

Will it be Extinction or Evolution?

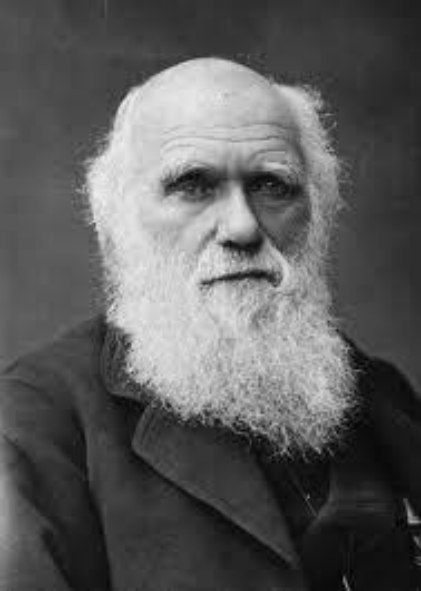
Darwinian Decisions for EMS in 2014

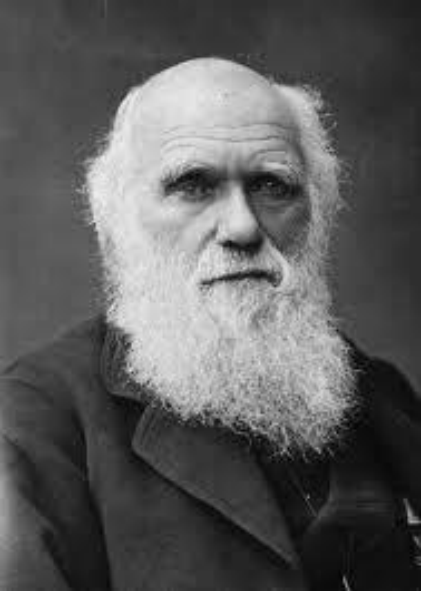
Scott Bourn, PhD, RN, EMT-P

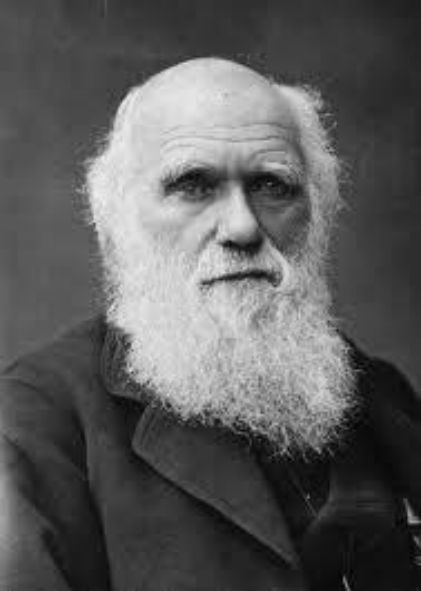
VP Clinical Practices & Research

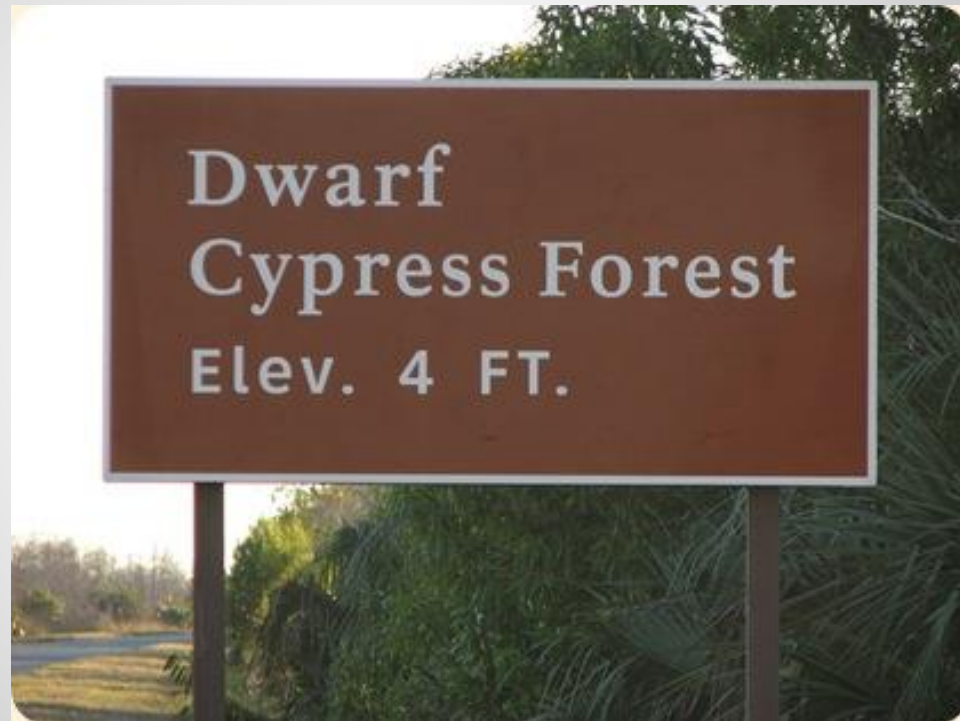
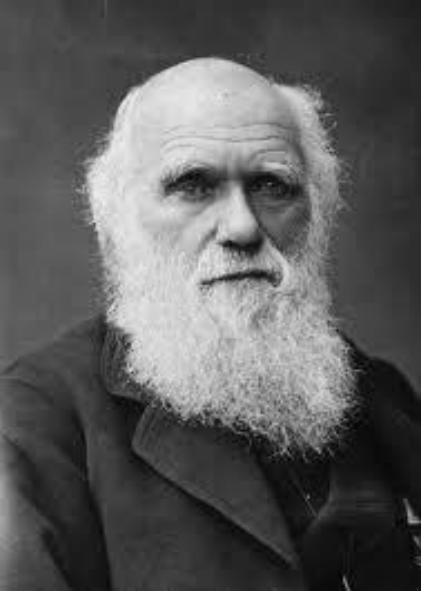
American Medical Response/Envision Healthcare

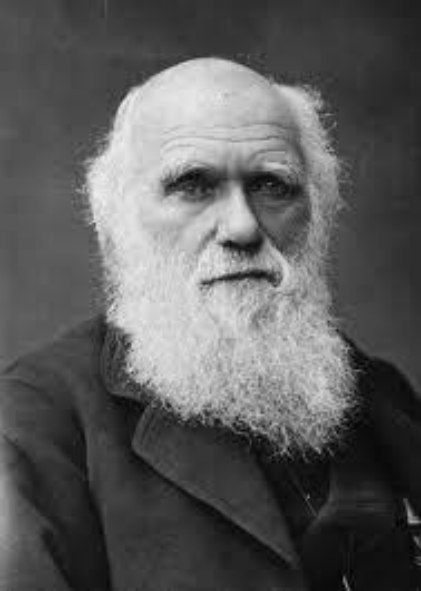
President, National Association of EMS Educators

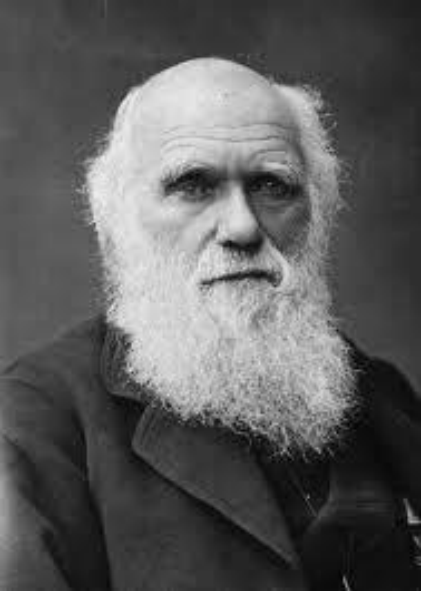


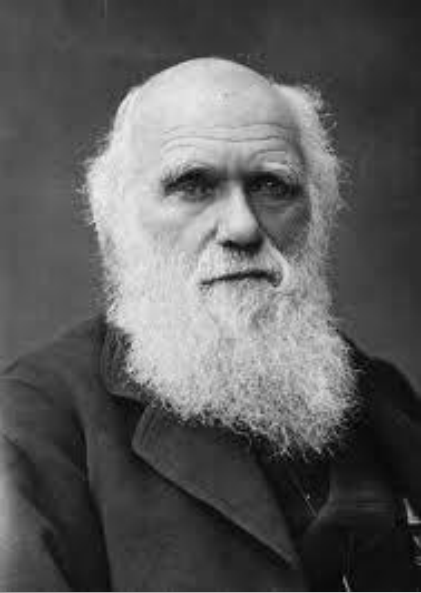








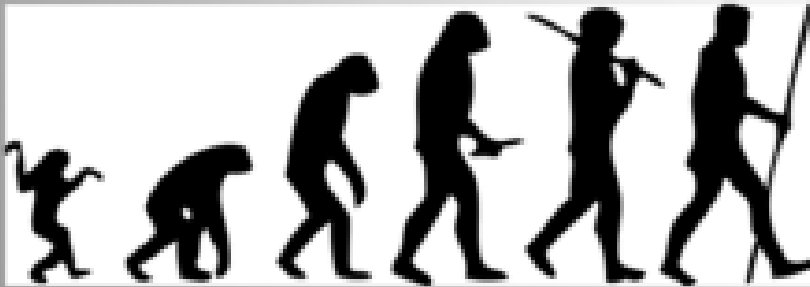


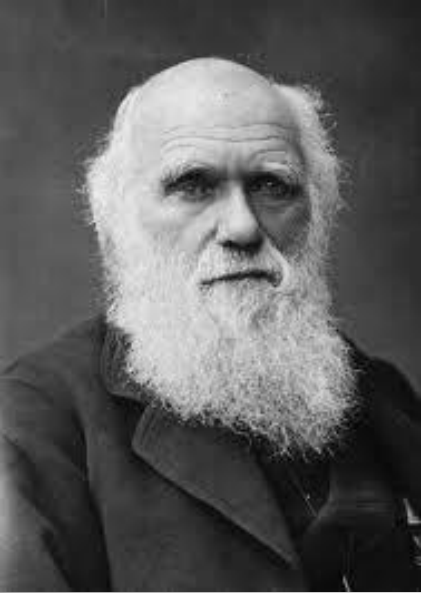


Evolution

Noun

- *General: gradual directional change especially one leading to a more advanced or complex form*
- *Biology: the change in the genetic composition of a population over successive generations*
- *Mathematics: the extraction of a root from a quantity*
- *Military: one of a series of ordered movements*
- *Dance: a turning movement of the body*



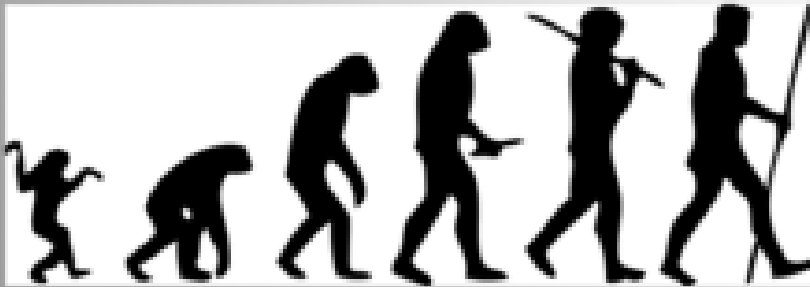


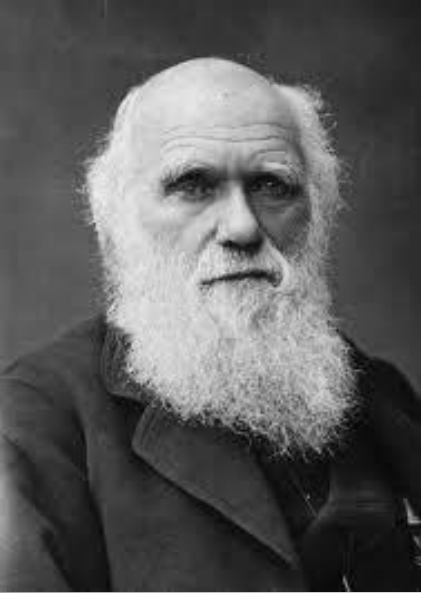
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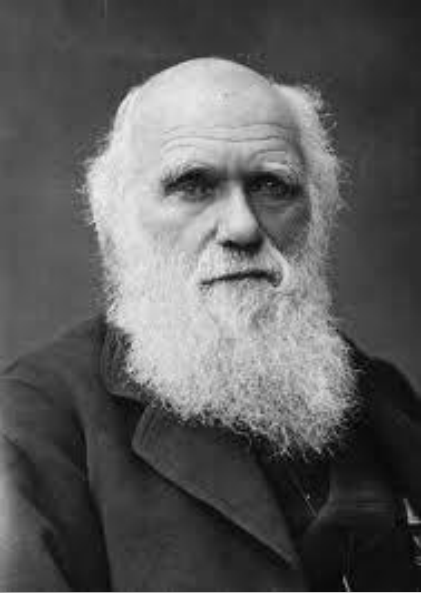


Extinction

Noun

- *General: the action of making or becoming extinct, annihilation*
- *Astronomy: the absorption or scattering of electromagnetic radiation emitted by astronomical objects by intervening dust and gas before it reaches the observer*



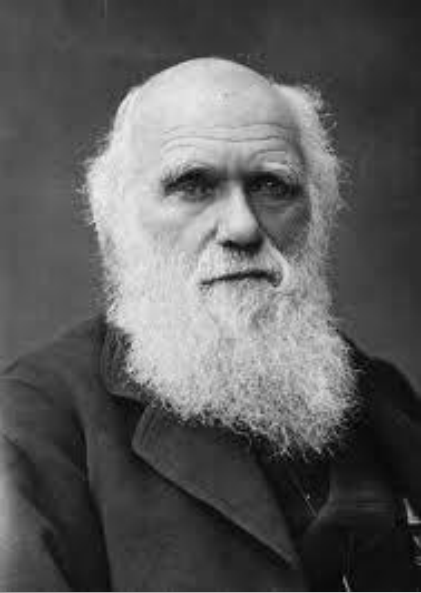


Extinction

Adjective

- *Extinguished, no longer alight*
- *No longer used: obsolete*
- *No longer in existence; having died out*
- *Volcanology: no longer actively erupting*



