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# An Ounce of Prevention: How Are We Managing the Early Assessment of Residents' Clinical Skills?: A CERA Study

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# An Ounce of Prevention: How Are We Managing the Early Assessment of Residents' Clinical Skills?: A CERA Study

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# An Ounce of Prevention: How Are We Managing the Early Assessment of Residents' Clinical Skills?:

## A CERA Study

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**BACKGROUND AND OBJECTIVES:** Clinical skills deficits in residents are common but when identified early can result in decreased cost, faculty time, and stress related to remediation. There is currently no accepted best practice for early assessment of incoming residents' clinical skills. This study describes the current state of early PGY-1 clinical skills assessment in US family medicine residencies.

**METHODS:** Eleven questions were embedded in the nationwide CERA survey to US family medicine residency directors regarding the processes, components, and barriers to early PGY-1 assessment. Responses are described, and bivariate analyses of the relationship between assessment variables and percentage of international medical graduates (IMGs), type of program, and barriers to implementation were performed using chi square testing.

**RESULTS:** Almost four of five (78.4%) responding programs conduct formal early assessments to establish baseline clinical skills (89.6%), provide PGY-1 residents with a guide to focus their learning goals (71.6%), and less often, in response to resident performance problems (34.3%). Barriers to implementing PGY-1 early assessment programs include cost of faculty time (56.3%), cost of tools (42.1%), and time for the assessment during the PGY-1 resident's schedule (41.0%). Cost of faculty time and time for assessment from the PGY-1 resident's schedule were statistically significant major/insurmountable barriers for community-based, non-university-affiliated programs.

**CONCLUSIONS:** Early PGY-1 assessments with locally developed tools for direct observation are commonly used in family medicine residency programs. Assessment program development should be targeted toward using existing, validated tools during the PGY-1 resident's patient care schedule.

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Deficits in residents' clinical skills such as poor interviewing or clinical problem-solving are common and can result in increased cost, faculty time, and resident stress.<sup>1</sup> Early detection of clinical skills problems can result in earlier, more targeted academic assistance and guide teaching, while

late identification of these deficits can further increase faculty time demands and risk litigation stemming from resident dismissal.<sup>1-3</sup>

Wendling and colleagues demonstrated that early assessment of problem-solving skills identified most PGY-1 residents in one program who subsequently required

additional faculty supervision.<sup>4</sup> Some residency programs perform early skills assessments in targeted competencies; however, there is currently no generally accepted method to assess PGY-1 residents' overall clinical proficiency. In this study, the authors describe the current state of baseline clinical skills assessments for incoming family medicine PGY-1 residents.

### Methods

Embedded in the CERA omnibus survey sent to family medicine residency program directors were 11 questions specific to how residency programs conduct early assessment of residents' clinical skills. The Council of Academic Family Medicine (CAFM) Educational Research Alliance (CERA) survey was distributed to 452 US family medicine residency program directors. There were 172 respondents, for a response rate of 38%. In addition to the program demographics described in the Mainous et al paper<sup>5</sup> we asked whether

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or not programs conduct formal early assessments (within 1–3 months of commencing residency). Respondents who answered affirmatively answered additional closed-ended questions regarding the tenure of the assessment program, why the assessments were initiated, when they are conducted, who performs the assessments, various clinical skills assessed, instruments used to conduct the assessments, and with whom the assessment results are shared. All respondents, regardless of early assessment status, answered seven Likert scale items regarding barriers to implementing an early PGY-1 assessment program (scored from 1=not a barrier to 4=insurmountable barrier).

Survey questions were written by a team including residency educators, a program director, a biostatistician, and an educational specialist and were pilot tested by four program directors in the Northeast and Midwest.

Data were analyzed using PASW/SPSS V19.0 (IBM Company, Somers, NY). We used univariate statistics to describe the program, its assessment practices, and barriers to implementation. We used bivariate statistics to examine relationships between assessment variables and US versus international medical graduates (IMGs), tenure of program director, type of program, and barriers to implementing a PGY-1 assessment program. We used chi-square tests to assess significance for all bivariate tests using an alpha of .05 to denote statistical significance. The study was reviewed and declared exempt by the University of Massachusetts Medical School Institutional Review Board.

## Results

Almost four of five (78.4%) responding programs conduct formal early assessments of their PGY-1 residents' clinical skills (Table 1). Many programs (45.1%) had conducted these assessments for 3–5 years. Reasons for early skills assessments included establishing baseline

clinical skills (89.6%), providing PGY-1 residents with a guide to focus their learning goals (71.6%), and less often, acting in response to resident performance problems (34.3%) or a critical incident (3.7%). Early assessment is largely performed by residency faculty (71.6%), including the program director (60.4%) and behavioral health faculty (54.5%). Most program directors reported that they do not use formal instrumentation to record their observations. Almost two thirds (65.3%) reported that they used locally developed instruments that have not been validated. Barriers reported by program directors to implementing a PGY-1 early assessment program included cost of faculty time (56.3%), cost of tools (42.1%), and time for the assessment during the PGY-1 resident's schedule (41.0%).

