



HOW SHOULD WE DO RESEARCH IN EMERGENCY MEDICINE

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**Doctor and The Doll by Norman Rockwell
The Saturday Evening Post 1929**

Should medicine ever fulfill its great ends, it must enter into the larger political and social life of our time; it must indicate the barriers which obstruct the normal completion of the life-cycle and remove them. Should this ever come to pass, Medicine, what ever it may then be, will become the common good of all. It will cease to be medicine and will be absorbed into that general body of knowledge which is identifiable with power.

Virchow RLK. Die Einheitsbestrebungen in der wissenschaftlichen Medizin. Berlin: n.p.; 1849.

In 1965, 52 million accidental injuries killed 107,000, temporarily disabled over 10 million and permanently impaired 400,000 American citizens at a cost of approximately \$18 billion. This neglected epidemic of modern society is the nation's most important environmental health problem. It is the leading cause of death in the first half of life's span.

Public apathy to the mounting toll from accidents must be transformed into an action program under strong leadership. This can be accomplished by the methods employed to bring poliomyelitis and other epidemics under control, and to make frontal attacks to conquer cancer, heart disease, and mental disease.



The long-term solution to the injury problem is prevention. The major responsibility for accident prevention rests not with the medical profession, but with educators, industrialists, engineers, public health officials, regulatory officials, and private citizens.

AcCidENts aRe Not

raNdom eVents

They are

PreDICTABLE

thEy CAN BE

PreVENTed

Accidental Death and Disability. National Academy of Sciences, 1966.

Haddon Matrix

	Factors		
	Human (Host)	Car (Vehicle/Vector)	Speeding without Seatbelt (Environment)
Pre-event	Driver's education	Building of cars with crumple zones and airbags	Guard rails and divided highways
Event	Use of seat belts	Activation of anti-lock breaks and deployment of airbags	Witness contact emergency medical services
Post-event	First aid	Use of emergency equipment to rescue victims	Emergency care and rehabilitation
End Result	Injured passengers	Damaged car	Damage to property and/or other cars

William Haddon Jr., MD first Director of the National Highway Traffic Safety Administration

Academic Emergency Medicine Should Support the Future by Providing Research time and adequate facilities for promising investigators

- We must develop collaborative
 - Interdisciplinary
 - Translational
 - Interdepartmental
 - Interschool
 - Communitarian efforts
- We must know what our hospitals and medical schools do and believe in.
- The structure and organization of EM research must address our strengths, define the gaps, find the mentors and collaborators



