47.8%	50th Percentile	55.2%					
2014-2	2,799	1,354	48.4%	75th Percentile	59.3%					
2014-3	2,969	1,287	43.3%	Maximum	70.0%					
2014-4	3,157	1,333	42.2%							Higher Better
2015-1	2,989	1,303	43.6%							

CMS MSDRG's Complications and Co-morbidities (CC's) and Major Complications and Comorbidities (MCC's) are diagnoses that CMS has determined will increase LOS and/ or cost when they are present and therefore also increase MSDRG reimbursement. Many of these CC/MCC are also variables in the UHC risk models. This metric is a combined CC and MCC capture rate for surgical MSDRG's for all payers. Medicare, UHC service-line and more specific CC and MCC capture can be found in the report express CC/MCC reports.

Cormorbidities in Surgical Patients: We code below the 25% of UHC hospitals

Algorithmic detection of Comorbidities



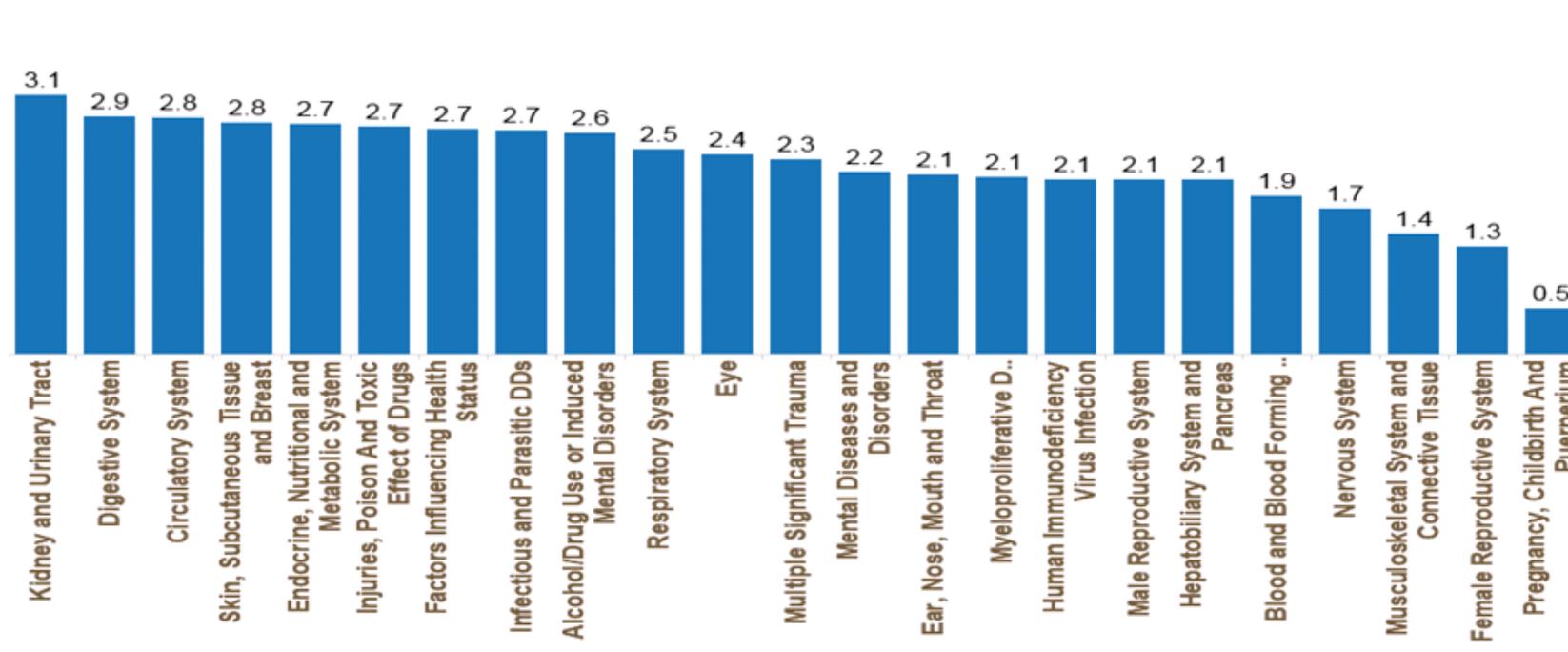
18 chronic and 3 acute conditions

- These additional codes will ultimately determine whether or not a given episode of care is reclassified to a different DRG code
 - Any reclassification will likely result in a greater reimbursement

Chronic Conditions	
Cancer	Ischemic heart disease
Major depression	Osteoporosis
Epilepsy	COPD
Hypercholesterolemia	Osteoarthritis
Obesity	Dementia
Malnutrition	Cerebrovascular disease
Hypertension	Asthma
Chronic kidney disease	Bipolar disorder
Congestive heart failure	Diabetes melitus

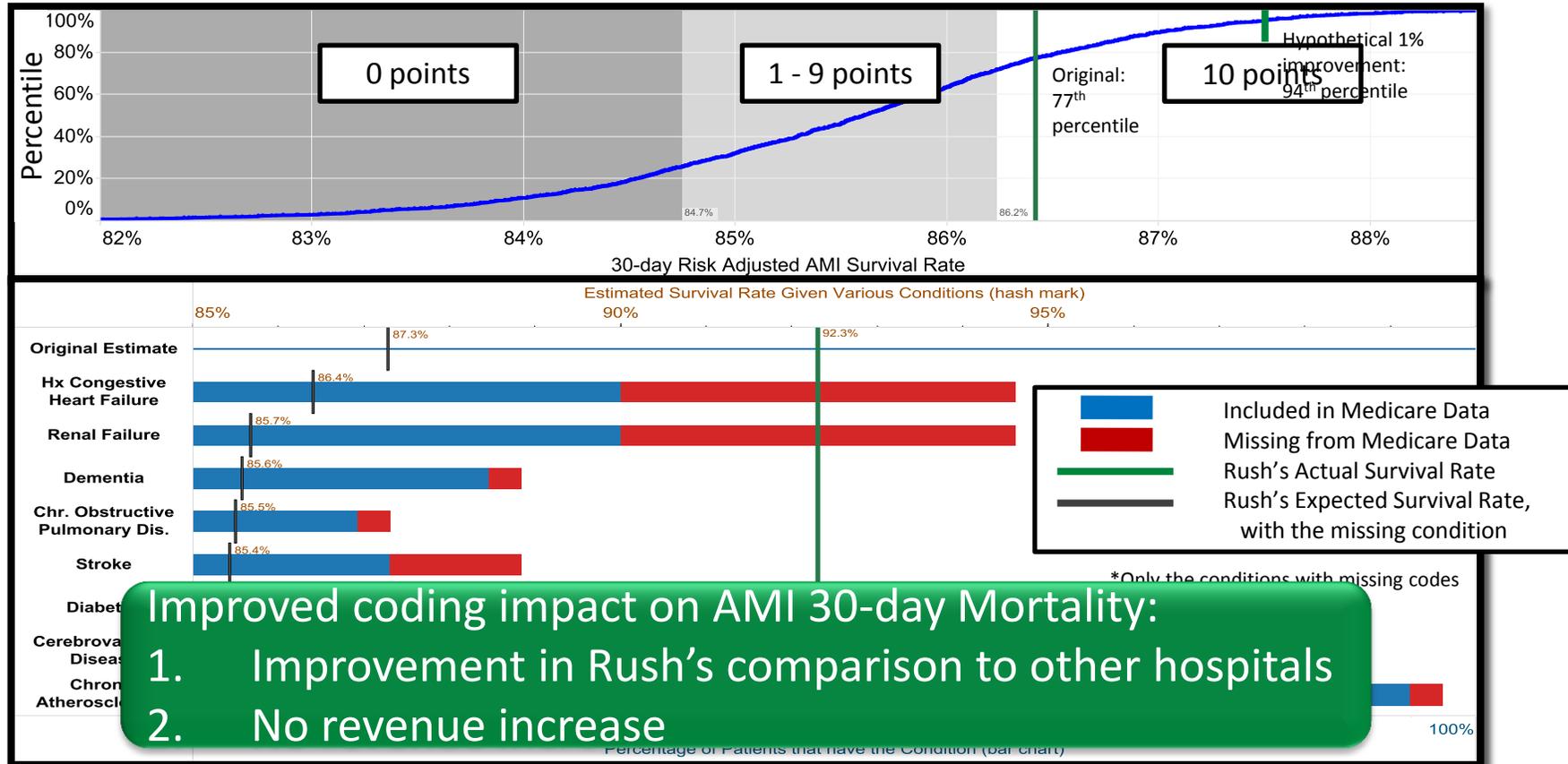
Acute Conditions
Hyponatremia
Hypernatremia
Acute renal failure

On average, 2 to 3 ICD9 codes were added to each episode of care

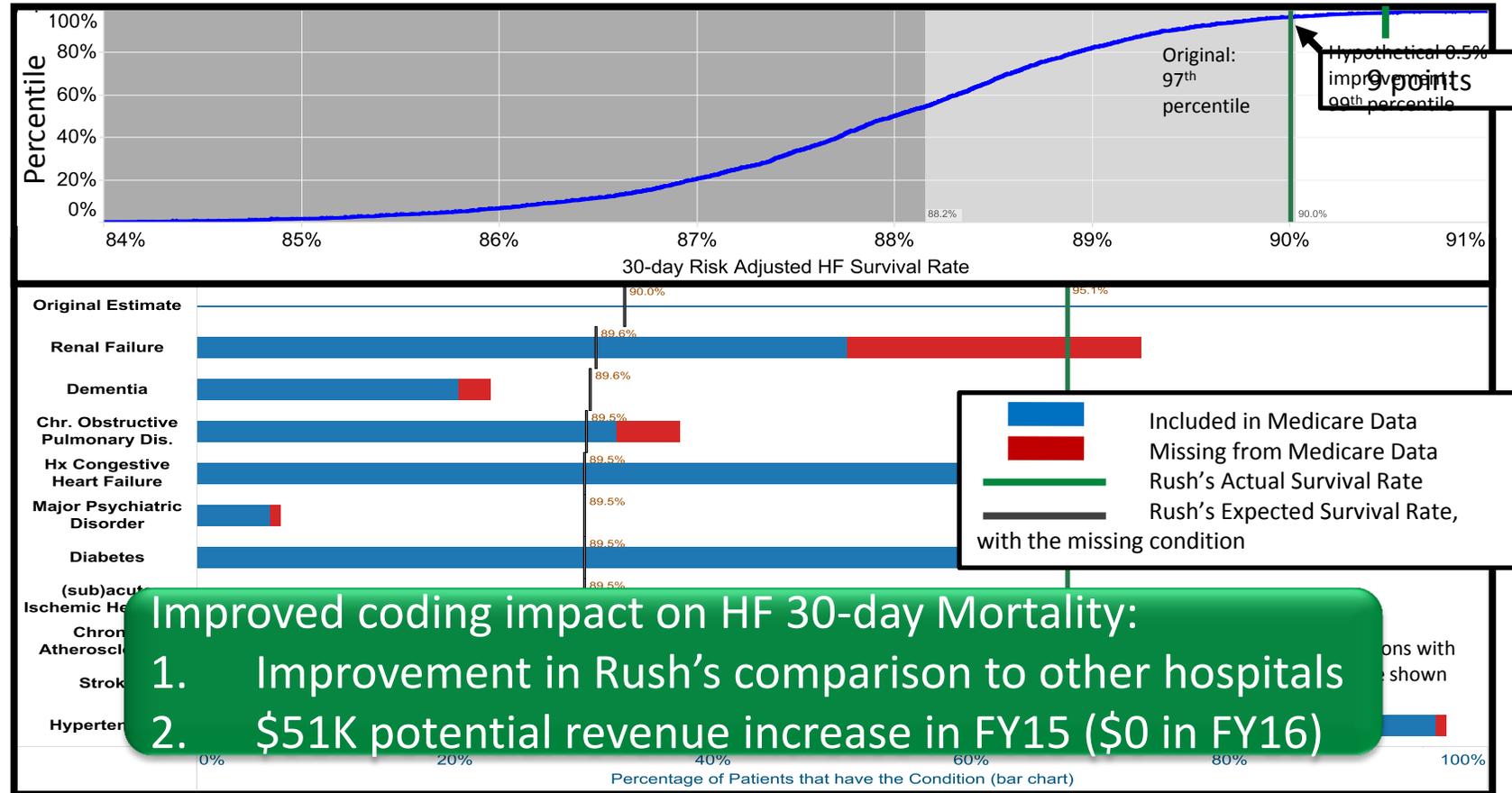


Major Diagnostic Category

Impact of Conditions on AMI 30-day Mortality



Impact of Conditions on HF 30-day Mortality



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For Children

By Specialty

- [Cancer](#)
- [Cardiology & Heart Surgery](#)
- [Diabetes & Endocrinology](#)
- [Ear, Nose & Throat](#)
- [Neurology & Neurosurgery](#)
- [Ophthalmology](#)
- [Orthopedics](#)
- [Psychiatry](#)

Honor Roll

Hospitals with very high scores in at least six specialties earned a spot on the Honor Roll. Just 15 hospitals made this year's list.

2015-2016

Orthopedics Scorecard

Rank

#6 in the nation

Overall Score

68.7 / 100

What goes into this score:

Reputation with specialists

% of doctors in this specialty responding to surveys in 2013, 2014 and 2015 who named hospital as among best for very challenging patients.

Significant

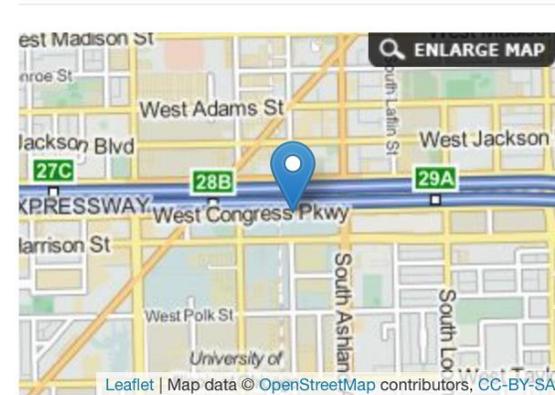


Score: 12.4%

Significant: 3.0%-14.9%

Survival

Much better than



1653 West Congress Parkway
Chicago, IL 60612-3833

[Full contact info](#)

Patient safety

Prevention of seven types of accidents and medical errors across hospital.

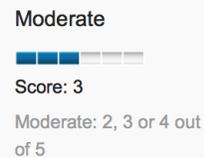


Show fewer

Success in preventing pressure ulcers (skin breakdown due to lengthy bed rest, weight, dressings and other factors).



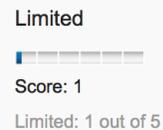
Success in preventing deaths from treatable complications after surgery.



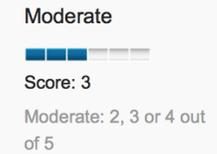
Success in preventing collapsed lung during biopsy, catheter insertion and other procedures.



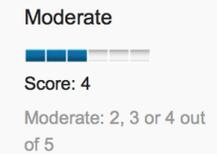
Success in preventing major bleeding and bruising after surgery.



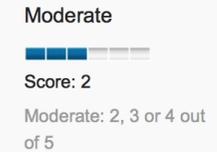
Success in preventing respiratory failure after surgery.



Success in preventing surgical incisions from reopening afterwards.



Success in preventing harm to patients during surgery.



Patient volume

Number of high-risk Medicare inpatients in 2011, 2012 and 2013 in selected set of specialty-related procedures and diagnoses.



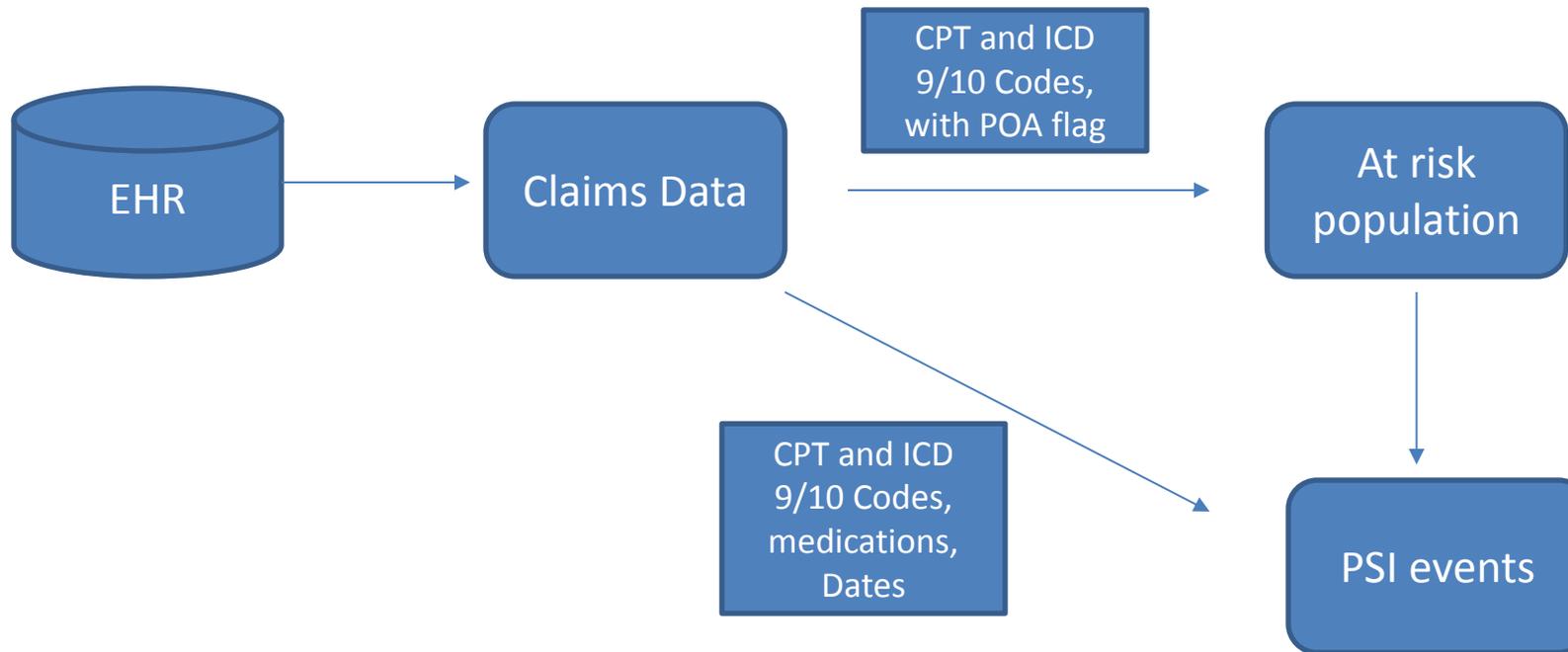
2015-2016 – vs UHC ranking of #2 in same year

Patient Safety Indicators

- “The Patient Safety Indicators (PSIs) are a set of indicators providing information on potential in hospital complications and adverse events following surgeries, procedures, and childbirth. The PSIs were developed after a comprehensive literature review, analysis of ICD-9-CM codes, review by a clinician panel, implementation of risk adjustment, and empirical analyses.”

http://www.qualityindicators.ahrq.gov/modules/psi_overview.aspx

Patient Safety Indicator Derivation



PSI dissemination

- Developed by the Agency of Healthcare Research and Quality (AHRQ) through research grants
- Released in 2003; designed to screen for potentially preventable adverse events in inpatient setting
- “indicators” not measures
- Validation studies in 2000’s
- NQF endorsed 10 PSIs as consensus standards in 2010
- Center for Medicare and Medicaid adopted 6 PSIs and a PSI Composite measure (PSI 90) to be publicly reported via Hospital Inpatient Quality Reporting System in 2008
- Tools include SAS code and scripts for site based PSI implementation

A good measure of quality?

TABLE 2. Positive Predictive Values and Percentage of Cases That Were Present on Admission Among All Flagged Cases and False Positives by Selected Patient Safety Indicators in the VA

PSI No.	PSI Name	Sample (n)	PPV (%) (95% CI)	POA (%) in All Flagged Cases	POA (%) in False Positives	Sample w/o POA (n)	PPV w/o POA (%) (95% CI)
3	Decubitus Ulcer	112	30 (22–40)	59	83	46	74 (59–86)
5	Foreign Body Left in During Procedure	93	46 (36–55)	30	56	65	66 (53–77)
6	Iatrogenic Pneumothorax	112	73 (64–81)	8	33	103	80 (71–87)
7	Central Venous Catheter-related Bloodstream Infections	112	38 (29–47)	19	30	91	46 (36–57)
8	Postoperative Hip Fracture	46	28 (15–43)	52	73	21	62 (38–82)
9	Postoperative Hemorrhage or Hematoma	112	75 (66–83)	8	32	103	82 (73–89)
10	Postoperative Physiologic and Metabolic Derangements	119	63 (54–72)	18	47	98	77 (67–85)
11	Postoperative Respiratory Failure	112	67 (57–76)	0	0	112	67 (57–76)
12	Postoperative Pulmonary Embolism or Deep Vein Thrombosis	112	43 (34–53)	14	25	96	50 (40–60)
13	Postoperative Sepsis	112	53 (42–64)	14	30	96	61 (51–71)
14	Postoperative Wound Dehiscence	112	87 (79–92)	0	0	112	87 (79–92)
15	Accidental Puncture or Laceration	112	85 (77–91)	5	35	106	90 (82–95)

The number displayed is the number of cases in our sample that were flagged for each of these PSIs. For Postoperative Physiologic and Metabolic Derangements, we flagged 119 cases rather than 112 to ensure that we had an adequate number of diabetes patients who developed abnormalities of glucose control to review in addition to those discharges who developed acute kidney injury requiring dialysis. We were not able to flag 112 cases for Foreign Body and Postoperative Hip Fracture because they were relatively rare events. Parentheses contain 95% confidence intervals (CIs). Positive predictive value (PPV) represents the proportion of true positive cases divided by the number of flagged cases. POA indicates present on admission.

US News validation project

- Obtained External Data Set
- Determined provenance of data set
 - Limited MedPar
- Compared with source data
 - Claims to CMS
- Compared Discrepancy – determined difference
- Notification to US News
- Simulated national impact

External Data and Validation

- Contacted US News - subcontracted with an external vendor for analytics
 - That vendor subcontracted with a second vendor for the Safety Score piece
- Initially, no means to externally validate data sources
- Series of discussions – can purchase data for validation

Data source for US News

- MedPAR, via ResDAC



The screenshot shows the CMS.gov website with the following content:

- Navigation: Home | About CMS | Newsroom | FAQs | Archive | Share | Help | Print
- Search: Learn about [your healthcare options](#) [Search]
- Menu: Medicare, Medicaid/CHIP, Medicare-Medicaid Coordination, Private Insurance, Innovation Center, Regulations & Guidance, **Research, Statistics, Data & Systems**, Outreach & Education
- Breadcrumbs: Home > Research, Statistics, Data and Systems > Identifiable Data Files > Medicare Provider Analysis and Review (MEDPAR) File
- Section: **Identifiable Data Files**
 - Standard Analytical Files
 - OPPS Identifiable Data Set
 - Hospital Outpatient Prospective Payment System (OPPS) Partial Hospitalization Program (PHP)
 - Medicare Provider Analysis and Review (MEDPAR) File**
 - Denominator File
 - Name and Address File and Vital Status File
 - Renal Management Information System (REMS)
 - Medicaid Analytic Extract (MAX) Formerly SMRF
 - Long Term Care Minimum Data Set (MDS)
 - Health Outcomes Survey (HOS)
- Section: **Medicare Provider Analysis and Review (MEDPAR) File**

The Medicare Provider Analysis and Review (MEDPAR) File contains data from claims for services provided to beneficiaries admitted to Medicare certified inpatient hospitals and skilled nursing facilities (SNF). The accumulation of claims from a beneficiary's date of admission to an inpatient hospital, where the beneficiary has been discharged, or to a skilled nursing facility, where the beneficiary may still be a patient, represents one stay. A stay record may represent one claim or multiple claims. Approximately 95% of inpatient stays and 50% of SNF stays involve a single claim. Prior to 1999, Managed Care Organization (MCO) data was included when fully formatted claims were submitted; about 3% of the no pay bills were for MCO claims. Beginning in 1999, MCO bills were excluded. Beneficiary demographic characteristics, diagnosis and surgery information, and use of hospital or SNF resources are included on the MEDPAR records. In addition, the records contain detailed accommodation and departmental charge data, days of care, and entitlement data.

The MEDPAR File allows researchers to track inpatient history and patterns/outcomes of care over time. Data of death information is appended up to three years after data of discharge. It is useful for research into chronic disease prevalent in the elderly populations such as cancer, heart disease, and diabetes and for mortality studies.

Data is available for both fiscal year and calendar year beginning in 1999. MEDPAR records represent final action claims data in which all adjustments have been resolved. It is formatted as an unpacked file with a length of 788.

Media: DVD
Available: 1999 through 2013

All requests for identifiable data must be developed and reviewed with the assistance of the Research Data Assistance Center (ResDAC), who may be contacted at www.resdac.org or at resdac@umn.edu.

Once your data request has been reviewed by ResDAC, the final request can be sent to the Centers for Medicare & Medicaid Services (CMS) as directed by ResDAC.

- Designed for research use
- Several types of data files
- Have a fully identified version
- Limited MedPAR – limited data set
 - =no dates of service – month and year

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/IdentifiableDataFiles/MedicareProviderAnalysisandReviewFile.html>

Compare with Source Data

- Due to restrictions of data use agreement, reidentification of data not allowable
- Approach was to compare counts of cases at global level between CMS submitted claims to data from Limited MedPAR
- Used SAS scripts for validation process

Data peculiarities

- Dates of service missing (by design)
 - For surgical complications, cannot tell whether an event precedes or follows a surgery
- Present on Admission flags missing in 10.1% of records (an error)
 - Any condition present on admission with missing POA flag will be falsely attributed to encounter

Table 2. Patient Safety Indicator (PSI) Rates, *US News* Results Compared with Medicare-Reported Results*

Indicator	US News Count	Rush Count	Count Difference	US News Rate	Rush Rate	Rate Difference, 95% CI [AU: OK?]	P Value
PSI 3	25	1	24	0.75	0.03	0.72 (0.71–0.72)	< 0.0001
PSI 4	24	29	-5	0.72	0.86	-0.14 (-0.16– -0.14)	< 0.0001
PSI 6	26	24	2	0.78	0.72	0.06(0.05– 0.07)	< 0.0001
PSI 9	106	85	21	3.16	2.53	0.63(0.56–0.69)	< 0.001
PSI 11	80	71	9	2.38	2.12	0.26(0.21–0.33)	< 0.001
PSI 14	0	0	0	0	0	0	-
PSI 15	92	93	-1	2.74	2.77	-0.03(-0.10–0.03)	0.39

US News, *US News & World Report*; Rush, Rush University Medical Center; CI, confidence interval.

*Indicator descriptions can be found in Table 1.

Table 4. Regression Models of Hospital Characteristics for False-Positive Rate (Patient Safety Indicator [PSI 3, 9, and 11])*

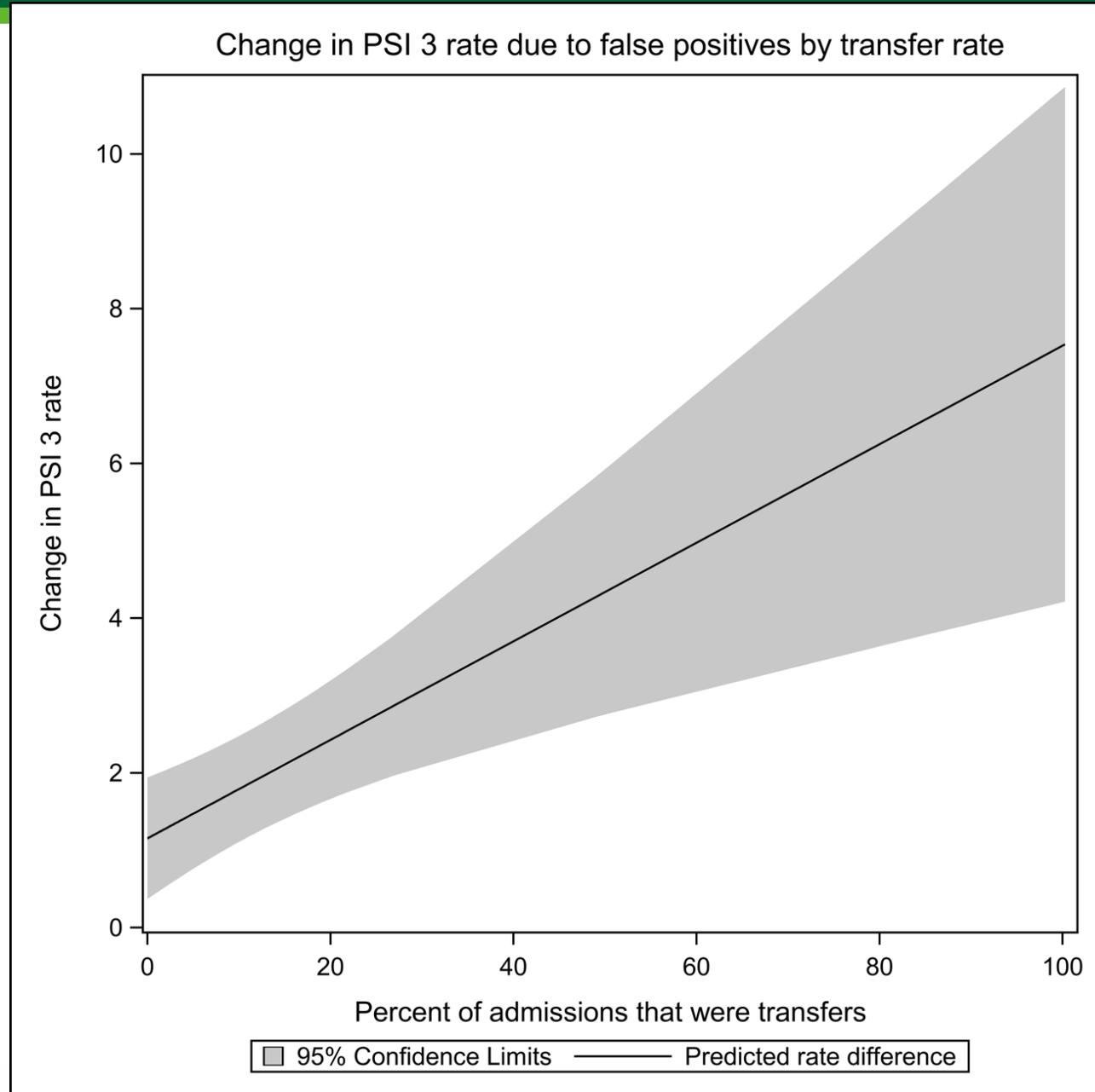
	PSI 3	PSI 9	PSI 11
Intercept (in Multivariate Model)	1.15(0.36–1.95) [†]	0.56 (0.03–1.08) [†]	-
Transfer rate (% of Admissions)	0.06(0.03–0.10) [‡]	-0.01(-0.03–0.01) [§]	-0.08(-0.22–0.05) [§]
Total Admissions (1,000's)	-0.04 (-0.11–0.02) [§]	0.04 (0.01–0.08) [†]	-0.07(-0.27–0.14) [§]
Baseline PSI 3 Rate	0.28(-0.17–0.73) [§]		
Baseline PSI 9 Rate		-0.04 (-0.14–0.07) [§]	
Baseline PSI 11 Rate			0.02 (-0.18–0.22) [§]

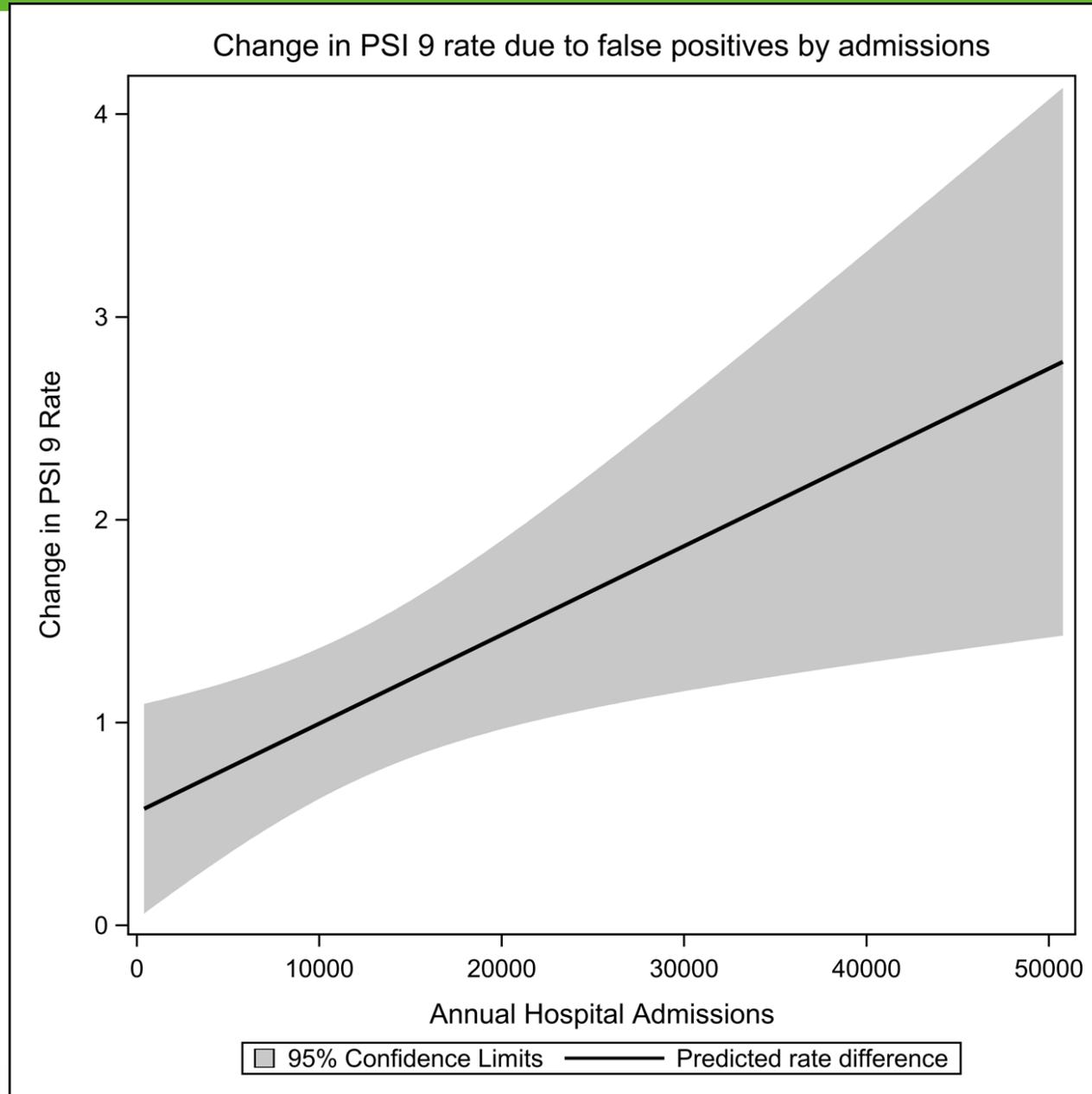
*Model developed on simulated data set with dates removed (PSI 9) and present on admission flag removed for 10.1% of records and dates removed for all records (PSI 3). Indicator descriptions can be found in Table 1.

[†] $p < 0.05$, included in multivariate model.

[‡] $p < 0.001$, included in multivariate model.

[§] $p > 0.05$, not included in multivariate model.







January 19, 2016

Omar Lateef, DO
Chief Medical Officer and Vice President
Rush University Medical Center
Chicago, Illinois 60612

Dear Omar,

Thank you for your letter. I want to again thank your group for identifying a limitation of the MedPAR data set that was previously undocumented. After reviewing the implications of the absence of procedure dates in MedPAR, we have committed analytical resources to using a different data set, the SAF LDS, for our calculation of PSIs for the 2016-17 rankings. We believe the use of the SAF LDS will address the issue regarding procedure dates.

