

## BRIEF REPORT

# Leadership Development in Graduate Medical Education: A Pilot Study of Implementation of a Validated Self-assessment Instrument

Sonja Van Hala, MD, MPH; Eliza Taylor, MPH, CHES; Susan Cochella, MD, MPH

## AUTHOR AFFILIATION:

Department of Family and Preventive Medicine, University of Utah, Salt Lake City, UT

## CORRESPONDING AUTHOR:

Sonja Van Hala, Department of Family and Preventive Medicine, University of Utah, Salt Lake City, UT,  
[sonja.vanhala@hsc.utah.edu](mailto:sonja.vanhala@hsc.utah.edu)

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## ABSTRACT

**Background and Objectives:** Graduate medical education programs need leadership assessments and curricula to engage residents and advance their leadership skills. The Foundational Healthcare Leadership Self-assessment (FHLS) is a validated 21-item self-assessment of leadership skills residents need to be effective team leaders in health care settings. It generates a composite score along five foundational leadership domains: accountability, collaboration, communication, team management, and self-management. Our objective was to determine whether a leadership curriculum, using the FHLS as an educational tool to support self-assessment, self-directed learning, and reflective practice, promotes self-awareness and engagement in leadership development.

**Methods:** We conducted a qualitative pilot study in the University of Utah Family Medicine Residency Program, integrating the FHLS into our residency's longitudinal leadership curriculum using coaching, self-directed learning, and reflective practice. Family medicine residents completed the FHLS prior to their leadership rotation. Faculty met with each resident during their rotation using a coaching paradigm based on data from the FHLS to inform leadership self-awareness. Residents identified a leadership domain for self-improvement, selected resources for self-study, and submitted a written reflection. We conducted qualitative content analysis on the reflections for evidence of self-awareness and engagement in leadership development.

**Results:** Residents completed 27 leadership rotations between May 2019 and April 2020, generating 21 reflections. Qualitative content analysis of resident reflections grouped by FHLS leadership domains identified evidence of impact on the residents' leadership development.

**Conclusions:** This qualitative pilot study supports the usefulness of the FHLS within a residency leadership curriculum to promote self-awareness and engagement in leadership development.

## INTRODUCTION

National organizations are calling for leadership training so that physicians can be better prepared to lead teams, affect change, and transform health care systems.<sup>1–5</sup> Calls for leadership development recommend training for all residents during early formative years.<sup>6,7</sup> Graduate medical education programs need leadership assessments and curricula to engage residents and advance their leadership skills.<sup>2,8–21</sup>

Systematic reviews of physician leadership development programs show a gap in educational tools that address personal growth and self-awareness.<sup>8,21,22</sup> Self-awareness is “both internal (the characteristics we ascribe to ourselves) and external (how we believe others see and react to us).”<sup>23</sup> Self-

awareness is fundamental to leadership and requires self-assessment.<sup>8,18,22,24,25</sup> As Andrade et al noted, “The purposes of self-assessment are to identify areas of strength and weakness in one's work in order to make improvements and promote learning.”<sup>26</sup> Based on the conceptual frameworks of self-directed learning<sup>27</sup> and reflective practice,<sup>28</sup> we theorize that physicians who commit to leadership self-assessment, self-directed study, and reflection will develop leadership self-awareness and engage in self-improvement of leadership skills.

In a previous publication<sup>29</sup> we shared our validation of a formative self-assessment instrument for early-career physicians, specifically residents, called the Foundational Health-

care Leadership Self-assessment (FHLS). The FHLS is a 21-item self-assessment that generates scores on 5 foundational leadership domains: accountability, collaboration, communication, team management, and self-management (Appendix 1). The FHLS promotes self-awareness and professional growth by identifying a learner's self-assessed stronger and weaker leadership domains. The FHLS is the only validated instrument of its kind.

Leadership curricula based on the FHLS are lacking in the medical education literature. Our objective was to determine whether a leadership curriculum, using the FHLS as an educational tool to support self-assessment, self-directed learning, and reflective practice, promotes self-awareness and engagement in leadership development.

## METHODS

We conducted a qualitative pilot study in the University of Utah Family Medicine Residency Program (UUFMRP), integrating the FHLS into our residency's longitudinal leadership curriculum.

