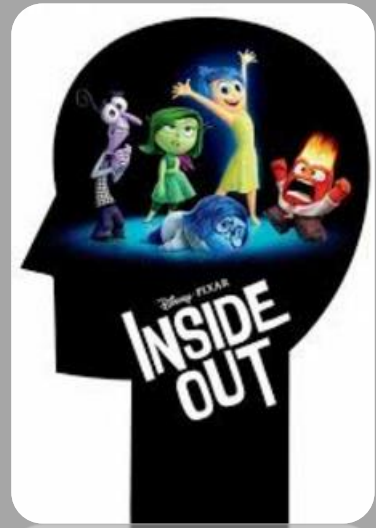
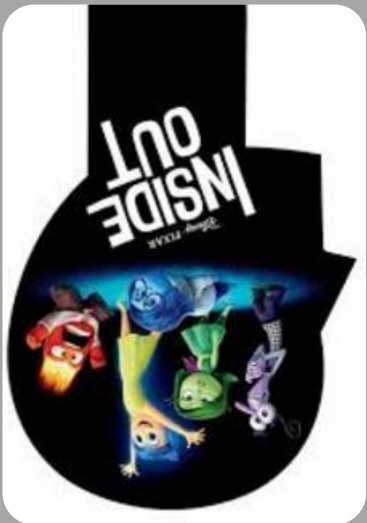


Human Behavior The Glue for a Sustainable Safety Culture



Yoel Donchin M.D.
Faculty of Medicine,
Hebrew university Jerusalem, Israel





YOEL DONCHIN M.D.

yoel.donchin@gmail.com



**Hadassah
Hebrew
University
Medical Center
Jerusalem
Israel**



Technion, HAIFA, ISRAEL

Center For Safety & Human Engineering

<http://mevasseret.participoll.com/>



Please . Let me know my audience

A. Physicians



B. Nurses

C. Paramedical professions (Pharmacy, physiotherapy)



D. CEO

E. Important Other

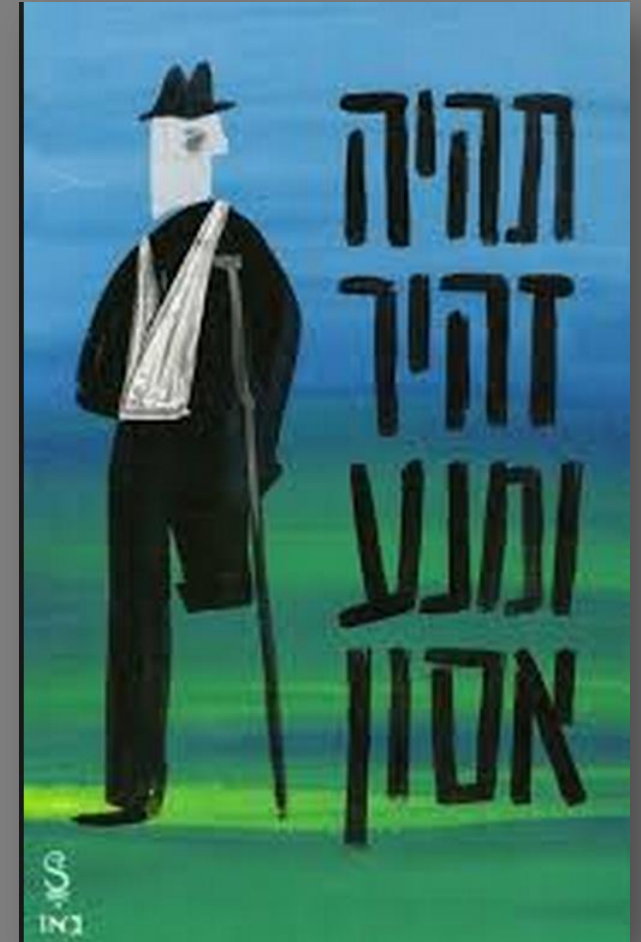


Safety is a value Not a commodity



SAFETY
is as simple as ABC

ALWAYS
BE
CAREFUL





ONLY YOU CAN PREVENT ACCIDENTS

LIFT SAFELY!

IF IT'S TOO HEAVY - GET HELP! OR USE A TROLLEY!

EYE PROTECTION

IS YOUR BEST DEFENSE!

LOOK OUT!

Approach intersections and blind spots slowly and carefully

No Safety Know Pain

Know Safety No Pain

GOT STEEL TOES?

It's a Good Sign...

If Safety's on Your Mind!

TAKE CARE WHEN USING ELECTRICITY

IT HAS THE POWER TO KILL

SAFETY is as simple as ABC

A ALWAYS
B E
C CAREFUL

Bulk Handling Conveyors

OUR AIM :

NO ACCIDENT

HAZARDS CAN OCCUR IN OFFICE ENVIRONMENTS TOO

AVOID THIS... BY AVOIDING THESE!

ALWAYS USE GOOD SAFETY PRACTICES

FALLS FROM LADDERS CAN BE SERIOUS.

FOLLOW THE RULES TO STAY SAFE.

Keep Cool

Stop acting like you're a super hero.

You are not invincible.

Safety Protects People

Quality Protects Jobs

10 RULES FOR WORKPLACE SAFETY

1. You are responsible for your own safety and for the safety of others.
2. Do not drink and work. Always follow the rules.
3. If you are not trained, don't do it.
4. Use the right tools & equipment and use them in the right way.
5. Always wear safety harness or safety footwear.
6. Never wear loose clothes or jewelry to work.
7. Do not engage in horseplay or any other dangerous activities.
8. Practice good housekeeping. Always keep PPE.

A FAULTY WIRE CAN START A FIRE!

PLAY IT S.A.F.E.

Secure All Machines
Act Safely
Follow Safety Guidelines
Expect the Unexpected

SOME TOOLS ARE IRREPLACEABLE

PROTECT YOUR HANDS SO THEY LAST A LIFETIME

Face Protection

Or... Face the Consequences

SAFETY is a Full Time Job

Don't Make It a Part Time Practice

Do not change the colour of a gas cylinder

KEEP HAZARDOUS WASTE OUT OF THE ENVIRONMENT!

IT'S ALL THAT WE HAVE, AND IT'S FRAGILE

ALWAYS LIFT SAFELY.

IF IT'S TOO HEAVY, ASK FOR HELP!

It's just like squirting liquid down on the floor.

KNOW HOW TO USE A FIRE EXTINGUISHER

FOLLOW THE 'P.A.S.S.' WORD

PULL "AIM" "SQUEEZE" "SWEEP"

A NEAR MISS

COULD BE THE NEXT ACCIDENT

हेल्मेट घातयारिवाय आत प्रवेश करू नका.

6S's FOR SAFETY

Sort
Set in Order
Shine
Standardize
Sustain
Safety

EYE PROTECTION

See to it!

hard hat

no good unless you're under it!

PREVENT WORKPLACE INJURY

Safer work, better lives

PREVENT WORKPLACE INJURY

When lifting:
keep your legs bent
keep your back straight

THESE LOOK! BETTER ON YOU Than This

REDUCE THE CHANCE OF EYE INJURY!

TO SEE CLEARLY

USE EYE AND FACE PROTECTION AT ALL TIMES

SOMEONE NEEDS FIRST AID?

IDENTIFY THE PROBLEM AND FIND THE SOLUTION!

SAFETY is Job #1

Vertical Format

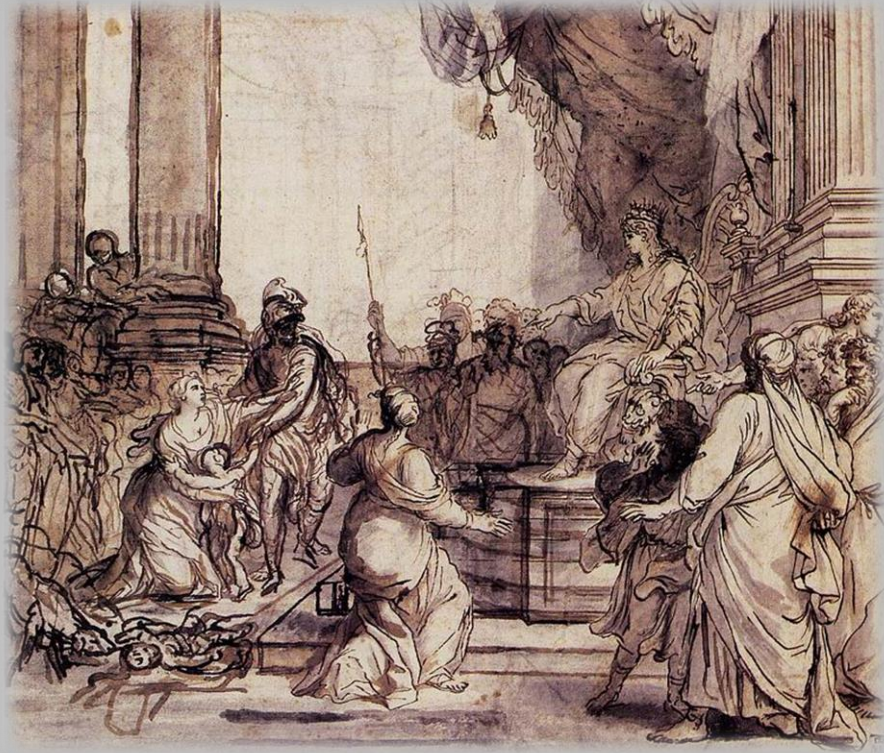
LADDER SAFETY

Ensure the ladder is set up correctly

Please remove your jewelry and all personal objects

During my stay in Singapore I took
this short video observation





Then the king said, “one says, ‘This is my son who is living, and your son is the dead one’; and the other says, ‘No! For your son is the dead one, and my son is the living one.’”

