My Patient?

A Patient Care Ownership Scale for Medical Students

Troy Kincaid1, Wendy Christensen PhD1, Michelle Kiger MD PhD2,3, Tai Lockspeiser MD MHPE4, Sheilah Jiménez5, and Jennifer Adams MD1,4

1University of Colorado School of Medicine 2Wright-Patterson Medical Center/Wright State University 3Uniformed Services University 4Denver Health

Background & Rationale

- Patient care ownership is a prerequisite to quality medical care, yet it is perceived to be in decline among trainees.
- Shiftwork — CARE OWNERSHIP OPPORTUNITIES
- Psychological ownership is a well-studied phenomenon in cognitive psychology and a burgeoning area of study in GME.
- Little is known about patient care ownership in medical students. Might it represent an educational milestone developed medical school?

Methods

Scale adaptation
- Recently published patient care ownership scale6 with internal validity evidence for GME was adapted for clinical medical students.
- The modified scale was iteratively revised then pilot tested and cognitive interviews conducted to gather evidence for content validity.
- Items revised according to thematic analysis from think-aloud approach with scripted verbal probing

Survey administration
- Administered to all 3rd year medical students at the University of Colorado after the principal clerkship year as part of a comprehensive end-of-phase survey

Exploratory factor analysis
- Performed to explore the empirical dimensionality of the scale when applied to medical students; original scale for GME was written with eight theoretical dimensions
- Conducted in SAS 9.4 PROC FACTOR; factors extracted using iterative principal axis factoring and rotated using promax and direct oblimin rotations

Results

Final adapted tool
- A 16-item survey comprised of 7-point Likert scales self-assessing care ownership

### #1: Psychometric properties

<table>
<thead>
<tr>
<th>Response rate (n)</th>
<th>Item mean range</th>
<th>Inter-item correlation range</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.7% (176)</td>
<td>4.1-5.8</td>
<td>0.15-0.80</td>
<td>0.92</td>
</tr>
</tbody>
</table>

- 1a. Moderate right-skew of responses
  - Overall Frequency of Response Choice

- 1b. Number of factors: 1, 2, and 4
  - Factor analysis
    - Scree plot, Kaiser criterion, and proportion of variance

- Number of factors chosen based on the scree plot, Kaiser criterion, and proportion of variance

### #2: Factor analysis with sample items

**Responsibility**
- Sample scale items:
  - I personally made sure to go back and check that all orders were actually carried out.
  - I felt responsible for my patient’s care, even after my shift ended.
  - I was the “go-to” person for knowledge about my patient.

**Initiative**
- Sample scale items:
  - I was vocal and assertive about my patient’s best treatment/care.
  - I felt comfortable telling the team and/or attending what I felt was the right thing to do for my patient’s medical conditions, rather than just letting them decide.
  - I frequently deferred to other providers for many aspects of my patient’s care.
  - I felt comfortable making decisions independently about my patient’s care.

**Advocacy**
- Sample scale items:
  - I was vocal and assertive about my patient’s best treatment/care.
  - I felt comfortable telling the team and/or attending what I felt was the right thing to do for my patient’s medical conditions, rather than just letting them decide.

**Decision-making**
- Sample scale items:
  - I was given the opportunity to make decisions independently about my patient’s care.
  - I felt I was given enough autonomy in patient care.

**Opportunity**
- Sample scale items:
  - I felt I had sufficient opportunity to take ownership of my patient’s care.

Discussion

- Factor structure suggests three plausible dimensional structures
  - 1-factor: patient care ownership as single-dimension construct
  - 2-factors: responsibility (7 items) and initiative (9 items)
  - 4-factors: similar to the 2-factor, but with the initiative factor further broken down into advocacy (4 items), decision-making (2 items), and opportunity (3 items)

Conclusions & Next Steps

- Medical students claim to own patient care after their core clinical year.
- Each dimension is a potential target for educational intervention.
- Next Steps:
  - Confirmatory factor analysis with next medical student cohort to evaluate 1, 2, and 4-factor solutions.
  - Correlating scale scores across: Clinical training model (i.e., LIC vs traditional block curriculum).
  - Correlating scores with curricular outcomes (e.g., academic performance and validated scales of empathy, growth mindset, professional identity formation, wellbeing, and self-efficacy).

References & Acknowledgements

Acknowledgements:
Thank you, Dr. Dave Hirsh, for your earnest and expert feedback. Thank you to former medical students at CUSOM for their critical input. Thank you to Dr. Djulbegovic and colleagues at Yale for their inspiring work.

References: