



Evidenced-based Teaching: Gaming

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Evidenced Based Teaching Strategies

- ▶ Goal of learning:
 - ▶ Facilitate change in learners
 - ▶ Encourage discovery leading to critical thinking
 - ▶ Facilitate self-directed activities
 - ▶ Teaching strategies that are evidence-based
 - ▶ Actively engage learners
- ▶ Despite above, lecture-based teaching remains top strategy used

(Breytenbach, Ham-Baloyi, & Jordan, 2017)

Evidenced-based teaching strategies

▶ 8 Evidenced-based teaching strategies

- E-learning*
- Concept mapping
- Internet-based learning *
- Web-based learning *
- Educational/ computer gaming *
- Problem-based learning (PBL)
- Case study
- EB interactive strategies

Breytenbach et al. (2017)

▶ 7 meaningful & engaging teaching strategies

- ▶ Technology & on-line teaching *
- ▶ Simulation *
- ▶ Gaming
- ▶ Art teaching
- ▶ Narrative teaching
- ▶ Problem-based teaching
- ▶ Reflection teaching

Crookes et al. (2013)

Focus on Gaming

Enhanced learner experience

- ▶ Interactive
- ▶ Competitive
- ▶ Promotes teamwork
- ▶ More meaningful for learners
- ▶ More enjoyable-better learning retention
- ▶ Can simulate real-life situations
- ▶ Allows for incremental milestone attainment
- ▶ Motivation

Purposes for game-based teaching

- Bridge the gap between theory & practice
- Disseminate new information
- Reinforce/Review learning outcomes
- Challenge learners to think more critically
- Influence/ persuade decision
- Practice decision making
- Skill practice (communication)
- Data collection: research & innovation

(Breyenbach et al., 2017; Crookes et al., 2013; Davidson & Candy, 2016; De Lope & Medina-Medina, 2016)

Types of Gaming

- ▶ Computer-based gaming (individual)
 - ▶ Quest-based learning (Davidson et al., 2016)
- ▶ Internet-based gaming/ competitive (Davidson et al., 2016)
- ▶ Board Games (Yoon, Rodriguez, Faselis, & Lippis, 2014).
- ▶ Card Games
- ▶ Team-based games
 - ▶ Debate
 - ▶ Mock Trials
 - ▶ Game Show
 - ▶ Power point games

Gaming in healthcare education

- ▶ Language teaching
- ▶ Sex education
- ▶ Inter-professional communication
- ▶ Addiction prevention in adolescents

(De Lope & Medina-Medina, 2016)

Barriers to the use of gaming

- ▶ Technology (NLN, 2015)
 - ▶ Competence/ confidence of educator
 - ▶ Time to create and practice
 - ▶ Cost
 - ▶ Accessibility
- ▶ Low technology
 - ▶ Same as above except accessibility

Gaming to learn EBP

- ▶ Quest type of computer based gaming
 - ▶ TED Talk information introduction
 - ▶ Quest badges earned for completion of milestones
 - ▶ Learners compete against each other
 - ▶ (Davidson et al., 2016)
- ▶ Board Games to teach EBP for CAUTI reduction
 - ▶ Practical knowledge application
 - ▶ Can be used in fair type of venue or in a classroom
 - ▶ (Crookes et al., 2014)
- ▶ Card Games
 - ▶ Used to learn new knowledge
 - ▶ To reinforce learning in lieu of quizzes....

Team Dynamics: Shared Mental Model

- ▶ Characteristics of highly effective teams:
 - ▶ Known to each other
 - ▶ Worked previously together
 - ▶ Practiced as a team
 - ▶ Need a shared objective or goal –Shared vision
 - ▶ Communicate effectively