The king said, “**Get me a sword.**” So they brought a sword before the king. The king said, “**Divide the living child in two, and give half to the one and half to the other.**”

Then the woman whose child *was* the living one spoke to the king, for she was deeply stirred over her son and said, “Oh, my lord, give her the living child, and by no means kill him.” But the other said, “He shall be neither mine nor yours; divide *him!*”



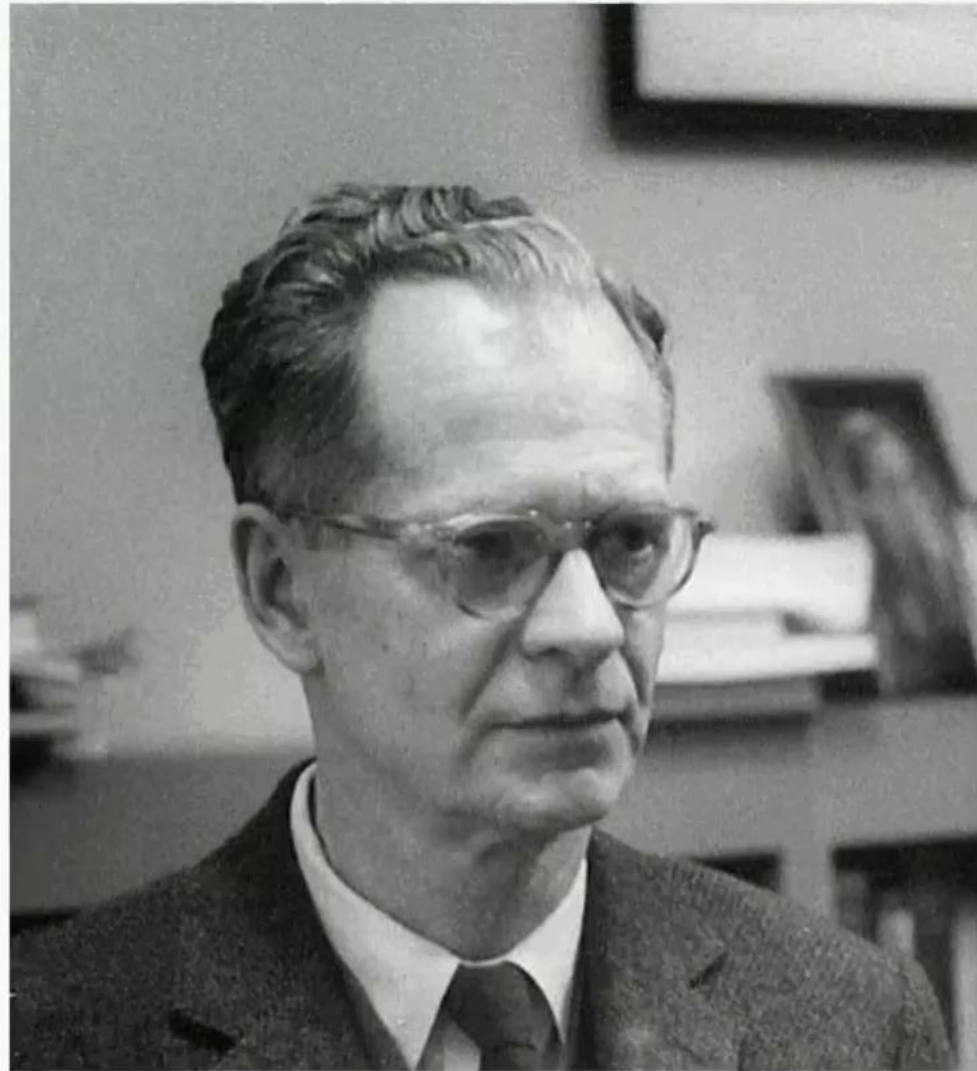


B. F. Skinner



Skinner at the Harvard Psychology
Department, c. 1950

B. F. Skinner



Skinner at the Harvard Psychology
Department, c. 1950

THE MARSHMALLOW TEST



THE NEW YORK TIMES BESTSELLER

THINKING,
FAST AND SLOW



DANIEL
KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

"[A] masterpiece . . . This is one of the greatest and most engaging collections of insights into the human mind I have read." —WILLIAM EASTERLY, Financial Times

→ **System 1:** fast, instinctive, is biased to believe and confirm, infers and invents exaggerates emotional consistency (halo effect)



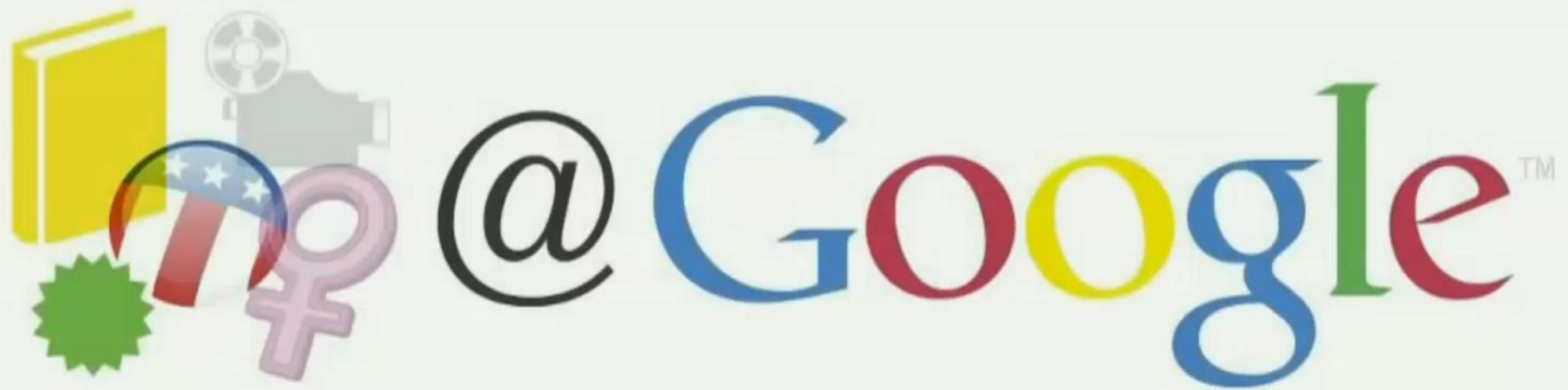
→ **System 1:** fast, instinctive, is biased to believe and confirm, infers and invents
exaggerates emotional consistency (halo effect)



→ **System 2:** slow, deliberate, rational, logical, relies on facts and knowledge

$$265 + 32 + 16 =$$





Thinking, Fast and Slow

Daniel Kahneman

November 7th, 2011





DAN
ARIELY
BEHAVIORAL ECONOMIST
& AUTHOR



Candid camera - Elevator

Memory

memory.
all alone in the moonlight.
i can smile at the old
days, i was beautiful then
i remember the time i
knew what happiness
was.
let the memory live again





Aiming To Reduce Cleaning Costs

by Blake Evans-Pritchard (1972 words)

The picture of a fly in the urinals at Schiphol Airport has been touted as a simple, inexpensive way to reduce cleaning costs. Where does it come from, and how effective is it really?



ג-3-31045486 ר מ

A+



סוג דם החולה

ילדים אשפוז יום אונקולוגי

| מס. מנה | מרכיב | # | סוג |
|---------|-------|---|-----|
| 0062733 | PC | 1 | A+ |



מס. מנה מקורי: 3395534
ת. תפונה: 23:59 21/11/2001

ת. הצלבה: 11:34 28/10/2001

הצלבה מתאימה מאשר:

חתימות מאשרי מתן המנות (2 חתימות)
שמור פתק זה בתיק החולה
תאריך ושעת מתן הדם



WARNING

This test must always be completed at the bedside **BEFORE TRANSFUSION**



MEMO – 3 steps of testing:

1. Strict identification of the patient
2. Inspection of the blood
3. Check compatibility of patient and blood type

Date ____/____/____ Hour ____:

1. IDENTIFY THE PATIENT (mark ✓ in the ○)

I have identified this patient:

- By the bracelet tag
- By personal recognition
- By the patient's chart
- By patient's details on the blood unit
- By patient's details on blood type form



NAME of PATIENT _____ IDENTITY NO. _____

2. INSPECTION OF THE BLOOD

- Color of the blood (no sign of infection, no turbidity, the unit is transparent when hemolytic)
- Date of expiry ____/____/____

3. COMPATIBILITY CHECK OF PATIENT WITH BLOOD TYPE

Comparison must be made and confirmed that:

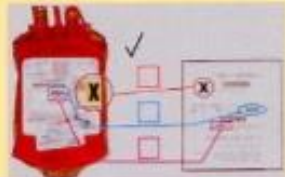
The blood type of the patient noted on the form is _____

The blood type of the patient noted on the blood unit is _____

The blood type of the unit is _____

The hospital blood unit number is _____

The numbers noted on the form which is glued to the blood unit bag must be compared and checked with the numbers on the blood unit.



- Type and Cross confirmed.