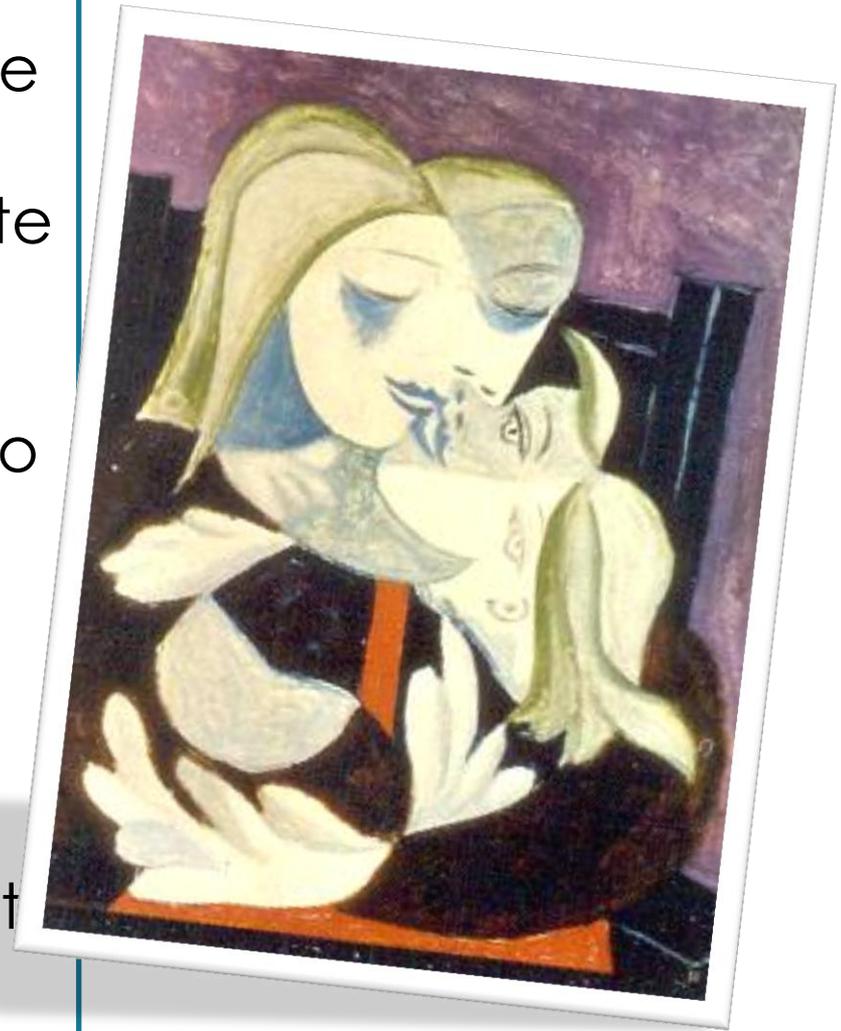
Georges Braque, Man with Violin, 1912

“the relationship of language to painting is an infinite relation, and much like medicine by avoiding certainty we are able to appreciate art to the fullest.”

The Order of Things: An Archeology of the Human Sciences 1994,

Michel Foucault

- I am most interested in improving the care of people
- I desire to address problems that others do not appreciate or are unwilling to address
- I believe our roots and our mission give us the chance to solve problems for the most disenfranchised
- I believe that we will find collaborators to address problems that need multidisciplinary teams. What doesn't?



Mother and Child (Marie Therese and Maya), Pablo Picasso, 1938

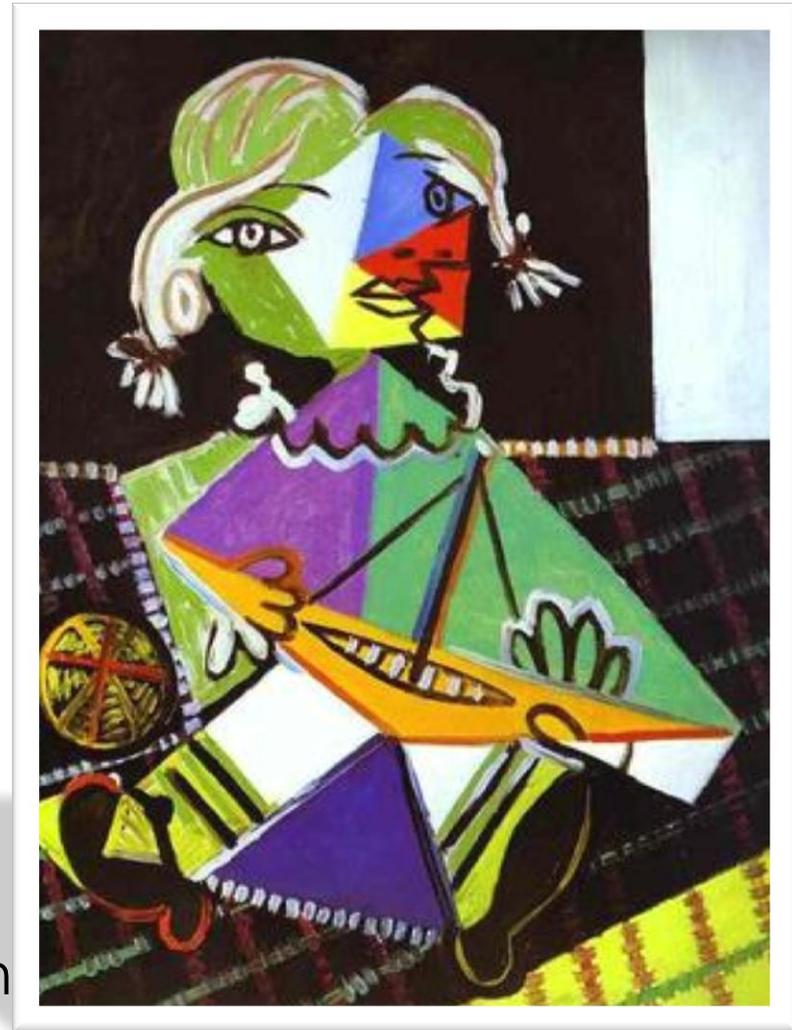
You see all the failures of thought

EACH ONE

- represents an unsolved human need
- needs a new investigator
- has a disease or problem that will interest the NIH

