CUMMING SCHOOL OF MEDICINE

Clinical Teaching

Does teaching make a clinician a better clinician?
Are better clinicians teachers?

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Funding

- Standing Committee on Continuing Medical Education of the Association of Faculties of Medicine of Canada Fund
- Other support
  - College of Physicians and Surgeons of Alberta
    - Access to and compilation of annual registration data
  - Universities of Alberta and Calgary
    - Compilation of faculty datasets
  - Pivotal Research Inc
    - Created anonymous datasets from PAR data, University and CPSA data

Background

- Practicum experiences are
  - Integral to health professions education and development of competencies
  - Central to professional identity formation
- However, the impact of teaching experiences on the health care professional is
  - Unclear
  - Anecdotal evidence supports teaching to maintain competence and improve patient care

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Background

"But whenever you teach the resident . . . [if] I feel that I am missing something or I am deficient on something, I go back and read on it and then come back and teach them."

— *Lockyer et al., Medical Teacher, 2011*

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Background

- Teaching others is one of the primary ways that physicians keep up.
  - *RCPSC survey 2009; van de Weil, Adv in Health Sci Educ, 2010*
- Resident ratings of clinical excellence correlate with teaching effectiveness.
  - *McGowen, TLM, 2007*
- Teaching can be regarded as a 'burden' slowing down the workplace and raising concerns about patient safety

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Need for the Study

- Relatively few sources of research that address these questions

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Alberta is in a unique position to address the questions

- In mid 1990's, College of Physicians and Surgeons of Alberta recognized the critical nature of providing objective feedback to physicians about observable behaviors from those working with the physician as part of quality improvement processes
- Physician Achievement Review (PAR) Program
  - Multisource feedback (MSF) provides MDs with 360-degree questionnaire feedback data every 5 years from
    - Patients (n =25; 20-40 items)
    - Medical colleagues (n = 8; 30-40 items)
    - Co-workers (e.g., nurses, pharmacists) (n = 8; (20-25 items)
    - Self (identical to medical colleague questionnaire)

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Alberta is in a unique position to address the questions

- Began collecting and providing PAR multisource feedback data in 1999
- Between 1999 and 2011, nearly 11,000 assessments were completed with full involvement and support from the health professionals and patients working with the physician
- 2500 physicians were assessed twice; >700 MDs assessed three times

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Purpose of Study

- To determine whether there was an association between involvement in teaching activities and PAR (multisource feedback) scores from medical colleagues, co-workers (e.g., nurses, pharmacists) and patients.

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Data

- College of Physicians and Surgeons Annual Registration Data
  - % of time MDs spent teaching with patients
- University Academic Appointment Data
  - No appointment, clinical, full-time
- Multisource Feedback (360°) Data
  - Medical colleague, co-worker, and patients
  - Family medicine, medical specialties (medicine, pediatrics, and psychiatry), and surgery
  - MSF scores for scales (e.g., medical colleague) and sub-scales/factors (e.g., communication, professionalism)

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PAR subscales and respondents

	Medical Colleagues (other MDs)	Co workers (e.g., nurses, pharmacists)	Patients
Clinical competence	X	X	
Communication	X	X	X
Professionalism	X	X	X
Humanism & psychosocial	X	X	X
Professional development	X		
Co worker collegiality		X	
Accessibility			X
Office & staff function			X

Inclusion/Exclusion

- MD had to have 2011 College of Physicians and Surgeons of Alberta annual registration data
- PAR data within previous 5 years

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Data Analyses

- Multivariate analysis of variance (MANOVA's) to explore between group differences
  - Independent variables: MD specialty, academic appointment and percent time teaching during clinical care
  - Dependent variables: PAR total and PAR subscale scores from medical colleagues, co-workers, and patients
- Partial eta squared effect sizes to indicate the relative size of the effect
- Tukey's HSD post hoc comparisons to test for differences in PAR scores by
  - (1) academic appointment
  - (2) time spent teaching during patient care

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Results

- Participants:
  - 1831 family physicians, 1510 medical specialists (pediatricians, internal medicine, and psychiatry), 542 surgeons
- Overall finding:
  - Higher PAR scores were related to holding an academic appointment and with more time teaching in patient care and in the classroom.

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Association Between Higher PAR Scores and Teaching Were

- Present for all three specialty groups (family medicine, surgical and medical specialties)
- Present for both teaching data sources
  - College of Physicians and Surgeons annual report data re teaching as percent of clinical time
  - Holding an academic appointment in a Faculty of Medicine
- Most obvious for medical colleague and co-worker scores
  - Patient scores showed few associations with teaching.

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Conclusions

- Large study (nearly 4,000 MDs) with 3 specialty groups and 3 sources of information about MD performance
- Objective evidence that an association may exist between involvement in teaching and clinical performance (using PAR performance data)
- Findings support self-report studies suggesting that teaching may enhance or maintain clinical performance.

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Why might teaching be associated with enhanced clinical performance?

- Engaging in teaching involves more explicit and reflective thinking about the content to be taught
- Clinician educators may be stimulated to self-reflect by learner questions to think about how and what they do in practice

OR

- Most energetic and keen clinicians may be selected for teaching

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If medical colleagues and co-workers could detect differences, why couldn't patients?

- Different questions on patient questionnaire—more focused on communication, professionalism, accessibility and office functioning
- Different rating scales
  - agreement scale for patients (strongly agree/disagree)
  - comparison of this MD with others (amongst the best/worst)
- Higher patient scores resulting in a possible 'ceiling effect'
- Much more heterogeneous in their feedback scores than medical colleagues or co-workers.

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Implications for Medical Profession

- Affirmation to individual clinicians that contributions to learners are associated with their own clinical competence
- Physician maintenance of competence/certification in Canada allows reporting of teaching as part of the information to support continued licensure
  - These results support the use of teaching data as part of the evidence for revalidation

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Implications for All Health Professions

- Reaffirms the importance of engaging health professionals working with the physician to provide feedback
- Identifies need for studies that specifically
  - Examine associations between teaching and professional (clinical) work within other professions
  - Examine associations between the quality of care provided in inter-professional workplace settings and teaching when team members provide feedback data within the 'team' to enhance each other's performance
- If this work can be replicated in other health professions and demonstrates the quality of work by those who teach
  - Need to build teaching into job descriptions, performance assessment, workplace expectations and recognition systems

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Limitations to the Study

- Physician study
- Confidentiality issues precluded an examination of other factors that might have influenced the results
  - Actual specialty group
  - Location of practice
  - Years in practice
  - School of graduation
  - Gender

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Reference and Ethics

- Lockyer JM, Hodgson CS, Lee T, Faremo S, Fisher B, Dafoe W, Yiu V, Violato C. Clinical teaching as part of continuing professional development: Does teaching enhance clinical performance? Med Teach 2015; 30:1-8.

- Ethics approved by:
  - University of Calgary Conjoint Ethics Research Board
  - University of Alberta Human Ethics Review Board

Questions

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