The blood unit has been checked and confirmed by – signatures:

1. _____ 2. _____

STICK THIS FORM IN PATIENTS CHART AFTER TRANSFUSION



3



2

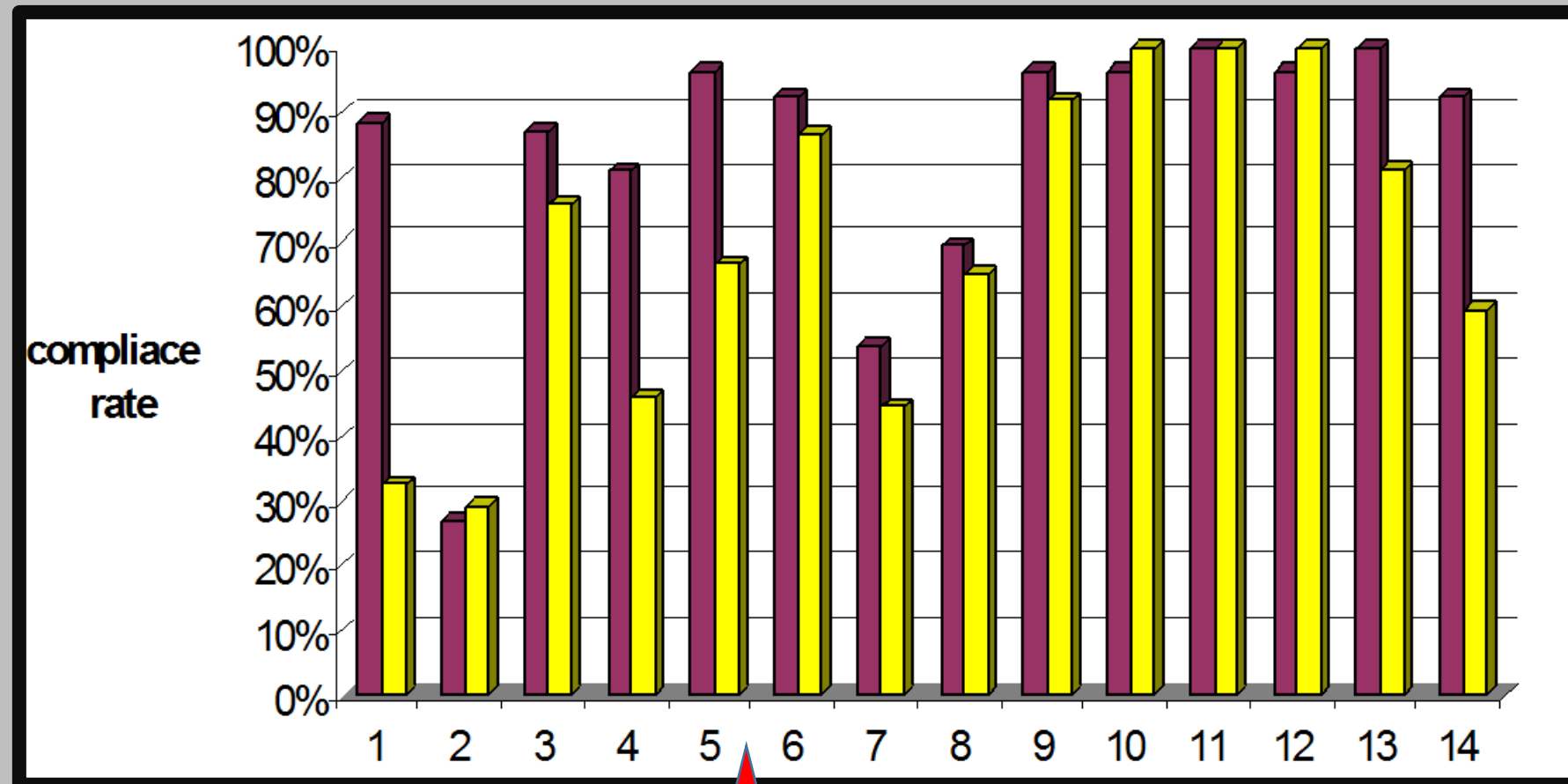


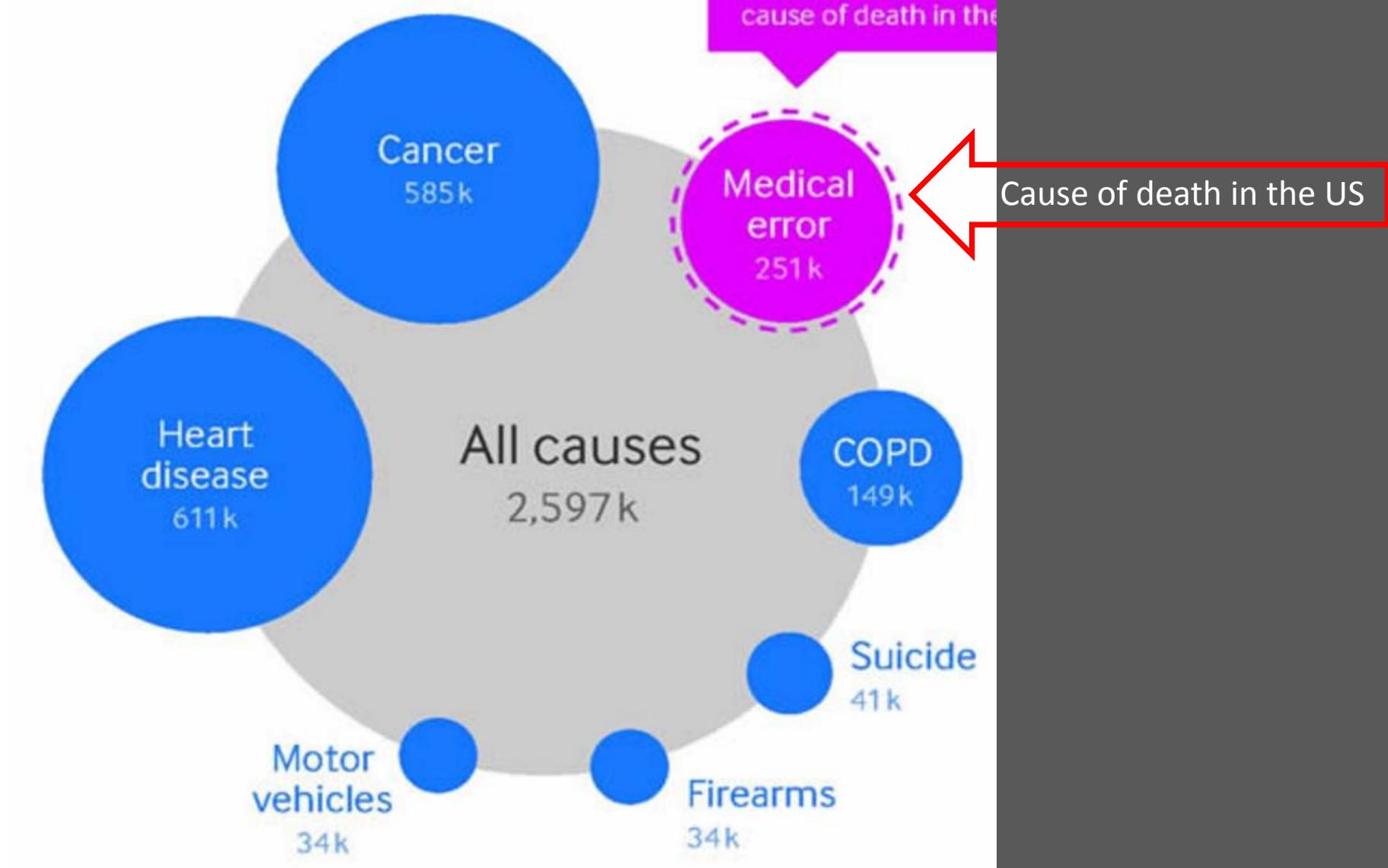
1

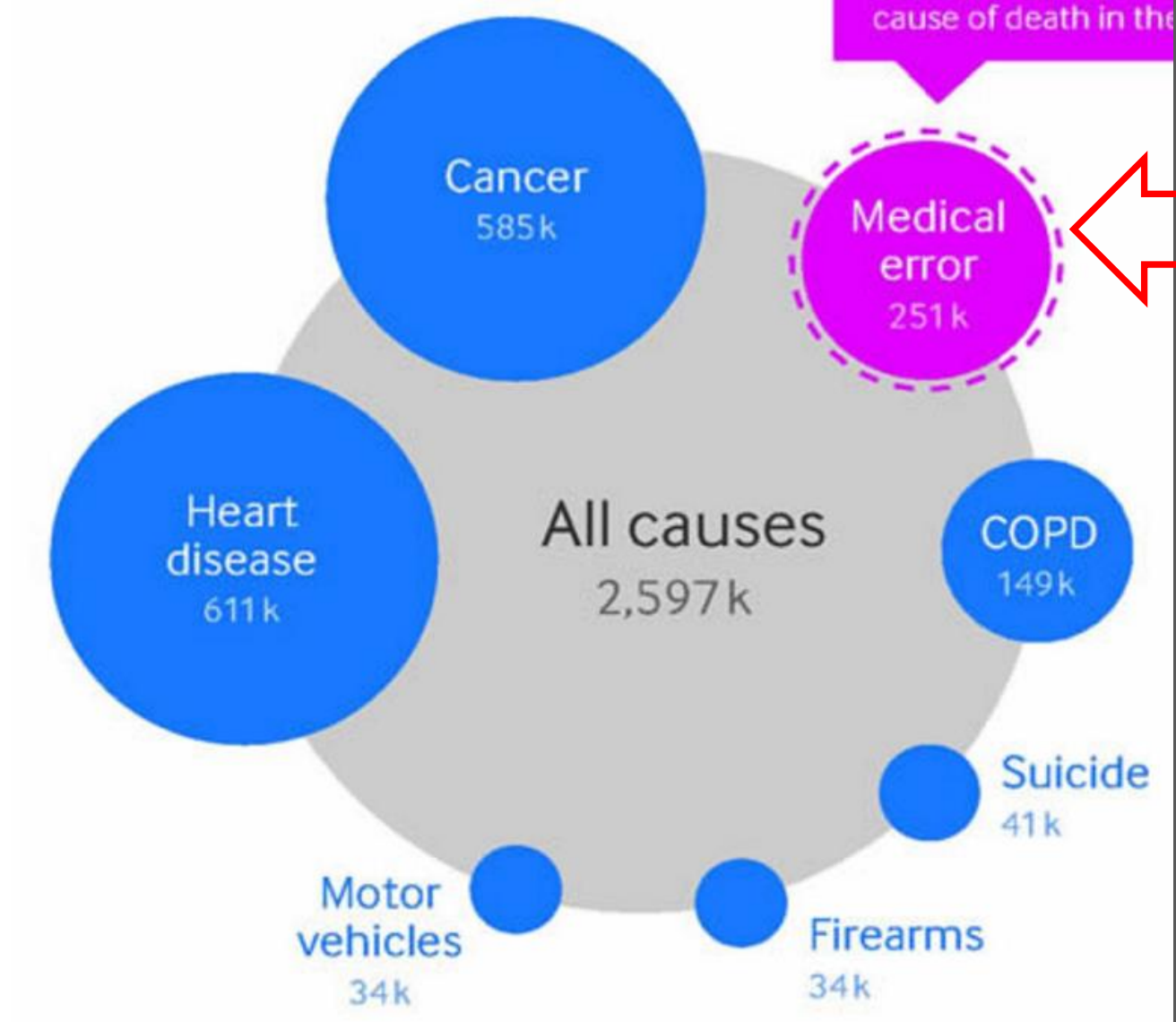