UUFMRP is a 10-10-10 program that commits 8 weeks total to leadership rotations, spread throughout residency. The intent is to cultivate leadership early in residency and to advance those skills longitudinally as residents progress through residency. UUFMRP incorporated the FHLS into our residency's longitudinal leadership curriculum from May 2019 to April 2020 using coaching, self-study, and reflection as key elements.<sup>27,28,30,31</sup> Residents completed the FHLS in the first half of the academic year and again at the end of the academic year.

During the pilot period, one faculty member (S.V.H.) met with every resident who was scheduled for any leadership rotation and conducted a one-on-one leadership skills coaching session. Using a coaching paradigm, faculty explored the resident's prior leadership experience and self-assessed strengths and weaknesses that informed the FHLS results in each leadership domain (accountability, collaboration, communication, team management, self-management; [Figure 1](#)). Using the FHLS low-scoring domains, the faculty member and resident selected a leadership domain to target with self-study during the leadership rotation using resources from our curated leadership library. After completing the self-study, residents were asked to submit a written reflection responding to the following prompts: describe the resources you used, what you learned, and how you would apply that new knowledge. Written narratives provide qualitative data on the perspectives and ideas of participants' learning.<sup>32,33</sup> Residents were not asked to comment about their enjoyment or the perceived value of the experience, and submitting a reflection was not compulsory.

We hypothesized that resident written reflections would demonstrate self-awareness and engagement in learning around the leadership domains of the FHLS. One author (S.V.H.) collected, collated, deidentified, and organized the reflections by the FHLS leadership domains at the conclusion of the pilot for post hoc analysis. We analyzed the reflection data

using qualitative content analysis.<sup>34</sup> Two authors (E.T., S.C.) independently reviewed the reflections to identify evidence of self-awareness and engagement in each leadership domain. Next, authors (E.T., S.C.) discussed the findings iteratively until agreement was achieved.

This study was deemed exempt by the University of Utah Institutional Review Board (IRB\_00077940).

## RESULTS

Residents completed 27 independent leadership rotations between May 2019 and April 2020 during the pilot study. During the study period, five residents completed rotations in both second and third year. The FHLS domains selected by residents for self-study were broadly distributed (team management 33%, self-management 26%, collaboration 22%, and communication 15%), with the exception of accountability, chosen by one resident ([Table 1](#)). Among senior residents, communication and self-management were selected most frequently (29%, 29%), while junior residents most commonly selected team management (40%). Following the leadership rotation, residents submitted 21 reflections. Of the 21 reflections, five residents completed two separate reflections (representing 10 total)—one reflection for each longitudinal leadership rotation. The remaining reflections (11) were single reflections. The reflections ranged from brief paragraphs to two pages in length and were generally received within days of completing the rotation.

### Qualitative Findings

Reflections showed evidence of impact on the residents' self-awareness and engagement in leadership development. Most residents (21 of 27) elected to complete written reflections during their leadership rotation ([Table 1](#)). Several submitted long, thoughtful, and complex reflections. Reflections included vocabulary and concepts residents learned in their self-study, with descriptions of their desired behavior change for self-improvement, as evidence of leadership development. We identified exemplar quotes for each FHLS leadership domain that show self-awareness and engagement in learning ([Table 2](#)). Additionally, we compiled a list of the leadership library resources residents selected for self-study ([Appendix 2](#)).