2016-2017 Ranking

<p>Patient safety Ability to prevent six types of accidents and medical errors across hospital.</p> <p>See fewer patient safety metrics</p>	<p>Average 4/5</p>
<p>Success in preventing deaths from treatable complications after surgery.</p>	<p>Average 4/5</p>
<p>Success in preventing collapsed lung during biopsies, catheter insertions and other procedures.</p>	<p>Average 4/5</p>
<p>Success in preventing major bleeding and bruising after surgery.</p>	<p>Below average 1/5</p>
<p>Success in preventing respiratory failure after surgery.</p>	<p>Average 4/5</p>
<p>Success in preventing surgical incisions from reopening afterwards.</p>	<p>Average 2/5</p>
<p>Success in preventing harm to patients during surgery.</p>	<p>Average 3/5</p>

The Joint Commission Journal on Quality and Patient Safety

Performance Measures

Consumer Rankings and Health Care: Toward Validation and Transparency

Bala Hota, MD, MPH; Thomas A. Webb, BS; Brian D. Stein, MD, MS; Richa Gupta, MBBS, MHSA; David Ansell, MD, MPH; Omar Lateef, DO

The Institute of Medicine (now known as the Health and Medicine Division) has established the critical need to improve patient safety and quality,¹ and to achieve this aim, to use data to measure and improve health care through positive feedback and change.² Section 501(b) of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, with a goal of improving health care quality through measurement and feedback, enabled the Centers for Medicare & Medicaid Services (CMS) to develop the Hospital Inpatient Quality Reporting program, and link payment rates to measures of quality.³

The Agency for Healthcare Research Quality (AHRQ; Rockville, Maryland) Patient Safety Indicators (PSIs) illustrate

Article-at-a-Glance

Background: Differences between the Centers for Medicare & Medicaid Services (CMS)–measured rates of safety events for Rush University Medical Center (RUMC; Chicago) and the *U.S. News & World Report (USNWR)*–determined patient safety score were evaluated in an attempt to validate the *USNWR* patient safety score–based ranking.

Methods: The *USNWR* findings for Patient Safety Indicators (PSIs) were compared with findings derived from RUMC internal billing data, and sensitivity analyses were conducted using a simulated data set derived from the Healthcare Cost and Utilization Project (HCUP) state inpatient data sets.

Quality Measurement Is a Journey

Rush University study highlights PSI limitations that spurred this summer's methodology change.

By [Ben Harder](#) | Staff Writer | Oct. 7, 2016, at 4:07 p.m.

When clinicians and healthcare-improvement experts describe the pursuit of quality as a journey, their word choice reflects a central tenet: healthcare quality may never achieve perfection, but it can always be made closer to perfect.

Like quality improvement, quality measurement is mid-journey. My group's work at U.S. News & World Report to benchmark and publicly report hospital performance is evolving as we and other investigators learn more about the limitations of extant measures and methods.

In the October issue of the Joint Commission Journal on Quality and Patient Safety, Bala Hota and colleagues at Rush University Medical Center have made an important contribution to the healthcare community's understanding of the Patient Safety Indicators, or PSIs, a group of quality measures used by U.S. News, the Centers for Medicare and Medicaid Services and other organizations that report on hospital performance.

The Rush study focused on the seven PSIs that U.S. News used in the Best Hospitals rankings published in July 2015. The [current rankings](#), published in August 2016, used six of the PSIs studied by Rush; we dropped PSI 03 from our methodology in the 2016 release.

The researchers report finding discrepancies between Rush's PSI rates used in the 2015 rankings – in particular rates of pressure ulcers, PSI 03 – and the rates calculated by Rush using government-submitted data for the same time period. In theory, the U.S. News-calculated and Rush-calculated rates should have agreed, since they were calculated the same way on data sets that should have been functionally equivalent. Naturally, leaders at Rush were concerned that the rates reported by U.S. News were worse than those the hospital believed to be more accurate.

About Second Opinion

Second Opinion is the public square where U.S. News editors and invited contributors share views on publicly reporting the quality of hospitals, physicians, nursing homes, health insurance plans and other health care providers and services. It's also where U.S. News typically announces major changes to its own public reporting projects.

Ben Harder, chief of health analysis, and **Avery Comarow**, health rankings editor, curate the column. Comarow created the Best Hospitals rankings in 1990. Harder joined the U.S. News health team as an editor in 2007.

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FOR IMMEDIATE RELEASE
October 14, 2016

Contact: HHS Press Office
202-690-6343
media@hhs.gov

HHS finalizes streamlined Medicare payment system that rewards clinicians for quality patient care

MACRA rule will accelerate health care system's shift toward value

Finalized MACRA Quality Payment Program Requires Big Data Push

By [Jennifer Bresnick](#) on October 14, 2016



Like 5



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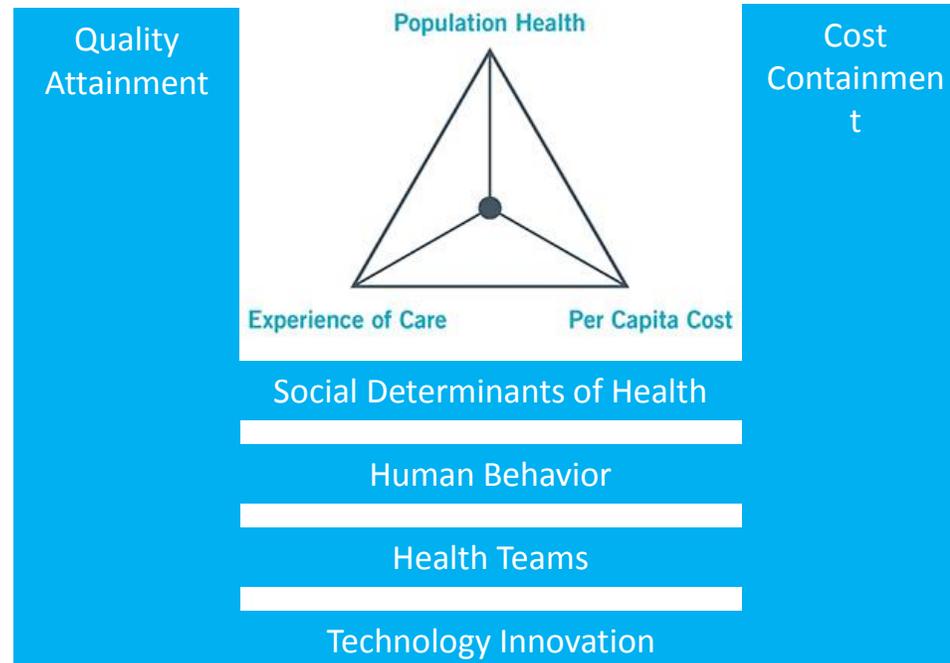
Big data and population health management capabilities are going to be front and center for providers looking to capitalize on the MACRA Quality Payment Program's incentive options.

On your marks – get set – go grab some data. CMS **announced** this morning that the MACRA Quality Payment Program (QPP) will indeed go live on January 1, 2017, which doesn't leave providers much time to read the **2398-page final rule**, let alone gather sufficient quality reporting data for accruing maximum incentives.



The final rule **codifies** the four “pick-your-own-pace” options announced by Acting CMS Administrator Andy Slavitt earlier this year, offering several opportunities to avoid negative payment adjustments without the ability to report on a full year of quality data.

The IHI Triple Aim



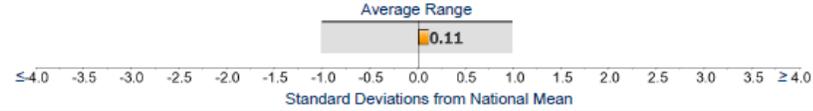
PQRS measures

2016 Physician Measures and Performance Goals

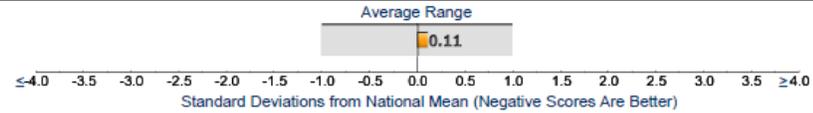
Measure ID	Physician Measure	Performance Goals		Data Source for Measure Performance
		75th percentile HEDIS	90th percentile HEDIS	
Prevention				
NQF # 0031 CMS # 125	Breast Cancer Screening (Ages 40-69 years)	71%^	76%^	EMR
NQF # 0032 CMS # 124	Cervical Cancer Screening (Ages 23-64 years)	76%^	79%^	EMR
NQF #0038 CMS # 117	Childhood Immunization Status (2 years)	54%	62%	EMR
NQF #0419 CMS # 68	Documentation of Current Medications in the Medical Record (Ages 18+ years)	93%**	95%**	EMR
NQF #0043 CMS # 127	Pneumonia Vaccination Status for Older Adults (Ages 65+ years)	78%	82%	EMR
NQF # 0421 CMS # 69 (Modified)	Preventive Care and Screening: BMI Screening and Follow-Up (Ages 18-64 years)	91%*	100%*	EMR
NQF# 0041 CMS # 147	Preventive Care and Screening: Influenza immunization (Ages 6 months +)	76%*	100%*	EMR
NQF #0022 CMS # 156 (Modified)	Use of High Risk Medications in the elderly (two medications) (Ages 66+ years)	2%	1%	EMR
NQF #0024 CMS # 155 (Modified)	Weight Assessment Screening and Counseling for Nutrition for Children and Adolescents (Ages 3-17 years)	64%	75%	EMR
Diabetes				
NQF #0059 CMS # 122	Diabetes: HbA1c Poor Control (Ages 18-75 years)	23%	19%	EMR
Hypertension				
NQF #0018 CMS # 165	Controlling High blood Pressure (Ages 18-85 years)	68%	72%	EMR
Acute Care				
EDSAT - 1	ED Patient Satisfaction Composite Score	92.1%**	94.5%**	Press-Ganey

PERFORMANCE HIGHLIGHTS

YOUR QUALITY COMPOSITE SCORE: AVERAGE



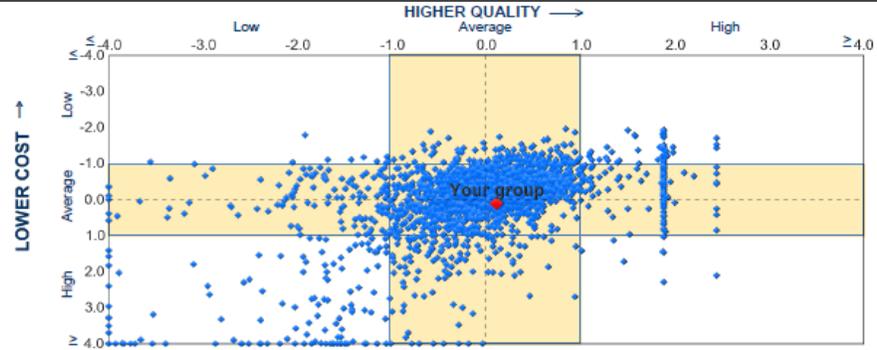
YOUR COST COMPOSITE SCORE: AVERAGE



YOUR BENEFICIARIES' AVERAGE RISK SCORE: 76TH PERCENTILE

- To account for differences in patient risk and reduce the influence of very high cost beneficiaries, the overall per capita costs of your beneficiaries were risk adjusted downward by 24.8 percent.
- Because your Medicare beneficiaries' average risk score is at or above the 75th percentile of all beneficiary risk scores, your group would be eligible for an additional upward adjustment under the quality tiering approach for serving high-risk beneficiaries.

YOUR QUALITY TIERING PERFORMANCE: AVERAGE QUALITY, AVERAGE COST



YOUR VALUE-BASED PAYMENT ADJUSTMENT BASED ON QUALITY TIERING

- Based on 2012 performance, electing the quality tiering approach would result in a payment adjustment of +0.0%.

Payment adjustments for each level of performance are shown below:

	Low Quality	Average Quality	High Quality
Low Cost	+0.0%	+2.0x%	+3.0x%
Average Cost	-0.5%	+0.0%	+2.0x%
High Cost	-1.0%	-0.5%	+0.0%

Note: x refers to a payment adjustment factor yet to be determined due to budget neutrality requirements.

New horizons

- MACRA – Medicare Access and CHIP Reauthorization Act of 2015
 - Changed the way providers get paid for care for Medicare patients, by consolidating a number of programs into the Quality Payment Program (QPP)
 - Creates two paths: the Merit Based Incentive Payment System (MIPS) and Alternative Payment Models (APMs)
- MIPS combines PQRS, MU provider reporting deliverables, and the Value-based payment modifier program into one.
- Electronic Record Based measures will need to be accurate and valid as they will be publicly reported
- What is the validation science behind PQRS measurement?
- Can we ensure that scores on MIPS actually represent quality?

A plan for ongoing validation

- How can we ensure we have full understanding of surveillance systems in use that are benchmarking and reporting care quality?
- How can we develop internal expertise in reporting systems and data management?
- Build in a culture of skepticism and realism about uses of data and public benchmarking systems

Cybersecurity Trends in Healthcare and Higher Education

November 15, 2016

IT'S HOW MEDICINE SHOULD BE®

Introductions

- **Andy Reeder, HIPAA Security Officer, Director, HIPAA Privacy**
- **Steven P. Wightkin, Associate Vice President - IT Operations, Instructor – Department of Health Systems Management**
- **Jason Torres, IT Audit Manager**

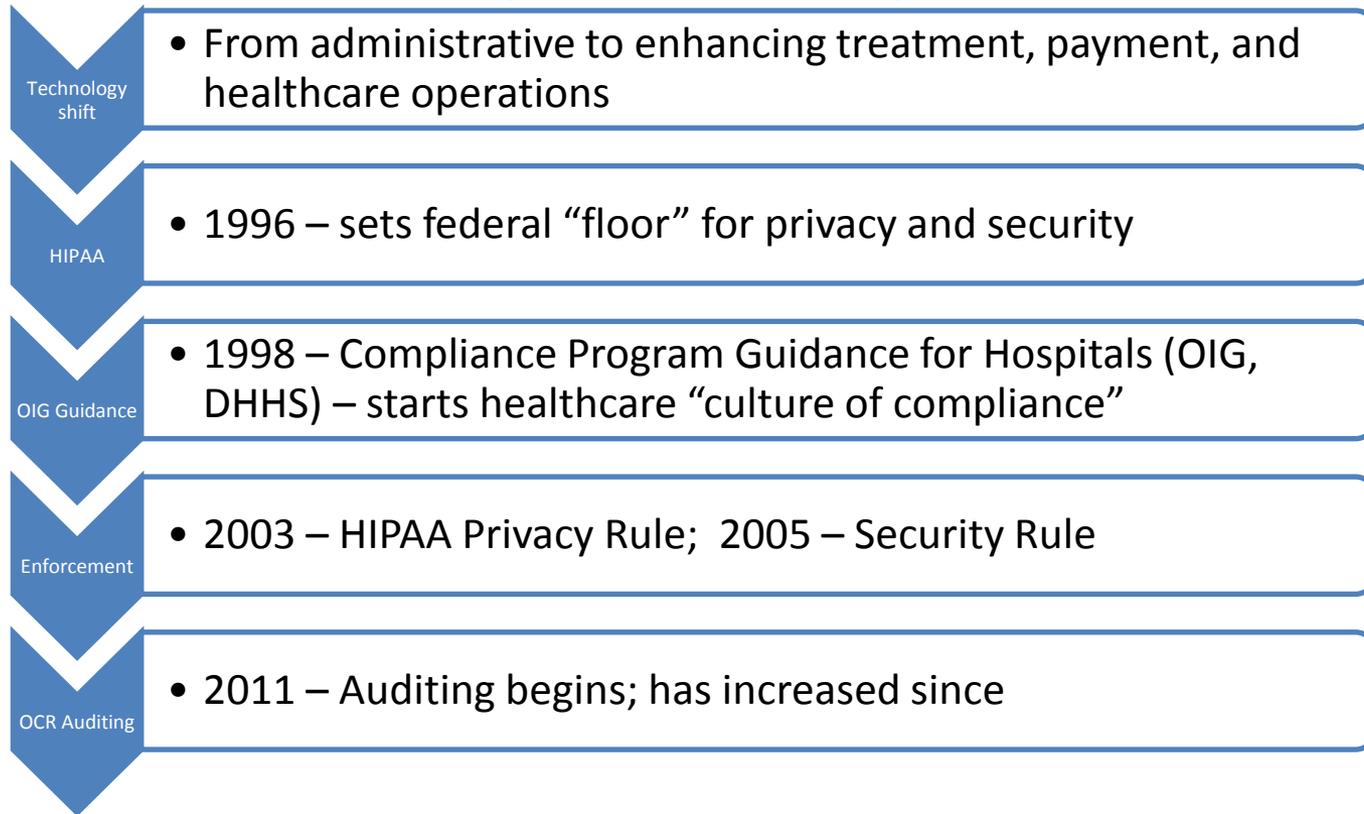
Business Challenges Facing Healthcare and Higher Education



<http://www.nbcnews.com/widget/video-embed/622124099777> , NBC News, Check Your Health Records: 1 in 3 Americans' Info Compromised in 2015, 2/12/2016, Nightly News

<http://www.nbcnews.com/tech/security/universities-become-targets-hackers-n429821> , NBC News, Cyberattack 101: Why Hackers are Going After Universities, 9/20/2015, Keith Wagstaff and Chiara Sottile

Regulatory Compliance culture - then and now (healthcare)

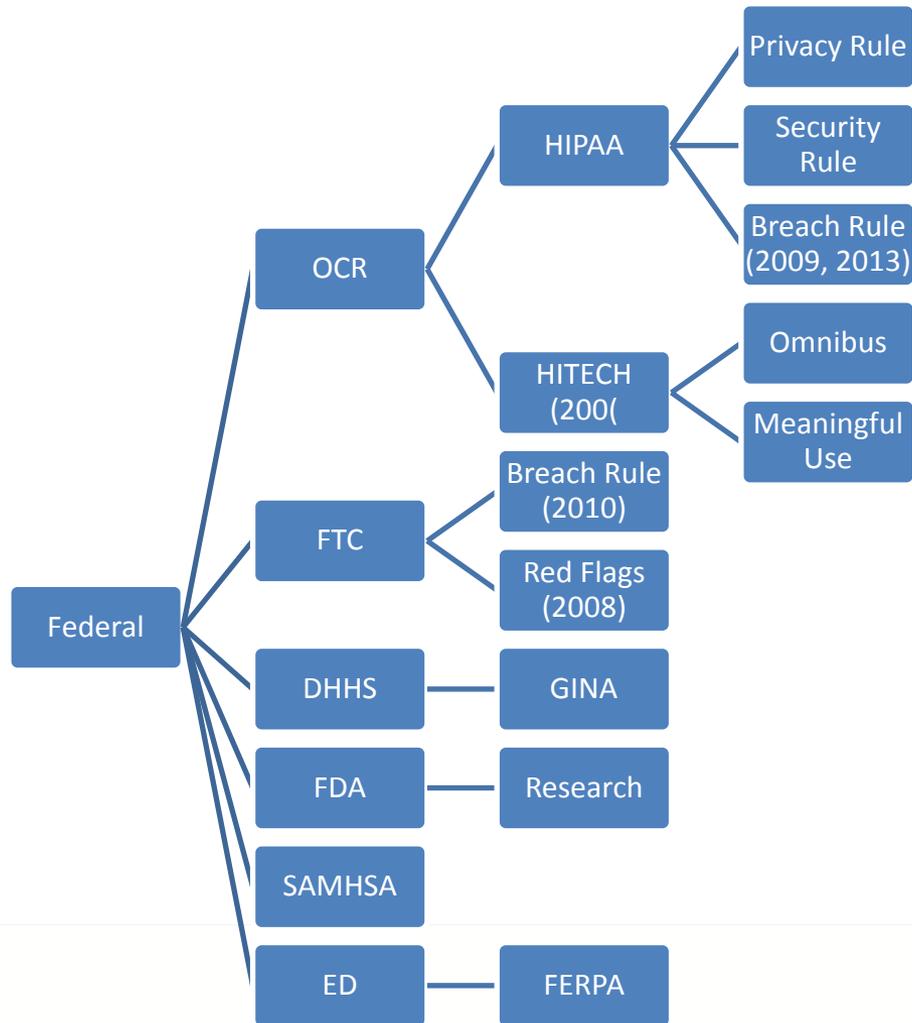


We have moved from a culture of weak security with few requirements to one of stronger security with requirements and oversight

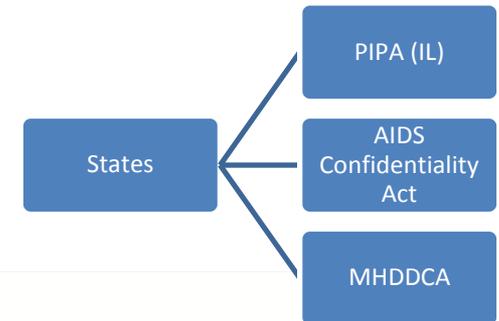
Department of Education is also becoming more serious about securing educational records:

<http://ptac.ed.gov/>

Regulatory Landscape



What others exist?



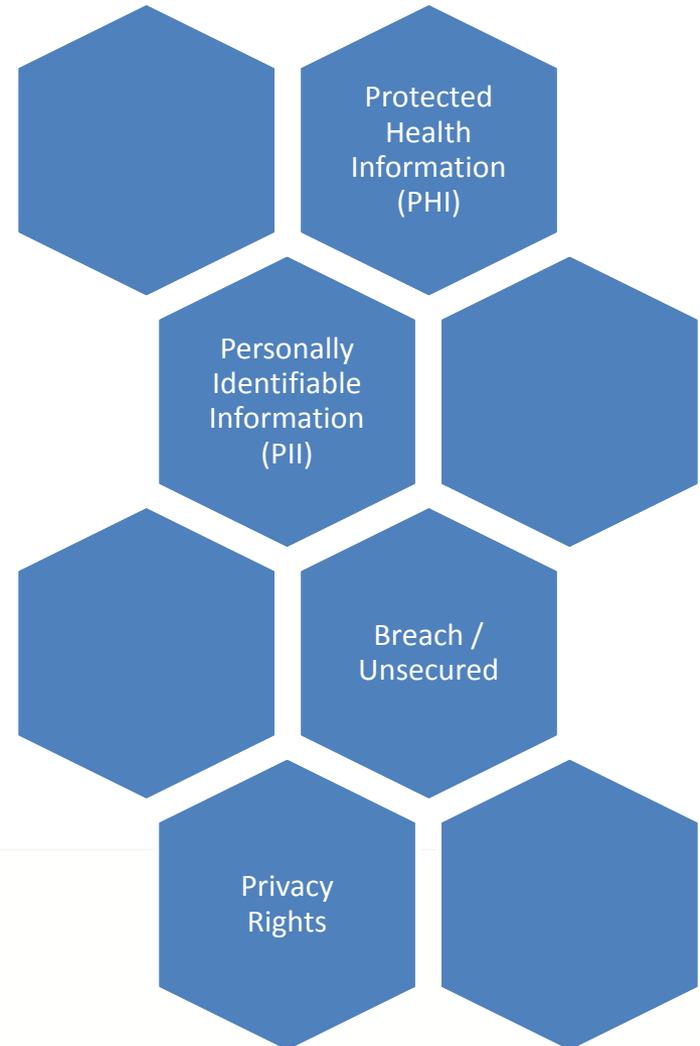
Important Concepts/Definitions in Healthcare and Higher Ed

Why is Information in Patient and Educational Records So Sensitive?

Intimate details – who should know your personal information?

Discrimination – in the workplace; eligibility for insurance/admissions/financial aid

Identity misuse – financial records; medical care



Major Themes in Federal Security and Privacy Compliance



Cybersecurity - Basic Concepts

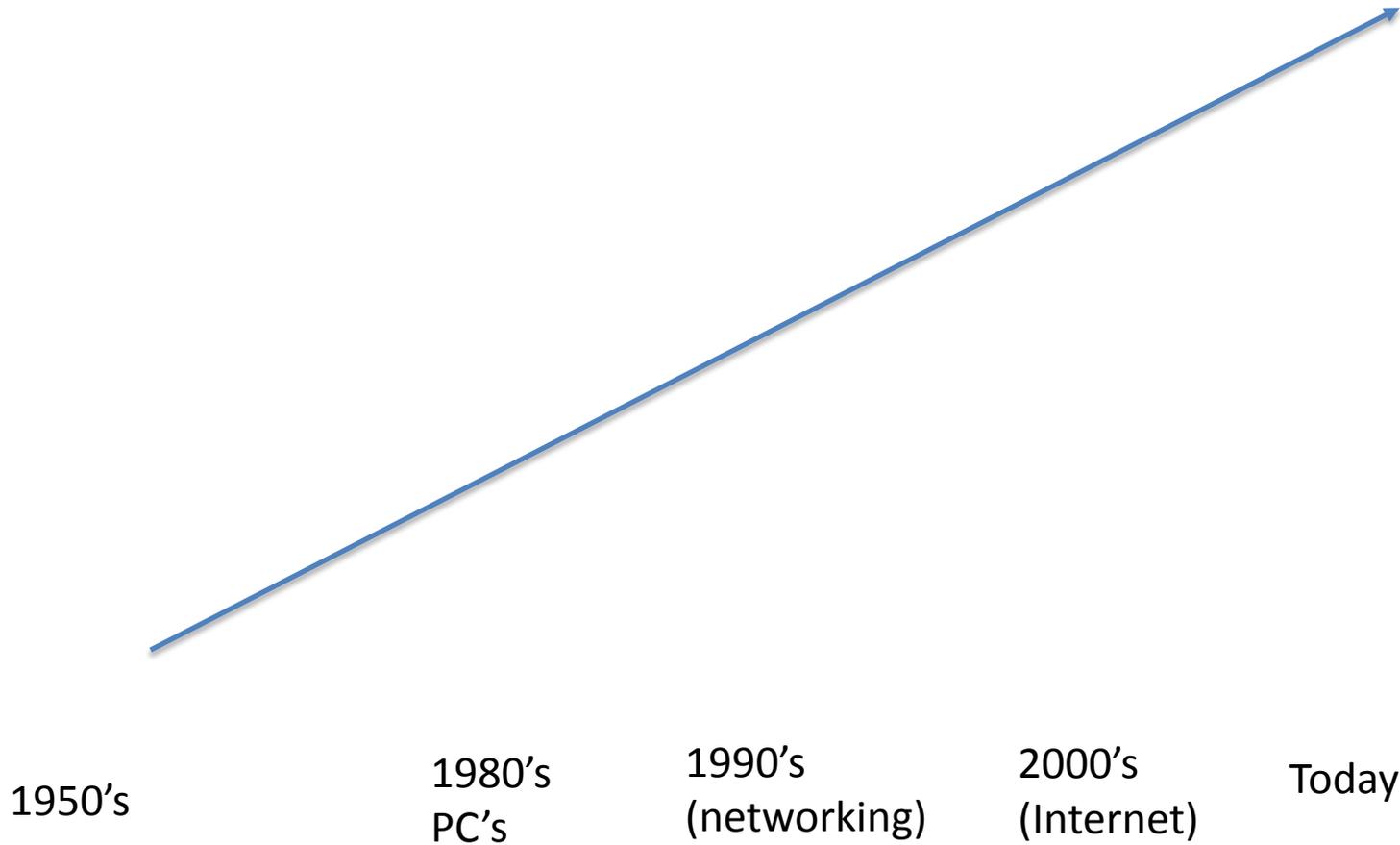
Assets	<ul style="list-style-type: none">• Institutional information• Personal Information
Vulnerabilities	<ul style="list-style-type: none">• Weakness or flaw that can be exploited• People, process, technology, facilities
Threats	<ul style="list-style-type: none">• Human, Nature, Technical, Physical
Exploit	<ul style="list-style-type: none">• The method by which a threat will attempt to affect an asset
Attack Vector	<ul style="list-style-type: none">• The path by which a threat will attempt an exploit
Risks	<ul style="list-style-type: none">• Likelihood of an asset being exploited• Resulting effects
Risk Mitigation Strategies	<ul style="list-style-type: none">• Avoidance, Mitigation, Transfer, Acceptance
Safeguards	<ul style="list-style-type: none">• Controls or countermeasures to apply• Administrative, Technical, Physical

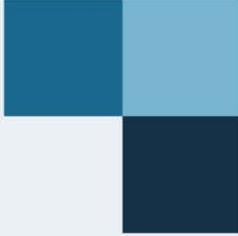
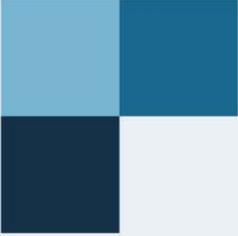
Threat Matrix



What is a threat? - anything that can harm an information system or assets

Increasing Information Security Threats





Your poll will show here

1

Install the app from
pollev.com/app

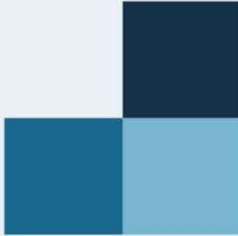
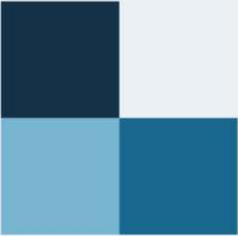
2

Make sure you are in
Slide Show mode

Still not working? Get help at pollev.com/app/help

or

[Open poll in your web browser](#)



What are current cybersecurity threats?

- Shoulder Surfing – when an attacker looks over the shoulder of another person; where could this take place?
- Social Engineering – relies on human interaction
 - <https://youtu.be/1byRtf2r-B8>, “Social Engineering: Don't Trust Fancy Ties & Polished Lies”, Enterprise Risk Management
- Phishing and Target Phishing Scams – electronic attacks via email or instant message to steal confidential information (userid; password, credit card numbers, SSN); (Examples:
<http://www.it.cornell.edu/security/phishbowl.cfm>)
 - Spear phishing – targets a particular organization
 - Whaling – targets corporate executives

What are current cybersecurity threats?

- Spyware and Keystroke Loggers- secretly gather information
- Logic Bombs – harmful code intentionally left on a computer system; lies dormant until a certain activity or date is triggered
- Backdoors – way to access a computer program or system bypassing normal mechanism; might be forgotten by programmer when software put into production
- Denial of Service Attacks – disrupts information systems; includes “distributed denial of service attack (ddos) – uses multiple “zombie” systems to coordinate an attack
- Advanced Persistent Threats – targeted attempts from external threats including nation states, terrorist groups, and criminal groups

What are current cybersecurity threats?

- Insider snooping – inside employees that attempt to gain unauthorized access to information
- Lost/stolen mobile devices – laptops, smartphones used to process information that are lost or stolen
- Misdirected information – information that is misdirected by email, fax, or some other communications method
- User training – user activity that contributes to the loss of information or downtime based on lack of training or awareness
- Challenges of maintaining an open network of resources for academic pursuits; use of persona devices (BYOD); file sharing; dual infrastructure for University and Medical Center operations

What are current cybersecurity threats?

- Cloud storage – placing sensitive information into personal or public cloud services that are not managed by the institution
- Email – auto forwarding email that may contain sensitive information to personal or non-managed accounts; “Phishing” and “Whaling” delivery of malware
- Ransomware/Malware – software that performs some sort of harmful, unauthorized activity (includes virus, worms, Trojan Horses) (Example: <https://blog.malwarebytes.com/101/2013/10/cryptolocker-ransomware-what-you-need-to-know/>)

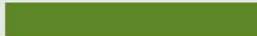
Cyber Threat Landscape - Healthcare

- 2015 - Anthem (IN), Health Plan; records affected – 78,800,000; Hacking/IT Incident;
- 2015 - Premera Blue Cross (WA), Health Plan; records affected – 11,000,000; Hacking/IT Incident
- 2015 - Excellus Health Plan (NY), Health Plan, records affected - 10,000,000; Hacking/IT Incident
- 2011 - Science Applications International Corporation (VA); Business Associate; records affected – 4,900,000; Loss
- 2015 - University of California, Los Angeles Health (CA); Healthcare Provider; records affected – 4,500,000; Hacking/IT Incident
- https://ocrportal.hhs.gov/ocr/breach/breach_report.jsf

Cyber Threat Landscape – Higher Ed

- 2014- Butler University - hackers accessed the institution's network and exposed the personal information of nearly 200,000 people
- 2014- Indiana University - a data breach exposed social security numbers, names, and addresses of 146,000 past and present students
- 2014- Arkansas State University - the leaking of partial and full social security numbers affected approximately 50,000 people
- 2014 - University of Maryland - names, dates of birth, social security numbers, and university identification numbers of 309,079 staff, faculty, and students were compromised through a cyberattack
- 2014 - North Dakota University System - a server containing the social security numbers and names of nearly 300,000 former and current students was illegally accessed in February 2014
- <https://www.eab.com/daily-briefing/2015/01/20/five-higher-ed-data-breaches-worse-than-sonys>

Cyber Threat Landscape - Summary

Rank	Sector	Number of Incidents	Percentage of Incidents	100%
1	Healthcare	116	 37%	
2	Retail	34	 11%	
3	Education	31	 10%	
4	Gov. & Public Sector	26	 8%	
5	Financial	19	 6%	
6	Computer Software	13	 4%	
7	Hospitality	12	 4%	
8	Insurance	11	 4%	
9	Transportation	9	 3%	
10	Arts and Media	6	 2%	

Top 10 Sectors Breached by Number of Incidents

Source: Symantec

Mitigating Risk – what can we do?



TEACHING STRATEGIES THAT FACILITATE LEARNING

Janet Engstrom, PhD, APN, CNM, WHNP-BC, CNE
Rush University, College of Nursing



Objectives

1. Describe teaching and learning strategies that engage students, facilitate the development of critical thinking, and facilitate the achievement of competencies required for the profession.
2. Explain the alignment between teaching and learning activities, formative and summative evaluation, and the desired learning outcomes.
3. Explore the use for formative and summative feedback as teaching and learning strategies.

What can I do to improve my golf game?



Which of the following interventions can help improve my golf game?

- Read a magazine article
- Read a book
- Listen to an audio lecture
- Attend a lecture
- Watch a video
- Play more rounds of golf
- Practice at the driving range and putting green
- Take a group class taught at a driving range or golf course
- Work one-on-one with a golf instructor

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- ✓ Work one-on-one with a golf instructor at a driving range or golf course

What is the most efficient and effective way to improve my golf game?

The answer is... *'It depends'*

- It depends on
 - The learner
 - The teacher
 - The learning environment
 - What needs to be learned

Teaching vs. Learning

- We often focus on teaching and teaching strategies
- The focus should be on learning and learning strategies
- Instead of focusing on *Teaching Strategies*
- The focus should be on *Facilitating Learning*
- Selection of strategies should be based on the
 - Outcomes desired
 - What knowledge, skills, and/or attitudes need to be learned
 - Student learning style and needs
 - Teachers strengths and weaknesses

Teaching and Learning Strategies

- Flipping
- Engaging
- Gaming
- Simulating
- Reflecting
- Mastery
- Adaptive learning
- Personalized learning
- Problem based learning
- Team based learning
- Outcomes based education
- Competency based education
- Critical thinking

FACILITATING LEARNING

How Learning Works

- Knowledge Construction
- Adult Learning Theory
- Community of Inquiry

KNOWLEDGE CONSTRUCTION

Active Learning: Constructing Knowledge

- Described by Rousseau
- Advocated by John Dewey
- Written about by Benjamin Franklin, "Tell me and I forget, show me and I may I remember, involve me and I learn."

Instructivist, Constructivist, and Behaviorist Models

- Instructivist
 - Open someone's head and pour knowledge in
- Constructivist
 - Student constructs knowledge
 - Discovery or 'doing' type of learning
- Behaviorist
 - Training and repetition

ADULT LEARNING THEORY

Adult Learning Theory and Principles

Malcolm Knowles proposed that adults learn differently than children

Identified 6 characteristics of adult learners

- Internally motivated and self-directed
- Bring life experiences and knowledge
- Goal oriented
- Relevancy oriented
- Practical
- Like to be respected

Adult Learning Theory and Principles

Knowles recommended learning approaches that are

- Problem based
- Builds on previous knowledge
- Collaborative
- Emphasizes collegiality between the teacher and learner, 'guide by the side' vs. 'sage on the stage'

COMMUNITY of INQUIRY

Community of Inquiry (CoI)

- CoI was introduced by Pierce in the basic sciences
- Expanded by Dewey in education
- Further elaborated in education by Lipman
- Applied to online learning by Garrison et al.

