

### **Supplementary Table 1. Expectations and Ground Rules.**

Each participant is expected to comply with the following guidelines:

- Attend 75% of the monthly educational seminars (6 of 8); if unable to comply, additional assignments will be allocated
- Complete two or more leadership/personality assessment instruments
- Complete periodic structured reflection exercises that include reflections on your leadership successes and challenges
- By January, identify a topic to be presented to the residents within your own department and conduct the session before April
- By January, develop and submit a draft of your own leadership philosophy and resubmit a finalized version based on suggestions before April
- Meet at least once with a senior leader within the medical institution and submit a brief report
- Assist in facilitating the Rising Chief Resident Symposium in April

The primary ground rules include:

- Everyone is encouraged to participate
- It's okay to agree to disagree
- Be respectful of others
- Actively listen to others
- Whatever happens in this session stays in the session. This rule is very important because it allows the chiefs to discuss specifics (naming individuals or speaking honestly).

**Supplementary Table 2: Session Topics and Assignments.**

Month	Topic	Areas of Focus	Assignment
September	Leading vs. Managing	<ul style="list-style-type: none"> <li>Examine the difference between leading and managing and the role of chief resident in both</li> <li>Describe positive and negative aspects of different leadership styles and examine situations that call for a certain leadership style/approach</li> <li>How to use the CRLDP throughout the chief year</li> </ul>	Interview a Leader Each chief is to interview someone whom they believe is an effective leader using a supplied list of questions; submit a synopsis of the interview
October	Conflict Management	<ul style="list-style-type: none"> <li>Examine conflict situations that chiefs may encounter and how to manage them</li> <li>Understand when to appropriately use the 5 different conflict management styles</li> <li>Realize conflict provides an opportunity to correct issues/problems</li> </ul>	Movie: "12 Angry Men" Watch the movie and identify the conflict style of each juror; submit a report with the styles identified
November	Communications	<ul style="list-style-type: none"> <li>Examine the impact of verbal and non-verbal communications from a leader's perspective</li> <li>Investigate difference in leadership between men &amp; women</li> <li>Describe how to effectively provide feedback to residents, students, and faculty</li> </ul>	Movie: "Norma Rae" Watch the movie and identify the conflict style of each juror; submit a report with the styles identified
December	Motivation	<ul style="list-style-type: none"> <li>Describe the types of followers and how a leader can create effective followers</li> <li>Examine the formula for performance and how to influence the various factors</li> <li>Investigate methods for recognizing &amp; rewarding residents within and across departments</li> </ul>	Movie: "Hoosiers" Watch the movie and identify the conflict style of each juror; submit a report with the styles identified
January	Team Building	<ul style="list-style-type: none"> <li>Describe the characteristics of effective teams</li> <li>Examine the dysfunctional components of teams</li> <li>Investigate how to effectively lead teams</li> </ul>	5 Dysfunctions of a Team Use the survey instrument to assess a team; submit a report with the information
February	Culture	<ul style="list-style-type: none"> <li>Investigate the connection between leadership and culture</li> <li>Examine how the culture within departments and the institution influence chief residents</li> <li>Investigate how the hidden curriculum affects culture</li> </ul>	Movie: "Devil Wears Prada" Watch the movie and identify the conflict style of each juror; submit a report with the styles identified
March	Change	<ul style="list-style-type: none"> <li>Understand change and the resistance to change</li> <li>Describe steps in effective change management</li> <li>Examine how chief residents can change the work environment and future chiefs</li> </ul>	Bolman & Deal's 4 Frame Model Use the model to reflect on some type of change the chief instituted during the year; submit a report with the information
April	Transitions	<ul style="list-style-type: none"> <li>Describe the importance of transitioning the chief role to future chiefs</li> <li>Examine how to manage short timer syndrome</li> <li>Explore avenues for continuing personal leadership development</li> </ul>	End of Life Care for Chief Residents Respond to a set of questions that cause reflection on growth & learning while participating in the program

