

EXCELLENT CLINICAL TEACHING: DOES IT REALLY MATTER?

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Selected References

OUTCOMES OF TEACHING

Blue AV, Griffith CH, Wilson JF, Schwartz RW, Sloan DA. Surgical Teaching Quality Makes a Difference. *Am J Surg.* 1999; 177: 86-89.

-Students who worked with the on-the-average higher rated surgery attendings did better in NBME surgery exams; those who worked with lower-rated surgical faculty did worse on data-gathering OSCE stations.

Griffith CH, Haist SA, Ramsbottom-Lucier M, Wilson JF. Relationships of How Well Attending Physicians Teach to their Students Performance and Residency Choice. *Acad Med.* 1997; 72: 5118-5126.

-Students working with “best” (top 20%) attendings had greater increases in pre-to-post clerkship exam scores

Griffith CH, Haist SA, Ramsbottom M, Wilson JF. Do Students Who Work with Better House staff in Their Medicine Clerkship Learn More? *Acad Med.* 1998; 73; S57-S59

--students who worked with “worst” (bottom 20%) residents perform worse on NBME Subject Exam in Medicine and USMLE 2; “best” intern exposure associated with better practical exam scores, “worst” intern exposure with lower score. “Best” attending exposure associated with higher NBME Subject Exam Scores and USMLE II.

Georgeson JC, Griffith CH, Wilson JF. Specialty Choice of Students who Actually Have A Choice: The Influence of Excellent Clinical Instructors. *Acad Med.* 2000; 75: 278-282.

-for “excellent” medical students (those in the top 30% of USMLE I Scores), those who worked in their medicine clerkship with one highly rated attending or resident teacher were much more likely to select a medicine residency versus students without such an exposure (9/29 chose IM with exposure, 0/23 without exposure).

Georgesens JC, Griffith CH, Wilson JF. Six-Year Documentation of the Association Between Excellent Clinical Teaching and Improved Students' Examination Performances. *Acad Med.* 2000; 75:S62-64.

-Even stronger findings in the six year study: Controlling for prior academic achievement with USMLE I Scores, students who worked with the "best" clinical teachers scored significantly higher on their post-clerkship NBME exam (491 vs. 463: effect size 0.3 S.D.) and on USMLE 2 (207 vs. 199, effect size 0.4 S.D.)

Pangaro L, Roop SA, Effect of Clinical Teaching on Student Performance during a Medicine Clerkship. *Am J Med.* 2001; 110: 205-209.

-replicates our findings at USUHS
-residents had the most effect on student improvement.

Gill A, Grum CM, Gruppen LD, Stern DT, Williams BC, Woolliscroft JO. Is there a Relationship Between Attending Physicians' and Residents' Teaching Skills and Students' Examinations Scores? *Acad Med.* 2000; 75: 1144-116.

Answer: yes; replicates our findings at Michigan

EVALUATING TEACHING

Ambrozy DM, Bowen JL, Burack JH, Carline JD, Irby DM, Stritter FT. Role Models Perception of Themselves and Their Influences on Students Specialty Choices. *Acad Med.* 1997; 72: 1119-1121.

-student-identified role models at UNC, U Wash were more junior, rural, private practice; enthusiastic, loved what doing 86% feel they influenced career decisions

Cohen R, Jamieson C, MacRae H. Teaching Effectiveness of Surgeons. *Am J Surg.* 1996; 171: 612-614.

-good/average teachers had stable ratings over 10 years
-Poor teachers improved
-Decreased rating post academic promotion

Irby DM. How Attending Physicians Make Instructional Decisions When Conducting Teaching Rounds. *Acad Med.* 1992; 630-638.

-emphasizes importance of substantial planning before rounds, and "content-specific curriculum scripts" for instruction; and use of Improvisation and interactive thinking and decision making

Irby DM. What Clinical Teachers in Medicine Need to Know. *Acad Med.* 1994; 333-342.