CoI proposes that

- Knowledge is *always* embedded in a social context
- Inquiry is problem based
- Inquiry always occurs within a community

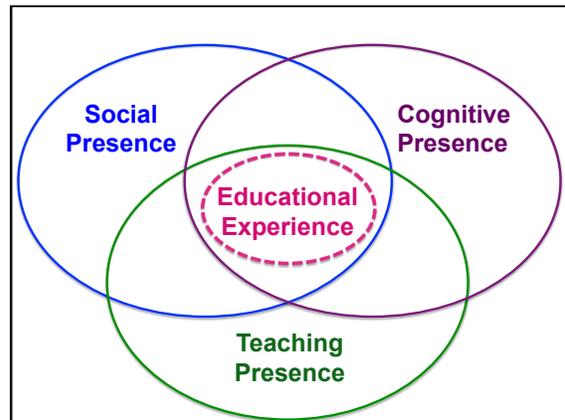
Community of Inquiry (CoI)

CoI dispelled the notion that

- Knowledge was fixed
- Education was about knowledge transmission
- Teachers were the authorities and the transmitters of knowledge

CoI proposes that

- Knowledge is ambiguous, uncertain, and changing
- Knowledge acquisition involves learning about processes and relationships
- Education is a process of inquiry guided by the teacher



Social Presence

Social presence is characterized by

- Open communication
- Effective communication
- Group cohesion
- Encouragement of collaboration

Cognitive Presence

Cognitive presence is characterized by

- Exploration
- Integration
- Resolution

Demonstrated by

- Information exchange
- Connecting ideas
- Applying new ideas

Teaching Presence

Teaching presence is characterized by

- Direct instruction
- Facilitating discourse

Demonstrated by

- Focusing discussion
- Sharing personal meaning

**FACILITATING
LEARNING**

Facilitating Learning

- Remove the barriers to learning
- Create a positive learning environment
- Use effective and varied teaching strategies
- Use effective and varied learning activities

Remove the Barriers to Learning

- Uniform course design
- Standardized, detailed syllabus
- Course materials are organized
- Assignments have clear instructions
- Grading rubrics clearly describe how the assignment will be graded

COURSE INFORMATION	<p>Module 1: Introduction to Epidemiology: The Population Perspective Enabled: Statistics Tracking <i>Module begins on Monday August 29, 2016. Assignment due Tuesday September 6, 2016 at 11 pm Central Time.</i></p> <p>Module 2: Disease Concepts in Epidemiology Availability: Item is not available. Enabled: Statistics Tracking <i>Module begins on Tuesday September 6, 2016. Assignment due Tuesday September 13, 2016 at 11 pm Central Time.</i></p> <p>Module 3: Measuring and Managing Health Data Availability: Item is not available. Enabled: Statistics Tracking <i>Module begins on Monday September 22, 2016. Assignment due Tuesday September 20, 2016 at 11 pm Central Time.</i></p> <p>Module 4: Descriptive Statistics: Describing and Displaying Data Availability: Item is not available. Enabled: Statistics Tracking <i>Module begins on Monday September 19, 2016. Assignment due Tuesday September 27, 2016 at 11 pm Central Time.</i></p> <p>Module 5: Descriptive Statistics: Data Analysis and Presentation Availability: Item is not available. Enabled: Statistics Tracking <i>Module begins Monday September 26, 2016. Assignment due Tuesday October 4, 2016 at 11 pm Central Time.</i></p> <p>Module 6: Descriptive Epidemiology: Study Designs and Statistics Availability: Item is not available. Enabled: Statistics Tracking <i>Module begins on Monday October 3, 2016. Assignment due Tuesday October 11, 2016 at 11 pm Central Time.</i></p>
IMPORTANT: Start Here!	
SYLLABUS AND SCHEDULE	
REQUIRED SOFTWARE	
INSTRUCTOR INFORMATION	
CALENDAR	
LEARNING MATERIALS	
COMMUNICATION	
ANNOUNCEMENTS	
DISCUSSION FORUMS	
COURSE EMAIL	
MY PROGRESS	
HOW TO VIEW GRADES AND FEEDBACK	
MY GRADES	
RESOURCES	
RULearning Support	
LIBRARY	
STUDENT HANDBOOKS	
REPORT DISCRIMINATION	

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Creating the Learning Environment

- Polite
- Professional
- Positive
- Personable
 - Old fashioned word
 - Not personal, you don't have to reveal anything about yourself. You don't have to be silly or self-effacing
 - Just be a person

Say Something Nice

- Write a quick note to an exceptional student or a polite students
- Send a class email
 - Acknowledge their work
 - Wish them a nice weekend
- Extend a deadline
- Revise a deadline

Share Something

Public Health Nursing Vol. 40, No. 2, pp. 202-203
0739-120X/16 © 2016 Wiley Periodicals, Inc.
doi: 10.1111/1550-4488.12027

HISTORY

Friday at Frontier Nursing Service

Anna May January

ABSTRACT The Frontier Nursing Service (FNS) was founded in 1925 in eastern Kentucky by Mary Breckinridge, a nurse whose interest in improving rural health and midwifery changed the course of rural public health nursing and improved health outcomes for some of the most isolated and poorest people in 20th century America. The visual image of Breckinridge on horseback visiting her scattered rural patients is imprinted on the minds of most public health nurses in the United States and has, perhaps, been the wellspring of many nursing career aspirations. The daily life of FNS nurses was one of hardship, uncertainty and worry, as is evidenced in this tale of one day; nonetheless, the experiment of a rural nursing service combining midwifery and generalized nursing was ultimately a tremendous success. The following historical reprint recounts a singular day in the life of Anna January, a nurse midwife at the FNS in Confluence, Kentucky. She captures the dialect and earthiness of the region and the period in her story, but the events she relates also illustrate how interconnected life events can be in rural communities. The original article appeared in the December 1948 issue of *Public Health Nursing* [Volume 40 (12), 601-602].

Key words: Frontier Nursing Service, nursing history, midwifery.



Best Teaching Practices

- Chickering and Gamson summarized 50 years of educational research and identified 7 characteristics of effective teachers
 - Encourage contact between students and faculty
 - Develop reciprocity and cooperation among students
 - Encourage active learning
 - Give prompt feedback
 - Emphasize time on task
 - Communicate high expectations
 - Respect diverse talents and ways of learning

Characteristics of Effective Teaching

- Knowledge of the content, expertise in the field
- Organization
- Passion for the content and role
- Enthusiasm
- Communication
- Consistency

Use Effective Course and Curriculum Design

- Every module, course, and curricula should be designed
- designed with the end in mind!!
- Learning activities should be directed towards helping student achieve the desired outcomes
 - Knowledge
 - Skills
 - Attitudes
- Focus learning activities that are effective and efficient
- All instruction and assessment should be student centered

**FORMATIVE and
SUMMATIVE
FEEDBACK**

Feedback and Learning

- Feedback is essential
- Feedback should be an ongoing process
- Formative assessments are used to identify student learning needs
- Formative feedback helps students recognize what they do well
- Frequent opportunities for formative feedback
- Using low-stakes assignments worth small percentages of the course grade as a combination of formative and summative feedback
- Summative feedback is used to determine whether the desired learning outcomes (competencies) have been achieved

USE VARIED LEARNING ACTIVITIES THAT INVOLVE MULTIPLE SENSES

Lecture

- The lecture is not dead but it should be used less often and differently
- Mini-lectures
- 'How to' lectures
- Enhanced lectures
- Lectures with photos, videos, and other media
- Lectures with real props

Use Multiple Senses

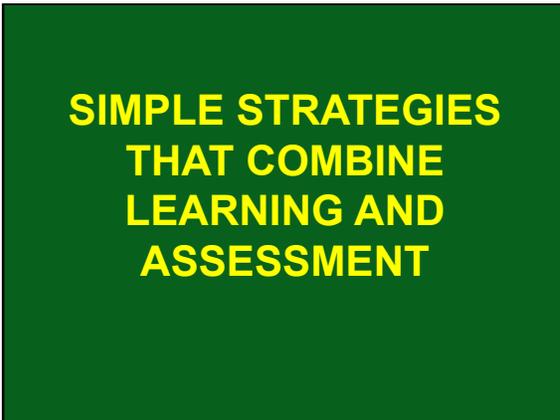
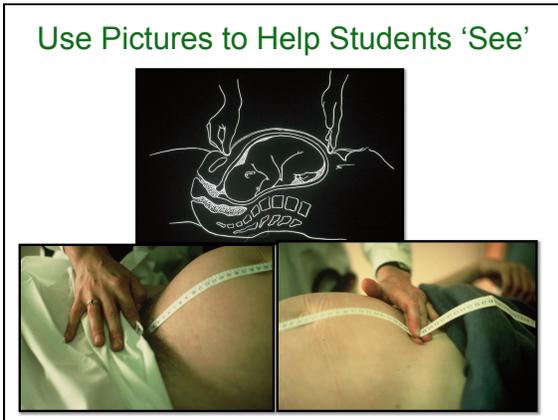
- Learning activities should be varied to facilitate learning
- Present information using more than one media
- Whenever possible have the student 'do' something beyond simply receiving information

The Power of a Picture to Help Students 'See' Into the Problem



Use Photographs to Depict the Role





Quiz Questions

True/False: There is strong evidence that cultura... Points: 0.25

Question: There is strong evidence that culturally adapted care improves the management of chronic diseases and subsequent health outcomes.

Answer: True False

Essay: Compare the national goals for health... Points: 0.5

Question: Compare the national goals for health disparities in the Healthy People 2000, 2010, and 2020 initiatives.

Answer:

Essay: Briefly explain the concept of health... Points: 0.5

Question: Briefly explain the concept of health equity for diverse populations.

Answer:

Essay: Identify a health disparity that you ... Points: 0.5

Question: Identify a health disparity that you may be able to impact in your career. Briefly explain what you hope to accomplish to reduce this his health disparity

Answer:

Simple Learning Activities that are also Low Stakes Assessments

Short Answer: Locate a mortality rate for a populaT... Points: 0.5

Question: Locate a mortality rate for a population of interest to you in the United States. State the population, the rate, and the year, and compare the rate to another population. Provide the link to the website where you found the information.

Answer:

Short Answer: How many new cases of syphilis, gonor... Points: 0.5

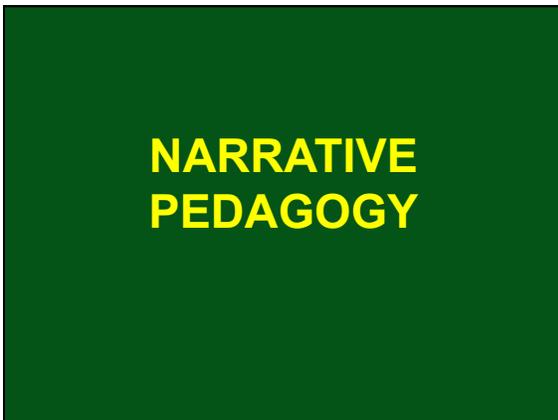
Question: How many new cases of syphilis, gonorrhoea, and chlamydia occurred in the United states in the most recent year for which data are available? Please specify the year for which the data are available and include a link to your source of information.

Answer:

Essay: Select an area of interest to your cl... Points: 0.5

Question: Select an area of interest to your clinical interests and find current surveillance statistics. Please describe your area of interest, present the statistics, and include the link to the source of your data. NOTE: Please do not use breastfeeding as an area of interest since that example was used in class.

Answer:



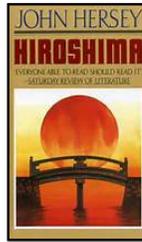
Narrative Pedagogy

- Uses stories to teach important concepts
- Stories can be real patient or illness narratives, nonfictional events, or fictional stories
- Vicarious learning by reading, seeing, or hearing about the experiences of others

Narrative Pedagogy: How Does it Work?

- Requires reflection, interpretation, and application
- Develops critical thinking
- Develops emotional intelligence
- Heightens cultural awareness
- Useful in complex scenarios
- Helps in addressing scenarios with ethical considerations
- Especially helpful in exploring areas in which students have no lived experiences and no role models
- Associated with higher order learning

Nursing School: Trauma Nursing, 1975



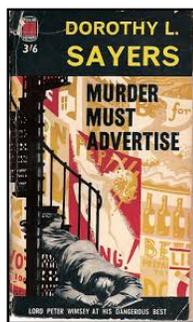
- Radiation burns
- Long term sequelae of radiation exposure

- Burn care
- Building safety
- Fire codes
- Morgue care

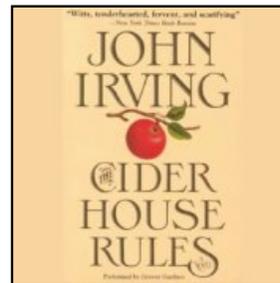
PhD Program: Research Seminar, 1982

During the first meeting of a summer research seminar class the course professor handed each of us a paperback mystery and told us to...

Read the book and come back next week and tell the class, ***“How the analysis fit the design”***



Using Fiction to Learn About Reproductive Options

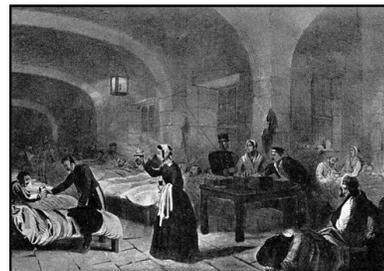


Florence Nightingale: Epidemiologist and Statistician



Florence Nightingale

Measures of mortality in the military hospital



Mary Breckinridge and the Frontier Nursing Service

Saw a major health need, conducted a survey of the population's health and health care resources, implemented a health care system designed specifically to meet the needs of the population, and documented the health outcomes



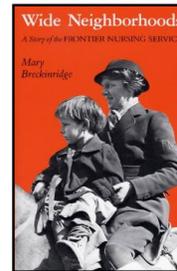
Frontier Nursing Service Statistics

- Maternal mortality rate
 - 9.1 per 10,000 births for FNS
 - 34 per 10,000 births for the United States as a whole
- Low birth weight
 - 3.8 percent for FNS
 - 7.6 percent for the country

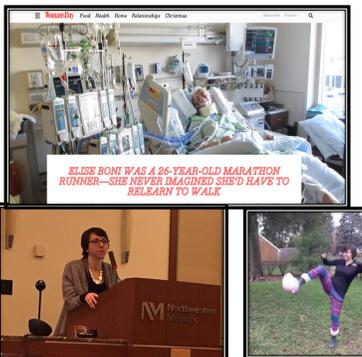


BTW... she was terrified of math

My MB Blog: Mary Breckinridge and the DNP Essentials



Illness Narratives: Patient Stories



ELISE BONT WAS A 96-YEAR-OLD MARATHON RUNNER—SHE NEVER IMAGINED SHE'D HAVE TO RELEARN TO WALK

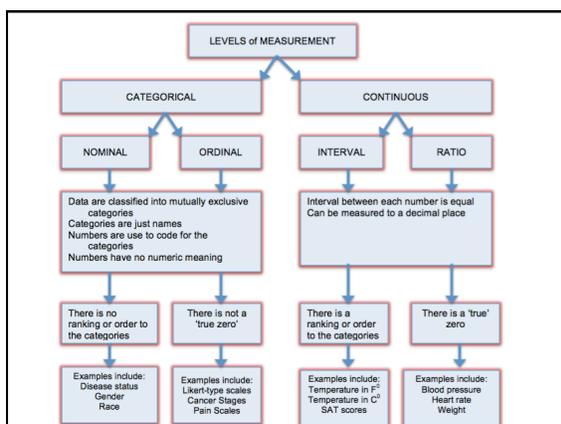


Polio Jones 1956

CONCEPT MAPPING

Concept Mapping

- Mnemonic device designed to make it easier to remember and master presented content
- Demonstrates how you 'see' an idea
- Makes students reflect and think about the concepts
- Connects new information to existing knowledge
- Helps students organize learning tasks into smaller, comprehensible chunks of information with connections to previously learned material.
- Can be used to teach concepts
- Can be used as an assignment



Scaffolded Concept Maps

- Students build a concept map across the course

LOW-FIDELITY SIMULATION

Low Fidelity Simulation: Skill Building by Practicing with Inanimate Materials



World's Largest Childbirth Class: Practicing Skills in a Safe Environment



World's Largest Childbirth Class



Maternal-Newborn Simulation



Maternity Nursing Simulation



Newborn Assessment and Care



Low Fidelity, Low Cost OSCEs: The 'Mommy' Calls



- Online audio OSCE typical of the types of call to pediatric ambulatory clinical settings
- Immediate debriefing by the standardized patient
- Recorded and evaluated by faculty
- Added a peer evaluation component

THANK YOU!

Learning through Case Studies

Thomas P. Bleck MD MCCM FAES

Professor of Neurological Sciences, Neurosurgery, Medicine, and Anesthesiology

Director, Clinical Neurophysiology

Rush Medical College



Disclosures

- No conflicts of interest

Objectives

- Selecting cases for teaching
- Presenting cases to students
- Facilitating students' presentations of cases to a group

Some problems in biomedical education

- You can't teach everything your students will need to know
- Your students can't learn everything they will need to know
- Mark Twain never said this, but it's apt:
 - It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so.
- Lectures are boring, including this one.
 - and it is better to give than to receive....

So how to prepare students for what they will need to know?

- Learn how to analyze problems
- Learn how to find information for themselves
 - and build a scaffold on which they can hang future learning
- Learn how to work in teams
- Solution: Case studies (?)

Third Edition

Clinical Methods

*The History,
Physical, and
Laboratory
Examinations*

H. Kenneth Walker
W. Dallas Hall
J. Willis Hurst

Butterworths

Cannon of Harvard

Charles Stewart Roberts.



William Bradford Cannon was born in 1871 in Prairie du Chien, Wisconsin, the site of Fort Crawford, where William Beaumont conducted classic experiments on digestion. Cannon would distinguish himself as a physiologist of Beaumont's rank. Although he was founder of the gastrointestinal roentgen examination and maintained an interest in gastroenterology throughout his life, Cannon's most productive years were spent in the study of the autonomic nervous system and homeostasis. He graduated from Harvard University in 1896 and Harvard Medical School in 1900; he was an instructor in physiology until 1902 and an assistant professor until 1906. From 1906 to 1942, he was George Higginson Professor of Physiology, retiring as Professor Emeritus until his death in 1945.

Keen. Philadelphia Medical Journal, May 7, 1898.
Greenough and Joslin. American Journal of the Medical Sciences, 1899.
Bidwell. American Journal of the Medical Sciences, September, 1899, cxviii, No. 3.
Lund. Boston Medical and Surgical Journal, 1898, cxxxix, No. 10.

THE CASE METHOD OF TEACHING SYSTEMATIC MEDICINE.

BY W. B. CANNON, A.M., BOSTON,
Student, Harvard Medical School.

THE articles on methods of medical instruction recently published and the widespread interest aroused by the papers are the surface showings of an agitation at present deeply affecting the best medical schools throughout the country. Among many instructors there is manifest dissatisfaction with the traditional means of training physicians, a dissatisfaction rising apparently from the belief that the teaching of medicine has not been keeping pace with improvements in the teaching of other subjects. Discussion of old methods and earnest searching after new and more effective methods of preparing young men to be practitioners are consequently rife amongst us. The medical student catches the spirit of this agitation and notices features of his education which seem to him capable of improvement. From a student's point of view, therefore, the present paper on the teaching of systematic medicine is offered.

That clinical instruction alone is too haphazard and uncertain to form a basis for a complete and orderly course in medicine is recognized in most medical schools. The well-rounded preparation for practice which the student must receive demands, therefore, aside from the clinics, an organized course of study. With this conclusion, that more systematic instruction is needed than clinical material can afford, this paper is in agreement; the method by which such systematic instruction is given, however, it proposes to discuss.

Two general methods of teaching systematic medicine have hitherto prevailed, namely, by the didactic lecture, and by recitations on stated topics. Strong objections can be raised both to didactic lectures and to recitations as used in teaching medicine; but the methods have, as well, certain valuable features demanding respect. Manifestly, any alternative for these methods which will avoid their defects and include their merits will be doubly valuable. That the case method of instruction offers such an alternative for the prevalent teaching, it is the purpose of this paper to show.

Before the didactic lecture and the recitation system are considered more in detail, it will be well to have clearly in mind the nature of medical practice and the consequent requisites of medical training. Medical practice is an art, an application of accumulated knowledge and skill to a particular case. It has two aspects: that of observation, and that of interpretation and relief. The first aspect—that of observation—requires of the physician sharp insight in questioning his patient, skill in making a thorough physical examination, and shrewdness in judging human nature. The preparation for this side of the physician's work is pre-eminently clinical; the best training for the examination of the sick is actual practice in such examination by the student under the supervision of an instructor. Observation gives data. Now these data must be ex-

plained and in accordance with this explanation the patient must be rightly treated. In this second attitude as interpreter and helper, the physician brings to bear on the patient the heritage of the past of medicine in so far as this heritage explains the nature of the sickness, as a disturbance of normal structure and function, and provides principles for diagnosis, prognosis and rational treatment. In short, a doctor's work consists in examining disordered individuals, and in applying to them the judgment of a trained mind and a careful knowledge of previous art. If these trite statements need apology it is found in the desire for perfect clearness in the argument which follows. In this argument only the preparation for the second of the attitudes of the physician will be considered, namely, the education of his reason as an interpreter, and the provision of his knowledge as a helper. And first of all the question arises: Is the didactic lecture the most satisfactory and effectual method of drilling the mind to careful thought in diagnosis and prognosis, and of securing to the student definite and ready knowledge of accepted practice?

Among the objections to didactic lectures as a means of instructing the student of medicine, perhaps the least important is the contention that attendance on such lectures is not an economical use of the student's time. This objection, however, is more important in these days of the crowded curriculum than formerly, and is sure to become still more important as, with the advance of medicine, the demand on the student's time increases. The chief support of the objection lies in the fact that lectures on medical subjects present, in the main, only what can be found in the newest textbook. Now, in case the student does not take notes he sits as a passive listener. It is well within the bounds of certainty to affirm that the many points made every week in ten or fifteen lectures on different subjects cannot be fixed permanently in memory by hearing them stated only once. If this student makes up his deficiency, however, by reading his authorities, he is doing precisely what he might quite as well have done without spending time listening to lectures. But suppose the student takes notes of what he hears. Then, according to common testimony, he is so busy writing he learns at the time very little of the matter presented by the lecturer. The student, therefore, is merely accumulating reading matter, and of this he already has as much as he can well manage. Furthermore, he not unfrequently finds that his own inability or the lecturer's obscurity has resulted in notes not good enough to trust. In this instance, likewise, he must depend upon his books. The conclusion seems justified, therefore, that the student, driven to the textbook in spite of didactic lectures, will make better use of his hours by learning systematic medicine directly from the printed sources.

A more serious criticism can be brought against the lecture system in that it allows a slighting of study during a large part of the year and favors cramming for examinations at the end. Some instructors, indeed, seem to regard this condition as essential, and leave time in May for preparation for June examinations. And the students, as well, count on this cramming, for many of them stop attending clinical exercises in May, in order to study their accumulated notes for satisfactory grades. The ephemeral nature of knowledge gained under such circumstances is too well known to need emphasis. It does not become an organized and

Boston Med Surg J 1900; 142:31-36 [January 11, 1900](#)

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Apart from his contributions to physiology, Cannon introduced the case method of teaching medicine, later championed by Richard Cabot. Wrote Cannon:

When I was a medical student in the late nineties it was customary for us to be subjected to four hours of continuous lecturing, from two until six o'clock five days of every week, mainly on subjects concerned with human beings, their diseases, the means of diagnosing the diseases, and the proper modes of treatment. At that time my roommate was a law student, Harry A. Bigelow, later Dean of the Law School at the University of Chicago. I could not help noting the eagerness and zest with which he and his fellow students discussed cases and their implications and comparing this with the dreary and benumbing process we medical students endured as we filled our notebooks. In my senior year in the Medical School I wrote an article which was published in The Boston Medical and Surgical Journal under the title, "The Case System of Teaching Systematic Medicine." The idea of using printed clinical records, that I suggested as a basis for discussing diagnosis and proper treatment, was at once favorably received and put to use. Case books on diseases of the nervous system, on general medicine, and on diseases of children soon appeared. Many of the hours which had formerly dragged in mere passive recording in notebooks what the professor recited—often from another notebook!—now sped away in a lively exchange of views among the students themselves and with their instructors. That reform started about 1900. (1945)

The Case of Richard Cabot

Charles Stewart Roberts.



Paul Dudley White, the distinguished cardiologist, wrote of Richard Cabot after his death:

In every generation there are restless souls who cannot be made to fit the common mold. A few of these are valuable in keeping their communities and professions in a ferment by their constant challenge to the existing order of man's thought and action. But when, in addition to possessing these attributes, a rare individual is endowed with the divine fire and makes important contributions to the pioneering progress of humanity, then indeed we recognize a great leader. In the thick of the fray such recognition comes slowly but as soon as the smoke of the battle clears the acclaim is universal. (1939)

CASE RECORDS of the MASSACHUSETTS GENERAL HOSPITAL

Founded by Richard C. Cabot

Eric S. Rosenberg, M.D., Nancy Lee Harris, M.D., *Editors*
Virginia M. Pierce, M.D., David M. Dudzinski, M.D., Meridale V. Baggett, M.D.,
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Case 1-2017: A 70-Year-Old Woman with Gradually Progressive Loss of Language

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PRESENTATION OF CASE

From the Department of Neurology, Northwestern Medicine, Chicago (M.-M.M.); and the Departments of Neurology (B.C.D., J.C.S., K.A.J.), Psychiatry (J.C.S.), Speech, Language, and Swallowing Disorders and Reading Disabilities (D.H.), Radiology (R.G.G., K.A.J.), and Pathology (M.P.F.), Massachusetts General Hospital, and the Departments of Neurology (B.C.D.), Psychiatry (J.C.S.), Radiology (R.G.G., K.A.J.), and Pathology (M.P.F.), Harvard Medical School — both in Boston.

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Dr. Bradford C. Dickerson: A 70-year-old woman was seen in the memory disorders clinic of this hospital because of progressive cognitive difficulties involving word finding. She was interviewed with the assistance of her daughter.

The patient had reportedly been well until approximately 8 years before this evaluation, when gradually progressive difficulties with word finding developed, along with associated confusion about the meaning of some words. For example, during a conversation about a recent family event, she did not understand what the phrase “punch bowl” meant. She also had increased egocentric behavior, during which she spoke most frequently about herself. She had a good memory for recent events of her life and could recount multiple stories (at times to an excessive extent during history taking, such that she required refocusing). She had an excellent sense of direction. She had an uncharacteristically matter-of-fact reaction to the death of a sibling and of her dog (being less upset than her family expected). She occasionally had mildly inappropriate behavior, such as saying “I love you” to people to whom she was not particularly close.

The patient was right-handed. Approximately 10 years earlier, she had a tick bite and was treated with antibiotic agents after a test for Lyme disease was positive. When she was 7 years of age, she fell out of a tree and hit her head, but she did not lose consciousness and was not hospitalized. There was no history of recent head injury, stroke, seizure, transient ischemic attack, meningitis, encephalitis, exposure to human immunodeficiency virus, thyroid disorder, heart disease, hypertension, hyperlipidemia, diabetes mellitus, liver disease, kidney disease, cancer, pulmonary disorders, exposure to heavy metals, or learning disability. Her only surgical history included three cesarean sections. Her medications were a multivitamin, vitamin C, ginkgo biloba, calcium, magnesium, and zinc, and she had no known allergies. Since the death of her husband 10 years earlier, she had lived alone (in a different state than her daughter) and was able to perform all activities of daily living independently, including managing her money, paying bills, and volunteering in the com-

munity (i.e., visiting senior centers to play piano and attending regular community choir practices). She drank alcohol once or twice per month and did not smoke or use illicit drugs. She had been a teacher and had later worked in business with her husband until his death. A brother in his 60s had Parkinson's disease, and a sister in her 80s had Parkinson's disease and dementia. Her six children and her grandchildren were healthy.

On examination, the patient was alert, attentive, well-groomed, cooperative, and pleasant. The blood pressure was 120/70 mm Hg, the pulse 78 beats per minute and regular, and the weight 68.6 kg. She had a score on the Mini-Mental State Examination of 28 (with scores ranging from 0 to 30 and higher scores indicating better cognitive function), because she was unable to recall the name of the hospital or the county. She had a score on the Clinical Dementia Rating scale of 0 (with scores ranging from 0 to 3 and lower scores indicating better cognitive function). The neurologic examination was normal, including evaluation of the 2nd through 12th cranial nerves, power, bulk, tone, coordination, stance, and gait; the deep tendon reflexes were 1+ throughout. The platelet count was 362,000 per cubic millimeter (reference range, 150,000 to 350,000), and the folate level was 20 ng per milliliter (45 nmol per liter; reference range, 3 to 17 ng per milliliter [7 to 39 nmol per liter]). The hematocrit, hemoglobin level, white-cell count, and blood levels of vitamin B₁₂, electrolytes, glucose, calcium, total protein, albumin, globulin, and thyrotropin were normal, as were the results of renal- and liver-function tests. A rapid plasma reagin test was nonreactive, and testing for antibodies to *Borrelia burgdorferi* was negative. As part of the standard evaluation for a suspected cognitive impairment, the patient was referred for neuropsychological testing, speech pathological evaluation, and imaging studies of the head.

Dr. Janet C. Sherman: On neuropsychological testing, the patient's performance on a screen of nonverbal abilities indicated that she had average pre-morbid intellectual abilities. Language impairment was evident both through clinical observations and when she performed verbal tasks, including tasks of confrontation naming, verbal fluency (for which she had substantially more difficulty with semantic fluency than with phonemic fluency), verbal abstraction, and comprehension of individual words. Her spontaneous speech was fluent, but she had notable difficulty with word finding and

made occasional paraphasic errors. She often had difficulty comprehending words, such as "cork," "misplaced," "bored," and "pessimism." Her performance on tests of attention and executive functioning varied; her greatest impairments were evident when the tasks required language mediation, and these impairments contrasted with her generally normal performance on tasks that were not verbally mediated. Similarly, her performance was normal on a test of nonverbal memory but was substantially impaired on a test of verbal memory. Her storage of verbal information was difficult to assess because of her impaired acquisition and anomia. Her storage of nonverbal information was normal, as was her performance on visuospatial tasks. She did not report symptoms of depression or anxiety on self-reported assessments.

Ms. Daisy Hochberg: Speech pathological evaluation revealed that the patient had fluent, articulate speech with pauses for word finding, vague word substitutions, and circumlocutions. She was somewhat tangential in her speech and was fixated on telling stories from her life, such that she required frequent refocusing on the topic at hand. She had substantial impairment on a test of naming, with superordinate responses, and she had impairment on word–picture matching. Rare phonemic paraphasias were present. Auditory comprehension was impaired for words she no longer recognized and for sentences with complex syntax. Sentence repetition was intact. A written language assessment revealed that she could read normally and had mild agrammatism in written language samples. A semantic picture–picture matching test revealed no evidence of visual agnosia. (A portion of the speech pathological evaluation is shown in Video 1, available with the full text of this article at NEJM.org.)

Dr. Dickerson: A clinical diagnosis was made, and additional diagnostic tests were performed.

CLINICAL DIFFERENTIAL DIAGNOSIS

Dr. M.-Marsel Mesulam: As a behavioral neurologist, my first task is to make a syndromic diagnosis on the basis of the distribution of impaired and preserved functional domains. This 70-year-old, right-handed woman presented with language dysfunction characterized by impairment of word finding, object naming, and word comprehension. She had a few peculiarities of comportment, such as blunted empathy and excessive conviviality, but



A video showing a portion of the patient evaluation is available at NEJM.org

other aspects of behavior and cognition had remained mostly intact. Therefore, her principal diagnostic feature is aphasia.

APHASIA

The differential diagnosis of aphasia includes a long list of left-hemisphere diseases, including stroke involving the middle cerebral artery, hemiplegic migraine, cancer, herpes simplex encephalitis, multiple sclerosis, and many others. However, this patient's symptoms progressively worsened over an 8-year period, and none of these processes take that long to develop. On the basis of the long time course of her syndrome, we can infer that this patient had a neurodegenerative disease. The only alternative diagnosis to consider is Creutzfeldt-Jakob disease, which can cause a focal progressive aphasia that may evolve over a period of 3 or 4 years but almost never over a period of 8 years.^{1,2}

PRIMARY PROGRESSIVE APHASIA

On the basis of the long time course, we can confidently conclude that she had the syndrome of primary progressive aphasia, an acquired language disorder caused by a neurodegenerative process, with relative preservation of other domains.^{3,4} In contrast to typical dementias that occur in late life, primary progressive aphasia most commonly starts before 65 years of age and is not associated with memory loss. There are three variants of primary progressive aphasia: agrammatic, logopenic, and semantic.⁵

The agrammatic variant is characterized by the construction of grammatically incorrect sentences and a loss of fluency in the setting of preserved word comprehension. The logopenic variant is characterized by impairment of word finding, poor language repetition, and fluctuating fluency in the setting of preserved grammar and word comprehension. The semantic variant is characterized by impairment of object naming and word comprehension in the setting of preserved fluency, repetition, and grammar. Pauses for word finding and impaired object naming can occur in each of the variants. The most distinctive feature of this patient's presentation is the loss of word comprehension, a finding that most closely fits the semantic variant of primary progressive aphasia (Fig. 1).

One alternative clinical diagnosis to consider is the closely related syndrome of semantic dementia, in which the deficit of word comprehen-

sion is accompanied by additional associative agnosias (impairments in recognition) of objects and faces.⁶ These features were not present in this patient.

Asymmetric degeneration of the cerebral cortex in the language-dominant (usually left) hemisphere is a common feature present in all patients with primary progressive aphasia. Cortical areas remaining outside the left-hemisphere language network and nearly all cortical areas of the right hemisphere may remain unaffected for years, which explains why patients with primary progressive aphasia are typically able to perform most activities of daily living, as shown by this patient's score of 0 on the Clinical Dementia Rating scale (indicating no functional impairment).

Each variant of primary progressive aphasia is associated with a different anatomical site of peak atrophy in the left-hemisphere language network: the inferior frontal gyrus (Broca's area) in the agrammatic variant, the temporoparietal junction (Wernicke's area) in the logopenic variant, and the anterior temporal lobe in the semantic variant.⁷⁻¹⁰ In semantic dementia, preferential atrophy of the anterior temporal lobe also occurs but usually in a more symmetric pattern that involves both hemispheres.¹¹

Given that this patient's presentation is most consistent with a diagnosis of the semantic variant of primary progressive aphasia, I expect that structural magnetic resonance imaging (MRI) will show severe atrophy in the anterior temporal lobe that is much more pronounced on the left side of the brain than on the right side. Furthermore, as part of the standard evaluation for a patient such as this one, I would perform ¹⁸F-fluorodeoxyglucose-positron-emission tomography (FDG-PET) to see if there is hypometabolism, particularly on the left side, which can also extend to additional ipsilateral and contralateral cortical areas that are interconnected with the left anterior temporal lobe.

IMAGING STUDIES

Dr. R. Gilberto Gonzalez: MRI of the head (Fig. 2), performed without the administration of gadolinium, revealed asymmetric volume loss of the left temporal lobe — especially its anterior and mesial aspects, including the subcortical white matter, amygdala, and hippocampus — along with corresponding dilatation of the left temporal horn. A fluid-attenuated inversion recovery (FLAIR)

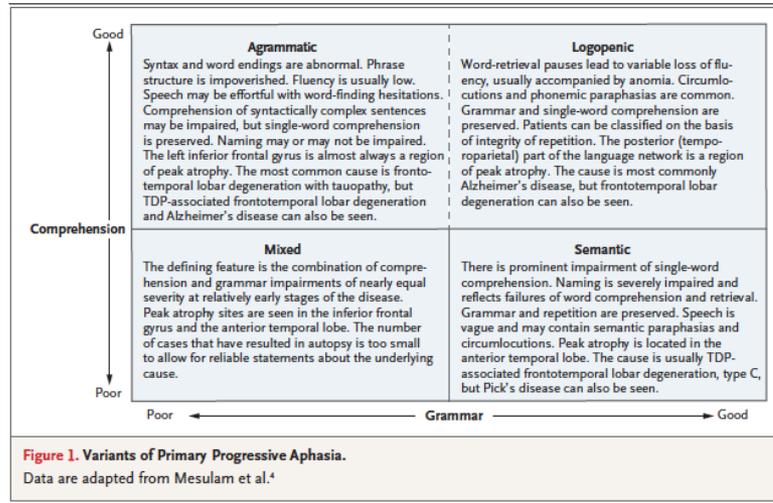


image (not shown) revealed slightly increased hyperintensity of the anterior temporal lobe, as compared with the right side, but there was no other signal abnormality.