### Supplementary Table 3: Excerpts from Leadership Philosophies.

#### Chief #1:

How to approach being a leader is important, but we can leave that dense philosophical wilderness in the rearview mirror for the time being. But it seems to me that leadership in action is the true crux of the matter. A leader's underlying goal should be acting in the best interest of the group in a chameleon fashion, as previously discussed. The next layer of the leadership goal should be to facilitate the actions of the group. A truly effective leader should create, mold, and inspire future leaders. They should empower the group to make decisions while at the same time maintaining oversight. This has a tremendous impact on the group, namely by allowing the individuals of the entity to become active stakeholders in the group. This sense of ownership results in subsequent pride in their activities. If done properly, the group as a whole becomes stronger. In reflecting on the issue, the impediment to this component of a leadership philosophy is likely insecurity on the part of the leader. Some fear empowering others at the expense of absolving him/herself of some semblance of power. But, I would argue that a strong leader is conscious of losing the role of leader but never fears the possibility, confident in his/her abilities and always aware that the prospect of a new leader may actually be in the best interest of the group.

#### Chief #2:

One of my struggles in leadership roles has been that I have a very hands-on, micro-managing approach. I think part of me does not trust others to do as good a job as I could do with a certain task, and another part of me doubts that I can inspire anyone else to have the same level of commitment that I have. I also have a difficult time assigning tasks or asking others to do work that I could do myself. This sometimes leads to the result that I spend a great deal of time and energy on a project only to find that everyone else has lost interest because they did not have enough ownership in the venture. An example was a Continuous Quality Improvement project on formal mid-rotation feedback I was supposed to complete with a group of residents. I took the leadership role, but rarely asked for help or input because I felt I could get things done more efficiently if I did them myself. I designed a form that I felt would really help residents get more constructive feedback from faculty during rotations, but because my group had been largely disconnected from the process, they were not advocates for the process of mid-rotation feedback once the form was completed. Without a committed group to help roll out the idea, it died shortly after we presented the completed project. This helped me realize that another key quality of a leader is to step back and let others succeed. The leader can help chart the course and provide an environment in which to do the work, but then she needs to let the team take ownership of the project, even if that is more difficult and less efficient. The end product will likely turn out as good (if not better) and will have buy-in from the team.

#### Chief #3:

What does it mean to be a leader? While I have thought about this question for many years, even perhaps since junior high while attending a leadership camp, I have never formulated a concrete answer for myself. My past experiences have placed portraits of a variety of leaders into my memory -- a teacher with an ability to motivate students toward lofty goals, a parent who challenged herself and others in a variety of roles, a college friend who assumed the responsibility of leadership positions while portraying the someone working for each team member, an enthusiastic staff member who remembered being a chief resident herself. Each of these snapshots combine into my vision of what it means to be a leader; my research and reading into the topic becoming the glue that cements the answer. What it means to be a leader is found above -- in the idea of having a goal, challenging yourself and others to work toward this goal, accepting responsibility, and maintaining enthusiasm. In addition, in combination with my basic temperament, each of these portraits have contributed to the styles of leadership I am drawn to.

#### Supplementary Table 4: Lessons Learned by Chief Residents.

**1. Provide two examples of how the certificate program contributed to your performance as a chief resident and leader over the past year.**

- A. I was able to use knowledge of different leadership styles as a lens through which to view the actions of my co-chiefs, program director and APDs.
- B. The interactions with other chief residents gave me an opportunity to brainstorm solutions to challenges faced throughout the year.
- C. Participating in the CRLD program made me more thoughtful about my leadership and conflict style and also allowed me to take into consideration the style of others. In general I thought more about my role as a leader and was more conscious of my actions and words than I may have been otherwise.
- D. It taught me about the elements of a team and leadership. It allowed me to prioritize better than I might have had I not had the insights from the CRLD program.
- E. Able to better identify goals for the year
- F. Provided me opportunity to add definition to aspects of my chief year. Yes, I was in a leadership position but what does that mean exactly? It highlighted the fact that leadership is not simply something given, or even earned by ones prior work. It is something that takes effort to develop and forge while in the position itself. The assignment to write a leadership philosophy was particularly instrumental in this.
- G. The opportunity to hear different viewpoints of how other departments operate and insights from their experiences was helpful in thinking about my position within my own department and affected the input I gave into how I feel the position should be developed in the future.
- H. The program has forced me to examine my own theories on leadership and attempt to determine my strengths and weaknesses.
- I. The presentation that my co-chief and I gave to our residents on Conflict Styles and Management was definitely a positive that came out of my participation in the certificate program. It benefited our residents and was well-received, as well as gave us practice as leaders in guiding others in self-reflection and critical thinking.
- J. The self-assessments that we took throughout the certificate program were very helpful in giving me insight into myself in various aspects of my personality, conflict and communication styles, and general outlook on the world that have helped me be more reflective in my leadership in terms of recognizing when I might be reacting to something other than the situation at hand or when there might be a more appropriate way to face a certain challenge than what my first instinct would have me do.
- K. I felt as though I was able to deal with some conflicts that occurred throughout the year a little differently (and better) than I would have if I did not gone through the program.
- L. The session on motivation was timely. In the middle of the year, I feel like all residents need a little extra motivation. This reminded me to pay extra attention to those residents who seemed to be struggling.
- M. The program provided me with numerous opportunities to discuss with the other chiefs regarding the interpersonal issues that I was facing at various points in the year. I was surprised to see that my issues were not dissimilar to the issues faced by the chiefs from the other services. It helped a lot to get their perspective on how they had faced those issues and in hindsight has been very helpful.