Excellent descriptive article of observed behaviors of excellent clinical teachers: they focus on “case-based” learning scripts (i.e. from their experiences of learner situations. They hear a presentation, and know which question to ask on a certain patient-type; therefore, content-expertise not enough, need to have exposure to students of a certain level and certain patient types).

Irby DM. Teaching and Learning in the Ambulatory Care Settings: a Thematic Review of the Literature. *Acad Med.* 1995; 70: 898-931.

-the seminal review article on this topic.

Irby DM. Clinical Effectiveness in Medicine. *J Med Educ.* 1978; 53; 804-815.

-Compared Student reports of behaviors of “best” versus “worst” teachers; best were rated high because of good instructional skills, worst because of personality defects

Lazaridis EN, Litzelman DK, Marriotti DJ, Skeff KM, Stratos GA. Beneficial and Harmful Effects of Augmented Feedback on Physicians’ Clinical Teaching Performances. *Acad Med.* 1998; 73: 324-332.

- After mid-month feedback (inpatient setting;? therefore, how anonymous?), poor baseline teachers deteriorated with feedback, vs. good teachers improved (in interaction-analysis)
-One of the only RCTs in this area

Marcdante KW, Simpson D. How Pediatric Educators Know What to Teach: the Use of Teaching Scripts. *Pediatrics.* 1999; 104: 148-150.

-replicates in pediatrics that excellent teachers rely on tried-and-true (from Knowledge of learners) teaching scripts, that content expertise is not enough.

Litzelmann DK, Marriott DJ. Students Global Assessments of Clinical Teachers: a Reliable and Valid Measure of Teaching Effectiveness. *Acad Med.* 1998; 73: 572-574.

-overall teaching item equivalent to 7 constructs of SFDP validity scale form; 5 evaluations to achieve reliability of >.80.

Paukert JL, Richards BF. How Medical Studies and Residents Describe the Roles and Characteristics of Their Influential Clinical Teachers. *Acad Med.* 2000; 75: 843-845.

-students value role model behaviors the most; residents value effective

supervisor skills the most

Peterson HR, Pfeiffer MP. The Influence of Student Interest on Teaching Evaluation. *J Gen Intern Med.* 1991; 6: 141-144.

-Student interest in a discipline doesn't affect their evaluation of teachers

Irby DM, Pinsky LE. "If at First You Don't Succeed". Using Failure to Improve Teaching. *Acad Med.* 1997; 72: 973-76.

-Description of distinguished teachers failure in 3 domains: planning (misjudging learners, lack of preparation, presenting too much content, lack of purpose, audiovisual difficulty); teaching (inflexibility of single teacher method); reflection (selecting wrong teaching strategy, incorrectly implementing sound strategy)

Irby DM, Monson D, Pinsky LE. How Excellent Teachers are Made: Reflecting on Success to Improve Teaching. *Advance in Health Sciences Education.* 1998; 3: 207-215.

-48 distinguished instructors reflect on successes (i.e. involving learners, continue innovating, creative positive atmosphere, preparing adequately, engaging learners, limiting content, reflecting on action).

Baxley EG, Bogdewic SP, Cleghorn GD, Probst JC, Schell BJ. Organizational Environment and Perceptions of Teaching Quality in Seven South Carolina Family Medicine Residency Programs. *Acad Med.* 1998; 73: 887-853.

-Faculty rated higher in setting where organizational climate better and job related stress lower

-Emphasizes importance of setting influencing ratings

Donnelly MB, Schwartz RW, Sloan DA. The Surgical Clerkship: Characteristics of the Effective Teacher. *Med Educ.* 1996; 30: 18-23.

-Role modeling and enthusiasm were central features of high-rated teachers

Elnicki DM, Speer AJ. Assessing the Quality of Teaching. *Am J Med.* 1999; 106: 381-384.

-Good succinct review discussing challenges of evaluating quality of educational process, both teacher and courses

Babbott SF, Hofer TP, Litzelman DK, Lubitz RM, Williams BC. Validation of Global Measure of Faculties Clinical Teaching Performance. *Acad Med.* 2002; 77: 177-80.