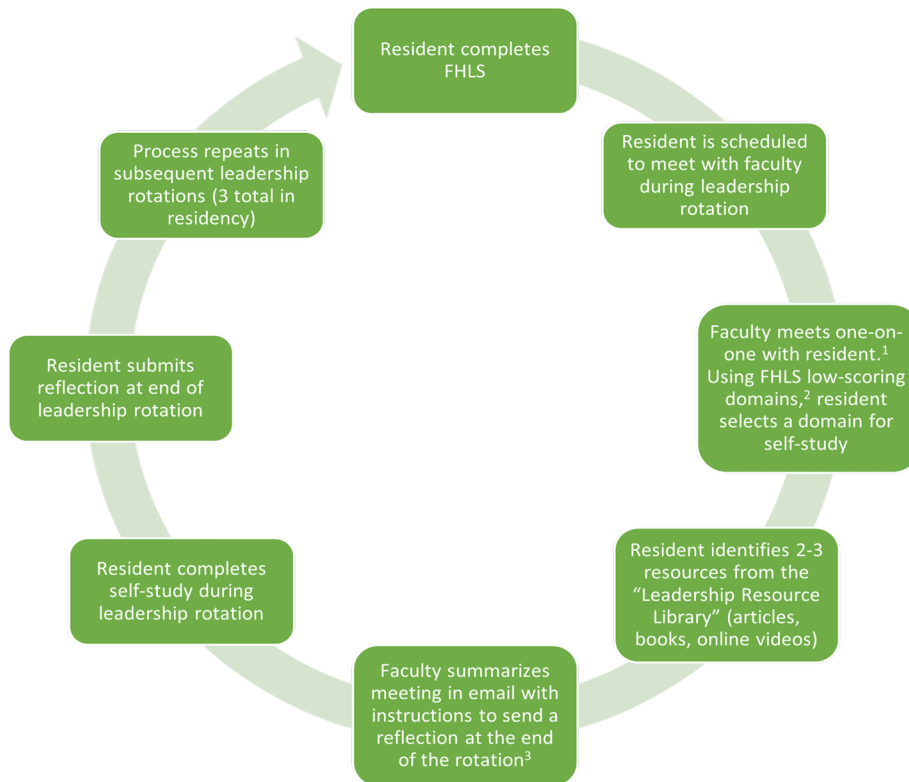
### Perceived Value of the Curriculum to Residents

Several reflections included unsolicited remarks on the curriculum design. A third-year resident wrote, "I really like how these papers prompted reflection on my own leadership skills and gave specific ways to improve and things to work on." Another (second-year resident) stated, "I do really like the personalized leadership project. . . . This model of teaching leadership is very effective."

## DISCUSSION

Faculty coaching, self-study, and reflection, using the FHLS instrument as an educational tool, promoted exploration and growth of residents' leadership skills, as demonstrated by concepts and application described in residents' reflections.

**FIGURE 1. FHLS Coaching Process**



1. Faculty script for one-on-one coaching meetings:
  - What is your experience with leadership? (prompts: prior jobs, medical teams, committees, student groups, church)
  - When you think about your leadership skills,
    - o What are your strengths? What situations do you feel comfortable in, and lean into?
    - o What are your weaknesses? What situations do you feel uncomfortable in, or lean away from?
  - Looking at your FHLS domain scores, how do the results fit with your understanding of yourself?
  - Which domain would you like to focus on for your self-study to explore new leadership behaviors?
2. FHLS domains:
  - Accountability
  - Collaboration
  - Communication
  - Team management
  - Self-management
3. Reflection questions:
  - What did you review for your leadership self-study?
  - What did you learn?
  - How are you going to apply what you learned?

Abbreviation: FHLS, Foundational Healthcare Leadership Self-assessment

**TABLE 1. Resident Participation and Choice of FHLS Study Domain**

	Academic year 2018/2019		Academic year 2019/2020		FHLS domains of study during leadership rotations				
	Leadership rotation	Reflection received	Leadership rotation	Reflection received	Account-ability	Collabo-ration	Communi-cation	Team management	Self-management
R3	0	0	7	6	1	1	2	1	2
R2	6	5	10	8	0	4	2	6	4
R1	2	1	2	1	0	1	0	2	1
Totals	8	6	19	15	1	6	4	9	7

Notes. Five residents completed the rotation twice and submitted reflections twice. Total leadership rotations=27. Total reflections received=21. Abbreviations: FHLS, Foundational Healthcare Leadership Self-assessment; R1, rotation 1; R2, rotation 2; R3, rotation 3