**2. Identify at least three insights – either personal and/or as a leader – you have gained from the certificate program that will help you launch the next phase of your career.**

- A. Avoidance is a useful strategy, when done intentionally.
- B. Leadership often involves setting aside personal interests.
- C. Keeping in mind group members goals and objectives in order for them to have job satisfaction.
- D. Working well within a team makes the efficiency of the team output better.
- E. I learned that becoming a leader is as much about developing oneself as developing others.
- F. I learned that using certain conflict management styles (such as competing and avoidance) is sometimes appropriate. I felt more confident in employing those tactics without second guessing my strategy and therefore investing less time and energy
- G. Clarifying roles early on with everyone involved is key which isn't to say things can't change, but to have some consistency in who is responsible for what is helpful for everyone involved.
- H. The first is listed above, that the good leader is constantly honing and developing the craft of leadership. Even if someone is born with natural talents constant refinement is necessary for someone to be a successful leader.
- I. Conflict is all not necessarily bad, but understanding my reaction to it and various ways with which to deal with it can help in turning it into a constructive force.
- J. No one is an island—despite the times when we feel that way. Instead of always spinning my wheels in place going around to peers—not just in my division or department—is a good way to solicit viewpoints that may significantly affect how I approach an issue. It may also aid in not reinventing the wheel.

- K. Leadership is a skill, and like any skill, requires practice to improve.
- L. There is not a single perfect leadership style. Being effective means being able to adapt to the situation and the people with whom you are working.
- M. The process of working on and refining my Leadership Philosophy has been very good for me, as it has forced me to think about myself and my values and goals in leadership, all of which have helped clarify my sense of purpose as a leader.
- N. I think one of the biggest things that this program taught me is the importance of active and frequent self-reflection. This is something that can easily slip through the cracks, but makes a huge difference in the long run if you can stick with it. I think having our monthly meetings, and involving this type of exercise each time, was a good stepping stone to help me continue to utilize self-reflection as I move on to a new role.
- O. One has to be a good listener to be a good leader as without instilling a sense that one is being listened to it's hard to suggest interventions.
- P. To be an effective leader one has to be willing to do more than is required i.e. to lead from the front and set an example of commitment and dedication.

**Supplementary Table 5: Course Evaluation Data.**

Item	2010 - 2011		2011 - 2012		2012 - 2013	
	Before starting	After completing	Before starting	After completing	Before starting	After completing
A. How would you rate your ability to describe your style or approach to leadership?	3.50	5.67	2.75	5.75	3.43	5.71
B. How would you rate your ability to describe the characteristics of effective leaders?	3.83	6.17	2.50	6.00	3.00	6.00
C. There was too much outside preparation required before each session (readings, reflection, homework, etc.)	3.00*		2.50*		3.00*	
D. The discussions associated with each topic were a waste of my time.	1.17*		1.50*		1.43*	
E. The material/notebook will be a useful resource for me in the future.	5.83		5.50		6.00	
F. My confidence as a leader grew by conducting an educational seminar for residents in my department.	not used		5.25		5.29	
G. Overall, I would recommend the Chief Resident Leadership Development certificate program to other chiefs at UIHC.	6.33		6.50		6.71	

Scales used:

Items A & B: 1 - no clear concept; 7 - very clear concept

Items C, D, E & F: 1 - strongly disagree; 7 - strongly agree

Item G: 1 - not recommend; 7 - highly recommend

\* - reverse scoring

**Supplementary Table 6: End of Program Evaluation Form.**

Items 1 & 2 have two components. The “Before the Program” column (left side) examines your perspective at the beginning of the Program. The “End of Program” column (right side) is meant to evaluate your perspective at the completion of the Program. Think carefully about your responses and mark them accordingly.

