Validity and Use of the 360-Degree Evaluation Tool in a Dermatology Residency Program

Sam wu¹, Sasha N. Jenkins², Elizabeth R. Hoffman¹ and Dean S. Morrell^{1*}

¹University of North Carolina at Chapel Hill

²Emory University

Received: May 22, 2014; Accepted: June 13, 2014; Published: June 28 2014

***Corresponding author:** Dean S. Morrell, Department of Dermatology, University of North Carolina at Chapel Hill, 410 Market Street Suite 400, Chapel Hill, NC 27516, Tel.: (919) 966-2485 Fax: (919) 966-6460, E-mail: morrell@med.unc.edu

Abstract

The 360-degree evaluation tool incorporates feedback from multiple sources including faculty, peers, clinical support staff, and patients to evaluate residents' performance. A total of thirty-two dermatology residents over seven years were evaluated with one of two versions of the 360-degree evaluation tool as well as with an overall standard evaluation tool, the Visual Analog Scale (VAS). The evaluations of residents with the second version of the 360-degree evaluation tool correlated strongly ($r = 0.92$, $p < 0.0001$) with their evaluations via the VAS. While the implementation of this tool has been reported in other residency programs, this represents the first reported validation of the 360-degree evaluation tool in a dermatology residency program. As a multisource, competency-based metric, the 360-degree evaluation tool is a recommended tool for resident evaluation given the requirements for milestone-based tracking and incorporation of multiple evaluators in the Accreditation Council for Graduate Medical Education (ACGME) Next Accreditation System.

Keywords: 360-degree tool, Resident evaluation, Next Accreditation System

The Accreditation Council for Graduate Medical Education as part of its Common Program Requirements for accreditation mandates that resident evaluations utilize data from multiple evaluators including faculty, peers, patients, self, and other professional staff [1]. The 360-degree evaluation tool, which incorporates multisource feedback on resident performance, is a recommended method of evaluating residents on the six ACGME-defined core competencies [2]. Although this tool has been widely implemented across residency programs [3-5], there are no data on its validity in dermatology residency programs. We sought to determine the validity of two versions of the 360-degree evaluation tool in evaluating dermatology residents by comparison to global resident assessments performed via a visual analog scale (VAS) tool.

Exemption was obtained from the Institutional Review Board (IRB) and a total of thirty-two dermatology residents from the University of North Carolina at Chapel Hill were included in this study over seven years. The initial 360-degree evaluation tool (360-1) addressed 15 specific skills to cover all six ACGME competencies (Figure 1). The 360-degree evaluation was

completed by faculty members, peer residents, one departmental administrator, nurses, clinical support staff (e.g. front desk), and patients. Due to evaluation fatigue, the assessment was later shortened to one Likert scale response for each of the six competencies (360-2; Figure 2). Twenty-four residents were evaluated by the 360-1 tool and thirteen residents were evaluated by the 360-2 tool; all thirty-two residents were evaluated by a consistent panel of seven senior faculty members (Chairperson, Program Director, Director of Dermatology Surgery, Director of Dermatopathology, Basic Science Researcher/Clinician, Former Medical School Dean and Department Chairperson, and full-time Clinician) using the program gold standard evaluation tool, the VAS. A numeric total score between 0-100 for each evaluation was calculated based upon percentage of perfect score for rated items, and scores were then averaged across raters for each resident. Using SAS version 9.2, convergent validity for both versions of the 360-degree evaluation was estimated by calculating the correlation of resident scores on the 360-degree evaluation tool with scores on the gold standard VAS using Pearson correlation coefficients. The mean score from the VAS was 72.81 ± 21.09 out of a possible 100 points ($n = 32$). The mean score for the 360-1 assessments was 96.23 ± 2.90 ($n = 24$) out of a possible 100 points, which was higher than the mean score for the 360-2 assessment of 90.68 ± 6.61 ($n = 13$). Resident scores on 360-1 were not well correlated with scores on the VAS ($r = 0.23$, $p < 0.30$). Scores on the revised version of the 360-degree evaluation (360-2) were highly correlated with VAS scores ($r = 0.92$, $p < 0.0001$).

This is the first study of the validity of a 360-degree evaluation tool in a dermatology residency program. The study was limited by a small sample size drawn from a single institution. Our results combined with the growing literature demonstrating the potential effectiveness of 360-degree feedback for resident education across a variety of specialties [6,7], support the use of this multisource feedback tool. In contrast to the longer, behavior-based tool, the shortened format 360-degree evaluation tool (360-2) offers an efficient and valid method for resident assessment. As graduate medical education continues to change with the transition to competency-based milestone tracking required by the ACGME Next Accreditation System [8],