5 Identification of patient according to patient's details on the blood unit

6 Identification of patient according to patient's details on the blood type form.



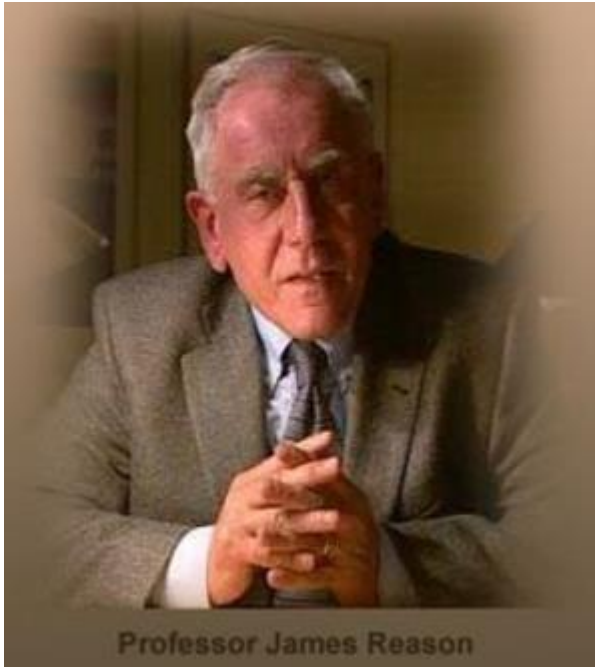




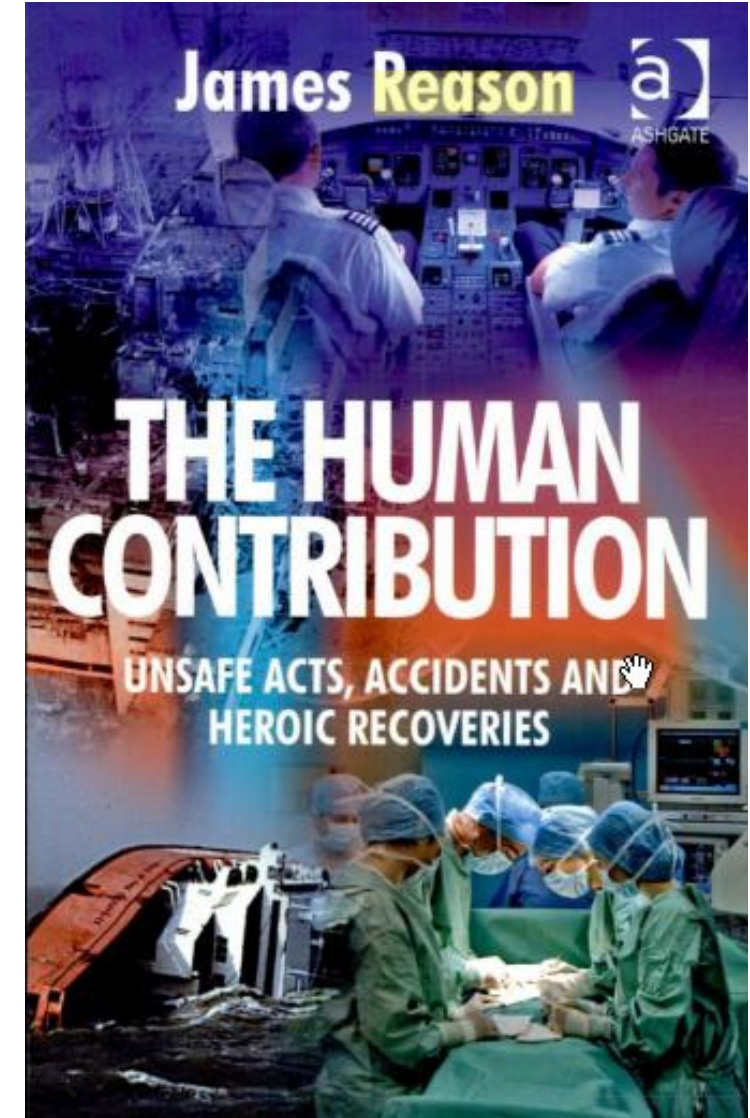
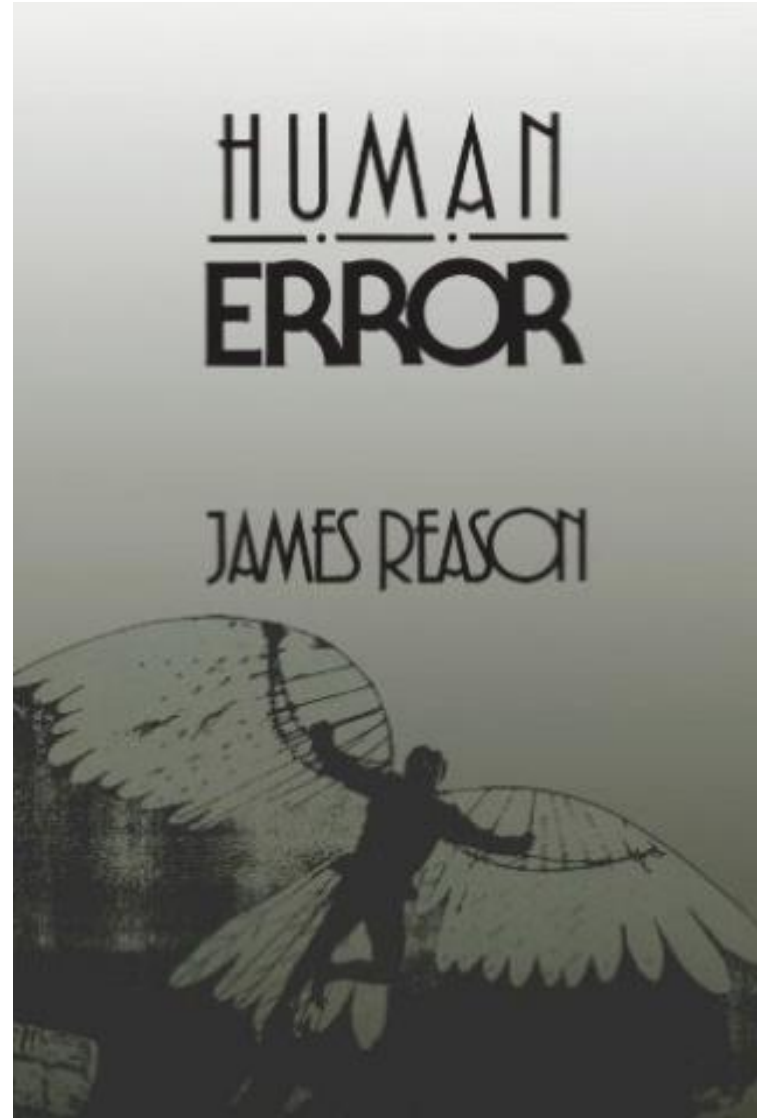
cause of death in the