We are organized to effectively generate questions

- Leadership
- Expertise
- Collaboration
- Particularly with population health but many other departments



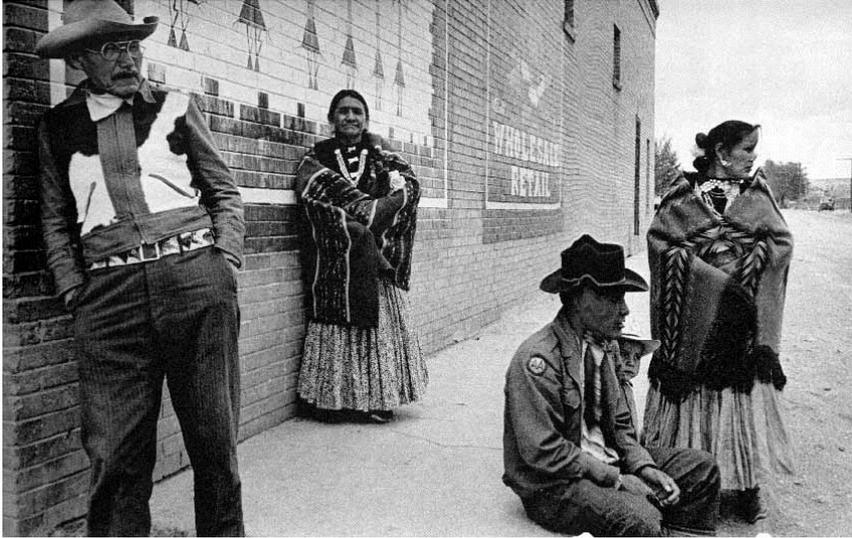
Girl with a Boat (Maya Picasso), Pablo Picasso, 1938

- We must have a cohesive integrated relationship with our communities. Follow our patients in the hospital/OPD and learn what they look like before they enter the studies.
- We need study those people who come through our doors
 - Who they are?
 - How do they live?
 - What is their culture?
 - What are their needs?
 - Our community is willing to help us solve neglected societal dilemmas



Henri Cartier-Bresson, New York 1964

Henri Cartier-Bresson



Arizona, 1946



Jerusalem, 1967

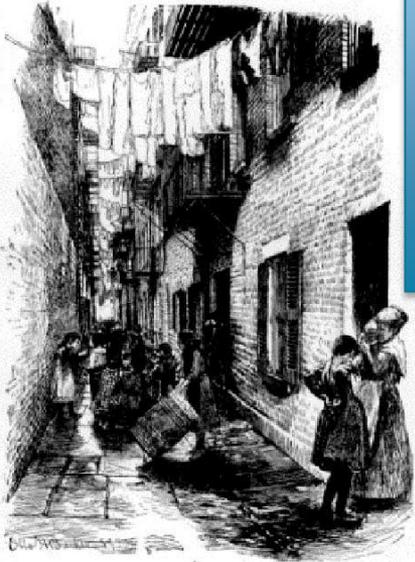


Egypt, 1950

How the Other
Half Lives

Studies Among
the Tenements of
New York

By
JACOB A. RIIS
1890



GOTHAM COURT



The task is not so much to see what no one yet has seen, but to think what no one yet has thought about that which everyone sees.

Arthur Schopenhauer (1788-1860)

Whose Hospital is it Anyway?



- Establish the infrastructure
- Utilize our access to patients
- Assess and enhance decision analysis
- Comparative effectiveness
- All the patients in need of immediate decision making
- All can be admitted to our collaborative networks through the ED – but where, when, how?
 - Ambulatory care
 - Observation
 - Hospital: ICU OR Floor

Crisis in Hospitals

New York Health System's Problems Resist Quick or Inexpensive Solutions

By HOWARD W. FRENCH

New York City's health-care system is in the midst of a crisis for which few quick, inexpensive or painless remedies are available.

The symptoms of the crisis — dangerous overcrowding, long delays in care and shortages of vital staff and supplies — are most acute in hospital emergency rooms, the one place in the system that experts say may be most resistant to short-term solutions.