Among the bivariate relationships assessed, there were no significant differences between a program's percent of international medical graduates (IMGs) and whether that program conducted an early assessment. Reasons for conducting early assessments were not significantly related to the proportion of IMGs.

We found no significant associations between a respondent's length of service as program director and whether or not she/he reported conducting baseline assessments or reported barriers to implementing/performing these early assessments.

When assessing relationships between barriers to conducting assessments and program type, we found that cost of faculty time ( $X^2=9.39$ ,  $P=.05$ ) and time for assessment from the PGY-1 resident's schedule ( $X^2=10.57$ ,  $P=.03$ ) were statistically significant major/insurmountable barriers for community-based, non-university-affiliated programs. University-based programs also found cost of faculty time to be a major or insurmountable barrier ( $X^2=9.39$ ,  $P=.05$ ). No other barriers were reported to be of a major concern when assessed by residency program type.

Program directors report that establishing a baseline from which

to proceed for instruction and further evaluation is a more important reason for early assessment than a reactive response to resident performance problems. Only 12% of respondents reported using a validated tool for their direct observation. Most programs (55.4%) do not observe their PGY-1 residents with standardized patients (SPs), despite the literature showing that OSCE's using SPs have been validated for assessing clinical skills.<sup>6</sup>

## Discussion

This study adds to our understanding of early clinical skills assessment in family medicine residencies by reporting that most respondent programs do perform these assessments. The most important barriers to performing assessments include faculty time, cost of evaluation tools, and time out of the PGY-1 resident's program. Programs with mostly IMGs were neither more likely to conduct assessments, nor were they more likely to identify performance issues as the rationale for conducting assessments. This occurred despite literature suggesting that program directors' perceive that IMGs are more likely to experience academic problems.<sup>1</sup>

Our findings' generalizability is limited by a 38% response rate. However, respondents were representative of the family medicine residency population in most demographics including region and size. Also, our questions did not allow respondents to comment on modifications in their assessment program over time. For example, barriers to implementation may have changed as the program evolved.

## Conclusions

Early PGY-1 assessments with locally developed tools for direct observation are commonly used in family medicine residency programs. We should disseminate existing, validated tools that require less faculty time and can be administered during the PGY-1's scheduled patient care time. Further research is needed

**Table 1: Program Directors' Survey Responses**

Item	% (n)
Conducts assessments	78.4% (134)
Number of years assessment in place (n, %)	
0-2 years	20.4% (23)
3-5 years	45.1% (51)
6-10 years	17.7% (20)
>10 years	16.8% (19)
Reasons for implementing assessment program	
Establish baseline clinical skills	89.6% (120)
Guide instruction	71.6% (96)
History of resident performance problems	34.3% (46)
Institutional requirement	6.0% (8)
History of a critical incident	3.7% (5)
Other	3.7% (5)
When are assessments conducted	
During routine orientation	37.1% (46)
During an extended orientation at start of internship	37.1% (46)
During routine health center sessions	16.9% (21)
Other	4.5% (6)
During an inpatient hospital rotation	2.4% (3)
Who performs early assessments	
Other faculty	71.6% (96)
Program director	60.4% (81)
Behavioral scientist	54.5% (73)
Advisor	44.8% (60)
Chief resident/fellow	26.9% (36)
Residency staff	14.9% (20)
Educational specialist	9.7% (13)
Other	4.5% (6)
Number of simulated encounters observed	
None (technique not used)	32.2% (39)
1-4	55.4% (67)
5-7	9.1% (11)
8+	3.3% (4)
Number of actual encounters observed	
None (technique not used)	22.5% (27)
1-4	42.5% (51)
5-7	15.8% (19)
8+	19.2% (23)
Skills assessed during early assessment	
Quality of physician-patient communication	82.8% (111)
Completeness of history taking	81.3% (109)
Professionalism	79.9% (107)
Clinical problem-solving	76.9% (103)
Physical exam	72.4% (97)
Documentation	62.7% (84)
Patient education	52.2% (70)
Type of instrument used to record observations	
Locally developed non-validated instrument	65.3% (81)
None/don't record	13.7% (17)
Locally developed validated instrument	11.3% (14)
Published instrument	9.7% (12)
Major or insurmountable barriers to implementation	
Faculty time	56.3% (91)
Cost of tools	42.1% (67)
Time in intern's schedule	41.0% (66)
Availability of tools	32.3% (52)
Knowledge of methods	25.5% (41)
Faculty training	19.3% (31)
Concern for intern morale	3.8% (6)

n may not total 100% because of sporadic missing values for those variables where there are fixed responses or those variables where more than one response could be selected.

to demonstrate if increased expenditure up front for universal early clinical skills assessment will identify residents in need of supplemental instruction and if this results in cost savings through decreased remediation. The ultimate goal of early assessment should be to address clinical skills deficits and improve the educational experience and the care of the patient.

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