Session Title: **Teaching Clinical Efficiency: Tapping into a Learner's Full Potential**

Session Track: Best Practices

Session Date/Time: 4/2/2019, 8:25:00 AM - 8:50 AM

Session Faculty:

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Course Description:

Workflow efficiency is a term that most ED physicians understand, but without a preset clear definition. Venugopal et al.'s group previously defined efficiency as the "ability to manage multiple ED patients through multi-tasking and strategic interventions, expedite treatment and disposition decisions without compromising safety, quality of care or documentation." In this presentation, we discuss the various ways efficiency is defined, the literature evaluating it, and offer up some examples of how efficiency can be taught.

Goals & Objectives:

At the end of this session, participants will be able to:
1. Define clinical efficiency and discuss relevant literature supporting it
2. Describe strategies for assessing clinical efficiency in residents
3. Offer up examples for incorporating teachings on efficiency into curriculum

Conflict of Interest:
No conflict of interest to report

Lecture Outline:

1. Defining Efficiency
    a. Accreditation Boards
        i. Neither the ACGME (in their core competencies) nor the ABEM clearly define or require evaluation for efficiency

ii. Of the ACGME core competencies, efficiency can possibly be combined within the categories of systems-based management (via healthcare delivery flow) and patient care (via multitasking and task switching Milestone PC8).

b. Literature on Efficiency
    i. There are many synonyms used to describe efficiency in the literature, including proficiency, productivity, resourcefulness and skillfulness
    ii. Various studies of efficiency look most commonly at time-motion studies (via observation, foot traffic and self reporting):
        1. Various time-motion studies looking at time spent doing tasks in the ED as well as other studies looking at all hospital floors and even ENT clinic/operative days
        2. These studies look at how the day is spent to target improving the largest percentaged of activity time
        3. Even when activities are identified as important and occupying much of health care providers time, it is difficult to direct these individuals how to do it "better"
    iii. Other studies performed simulations/workshops/scenarios and utilize behavior interviews to look at some aspect of efficiency.
    iv. Overall there exists a paucity of literature looking solely at efficiency in the ED setting

2. Measuring Efficiency
    a. Literature Measurements
        i. Studies trying to evaluate efficiency look at different markers, including:
            1. Patient numbers and RVUs
            2. Patient acuity level (using admission rates)
            3. Task-switching ability using various tools
            4. Electronic Health Record (EHR) usage proficiency and documentation time
            5. Self-perceived conceptualized framework to multi-patient scenarios
            6. Behavior patterns and relations with other team members/consults
    b. Program measurements
        i. Depending on the program and practice setting, gathering variables to measure efficiency in residents can be difficult to achieve. Evaluations often focus on lower hanging fruit such as medical knowledge and professionalism, while efficiency is more difficult to measure and assess
    c. Ideal measurements
        i. Ideally having one-on-one observation on shift by evaluating attendings can yield the highest quality data on a residents' efficiency.

3. Teaching Efficiency
    a. Very little evidence exists defining how to teach efficiency
        i. Only one study we found in the literature looked at actual teaching of efficiency
            1. A Workshop To Improve Workflow Efficiency, (Venugopal R. et Al: CJEM. 2008;10(6):525-31)

2. This group taught 4 modules
    a. Acute Care
    b. Minor Care
    c. Charting
    d. Communication/signout
3. When polled, the authors found the education was felt to be "Definitely helpful" or "helpful" by almost all when asked

ii. Didactic lectures may help improve efficiency but no hard numbers to prove it in any study.
iii. Small group/workshops focus on individual needs so can specifically poll learners where they want to improve and deliver targeted suggestions
iv. Simulation has been used to look at task switching
    1. Smith D, Miller D, Cukor J. West JEM, 17(2):149-52
    2. Task switching is identified as a Core Competency for EM by the ACGME (Milestone PC8 in EM)
    3. Simulation was used where the authors asked the resident to manage a sepsis case. Residents were then given a STEMI EKG to read and triage
    4. The authors looked at how many sepsis patients got adequate care and how care was directed for the STEMI patient
    5. The evidence is unclear from this study, at least for task-switching when comparing PGY years. (There was no statistical difference in the care delivered for PGY 1's, 2's and 3's)
    6. Need a larger study to look at more residencies

b. Ideal teaching
    i. Apprenticeship via modeling of efficient behaviors by seasoned attendings would be the most appropriate way for residents to learn efficiency
    ii. Can use many settings such as role playing in the classroom, simulation or the ED itself
    iii. Using a Think-Aloud protocol residents are given purvue to what attendings are trying to do while working clinically or managing simulation cases. This may be the best way for residents to comprehend attnding efficiency

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