1. How would you rate your ability to describe your style or approach to leadership?

BEFORE THE PROGRAM							END OF PROGRAM								
1	2	3	4	5	6	7	1	2	3	4	5	6	7		
No clear concept							Very clear concept				No clear concept			Very clear concept	

2. How would you rate your ability to articulate the characteristics of effective leaders?

BEFORE THE PROGRAM							END OF PROGRAM								
1	2	3	4	5	6	7	1	2	3	4	5	6	7		
No clear concept							Very clear concept				No clear concept			Very clear concept	

3. Relative to before starting the program, how would you rate your understanding of the following topics that were discussed?

A. Leading vs. Managing (homework: Interview a Leader)

no change; reinforced what I already knew	somewhat helpful; picked up a few tidbits	moderate; new insights gained	greatly improved; used during my chief year	significant insights; made improvements as a leader
1	2	3	4	5

B. Leadership & Conflict Management (homework: 12 Angry Men)

no change; reinforced what I already knew	somewhat helpful; picked up a few tidbits	moderate; new insights gained	greatly improved; used during my chief year	significant insights; made improvements as a leader
1	2	3	4	5

C. Leadership & Communication (homework: Norma Rae)

no change; reinforced what I already knew	somewhat helpful; picked up a few tidbits	moderate; new insights gained	greatly improved; used during my chief year	significant insights; made improvements as a leader
1	2	3	4	5

D. Leadership & Motivation (homework: Hoosiers)

no change; reinforced what I already knew	somewhat helpful; picked up a few tidbits	moderate; new insights gained	greatly improved; used during my chief year	significant insights; made improvements as a leader
1	2	3	4	5

E. Leadership & Team Development (homework: 5 Dysfunctions of a Team)

no change; reinforced what I already knew	somewhat helpful; picked up a few tidbits	moderate; new insights gained	greatly improved; used during my chief year	significant insights; made improvements as a leader
1	2	3	4	5

F. Leadership & Culture (homework: Devil Wears Prada)

no change; reinforced what I already knew	somewhat helpful; picked up a few tidbits	moderate; new insights gained	greatly improved; used during my chief year	significant insights; made improvements as a leader
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## Supplementary Table 7: Keys to a Successful Program.

- Organizational buy-in
  - Support from GME Council
  - Support from program directors by formally acknowledging participation and time off for attendance/homework assignments
- Participant buy-in
  - Each chief must formally apply and identify 3 personal goals
  - Establishing ground rules during first session
  - Maintaining confidentiality of sessions so that participants can speak openly about issues without fear of reprisal/criticism
- Format
  - Balance between 'open forum' vs. 'planned programming'
    - Facilitators have "triggers" for discussion but allow flexibility in conversations
    - Local leadership challenges woven into discussions
  - Setting deadlines for assignments
    - One week prior to next class in order to compile responses
    - Ensures completion of assignments
  - Assignments serve as bridges between topics
    - Example: questions for observing the movie "Hoosiers" contain motivation and teamwork emphasis
  - Tying content to calendar experiences
    - The session on motivation occurs during the height of recruitment season and 5-6 months into the residency year; addresses how to motivate residents to participate in recruiting
    - The session on transitions occurs when chiefs are about to turn over the leadership role to the new chiefs and moving forward in their own careers
  - Individualized debriefing/evaluation from participants at end of session allows facilitators to see how information was received and what information needs to be readdressed at next class
  - Facilitators meet for 15 minutes after each session to self-assess participation by chiefs, revisit discussions, consider changes for future sessions
- Recognition
  - Executive level acknowledgement from senior leaders such as health system vice president, hospital CEO, dean of college of medicine, residency program director, GME associate dean
  - Formal letter for resident's personnel file acknowledging successful completion of the program
  - Certificate suitable for framing