Dr. Keith A. Johnson: Four months after the patient's initial evaluation, FDG-PET revealed hypometabolism of the bilateral frontal lobes asymmetrically and of the bilateral temporal lobes that was greater on the left side than on the right side (Fig. 3).

DIFFERENTIAL DIAGNOSIS

NEURODEGENERATIVE DISEASES OF THE ANTERIOR TEMPORAL LOBE

Dr. Mesulam: The anterior temporal lobe is an area of the brain that is critically involved in object naming and word comprehension. Multiple lines of evidence suggest that the left anterior temporal lobe is specialized for word comprehension (recognition), whereas the right anterior temporal lobe may serve a similar function for objects and faces. Disease of the anterior temporal lobe therefore leads to the semantic variant of primary progressive aphasia when it occurs predominantly on the left side, to semantic dementia with extensive impairment of word, face, and object recognition when it occurs bilaterally, and to progressive

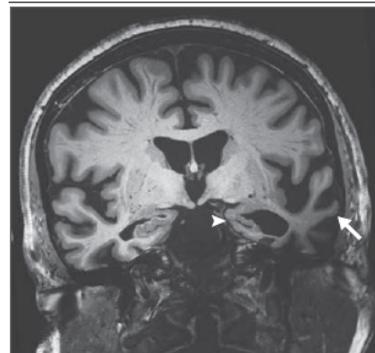
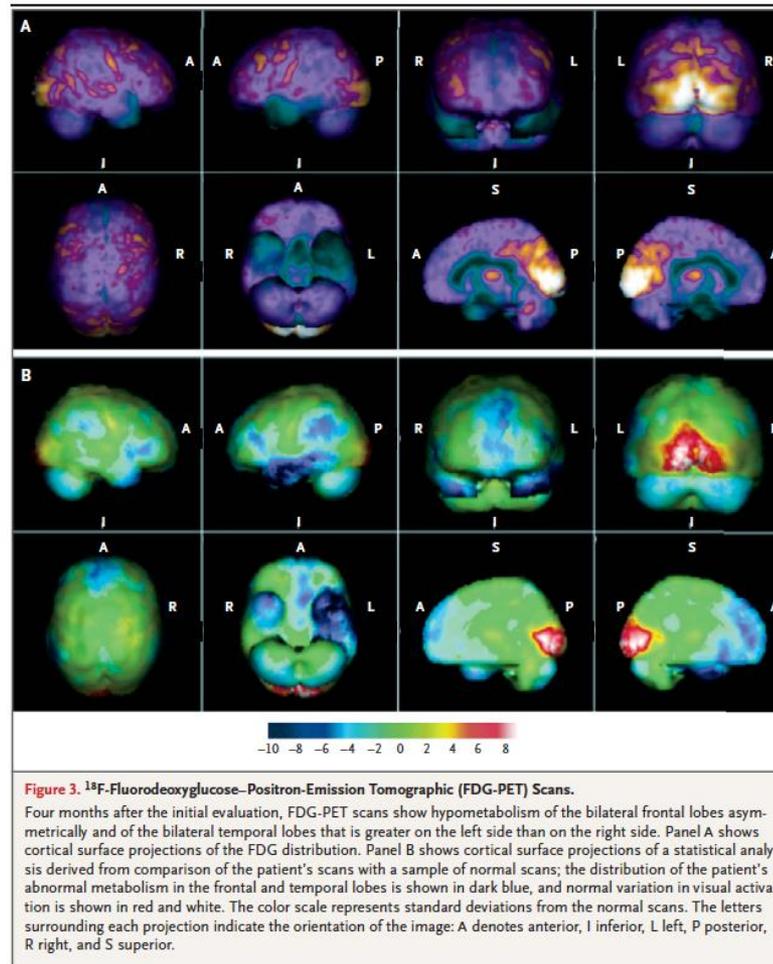


Figure 2. MRI of the Head.
A high-resolution coronal T1-weighted image obtained at the level of the temporal lobes shows generalized loss of parenchymal tissue (arrow) and superimposed severe, asymmetric atrophy (arrowhead) of left temporal lobes, including cortical thinning of the temporal gyri and severe shrinkage of the left hippocampal formation, with resultant expansion of the left temporal horn and sulci.

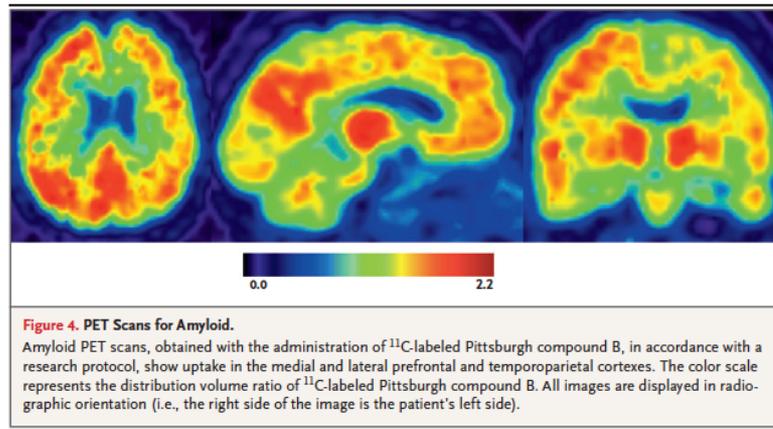
associative agnosias when it occurs predominantly on the right side.^{14,15} In this patient, the finding of asymmetric atrophy of the left anterior temporal lobe is consistent with the clinical diagnosis of



the semantic variant of primary progressive aphasia rather than semantic dementia.

In patients with primary progressive aphasia, the underlying pathologic process is usually caused by frontotemporal lobar degeneration or Alzheimer's disease. Approximately 60% of cases of primary progressive aphasia are associated with frontotemporal lobar degeneration, and 40% are

associated with Alzheimer's disease. PET with amyloid-binding compounds (amyloid PET) would be useful in this patient to determine whether her primary progressive aphasia is likely to be caused by Alzheimer's disease. A positive result on amyloid PET increases the likelihood of Alzheimer's disease, whereas a negative result definitively rules out Alzheimer's disease and makes frontotempo-



ral lobar degeneration the most likely cause. Therefore, the next step in this patient's evaluation should be to perform amyloid PET.

Dr. Johnson: Amyloid PET was performed with the administration of ^{11}C -labeled Pittsburgh compound B, in accordance with a research protocol. The imaging study showed elevated uptake in the medial and lateral prefrontal and temporoparietal cortices (Fig. 4).

Dr. Mesulam: The positive result on amyloid PET in this case is thought-provoking but needs to be interpreted with consideration of the patient's age at the time of imaging. A positive result on amyloid PET can be seen in elderly persons with no known cognitive abnormalities.¹⁶ Furthermore, prominent impairment of single-word comprehension of the type described in this patient and severe focal degeneration of the anterior temporal lobe are two features of primary progressive aphasia that are almost never encountered when the condition is caused by Alzheimer's disease.¹⁷ There is a strong correlation between the semantic variant of primary progressive aphasia and a type of frontotemporal lobar degeneration that is linked to the presence of abnormal deposits of TAR DNA-binding protein 43 (TDP-43), an RNA-binding protein with a wide range of targets. TDP-associated frontotemporal lobar degeneration has several subtypes, defined according to the pattern of inclusions, and the semantic variant of primary progressive aphasia is associated with type C in 80% of cases. Therefore, despite the

positive result on amyloid PET, I think that this patient's primary progressive aphasia is caused by TDP-associated frontotemporal lobar degeneration, type C, rather than Alzheimer's disease.

Dr. Eric S. Rosenberg (Pathology): Dr. Dickerson, would you tell us your clinical impression when you evaluated this patient and also what happened with her?

Dr. Dickerson: On the basis of our clinical evaluation and imaging studies, our initial diagnosis was primary progressive aphasia. Once this diagnosis was made, we had to deliver the news that, at present, there are no disease-modifying therapies and few symptomatic therapies for primary progressive aphasia. Nevertheless, the cognitive and behavioral symptoms are treatable, and treatment is best determined by a multidisciplinary team of specialists.¹⁸ Treatment includes pharmacologic and nonpharmacologic management of symptoms, management of coexisting conditions, psychosocial support, and education of the patient and family.¹⁹

As is the case for many patients with primary progressive aphasia, new symptoms beyond those affecting language began to arise in this patient with time.²⁰ As she progressively lost semantic memory, she was no longer able to carry out instrumental activities of daily living, and she moved to an assisted-living facility when she was 72 years of age. Behavioral symptoms,²¹ including compulsivity, disinhibition, and agitation when efforts were made to curb her behavior, became promi-

ment. Citalopram was used with some benefit to treat these symptoms. However, over time, her symptoms progressed and led to her placement in an acute geriatric psychiatry unit, where she was treated with olanzapine and lorazepam. Her symptoms continued to progress, and she was placed in a skilled nursing facility when she was 74 years of age. She had increasing difficulty with recognizing even close family members, as well as urinary and bowel incontinence and diminished ability to carry out basic activities of daily living, such as showering, dressing, and brushing her teeth. Ultimately, she “forgot” how to walk. When the patient was 77 years of age, she had decreased interest in food and increased difficulty with swallowing, and hospice services were engaged. She was enrolled in a Namaste Care program (i.e., a program for persons with advanced-stage dementia),²² which provided her with calming, supportive end-of-life care, and she passed away peacefully 1 day before her 78th birthday. A limited autopsy was performed.

CLINICAL DIAGNOSIS

Primary progressive aphasia, semantic variant.

DR. M.-MARSEL MESULAM'S DIAGNOSIS

Primary progressive aphasia, semantic variant, due to TAR DNA-binding protein 43 (TDP-43)-associated frontotemporal lobar degeneration, type C.

PATHOLOGICAL DISCUSSION

Dr. Matthew P. Frosch: The autopsy was limited to an examination of the central nervous system. The brain weighed 1020 g in the fresh state, and there was evidence of atrophy of the temporal lobes that was more severe in the left hemisphere than in the right hemisphere (Fig. 5A). Within the temporal lobes, the atrophy was more severe in the inferomedial portion than in the superior portion. There was mild atrophy involving the frontal lobe, without notable asymmetry. After cutting into the coronal plane, there was evidence of moderate cortical atrophy involving the frontal and superior temporal lobes and extreme atrophy involving the inferior and medial temporal lobes (Fig. 5B and 5C). There was enlargement of the lateral ventricle and of the temporal horn

of the ventricle, and there was volume loss in the hippocampus (Fig. 5C). The most severe cortical atrophy resulted in friable tissue without well-defined gray–white distinction.

Microscopic examination of the most severely affected cortical regions revealed near-complete neuronal loss with corresponding extensive reactive gliosis. In areas of the cortical region that had less-severe atrophy on gross examination, there was mild neuronal loss with corresponding mild gliosis. A range of immunohistochemical studies was performed as a routine assessment for neurodegenerative diseases. The most prominent finding was the presence of long TDP-43-positive neuropil threads and dystrophic neurites in temporal and frontal cortexes (Fig. 5D and 5E). There were very few neuronal cytoplasmic inclusions and no evident neuronal intranuclear inclusions. In keeping with the presence of TDP-43-positive inclusions, there was severe neuronal loss from area CA1 of the hippocampal formation without accumulation of a substantial burden of neurofibrillary tangles (Fig. 5E); this pattern meets the neuropathological definition of hippocampal sclerosis. The severity of the focal cortical atrophy (lobar atrophy) and the presence of TDP-43-positive inclusions accompanied by hippocampal sclerosis support the neuropathological diagnosis of TDP-43-associated frontotemporal lobar degeneration, type C.^{23,24}

Immunohistochemical assessment revealed the presence of β -amyloid deposits in the neocortex, hippocampal formation, striatum, and brain stem but not in the cerebellum; this distribution corresponds to Thal stage 4 of 5 for amyloid deposition.²⁵ Immunohistochemical assessment for tau revealed the presence of neurofibrillary tangles in the entorhinal cortex, subiculum, and portions of the cornu ammonis; this distribution corresponds to Braak and Braak stage II of VI.²⁶ Assessment for neuritic plaques, performed according to the Consortium to Establish a Registry for Alzheimer's Disease criteria, revealed that plaques were only sparsely present in the cerebral cortex.²⁷ This combination of results merits a score of A3B1C1 according to the 2012 National Institute on Aging–Alzheimer's Association guidelines for the neuropathological assessment of Alzheimer's disease; the score reflects the severity of three variables — deposition of β -amyloid, accumulation of neurofibrillary tangles, and burden of neuritic plaques — on a scale ranging from 0 to

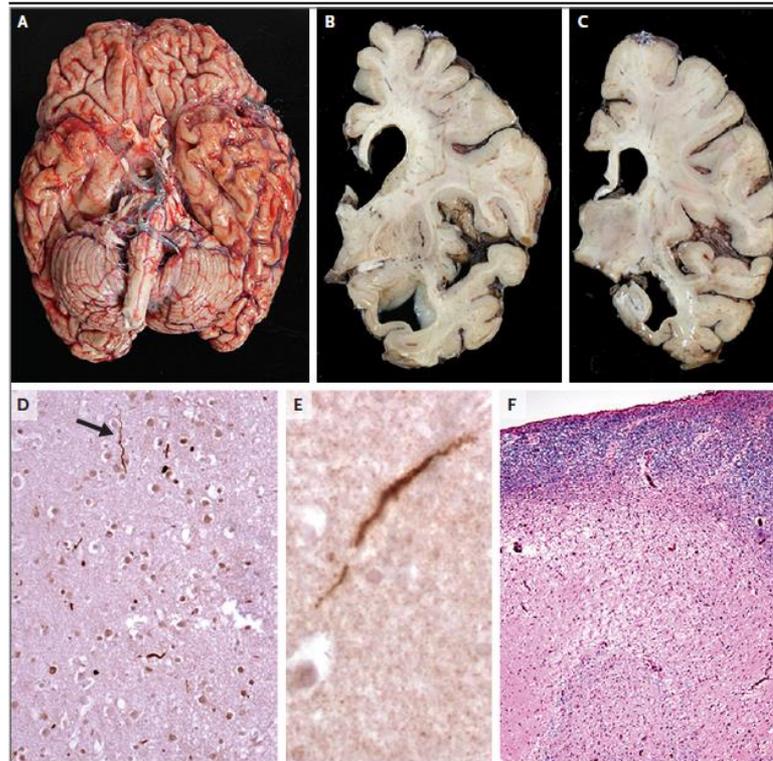


Figure 5. Autopsy Specimens.

A photograph of the ventral surface of the brain shows atrophy of the temporal lobes that is greater on the left side than on the right side (Panel A). Photographs of coronal slabs obtained at the levels of the anterior and body of the hippocampus (Panels B and C, respectively) show severe atrophy of the inferior and medial temporal lobe and lesser degrees of atrophy of the insula, cingulate, and anterior frontal lobes. Immunohistochemical staining for TAR DNA-binding protein 43 (TDP-43) shows multiple long, dystrophic neurites (Panel D, arrow); a single long, dystrophic TDP-43-positive neurite (Panel E); and neuronal loss from area CA1 of the hippocampal formation (hippocampal sclerosis) (Panel F).

3, with higher scores indicating greater severity. This patient's score is associated with disease that has a low likelihood of resulting in cognitive impairment.²⁸

The pattern of cerebral cortical atrophy is consistent with the clinical diagnosis of frontotemporal dementia,²⁴ a clinical syndrome that is categorized as either the behavioral variant of frontotemporal lobar degeneration or primary

progressive aphasia. Neuropathological classification of frontotemporal lobar degeneration, the condition that is typically present in patients with frontotemporal dementia, begins with separation into either the group characterized by the presence of tau-containing inclusions in the form of tangles and neuropil threads (in the absence of β -amyloid plaques) or the group characterized by the presence of inclusions composed of TDP-

43.²⁰ TDP-associated frontotemporal lobar degeneration is further classified into subgroups defined according to the pattern of inclusions: type A is associated with the presence of many neuronal cytoplasmic inclusions and short dystrophic neurites, type B with the presence of some neuronal cytoplasmic inclusions and rare dystrophic neurites, and type C with the presence of rare neuronal cytoplasmic inclusions and long dystrophic neurites (as was seen in this patient).²³ Although the clinicopathological correlations are not exact, type C lesions often occur with the semantic variant of primary progressive aphasia, semantic dementia, or the behavioral variant of frontotemporal lobar degeneration.

A Physician: Is there a difference in how a patient with primary progressive aphasia would be treated if the underlying cause is Alzheimer's disease versus frontotemporal lobar degeneration?

Dr. Mesulam: If the patient has a type of primary progressive aphasia that is frequently associated with Alzheimer's disease and biomarker studies are positive for Alzheimer's disease, medications such as cholinesterase inhibitors (e.g.,

galantamine, rivastigmine, and donepezil) and memantine would be indicated. However, there is no convincing evidence that these medications help the aphasia. A rigorous trial that includes only patients with primary progressive aphasia who have clinical and biomarker evidence supportive of Alzheimer's disease remains to be done.

ANATOMICAL DIAGNOSIS

Primary progressive aphasia, semantic variant, due to TAR DNA-binding protein 43 (TDP-43)-associated frontotemporal lobar degeneration, type C.

This case was presented and discussed at the 20th annual Harvard Medical School Continuing Medical Education course, "Dementia: A Comprehensive Update," organized by Alireza Atri, M.D., Ph.D., and Bradford C. Dickerson, M.D.

The neuropathological evaluation in this case was supported by the Massachusetts Alzheimer's Disease Research Center (P50 AG005134).

No potential conflict of interest relevant to this article was reported.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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LANTERN SLIDES UPDATED: COMPLETE POWERPOINT SLIDE SETS FROM THE CLINICOPATHOLOGICAL CONFERENCES

Any reader of the *Journal* who uses the Case Records of the Massachusetts General Hospital as a teaching exercise or reference material is now eligible to receive a complete set of PowerPoint slides, including digital images, with identifying legends, shown at the live Clinicopathological Conference (CPC) that is the basis of the Case Record. This slide set contains all of the images from the CPC, not only those published in the *Journal*. Radiographic, neurologic, and cardiac studies, gross specimens, and photomicrographs, as well as unpublished text slides, tables, and diagrams, are included. Every year 40 sets are produced, averaging 50-60 slides per set. Each set is supplied on a compact disc and is mailed to coincide with the publication of the Case Record.

The cost of an annual subscription is \$600, or individual sets may be purchased for \$50 each. Application forms for the current subscription year, which began in January, may be obtained from the Lantern Slides Service, Department of Pathology, Massachusetts General Hospital, Boston, MA 02114 (telephone 617-726-2974) or e-mail Pathphotoslides@partners.org.

Cases used for Rush AC neuroscience course and UVa neurology clerkship

1. Multiple sclerosis
2. Guillain-Barré syndrome
3. Patient with breast cancer and epidural abscess
4. Apparent coma due to locked-in syndrome
5. Seizure due to meningioma
6. Dementia due to Jakob-Creutzfeldt syndrome
7. Tremor due to Wilson's disease
8. Migraine

Problem 1 - Page 1

A 26 year old right handed female nurse stops you in the hall to inquire about numbness in her hands. For the past two months, she has noted numbness and paresthesiae in both hands. When typing, adjusting IVs, or performing other tasks requiring dexterous hand movements, she feels clumsy . On one occasion she dropped a cup of coffee for no apparent reason, but does not feel that her hands are weak. She has no other complaints.

Past medical history is unremarkable.

Allergies: penicillin caused a rash.

Medications: oral contraceptives.

Habits: she smokes one pack of cigarettes daily, drinks about six cans of beer per weekend, and has a nightly glass of wine with dinner. She used marijuana, cocaine, LSD, and MDA in college, but not during the past five years. She is sexually active in a serially monogamous fashion: she has been with the same man for three years and is contemplating marriage.: She denies exposure to solvents and other toxins.

Questions:

1. List three potential causes of her hand numbness, and discuss how you would work them up.

2. Discuss the neurologic complications associated with oral contraceptive agents, and their relationship to tobacco use.

Problem 1 - Page 2

Physical examination reveals a well-developed, well-nourished woman in no distress. BP 110/60. P 65 and regular. R14. T 37. height 53". Weight 107 lbs.

Skin: no lesions

HEIGHT: normal

Neck: supple: no abnormal sensations associated with neck; movement

Lungs: clear

Breasts: no masses

CV: S1. S2 normal: no S3. or S4: + midsystolic click; without a murmur. Peripheral pulses are intact.

Abdomen: scaphoid. without masses or organomegaly

Back: normal

Extremities: no cyanosis. clubbing. or edema

Pelvic & rectal exams: normal

Neurologic exam:

Mental status: alert. cooperative. oriented x4: language. judgment. and memory normal.

Cranial nerves: pupils 4 mm. round. and briskly reactive to light and accommodation. Extraocular movements are intact. Her visual acuity and visual fields are normal. There is no weakness or sensory loss.

Motor: strength. tone. and bulk are normal.

Reflexes: 3+, symmetric, without clonus or pathologic reflexes.

Sensory: normal

Cerebellar: normal

Gait: normal

Questions:

3. The patient asks you for your diagnostic impression. What will you tell her?

4. Describe and discuss the significance of the following pupillary findings: Argyll-Robertson pupils, Adie's pupil.

Problem 1 - Page 3

The patient marries four months later. Two months after this she calls you to report the acute onset of left eye pain and visual loss. You question her about other problems and she admits that for the past two weeks she had experienced intermittent diplopia on right lateral gaze which she attributed to fatigue.

Her examination is now remarkable for:

Cranial nerves: neither pupil constricts in response to light in the left eye, but both constrict briskly when light is shined into the right eye. Visual acuity: OS 20/200. OD 20/20. The left optic disc is swollen and gray. The positions of the eyes at rest and on left lateral gaze are normal. On right lateral gaze, the left eye does not adduct past the midline; the right eye abducts fully but develops nystagmus. The other cranial nerves are normal.

Motor: normal

Reflexes: 3+ except 4+ at both ankles. Bilateral Babinski signs are now present.

Cerebellar: normal

Gait: normal

Questions:

- 5. Draw the pathways subserving the pupillary light reflex, indicating the point at which you think this patient's problem is located.**

- 6. Draw the pathways coordinating conjugate lateral eye movement. Where do you think this patient's lesion is located? How does the anatomy of vertical gaze differ from that of horizontal gaze?**

- 7. What is your differential diagnosis at this point?**

- 8. What diagnostic studies should be performed now?**

Problem 1 - Page 4

CBC. Chemistries . U/A, RPR, ANA, ESR, and complement levels are normal.

An MRI scan of the brain and spinal cord reveals six areas of increased T2 signal in the cerebral white matter.

Visual evoked responses yield no response from the left eye and delayed conduction on stimulation of the right eye.

Brainstem auditory evoked responses reveal a delay between waves III and V on right ear stimulation.

Somatosensory evoked responses show normal latencies from each median nerve to the brachial plexus and cervical spine, but bilaterally delayed conduction from the cervical spine to the cortex.

CSF: opening pressure 12 cm CSF:
protein 40 mg dL.
glucose 70 mg dL (serum 95 mg dL);
cell counts: 0 RBCs, 7 WBCs, All lymphocytes
IgG:albumin ratio: 0.24 in CSF, 0.11 in serum
High resolution CSF electrophoresis: 4 oligoclonal bands
Myelin basic protein: present

You admit the patient to the hospital for corticosteroid treatment.

Questions:

- 9. What effect(s) does corticosteroid treatment have on this condition? By what route and for how long should it be administered? What are the risks?**
- 10. Discuss the neuroimmunology of this condition.**
- 11. Discuss the significance of each of the abnormal findings detailed above.**
- 12. Which of the above tests contributed something useful in this patient's diagnosis and which were superfluous?**

Problem 1 - Page 5

She completes her course of treatment. Two weeks later, her right eye acuity is 20/100 and remains stable thereafter. Her diplopia gradually resolves; her left eye adducts normally on right lateral gaze, but the right eye continues to demonstrate some nystagmus.

Questions:

13. What is the sequence of pathologic changes occurring in her nerves?

14. Discuss the natural history of this condition. What sorts of courses may her disease run over the next 20 years? What is the effect of pregnancy on the natural history of this condition?

Objectives

- Selecting cases for teaching
- Presenting cases to students
- Facilitating students' presentations of cases to a group

Selecting cases for teaching

- Any case is good for teaching something
 - Select your teaching points
 - Riff on your student's questions and responses

Objectives

- Selecting cases for teaching
- **Presenting cases to students**
- Facilitating students' presentations of cases to a group

Presenting cases to students

- In a classroom
 - Pros: you can change the history, exam, lab data, treatment
 - Cons: not as immediate as a bedside presentation
- At the bedside
 - Pros: real life; patient may be able to participate, answering questions you didn't anticipate
 - Cons: real life is messy

Objectives

- Selecting cases for teaching
- Presenting cases to students
- **Facilitating students' presentations of cases to a group**

Facilitating students' presentations of cases to a group

- With preparation
 - Do all students get the case in advance, or just the presenter?
 - Should you coach the student?
 - Paper case
 - Live case
- Without preparation
 - Paper case
 - Live case

Does it matter whether education is case-based or lecture based?

- Are they better practitioners throughout their careers?
- How do they perform on standardized tests?

An Experiment in Medical Education

A Critical Analysis Using Traditional Criteria

Larry J. Goodman, MD; Erich E. Brueschke, MD; Roger C. Bone, MD; William H. Rose, PhD;
E. Jane Williams, PhD; Harold A. Paul, MD

In 1984, in addition to its standard traditional curriculum, Rush Medical College (Chicago, Ill) developed a Socratic problem-based method of teaching basic science material called the alternative curriculum. As part of an evaluation of this new curriculum, students in the two curricula were compared using three traditional measurements: (1) test scores from the National Board of Medical Examiners, Part I; (2) test scores from the National Board of Medical Examiners, Part II; and (3) performance on an oral examination. Alternative curriculum students did not differ significantly from their traditional curriculum classmates on National Board of Medical Examiners, Part I and Part II total scores, although their subset scores on Part I did tend to be lower, reaching significance in one subset area. Differences in performance favoring the traditional curriculum were primarily seen in the early years of the program. Alternative curriculum students in the class matriculated in 1987 scored significantly higher in three of five categories on the oral examination.

mented at this institution using three traditional and relatively objective methods: (1) National Board of Medical Examiners (NBME), Part I; (2) NBME, Part II; and (3) an oral examination.

METHODS

Once admitted, students interested in the AC were interviewed and informed about the design of the program, its goals, and its experimental nature. Since its pilot year, 18 positions in each entering class of 120 students were available in the AC. Of matriculated students, between 18 and 30 requested a position in the AC each year. Students were selected based on their enthusiasm for the described program and on

Table 1.—Unadjusted and Adjusted Mean Scores for NBME I by Curriculum Type*

Subject Area	Mean Score (SD)				P†		
	Unadjusted		Adjusted‡		Curriculum	Year	C × Y
	TC (N = 501)	AC (N = 72)	TC	AC			
Anatomy	476 (94)	459 (86)	476	458	.10	.00	.02
Physiology	480 (88)	491 (92)	481	486	.58	.00	.14
Biochemistry	492 (90)	473 (91)	492	474	.10	.43	.04
Pathology	521 (99)	497 (95)	522	490	.01	.10	.17
Microbiology	479 (102)	488 (86)	479	486	.54	.00	.08
Pharmacology	494 (96)	518 (92)	495	511	.18	.02	.09
Behavioral science	492 (97)	501 (97)	494	489	.63	.00	.67
Total	489 (93)	485 (90)	489	480	.40	.41	.12

*Includes classes matriculated from 1984 through 1988, first administration scores. NBME I indicates National Board of Medical Examiners, Part I; TC, traditional curriculum; and AC, alternative curriculum.

†Adjusted for gender, age, undergraduate grade point average, presence of a higher degree, and Medical College Admission Test scores used as covariates; C × Y indicates curriculum by year.

‡Probabilities from curriculum by year analyses of variance (2 × 5), including interaction term (C × Y).

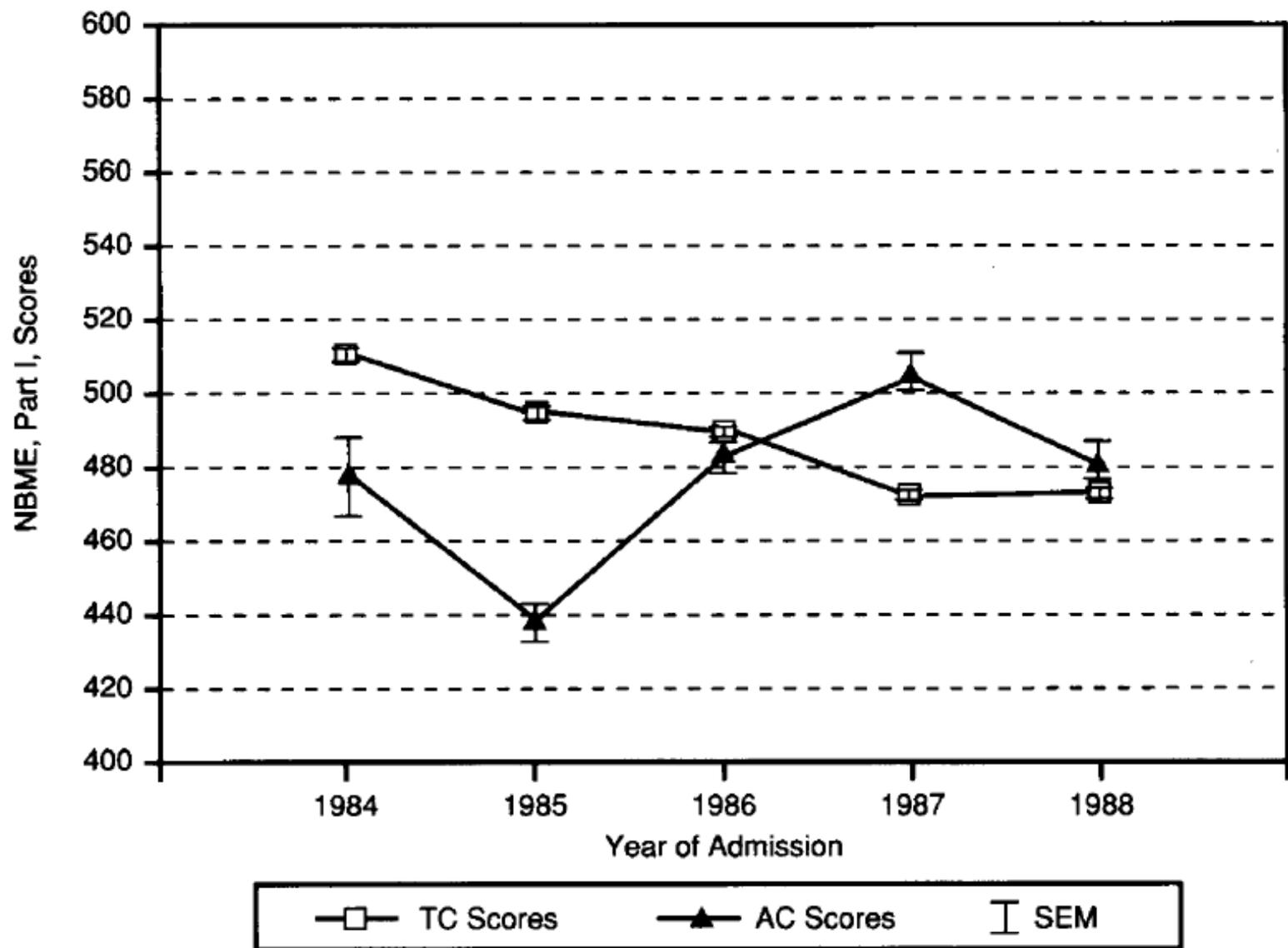


Fig 1.—Comparative adjusted alternative curriculum (AC) and traditional curriculum (TC) National Board of Medical Examiners (NBME), Part I, scores for classes matriculated 1984 through 1988.

Table 2.—Unadjusted and Adjusted Mean Scores for NBME II by Curriculum Type*

Subject Area	Mean Score (SD)						
	Unadjusted				P†		
	Unadjusted		Adjusted‡		Curriculum	Year	C × Y
	TC (N = 297)	AC (N = 36)	TC	AC			
Medicine	490 (91)	475 (90)	489	485	.80	.00	.71
Surgery	494 (87)	474 (87)	493	481	.42	.34	.60
Obstetrics/gynecology	480 (90)	481 (83)	480	484	.80	.09	.89
Public health	484 (86)	503 (117)	487	496	.54	.08	.15
Pediatrics	491 (94)	478 (83)	491	483	.67	.14	.21
Psychiatry	531 (93)	514 (97)	530	522	.66	.02	.95
Total	494 (83)	483 (83)	494	489	.73	.03	.94

*Includes classes matriculated from 1984 through 1986, first administration scores. NBME II indicates National Board of Medical Examiners, Part II; TC, traditional curriculum; and AC, alternative curriculum.

†Adjusted for gender, age, undergraduate grade point average, presence of a higher degree, and Medical College Admission Test scores used as covariates; C × Y indicates curriculum by year.

‡Probabilities from curriculum by year analyses of variance (2 × 3), including interaction term (C × Y).

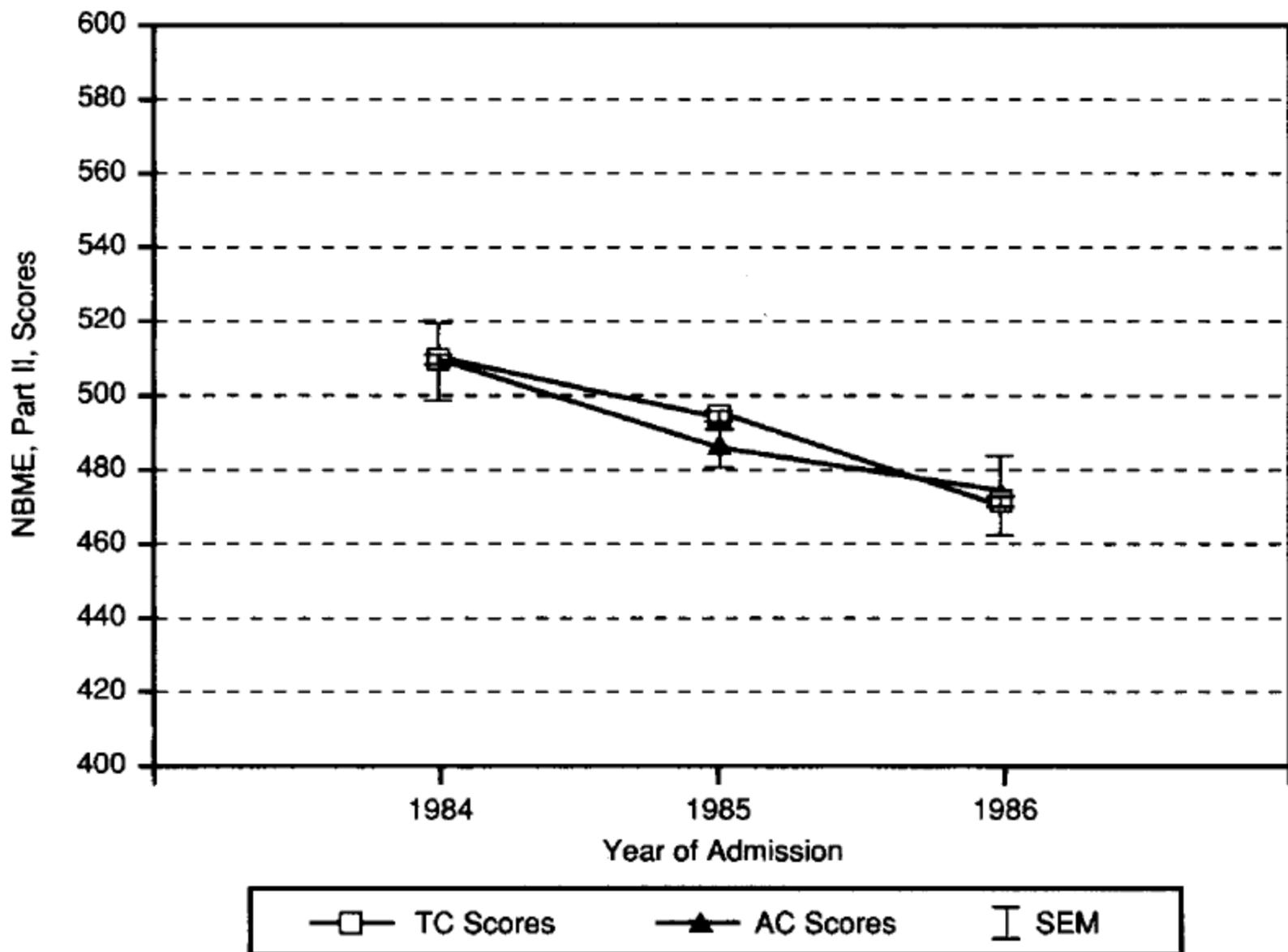


Fig 2.—Comparative adjusted alternative curriculum (AC) and traditional curriculum (TC) National Board of Medical Examiners (NBME), Part II, scores for classes matriculated 1984 through 1986.

