Upcoming 2020 Meetings

• InVest 2020 – St George’s University, May 1-3
• IAMSE – Denver, CO, June 13-16 (Abstracts due December 1, 2019)
• VEC – Kansas State University, June 21-23
• SEVEC – VetEd Bootcamp v2; NC State University, July 20-21
• AMEE-sept 4-9 Glasgow, Scotland, September 4-9 (Abstracts due February 6)

Educational Grant Opportunities

• IAMSE Educational Scholarship and Curriculum Innovation Grants - Due January 15, 2020
• CIVME International Grants – Due January 15, 2020
Evidence-based Clinical Teaching: What do we know? What can we know?

India Lane
Master Teacher Program
November, 2019
What did you hear?
Objectives for Today

• Review a sampling of recent literature related to clinical teachers, the clinical learning environment and clinical teaching strategies
• Consider how results inform our practice
• Consider current and future methods for studying clinical teaching and learning
What is “Good?”
Four Key Roles of the Clinical Teacher

- Medical Expert
- Intentional Role Model
- Practice Supervisor
- Practical Teacher

Ullian, 1994
The Effective Office-Based Teacher

- Communicates expectations
- Stimulates interest with enthusiasm
- Involves learner in teaching process
- Interacts skillfully with patients
- Role models desired behaviors
- Involves the learner
- Limits the teaching points
- Gives feedback

Meta-analysis (n=68 citations)

- Medical Knowledge
- Clinical and Reasoning skills
- Relationships; Learning Environment
- Communication: Listening and Asking Questions
- Enthusiasm

Sutkin, et al, Academic Medicine, 2008
Additional Features

- “Teacher identity”
- Dedication to vocation
- Humanistic and relational approach
- Rapport with patients
- Clear personal value system

Literature summarized by Molodysky, Sekelija & Lee, 2006
What about Learning?
Perceptions of Nursing Students (n=240)

Clinical Teaching Behaviors with the Greatest Influence on Learning

Kube M, 2010
Perceptions of Nursing Students (n=240)

Clinical Teaching Behaviors with the Greatest Influence on Learning

Kube M, 2010
What were these behaviors?

36  Is approachable
47  Appears organized
35  Provides support and encouragement
28  Provides frequent feedback
9   Well prepared for teaching
37. Encourages mutual respect
38  Listens attentively
27  Makes suggestions for improvement
2   Emphasizes what is important
26  Good role model

Kube M, 2010
More from Nursing

• Nursing students selected characteristics “imperative for effective clinical training”
  – Tops were categories of competence and student evaluation
  – Instructional skills and interpersonal relationships were next
  – Lowest was non-teaching related personality traits

• Then were asked to describe best teachers they encountered – the best weren’t perfect on all imperative points!

Benor & Leviyof; 1997
Early medical students’ perceptions of effective preceptors gleaned from learning journals

(1) Demonstrates professional expertise
(2) Actively engages students in learning
(3) Creates a positive environment for teaching and learning
(4) Demonstrates collegiality and professionalism
(5) Discusses career-related topics and concerns.

(n=120 journals over 2 months)

Reference:
What about veterinary students?
Veterinary Clinical Role Models

- Exemplary Knowledge and Skills
- Good Communicators
- Managed time well
- Teachers/explainers
- Respected clients, pets, staff, colleagues, students

Schull et al, JVME, 2012
Concerns of preclinical veterinary students

- Anxiety about performance, mistakes, faculty and environment
- Anxiety about asking and answering questions
- Performing skills with little prior practice
- Hope for relevance and integration with preclinical studies
- Desire for specific and immediate feedback

Stone et al, J Ethno Qual Res, 2017
The Hidden Curriculum of Veterinary Education: Mediators and Moderators of Its Effects

Carrie A. Roder, Stephen A. May

Mediators

- Service organization
- Assessment

Moderators

- Role models
- Student group
Communication, Primary Language, and Clinical Learning

Exploratory factor analysis of surveys (n=71)

• Communication ability due to language - significant difference based on primary language spoken

• Concern about comprehending and contributing to clinical conversations: NOT significantly different based on language
  
  • e.g. misinterpreting, taking longer to process, understanding clinicians, being understood by clinicians

King et al.; JVME, 2019
What is a “Good Environment?”
Clinical Learning Environment Review and Reports Domains (ACGME)

