Assessing Pre-Clinical Medical Students' Attitudes Toward Interprofessional Practice

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Assessment and IPE

- Osteopathic pre-clinical students participate in a variety of interprofessional educational experiences.

- Interprofessional practice is a competency of growing interest in osteopathic medical education
  - Impact on patient safety
  - Quality outcomes in ACA
Interprofessional Practice in TCOM Curriculum

- Community Resources Course
- Clinical Medicine Course
- Community Service
- Clinical Communication Skills
- Preceptorship
- Seniors Assisting in Geriatric Education
- Ethics and Professionalism
Increased emphasis on competency in interprofessional team-based practice across all years

How might we assess the outcomes of these educational experiences?

Understanding of Student Doctor’s attitudes towards team practice and the physician’s role may be key to understanding the effectiveness of various educational interventions
Assessment and IPE

- Validated instruments?
  - Attitudes Toward Health Care Teams (ATHCT)
    - Original: Heinemann, et al., 1999
  - Readiness for Interprofessional Learning Scale (RIPLS)

Heinemann, et al. (1999) had samples consisting of existing team members (e.g., Phase 3 sample was a “large, diverse national sample of health professionals working on four types of geriatric health care teams”).

Hyer, et al. (2000) had samples consisting of “student trainees” who were defined as “a physician, nurse, social worker, pharmacist, or allied health graduate student currently in a graduate, educational program”
ATHCT Scale

- ATHCT items measure self reported attitudes, beliefs and opinions toward collaborative teamwork in health care work groups
  - Response scale: 6-point, Likert-like (strongly agree to strongly disagree)
- May be used as a research tool and as a pre- and post-test tool for educational interventions.
ATHCT Subscales

- Original authors suggest two subscales:
  - 14-item Quality of Care/Process
  - 6-item Physician Centrality

- Hyer et al. identified 3 subscales:
  - 11-item Team Value
  - 5-item Team Efficiency
  - 5-item Shared Leadership
Factor 1: Team Value

Example items:
- The team approach permits health professionals to meet the needs of family caregivers as well as patients.
- The give and take among team members help them make better patient care decisions.
- Patients receiving team care are more likely than other patients to be treated as whole persons.

Psychometric properties (Hyer, et al.)
- Eigenvalue: 6.3
- Variance explained: 29.9%
- Cronbach’s alpha: 0.85 (n = 913)
Factor 2: Team Efficiency

Example items:
- Working in teams unnecessarily complicates things most of the time.*
- The team approach makes the delivery of care more efficient.
- When developing interdisciplinary patient care plans, much time is wasted translating jargon from other disciplines.*

Psychometric properties (Hyer, et al.)
- Eigenvalue: 2.3
- Variance explained: 11.0%
- Cronbach’s alpha: 0.76 (n = 913)
Factor 3: Shared Leadership

Example items:
- A team’s primary purpose is to assist physicians in achieving treatment goals for patients.*
- Physicians have the right to alter patient care plans developed by the team.*
- Physicians are natural team leaders.*

Psychometric properties (Hyer, et al.)
- Eigenvalue: 1.4
- Variance explained: 6.5%
- Cronbach’s alpha: 0.75 ($n = 913$)
ATHCT at UNT HSC

- IBR approval Spring 2012
- Instrument Loaded into Qualtrics

- Administered twice
  - Class of 2014 end of Semester 4
  - Class of 2016 beginning of Semester 1

- Plan to continue collecting data until have actual pre and post-test comparisons
Pilot Study

- ATHCT Scale items data collected from both first and second year medical students
  - Data analyzed using confirmatory factor analysis for the three factor model
  - Pilot study design to assess attitudes at matriculation and just prior to clinical rotations
  - Proxy pre- and post-test
Pilot Sample

- Preliminary analysis on data from Spring 2012 (Class of 2014, 4th semester) and Fall 2012 (Class of 2016, 1st semester).
  - Pre-test proxy: Class of 2016, \(n = 204\) (including 20 respondents who had one or more missing data)
  - Post-test proxy: Class of 2014, \(n = 203\) (including 23 respondents who had one or more missing data).
- Missing data were not imputed, and the data were not screened for aberrant responses.
Factor analysis was conducted in AMOS 19 using a 3-factor, fully correlated model as proposed by Hyer.

Items were reverse coded and scales were constructed, as instructed.

Independent samples t-tests were conducted between the two groups on three subscale scores and overall scale.
Pilot Results

- Confirmatory factor analysis did not produce a strong fit for the purported 3-factor, fully correlated model
  - $n = 407$
  - $X^2(372) = 776.3 (p < .001)$
  - RMSEA = 0.52
  - CFI = 0.85

- Similar results when each group was analyzed independently
Class comparisons:

- Attitudes Toward Team Value and Efficiency subscales, statistically significant decreases ($t(395) = 5.229, p < .001$, and $t(397) = 3.332, p = .001$, respectively) between the Class of 2016 ($1^{st}$ semester) and the Class of 2014 ($4^{th}$ semester).

- Attitudes Toward Shared Leadership subscale, statistically significant increase ($t(398) = -3.066, p = .002$).

- Overall, there was a statistically significant decrease ($t(389) = 4.594, p < .001$) between the $1^{st}$ and $4^{th}$ semesters on the overall ATHCT scale.
Pilot Results

- These data represent two different groups of students, using time in program as a proxy for pre and post-testing.
- This data *may* suggest an overall decrease in positive attitudes about the value and efficiency of teams, yet an increased positive attitude in their eventual role as a team member.
- What does this mean?
Conclusions

- At this point, these results may mean nothing.

- The fact that “Shared Leadership” was higher in the second year students may indicate on the right track.

- Real test will come with post-test data on the Class of 2016.
Conclusions

- What do attitude surveys tell us?
  - Self report
  - Test savvy population

- Overall decreases in positive attitudes during the course of matriculation have been shown in numerous studies of medical students as well as PAs
Conclusions

- Since 1999, competency based approaches to learning and assessment have emerged
  - NBOME, AOA, AACOM
  - Interprofessional Education Collaborative, Report May 2011, AACON, AACOM, ASPH, AACP, ADEA, AAMC
  - Expert panels
Conclusions

Core Competencies Domains for ICP:

- Values Ethics
- Roles/Responsibilities
- Interprofessional Communication
- Teams and Teamwork

Attitudes are embedded in all of these competencies
Conclusions

- Assessing competencies must be linked to “ages and stages”

- Understanding attitudes may help identify key competencies to address at various points in the curriculum design