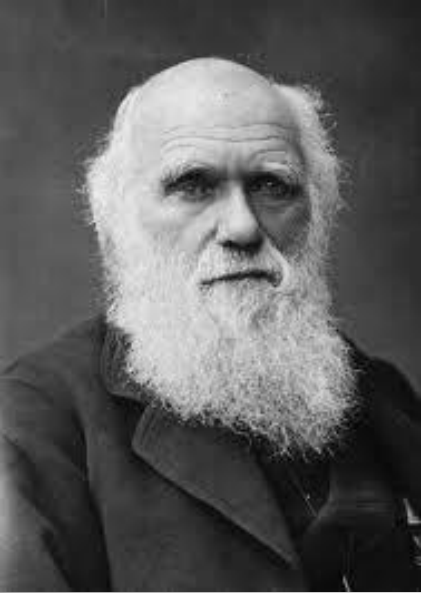


Extinction

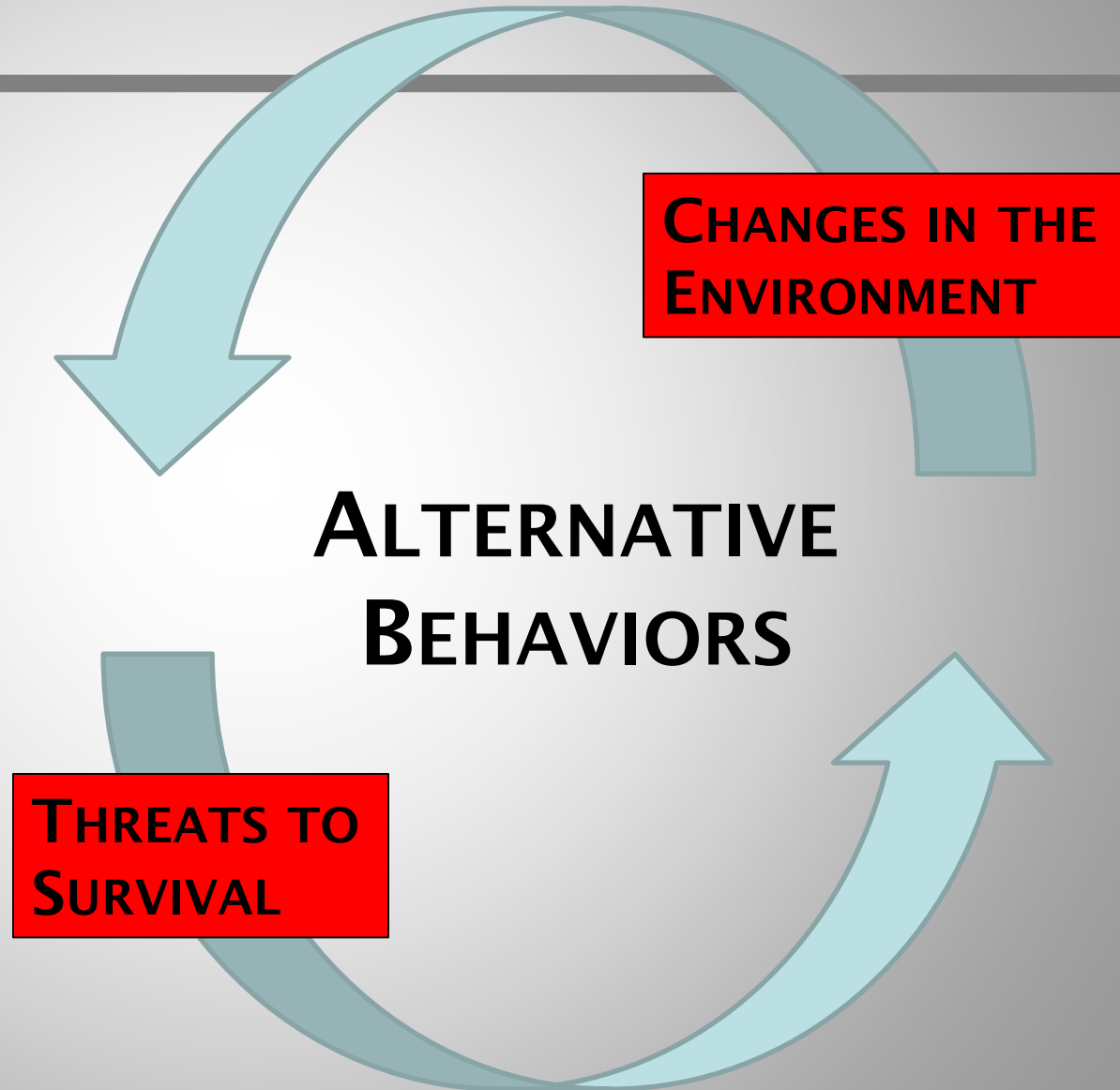
Adjective

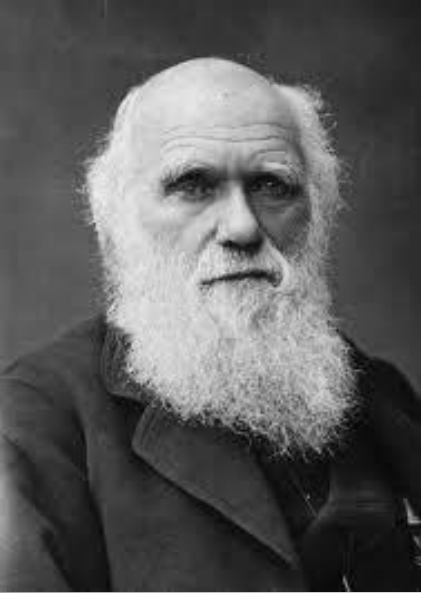
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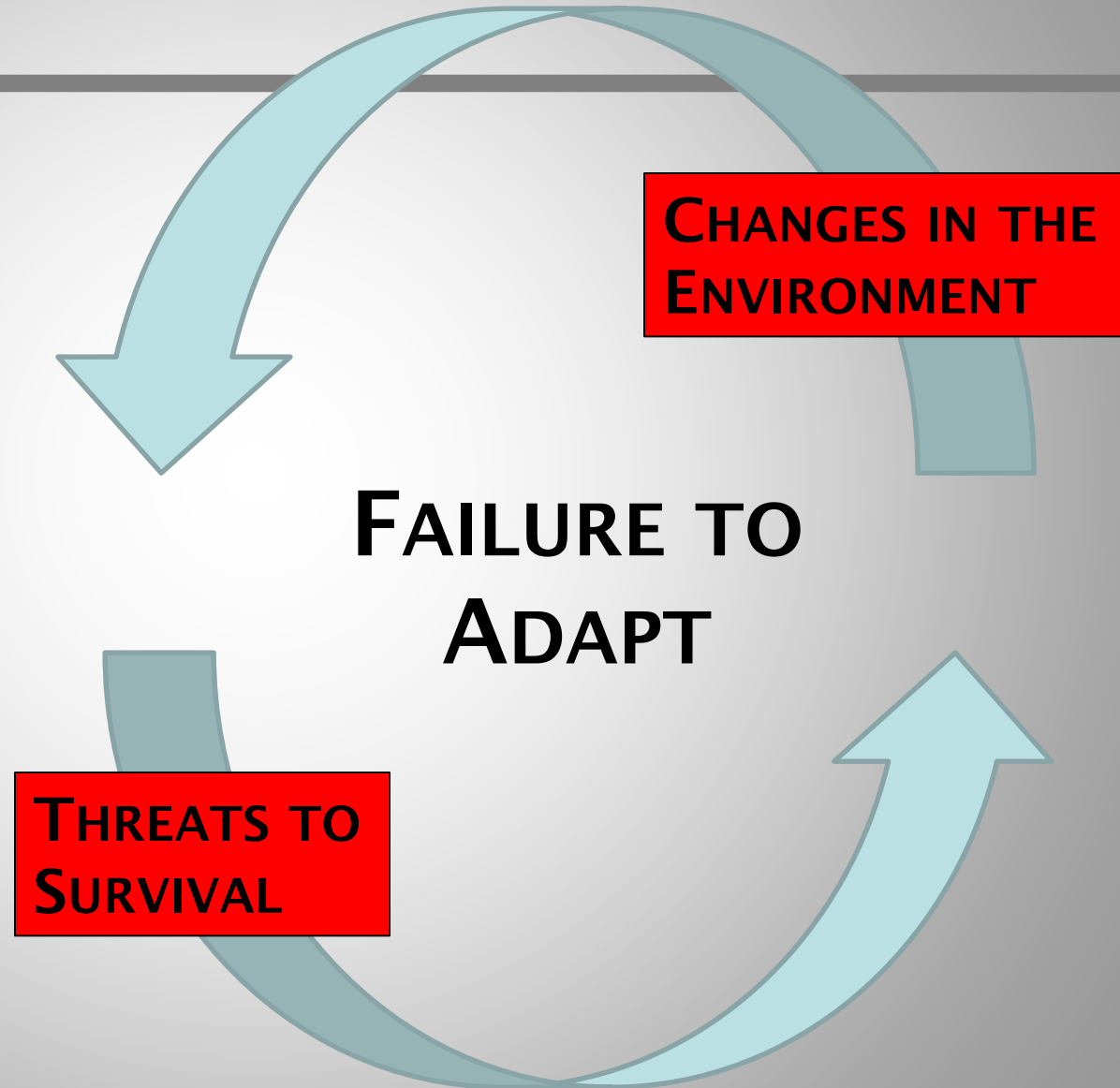


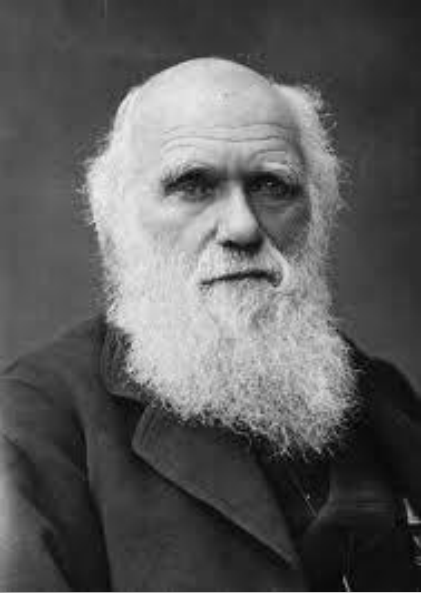
What drives evolution?



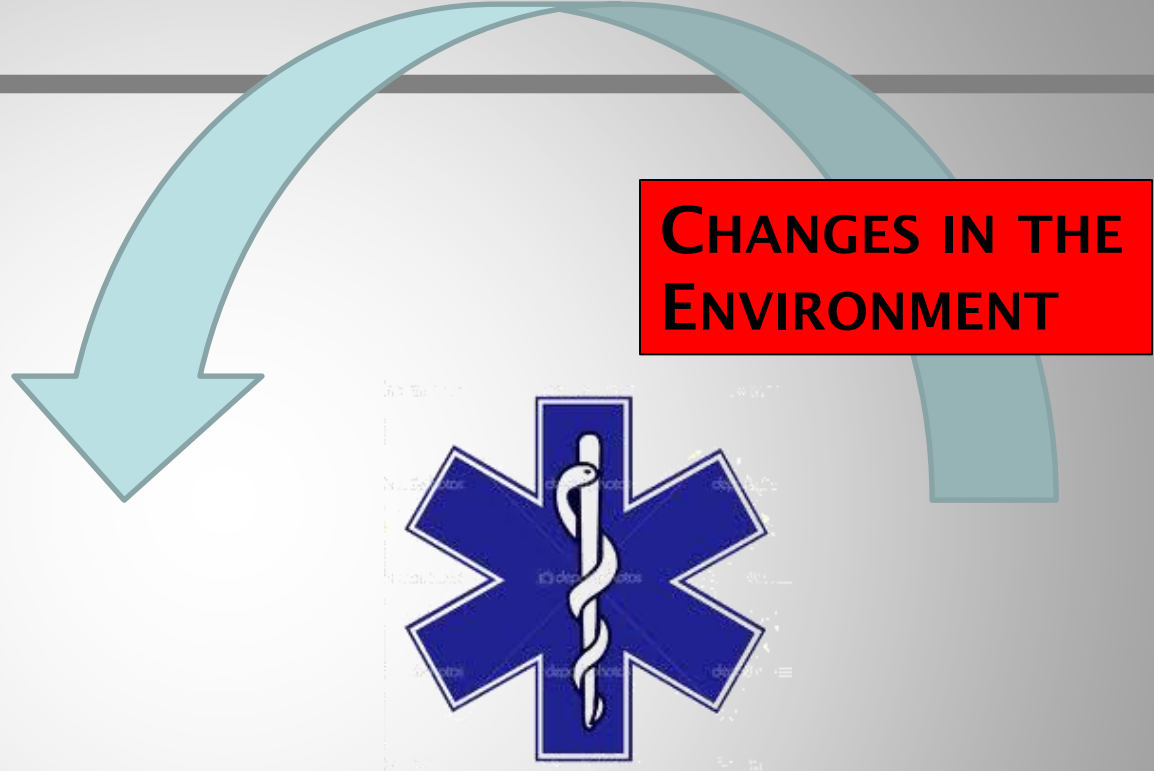


And extinction?



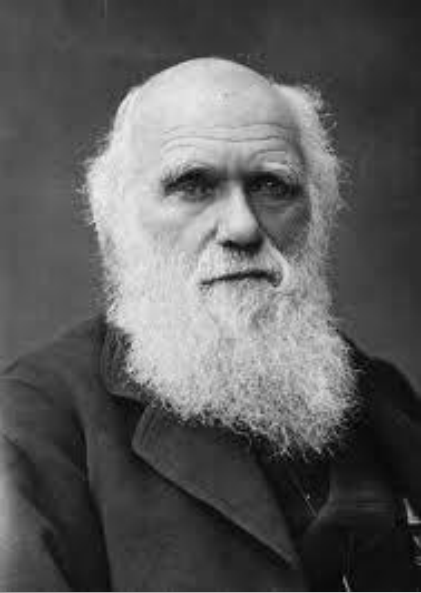


What about EMS?



Change in

- Practice of medicine
- Reimbursement



What about EMS?