So far, the only systemwide attempt

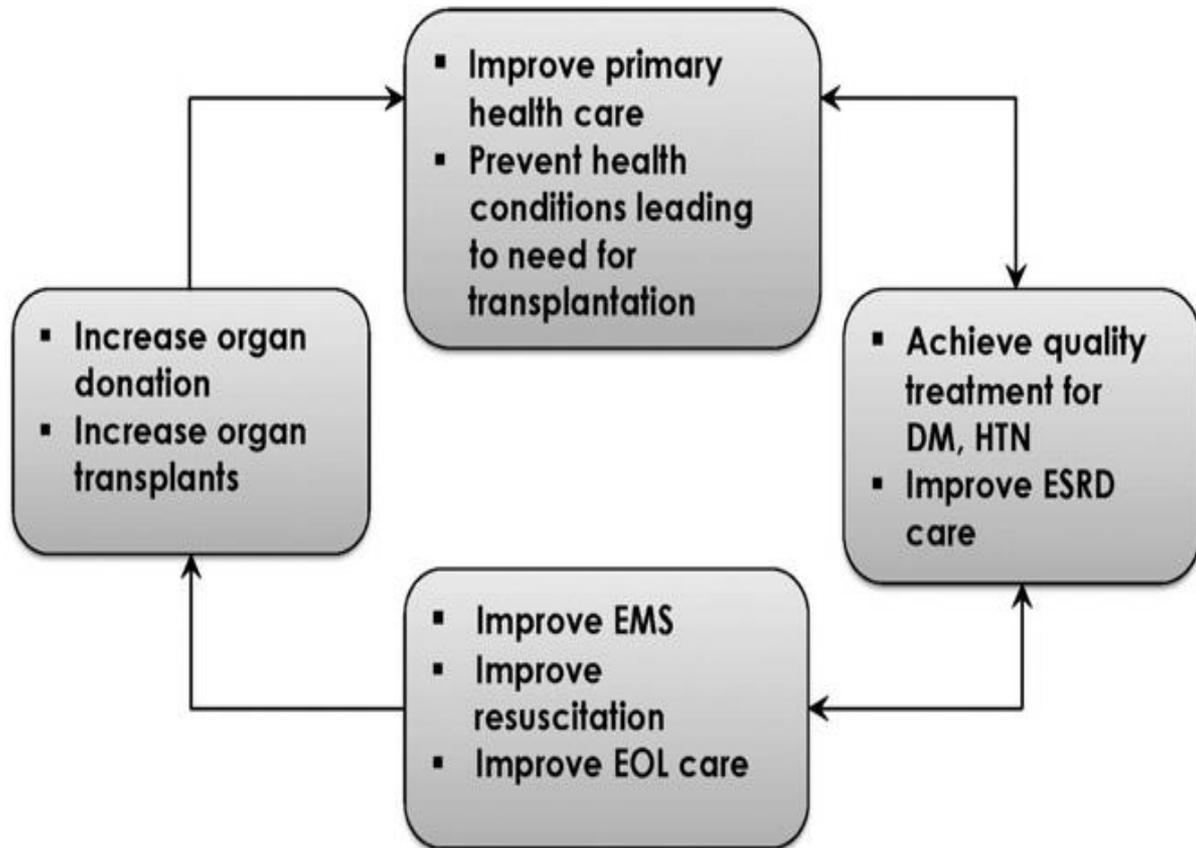
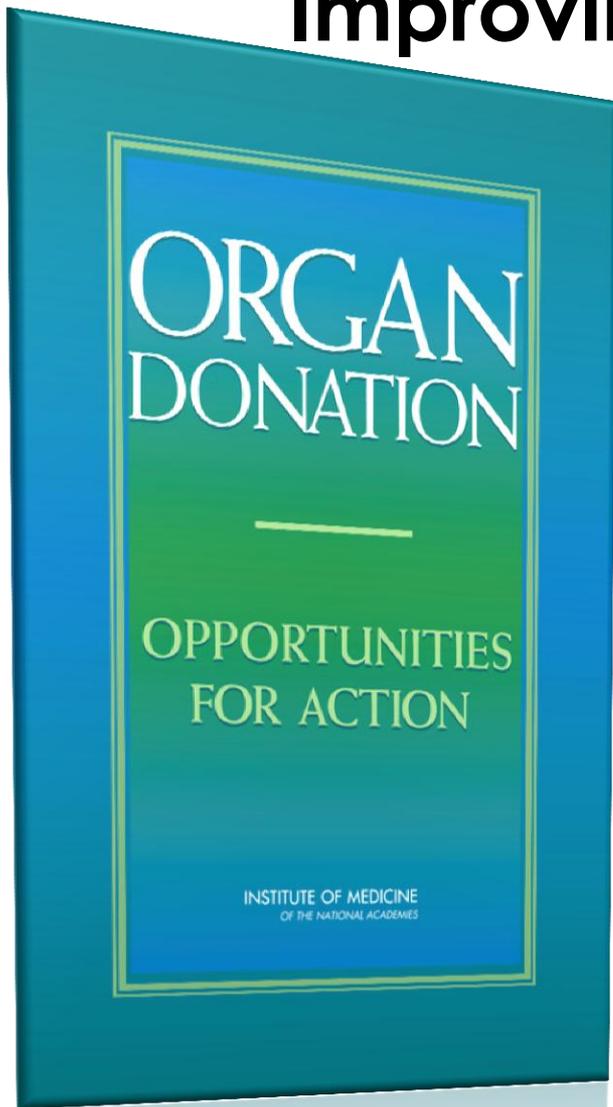
number of unused hospital beds that are available is relatively small.