Problem-Based Learning and Medical Education Forty Years On

A Review of Its Effects on Knowledge and Clinical Performance

Alan J. Neville

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Key Words

Problem-based learning · Medical education · Self-directed learning · Memory and cognitive architecture · Guided learning · Outcome assessment · Clinical competency

Abstract

Problem-based learning (PBL) has swept the world of medical education since its introduction 40 years ago, leaving a trail of unanswered or partially answered questions about its benefits. The literature is replete with systematic reviews and meta-analyses, all of which have identified some common themes; however, heterogeneity in the definition of a 'problem-based learning curriculum' and its delivery, coupled with different outcome measurements, has produced divergent opinions. Proponents and detractors continue to dispute the merits of the cognitive foundation of a PBL approach, but, despite this, there is evidence that graduates of PBL curricula demonstrate equivalent or superior professional competencies compared with graduates of more traditional curricula.

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adopted the method in whole or in part. This revolution in medical education has had a huge impact on the development of the medical school curriculum, and yet when it was introduced there was no philosophical or cognitive theoretical underpinning explicitly stated by the founders of the McMaster Medical School. Indeed, Howard Barrows [1], who developed the PBL experience at McMaster, had no background in educational psychology or cognitive science, and the rationale that he and his colleagues proposed for the McMaster curriculum, which included learning in small groups for the study of clinical problems, was that it would make medical education more interesting and relevant for their students. Even more remarkable was the widespread adoption of this educational theory and its endorsement by the Association of Medical Colleges and the World Federation of Medical Education without any real evidence at the time that the PBL-trained learner would become a better doctor [2, 3].

Over the ensuing 40 years, there has been a large number of publications related to the use of PBL, and several systematic and nonsystematic reviews of PBL curriculum

Abstract

Problem-based learning (PBL) has swept the world of medical education since its introduction 40 years ago, leaving a trail of unanswered or partially answered questions about its benefits. The literature is replete with systematic reviews and meta-analyses, all of which have identified some common themes; however, heterogeneity in the definition of a 'problem-based learning curriculum' and its delivery, coupled with different outcome measurements, has produced divergent opinions. Proponents and detractors continue to dispute the merits of the cognitive foundation of a PBL approach, but, despite this, there is evidence that graduates of PBL curricula demonstrate equivalent or superior professional competencies compared with graduates of more traditional curricula.



Professional Virtue and the *Root of Inner Wisdom*

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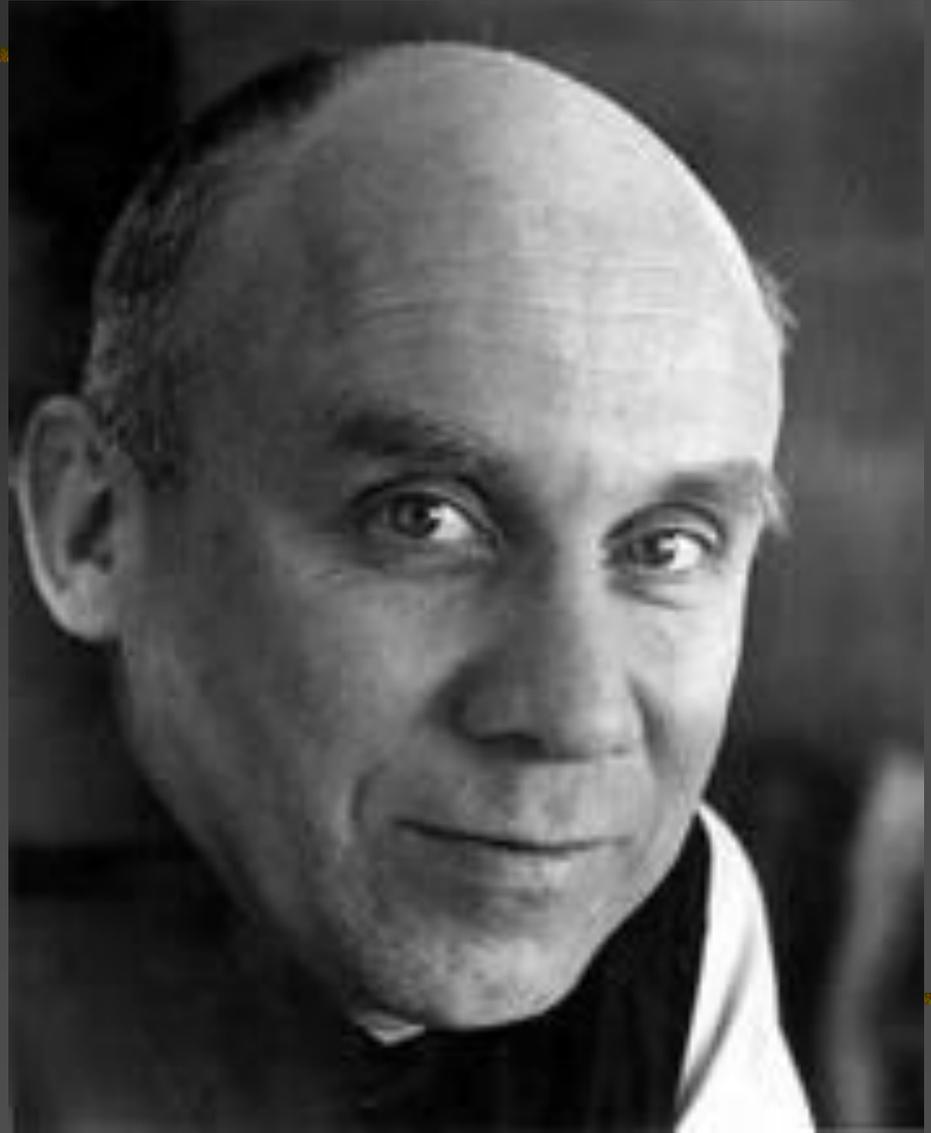
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Objectives

- At the conclusion of this activity learners will be able to:
 - Distinguish role-specific professional obligations and ethical principles.
 - Differentiate principlism from virtue ethics in professional life.
 - Engage in reflection, dialogue and praxis on one's professional ethical commitments.
 - *I have no conflicts of interest to disclose.*
-

Thomas Merton

1915-1968



What's at Stake

“The rush and pressure of modern life are a form ... of ... innate violence. To allow oneself to be carried away by a multitude of conflicting concerns, to surrender to too many demands, to commit oneself to too many projects, to want to help everyone in everything is to succumb to violence. The frenzy of the activist ... destroys the fruitfulness of his own work because it kills the root of inner wisdom which makes work fruitful.”

Thomas Merton, *Conjectures of a Guilty Bystander*
(New York: Doubleday, 1966, p. 86.)

Human Person as:

- BIO
- PSYCHO
- SOCIAL
- SPIRITUAL

Features of a Profession

- Training
 - Intellectual Rigor
 - Service
 - Other Features
 - Licensure
 - Professional Autonomy
 - Monopoly granted
 - Self-regulated
-

Professional Ethics

- Normative Standards
 - Consulting vs. Scholarly Professions
 - Professional Values Codified
 - AMA, ABA, ANA Codes of Ethics, Standards of Practice, e.g.
 - Your Professional Code . . .
 - Ethical Principles
 - To fill the gaps/ make the rules
-

Professionalization Values

- Praxis between
 - Principles/Rules
 - “talking the talk”
 - Character/Virtue
 - “walking the walk”
 - Education & Training
 - Technical Competence
 - Service vs. Profit
-

Bioethics

Principles

- Autonomy
- Nonmaleficence
- Beneficence
- Justice

Beauchamp TL and Childress JF .
Principles of Biomedical Ethics Bioethics, 3rd Ed.
(New York: Oxford, 1989)

Other Values

- Community/
Relationality
- Caring, kindness,
devotion, compassion
- Love, altruism,
sacrifice, conscience
- Preferential option for
weak, poor

Based on Meilander G. *Body, Soul and Bioethics*
(South Bend, IN: Notre Dame Press, 1995)

Role Accountability

- Patient/Client = 1^o: *The person who comes to you seeking your services*
 - Employer/Payor: *The person or entity who purchases your services*
 - Other Professionals/Professional Community
 - Family
 - Society
 - Self
-

Two Ethical Questions

- What ought to be done in this situation, all things considered?
 - “Snapshot ethics”
 - Main focus of professional ethics
 - How ought I live a life of moral excellence in my chosen profession?
 - “Video ethics”
 - Main focus of professionalism
 - “Virtue Ethics”
-

What Are Virtues?

- Excellence in function (Aristotle)
 - “Habits of the Heart” (Bellah)
 - Human, professional behaviors
 - Virtue as Practice (*praxis*)
 - Represent core moral values
 - One tries to live a life so that one’s daily behavior exemplifies those core values
 - “Obituary test”
 - (inherently biographical view)
-

Classical Virtues

- Cardinal Virtues (Plato)
 - Prudence
 - Justice
 - Temperance
 - Fortitude/Courage
 - Theological Virtues (Paul/Augustine)
 - Faith
 - Hope
 - Love
-

A Caution from Merton

“Some of the most virtuous [people] in the world are also the bitterest and most unhappy because they have unconsciously come to believe that all their happiness depends on their being more virtuous than [others].”

Thomas Merton, *New Seeds of Contemplation*
(New York: Doubleday 1962)

Values & Personal Meaning

- Identity/Integrity
 - Community
 - Connectedness
 - Intimacy/Trust
 - Forgiveness
 - Truth
 - Freedom
 - Service
 - Generosity
 - Magnanimity
 - Humility
 - Self-Care
 - Healing
 - Compassion
 - etc. . . .
-

The Virtuous Student/Clinician



The Ethical Professional . . .

- Practice of
 - Reflection
 - Dialogue
 - Praxis
-

A Famous Musician

- “If I don’t practice for one day, I know it. If I don’t practice for two days, the critics know it. If I don’t practice for three days, the audience knows it.”
 - *“Fine discernment” and virtue*
-

Fine Discernment

- Virtue ideally involves doing the right thing, in the right way, for the right reasons, with the right attitude
 - Like becoming a music virtuoso, achieving optimal virtue is a life-long project of *becoming*
 - Irony: The more virtuous one is, the better one can detect even slight lapses
-

Merton on Fine Discernment

“A great deal of virtue and piety is simply the easy price we pay in order to justify a life that is essentially trifling. Nothing is so cheap as the evasion purchased by just enough good conduct to make one pass as a “serious person” . . .

But it is precisely this idea that a serious life demands “time to live” that is the root of our trifling.”

Thomas Merton, *Conjectures of a Guilty Bystander*
(New York: Doubleday, 1966)

Your Work as:

- JOB

- CAREER

- PROFESSION

- VOCATION



“Ethics: Dealing with questions
that don’t have an ^{easy} answer”

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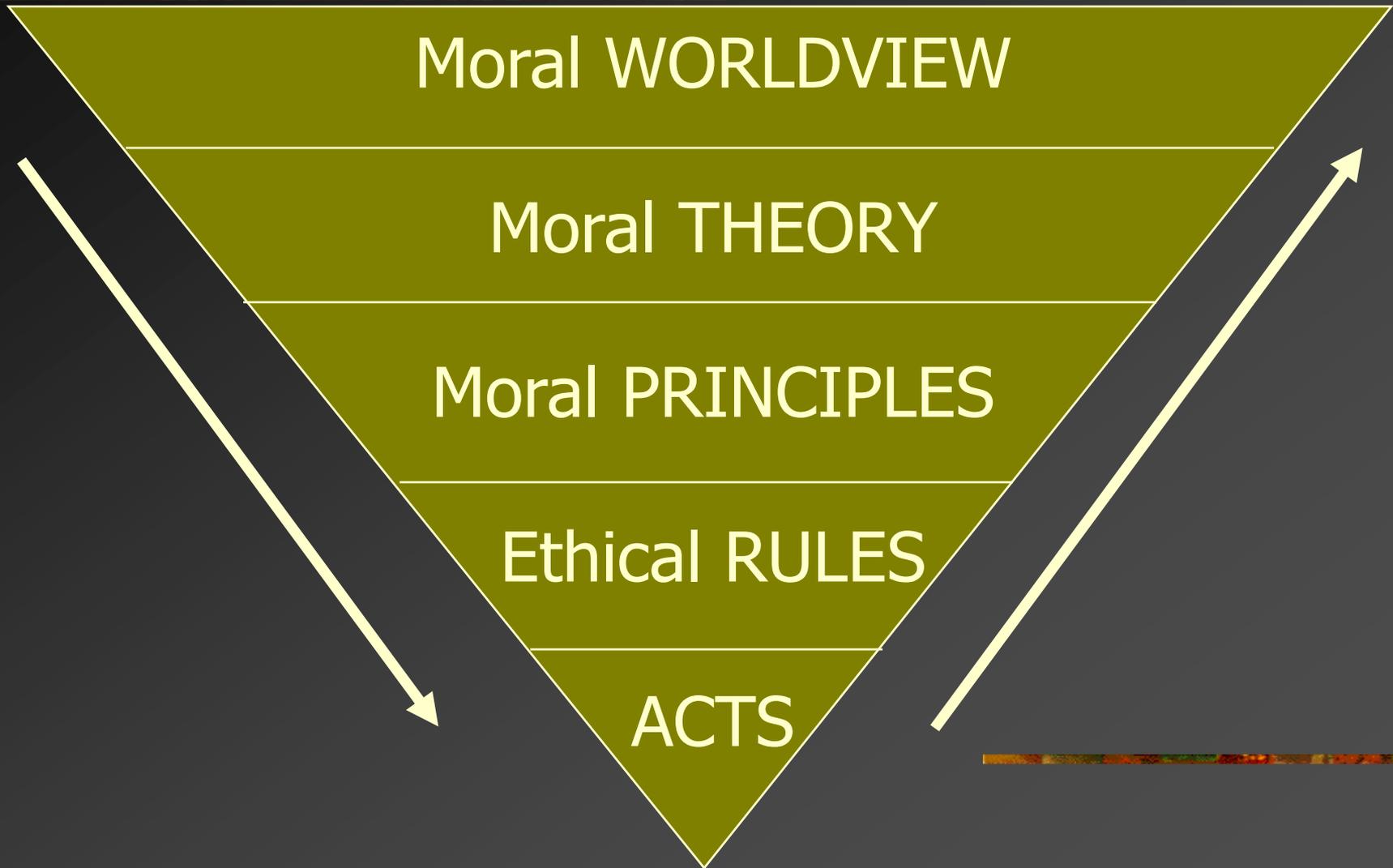
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Objectives

1. Identify major sources of moral beliefs in health care ethics.
2. Distinguish between medical certainty and moral certainty.
3. Distinguish between moral disagreement and moral relativism.
4. Assess the importance of reason to moral argument in health care ethics.

I have no conflict of interest to disclose.

Moral Reasoning



Principles of Bioethics

- **Autonomy**
- **Nonmaleficence**
- **Beneficence**
- **Justice**

Moral Theory: What's Right-making?

- Deontological Theories
- Teleological Theories

Ethical Tensions between . . .

■ Clinical Ethics

- Based on principle of Respect for Patient Autonomy, benevolence, nonmaleficence
- Focus on best interests of individual patient

■ Public Health Ethics

- Based on Justice, fairness, communitarian values
 - Focus on best interests of society at large
-

Hard Choices

- Easier: Good vs. Bad Outcomes
- Harder: Good vs. Good Outcomes
- Hardest: Bad vs. Bad Outcomes

		+	-
+		Harder	Easier
-		Easier	Hardest
7			

Four Topics: Case Analysis in Clinical Ethics

MEDICAL INDICATIONS

PATIENT
PREFERENCES

QUALITY OF LIFE

CONTEXTUAL
FEATURES

Albert R. Jonsen, Mark Siegler, William J. Winslade, *Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine*, 6th Ed. (New York: McGraw-Hill, 2006).

Six Steps: a Process for Ethical Decision-Making

- 1 Get the Story Straight -- Gather relevant information
- 2 Identify the Type of Ethical Problem
- 3 Use Ethics Theories or Approaches to Analyze the Problem(s)
- 4 Explore the Practical Alternatives
- 5 Complete the Action
- 6 Evaluate the Process and Outcome

Some Ethical Issues in Healthcare

- Confidentiality, Truth-telling, Trust
- Decision-making Capacity, Competence
- Informed Consent- Treatment, Research
- Refusal of Treatment
- Research Ethics
- Futility, Medically Inappropriate Treatment
- Withholding, Withdrawing Treatment
- Euthanasia, Physician-Assisted Dying
- Advance Directives
- Palliative Care, Hospice, End-of-Life Care
- Special Populations
 - Pediatrics, Disabled, ICU, etc.

Best Practices: Healthcare Ethics Committees (HEC)

- Interprofessional
- Diverse perspectives in complex cases
- Ethical issues are the business of everyone who cares for patients
- Give voice to the practical wisdom of experienced clinicians as well as lay members
- Forum for new, unusual cases, or in absence of policy or policy exceptions

cf., Aulisio MP. Ethics committees and consultation. In: Post SG, ed. Encyclopedia of Bioethics. 3rd ed. New York, NY: Macmillan Reference USA; 2003:841-847.

Goals of Ethics Consultation

- Help resolve uncertainty and disagreements over ethical issues in clinical care
 - ex.) Ethics consultations in ICU cases involving value conflict reduce length of hospitalization and are viewed as helpful by family members
 - JAMA 2003;290(9):1166-1172

Best Practices: Integrated Ethics Program

- Ethics Consultation
 - Responding to clinical ethics concerns
- Preventive Ethics
 - Addressing healthcare ethics on system level
- Institutional/Organizational Ethics
 - Fostering a positive healthcare environment

National Center for Ethics in Healthcare, VHA. *Integrated Ethics:*

13 *Improving ethics quality in healthcare.* 2006. <http://www.vaww.va.gov/vhaethics>

The Ethical Professional . . .

- Clinical Competence
 - Ability to act in ways that advance the best interests of the patients entrusted to their care
 - Ability to hold themselves and their colleagues accountable for their practice
 - Ability to work collaboratively to advocate for patients
-

... The Ethical Professional

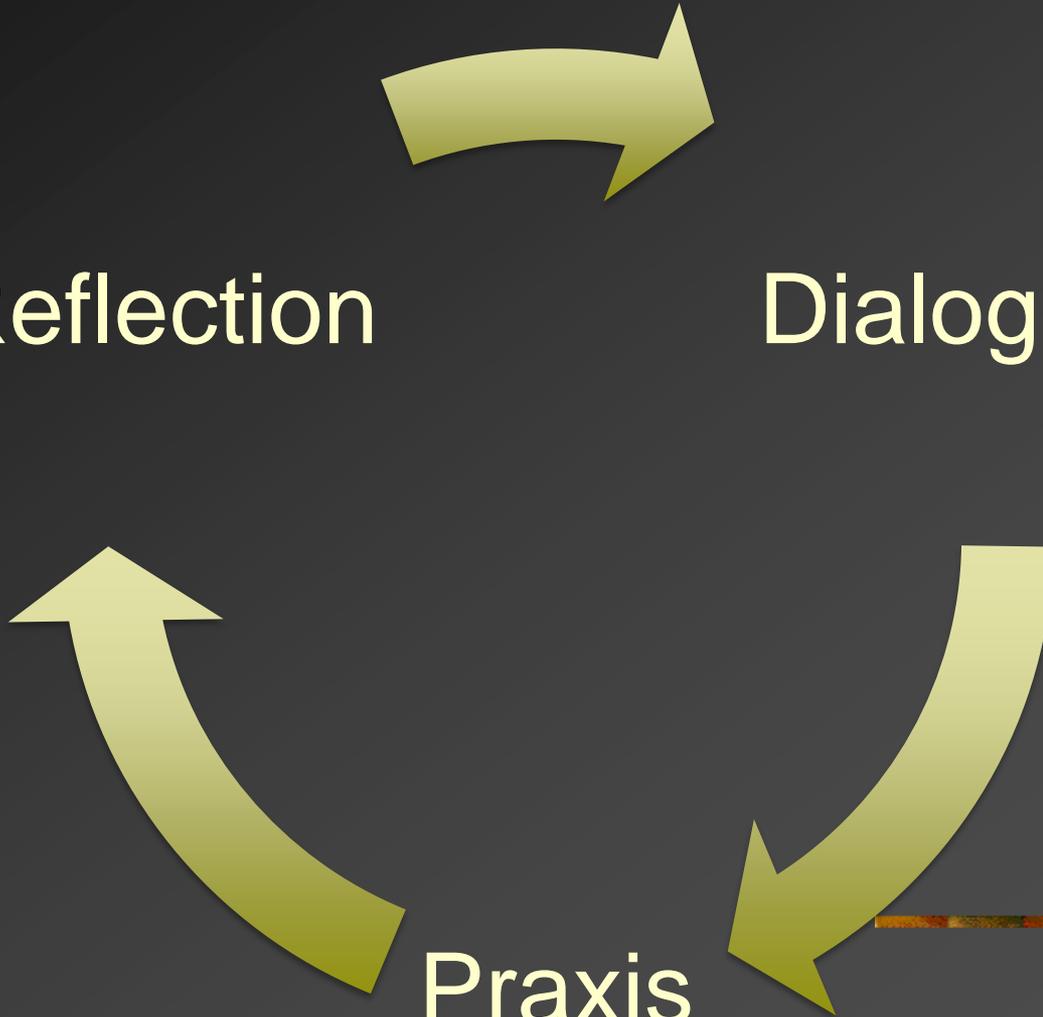
- Ability to mediate ethical conflict among the patient, family, health care team, payers, and other interested parties
- Ability to recognize the ethical dimensions of practice and identify and respond to ethical problems
- Ability to critique new health care technologies and changes

The Ethical Professional practices . . .

Reflection

Dialogue

Praxis







Identifying Learning Styles and Creating Opportunities for Diverse Learning Styles

Teaching Academy Series
Rush Office of Faculty Affairs
April 18, 2017

Beverley Robin, MD CHSE
Director of Pediatric Interprofessional
Education/Simulation
Assistant Professor, Rush Children's Hospital

Dina Rubakha, MEd
Project Assistant, Office of Faculty Affairs
Rush University Medical Center

No Disclosures

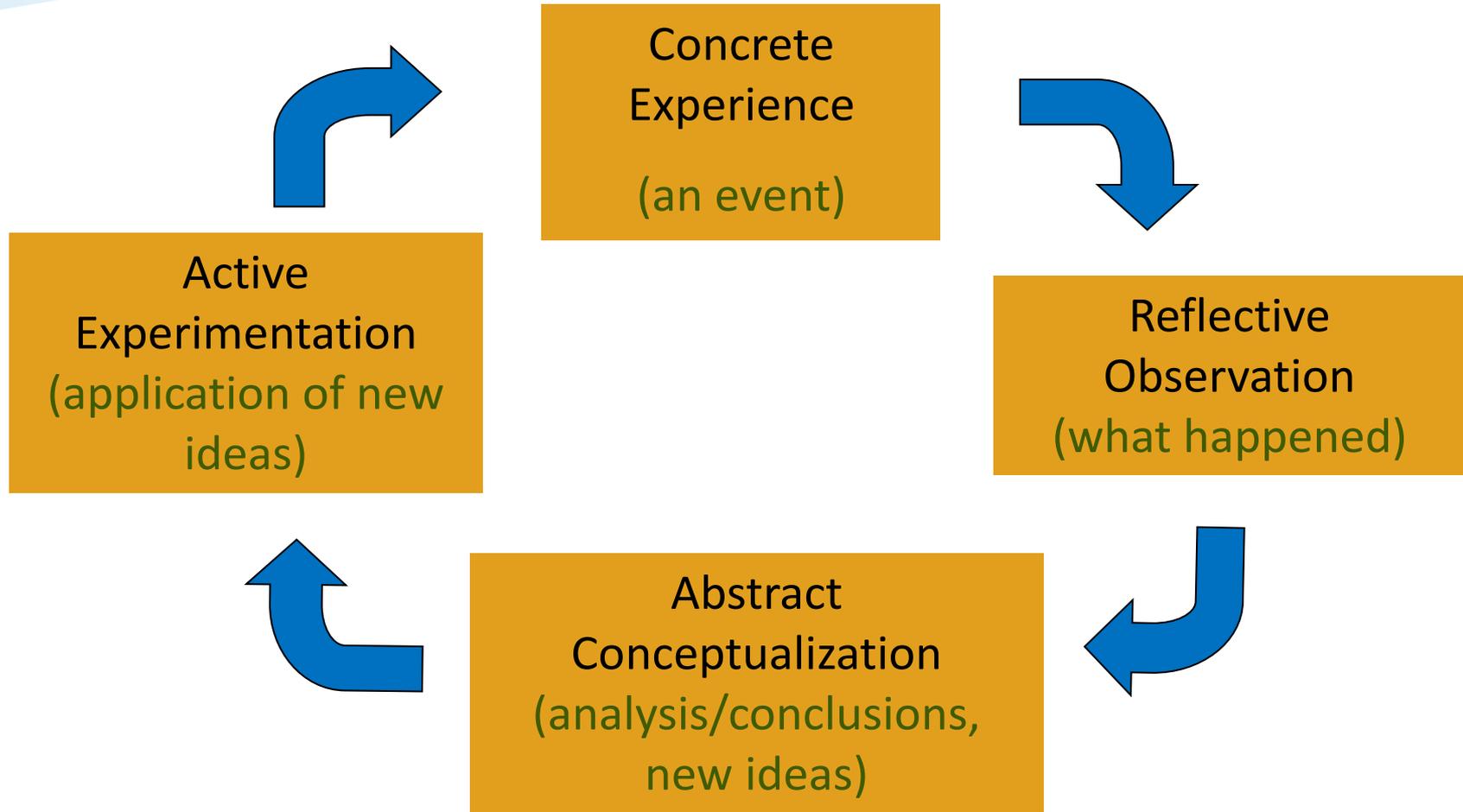


Learning Objectives

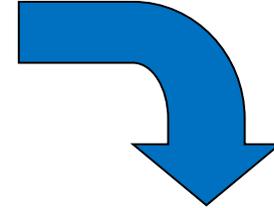
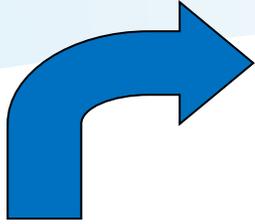


1. Identify your own learning style.
2. Create learning opportunities to meet the needs of learners with diverse learning styles.

Kolb's Cycle of Experiential Learning moves through 4 stages



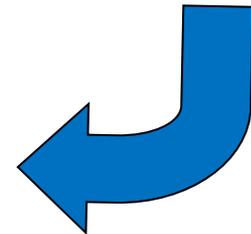
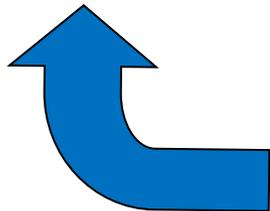
Part of Kolb's cycle addresses how people *process* an experience, whether through action or observation



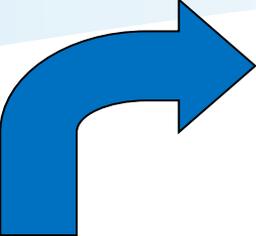
Active
Experimentation
(doing)



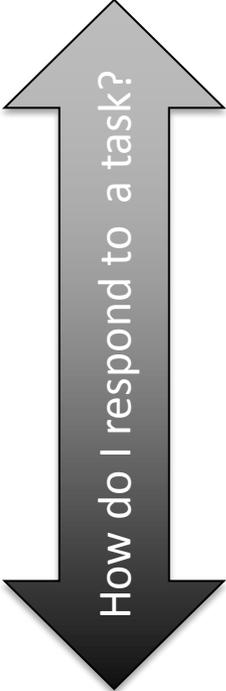
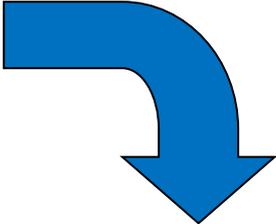
Reflective
Observation
(watching)



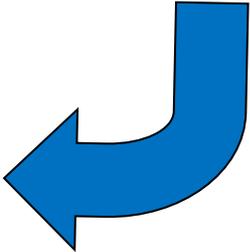
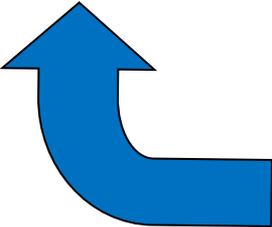
The second part of Kolb's cycle addresses how people *respond* to an experience, whether emotionally or analytically



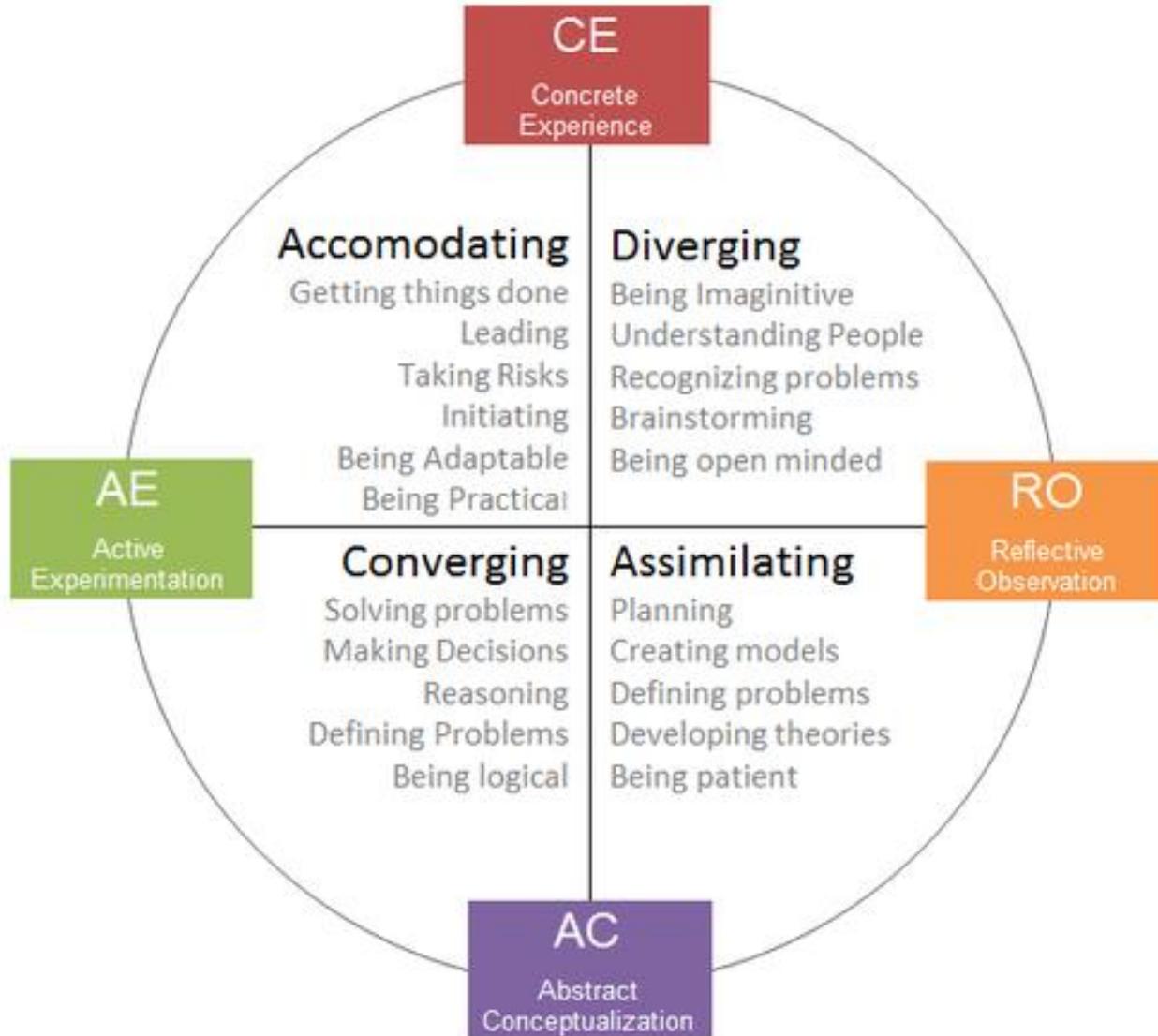
Concrete Experience
(Feeling)



Abstract Conceptualization
(Thinking)



By determining how an individual processes and perceives a task, you can determine your learning style



4 Learning Styles



Divergers

- Favor experience and reflection and particularly enjoy engagement and discussion that exposes many different viewpoints (feel and watch)

Assimilators

- Favor reflection and conceptualization and use theories, guides, flow charts, and checklists to develop their understandings (think and watch)

Convergers

- Favor conceptualization and active experimentation and enjoy applying material to solve problems and devise plans (think and do)

Accommodators

- Favor active experimentation and experience and enjoy immediate immersion into activity and self-assessment (feel and do)

Educational methods to meet learning styles



- At your table, consider the types of educational methods you would employ to meet all learning styles
 - Choose one:
 1. Physiology of the red blood cell
- OR
2. Teaching normal heart sounds

Questions



References



1. Kolb DA. Experiential Learning: Experience as the Source of Learning and Development. 1st Ed. Upper Saddle River, NJ: Prentice Hall. 1984;256.
2. Jurjus RA, Krum J, Goldman EF. Design for learning: adapting the microscopic anatomy laboratory to adult learners. Anat Sci Educ. 2013 May-Jun; 6(3):177-81.

The Learning Style Inventory

An important aspect of communication is an understanding between the Student and the Field Instructor about learning styles. Most teachers adopt a style of teaching which matches their own learning style, but which may be different than that of the Student's. Many misunderstandings can be avoided if both the Student and Field Instructor take the time to complete the Learning Style Inventory. Not only can misunderstandings be avoided, but also through awareness of your own learning style an expansion of both learning and teaching styles may take place. This is important since one of the roles of the social worker is to educate, and our clients and colleagues will have a variety of learning styles that we need to understand.

The Learning Style Inventory is derived from an experiential theory and model of learning developed by Kolb (1984)* and based on the seminal contributions of John Dewey, Kurt Lewin & Jean Piaget. It is a practical self-assessment instrument that can help us assess our unique learning styles, and has the advantage of only taking 30-45 minutes to complete. It tells us our preferred approach to learning in everyday life.

The Model

In this experiential model, learning is viewed as a continually recurring problem solving process in the four-stage cycle depicted below. *Concrete Experiences* are followed by *Reflective Observations* that lead to the formulation of *Abstract Concepts and Generalizations* that lead to *Active Experimentation* to test the hypotheses that have been developed. This is an ongoing process, and may be entered anywhere in the cycle.