Change in

- Practice of medicine
- Reimbursement

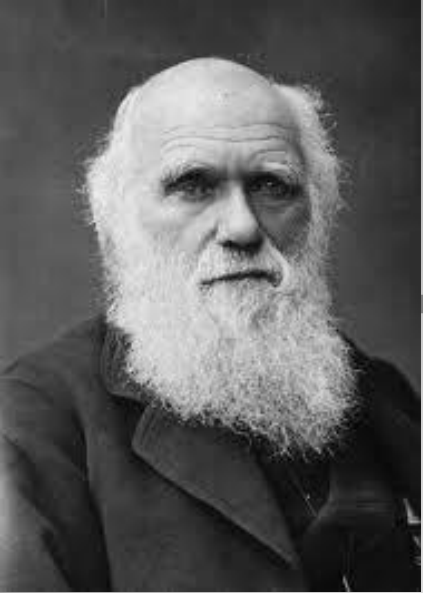
Failure to adapt

- Value to community
- Reimbursement
- Education
- Workforce

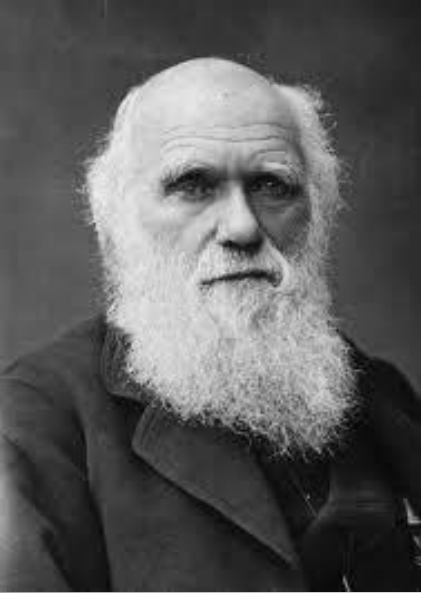
**THREATS TO
SURVIVAL**

**CHANGES IN THE
ENVIRONMENT**



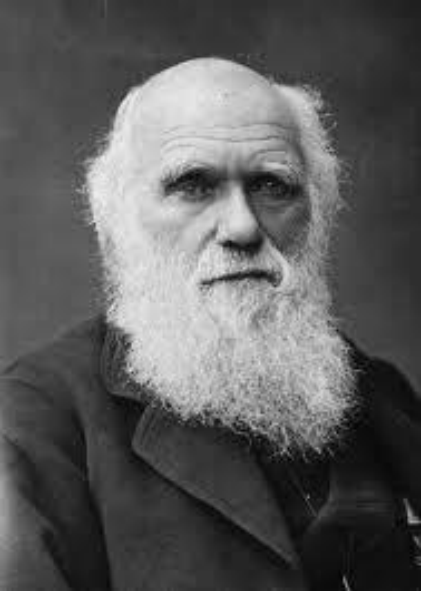


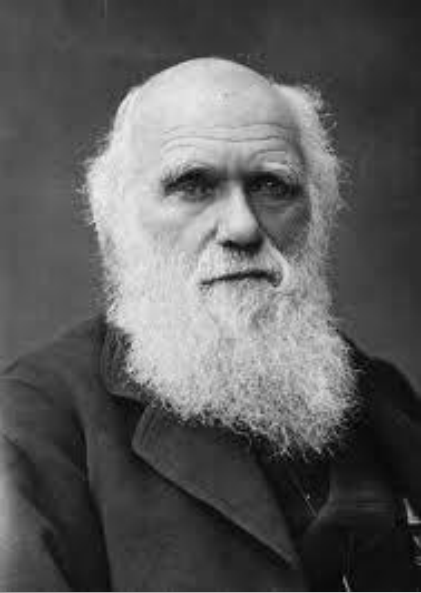
Changes in the Environment



EMS is a Practice of Medicine



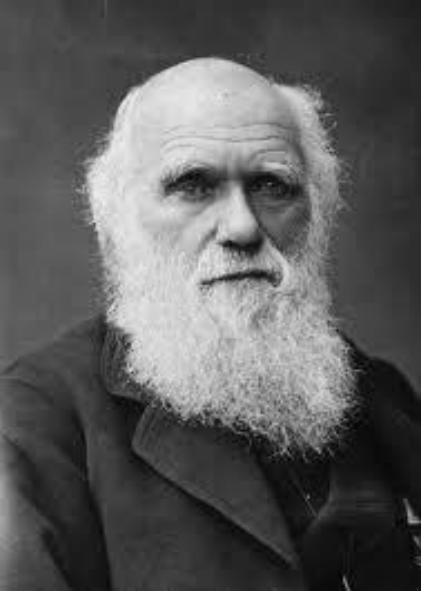




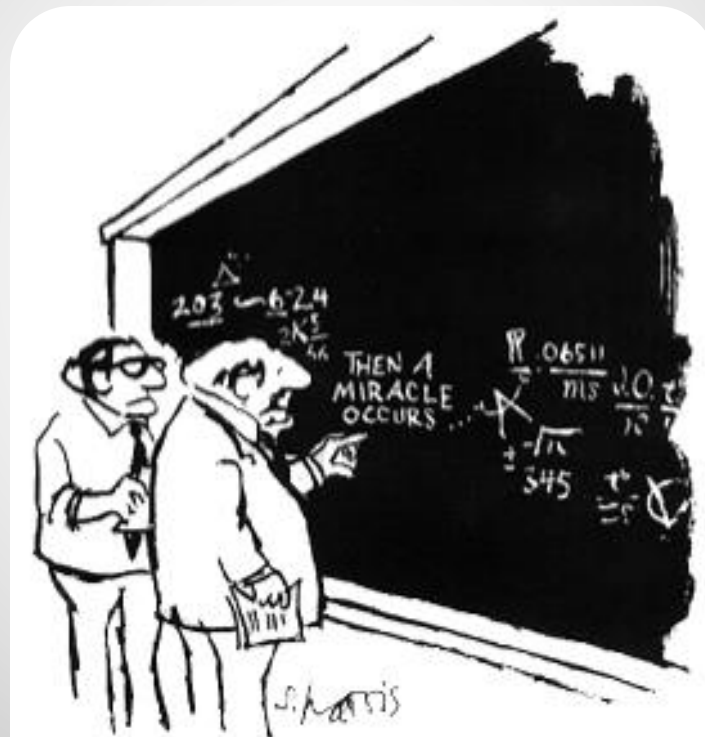
Medicine is changing

(has changed)...

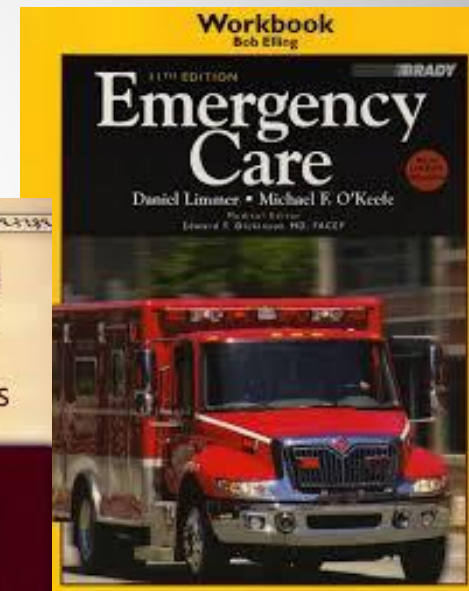
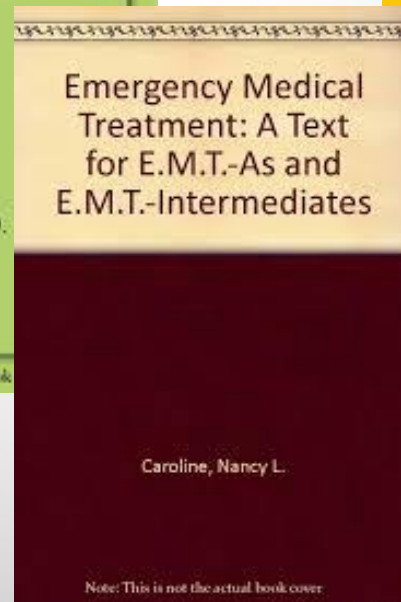
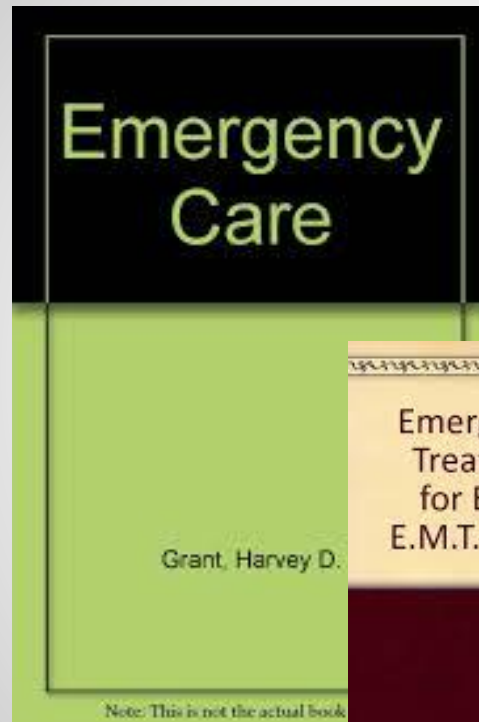
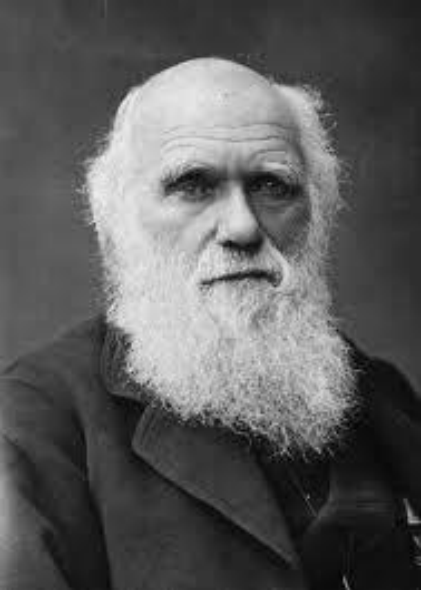


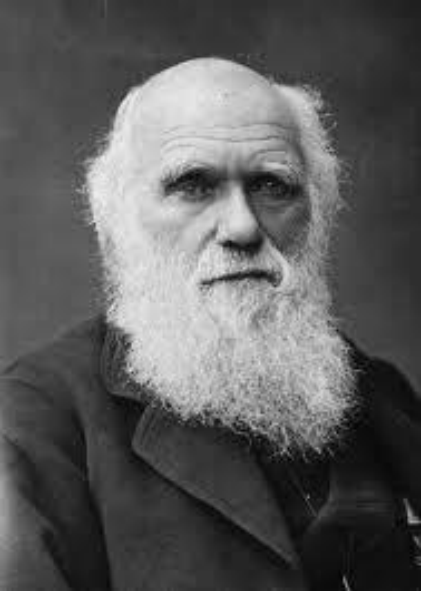


Evidence based medicine

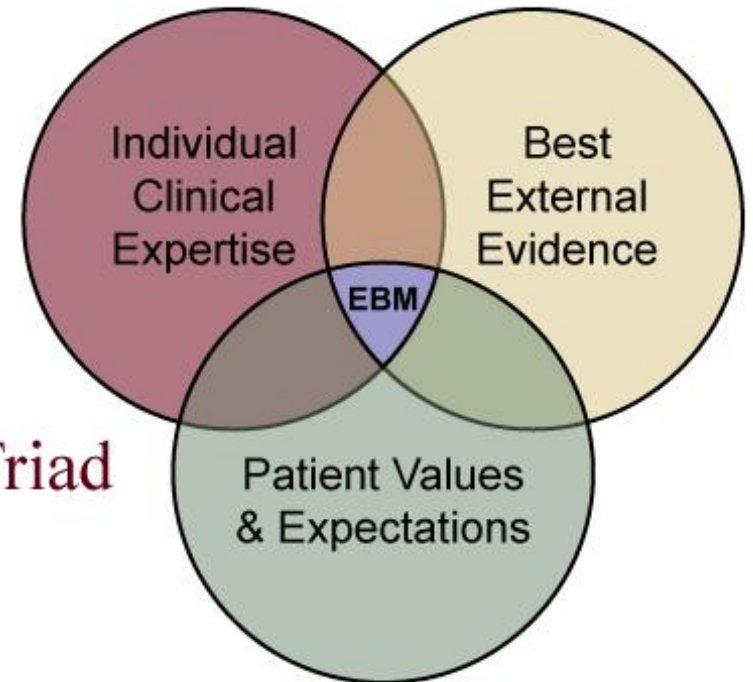


"I think you should be more explicit here in step two."