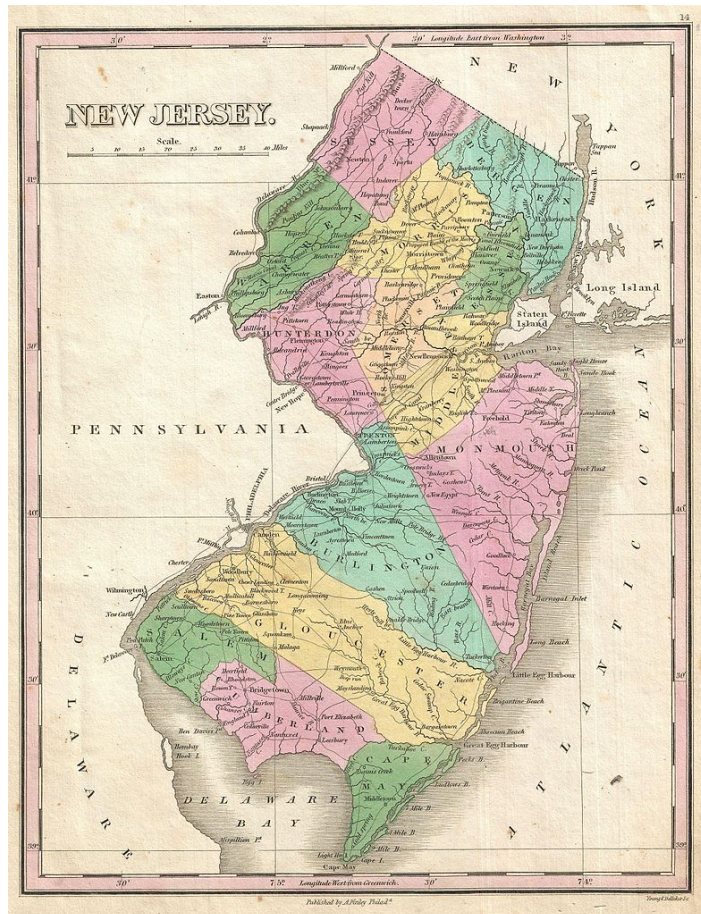
- ▶ Shared mental model –explains the framework for highly effective teams

(Espevik, Johnson, & Eid, 2011; Lancaster, Westphal, & Jambunathan, 2015; McComb & Simpson, 2014; Razzouk & Johnson, 2013; Takahashi & Saito, 2013).

Gaming/ Team-based learning

HOW CAN THIS BE APPLIED
TO LEARNING EBP?

The PICO Question



A well-constructed PICO question serves as a roadmap to research and EBP



Pre-quiz: Which of the following refers to the “P” in PICO?

A.

Medication
Education

B.

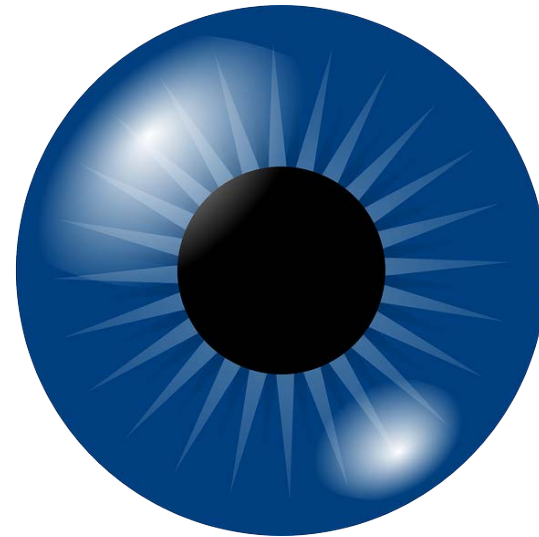
Reduced
Infection Rates

C.

Pre-teen mothers
in rural
communities

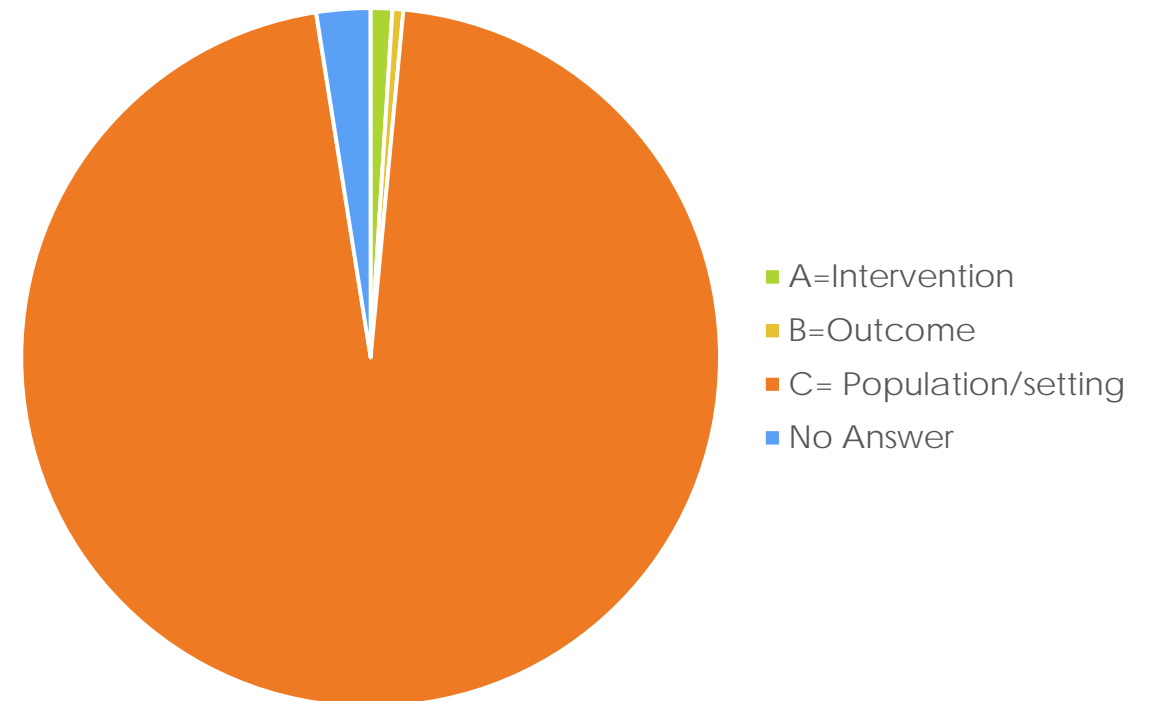
Scanning for the answer.....