Concrete Experience

Active Experimentation

Reflective Observation

Abstract Conceptualization

Our learning styles become second nature, and we are often unaware of how we approach problem solving. Our learning becomes a tacit way of knowing, largely influenced by our past experiences. The Learning Style Inventory is one tool the Student and the Field Instructor can use to make your learning styles explicit. As noted earlier, we often teach based on our preferred styles of learning.

* Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

The Learning Style Inventory

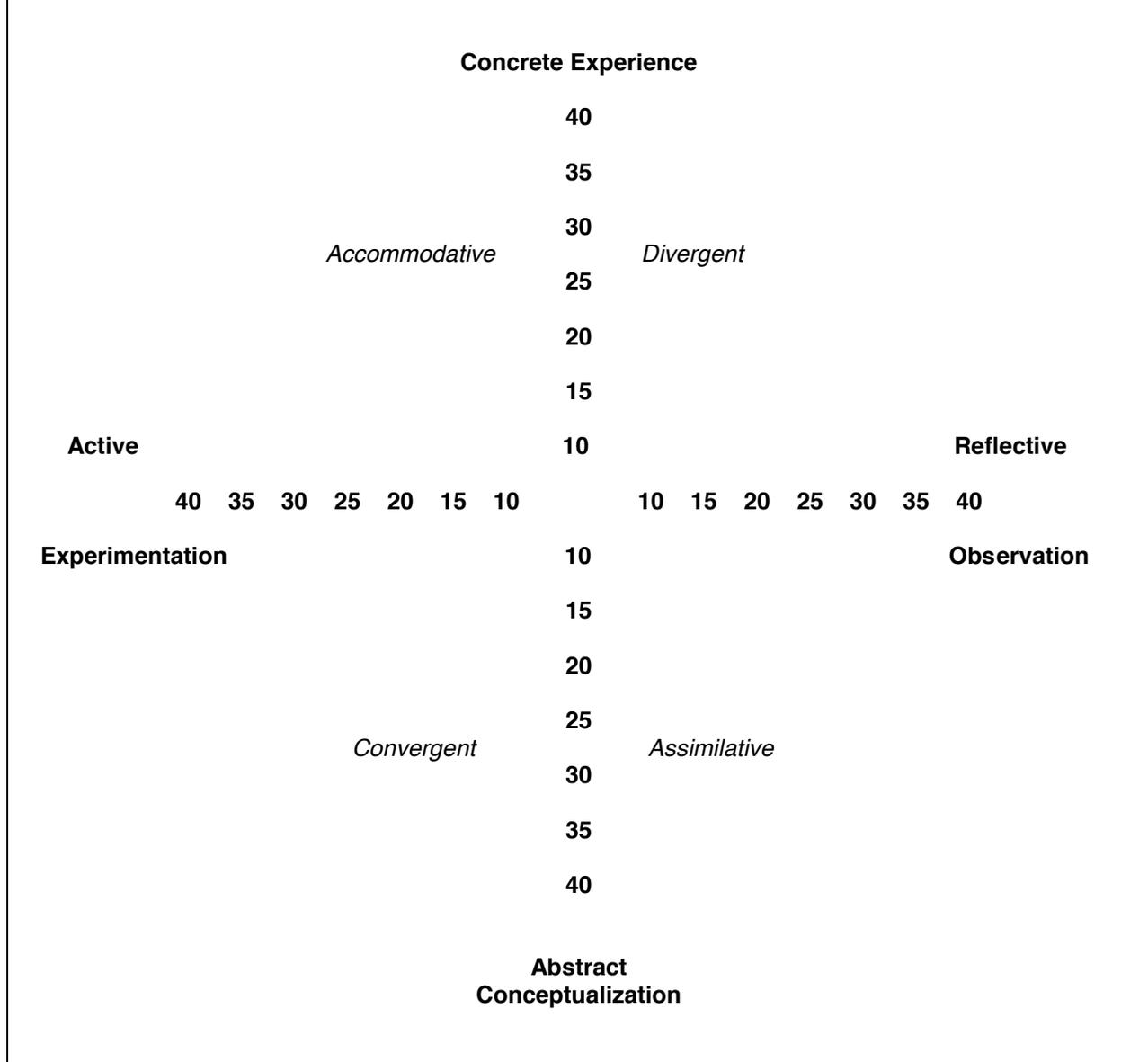
Instructions: It will take 30-45 minutes to complete the Learning Style Inventory and develop your Learning Style Profiles. As you complete the Learning Style Inventory remember that there are no right or wrong answers. The Inventory gives you an idea of *how* you learn; it does not evaluate your learning ability.

- Rank order each set of four words (going across) in the 10 items listed below. Assign a 4 to the word which *best* characterizes your learning style, a 3 to the next best, a 2 to the next, and a 1 to the *least* characteristic word. Assign a different number to each of the four words. *Do not make ties.*

- | | | | |
|----------------------------------|-------------------|-------------------------|-----------------------|
| 1. _____ involved | _____ tentative | _____ discriminating | _____ practical |
| 2. _____ receptive | _____ impartial | _____ analytical | _____ relevant |
| 3. _____ feeling | _____ watching | _____ thinking | _____ doing |
| 4. _____ accepting | _____ aware | _____ evaluating | _____ risk-taker |
| 5. _____ intuitive | _____ questioning | _____ logical | _____ productive |
| 6. _____ concrete | _____ observing | _____ abstract | _____ active |
| 7. _____ present-oriented | _____ reflecting | _____ future-oriented | _____ practical |
| 8. _____ open to new experiences | _____ perceptive | _____ intelligent | _____ competent |
| 9. _____ experience | _____ observation | _____ conceptualization | _____ experimentation |
| 10. _____ intense | _____ reserve | _____ rational | _____ responsible |
| (for scoring only) _____ (CE) | _____ (RO) | _____ (AC) | _____ (AE) |

- Total the rank numbers you have given to the ten words in each of the four columns (add all of your scores going down). The sum of the first column gives you your score on **CE: Concrete Experience**; the second column gives you your score on **RO: Reflective Observation**; your score on the third column is for **AC: Abstract Conceptualization**; and the fourth column is your score on **AE: Active Experimentation**.
- Transfer each of your scores to the Learning Style Profile on the next page by placing a mark by the number you scores on each of the four dimensions. Connect these four marks with straight lines.

LEARNING STYLE PROFILE



Interpretation:

Your *individual scores* provide you with a measure of the relative emphasis you give to each of the four different learning modes. Kolb (1984) defines each mode as follows:

Concrete Experience (CE) -- A CE orientation focuses on being involved in experiences and dealing with immediate human situations in a personal way. It emphasizes feeling more than thinking; a concern with the uniqueness and complexity of present reality over theories and generalizations; and intuitive, "artistic" approach over a systematic, scientific approach to problems.

Reflective Observation (RO) -- An RO orientation focuses on understanding the meaning of ideas and situations by carefully observing and describing them. It emphasizes reflection and understanding over action and practical application; a concern with what is true or how things happen over what will work.

Abstract Conceptualization (AC) -- An AC orientation focuses on using logic, ideas, and concepts. It emphasizes thinking rather than feeling; a concern with building general theories rather than intuitively understanding unique, specific areas; a scientific more than an artistic approach to problems.

Active Experimentation (AE) -- An AE orientation focuses on actively influencing people and changing situations. It emphasizes practical applications as distinct from reflective understanding; a pragmatic concern with what works rather than with what is absolute truth; an emphasis on doing, more than observing.

Your **dominant learning style**, how you resolve the tensions between conceptualizations and experience, and between action and reflection, is determined by locating the quadrant with the largest enclosed space on your Learning Style Profile. The quadrant is labeled on the Learning Style Inventory in italics.

Kolb (1984) describes the characteristics of each style based on both research and clinical observation.

Convergent -- The convergent learning style relies primarily on the dominant learning abilities of abstract conceptualization and active experimentation. The greatest strength of this approach lies in problem solving, decision-making, and the practical application of ideas. The style works best in situations where there is a single correct answer or solution to a question or problem. The style suggests a preference for task accomplishment or productivity rather than for more socio-emotional experiences.

Divergent -- The divergent learning style has the opposite learning strengths from the convergent. It emphasizes concrete experience and reflective observation. Its greatest strength lies in imaginative ability and awareness of meaning and values. The primary adaptive ability of divergence is to view concrete situations from many perspectives and to organize many relationships into a meaningful "gestalt." The emphasis in this orientation is on adaptation by observation rather than action. It is called divergent because it works best in situations that call for generation of alternative ideas and implications, such as a "brainstorming" idea session. The style suggests a preference for socio-emotional experiences over task accomplishment.

Assimilative -- In assimilation, the dominant learning abilities are abstract conceptualization and reflective observation. The greatest strength of this orientation lies in inductive reasoning and the ability to create theoretical models, in assimilating disparate observations into an integrated explanation. As in convergence, this orientation is focused less on socio-emotional interactions and more on ideas and abstract concepts. Ideas are valued more for being logically sound and precise than for their practical values. It is more important that the theory be logically sound and precise.

Accommodative -- The accommodative learning style has the opposite strengths from assimilation, emphasizing concrete experience and active experimentation. The greatest strength of this orientation lies in doing things, in carrying out plans and tasks and getting involved in new experiences. The adaptive emphasis of this orientation is on opportunity seeking, risk taking and action. This style is called accommodative because it is best suited for those situations where one must adapt oneself to changing immediate circumstances. In situations where the theory or plans do not fit the facts, those with an accommodative style will most likely discard the plan or theory.

Although each of us *may* have a dominant learning style it is important to remember that a learning style describes how we learn, not how well we learn. No particular style is intrinsically better or worse than another -- only different. Understanding the commonalities and differences between your learning style and those you are working with may be useful in communicating more effectively. It can also give you an idea of your strengths and where you can grow.

Group Activity; Teaching to all learning styles

Teaching Normal Heart Sounds

Accommodative (feel & do)

- Hands on listen with stethoscope
- Provide sound byte of normal heart sound
- Practice on real people
- Listen to patient to identify abnormal heart sounds
- Just do it
- Hands on X 2 (Day 1 & Day2)
- Reflect on right/wrong

Convergent (think & do)

- Use heart sound-let them reflect and ingest the sound
- Show heart diagram
- Recording of heart sounds and identify
- YouTube videos
- Simulation lab/ Online-with identification
- Practice on yourself and peers
- Cartoon/drawing
- Teach heart sound

Divergent (feel & watch)

- Lecture about heart sound with images
- Listen/watch video of heart sound
- Case study-looking at whole patient
- Textbook learning; what to look for
- Group projects
- Reflection heart sounds
- Incorporate emotional experience to learning
- Ultrasound heart sounds
- Watch different life stages of active heart sounds

Assimilators (think & watch)

- Draw the tracing of normal heart sound
- Listen to patient to identify abnormal heart sounds (watch someone listen)
- Case Study
- Observation
- Textbook; Lots of reading (detailed description)
- Watch person/video doing activity
- Lecture
- Written description of what to expect/ materials

Group Activity; Teaching to all learning styles

Physiology of Red Blood Cells

Accommodative (feel & do)

- Video (YouTube)
- Demonstration interactive
- Lab-watch and manipulate function

Convergent (think & do)

- Case Study
- Checklists
- Role play-cell activity
- Lab-watch and manipulate function

Divergent (feel & watch)

- Venn Diagram
- Word cloud
- Process checks
- Matrix Analysis
- Computer simulation
- Video of activity

Assimilators (think & watch)

- Flow Chart
- Outline
- Cause/Effect Chart
- Watch how carry oxygen to tissue

Healthcare Professionals & Burnout

Patricia Normand, MD

Director, Wellness & Integrative Health

Road Home Program: Center for Veterans and their Families
Rush University Medical Center

Disclosures

Burnout

Not a simple topic....

No easy answer...

Multidisciplinary



WHAT SEEMS TO BE THE PROBLEM, MRS. JOHNSON?

I FEEL THE WAY YOU LOOK!

PHYSICIAN BURNOUT

Social workers tend to need a larger than average 'stress ball'.





Jerome Stone shows nurses
their 'inner oomph'

What is burnout?

- **Emotional exhaustion**

Emotionally overextended and exhausted by work



- **Depersonalization**

Negative, cynical attitude, treating patients as objects

- **Sense of low personal accomplishment**

Feelings of incompetence, inefficiency & inadequacy



Stress

Non specific reaction

Transient reaction

Heightened reaction- urgency

Burnout

To one specific role

Longer lasting, pervasive to situation

Blunted reaction



Medical disorder ICD-10 code (Z73.0 – Burn-out , state of vital exhaustion)
No DSM V diagnosis



Stressed Eric



Burnt out Eric

(Eric was too
tired to pose for
this cartoon,
apologies)

Burnout or Depression

Burnout - Effects work life & spares personal life

Depression - Effects *both* personal and work life

If accompanied by:

- Sleep and appetite disturbance
- Decreased interest in most activities
- Persistent loss of energy
- Observable agitation or being slowed down
- Frequent feelings of worthlessness or inappropriate guilt
- Decreased concentration
- Thoughts of self harm

Resources

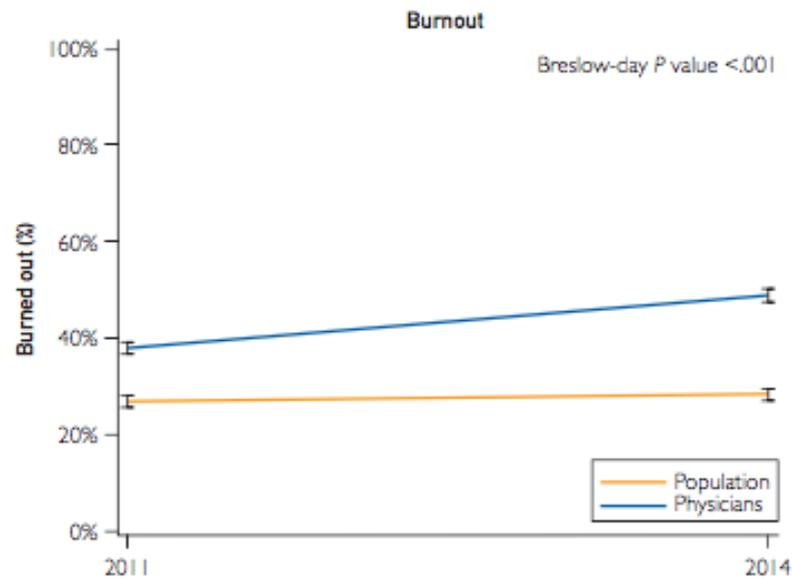
- Primary care provider
- EAP
Employee, student, family
(800) 292-2780
www.ers-eap.com
User Name: rush
Password: rush
- Counseling Center
Students & house staff
312/942-3687

Prevalence of Burnout

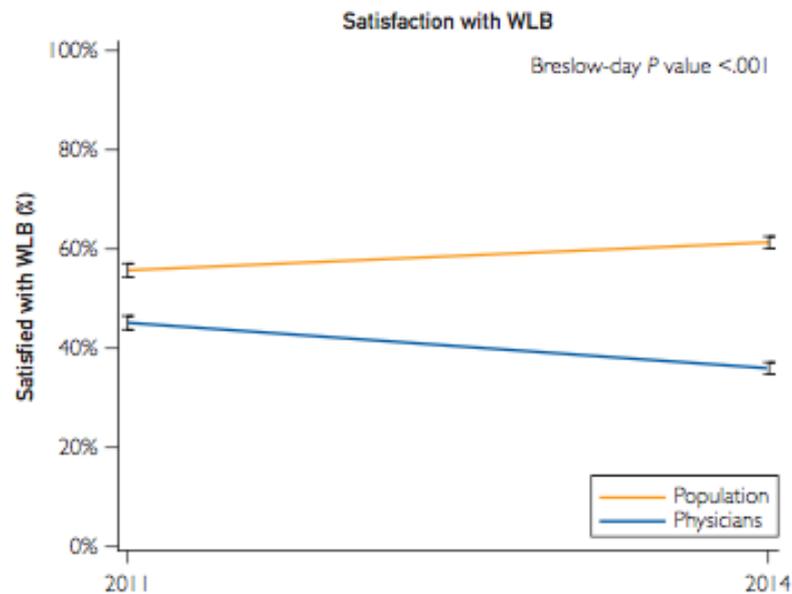
- 25% - 60% of practicing physicians (many)
- 76% of internal medicine residents (Shanafelt 2003)
- 45% of 3rd year students (Dyrbye 2006)
- 50 % critical care nurses (Sexton 2009)

2011

2014



A



B

FIGURE 2. Changes in burnout and satisfaction with WLB in physicians and population year are shown on the x axis. Burnout (A) and satisfaction with WLB (B) are shown on the y axis. WLB = work-life balance.

Physician Burnout Relative to US Population

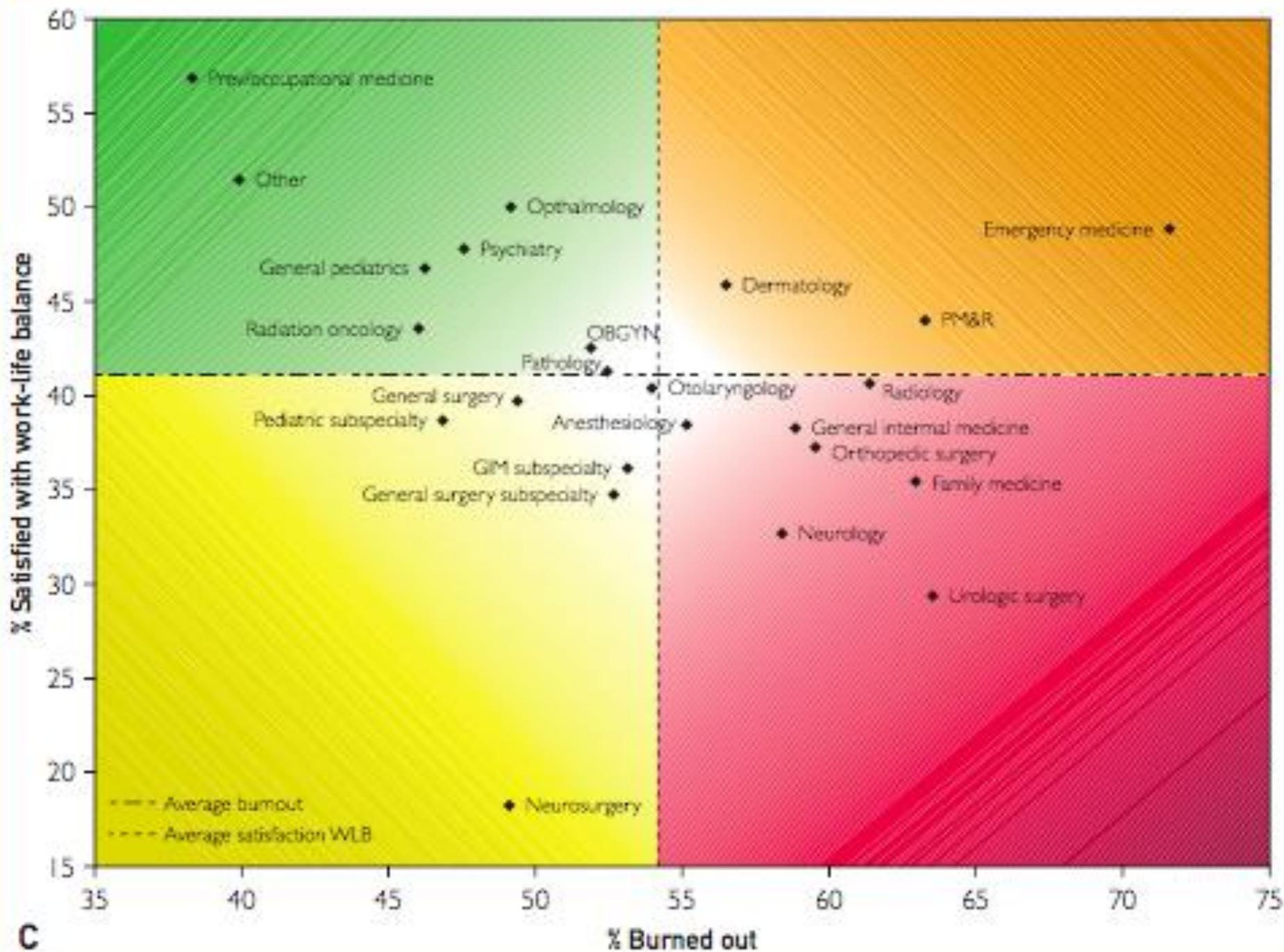
(n = 7288)

Burnout 48.8% vs 28.4% <.001

Suicidal ideation past 12 mo. 7.2% vs 4.0% <.001

Work schedule leaves me enough time for my personal/family life:

Strongly agree 7.6% vs 22.8% <.001



Why?

How do you spend your time?

Sinsky et al. 2016

57 physicians - after hours diary

For every 1 hour direct clinical face time with patients,
2 additional hours is spent on EHR and desk work

Another 1 to 2 hours of personal time each night doing
additional computer & other clerical work.

AMA 2013

Physicians average 37 PA/week
Average 16.5 hrs/week all staff time

Table 4. Physician Time Distribution During Office Hours, by Task Category

Task Category, by Activity During Office Hours	Tasks, <i>n</i>	Mean Time to Complete Task, <i>s</i>	Tasks per Hour, <i>n</i>	Time Spent (95% CI), %	
				Total*	By Task Category
Direct clinical face time				33.1 (31.9-34.5)	
With patient	4483	93	10	-	27.0 (25.8-28.3)
With staff and others (patient not present)	2121	45	5	-	6.1 (5.7-6.5)
EHR and desk work				49.2 (47.8-50.6)	
Documentation and review	8623	69	20	-	38.5 (37.3-39.8)
Test result	1661	59	4	-	6.3 (5.8-6.8)
Medication order	622	59	1	-	2.4 (2.2-2.5)
Other order	610	52	1	-	2.0 (1.9-2.2)
Administrative tasks				1.1 (0.9-1.3)	
Insurance	191	49	<1	-	0.6 (0.5-0.7)
Scheduling	125	59	<1	-	0.5 (0.3-0.6)
Other tasks				19.9 (18.2-21.6)	
Closed to observation	163	524	<1	-	5.5 (4.5-6.5)
Other (aggregated)	969	183	2	-	5.2 (4.3-6.0)
Transit	2946	15	7	-	2.9 (2.8-3.0)
Personal	902	109	2	-	6.3 (5.6-7.1)

EHR = electronic health record.

* Total sums to 103.3% because the Work Observation Method by Activity Timing platform allows recording of 2 tasks done in parallel. Multitasking results in overlapping time records, which are additive. Thus, the total task time is >100% of the total time observed.

Causes of Burnout- Systemic

- Increased performance measurement
- Increasing complexity of medical care, medical knowledge
- Electronic health records (EHRs)
- Patient care vs documentation
- Work load - # patients, turnover, hours - “fictive schedule”
- Low control/ high responsibility
- Loss of autonomy – schedule, practice setting, decisions

Work Engagement

Resources	.29	.18	.35	.21	4.20	.29:.30	-.12:.71	180	136620	4284.71***
Social support	.32	.04	.37	.02	73.34	.31:.33	.27:.36	32	35243	43.63*
Autonomy/Control	.23	.26	.27	.31	2.54	.37:.83	.21:.24	26	14985	1025.10***
Feedback	-	-	-	-	-	-	-	-	-	-
Organizational climate	-	-	-	-	-	-	-	-	-	-
Self-efficacy	.50	.16	.59	.18	10.77	.48:.52	.15:.85	17	5163	157.90**
Optimism	.37	.12	.44	.13	18.37	.33:.41	.13:.62	5	1799	27.21*

Causes of Burnout- Personal

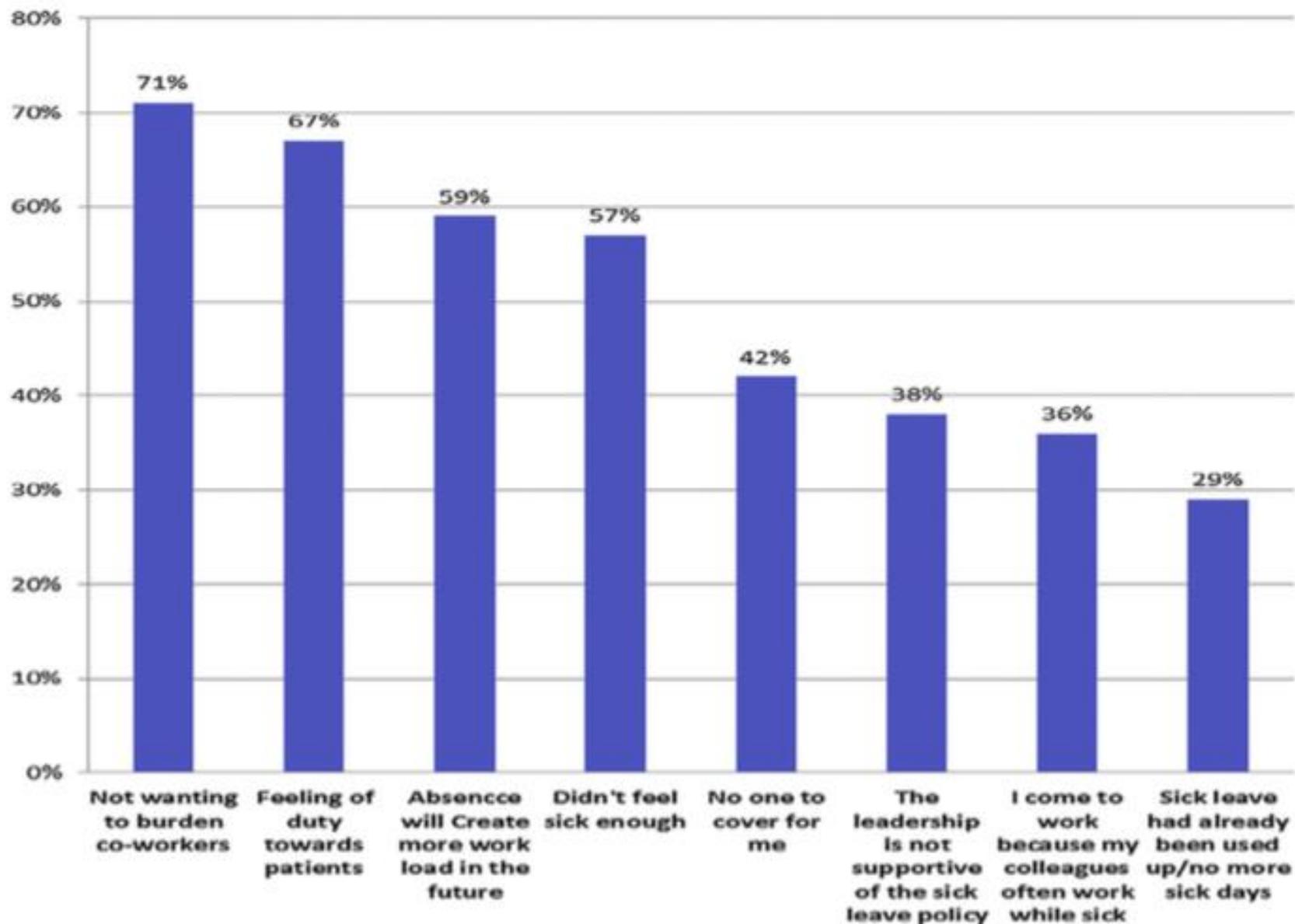
- Sleep deprivation
- Imbalance between personal and professional life
- Lack of supports- in and out of work
- Lack of self care (but also part of systemic culture)

Culture - Sickness Presenteeism

Sickness presenteeism: number of subjects = 279.

Item/question	n (%)
Had gone to work while sick during the past year	207 (74%)
Number of times having worked despite feeling the need to use sick leave	
1-2	130 (47%)
3-4	72 (26%)
5+	14 (5%)
Perception that coming to work while sick exposes patients to risk	255 (91%)
Existence of a specific departmental policy related to working while sick	
Yes	131 (47%)
No	92 (33%)
Don't know	56 (20%)

Reasons for Sickness Presenteesim



Graph 1. Percentage of most common reasons for sickness presenteesim.

Cost of Burnout - Systemic

Direct - Turnover, early retirement, reducing work hours

Indirect - Quality:

Medication Fahrenkopf 2008 and other errors

Unnecessary testing and referrals

Greater malpractice risks

Possibly higher admissions/readmissions

Poor patient satisfaction Leiter 1998, Vahey 2004, Halbesleben 2008

Urinary tract & surgical site infection Cimiotti 2012

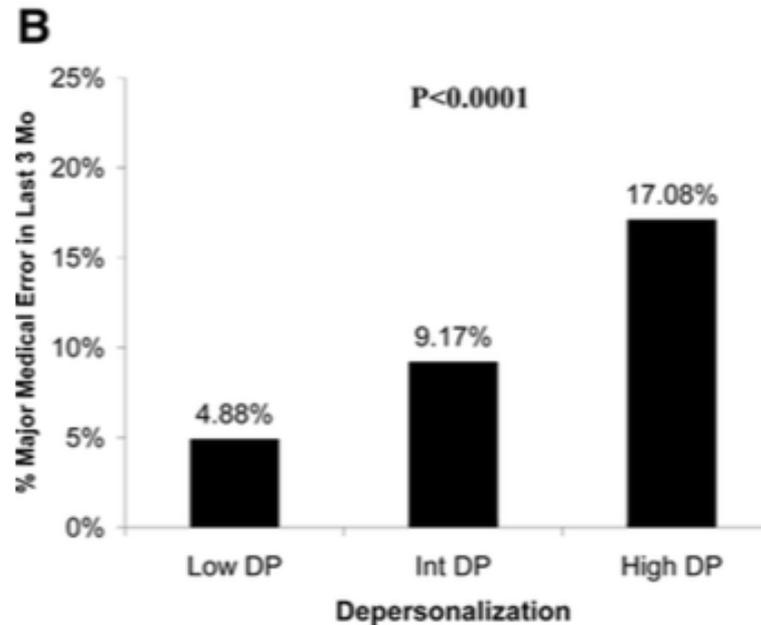
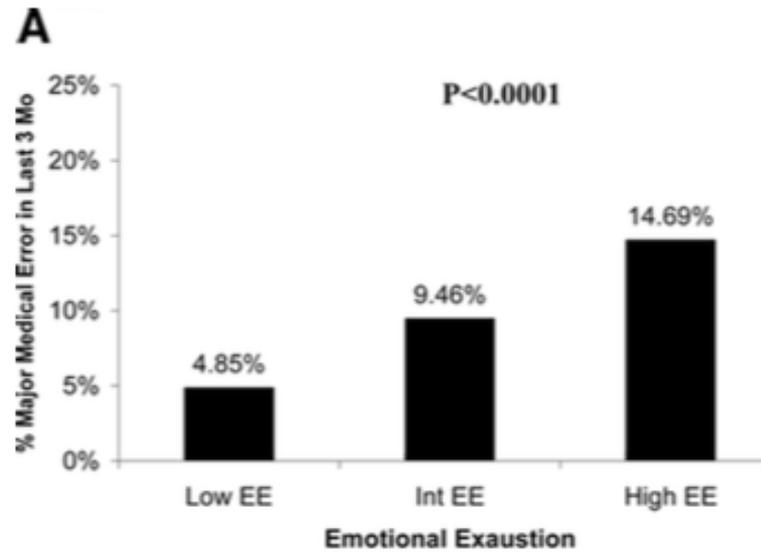
LOS Schaufeli 1995

Post discharge recovery time Halbesleben 2008

Suboptimal patient care procedures Shanafet 2002

Mortality rates Welp 2015

Medical Errors



Indirect -

Clinical effort:

1 point increase in burnout score,
43 % reduction clinical effort in
the following 24 months (Mayo)

Replacement cost:

Recruitment, training, lost revenue

Physician - \$200,000 - 1,000,000

Nurse - upwards of \$90,0000

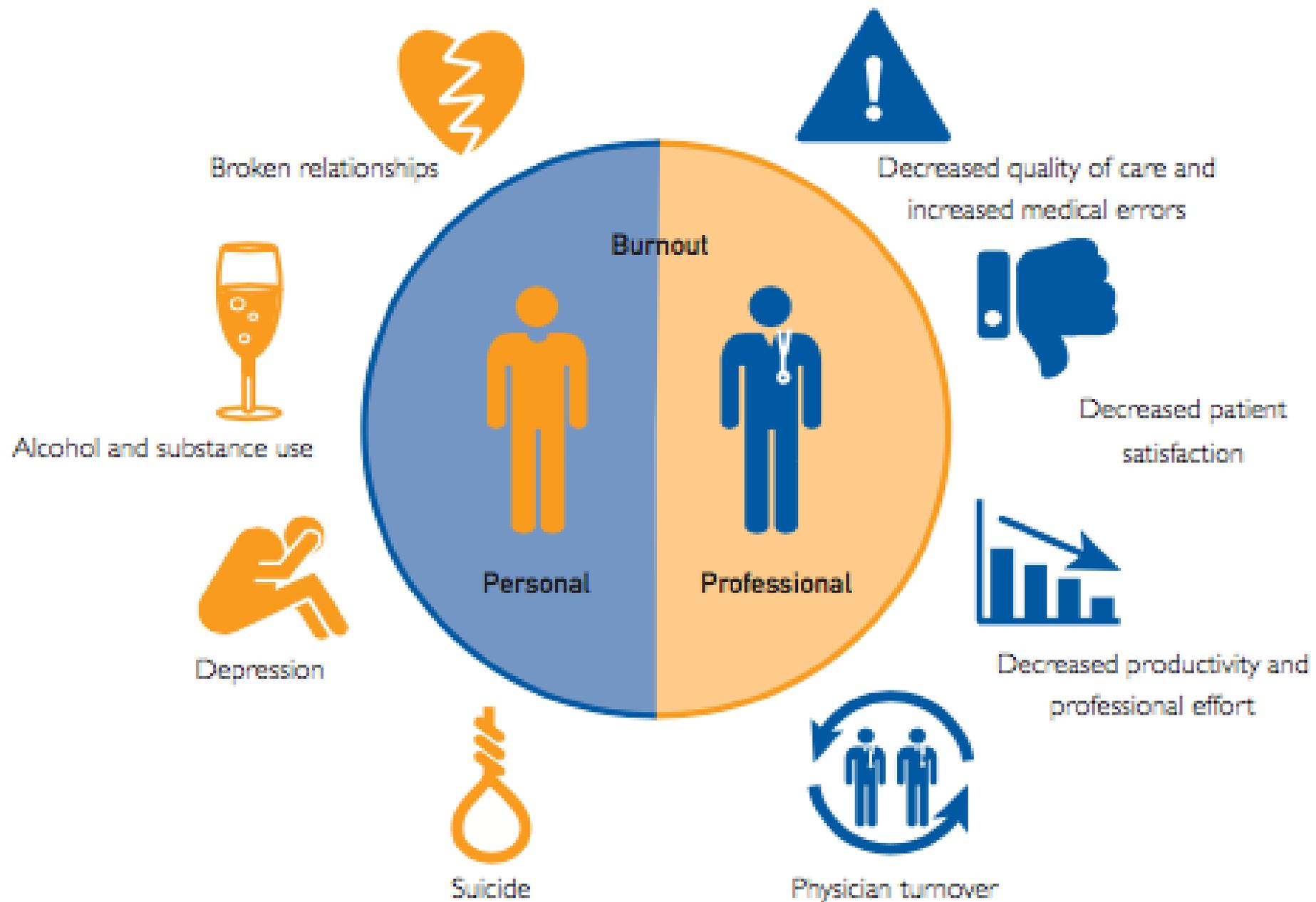


FIGURE 1. Personal and professional repercussions of physician burnout.