Cause of death in the US

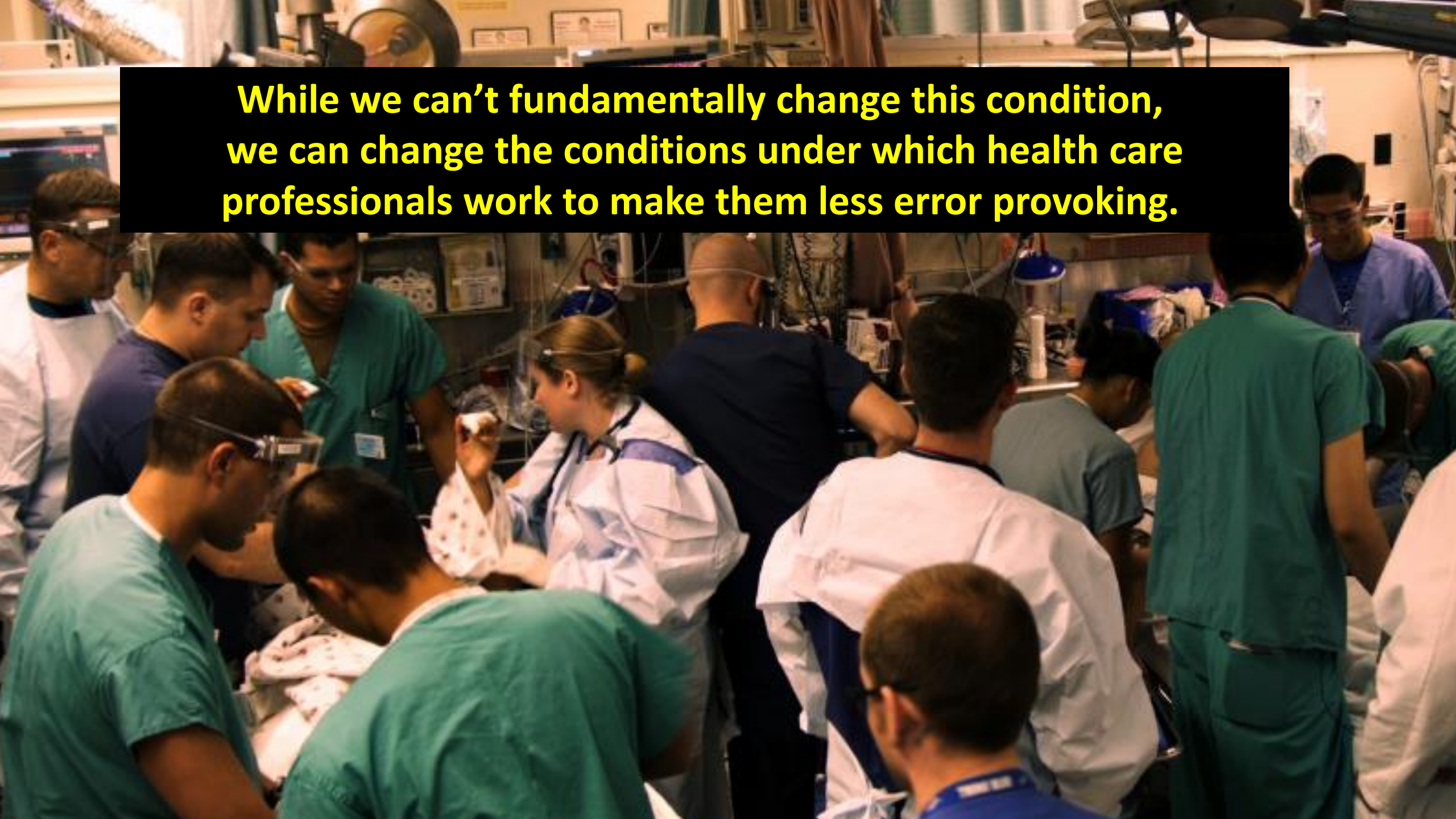
Is this an epidemic ?

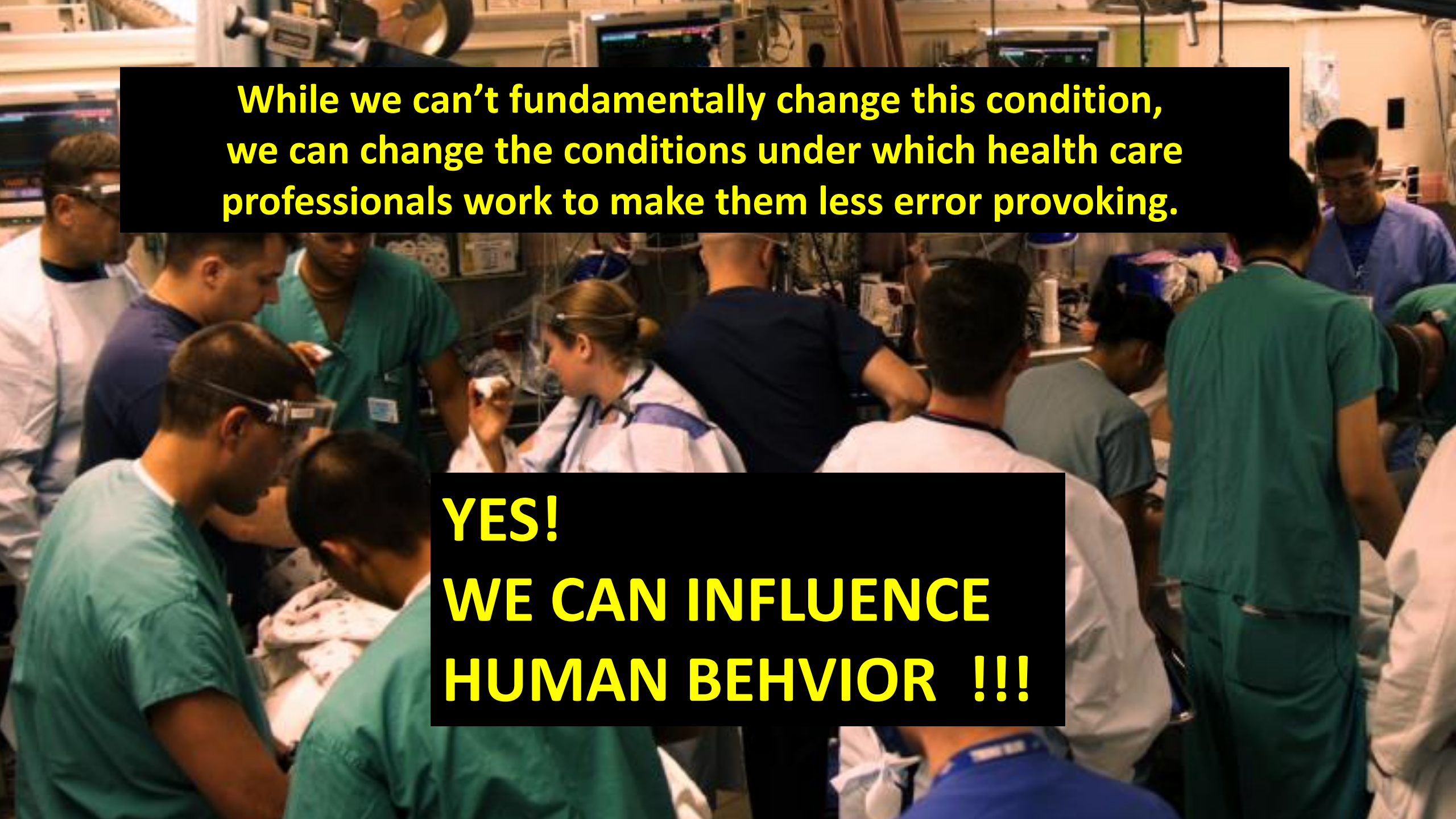


**Unlike some epidemics,
there is no specific
treatment for error.
It is part of the human
condition**



While we can't fundamentally change this condition, we can change the conditions under which health care professionals work to make them less error provoking.





**While we can't fundamentally change this condition,
we can change the conditions under which health care
professionals work to make them less error provoking.**

**YES!
WE CAN INFLUENCE
HUMAN BEHAVIOR !!!**



CHEST

Transparency in Health Care

Preoperative Briefing in the Operating Room

Shared Cognition, Teamwork, and Patient Safety

*Yael Einav, PhD; Daniel Gopher, PhD; Itzik Kara, RN, BSN, MHA; Orna Ben-Yosef, RN, BSN;
Margaret Lawn, RN; Neri Laufer, MD; Meir Liebergall, MD; and Yoel Donchin, MD*

Changing Culture

A New View of Human Error and Patient Safety

Organization,¹³ their utilization remains relatively low within many surgical specialties. This sluggishness of change is due to many reasons. One such reason is that physicians and other health-care providers are often not convinced that incorporating work-system tools and processes into their practice (eg, briefings or checklists) will have a significant enough impact on patient care to make changing their ways worth their

PUBLIC RELEASE: 5-AUG-2016

Teamwork, communication training recommended to ensure surgical safety

Each member of the surgical team should be empowered to speak up and take responsibility for patient care

Surgical safety education programs with assessment of competence for **surgeons, residents, medical students, perioperative team members, and surgical institutions** on effective communication, resilience, leadership and teamwork.

Safety training modules (simulation-based) for the entire surgical team--doctors, nurses, anesthesiologists, surgical technicians and physician assistants.

Shared-decision making practices and procedures to ensure an informed and prepared surgical patient.