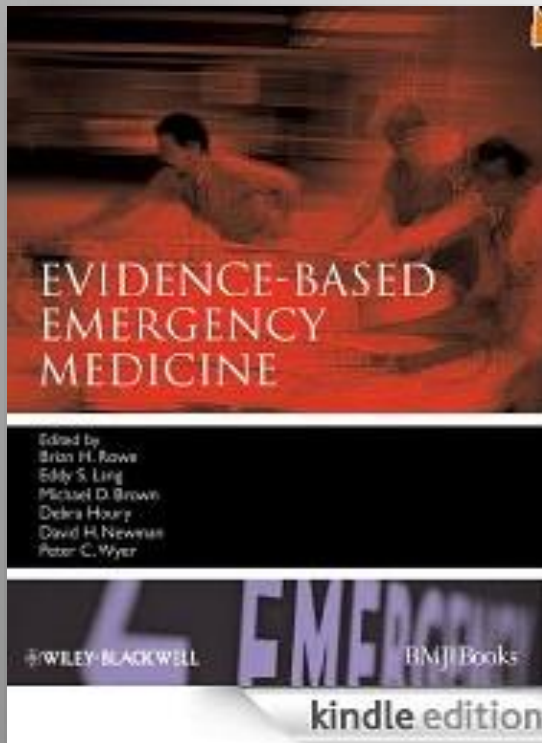


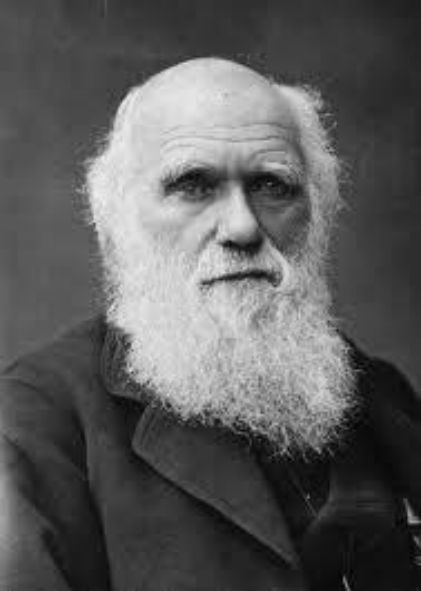


EBEMS



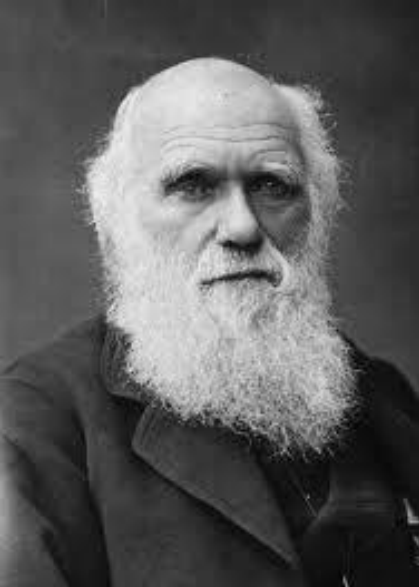
The EBM Triad





ABMS designation

General Certificate(s)	Subspecialty Certificates
American Board of Allergy and Immunology	
Allergy and Immunology	No Subspecialties
American Board of Anesthesiology	
Anesthesiology	Critical Care Medicine Hospice and Palliative Medicine Pain Medicine Pediatric Anesthesiology ¹ Sleep Medicine ¹
American Board of Colon and Rectal Surgery	
Colon and Rectal Surgery	No Subspecialties
American Board of Dermatology	
Dermatology	Dermatopathology Pediatric Dermatology
American Board of Emergency Medicine	
Emergency Medicine	Critical Care Medicine ¹ Emergency Medical Services ² Hospice and Palliative Medicine Medical Toxicology Pediatric Emergency Medicine Sports Medicine Undersea and Hyperbaric Medicine



EVIDENCE-BASED PERFORMANCE MEASURES FOR EMERGENCY MEDICAL SERVICES SYSTEMS: A MODEL FOR EXPANDED EMS BENCHMARKING

A STATEMENT DEVELOPED BY THE 2007 CONSORTIUM U.S. METROPOLITAN MUNICIPALITIES'
EMS MEDICAL DIRECTORS (APPENDIX)

J. Brent Myers, MD, MPH, Corey M. Slovis, MD, Marc Eckstein, MD, MPH, Jeffrey M. Goodloe, MD, S. Marshal Isaacs, MD, James R. Loflin, MD, C. Crawford Mechem, MD, Neal J. Richmond, MD, Paul E. Pepe, MD, MPH

ABSTRACT

There are few evidence-based measures of emergency medical services (EMS) system performance. In many jurisdictions, response-time intervals for advanced life support, urine and resuscitation rates for victims of cardiac arrest are the primary measures of EMS system performance. The association of the former with patient outcomes is not supported explicitly by the medical literature, while the latter focuses on a very small proportion of the EMS patient population and thus does not represent a sufficiently broad selection of patients. While these metrics have their place in performance measurement, a more robust method to measure and benchmark EMS performance is needed. The 2007 U.S. Metropolitan Municipalities' EMS Medical Directors' Consortium has developed the following model that encompasses a broader range of clinical situations, including myocardial infarction, pulmonary edema, bronchospasm, status epilepticus, and trauma. Where possible, the benefit conferred by EMS interventions is present in the number needed to treat format. It is hoped that utilization of this model will serve to improve EMS system design and deployment strategies while enhancing the benchmarking and sharing of best practices among EMS systems.

Key words: emergency medical services; paramedics; performance improvement; quality assurance; evidence based medicine; STEMI, acute myocardial syndrome; asthma; pulmonary edema; status epilepticus

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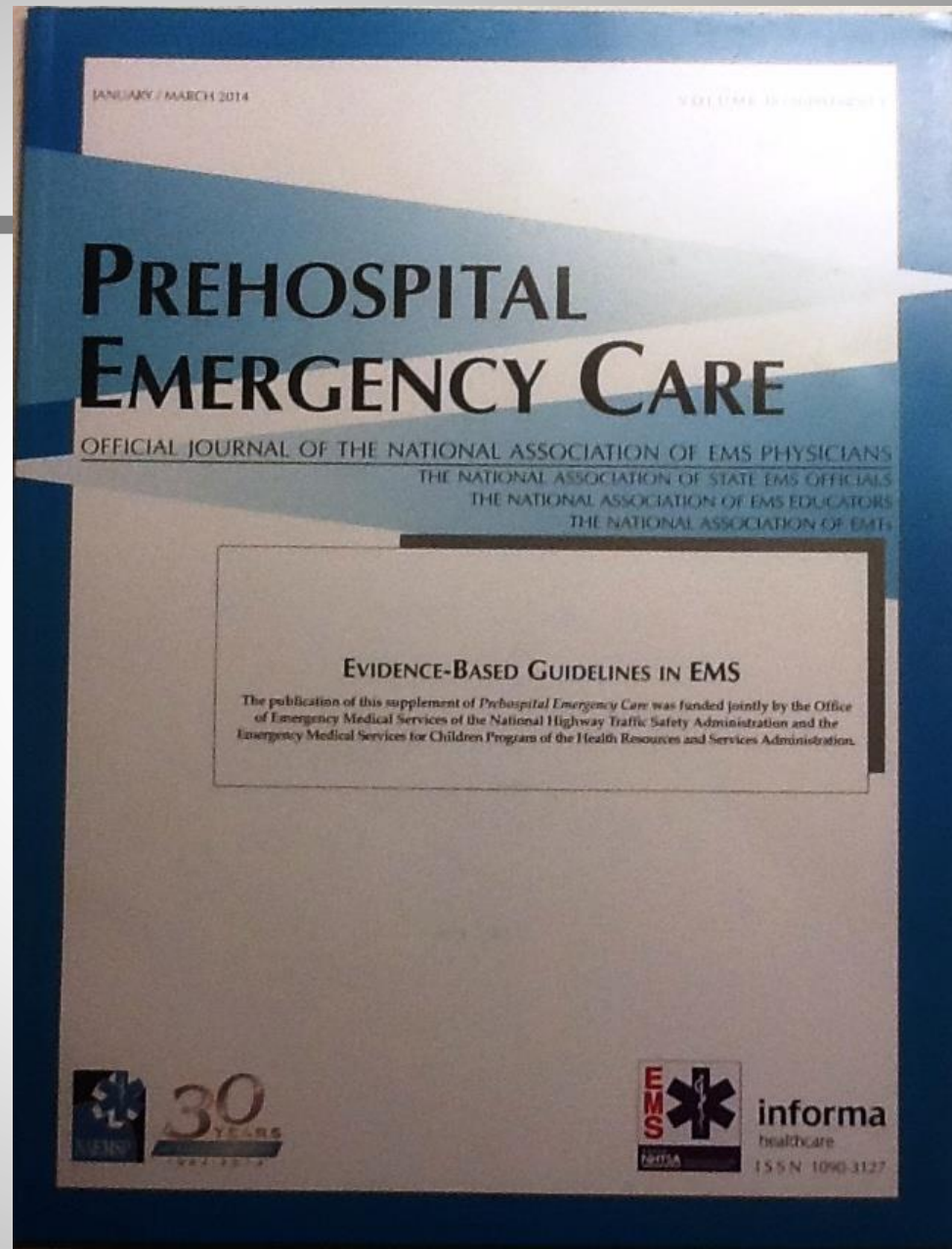
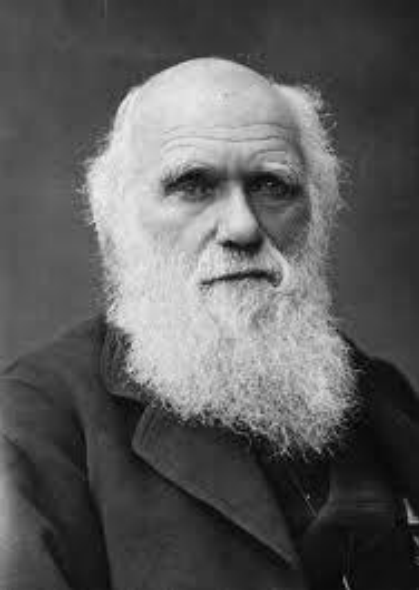
Address correspondence and reprint requests to: Paul E. Pope, MD, MPH, Professor of Surgery, Medicine, Pediatrics, Public Health and Riggs Family Chair in Emergency Medicine, Emergency Medicine Administration, The University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Mailstop 8579, Dallas, TX 75390-8579. e-mail: paul.pope@utsouthwestern.edu.

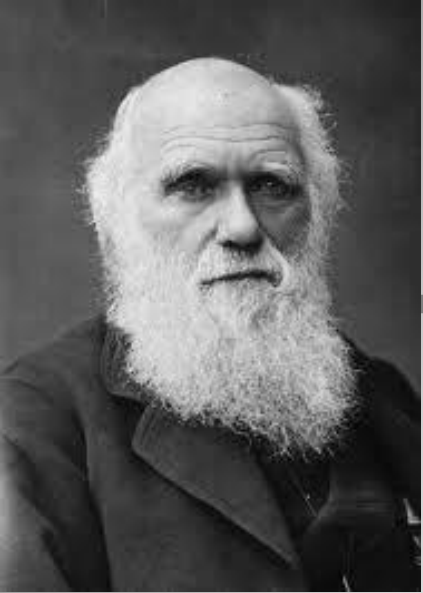
doi:10.1080/10403120801903740

INTRODUCTION

Evidence-based clinical measures of emergency medical services (EMS) system performance have been few in number, largely due to the limited quantity and quality of research committed to the prehospital arena.¹⁻⁴ Although there is a 9-1-1 call for EMS response every other second in the United States, and despite the fact that survival from various acute illnesses and injuries are determined in that prehospital setting, evidence for out-of-hospital emergency care procedures are clearly lacking.^{1,3} This paucity of prehospital research is due to a number of factors, including the relatively young age of EMS as a distinct field of medical care, difficulties in terms of obtaining informed consent and accurate data collection in the prehospital environment, lack of targeted funding, the small number of dedicated EMS-focused researchers, inconsistencies in investigational protocol compliance, and actual or perceived resistance to participation in research by EMS personnel and receiving facilities.²⁻⁴

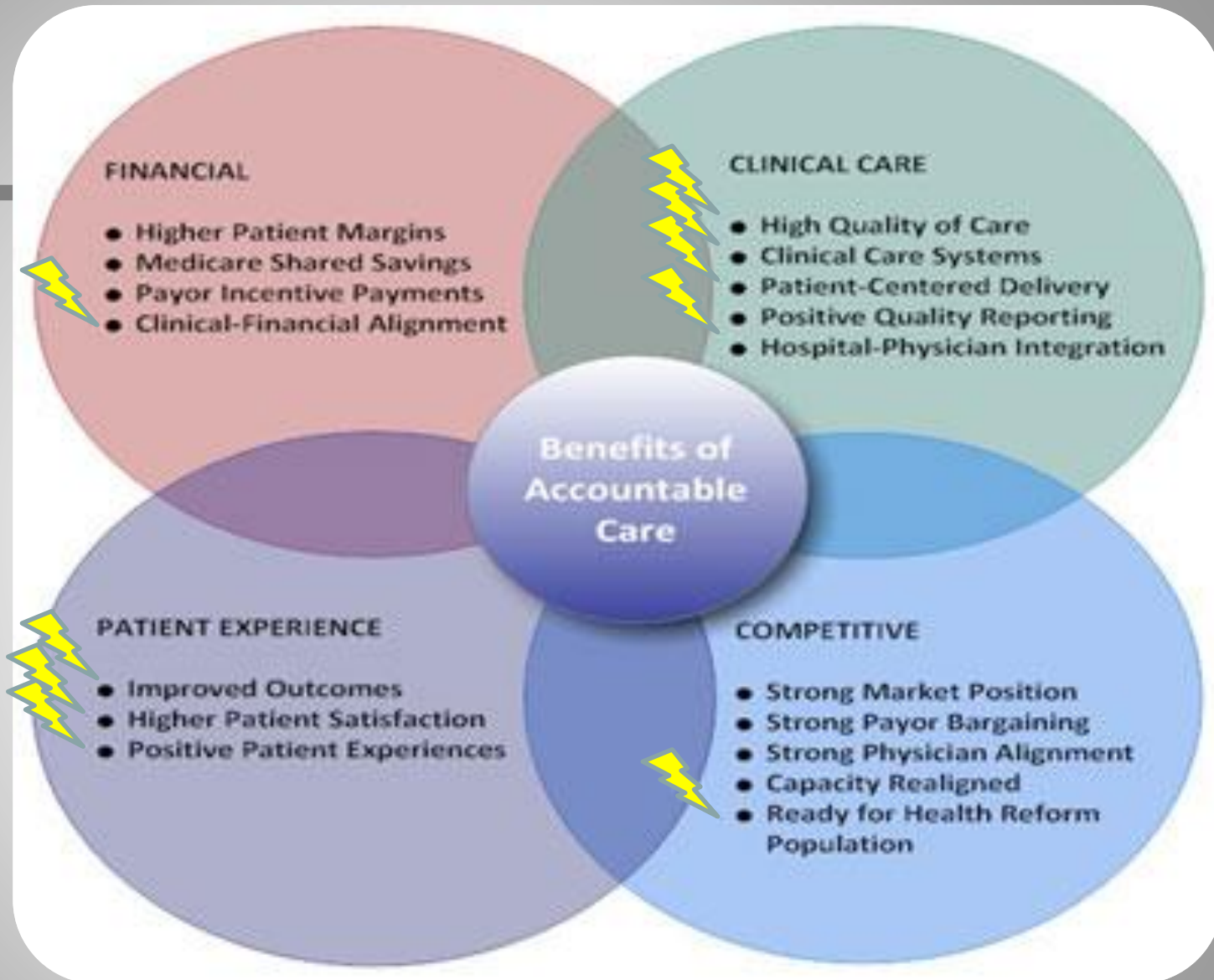
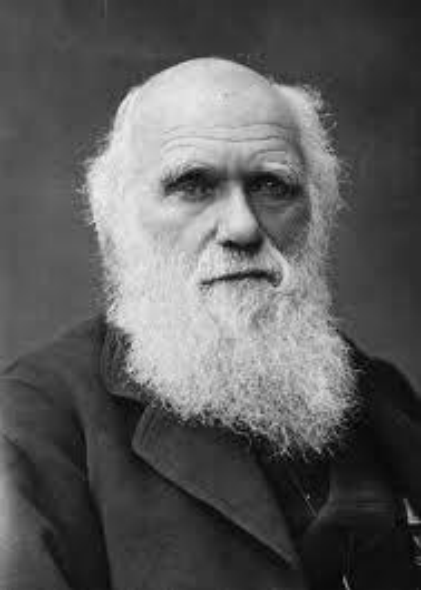
In the absence of a distinct body of literature evaluating the full spectrum of medical interventions provided in the prehospital setting, EMS performance measures have been limited to the relatively few benchmarks that have been established scientifically, such as survival from out-of-hospital cardiac arrest.^{5,6} Although treatment of cardiac arrest represents a major function of most EMS systems, it only constitutes a small fraction (1–2%) of all EMS responses. Lacking data, other performance standards generally have been based on measures of nonclinical endpoints and inconclusive, surrogate clinical markers, such as response intervals and training standards. In most cases, crude measures of stakeholder satisfaction (surveys) and other anecdotal measures are utilized to judge the performance of EMS systems.³