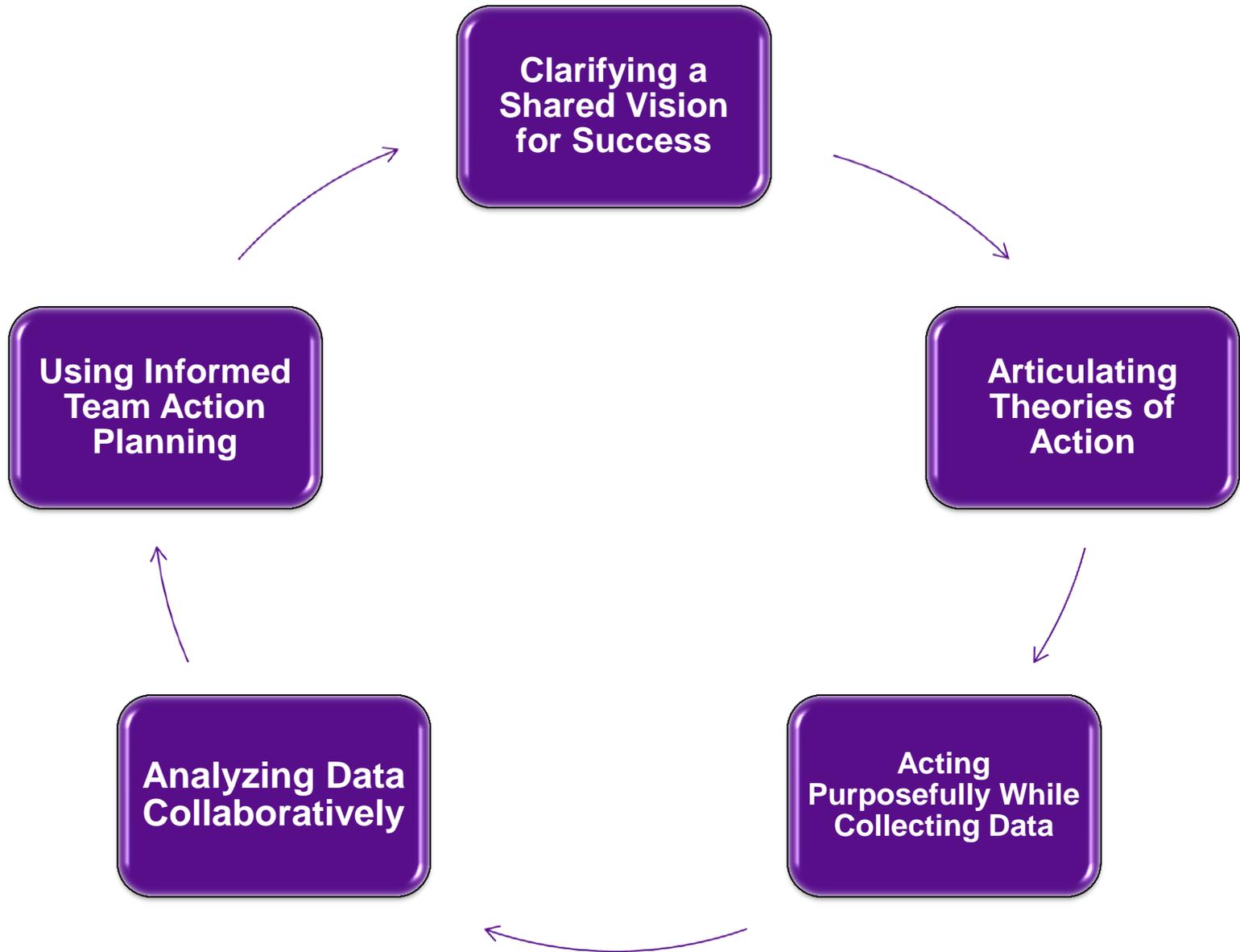
"In the city, there are as many as 400 to 500 patients on any given day waiting for a bed," said Robert D. Gumbs, executive director of the New York City Health Systems Agency.