The value of 'gentle reminder' on safe medical behaviour

Ido Erev,¹ Dotan Rodensky,¹ Mark-Alain Levi,² Michal England-Hershler,²
Hanna Admi,² Yoel Donchin³



Team E

**It is important
to wash hands**

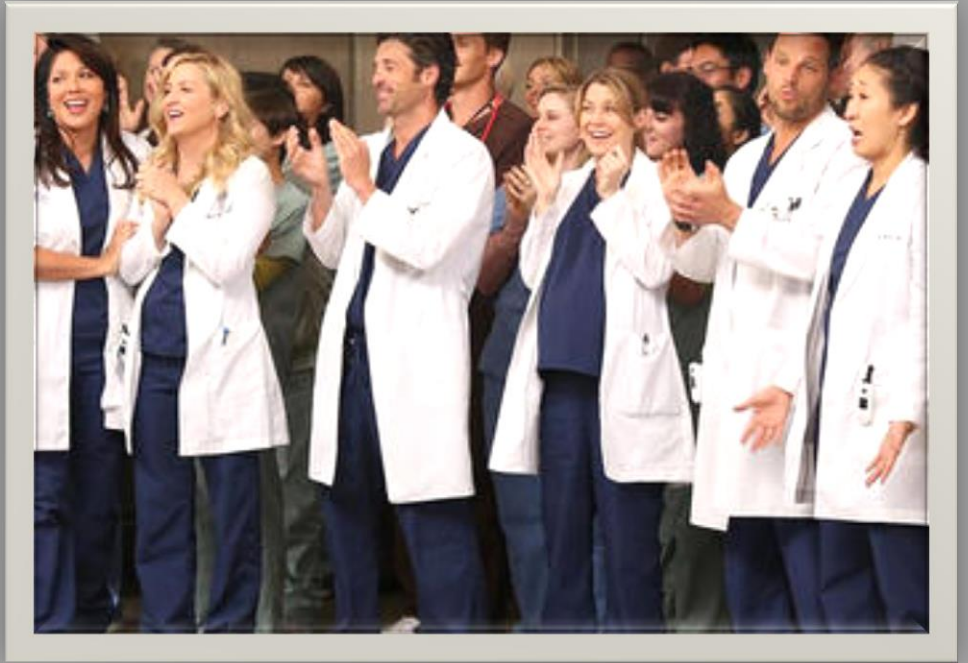
SAFETY FIRST



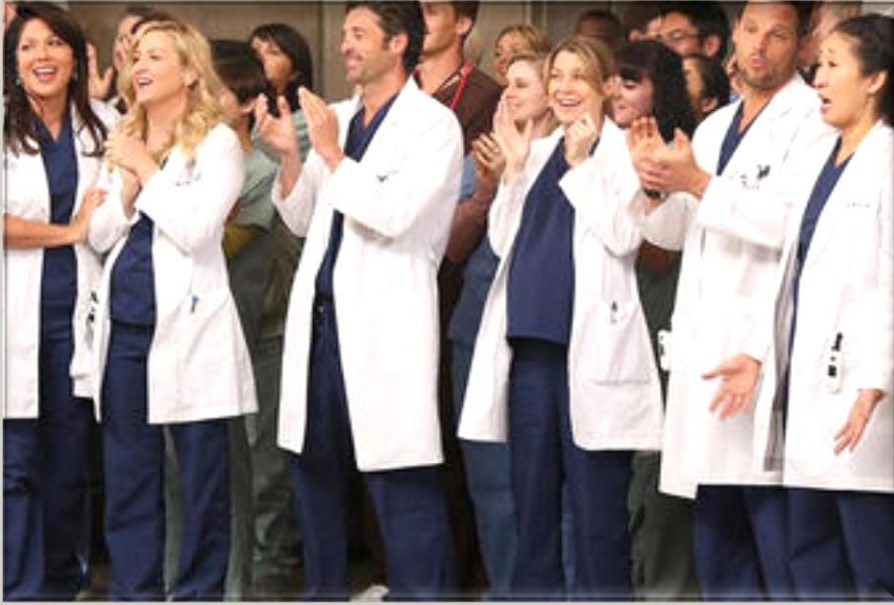
**For hospital
safety you must
wash your hands
here**

It is important to wash hands, if you see someone from the team that is not following protocol –

Tell him gentle to use gloves
etc.



Team G.



Team G.

It is important to wash hands, if you see someone from the team that is not following protocol – Tell him **gentle to use gloves etc.**

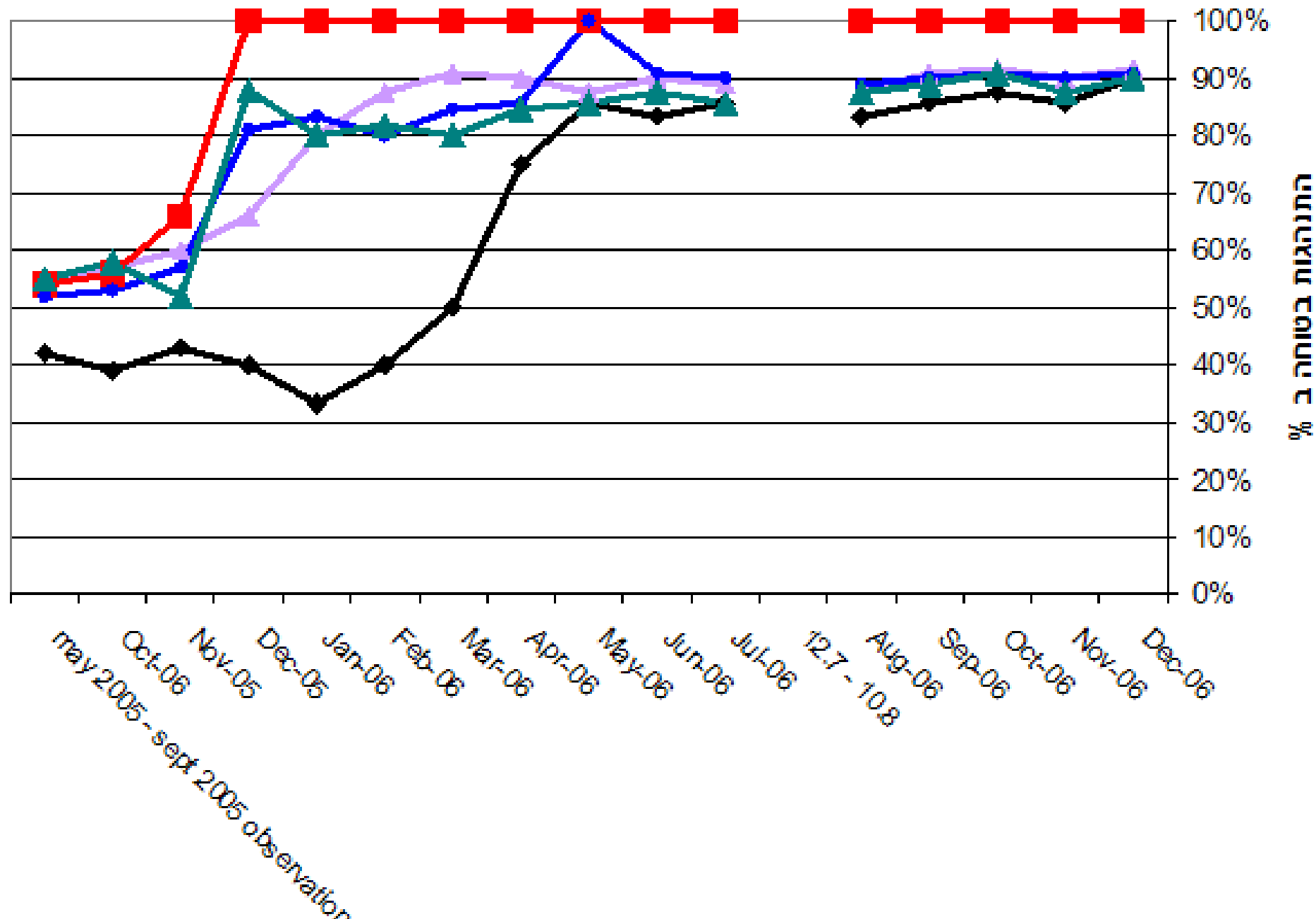


Team E

It is important to wash hands

Nevertheless, a surprisingly simple and cheap intervention, the implementation of the 'gentle reminder' procedure, dramatically changed this behaviour. The observation did not influence the behaviour and in the 2 months during the war, where there were no observations at all, the behaviour stayed the same.

Safety is a value, not a commodity. It is not enough to add computers or sophisticated barcode reading in order to reduce the error rate. The way to achieve safety is by changing the behaviour of the human operator, as this is being called by human factors engineers. The current analysis shows that in certain cases, the 'gentle intervention' is sufficient to trigger a significant change.



Hyman G. Rickover



1986-1990



A behavior change method is any process that has the potential to influence psychological determinants.*

Examples of such determinants are attitude,

risk perception , self-efficacy, habit.

* Education, Motivation , Skinner< Pavlov and more



safety climate

□ 1: J Appl Psychol. 1980 Feb;65(1):96-102.

Safety climate in industrial organizations: theoretical and applied implications.

Zohar D.





to meet the needs of a city
of three-quarters of a million people.

Culture of Safety

The utopian environment
where medical errors do
not occur because
everyone is safety-
conscious enough to avoid
all mistakes.



The American social scientist **Ron Westrum** distinguished three kinds of safety culture the way in which an organization handles safety-related information.

Pathological organizations are liable to shoot the messenger and ignore or deny the information.