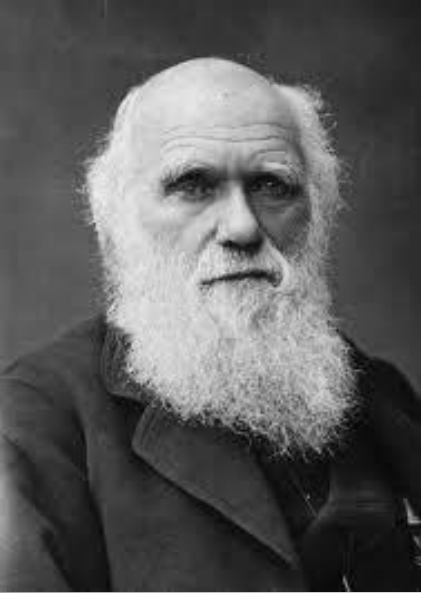




Accountability for appropriate care







There's a name for this....

The Triple Aim: Care, Health, And Cost

The remaining barriers to integrated care are not technical; they are political.

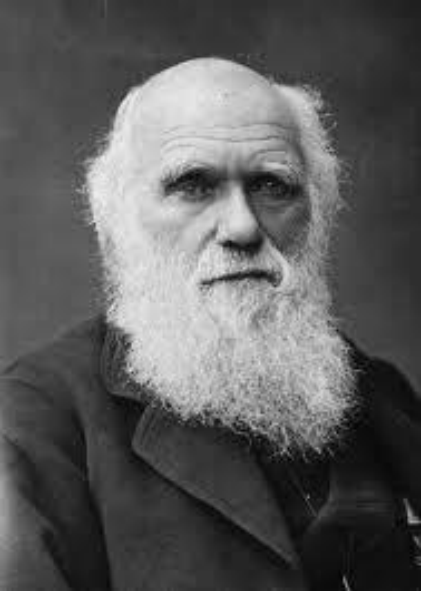
by Donald M. Berwick, Thomas W. Nolan, and John Whittington

Improved patient experience

- Outcome
- Patient satisfaction

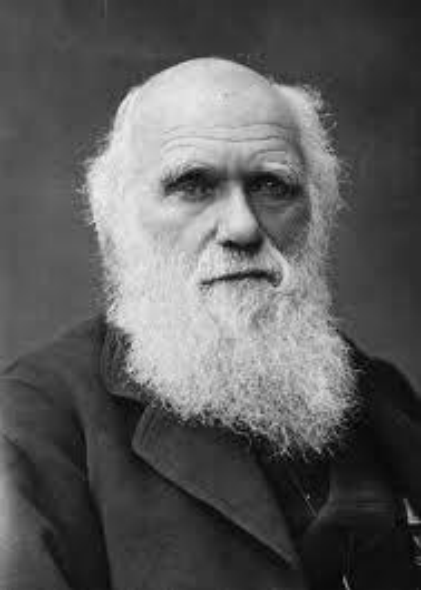
Improved community health

Reduced cost



Transparency





[Medicare.gov](#) [Manage Your Health](#) [Medicare Basics](#) [Resource Locator](#) [Help & Support](#)

[? Help](#) [For Consumers](#) [For Professionals](#)

[Medicare.gov](#) Hospital Compare Home

Hospital Compare

Where do you want to find a hospital?

Search Information

Location - ZIP Code or City, State

e.g. 10009 or New York, NY

Search type [?]

☒ General

☐ Medical Conditions

☐ Surgical Procedures

[Find Hospitals](#)

[Back to Top](#)

Hospital Spotlight

In the future, Hospital Compare will have new information about **Hospital Acquired Conditions**.

In October 2011, Hospital Compare will have new information about **Serious Complications and Deaths**.

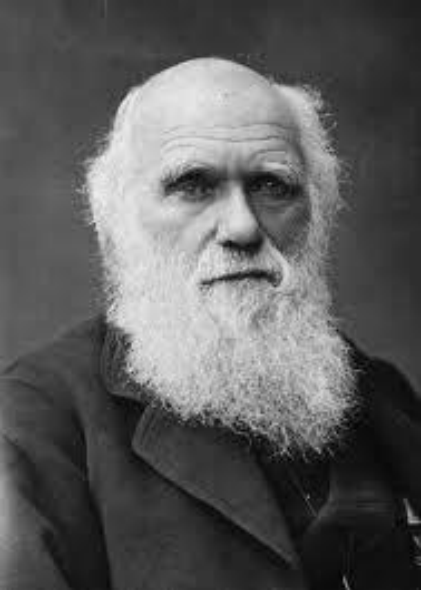
Additional Information

- ◆ [View a list of Hospital Compare Contacts](#)
- ◆ [Download the Hospital Compare Database \(Data Last Updated: December 11, 2010\)](#)

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[Find Hospitals](#)

December 11, 2010)
Database (Data Last Updated:
Download the Hospital Compare



Information for
Consumers

Overview

**Value Based
Purchasing**

Process of Care

Outcome of Care
Measures

Use of Medical
Imaging

Patients' Survey

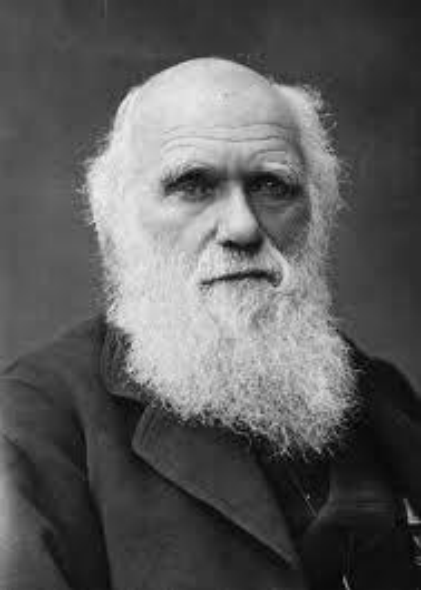
Patient Safety
Measures

Medicare Payment
and Volume


Potential Future Measures for Hospital Value Based Purchasing Program

CMS is considering the following measures for the Hospital Value Based Purchasing Program:

Measure:	Reference	First listed here:
Spending per Hospital Patient with Medicare	MSPB	4/21/2011
Serious Complications and Deaths	AHRQ	3/3/2011
Hospital Acquired Conditions	HAC	3/3/2011
Emergency Department Wait Times	ED-1 and ED-2	4/21/2011
Heart Patients Given a Prescription for Drugs called Statins at Discharge. (AMI-10: Statin Prescribed at Discharge	AMI-10	4/21/2011
Central Line-associated Blood Stream Infection	CLABSI	4/21/2011
Surgical Site Infections	SSI SRI	4/21/2011
Immunization for Influenza	IMM-1	4/21/2011
Immunization for Pneumonia	IMM-2	4/21/2011
Percent of patients with an ischemic stroke or a hemorrhagic stroke and who are non-ambulatory should start receiving deep vein thrombosis (DVT) prophylaxis by end of hospital day two.	STK-1	10/13/2011
Percent of patients with an ischemic stroke prescribed antithrombotic therapy at discharge.	STK-2	10/13/2011
Percent of patients with an ischemic stroke with atrial fibrillation discharged on anticoagulation therapy.	STK-3	10/13/2011
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Percent of patients with an ischemic stroke with atrial fibrillation discharged on anticoagulation therapy.	STK-3	10/13/2011



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HHS.gov



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Information for Consumers

Overview

Value Based Purchasing

Process of Care

Outcome of Care Measures

Use of Medical Imaging

Patients' Survey

What is the Survey of Patients' Hospital Experiences (HCAHPS)?

How was the survey of patients' hospital experiences feedback collected and analyzed for HCAHPS?

What is the Survey of Patients' Hospital Experiences (HCAHPS)?

HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) is a national, standardized survey of hospital patients. HCAHPS (pronounced "H-caps") was created to publicly report the patient's perspective of hospital care. The survey asks a random sample of recently discharged patients about important aspects of their hospital experience.

The HCAHPS results posted on Hospital Compare allow consumers to make fair and objective comparisons between hospitals, and of individual hospitals to state and national benchmarks, on ten important measures of patients' perspectives of care.

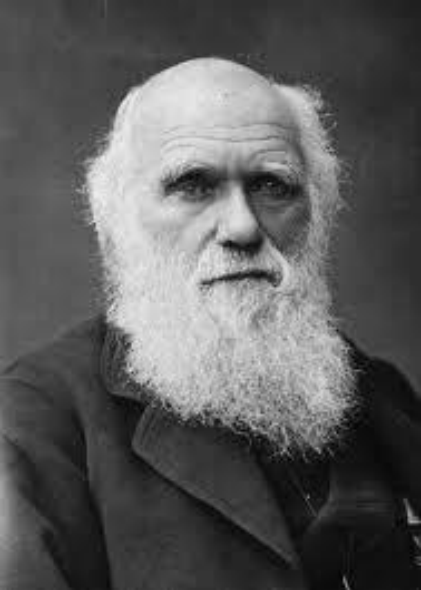
HCAHPS was developed by a partnership of public and private organizations. Development of the survey was funded by the Federal government, specifically the Centers for Medicare & Medicaid Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ).

For more on HCAHPS information, please see [Information for Professionals](#) on this website, or visit the official HCAHPS website: www.hcahpsonline.org

HCAHPS
survey for
collected and
experiences feedback
of patients, posted
How was the survey

What is the Survey of Patients' Hospital Experiences (HCAHPS)?

How was the survey of patients' hospital experiences feedback collected and analyzed for HCAHPS?



How often did nurses communicate well with patients?

During this hospital stay...

- how often did nurses treat you with courtesy and respect? (Q1)
- how often did nurses listen carefully to you? (Q2)
- how often did nurses explain things in a way you could understand? (Q7)

How often did doctors communicate well with patients?

During this hospital stay...

- how often did doctors treat you with courtesy and respect? (Q5)
- how often did doctors listen carefully to you? (Q6)
- how often did doctors explain things in a way you could understand? (Q7)

How often did patients receive help quickly from hospital staff?

During this hospital stay...

- after you pressed the call button, how often did you get help as soon as you wanted it? (Q4)
- how often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted? (Q11)

How often was patients' pain well controlled?

During this hospital stay...

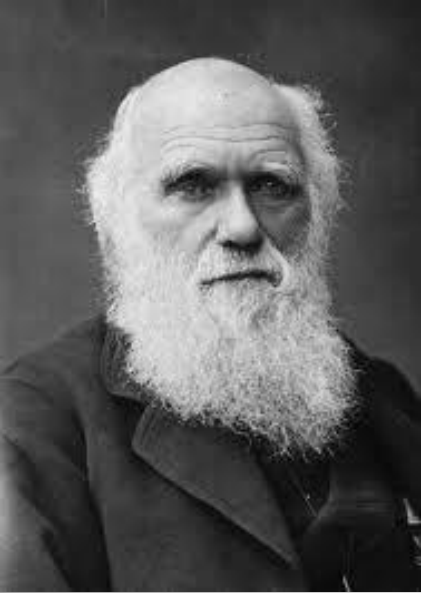
- how often was your pain well controlled? (Q13)
- how often did the hospital staff do everything they could to help you with your pain? (Q14)

How often did staff explain about medicines before giving them to patients?

How often did staff explain about medicines before giving them to patients?

- how often did the hospital staff do everything they could to help you with your pain? (Q14)
- how often was your pain well controlled? (Q13)

During this hospital stay...



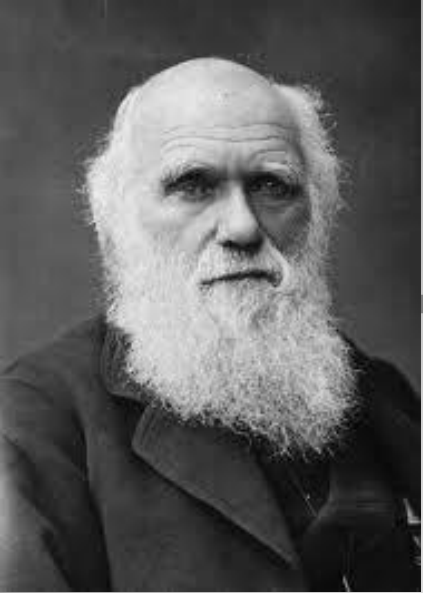
Adaptive behaviors....