**TABLE 2.** Engagement and Self-awareness Exemplar Quotes

FHLS leadership domain	Engagement and self-awareness exemplar quotes
Accountability: Demonstrates responsibility for the impact of one’s own behavior	<p>“The expert: This group tries to exercise control by perfecting their knowledge. This group is interesting because they are great people to have as members of the team, but not such great leaders because they always think they are right. It is important to recognize when I may think this way, because as a leader it doesn’t harbor learning or open discussion. Also, I could be wrong and ultimately have a negative effect on patient care.” –Third-year resident</p> <p>“I also thought the line ‘we rely on connections with other people to determine our moods’ was somewhat too strong. This suggests that we have no control over our emotions or how we react to the actions/words around us, which I do not agree with. I think it is important to recognize your emotional response to someone’s actions and assess if they are beneficial or detrimental to your own well-being and the morale of the group.” –Third-year resident</p>
Collaboration: Works with others to accomplish a mission	<p>“Right now there are a few ways I want to build these lessons into my practice. I plan to place more effort toward making my team members feel appreciated and empowered in their roles, striving to delegate tasks such that they are suited to the skills and interests of each person. I would also like to do a better job of setting a mission/vision for my team, especially in the small-scale sense of a ‘what are we trying to accomplish today?’” –First-year resident</p> <p>“Being an expert is helpful as an individual member of a team but being a leader is about being aware of the different personalities/action logics on your team and getting them to buy into the same goals. Flexibility with how goals are reached is important and I can use my strength in communication and reading other people to better understand their approach and relinquish some control.” –Second-year resident</p>
Communication: Creates understanding through exchange of information and ideas	<p>“During crucial conversations, I need to put aside the urge to ‘win’ and focus on what I really want to accomplish. My personal defense mechanisms include masking, avoiding, and controlling.” –Third-year resident</p> <p>“I plan to start to practice the art of listening fully before interrupting with my own interpretation of other’s answers. To do this I will let them speak completely when I ask open-ended questions and then follow with follow-up questions to allow them to clarify completely. For example, ‘Tell me what you mean by that,’ ‘Can you elaborate more on that?’” –Second-year resident</p>
Team management: Facilitates group engagement, operations, and performance	<p>“I’ve never really seen myself as a natural born leader, so I’ve never thought about the specific characteristics of a great leader. . . . With this rotation falling right before my first time senior-ing at the Reg [the hospital], I tried to figure out what sort of leader I’d like to be. Because like it or not, I’ll be responsible to leading my team to success for an entire month. . . . As a team, we need a clear goal and level of standards. If even one person’s level of standards is a little off, this will create conflict that will never be resolved. Same with different goals. We have to communicate.” –Second-year resident</p> <p>“I’m working on being more confident in my ability to be a successful leader of a team by focusing on the qualities that I know I do have as opposed to exclusively focusing on the ones that I worry I lack.” –Second-year resident</p>
Self-management: Handles oneself with discipline and compassion	<p>“I will keep working to maintain space between stimulus and response and managing how/when I complete needed tasks. Thank you for your guidance with this!” –Second-year resident</p> <p>“I’ll use the will/won’t/want framework to show myself new ways of expressing my willpower and focusing things I want to do to become a better clinician as opposed to the things I’m NOT doing. . . . I’d like to transform this into individualist leadership by becoming more self-aware around conversation to see it as useful way to uncover new ideas, to develop praise-limitation-path forward-inquiry logic for difficult scenarios, and to commit to further leadership development long-term.” –First-year resident</p> <p>“Allowing myself to have time at least once a week to sit and think about what I did well and what I did poorly. Then I would focus on how I can get better at both by giving myself praise for what I did well and using that to help power my reconciliation of what I did poorly.” –Second-year resident</p>

Abbreviation: FHLS, Foundational Healthcare Leadership Self-assessment



A majority of residents completed a self-study and submitted a written reflection, thereby demonstrating engagement in personal leadership development. The reflections contained evidence of self-awareness as residents explored new perspectives, skills, thoughts, and behaviors. The most commonly selected leadership domain for self-study was team management, and this was predominantly among second-year residents, which corresponds with the progression into more senior roles on inpatient services. Because most residents had high scores in accountability, that domain was selected only once, which mirrors the overall high expectations of oneself common among individuals in health professions.

This study had several limitations. The FHLS instrument informed the educational focus of leadership self-study, which could miss other components of leadership not included in the assessment. This pilot was conducted at one institution among family medicine residents in one program. The curriculum used a faculty coaching paradigm, which may be difficult for other programs to reproduce. The FHLS lacks external validity. Further study of FHLS implementation is needed across diverse graduate medical education programs and within different structures of leadership curricula.

## CONCLUSION

This qualitative pilot study supports the usefulness of the FHLS within a residency leadership curriculum to promote self-awareness and engagement in leadership development.

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