Cost of Burnout- Individual

Accidents

Depression, suicide, SUD

Hypertension

Decreased responsiveness to home demands

Lower quality of relationships/ marital satisfaction

Loss of medicine as a calling

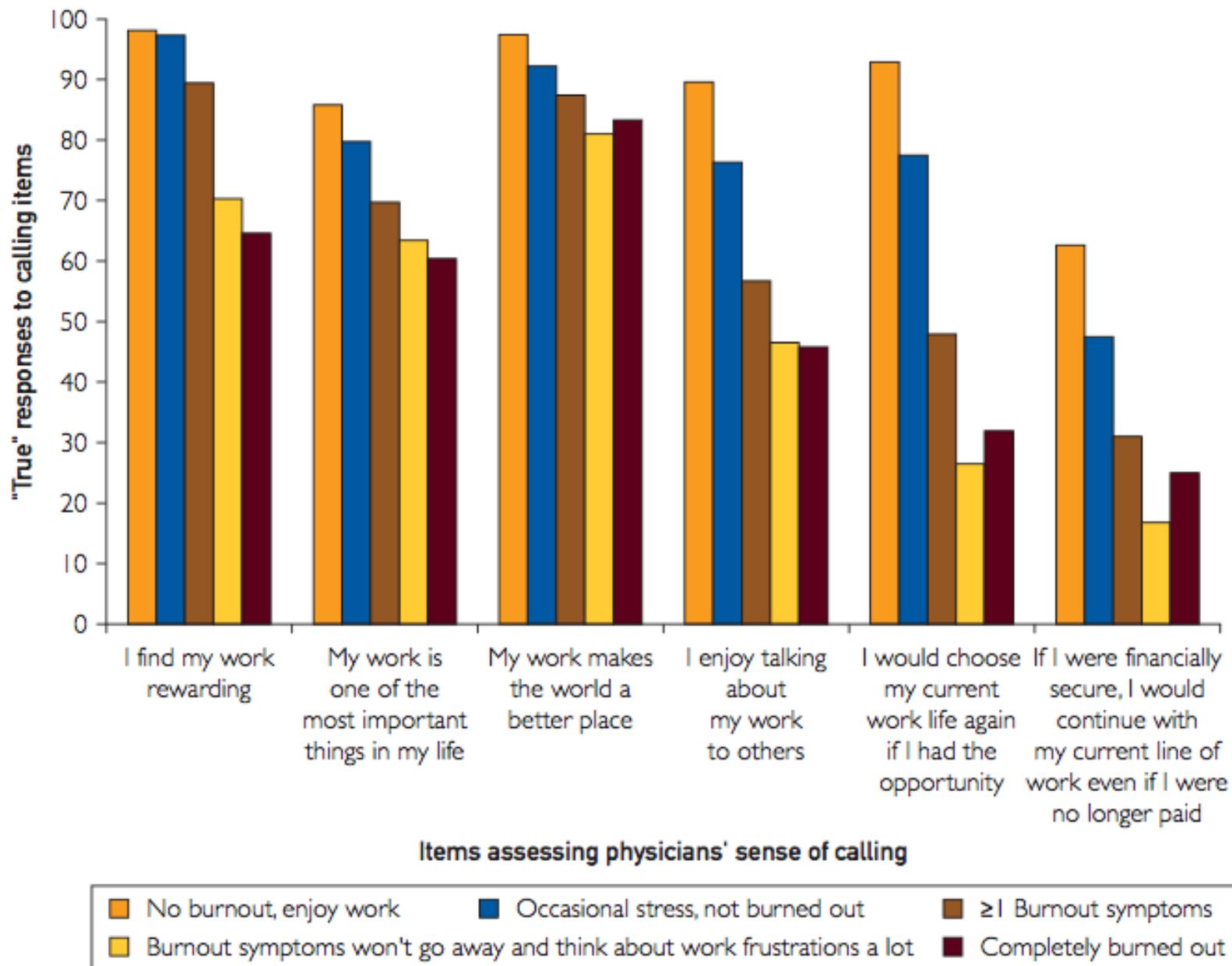


FIGURE. Reporting "true" to survey items assessing physicians' sense of calling by degree of professional burnout.

How to prevent and treat?

Interventions



Which?

Panagioti 2016

20 studies

Small but significantly improved effects for organization-directed interventions but these interventions were rare.

West 2016

15 randomised controlled trials and 37 cohort studies
Significant reductions in burnout with both individual-focused and organizational strategies

The Reciprocal Domains of Physician Well-Being

Chart illustrating the 3 domains of physician well-being, with each domain reciprocally influencing the others.



Source: Patty Purpur de Vries

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

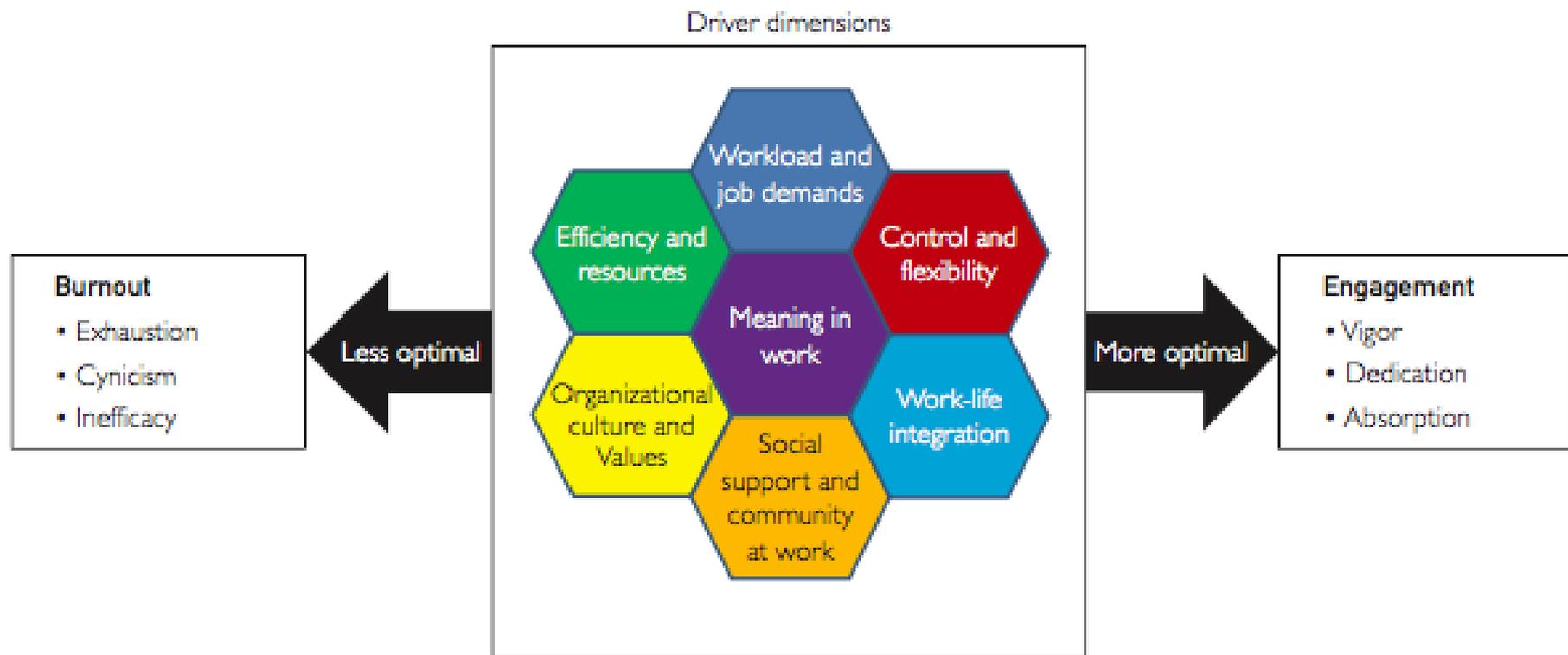
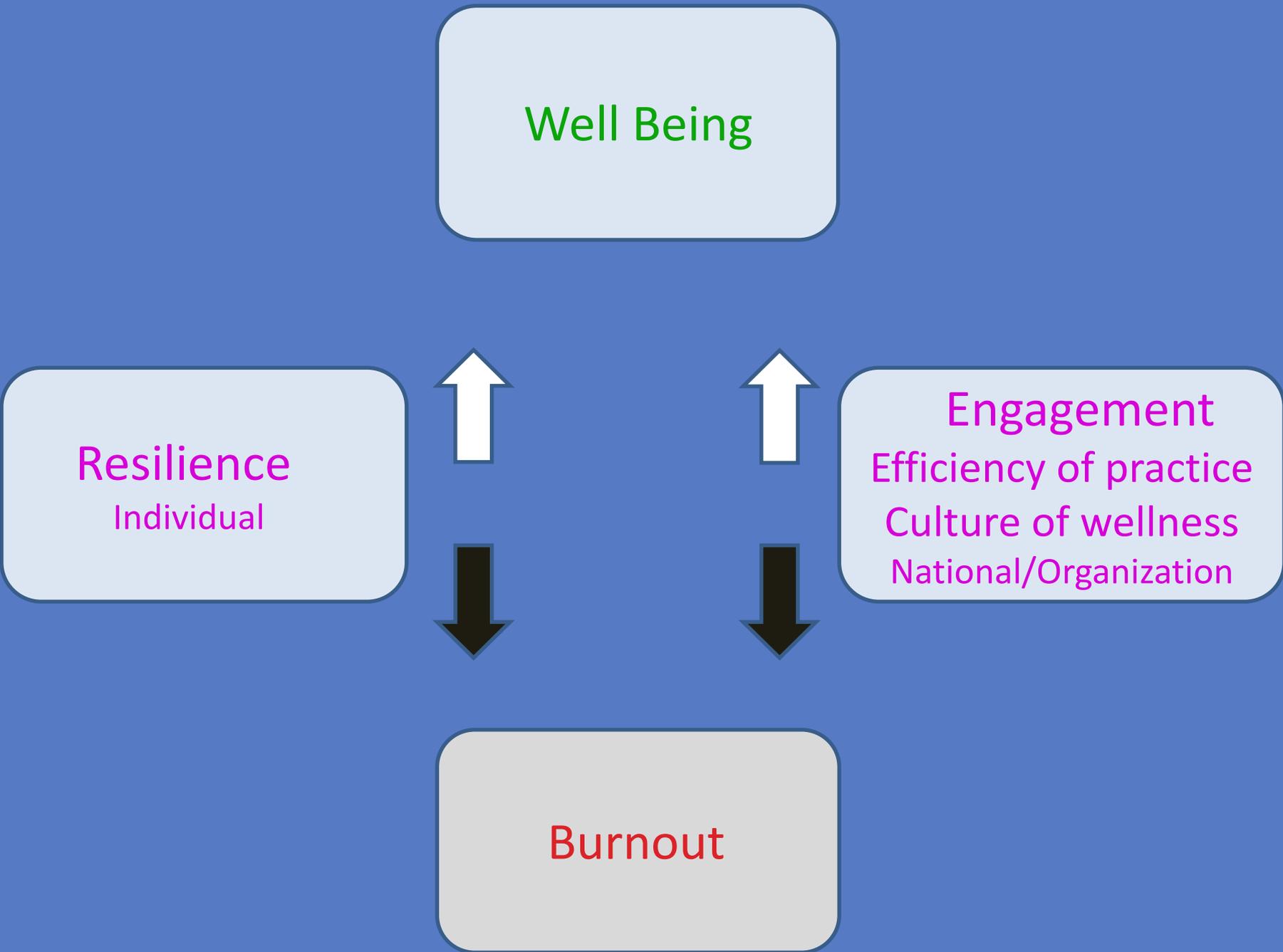


FIGURE 2. Key drivers of burnout and engagement in physicians.



Well Being

Resilience
Individual

Engagement
Efficiency of practice
Culture of wellness
National/Organization

Burnout

Level of Intervention: National

AMA Joy in Medicine Summit

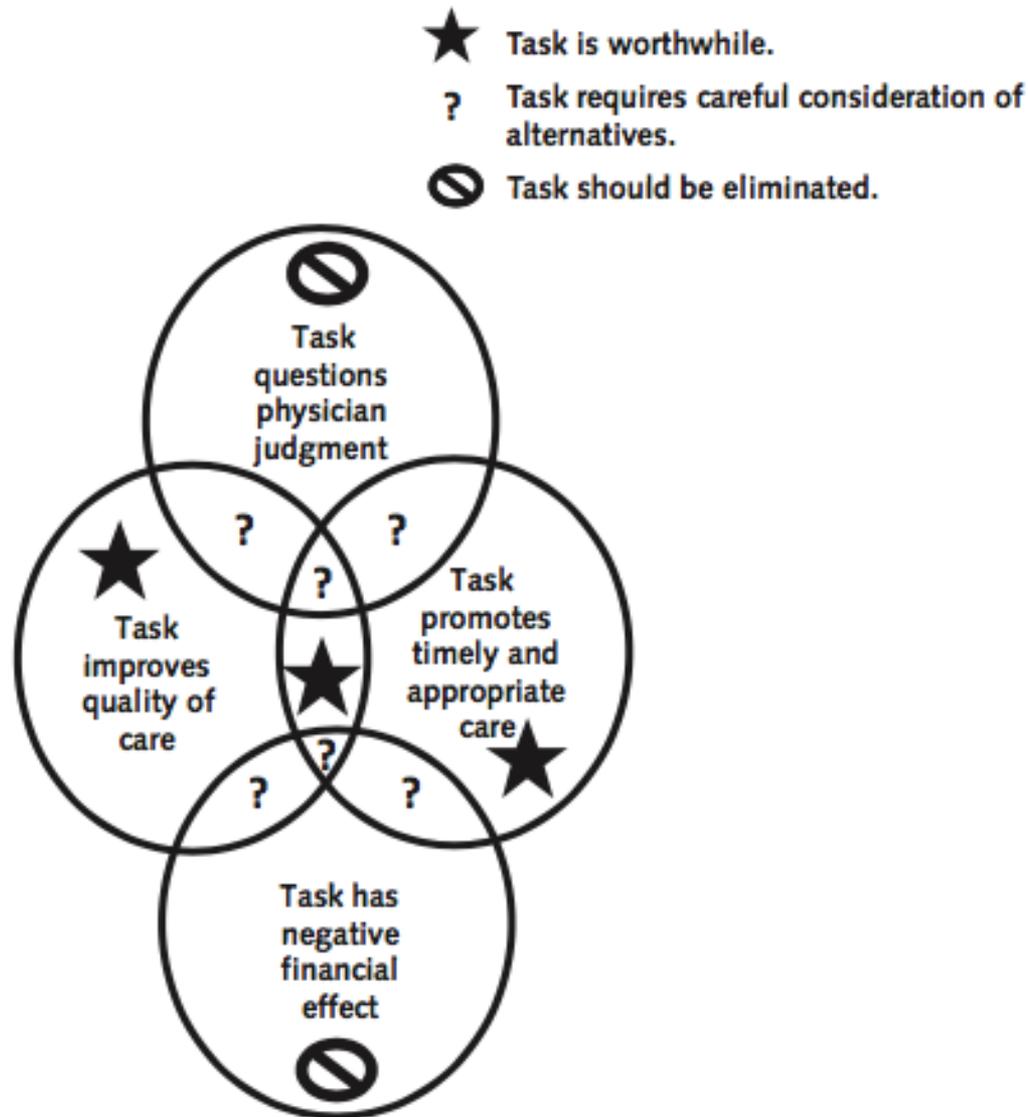
1. Research to establish links among physician burnout, well being and patient outcomes
2. Research to estimate the economic cost of physician burnout. referral patterns, test ordering, prescribing practices, and work inefficiencies related to EHS , order entries
3. Well funded and structured consortiums – healthcare delivery systems, funding agencies, foundations, community, insurers, employers, patients to address physician burnout, may facilitate tailoring to individual institutions
4. Use common metrics to measure meaning in work and professional fulfillment, burnout, engagement, fatigue, stress, quality of life , well-being , work-life integration
5. Develop a comprehensive framework with individual and organizational components to facilitate individual responsibility for self care and organizational responsibility for work environment
6. Share best available evidence, tracking of best practices and effectiveness by large national organizations

American College of Physicians

Reducing Administrative Tasks in Healthcare

1. Stakeholders -payers, governmental and other oversight organizations, vendors and suppliers, and others to provide financial, time, and quality-of-care impact statements for public review and comment – of existing and new administrative tasks. Tasks that are determined to have a negative effect on quality and patient care, unnecessarily question clinician judgment, or increase costs should be challenged, revised, or removed entirely
2. Administrative tasks that cannot be eliminated from the health care system must be regularly reviewed, revised, aligned, and/or streamlined in a transparent manner, with the goal of minimizing burden, by all stakeholders involved
3. Stakeholders must collaborate with professional societies, frontline clinicians, patients, and electronic health record vendors to aim for measures that minimize unnecessary clinician burden, maximize patient and family centeredness, and integrate performance measurement of and reporting on performance with quality improvement and care delivery.
4. Stakeholder should collaborate in making better use of existing health information technologies as well as developing more innovative approaches to facilitate the elimination, reduction, alignment, and streamlining of administrative tasks,
5. Stakeholders should review and consider streamlining or eliminating duplicative administrative requirements as healthcare system evolves .
6. Rigorous research on the effect of administrative tasks on our health care system in terms of quality, time, and cost; physicians, other clinicians, their staff, and health care provider organizations; patient and family experience; and, most important, patient outcomes.
7. Research on best practices to help clinicians reduce administrative burden within their practices and organizations. Stakeholders, including clinician societies, payers, oversight entities, vendors and suppliers, and others, should actively be involved in the dissemination of these evidence-based best practices.

Figure 2. Taxonomy of administrative tasks external to the practice and health care environment.



Each circle indicates a characteristic of an administrative task.

CEO AMA Summit on Burnout

- Encourage :
Government/regulators *to address the increasing regulatory burden driving inefficiency, redundancy, and waste in health care & to proactively monitor and address new unnecessary and/or redundant regulations.*
- Encourage and support the AMA /national organizations :
To work with regulators and technology vendors to *align technology and policy with advanced models of team-based care and to reduce the burden of the EHR on all users.*

In developing initiatives by *compiling and sharing best practices* from institutions that have successfully begun to address *burnout*, profiling case studies of effective well-being programs, efficient and satisfying changes in task distribution, and outlining *principles for achieving the well-being of health professionals.*
- Continue to *educate* our fellow CEOs & stakeholders in the health care ecosystem about the *importance of reducing burnout and improving the well-being* of physicians as well as other health care professionals.
- Support and use organizational *research* at our centers *to determine* the most *effective policies and interventions* to improve professional well-being among our physicians and other health care professionals.

Level of Intervention: Organization

-  Acknowledge and assess the problem
-  Harness the power of leadership
-  Develop and implement targeted work unit interventions^a
-  Cultivate community at work
-  Use rewards and incentives wisely
-  Align values and strengthen culture
-  Promote flexibility and work-life integration
-  Provide resources to promote resilience and self-care
-  Facilitate and fund organizational science

FIGURE 5. Organizational strategies to reduce burnout and promote physician engagement. ^aOften will focus on improving efficiency and reducing clerical burden but should focus on whichever driver dimension (Figure 1) deemed most important by members of the work unit (Figure 3).

CEO AMA Summit on Burnout

- Regularly measure physician well-being using a standardized, benchmarked instrument.
- Incorporate measures of physician well-being into performance metrics.
- Monitor the institutional costs of physician turnover, early retirement and reductions in clinical effort.
- Emphasize the value of leadership development for physicians and managers
- Understand and address the clerical burden and misallocation of work that contributes to the exhaustion component of burnout.
- Support collaborative, team-based care models that maximize physician expertise and delegate tasks to other appropriate care team members

Level of Intervention: Individual

Stress: a transaction between a person and his or her environment that is *appraised* (perceived) as being taxing or exceeding one's *resources* and endangering one's sense of well being

Lazarus & Folkman

Resilience: *capacity* to handle adversity/stress

Self awareness

Self care

Mind-Body Practices

Compassion

3 Good Things - Gratitude

Social supports

Self care

- Sleep
- Time off
- Physical activity
- Nutrition
- Social supports
- Health - PCP, Dental

“That physician will hardly be thought very careful of the health of his patients if he neglects his own.” Galen 130-200 A.D

Mind-Body Practices

Mindfulness & meditation

Relaxation techniques:

Breath control

Progressive Muscle Relaxation

Relaxation Response

Yoga

What is Mindfulness?

Moment to moment nonjudgmental awareness

Paying attention, to the present moment,
on purpose, without the story.

Knowing what you're experiencing while you're experiencing it

Having your mind and body in the same place
at the same time



"I reside in New York, but my mind is based in L.A."

Mindfulness

- Intentional cultivation of attention
- Open and non judgmental attitude
- Acknowledging present moment, whether pleasant or unpleasant without getting caught up in thoughts about, or emotional reactions to it
- An approach to stressful situations which promotes response rather than automatic reaction
- Basis for emotional intelligence

Outside

Sensations

Mindfulness

Thoughts

Emotions

Inside



For example...

Rush University Medical Center Meditation Room



Mindful Meditation

Thursdays 12-12:30

Mindfulness and Burnout

Positive Effect

Mackenzie.	2005	Nurses and nurses aides
Cohen,-Katz	2005	Nurses
Krasner	2009	Primary care physicians
Goodman	2012	Healthcare providers
Fortny	2013	Primary care physicians
Asuero	2014.	Primary healthcare providers
Verweij,	2016	GP's
Duarte	2016	Nurses

No Effect

Milstein	2009	House staff
Moody	2013	Multidisciplinary but subjective reports of improvement

Empathy & Compassion

Empathy:

En- in

Pathos = feeling,

In the feelings of the other

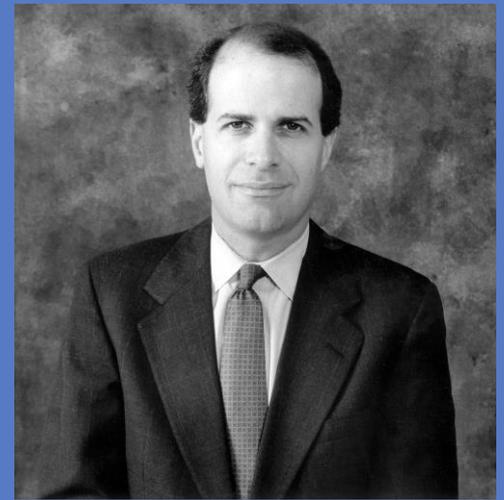
Compassion:

Com - with

Passion - Pati = to suffer(also the root of patient)

Present with suffering

Schwartz Rounds



I realize that a high-volume, high pressure setting tends to stifle a caregiver's inherent compassion and humanity. But the briefest pause in the frenetic pace can bring out the best in a care giver and do much for a terrified patient Makes the unbearable, bearable.

Kenneth Schwartz 1995

Self Compassion & Healthcare Providers

8 studies self compassion and work related stress

3 studies self compassion on resilience

Self compassion: ■ burnout, compassion fatigue, stress symptoms

Limitations re methods and measures

Self compassion trainings

Change on many levels....

We're all in this together....

If you always do what you always did, you will always get what you always got.

Albert Einstein

Evolution of burnout recovery



burnout...

rising slowly...

on feet...

full recovery

EXPAND YOUR

INFLUENCE

HOW TO BECOME A PUBLIC THOUGHT LEADER ONLINE

MONA SHATTELL, PHD, RN, FAAN • REBECCA DARMOC, MS

OVERVIEW

{1

A New Perspective for Academia

{2

Influence, Twitter & Personal Branding

{3

Consume, Share, Create

{4

Tips to Expand Online Influence

“SELF PROMOTION”



Ash Paul

@pash22

Follow



Replying to @JBradyScott @BecDarmoc @MonaShattell

There is wide disagreement amongst researchers as to what exactly constitutes self-promotion google.co.uk/amp/s/dynamicecology.wordpress.com ... via [@DynamicEcology](#)

Self-promotion in science: poll results and commentary

At this point we've probably gotten about as many responses as we're going to get to our poll on self-promotion in science. Thanks to everyone who took the poll! Here are the results, w...

dynamicecology.wordpress.com

**New perspective:
Self-promotion means owning
your hard work, expertise,
and authority to accomplish
your mission of helping others.**

“ We're not being selfless when we avoid promoting. We're just undercutting our own mission. ”

— MICHAEL HYATT

The OpEd Project

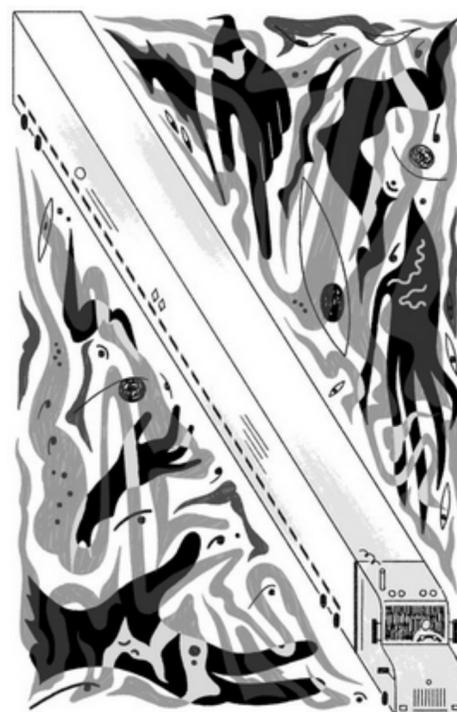
THE HUFFINGTON POST

The New York Times

The Opinion Pages | OP-ED CONTRIBUTORS

Long-Haul Sweatshops

By ANNE BALAY and MONA SHATTELL MARCH 9, 2016



Sophia Foster-Dimino

IT might seem like a good time to be a long-haul trucker: More than ever, the American economy relies on hundreds of thousands of 18-wheelers to move goods across the country. But the industry is in crisis, with drivers leaving in droves because of low pay and poor working conditions.

A big part of the problem is that when it comes to long-haul trucking, the government's focus has been almost entirely on road safety. That's not a misplaced concern; highway accidents involving semis kill about 5,000 people per year. But it overlooks a critical concern: the well-being of the drivers themselves.



PTSD in the Driver's Seat

Long-haul trucking can leave workers vulnerable to a host of mental-health issues, but the demands of the job often mean they have trouble accessing care.



Mona Shattell, PhD

@MonaShattell Follows you

Dept Chair @RushUniversity #Nurse. Editor @JPNJournal. Views are my own. @HuffPo blogger. #healthcare #highered #socialmedia #leadership

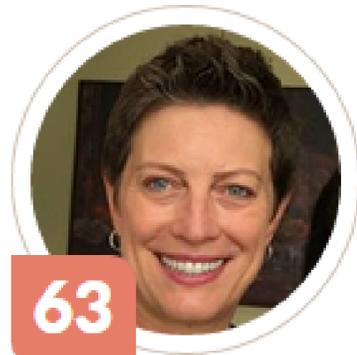
Chicago

works.bepress.com/mona_shattell

Tweets	Following	Followers	Likes
3,872	4,867	3,008	2,828



TIP: MEASURE WITH “KLOUT”



Mona Shattell



Dept Chair @RushUniversity #Nursing. Editor @JPNJournal. Views are my own.
@HuffPo blogger. @theopedproject #mentalhealth #publicvoices #social
#leadership

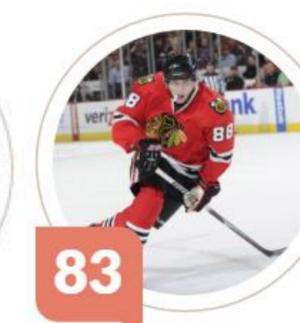
- Critical Thinking ★ Expert
- DePaul University ★ Expert
- Hospitals ★ Expert
- Medical Schools ★ Expert
- Nursing ★ Expert
- Psychiatry ★ Expert
- Public Health ★ Expert
- Trucking ★ Expert
- Academics
- Activism
- Blogging
- Chicago
- Feminism
- Gender Justice
- Health
- Health Care
- Higher Education
- Lake Michigan
- Medicaid
- Medicine
- Mental Health
- Progressive Politics
- Public Speaking
- Racial Inequality
- Social Justice
- Social Media
- Teaching
- Travel
- Writing

Beginners
0-30

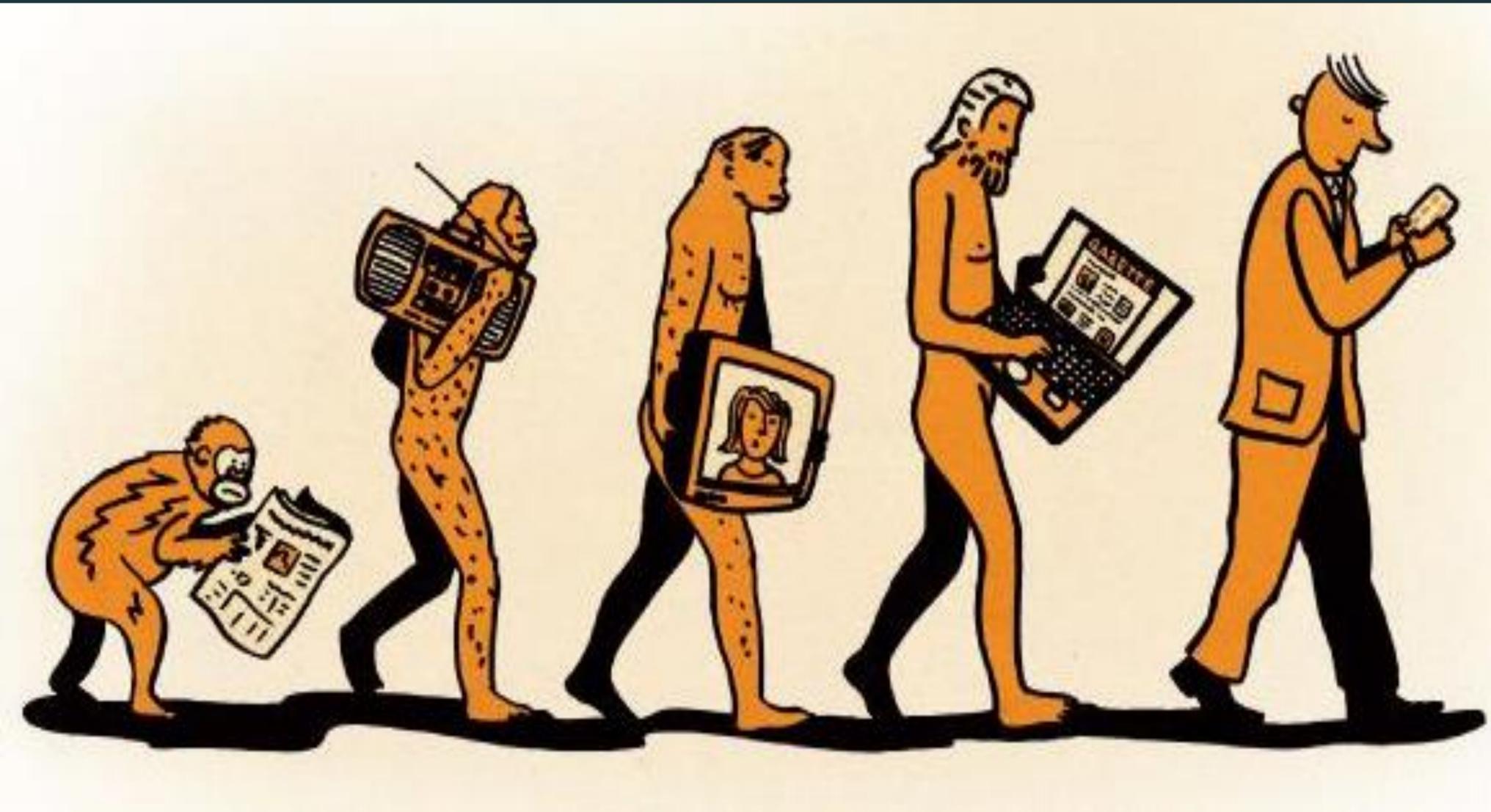
Moderate Influence
31-49

High influence
50+

Top 5% of Klout accounts
63+



THE EVOLUTION OF INFLUENCE



Corporate control



Consumer control

INFLUENCE TODAY



72% of Americans consume news online

63% of Twitter users get news from the app

24% of verified Twitter accounts are
journalists/media

WHY TWITTER?



- **Connect anywhere, anytime**
- **Your community of peers is already on Twitter - sharing and collaborating**
- **Reach a larger audience; your message is not limited to academia/publications = help more people.**
- **Adds another layer to what you are already doing. A “must” in the age of digital influence.**

The Power of Twitter



International Revolutions

SAM GUSTIN BUSINESS 02.11.11 2:56 PM

SOCIAL MEDIA SPARKED, ACCELERATED EGYPT'S REVOLUTIONARY FIRE



Anti-government protesters celebrate in Tahrir Square in downtown Cairo Friday. Fireworks burst, and Egypt exploded with joy and tears of relief after pro-democracy protesters brought down President Hosni Mubarak with a momentous march on his palaces and state TV. *Emilio Morenatti/AP*

IF THREE DECADES of violent repression and despotic rule were kindling for the Egyptian revolution, social media was both a spark and an accelerant for the movement.

Social Movements



Corporate Accountability



INSTANT KARMA

Martin Shkreli, the CEO who jacked up prices on an HIV drug, was arrested this morning



The New York Times

MEDIA

As Anger at O'Reilly Builds, Activists Use Social Media to Prod Advertisers



Laura @ljeash · 2h
@ADT please stop advertising on @oreillyfactor



ADT ✓
@ADT

Follow

Replying to @ljeash

Laura-We hear you 100% & do not support these views. We've pulled our ads from this show



Sara Gangel @saragangel · 15h
@hulu please pull your ads from O'Reilly and don't carry his show.



Hulu Support ✓
@hulu_support

Follow

Replying to @saragangel

Hey, Sara. We've looked into this, and our ads are no longer running on the O'Reilly Factor.

PERSONAL BRANDING



Personal brand is what
people say about you
when you leave the room.

- Jeff Bezos, Founder, Amazon.com

**How can faculty use Twitter to gain exposure?
The first step is to develop your own brand.**

A person wearing a white dress shirt and a black necktie is holding a large white rectangular sign with both hands. The sign contains text about online personal branding.

What does
your online
personal brand
say about you?

The true essence of a brand is all of the word associations left over in people's minds after they have an encounter or experience with you.

Write down words that you want people to remember about you. Start by thinking about:

1 - your expertise/knowledge/ideas/passions: what words describe these for you?

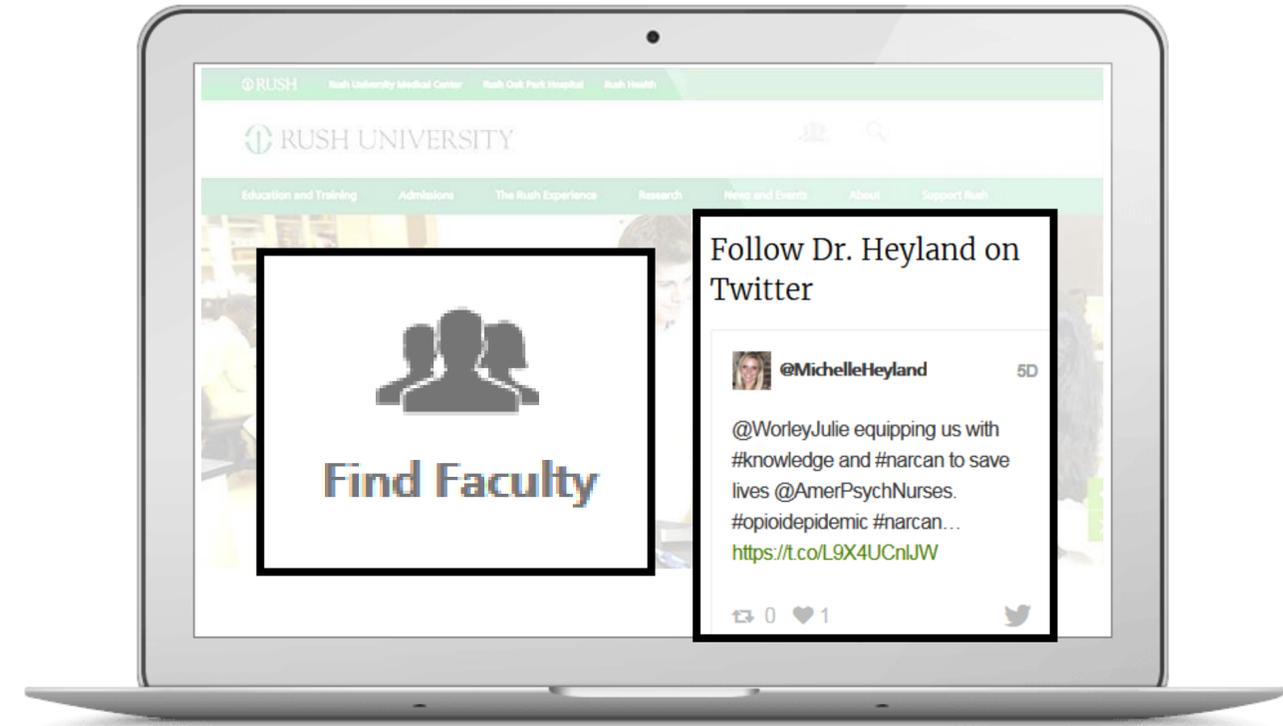
2 - your audience: industry colleagues, general health care community, patients, media? What drives that specific audience and what are their needs?