Evolution

- Practice driven by EB Guidelines & patient satisfaction.
- Quality based on patient impact
- Training focused on changing evidence

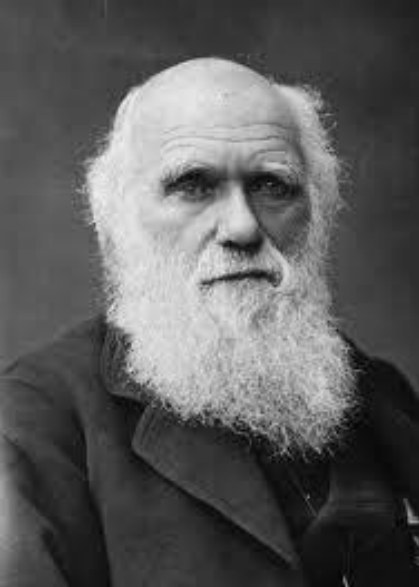
Extinction

- Practice driven by policy, procedure & inflexible protocols
- Quality based on protocol compliance
- Training focused on dated content



Payment influences practice





RESEARCH IN ACTION

Issue #19

June 2006

The High Concentration of U.S. Health Care Expenditures

Introduction

As policymakers consider various ways to contain the rising costs of health care, it is useful to examine the patterns of spending on health care throughout the United States. In 2004, the United States spent \$1.9 trillion, or 16 percent of its gross domestic product (GDP), on health care. This averages out to about \$6,280 for each man, woman, and child.

However, actual spending is distributed unevenly across individuals, different segments of the population, specific diseases, and payers. For example, analysis of health care spending shows that:

- Five percent of the population accounts for almost half (49 percent) of total health care expenses.
- The 15 most expensive health conditions account for 44 percent of total health care expenses.
- Patients with multiple chronic conditions cost up to seven times as much as patients with only one chronic condition.

Further detailed analyses of these spending patterns, how they change over time, and how they affect different payers such as Medicare, Medicaid, private insurers, employers, and consumers shed important light on how to best target efforts to contain rapidly rising health care costs.

Much of the information included in this report comes from the Medical Expenditure Panel Survey. (See Box 1.)

Background

Health care expenses in the United States rose from \$1,106 per person in 1980 (\$255 billion overall) to \$6,280 per person in 2004 (\$1.9 trillion overall).¹ During this period, health care costs grew faster than the economy as a whole. As a consequence, health spending now accounts for 16 percent of the GDP, compared to 9 percent in 1980. With the aging of the population and the accelerating pace of medical innovation, this trend is likely to continue.

Those struggling to develop strategies to reduce or contain costs consider whether efforts should be targeted broadly across the entire health care system or more narrowly at specific areas or aspects of care. For example, is the continuing rise in health care expenses due to the increased

Making a Difference

- In 2002, the 5 percent of people with the greatest health care expenses in the U.S. population spent 49 percent of the overall health care dollar...Page 2
- The lower 50 percent of spenders accounted for 3 percent of the total national health care dollar...Page 2
- The proportion of spenders who remained among the top 1% of spenders for two years in a row doubled between 1996-97 and 2002-03...Page 5
- The five most expensive health conditions are heart disease, cancer, trauma, mental disorders, and pulmonary disorders...Page 6

Author: Mark W. Stoltz, M.A.

Managing Editor: Margaret Rutherford

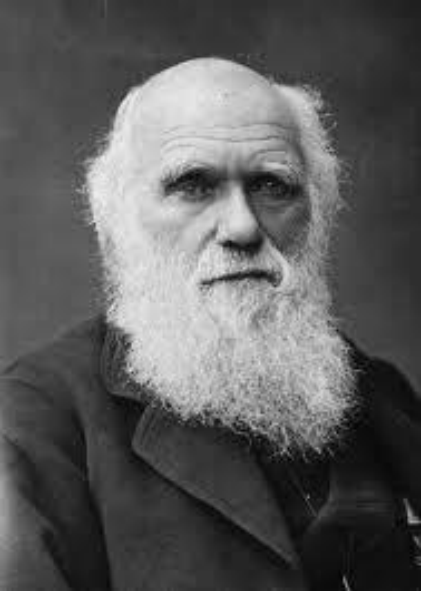
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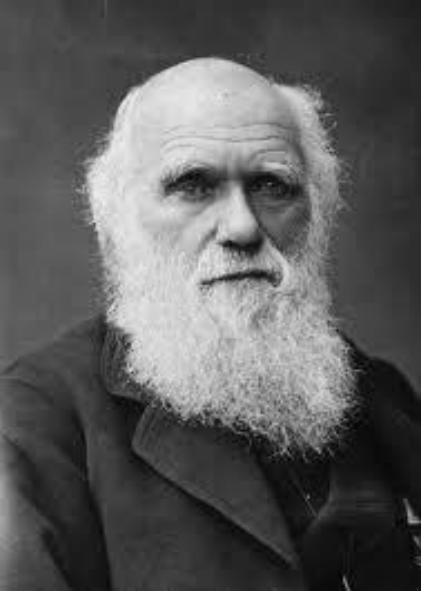
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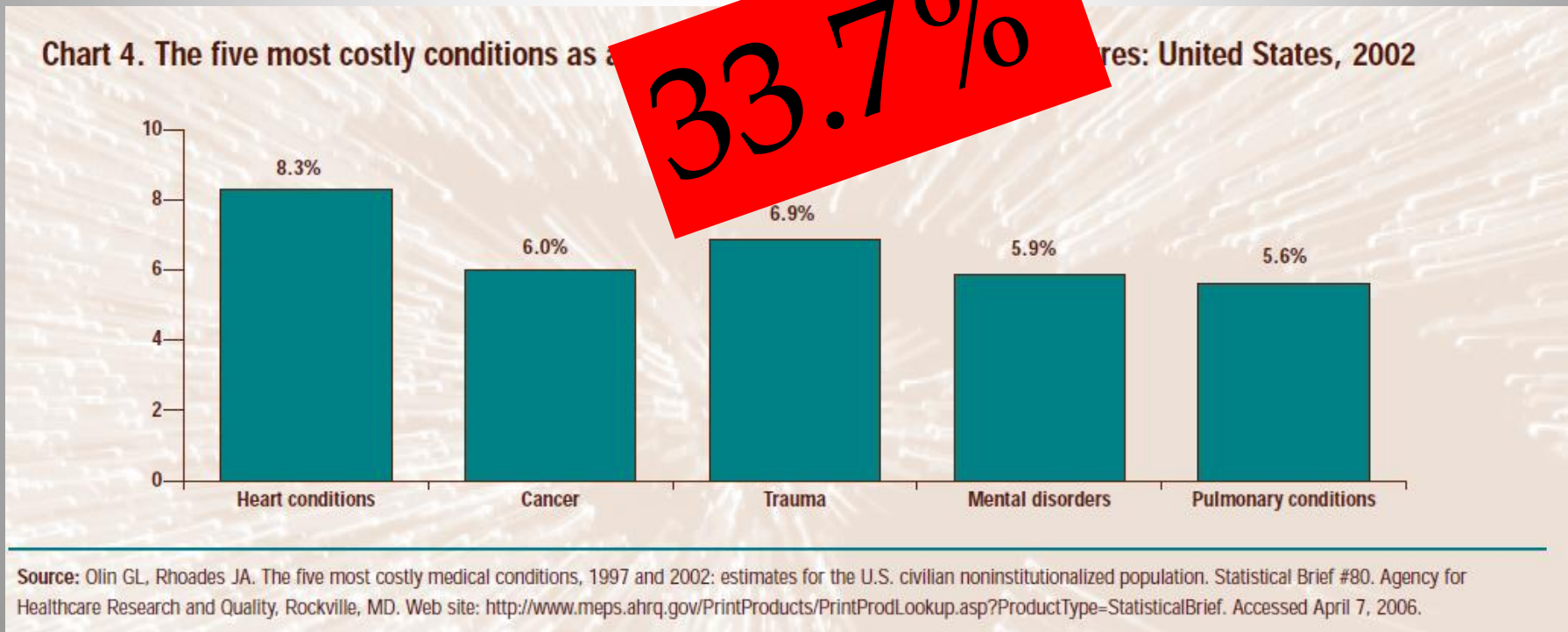


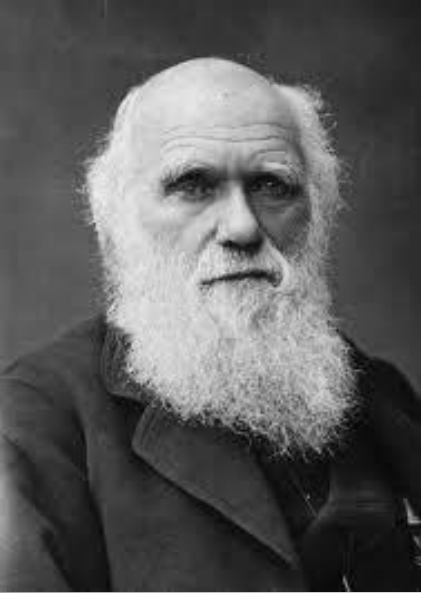
diseases, and payers. For example, analysis of health care spending shows that:

- Five percent of the population accounts for almost half (49 percent) of total health care expenses.
- The 15 most expensive health conditions account for 44 percent of total health care expenses.
- Patients with multiple chronic conditions cost up to seven times as much as patients with only one chronic condition.



Who are these people?





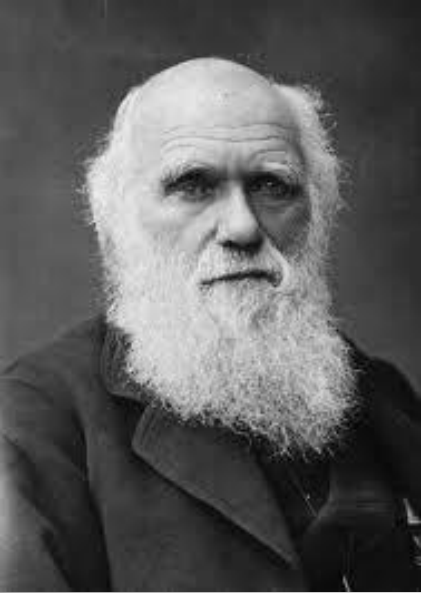
Everybody loses.....

Patients

- In hospital, not at home
- Impact family, community
- Impairs work, income
- Can't live their LIFE

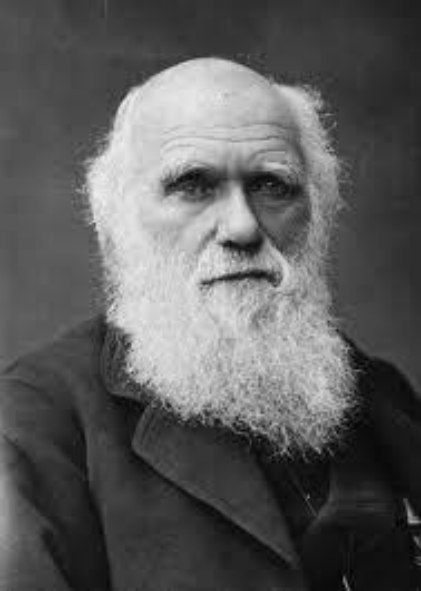
Payers

- High tax expenses to cover Medicare/Medicaid
- High insurance rates to cover very ill in the pool
- High “retail costs” for care to cover uninsured



Simply stated....

If we can reduce the COST for caring for the 15 most expensive conditions we'll dramatically impact total system cost AND (more important) improve the lives of millions of people with chronic disease.



How do we do it?

- A mobile integrated healthcare practice ensures patients receive coordinated care - the right care, at the right place, at the right time, by the right provider, at the right cost
- Need-matched, time appropriate health resource allocation

Mobile Integrated Healthcare Practice: A Healthcare Delivery Strategy to Improve Access, Outcomes, and Value

Eric Beck, DO, NREMT-P; Alan Craig, MScPI, ACP; Jeffrey Beeson, DO, RN, EMT-P;
Scott Bourn, PhD, RN, EMT-P; Jeffrey Goodloe, MD, NREMT-P; Hawman Philip Moy, MD;
Brent Myers, MD, MPH; Edward Racht, MD; David Tan, MD; Lynn White, MS

The U.S. health care system is often described as one that fails to achieve optimal health outcomes while generating exorbitant costs for patients, payors and society. [1]

The Institute of Medicine (IOM) estimates that \$750 billion—30% of the U.S. annual health care budget—is wasted on unnecessary services, inefficient delivery, excessive administrative costs and prevention failures. [2] Barriers to patient access, fragmentation of acute and chronic care, ineffective management of chronic illness, and complex, outdated reimbursement processes leave patients, clinicians and payors frustrated at historic levels. In *Crossing the Quality Chasm*, released in 2001, the Institute of Medicine (IOM) Committee on the Quality of Health Care in America described an urgent need to redesign the healthcare delivery system. The IOM emphasized the need to expand information technology and to create payment policies based on innovation, outcomes and performance improvement, rather than on the delivery of care itself. [3] Renewed focus on bringing healthcare to the