- ▶ Hold your "A" Card, "B" card, or "C" card over your head
- ▶ We will scan your answers....



P= Answer C
Population/
Problem/
Setting

Answer



PICO: A well constructed question

- ▶ Population/ Problem
- ▶ Intervention
- ▶ Comparison
- ▶ Outcome



Asking a PICO question

- ▶ **P:** Patient/Population/Problem – specific/ focused (age, sex, setting, ethnicity, condition, disease, type of patient, or population)

Asking a PICO question

- ▶ **I:** Intervention or change which is of interest.
Treatment, medications, education,
diagnostic tests or best practice

Asking a PICO question

- ▶ **C:** comparison with other interventions or current practice
- ▶ different treatment, placebo or control group – absence of risk factor or condition.
- ▶ What is the main alternative?

Asking a PICO Question

- ▶ **O:** Outcome: written in measurable terms, expected outcomes based on the intervention identified, e.g., decrease in fall rate, decrease in length of stay, increase in patient satisfaction.
- ▶ desired measure, improvement in condition, (BP, Pulse), length of stay, quality of life, decreased mortality

Asking a PICO Question

- ▶ **T:** Time is another factor identified by Dr. Koshar. What is the time it takes to demonstrate the outcome after an intervention is initiated?

Hastings, C. & Fisher, C. A. (2014). Searching for proof: Creating and using an actionable PICO question. *Nursing Management*, 45(8), 9-12. doi: 0.1097/01.NUMA.0000452006.79838.67.

Guide to Creating a Strong PICO Question

*Among (what patient/group
population/problem)_____*

Does (Intervention) _____

Compared to or versus _____

Will the (outcome) _____ be observed

PICO Questions

- ▶ What patient's do best after LVAD for end stage HF?

LVAD



1864


- ▶ For patients (50-70 years) with end stage HF undergoing LVAD, do patients with family members as caregivers have a better quality of life?

LVAD with Family




19


Pubmed search: LVAD




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4.

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[Related citations](#)

☐ [Head/Neck left ventricular assist device implantation through bilateral anterior thoracotomy.](#)

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LVAD[All Fields] AND
("family"[MeSH Terms]
OR "family"[All Fields])

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LVAD with family (19)

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LVAD (1864)

PubMed

Left ventricular assist devices: an evidence-

Pe

A

PICO Criteria

- ▶ Population
 - ▶ Intervention
 - ▶ Comparison
 - ▶ Outcome
 - ▶ Time
- ▶ HF, 50 – 70 years of age
 - ▶ LVAD for end stage HF
 - ▶ Patients with family members as caregivers and patients without family caregivers
 - ▶ Quality of life
 - ▶ Within three months of the LVAD

Post-quiz: Which of the following refers to the "I" in PICO?

A.

Hemodialysis
patients in the
outpatient
setting

B.

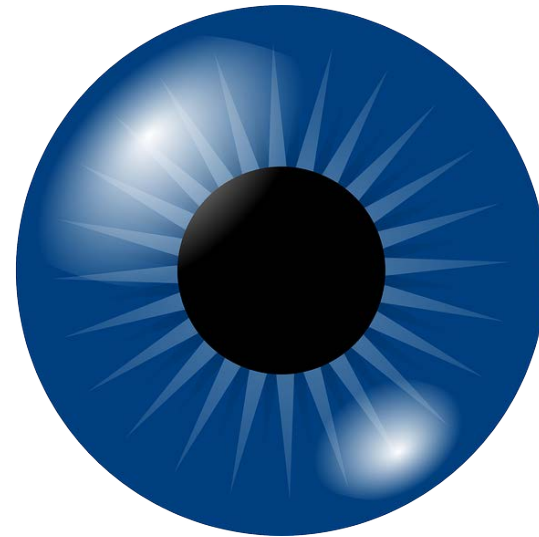
Chlorhexidine
bathing

C.

