RESIDENT SELF-ASSESSMENT AND FACULTY ASSESSMENT USING THE INTERNAL MEDICINE MILESTONES:
EVALUATING TRENDS BY POST-GRADUATE YEAR AND GENDER

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BACKGROUND

ASSESSMENT & RESIDENT SELF-ASSESSMENT
Self-Assessment as Important

Prior studies on Resident Self Assessment

- Surgical resident-faculty matches assessments moderately accurate (J Surg 2021)
- Women at risk of underestimating their abilities in comparison to male colleagues (J Surg 2005)

We investigated the concordance of resident self-assessment in comparison to faculty assessment at a large academic internal medicine program.
ACGME CORE COMPETENCIES: 2001

- Patient Care
- Medical Knowledge
- Systems Based Practices
- Problem-Based Learning
- Professionalism
- Interpersonal & Communication Skills
INTRODUCTION OF THE MILESTONES: 2013

INTERN

Beginner

Advanced Beginner

Competent

Proficient

RESIDENT GRADUATE

Ready for Unsupervised Practice
INTRODUCTION OF THE MILESTONES: 2013
Measure the degree to which resident and faculty assessments agree using the milestones

Identify themes for milestone areas of strength and improvement as assessed by resident and faculty agreement at each post-graduate year of training.

Identify whether there are trends based on gender in resident milestone self-assessment.
COMPETENCIES & MILESTONES

Competency Domains

Patient Care
Medical Knowledge
Systems Based Practices
Problem-Based Learning
Professionalism
Interpersonal & Communication Skills

PATIENT CARE
1 Gathers and synthesizes essential and accurate information to define each patient’s clinical problem(s)
2 Develops and achieves comprehensive management plan for each patient
3 Manages patients with progressive responsibility and independence
4 Skill in performing procedures
5 Requests and provides consultative care

MEDICAL KNOWLEDGE
1 Clinical knowledge
2 Knowledge of diagnostic testing and

SYSTEMS BASED PRACTICES
1 Works effectively within an interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and other support personnel)
2 Recognizes system error and advocates for system improvement
3 Identifies forces that impact the cost of health care, and advocates for, and practices cost-effective care
4 Transitions patients effectively within and across health delivery systems

PRACTICE BASED LEARNING & IMPROVEMENT
1 Monitors practice with a goal for improvement
2 Learns and improves via performance audit
3 Learns and improves via feedback
4 Learns and improves at the point of care

PROFESSIONALISM
1 Has professional and respectful interactions with patients, caregivers and members of the interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and support personnel).
2 Accepts responsibility and follows through on tasks
3 Responds to each patient’s unique characteristics and needs
4 Exhibits integrity and ethical behavior in professional conduct

INTERPERSONAL AND COMMUNICATION SKILLS
1 Communicates effectively with patients and caregivers
2 Communicates effectively in interprofessional teams (e.g. peers, consultants, nursing, ancillary professionals and other support personnel)
3 Appropriate utilization and completion of health records
Resident independently identifies 2 areas of strength and 2 areas of improvement for self

Faculty independently identifies 2 areas of strength and 2 areas of improvement for resident

Mentor meetings held twice per year between resident-faculty pair. The pair agrees on 2 areas of strength and 2 areas of improvement

RESIDENT-FACULTY SEMI-ANNUAL MEETINGS
# OVERALL MEASURE OF RESIDENT-FACULTY AGREEMENT BY YEAR OF TRAINING

## STRENGTHS

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>PGY1</th>
<th>PGY2</th>
<th>PGY3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>838</td>
<td>346</td>
<td>250</td>
<td>242</td>
</tr>
<tr>
<td>Individual</td>
<td>kappa</td>
<td><strong>0.355</strong></td>
<td>0.394</td>
<td>0.225</td>
</tr>
<tr>
<td>Domain</td>
<td>kappa</td>
<td><strong>0.475</strong></td>
<td>0.498</td>
<td>0.372</td>
</tr>
</tbody>
</table>

### Kappa-value Degree of Agreement

- 0-0.2: Slight
- 0.21-0.4: Fair
- 0.41-0.6: Moderate
- 0.61-0.8: Substantial
- 0.81-1.0: Almost Perfect

## AREAS OF IMPROVEMENT

<table>
<thead>
<tr>
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<tr>
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<td>kappa</td>
<td><strong>0.381</strong></td>
<td>0.323</td>
<td>0.360</td>
</tr>
<tr>
<td>Domain</td>
<td>kappa</td>
<td><strong>0.465</strong></td>
<td>0.400</td>
<td>0.391</td>
</tr>
<tr>
<td>Year of Training (PGY)</td>
<td>Milestone</td>
<td>N (%)</td>
<td></td>
<td></td>
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<tr>
<td>------------------------</td>
<td>------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PGY-1</td>
<td>Patient Care 1 - History</td>
<td>116 (18.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGY-2</td>
<td>Patient Care 2 – Management Plan</td>
<td>108 (20.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGY-3</td>
<td>Patient Care 3– Independent Management</td>
<td>148 (30.1%)</td>
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</table>
## TOP RESIDENT-FACULTY AGREED UPON AREA OF IMPROVEMENT BY YEAR OF TRAINING

<table>
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<th>Competency</th>
<th>N (%)</th>
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<tbody>
<tr>
<td><strong>PGY-1</strong></td>
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<tr>
<td>Patient Care 3 – Independent Management</td>
<td>123 (20.3%)</td>
</tr>
<tr>
<td><strong>PGY-2</strong></td>
<td></td>
</tr>
<tr>
<td>Patient Care 3 – Independent Management</td>
<td>91 (15.6%)</td>
</tr>
<tr>
<td><strong>PGY-3</strong></td>
<td></td>
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<tr>
<td>Systems Based Practices 3 – Identifies forces and practices cost-effective care</td>
<td>88 (17.9%)</td>
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# Measure of Resident-Faculty Agreement for Domain Area of Improvement by Gender

<table>
<thead>
<tr>
<th></th>
<th>Kappa value for Female Residents</th>
<th>Kappa value for Male Residents</th>
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</thead>
<tbody>
<tr>
<td>PGY1</td>
<td>0.256</td>
<td>0.487</td>
</tr>
<tr>
<td>PGY2</td>
<td>0.356</td>
<td>0.409</td>
</tr>
<tr>
<td>PGY3</td>
<td>0.462</td>
<td>0.284</td>
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• **Patient care** is a foundational strength that both residents and faculty had the most concordance in assessment throughout internal medicine training.

• Once independent patient care is no longer a top concern for improvement, resident focus broadens to the larger picture of **systems-based practices**.

• The gendered trends of resident-faculty concordance for domains of improvement may be taken into consideration when providing feedback to residents.

• Future studies should take into account the new ACGME Milestones 2.0 which include other systems-based changes (digital health) and reflective practice and commitment to personal growth, further emphasizing the **importance of resident self-assessment reliability**.
Acknowledgements & References

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