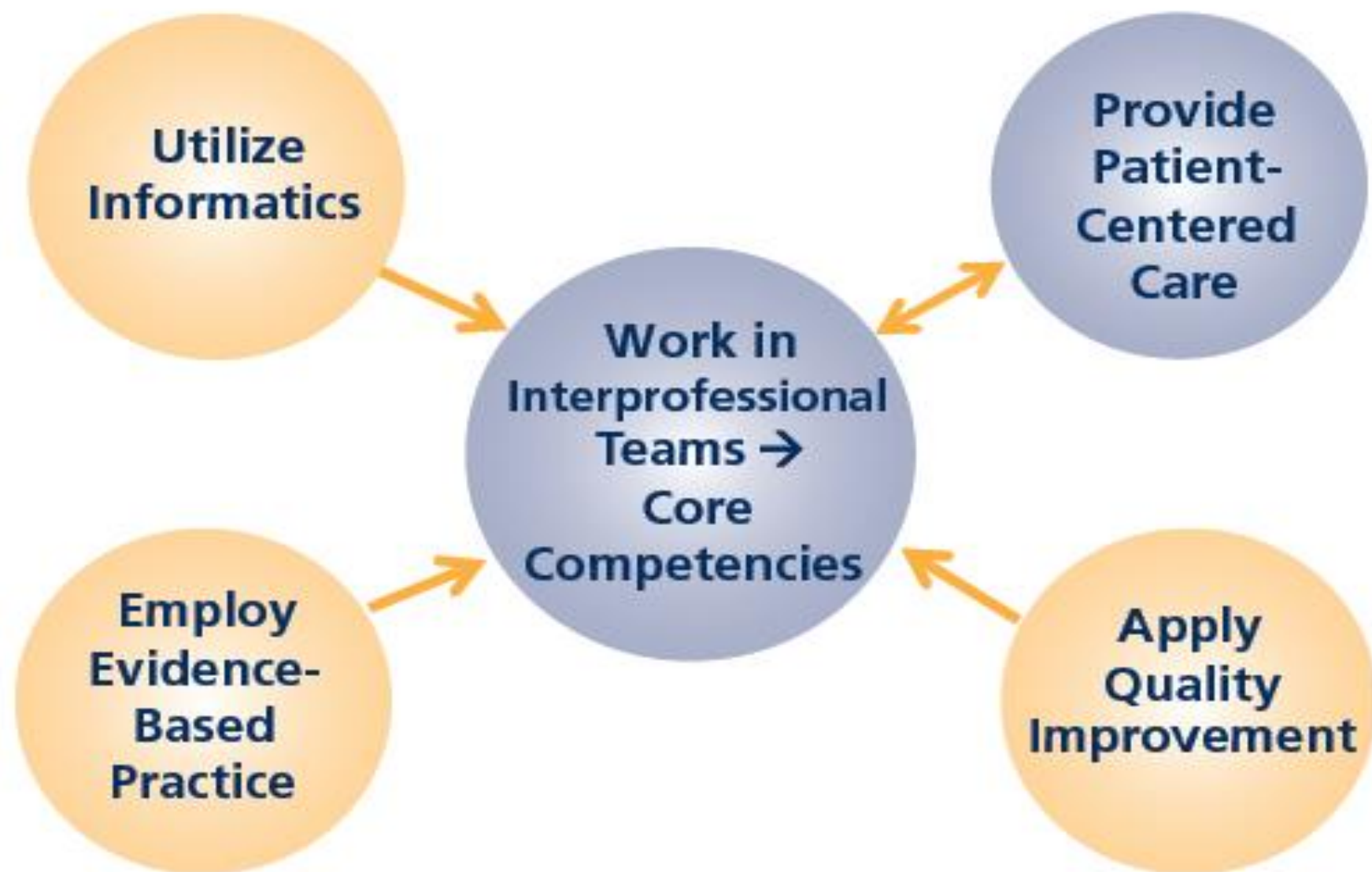
patient, specifically by delivering care outside of traditional settings, has underscored the need for realignment of financial incentives and reimbursement policy. [4]

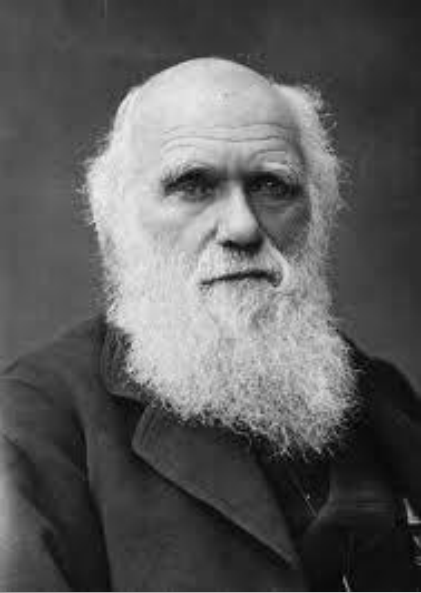
A special problem: 24/7 coordinated out-of-hospital care

The discontinuities of health service are notably evident in the care of patients at home; this is particularly true for the chronically ill, frail elderly and mobility impaired. Multiple single-purpose providers offer niche care and often only during restricted hours of operation, neither of which match the actual needs of this patient population.

As a result, patients are routinely referred to hospital emergency departments (EDs) by their healthcare providers, outside of normal business hours, despite the common knowledge that the ED is an imprecise match to their needs. Further, care gaps such as a lack of post-acute transitional care make preventable re-admissions a virtual inevitability that is both expensive and disappointing to patients, caregivers and the health care system.

FIGURE 5: Interprofessional Teamwork and IOM CORE COMPETENCIES





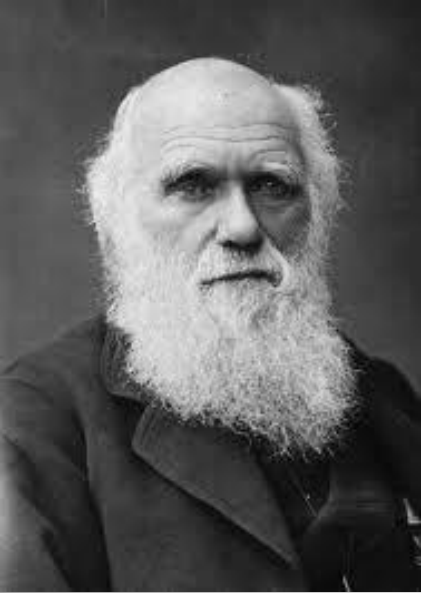
Adaptive behaviors...

Evolution

- Demonstration of value through documentation
- Collaboration with other health care providers
- Accept risk for health of populations

Extinction

- Dis-integrated medical record
- “Unique” isolated practice
- Trust in continued jurisdictional funding & payment for transport



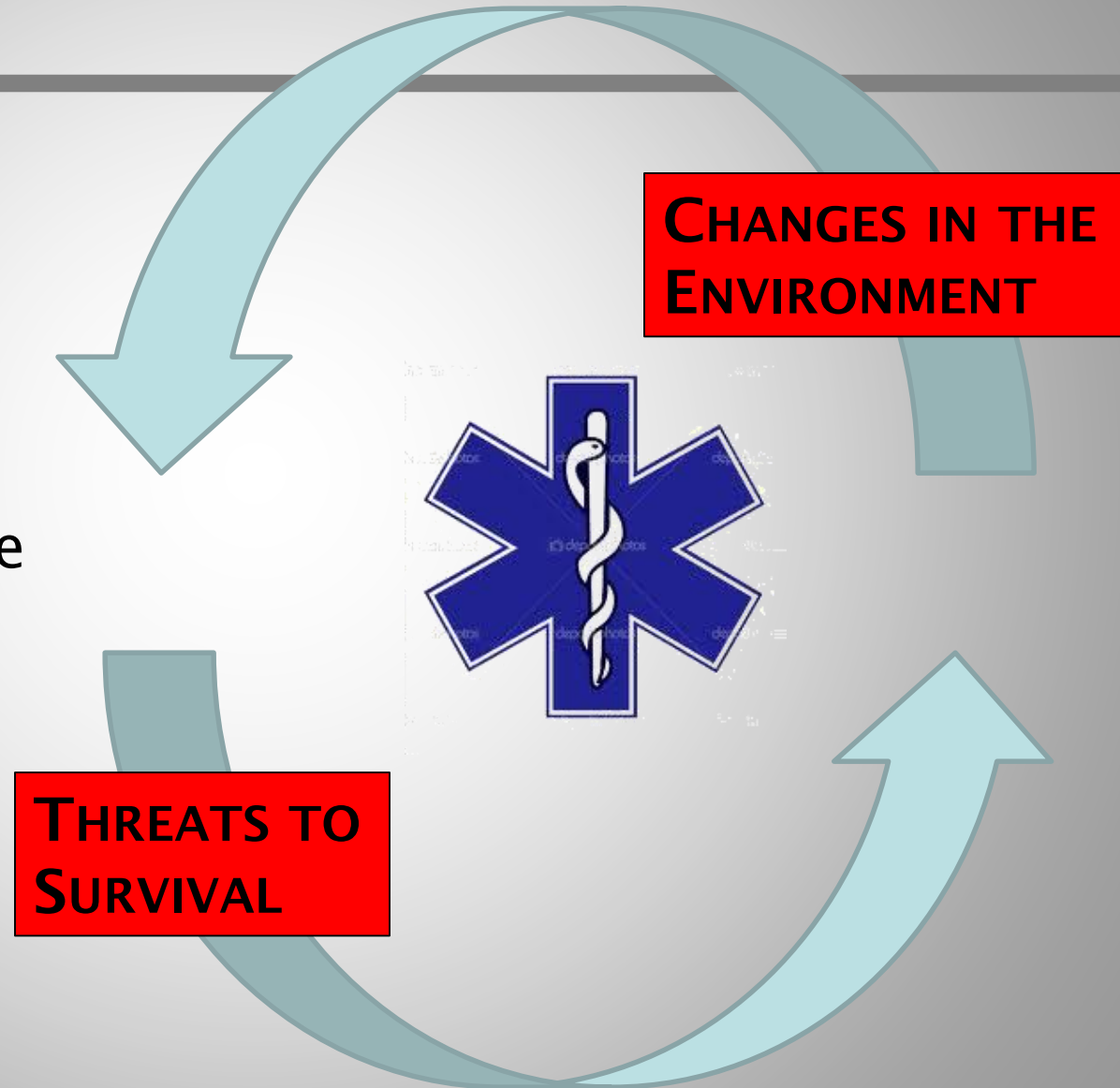
What about EMS?

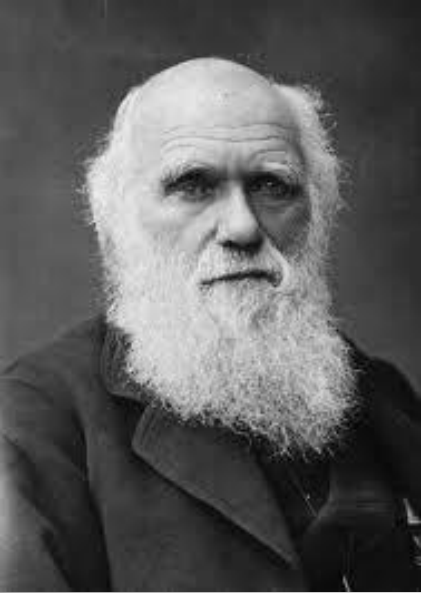
Change in

- Practice of medicine
- Reimbursement

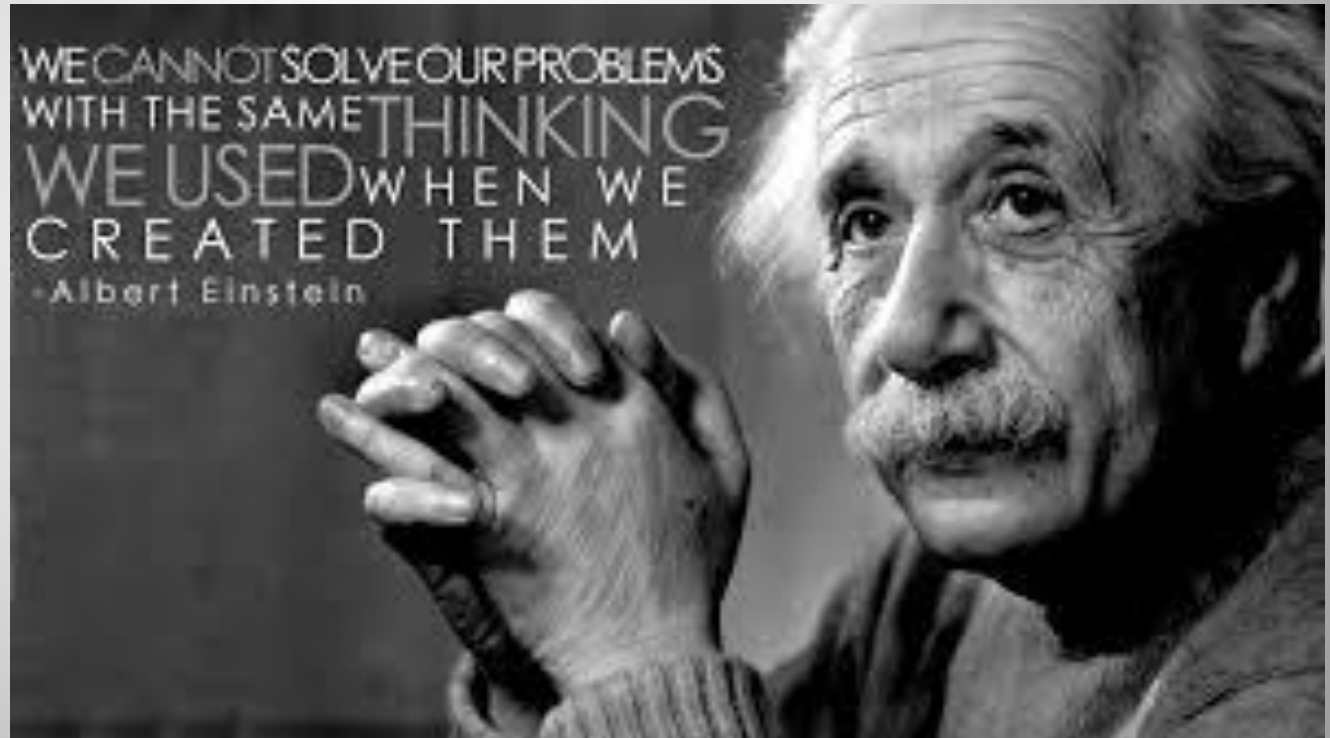
Failure to adapt

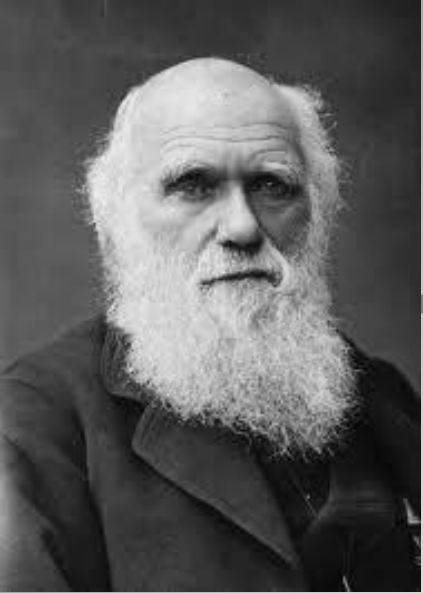
- Educational institutions
- Workforce



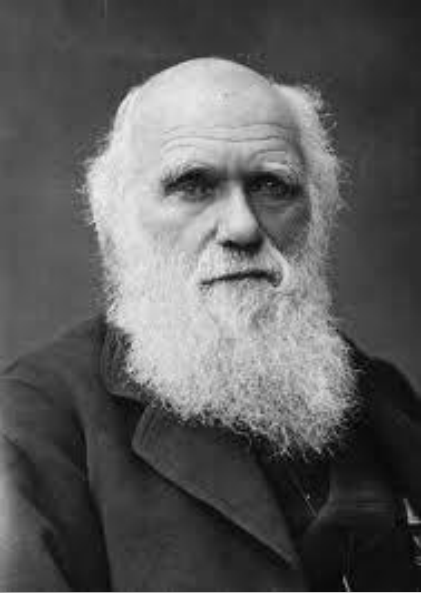


Primary threat: failure to adapt





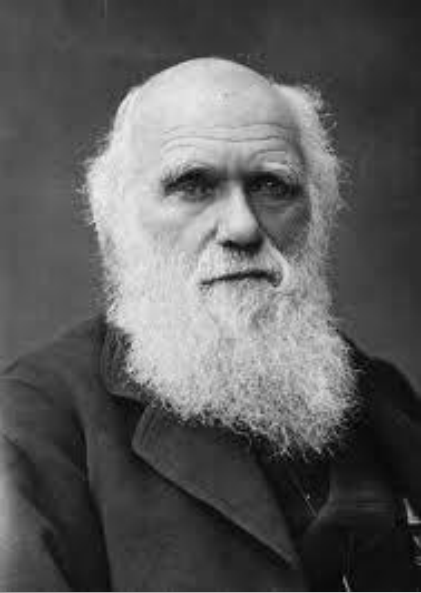
**What's this got to do with
US?**



Clinical Practice

Evidence based OR protocols & policies?

- Regulators
- Medical Directors
- Educators
- Operations
- Support EBPGs
- ~~State protocols~~
- Maintain currency
- Measure impact & satisfaction
- Improve quality
- Teach currency & understanding of data
- Change culture

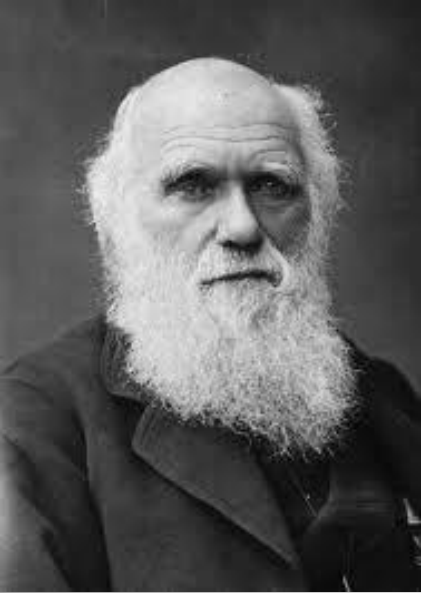


Quality

Patient-centric OR protocols?

- Regulation
 - Medical Director
 - Education
 - Operational
- by licensure
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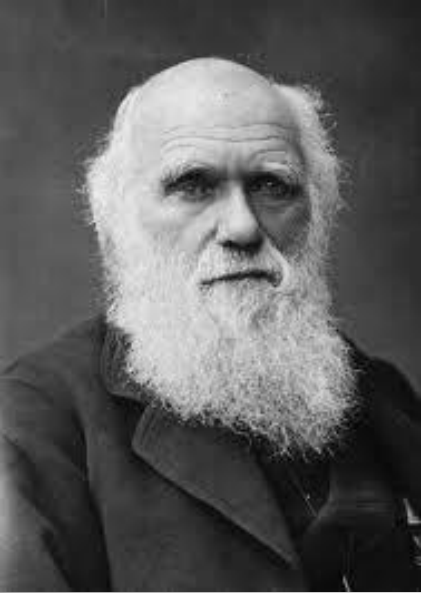




Education

Adapted to changing evidence & environment or dated content?

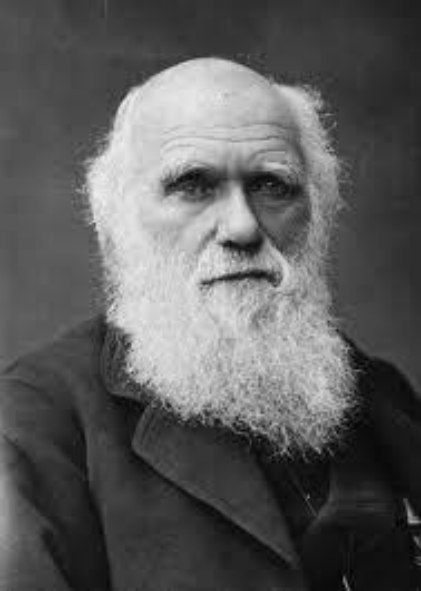
- Regulators
- Medical Directors
- Educators
- Operations
- Accreditation
- Educator standards
- Lifelong learning
- Push educators
- Student recruitment
- Operational partnerships
- Demand more



Documentation

Integrated health record OR “run sheet”

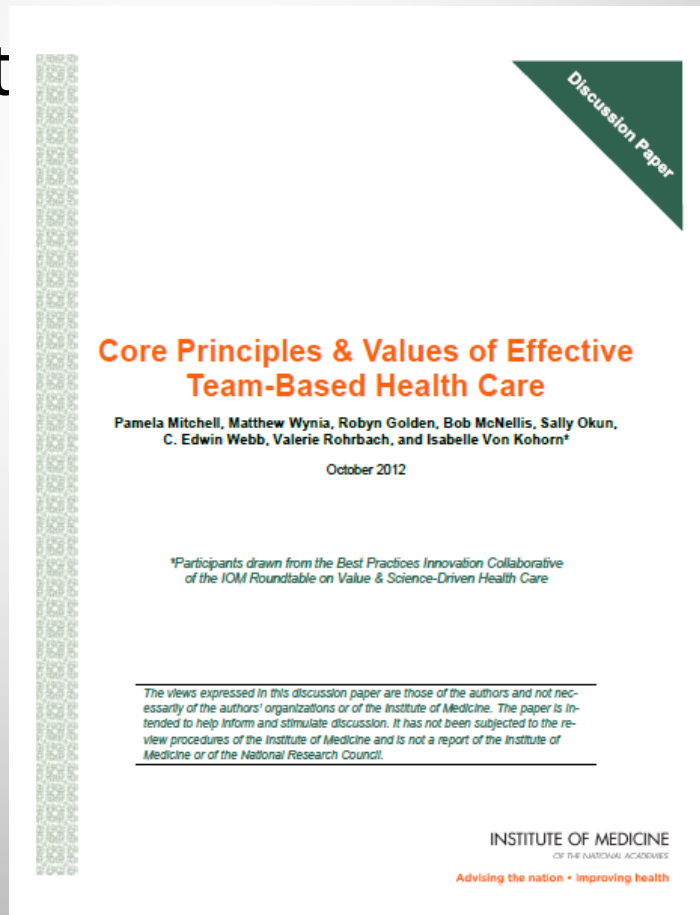
- Regulators
- Medical Directors
- Educators
- Operations
- Tie 2 way record integration to licensure & designation
- Hospital champion
- Teach and expect more
- Genuine education and practice
- Demand more



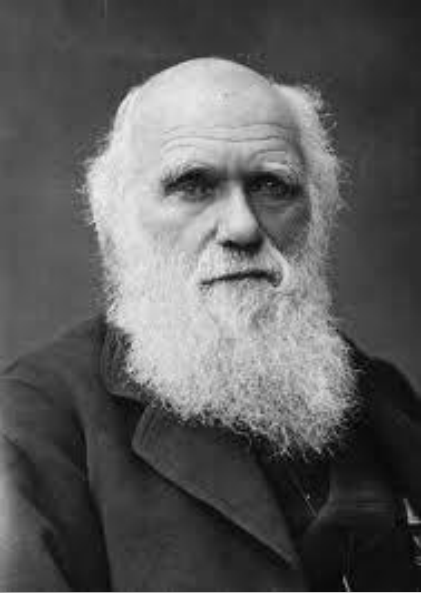
Collaborative practice

Interprofessional practice OR “just ambulance guys”

- Regulat



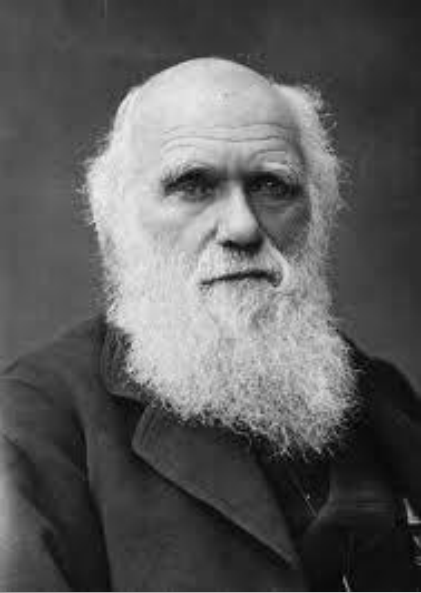
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professional



Collaborative practice

Interprofessional practice OR “just ambulance guys”

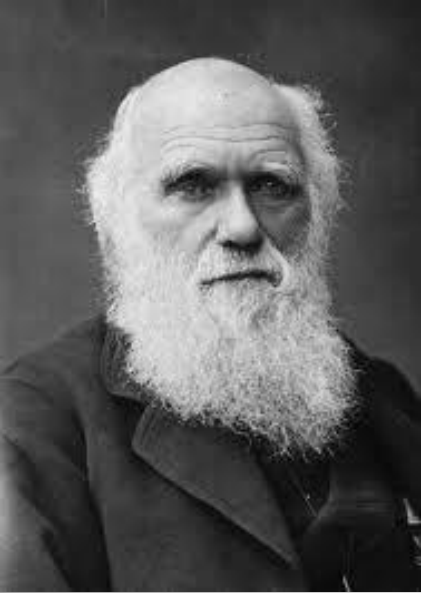
- Regulators
- Medical Directors
- Educators
- Operations
- Redefine: EMS to out of hospital
- Collaboration with public health +
- Abolish the term “community paramedic”
- System of care
- Broaden faculty
- Broaden leadership



Reimbursement

Accept risk OR trust status quo

- Regulators
- Medical Directors
- Educators
- Operations
- Walk down the hall
- Understand community systems
- Make introductions
- Health economists
- Support pilots
- Encourage experimentation



Evolution or Extinction?

Change in

- Practice of medicine
- Reimbursement

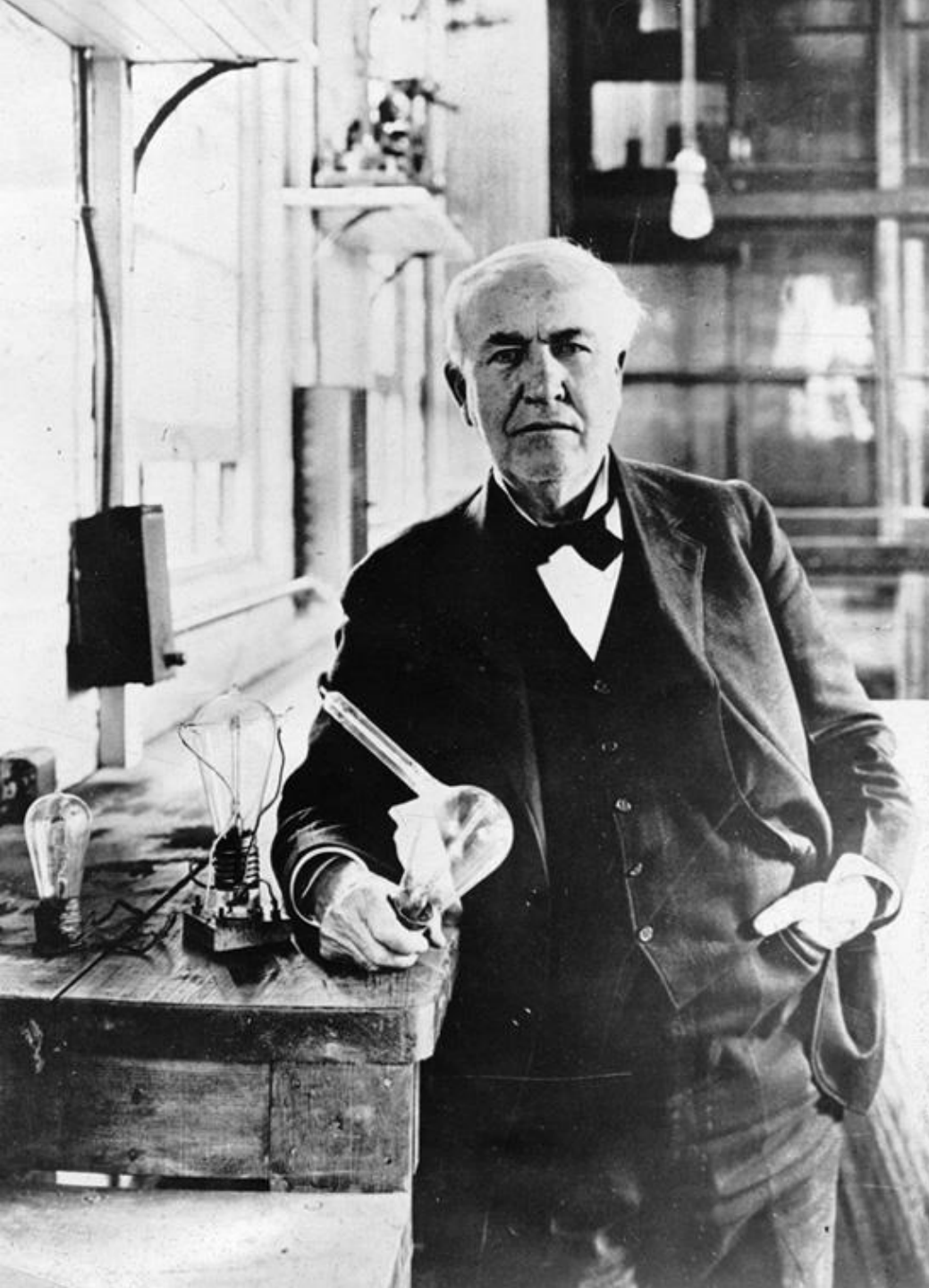
Failure to adapt

- Value to community
- Reimbursement
- Education
- Workforce

**THREATS TO
SURVIVAL**

**CHANGES IN THE
ENVIRONMENT**





Opportunity is
missed by
most people
because it is
dressed in
overalls and
looks like
work.