3 - what ideas do you want share with them?

Becoming an influencer is about providing value.

BUILDING YOUR BRAND ONLINE

- **Add key words**
- **Add photo**
- **Add Rush faculty profile URL**
- **Add “Opinions are my own” at end of bio**



NOW WHAT?

STEPS TO TWITTER INFLUENCE

Consume
Share
Create

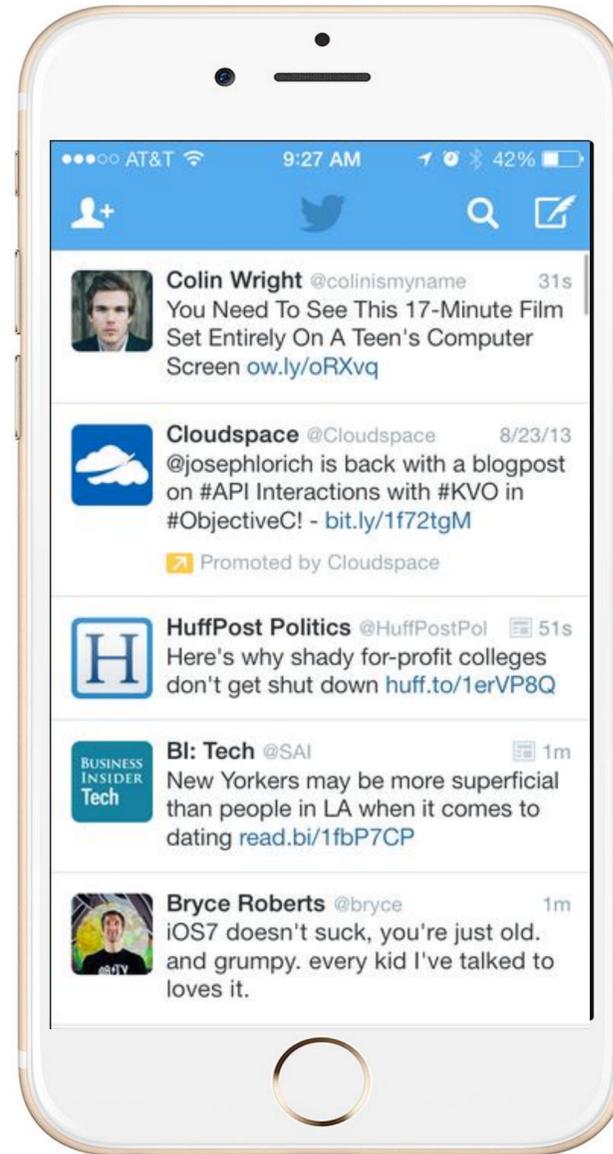


STEP 1

Consume

Share

Create

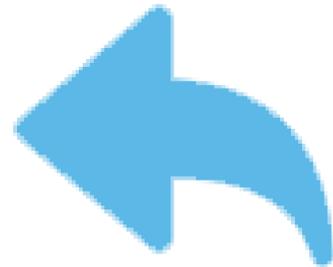


STEP 2

Consume

Share

Create



Comment



Retweet



Like

STEP 3

Consume

Share

Create



Compose new Tweet



What's happening?

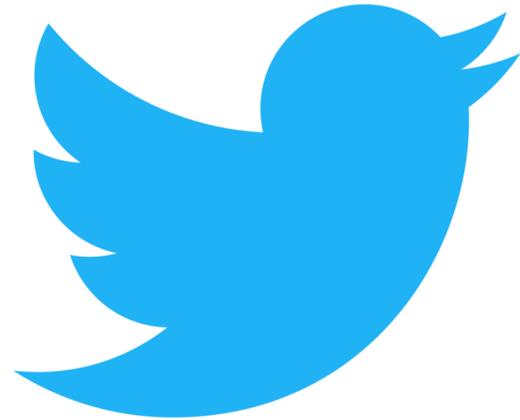


140



Tweet

EXPAND YOUR REACH



DISCOVER

- Key topics
- Community connections
- Social movements



MENTION

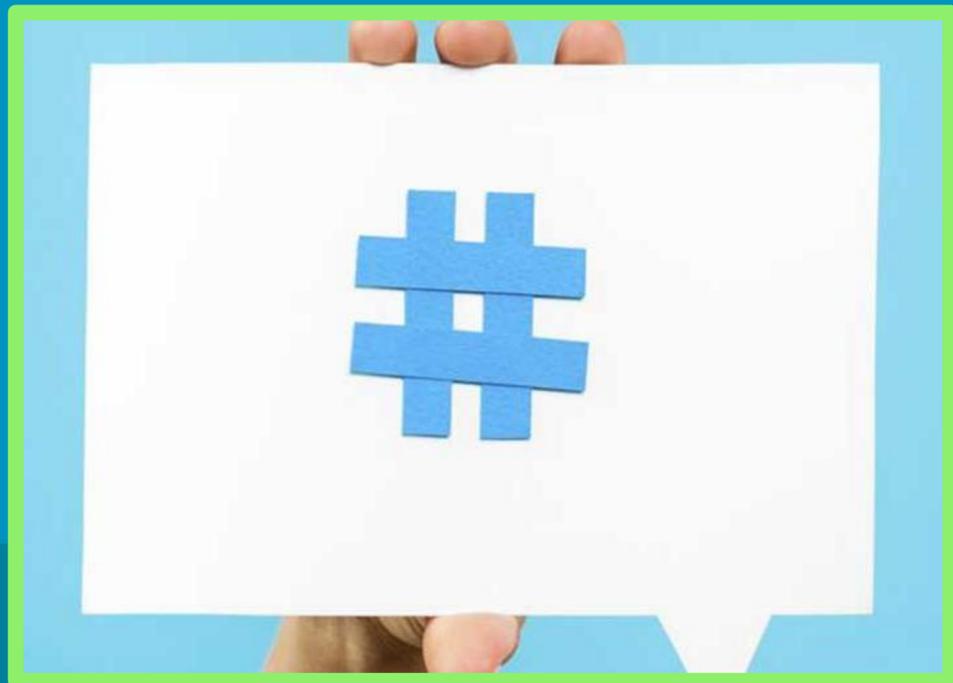
- Influencers
- Colleagues
- Organizations
- Conferences
- Journalists



ENGAGE

- Comments
- Conversations

TIP : HASHTAG & MENTION



**TOPICS
COMMUNITIES**



**PEOPLE
ORGANIZATIONS**



= NO VISIBILITY

RushU Medical Center @RushMedical - 11h
Coping with food cravings: You have more control than you think
/2ssNJe2



#hunger #cravings #motivation #EmotionalEating

Rush University @RushUniversity - May 16

Are you an adult w/ a chronic health condition + interested in being a health mentor for our students? Email ipe@rush.edu for more details.



#SeniorLiving #longevity #volunteer #Chronicillness



RN
Wrigley

naloxone
opioid

heartfailure
patientcare

nursing
cardiology



RushUNursingCollege @RushUNursing · May 31
An off-duty #RN, a stroll in #Wrigley, & a #naloxone kit @ home. She never imagined what would happen next..
#opioid chicagotribune.share.nv.io/sponsored/an-o...

Impressions

Engagements

Engagement rate

1,367

171



12.5%



RushUNursingCollege @RushUNursing · Jun 13
Transitioning from hospital to home: this team approach to #heartfailure improves #patientcare. bit.ly/2swxAUw
#cardiology #nursing

179

15



8.4%

TIP: HEALTHCARE HASHTAG PROJECT

Healthcare Hashtag Project

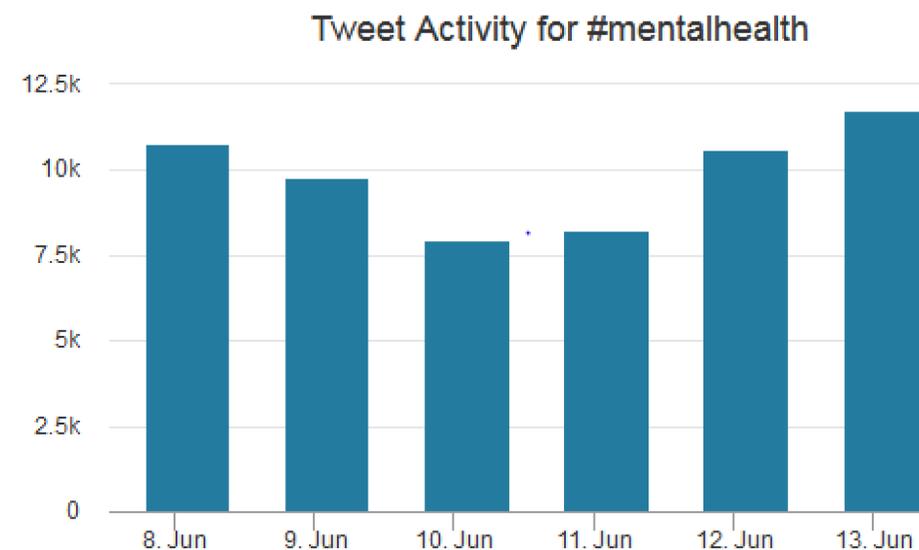
Healthcare Hashtag Project

Healthcare Hashtag Project, a free open platform for patients, caregivers, advocates, doctors and other providers that connects them to relevant conversations and communities.

Search Symplur



#mentalhealth Tweet Activity



The influencers of #mentalhealth

Top 10 by Mentions

- @healingmb 2,543
- @amira_31_ 2,157
- @se_ce_mind 1,505
- @psychcentral 914
- @camhnews 537
- @uksupremecourt 509
- @ukhouseoflords 450
- @respectyourself 447
- @eminem 436
- @electroboyusa 432

Top 10 by Tweets

- @adriancchalmers 845
- @brainstormpsych 756
- @butterflymum83 447
- @mymntlhealth 435
- @electroboyusa 397
- @ptsdforum 351
- @mhcd_careers 281
- @rhynoldaf 275
- @charitynewsuk 272
- @tonysweet89 250

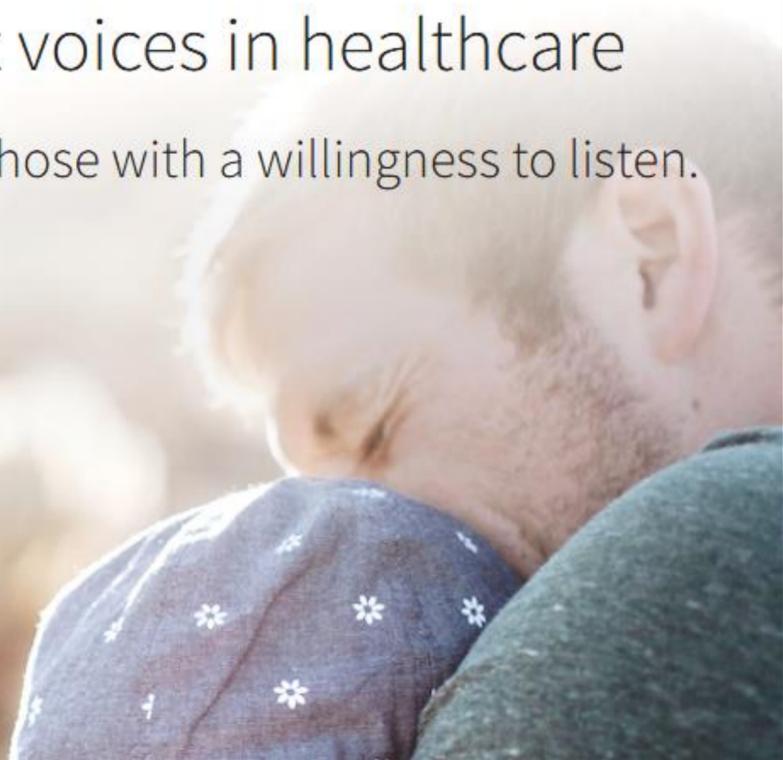
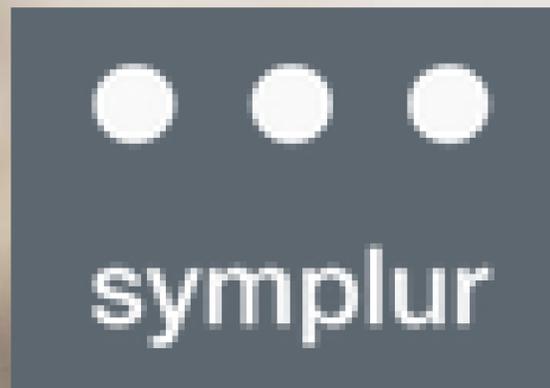
Mentalhealth Hashtags 8 of 29

Hashtag	Type
#mentalhealth	Regular
#MentalHealthMatters	Regular
#MHChat	Healthcare Tweet Chats
#MentalHealthReform	Regular
#psych	Regular
#SPSM	Healthcare Tweet Chats
#MensMentalHealth	Healthcare Conferences

TIP: SYMPLUR SIGNALS

Strengthening the quiet voices in healthcare

Incredible value and wisdom await those with a willingness to listen.



Built from academic research,
trusted by policy makers

Years of published academic research has sharpened
the capabilities of the platform now relied upon by
government clients in the U.S. and Europe.



TIP: SYMPLUR SIGNALS

The #eHealth2017 Influencers

Top 10 by Mentions

- @pat_health 310
- @colin_hung 291
- @ehealthconf 287
- @hackinghealthto 142
- @hackinghealthca 141
- @picardonhealth 132
- @markcasselman 126
- @cihi_icis 115
- @Isirois007 114
- @lygeia 112

Top 10 by Tweets

- @colin_hung 224
- @pat_health 210
- @ehealthmusings 146
- @Isirois007 99
- @healthadvoc_ca 82
- @lain67 74
- @hackinghealthto 68
- @markcasselman 57
- @sheldamar 44
- @natricer 38

Top 10 by Impressions

- @colin_hung 3.0M
- @pat_health 1.5M
- @Isirois007 723.6K
- @cihi_icis 614.0K
- @natricer 479.6K
- @ctrappe 442.7K
- @markcasselman 342.6K
- @ehealthmusings 264.6K
- @picardonhealth 244.5K
- @hcsnews 243.6K

Tweet

Tweet

Tweet

The Numbers

13.099M Impressions

3,042 Tweets

875 Participants

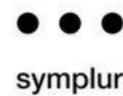
54 Avg Tweets/Hour

3 Avg Tweets/Participant

Tweet

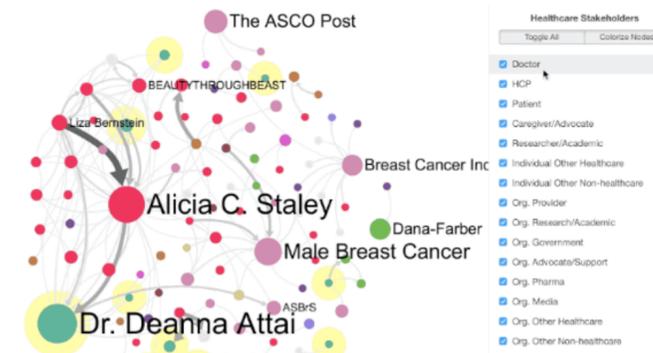
Like

Twitter data from the #eHealth2017 hashtag from Sun, June 4th 2017, 12:10AM to Tue, June 6th 2017, 8:10AM (America/Toronto).



Symplur Signals

Learn from specific healthcare stakeholder voices



Cut through the noise of the crowd by focusing on specific stakeholder voices. Uncover needs and perceptions by employing our stakeholder algorithm that differentiates between Doctors, Patients, Caregivers, Pharma, Government, Academia, and more.

Our focus on healthcare takes you places others can't go

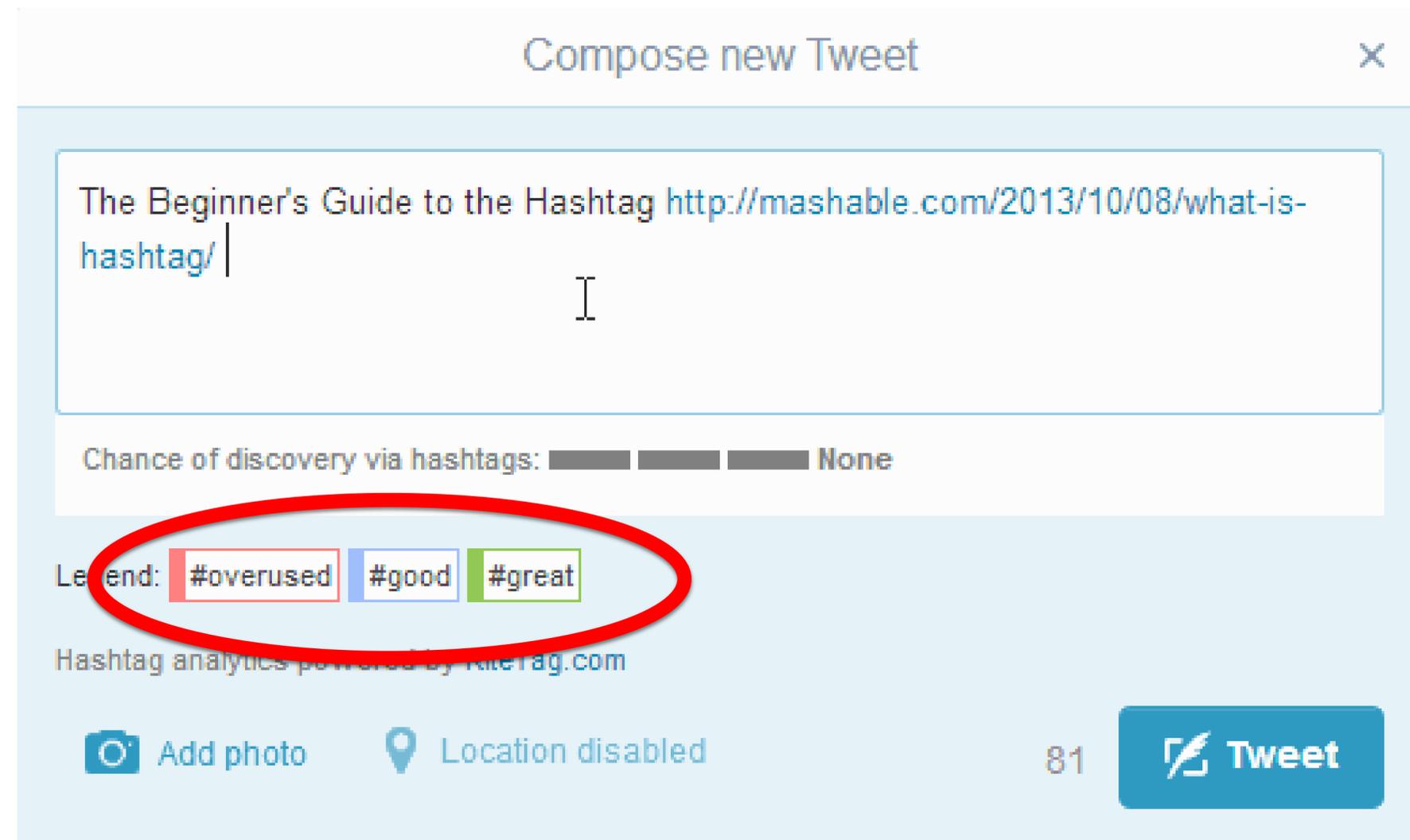
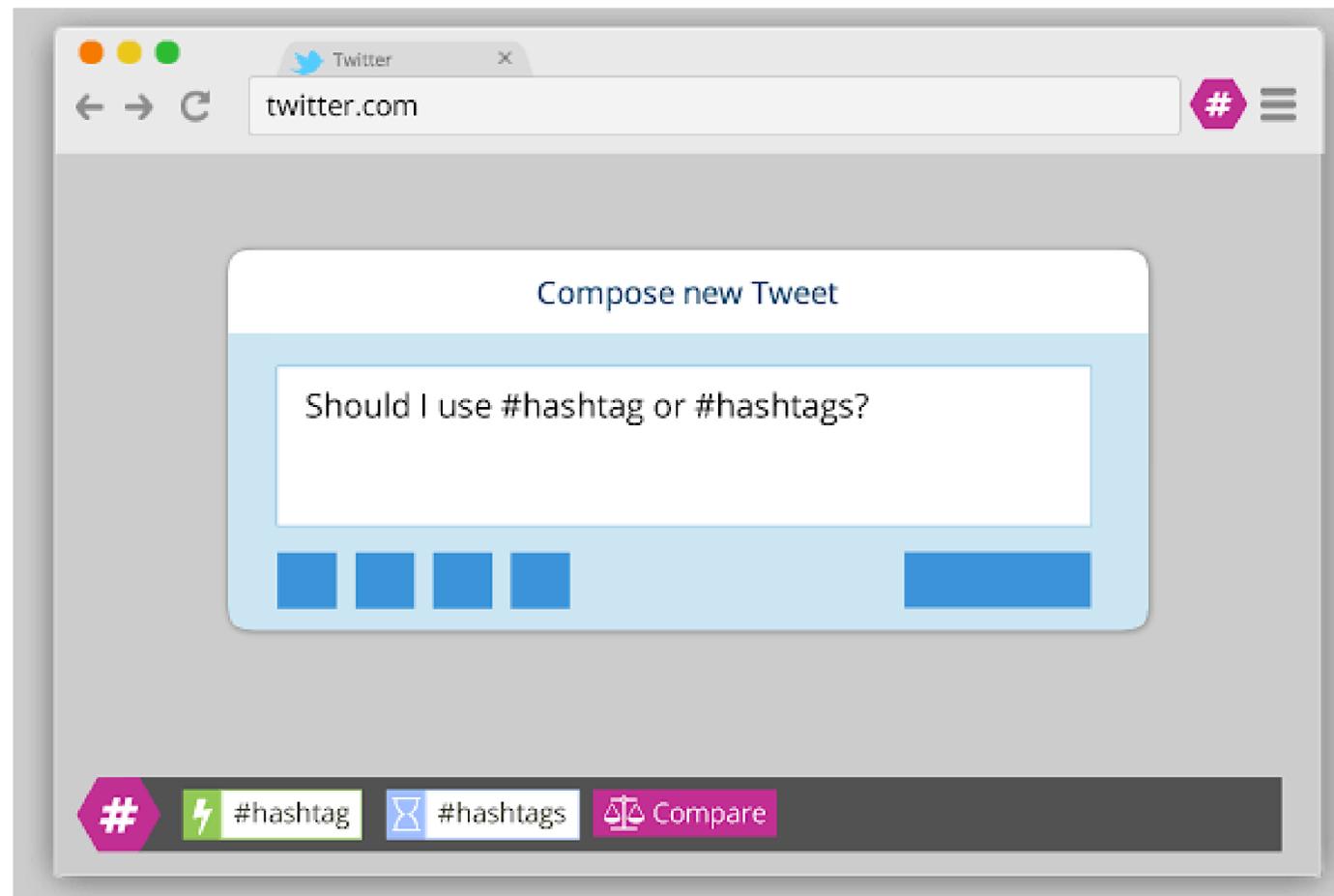


The advantage of using a platform created purely for healthcare is that everything you see, everything you touch is optimized for our industry. From sentiment algorithms calibrated for healthcare to the user interface – it's all built for answering your health specific questions.

TIP: RiteTag

Instant Feedback on Hashtags

Get color indication of hashtag strength as you type.



TWITTER ETTIQUETTE: “GIVE TO GET”

Reciprocity expands your reach:
Follow people back
Give likes
Give retweets
Give comments



TWITTER ETTIQUETTE : RESPOND & ENGAGE



Brady Scott
@JBradyScott

Following

@MonaShattell and @BecDarmoc .
Thoughts? Should we self promote research?

Ash Paul @pash22

Nine reasons why researchers need to embrace Twitter via @SaxInstitute & @DrBFreeman saxinstitute.org.au/news/nine-reas...



Brady Scott @JBradyScott · Jun 9

Hmmm... interesting. We're ok with 'expanding reach' at conferences/in journals, but hesitant on social media? #Imguiltyofhtistoo



Rebecca Darmoc @BecDarmoc · Jun 9

Replying to @BecDarmoc

Ultimate purpose is to help others; promoting work 2 larger audience is crucial, as @apash22 explains. Just need new phrase to encourage it!



Rebecca Darmoc @BecDarmoc · Jun 9

Replying to @JBradyScott @MonaShattell

@pash22 We're conditioned to think "self promotion" = "self serving" = distasteful. Not true in research.



Brady Scott @JBradyScott · Jun 9

Agreed! That's why I am so hesitant! Goal: Share ideas, help others... not self-promotion. Seems like a fine line...



Rebecca Darmoc @BecDarmoc · Jun 9

Replying to @BecDarmoc @JBradyScott and 2 others

We have hard time owning neg connotation of "self-promotion". Must change directive: "Expand your reach."



Ash Paul @pash22 · Jun 9

There is wide disagreement amongst researchers as to what exactly constitutes self-promotion google.co.uk/amp/s/dynamic... via @DynamicEcology



Rebecca Darmoc
@BecDarmoc

Replying to @pash22 @JBradyScott

-interesting. But extra step of #blogging your OWN #research isnt selfpromo; it creates accessibility & impact 4 others



@WrenethaJulion @wrenethajulion · Jun 10

Doesn't do much good for academicians to only talk to each other. We conduct research to make evidence-based change. #SpreadtheWord

TIP : MASLOW MESSAGES IN 140 CHARACTERS

Safety	Belonging	Esteem / Prestige	Self-Actualization
I want to avoid risk so appeal to my concerns about missing out or my need to be safe.	Embrace my need to be a part of the group. I want to know what my peers know.	Help me stand out from my peers and give me "inside knowledge" that makes me feel special.	Give me hope, advice, or encouragement on achieving my life goals; think of my highest level aspiration.



FNPs : here's what you need to know about...
How one university is using 3D printing to educate....
Dream of going global? Next level career advice from...
5 tips for managing millennials

TIP: SHORTEN LINKS - BITLY

bitly TOUR ENTERPRISE RESOURCES BLOG ABOUT

Alleged iPhone 6 dummy model shows off a 6mm thick, 4.7-inch

SHORTEN. SHARE. MEASURE.

Join Bitly, the world's leading link management platform.

Paste a link to shorten

SHORTEN

http://bit.ly/28Zsft0 COPY

professionalnursing.org/article/S8755-7223(2016)00083-6/abstract
professionalnursing.org/article/S8755-7223(2016)00083-6/abstract

http://bit.ly/28Zsft0 COPY

JUN 1	The interesting life of a nurse researcher: Fighting sex trafficking - trib.in/20TdMIG	27 clicks
MAY 26	https://attendeegotoeinar.com/register/2149838075005134091 bit.ly/1OP1sQs	5 clicks
MAY 2	College of Nursing Takes Pledge on Opioid Education - News bit.ly/1Ocbqrr	1 click
APR 26	Subscription Center ChicagoBusiness.com bit.ly/1S17PFt	6 clicks
APR 25	Drivers underreport mental health issues in fear of losing jobs	

JUN 1

The interesting life of a nurse researcher: Fighting sex trafficking - Chicago Tribune
http://www.chicagotribune.com/brandpublishing/nursing-in-action/ct-the-interesting-life-20160517-story.html

trib.in/20TdMIG COPY SHARE EDIT

27 clicks
TOTAL CLICKS

Bitly Network: 3 clicks

TIP : @mention

Monitor your *brand* anywhere online

Scour the web, social media, and more for powerful market insights.

Finkley Sentencing Memo

3 pages available for preview

2:16-mj-30520-EAS Doc # 9 Filed 03/23/17 Pg 1 of 9 Pg ID 25

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

CVB Violation No. 6077979
Magistrate Judge Stafford

v.

CHRISTOPHER FINKLEY,

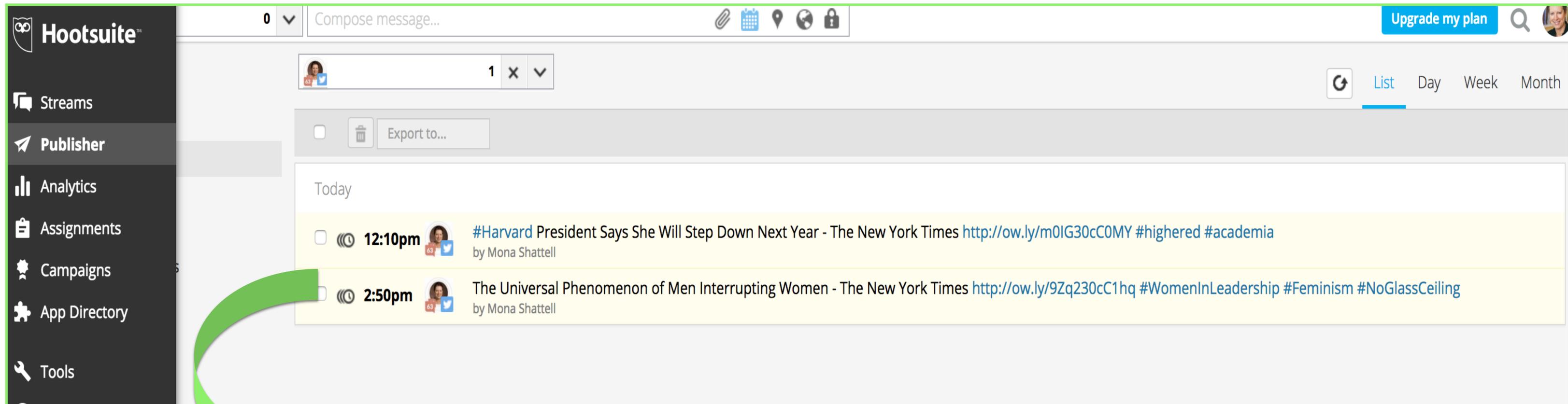
Defendant.

CHRISTOPHER FINKLEY'S SENTENCING MEMORANDUM

2. *The Life of a Long-Haul Truck Driver*

At the age of 21, Mr. Finkley got the “job of his dreams” driving trucks, first, with Big M Transportation, and then with Auto Truck Transport USA, LLC. PSR ¶ 27–28. Long-haul trucking is a tough profession. (*See Ex. A, Anne Ballay & Mona Shattell, PTSD in the Driver's Seat, Atlantic* (Mar. 22, 2016).) The job demands that Mr. Finkley spend a month at a time on the road followed by only three days at home with family.

TIP : Hootsuite

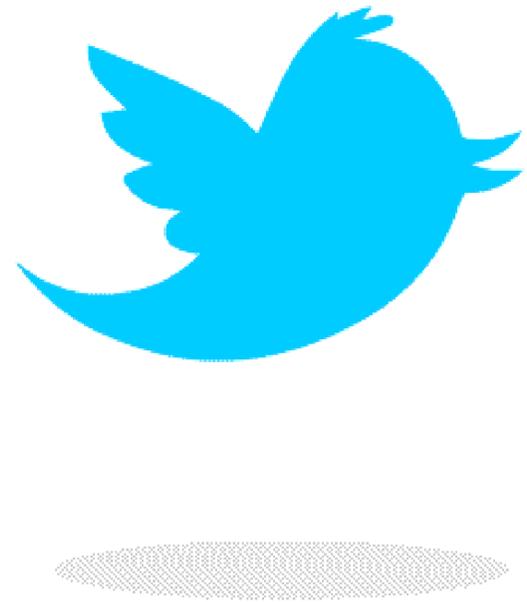


The screenshot displays the Hootsuite interface. On the left is a dark sidebar with navigation options: Streams, Publisher, Analytics, Assignments, Campaigns, App Directory, and Tools. The main content area shows a message queue. At the top, there's a search bar with 'Compose message...' and a '0' dropdown. Below that, a '1' dropdown indicates one message is selected. A 'List' button is active, with 'Day', 'Week', and 'Month' options. An 'Export to...' button is visible. The message list shows two items under the heading 'Today':

- 12:10pm: #Harvard President Says She Will Step Down Next Year - The New York Times <http://ow.ly/m0IG30cC0MY> #highered #academia by Mona Shattell
- 2:50pm: The Universal Phenomenon of Men Interrupting Women - The New York Times <http://ow.ly/9Zq230cC1hq> #WomenInLeadership #Feminism #NoGlassCeiling by Mona Shattell

A green arrow points from the text below to the two messages in the queue.

These two messages have been added to Hootsuite & scheduled to auto-post on Twitter at specific times.



Start Now with Twitter

1. Download the app and sign up. Use your first & last name.
2. Create a bio. Include a picture.
3. Find and follow influencers.
4. Consume and share their content.
4. Start with 10 minutes per day.
5. Reach out with questions.

Social Media

Social media is an important tool that supports Rush University’s communications strategy and our ability to engage with relevant audiences, including students, prospective students, faculty, staff, alumni, community partners and colleagues in the Rush system.

While social media provided a way to tell our story in fresh and interesting ways, the University community should take a thoughtful approach with defined goals and structure to help protect our brand and reputation.

Personal and Official Accounts

1. Personal accounts that reference a person or group’s affiliation to Rush but that do not use the Rush logo.
2. Official, fully branded accounts.

When does a personal account make sense, and when would an official site make sense? The following chart provides details to help you make an informed decision:

	Personal Account	Official Account
Access to Rush logos, images and video assets	No	Yes
Access to analytics reports provided on a regular basis	No	Yes
Required training for social media management	No	Yes
Support services from Marketing and Communications	No	Yes
Compliance with Rush’s official social media policies	No	Yes
Agreement to help cross-promote important news, events or other University content that’s relevant to your audiences	No	Yes

Rush reserves the right to decommission official accounts that do not comply with the University’s social media policies or that have fallen into disrepair or neglect.

Social Media Do's and Don'ts for Personal Accounts

Do's:

- Use your name on your Twitter account; replace the “egg” avatar with an image of you.
- Include a disclaimer if you mention your affiliation with Rush in your profile, for example: “Opinions/tweets are my own, not Rush’s.”
- Associate your Twitter account with your Rush University faculty profile. For more information, contact Mark Donahue (mark_donahue@rush.edu) in Marketing and Communications.
- Follow @RushUniversity, @RushMedical and @RushUNursing on Twitter.
- Follow peers at Rush and other hospitals and universities.
- Use @RushUniversity and @RushMedical tags in your tweets when appropriate (along with Rush hashtags, e.g., #HowMedicineShouldBe).
- Review Rush’s social media policy at rsh.md/rushsocialpolicy.

Don'ts:

- Don't accept “friend” requests from patients.
- Don't post patient information on social media, in accordance with HIPAA guidelines. Make sure images don't include identifying patient information.
- Don't record patient information on personal devices.
- Don't use a Rush logo (including Rush University Medical Center, Rush University, and the College of Nursing) in your personal social media profile. A photo from the Rush campus (e.g., the Tower) is okay.
- Don't create a social media account for a University or Medical Center department or program without permission from Marketing and Communications. We have only a handful of authorized Rush accounts. For more information, email Thurston Hatcher (thurston_hatcher@rush.edu) in Marketing and Communications.
- Don't discuss workplace concerns in social media forums.

Video Policies

All marketing — or storytelling videos — should either be relatable to Rush’s brand pillars, to decision factors, or both. In addition, videos should comply with the video-specific guidelines included in Rush’ Corporate Identity and Graphic Usage Standards.

Recommendations for Video Length

There is no “catch-all” answer for how long video should be, but a good rule of thumb for is between 30 seconds and four and a half minutes. Videos within this window will typically retain 60 to 80% of audiences for the full length of the video.