Patient Safety
Quality improvement
Supervision
Transitions (Handoffs/Transfers)
Fatigue management (mitigation, duty hours)
Professionalism

acgme.org
The Exemplary Clinical Learning Environment

**Personal**
- Personal growth and goal direction
- Engagement and emerging autonomy
- Identity formation
- Resilience, well-being

**Social**
- Scaffolding relationships with others
- Becoming part of a community
- Interactions for teaching, learning, patient care

**Physical & Virtual Spaces**
- Adequacy of physical space for learning and practice
- Adequacy of virtual space for online learning

**Organizational**
- Organizational culture, practices, policies
- Curriculum resources, structure, placements
- Accreditation rules
- Information technology infrastructure

Gruppen, Irby, Durning and Maggio, 2019
Interventions Designed to Improve the Learning Environment in the Health Professions: A Scoping Review

Larry Gruppen[1], David M. Irby[2], Steven J. Durning[3], Lauren A. Maggio[3]

**Corresponding author:** Prof Larry Gruppen lgruppen@umich.edu  
**Institution:** 1. University of Michigan Medical School, 2. University of California, San Francisco, 3. Uniformed Services University  
**Categories:** Curriculum Planning, Education Management and Leadership, Educational Strategies, Educational Theory
Evidence: Clinical Learning Environment (LE)

• Features associated with positive LE
  – More time in direct patient contact
  – Consistent supervisor
  – Mid block assessments
  – Smaller hospitals, rural/primary care

• Interventions resulting in improved LE
  – Dedicated education units
  – Faculty development
  – Mistreatment, team skills and culture change interventions
What difference does it make?
What about Examination Scores?

• Students exposed to good teachers had higher clerkship performance score, and NBME medicine subject exam, USMLE

• Higher exam performance among students in smaller rural hospitals and among small cohorts

• Higher local exam performance for residents in a setting with more academic support
What about Patient and Practice Outcomes?

• Residency environment somewhat associated with surgical complication rate, appropriate antimicrobial prescribing, quality of future practice (CLER reviews)
• Patient perception of safety and doctors’ communication, explanations associated with some elements of LE in large Dutch study (Smirnova, 2019)
Clinical Learning Environment – Some challenges

• Resident duty hour restriction seen as negatively impactful

• Scattered reports:
  – Association with negative infant outcomes in one large OB/GYN study
  – Associated with slower attention to pain management in one patient survey
What about teaching strategies”
Clinical Teaching Models

- One-minute preceptor
- SNAPPS
- miPLAN
- Aunt Minnie
- ED STAT!
In-block resident training in One-Minute Preceptor Model improved ratings of instruction

Furney et al, J Gen Int Med 2001

Mean Change in Student Ratings

N= 28
N= 29

Items
In-block resident training in One-Minute Preceptor Model improved ratings of instruction

– Self-ratings and Mean teaching scores improved in all domains except overall teaching effectiveness

– Statistically significant higher change in score for
  • “involved me in decision making”
  • “offered suggestions for improvement”
  • “Evaluated my knowledge”
  • “Gave frequent feedback”
  • “Motivated me to do extra reading”

– Similar results reported for a faculty workshop
  • Particularly feedback
What about SNAPPS?

• Compared one-minute preceptor and SNAPPS using single simulated case
  – SNAPPS was perceived by learning residents as easier to use for case presentation
  – SNAPPS was observed to facilitate expression of questions and uncertainty

• Other studies have illuminated SNAPPS value in uncovering clinical reasoning and student uncertainty

More areas of study

• Case Presentations
• Feedback
• Skill development and mastery
So does faculty development really help?
Kirkpatrick’s Model

Level 1: Reaction
- Did the learners enjoy the training?

Level 2: Learning
- Did learning transfer occur?

Level 3: Impact
- Did the training change behaviour?

Level 4: Results
- Did the training influence performance?
What’s in it for me?
Benefits to instructors?

Long term qualitative study of faculty teaching in preclinical skills labs

- Keeping skills sharp
- Recognizing short cuts
- Awareness as role model
- Explicit deconstructing of skills and diagnoses
- Mindfulness

Special Report

Evaluation of team effectiveness and personal empathy for associations with professional quality of life and job satisfaction in companion animal practice personnel

Team effectiveness and work environment influenced quality of professional life, job satisfaction, burnout in veterinarians

Pizzolon, Coe and Shaw; JAVMA, 2019
Factors Associated with Veterinary Clinical Faculty Attrition

Martin Furr

• Workplace and departmental environment impacts veterinary clinical faculty retention
Conclusions?