-One overall effective teaching item is as reliable and valid as 26 item instruments

Brancati FL, Howard DM, Kern DE, Kolodner K, Wright SM. Attributes of Excellent Attending Physician Role Models. *N Engl J Med.* 1998; 339: 1986-93.

-Predictors of excellent role models were those who spend >25% time teaching, >25 hours/week teaching and conducting rounds when an attending on the wards, stressing doctor-patient relationship in teaching, teaching psychosocial aspects of medicine, and had been a chief resident

* see illuminating letter to editor NEJM 1998; 340: 1598 of common criticism to studying teaching, that's it's just "common-sense"

Beckman TJ, Cook DA, Erwin PJ, Ghosh AK, Mandrekar JN. How Reliable are Assessments of Clinical Teaching? A Review of the Published Instruments. *J Gen Intern Med.* 2004; 19: 971-977.

-Good critical review of teaching evaluation instruments, pointing out areas well-studied (reliability) and areas less well-studied (validity)

Armistead N, Barnard K, Elnicki DM, Lescisin DA, Tulsy A. Students Perceptions of the Effectiveness of Interns' Teaching During the Internal Medicine Clerkship. *Acad Med.* 2001; 76: S8-S10.

-Students at Pitt and West Virginia value intern teaching, especially in the realms of learning climate and understanding/retention

Dolmans DH, van der Vleuten CP, Wolfhagen IH. Long-term Stability of Tutor Performance. *Acad Med.* 1996; 71: 1344-47.

-provocative finding that one student evaluation of a faculty's teaching may be "enough" in terms of reliability if judging performance at or below a cutoff score; otherwise, need about 4 evaluations on 2 occasions

Bardella I, Elnicki DM, Kolarik R. Third-year medical Students' Perceptions of Effective Teaching Behaviors in a Multidisciplinary Ambulatory Clerkship. *Acad Med.* 2003; 78: 815-819.

-four preceptor behaviors significantly associated with overall teaching effectiveness in the outpatient arena: inspired confidence in medical skills, explained decisions, treated students with respect, and provided a role model.

Cooper A, Elnicki DM. Medical Students' Perceptions of the Elements of Effective Inpatient Teaching by Attending Physicians and Housestaff. *J Gen Intern Med.* 2005; 20: 635-639.

-resident behaviors associated with overall teaching effectiveness included: role model (explained most of the variance), being available to students, inspiring confidence in clinical skills, performing effective patient education, and showing enthusiasm for teaching. Attending behaviors were: enthusiasm for teaching, inspiring confidence in clinical skills, providing feedback, and encouraging students to accept responsibility. Interestingly, looking at the subset of teaching attendings who were also the attending of record for the patient, role modeling was the most important attribute, similar to the residents.

Bellini LM, Shea JA. Evaluations of Clinical Faculty: the Impact of Level of Learner and Time of Year. *Teaching and Learning in Medicine.* 2002; 14: 87-91.

-over the academic year, students become less critical and residents more critical in their evaluations of faculty.

FACULTY DEVELOPMENT

Bordage G, Burack JH, Irby DM, Stritter FT. Education in Ambulatory Settings: Developing Valid Measures of Educational Outcomes, and other Research Priorities. *Acad Med.* 1998; 73: 743-50.

-Posits research questions ripe for study in many educational areas
-faculty development questions includes what is the most efficient and effective faculty development method for teachers in the ambulatory setting? How does faculty development improve the learning environment? Etc.

Bergen MR, Berman J, Skeff KM, Stratos GA. Improved Clinical Teaching. Evaluation of a National Dissemination Program. *Arch Intern Med.* 1992; 152: 1156-61

-Seminal report on the Stanford Faculty Development Program
-Faculty self-assessment improved post-course
-Housestaff/student ratings reported to increase post-course; actually was only on some items, unclear how many residents/students per faculty, ratings high pre-and post, and measurement of teaching vague and unclear in text.