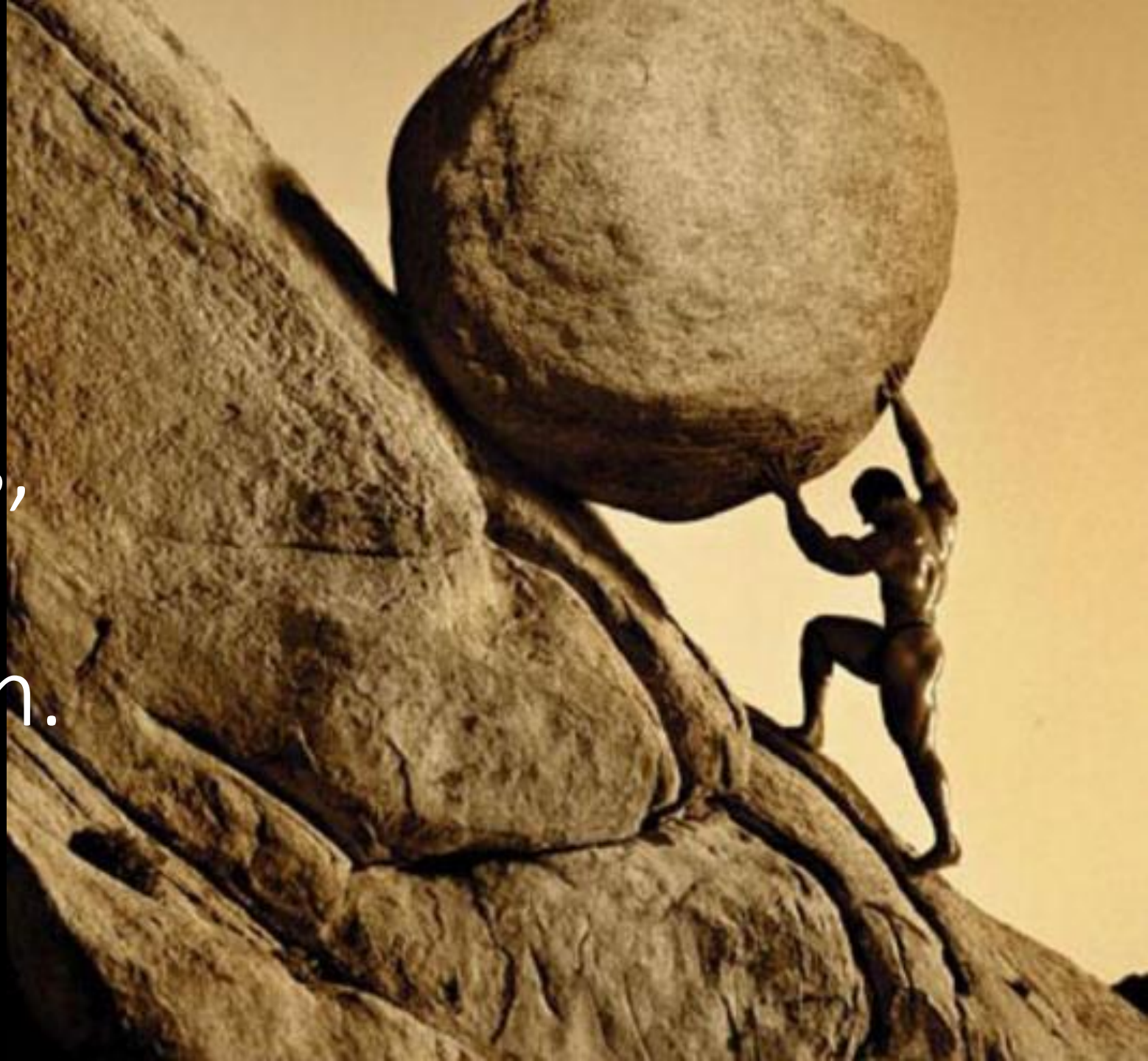
Bureaucratic organizations: listen to the message but do not necessarily know what it signifies. (New ideas often present problems)



Make changes, but do them only cosmetically



Make changes,
but no good
comes of them.



Ineffective Responses to A mishap

She was going to die anyway.

It is human to err.

It couldn't happen to me/here.

We need more/louder alarms.

They should always respond to alarms.

They should follow policies and procedures.

It's not their fault; it's the organization's fault.

Let's make sure this never happens again.

Blaming front-line operators



Generative (high-reliability) organizations welcome the messenger, even rewarding him or her, and treat the message very seriously.





F28
Safety
Culture &
Vision

Touch
the
personal
choice

January 2013





we will start with a short movie





F28
Safety
Culture &
Vision

concept



how do
we go
from

acting
safe

to

being
safe

how do we steer safety away from



how do we steer safety away from



and get it in



what

reason

do
we
give
people
to

**be
safe?**

life is

complicated

enough



unsafe behaviour

complicates

it even more



HOSPITAL SURVEY ON PATIENT SAFETY CULTURE

INSTRUCTIONS

This survey asks for your opinions about patient safety issues, medical error, and event reporting in your hospital and will take about 10 to 15 minutes to complete.

- An “event” is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.
- “Patient safety” is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.

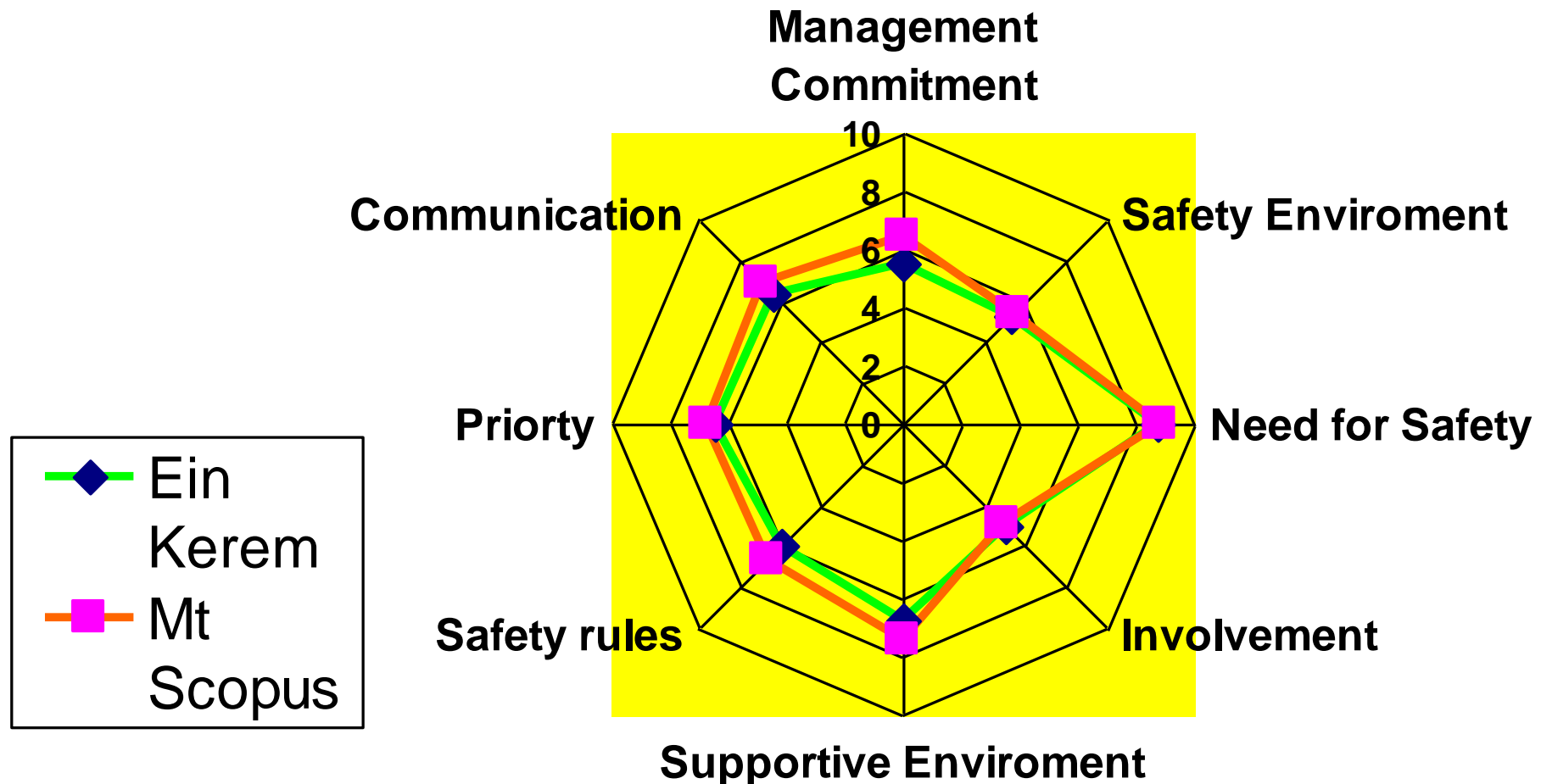
SECTION A: Your Work Area/Unit

In this survey, think of your “unit” as the work area, department, or clinical area of the hospital where you spend most of your work time or provide most of your clinical services.

What is your primary work area or unit in this hospital? Mark ONE answer by filling in the circle.