Hospital administrators also say there are legal questions involving a patients' right to determine where they would like to be treated. Some say more transfers would make hospitals suspect available beds were being hidden or undesirable patients were being

Our inability or unwillingness as a profession and society to bring about these changes in public policy will be the greatest criticism of our generation.

A Continuum of Commitment to Improving the Public's Health





Research Environment

YOUR GROUP NEEDS DEVELOP

- A philosophy and culture of knowledge creation
- A means of collaboration internally and externally
- A supportive environment
- A team spirit
- An integrated mission
- A commitment to educate students/residents/faculty so that they can
 - Ask the critical questions
 - Offer meaningful suggestions
 - Find ways to be part of your effort
 - Translate your work into action



The Einstein Memorial Sculpture
October 9, 2009

Your themes must be that your efforts will be fine research, that leads to significant translational knowledge and improvement in the lives of your patients through improved care.

What intervention(s) will you study that can change the life of an individual facing a catastrophe?

Epidemics

- new and old infections
- alcoholism
- organ failure
- homelessness
- Errors and system failures
- public health disasters
- the moment of entry into palliative care
- the transitions in health care
- Violence—guns, hate

Preparedness for Research

Werner Heisenberg (1926)

“Uncertainty is unavoidably introduced into the measured qualities by the measurement itself.”

The more we study possibilities the more uncertain we become – the better prepared we become.

Our job is to study what we know so we can solve that which no one knows.

The study of art cultivates our tolerance of uncertainty to practice skills of observation and description when “not knowing” is inevitable. Physicians are deeply intolerant of uncertainty such that they often focus on a shred of data while forgetting the patient.

Campbell JI. A piece of my mind. Art and the uncertainty of medicine. JAMA. 2014;312:2337-2339.

What is the definition of Emergency Medicine Research?



We have never answered this question effectively:

It is fortunate for had we done so we might not be doing all the wonderful clinically important investigations that you are doing.

Alcoholism *(Ryan McCormack, MD)*

1. McCormack RP, Goldfrank LR, Gallagher T, Caplan A. Including Frequent Emergency Department Users with Severe Alcohol Use Disorders in Research: Assessing Capacity. *Ann Emerg Med.* 2014.
2. McCormack RP, Hoffman LF, Norman M, Goldfrank LR, Norman EM. Voices of Homeless Alcoholics Who Frequent Bellevue Hospital: A Qualitative Study. *Ann Emerg Med.* 2014. pii: S0196-0644(14)00430-2
3. Hamilton BH, Sheth A, McCormack RT, McCormack RP. Imaging of frequent emergency department users with alcohol use disorders. *J Emerg Med.* 2014;46:582-587.
4. McCormack RP. Traumatic intracranial injury in intoxicated patients with minor head trauma. *Acad Emerg Med.* 2014;21:220.
5. McCormack RP, Hoffman LF, Wall SP, Goldfrank LR. Resource-limited, collaborative pilot intervention for chronically homeless, alcohol-dependent frequent emergency department users. *Am J Public Health.* 2013;103 Suppl 2:S221-224.
6. McCormack RP, Williams AR, Goldfrank LR, et al. Commitment to assessment and treatment: comprehensive care for patients gravely disabled by alcohol use disorders. *Lancet.* 2013;382:995-997.

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