		4	3	2	1	
		EXCELLENT: Almost Always Demonstrates.	VERY GOOD: Usually Demonstrates.	FAIR: Sometimes Demonstrates.	POOR: Does Not Demonstrate	Did Not Observe
UNC DEPARTMENT OF DERMATOLOGY RESIDENT 360-DEGREE EVALUATION						
Resident name:	_____					
Department:	_____					
Level of training:	_____					
Evaluator:	_____					
Position:	_____					
Date:	_____					
According to ACGME guidelines, residents in training are required to develop competency in six areas to the level required of a new practitioner. These competencies include:						
Patient care						
Medical knowledge						
Practice-based learning and improvement						
Interpersonal and communication skills						
Professionalism						
Systems-based practice						
This 360-degree evaluation rates 15 skills specified by the ACGME, which comprise part of the 6 competencies. Please use the assessment scale below to provide your feedback.						
7) Does the resident help to facilitate the learning of others?		4	3	2	1	Did not observe
8) Does the resident create an appropriate professional relationship with patients?		4	3	2	1	Did not observe
9) Does the resident listen to patients attentively, making eye contact and without unnecessary interruption?		4	3	2	1	Did not observe
10) Does the resident show respect and altruism in his/her daily interactions with patients and coworkers?		4	3	2	1	Did not observe
11) Does the resident display ethical behavior at all times?		4	3	2	1	Did not observe
12) Does the resident show sensitivity to cultural, age, gender and disability issues?		4	3	2	1	Did not observe
13) Does the resident understand how his/her practice interacts with larger system?		4	3	2	1	Did not observe
1) Does the resident communicate effectively and demonstrate caring and respectful behavior with patients and families?		4	3	2	1	Did not observe
2) Does the resident demonstrate interviewing skills that put the patient at ease while gathering pertinent information in an efficient manner?		4	3	2	1	Did not observe
3) Does the resident counsel and educate patients and families consistently and effectively?		4	3	2	1	Did not observe
4) Is the resident able to perform medical procedures in a complete, efficient and independent fashion?		4	3	2	1	Did not observe
5) Does the resident work effectively within a team?		4	3	2	1	Did not observe
6) Is the resident able to apply appropriate investigative and analytical thinking to clinical problems?		4	3	2	1	Did not observe
14) Does the resident practice cost-effective care?		4	3	2	1	Did not observe
15) Is the resident an advocate for patients within the health care system?		4	3	2	1	Did not observe
16) Please identify two (2) or more things that this person is really good at and should do more of:						
17) Please identify anything that this person does that you wish/feel they should do less:						
18) Please list any other general or overall comments regarding this person's performance.						

Figure 1: Evaluation tool 360-1.

Resident _____
Date _____

Resident Evaluation					
Medical Knowledge					
N/A	Poor	Fair	Good	Very Good	Excellent
0	1	2	3	4	5
Professionalism					
N/A	Poor	Fair	Good	Very Good	Excellent
0	1	2	3	4	5
Patient Care					
N/A	Poor	Fair	Good	Very Good	Excellent
0	1	2	3	4	5
Improvement of Patient Care through Life-Long Learning					
N/A	Poor	Fair	Good	Very Good	Excellent
0	1	2	3	4	5
Interpersonal Communication Skills					
N/A	Poor	Fair	Good	Very Good	Excellent
0	1	2	3	4	5
Teamwork (Systems-based Care)					
N/A	Poor	Fair	Good	Very Good	Excellent
0	1	2	3	4	5
Comments					
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>					

Figure 2: Evaluation tool 360-2, abbreviated from 360-1 due to evaluation fatigue.

the 360 degree evaluation tool will be instrumental in providing comprehensive feedback to resident physicians throughout their training. Future studies will need to establish and validate how evaluation tools translate to new milestone-specific evaluations.

References

1. American Council of Graduate Medical Education. ACGME Common Program Requirements. June 2013. Retrieved from <https://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/CPRs2013.pdf>
2. https://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramResources/430_CompetencyDefinitions_RO_ED_10182007.pdf
3. Joshi R, Ling FW, Jaeger J. Assessment of a 360-degree instrument to evaluate residents' competency in interpersonal and communication skills. *Acad. Med.* May 2004;79(5):458-463.
4. Massagli TL, Carline JD. Reliability of a 360-degree evaluation to assess resident competence. *Am. J. Phys. Med. Rehabil.* Oct 2007;86(10):845-852.
5. Higgins RS, Bridges J, Burke JM, O'Donnell MA, Cohen NM, Wilkes SB. Implementing the ACGME general competencies in a cardiothoracic surgery residency program using 360-degree feedback. *Ann. Thorac. Surg.* Jan 2004;77(1):12-17.
6. Meng L, Metro DG, Patel RM. Evaluating professionalism and interpersonal and communication skills: implementing a 360-degree evaluation instrument in an anesthesiology residency program. *J Grad Med Educ.* Dec 2009;1(2):216-220.
7. Goldstein R, Zuckerman B. A perspective on 360-degree evaluations. *J. Pediatr.* Jan 2010;156(1):1-2 e1-2.
8. Nasca TJ, Philibert I, Brigham T, Flynn TC. The next GME accreditation system--rationale and benefits. *N Engl J Med.* 2012 Mar 15;366(11):1051-6. Epub 2012 Feb 22.