- a. Many different hospital units/No specific unit
- | | | |
|--|---|---|
| <input type="radio"/> b. Medicine (non-surgical) | <input type="radio"/> g. Intensive care unit (any type) | <input type="radio"/> l. Radiology |
| <input type="radio"/> c. Surgery | <input type="radio"/> h. Psychiatry/mental health | <input type="radio"/> m. Anesthesiology |
| <input type="radio"/> d. Obstetrics | <input type="radio"/> i. Rehabilitation | <input type="radio"/> n. Other, please specify: |
| <input type="radio"/> e. Pediatrics | <input type="radio"/> j. Pharmacy | <input type="text"/> |
| <input type="radio"/> f. Emergency department | <input type="radio"/> k. Laboratory | |

Mean Score of Safety Climate Ein Kerm and Mt Scopus









CHEST

Transparency in Health Care

Preoperative Briefing in the Operating Room

Shared Cognition, Teamwork, and Patient Safety

*Yael Einav, PhD; Daniel Gopher, PhD; Itzik Kara, RN, BSN, MHA; Orna Ben-Yosef, RN, BSN;
Margaret Lawn, RN; Neri Laufer, MD; Meir Liebergall, MD; and Yoel Donchin, MD*

תדריך לפני ניתוח

בנוכחות כל חברי הצוות

| מנהח | אחות |
|--|---|
| <p>מטרי הניתוח</p> <ul style="list-style-type: none"> • סוג הניתוח • גישה • תנוחה • האם ידית שנינו תנוחה • שלבים שאינם שגורתיים • יונקן: מיקום צילומים ייעודיים • ציוד ייעודי מיוחד • כגון: חיסם שורטים, Argon, קריי, ציוד אופטי | <ul style="list-style-type: none"> • שם המטופל • הניתוח • צד הניתוח או צד החתך • מריטום ייחודיים לחלה • כגון: מוחל וספוח, אגז חותב |
| <p>תרופות וחומרים</p> <ul style="list-style-type: none"> • לכני הניתוח • במהלך הניתוח | <p>מדדים</p> <ul style="list-style-type: none"> • סוג הרדמה • ריגישות לתרופות • יריסי אוטוביוטי |
| <p>דם</p> <ul style="list-style-type: none"> • האם הזקן דם • סוג הדם • ציוד נלווה לחתך דם • ימות במקור | <p>פתולוגיה</p> <ul style="list-style-type: none"> • צורך בחתך קפוא (פוסט) • צפי לשיתים בעקבות חתך קפוא • מה "שלח" • לאיזו מעבדה |



Briefing Prior To Surgery

ALL team present

Nurse

- Patient name
- Operation
- Side of operation or incision
- Special patient information
Medical history ,prosthesis

Anesthesiologist

- General, Regional, combined
- Drug Allergies
- Antibiotic coverage

Surgeon

Details of surgery

- Type of operation, approach
- Position
- Planned change in position
- Non routine activities
- Imaging and equip. positioning
- Special equipment
Argonbeam, Cryosurgery, optics, tourniquet

Medications

- Prior to start of surgery
- During surgery

Blood

- Ordered units
- Blood Type
- Transfusion equipment
- Units available in the OR

Pathology

- Planned frozen section
- Anticipated change based on results
- Planned specimens
- Receiving Laboratory

**25% reduction
in mishaps
during
surgery**

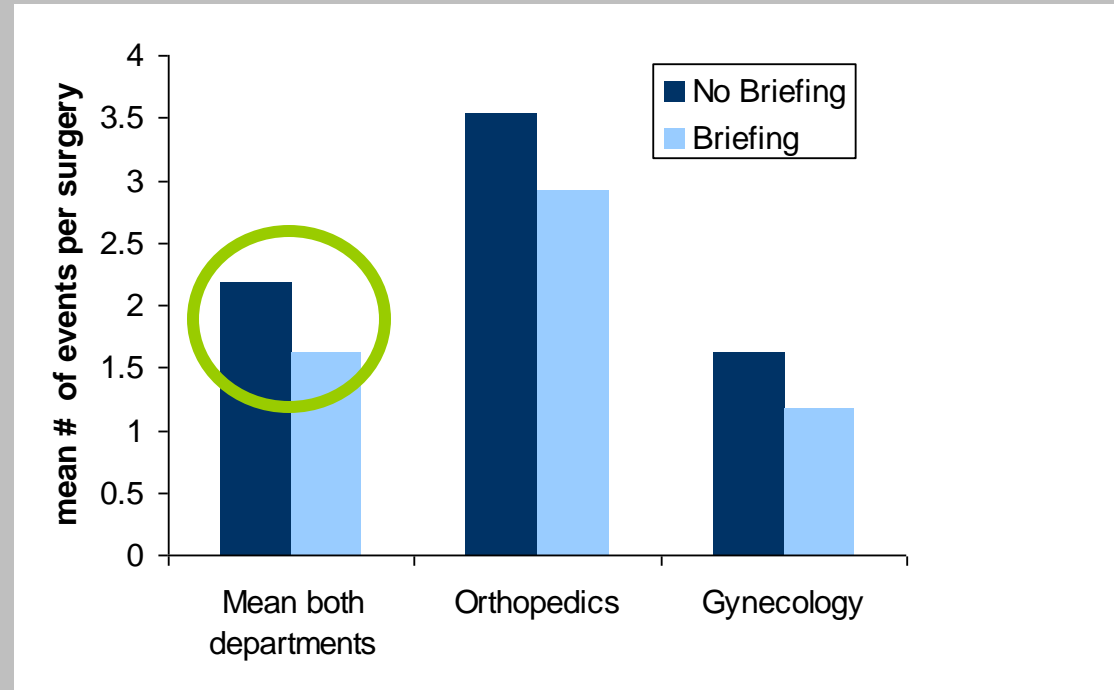


Figure 3 : Mean number of Non-Routine Events per operation with and without a briefing

Healthcare climate: A framework for measuring and improving patient safety*

Dov Zohar, PhD; Yael Livne, MSc; Orly Tenne-Gazit, MSc; Hanna Admi, PhD; Yoel Donchin, MD

Design: measure organizational climate in nursing units, followed by random sampling of patient safety practices in each unit 6 months later.

Setting: Sixty-nine inpatient units in three hospitals that make up the entire tertiary care system in one metropolitan area.

Subjects: A total of 955 nurses.

Interventions: None.

Measurements and Main Results: A two-part Nursing Climate Scale referring to hospital- and unit-level climates, followed by five randomly timed observations of patient safety practices covering routine and emergency care in each unit. Climate scales met the criteria of internal reliability, within-unit agreement, and between-unit variability, using standard statistics of climate research. Both the hospital and unit nursing climates exhibited

the detrimental effect of poor hospital climate. Furthermore, climate's strength increased its predictive power with regard to patient safety practices ($Z = 3.64$ for medication and 2.28 for emergency safety; $p < .01$). The small number of participating hospitals limits organization-level analyses.

Conclusions: The nursing climate identifies units where the likelihood of adverse events is greater or lower than the hospital's average. Such information can guide prevention efforts in selected units. These data encourage the development of additional climate subscales subsumed under the healthcare climate model (e.g., physicians subclimate). (Crit Care Med 2007; 35:1312-1317)

Key Words: safety culture; human factors engineering; nursing

The last decade, starting with the 1996 Annenberg Conference, witnessed repeated calls for improving patient safety by replacing individual blame with greater ownership and accountability at all levels. Much of the ensuing action focused, however, on administrative and technical issues such as development of patient safety units and redesign of systems and jobs according to ergonomic and cognitive psy-

chology principles (1-4). The bigger organizational framework has been largely left out. However, disappointing results of the patient safety movement reiterate the need to augment current activities with organization-level change (5).

The introduction of the concept of "safety climate" was first used to improve safety in various high-risk sectors. It was shown by us that whenever the safety climate level was high in a variety of manufacturing or service units performing high-risk operations, the number of safety mishaps and absence days from work was minimal (6, 7).

The concept of safety climate represents shared employee perceptions of the priority of safety at their unit and the organization at large, especially in situations where safety competes with other performance facets such as care speed or its quality.

Recognition of the importance of safety climate has led to the development of several scales in the healthcare sector (8, 9). However, the available scales over-

look several unique attributes of healthcare organizations, which are taken into consideration in the scale we developed. First, patient safety must be differentiated from staff safety, since management's commitment to either one of them is not necessarily the same. Second, a separate patient safety scale has to be developed for each professional group in the hospital, since their managements' priorities (which underlie organizational climate) regarding patient safety may be different. Therefore, healthcare climate should be conceived as a cluster of profession-specific subclimates.

Climate scales should also reflect recent advances in organization climate theory and methodology. The first issue concerns climate as a multilevel construct. This is based on recent research indicating that, because the implementation of policies and procedures in individual subunits requires substantial interpretation, there is significant variation in term of enacted policies across the organization (6, 10). Consequently, the prior-

*See also p. 1429.

From the Faculty of Management, Technion Institute of Technology, Haifa, Israel (DZ, YL, OTG); Ramat Hashikma Medical Center, Haifa, Israel (HA); and Hadassah Medical Center, Jerusalem, Israel (YD).

Supported, in part, by the Graduate School of the Technion Institute of Technology and by the Research Center for Human Factors and Occupational Safety, Technion, Israel.

The authors have not disclosed any potential conflicts of interest.

For information regarding this article, E-mail: dzohar@tx.technion.ac.il

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DOI: 10.1097/01.CCM.0000262404.10203.09

Conclusions: The nursing climate identifies units where the likelihood of adverse events is greater or lower than the hospital's average. Such information can guide prevention efforts in selected units. These data encourage the development of additional climate subscales subsumed under the healthcare climate model (e.g., physicians subclimate). (Crit Care Med 2007; 35:1312–1317)

KEY WORDS: safety culture; human factors engineering; nursing





“not enough money is being spent on safety, so be careful .”

Take home message

we can change both the conditions under which health care professionals work and change their behavior to make them less error provoking.

Take home message

we can change both the conditions under which health care professionals work and change their behavior to make them less error provoking.

Creating safety climate and safety culture is our mission

OUR = ALL that serve in the health system from the head of the organization to last worker.



THANK YOU