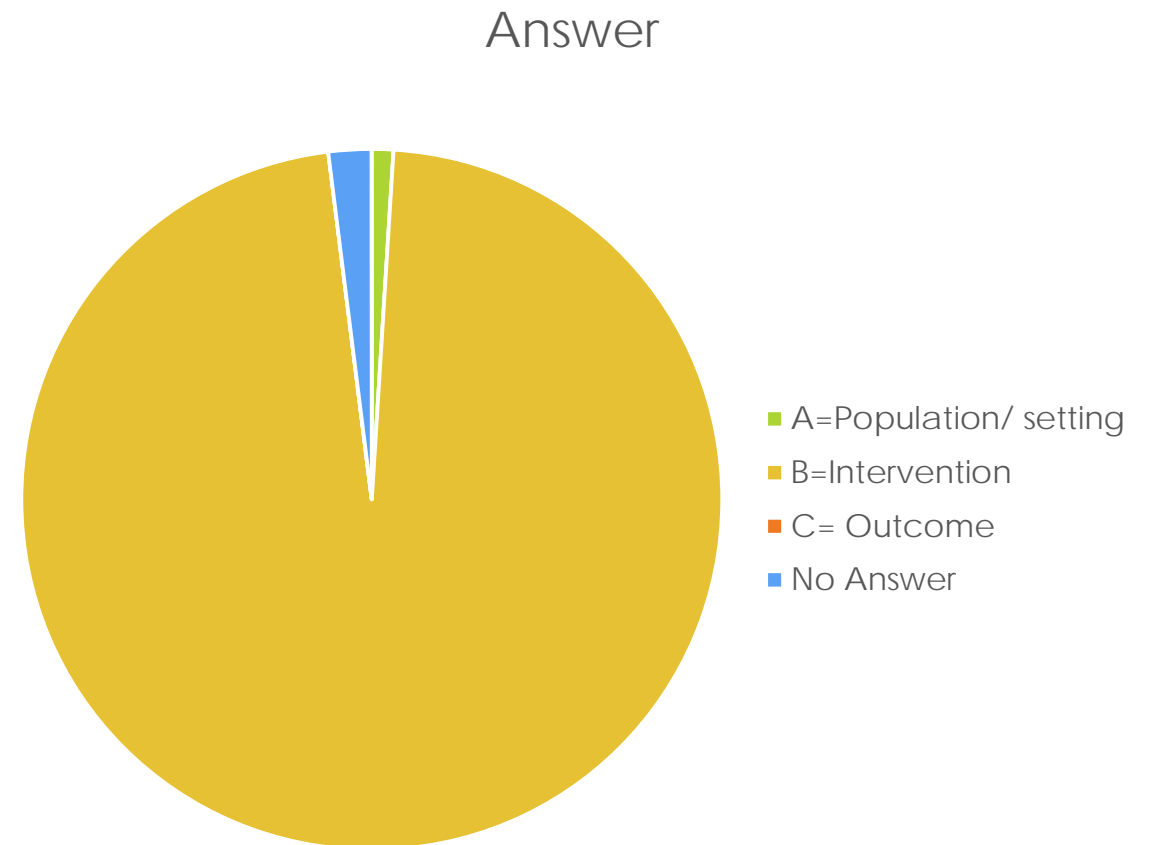
Catheter
associated
blood stream
infections

Scanning for the answer.....

- ▶ Hold your "A" Card, "B" card, or "C" card over your head
- ▶ We will scan your answers....



P= Answer B
Intervention



How to play the PICO Game

- ▶ Everyone is issued an envelope with either P, I C, or O
- ▶ Please locate 3 partners to pool your knowledge
- ▶ Once you assembled team: Please share name, place of employment, and one interesting fact about self
- ▶ Create a name for your team
- ▶ Now pick your leader!
- ▶ Leader assigns roles: Scribe, Communicator, Runner, & Leader

Send the runner to collect game

- ▶ Place your team name on the top of the scenario form
- ▶ Piece together some strong PICO questions to match with scenarios
- ▶ Write down a well-formulated PICO question for each scenario
- ▶ Once complete, send leader up to submit answers

PICO question development

- ▶ Individually and in group brainstorm a burning question from your practice
- ▶ Work as a team to formulate one or more PICO questions
- ▶ Share your question....
- ▶ Text to # 973-309-6270
- ▶ Take selfie of team with question as picture title and text to self & team

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