Irby DM, Wilkerson L. Strategies for Improving Teaching Practices: a Comprehensive Approach to Faculty Development. *Acad Med.* 1998; 73: 387-396.

-Excellent review, especially emphasizing theoretical basis of faculty Development

Boker JR, Morrison EH, Rucker L, et al. The Effect of a 13-Hour Curriculum to Improve Residents' Teaching Skills: a Randomized Trial. *Ann Intern Med.* 2004; 141: 257-263.

-at Long Beach Memorial medical Center, 62 second year residents randomized to receive a 13 hour teaching skills curriculum had significantly higher teaching evaluations from students, compared to their own historic ratings and to a control group of residents.

Barker LR, Cole KA, Kern DE, Kolodner K, Williamson P, Wright SM. Faculty Development in Teaching Skills: an Intensive Longitudinal Model. *Acad Med.* 2004; 79: 469-480.

-describes the effectiveness of an intense (3.5 hours per week) longitudinal (9 months) faculty development program at Johns Hopkins, with participants rating their teaching skills and confidence much higher after the program, with these feelings sustained over the years (JGIM 2005; 20: 721)

Julian KA, Wamsley MA, Wipf JE. A Literature Review of "Resident-as-Teacher" Curricula: Do Teaching Courses Make a Difference? *J Gen Intern Med.* 2004; 19:574-581.

- a good recent critical review of the literature.

Branch WT, Clark JM, Houston TK, Kern DE, Kolodner K, Levine RB. Teaching the Teachers: National Survey of Faculty Development in Departments of Medicine in US Teaching Hospitals. *J Gen Intern Med.* 2004; 19:205-214.

-39% have ongoing faculty development activities, usually half-day workshops; 26% have no programs whatsoever

Boker J, Friedland JA, Hollingshead J, Morrison Eh, Murata P, Rucker L. Residents-as-teachers Training in US Residency Programs and Offices of Graduate Medical Education. *Acad Med.* 2001; 76: S1-S4.

-Formal instruction in teaching skills occurs in 88% of med-peds programs, 80% peds, 65% IM, 62% psychiatry, 52% family medicine, 38% ob-gyn, 31% in surgery. Note however that surgery programs that do occur are significantly more in-depth and time-intensive than other specialties.

OTHER

Shea S et al. Compensation to a Department of Medicine and its Faculty Members for the Teaching of Medical Students and Housestaff. *N Engl J Med.* 1996; 334: 162-7.

-teaching reimbursed at \$16 per hour, excluding fringe benefits.

Glasscock RJ, Ramsbottom-Lucier M. Financing Medical Student Education in Departments of Internal Medicine. *Am J Med.* 1999; 106: 269-272.

-describes an elaborate Teaching RVU system which for many reasons (good and bad) we didn't adapt here

Fihn SD, Kelly-Hedrick H, Martin DB, Schleyer AM. Effects of the Revised HCFA Evaluation and Management Guidelines on Inpatient Teaching. *J Gen Intern Med.* 2000; 15: 451-456.

-at Washington, attendings reported significantly less teaching time after the HCFA guidelines implemented but their teaching ratings remained high

Carson SS, Humphrey H, Rubin DT, Scoville JF. Effects of Billings and Documentation Requirements on the Quantity and Quality of Teaching of Attending Physicians. *Acad Med.* 2001; 76: 1144-1147.

-at University of Chicago, residents perceived the greatest impediment to teaching was attendings documenting rounds.

Jagsi R, Shapiro J, Weinstein DF. Perceived Impact of Resident Work Hour Limitations on Medical Student Clerkships: a Survey Study. *Acad Med.* 2005; 80: 752-757.

-at Harvard, no difference in time with residents by students after work hour limitations, and IMPROVEMENTS noted in residents teaching and availability

Bellini LM, Kogan JR, Shea JA. The Impact of Resident Duty Hour Reform in a Medicine Clerkship. *Acad Med.* 2007; 79: S58-S61.

-at Penn, no difference noted by students in student activities, including educational time.