Assessing the Competency of Leadership Across Medical Education at Geisel

Leadership Curricular Review Task Force Report 2018
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Participants’ input was based on their experience, expertise, and review of leadership competencies, definitions, characteristics and discussion on the following: (Appendix A - Task Force Sample Agenda)

1. What do you perceive as the critical leadership challenges faced by medical students and physician clinicians, educators, and researchers?
2. What do you see as the strengths, weaknesses, opportunities and threats to leadership training at Geisel?
3. What recommendations do you have for optimally teaching & learning core knowledge, skills and attitudes of leading in medicine?
   a. What experiential opportunities exist for students to demonstrate leadership?
   b. What mentoring opportunities exist for students to observe leadership?
   c. What support do you need to both model & mentor students on leadership?

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Leadership in Medicine

Physicians are called upon to lead change and achieve the “Triple Aim” of better health, better care and lower costs every day. Healthcare professionals have the greatest potential to improve the health of society, and their personal and professional leadership development are core to deliver on their potential. Thomas Bodenheimer’s, “Quadruple Aim” challenges leaders in healthcare to go beyond The Triple Aim and prioritize their own health as a means to effectively promote the health of others.1 By modeling healthy behaviors, leaders set the example, give others permission to do the same and foster a culture of personal leadership.2 In the context of medicine, leaders must be competent and equipped to act professionally, to promote the health of others and themselves while working effectively within teams, and to continuously lead improvement.

Medicine while very rewarding, is extremely demanding and the environment has been shown to be toxic to the workforce beginning as early as first year of medical school.3-5 Despite medical advances, complex challenges continue to confront our healthcare workforce in the 21st century.6 Health care systems are inefficient, costly and produce poor access and quality outcomes. Teams are under-functioning and characterized by patterns of poor communication and distrust. Individuals experience high rates of burnout, and professional and personal dissatisfaction exists across specialties. Diminished resources and expanded expectations contribute to a growing epidemic of burnout among health professionals, and this in turn is threatening the health and outcomes of our nation and creating a public health crisis.7-12

The health and sustainability of a team, an organization, and a population depends upon, and is determined by, the health of its leaders and each of its members. All physicians must be trained to understand and overcome individual and systems-based factors that threaten wellbeing and decrease quality of life. The model for improvement serves as a framework from which to advance self-awareness, self-care and self-improvement just as it is applied to foster system awareness, system care and system improvement. Evidence-based strategies for self-care and system wellness are emerging, but more research is needed.13,14 Systems change is needed to support individual success, but it is ultimately successful individual modeling leadership who change culture. Leaders in medicine, who develop themselves personally and professionally positively impact their own health, permit others to do the same, and improve the health of their patients, teams, organizations, and communities within in which they live and work.

A National Call for Leadership Training in Medicine

Leadership is a core competency for current and future physicians and leadership training is a strategic priority of national medical organizations. The American College of Physician Executives highlights a strong correlation between physician leadership development and top-performing health systems. The American
Association of Medical Colleges (AAMC) 2016 Publication “Leading: Top Skills, Attributes, and Behaviors Critical for Success” emphasizes the need for leadership development and managerial skills training. The Institute of Medicine has concluded that academic health centers must “develop leaders at all levels who can manage the organizational and systems changes necessary to improve health.”

Medical education is evolving in parallel with our fast-changing health care environment. As we redesign our health systems to utilize new models of care, optimize population health, and better engage patients, families, and communities, we must also redesign our educational systems to include leadership training. Students, like other members of the health care team experience complex challenges at the front lines, thus incorporating formal leadership training during the formative years of medical school allows for application of skills in real life situations within a supportive learning environment.

**Standardizing the Competency of Leadership Across Medical Education**

A single competency-based framework for leadership in medical education would allow for standardization of training and assessment of outcomes, but this is still lacking in the United States.

In a recent systematic review, authors of *A First Step Toward Understanding Best Practices in Leadership Training in Undergraduate Medical Education* compared curricular content across programs based on the Medical Leadership Competency Framework (MLCF) developed by the United Kingdom National Health Services. Of the 24 programs evaluated, 79% addressed at least three of the 5 domains, which include:

1. Demonstrating personal qualities
2. Working with others
3. Managing services
4. Improving services
5. Setting direction

These five areas reflect similar areas identified as critical in leadership training recommended by the Institute of Medicine (IOM). In *Crossing the Quality Chasm*, the IOM includes communication, teamwork, interprofessionalism, group development and dynamics, and patient safety and quality improvement. Other leaders in the field propose similar recommendations with recent emphasis on the importance of self-awareness and personal development.

Collectively, guidelines emphasize that physicians who are systems thinkers, team players and balanced individuals will perform optimally to improve health and health care. Leaders who act professionally, model self-care, promote team success and effectively lead change positively impact their own health, and coach others to do the same. Well-trained physician leaders will transform the medical culture and improve the health of their patients, teams, organization, community and ultimately the population.
Best Practices Methods for Leadership Training in Medical Education

A 2014 systematic review for leadership initiatives in medical education identified 485 articles, but only 24 curricula met the inclusion criteria that 1) included medical students at any point in their UME program and 2) had to describe or evaluate “a curriculum that included one or more interventions in which developing new leadership skills, attributes, or competencies was the primary goal.” Authors of the study were in the pilot year of the Duke Leadership and Education and Development (LEAD) program at Duke University School of Medicine and their aim was to determine:

1. The characteristics of leadership curricula, including the qualities, skills, and competencies taught, and
2. The extent to which these curricula were aligned with a known model of leadership in medicine.

They wished to understand how best to incorporate leadership training into an already-crowded UME curriculum, and found that successful programs used the following methods to address this challenge:

- **Longitudinal Exposure** (one semester to all four years of medical school) to leadership topics across clinical and preclinical years.
• **Integrated practice opportunities** within classroom and across clinical settings also across 4 years.
• **Experiential project-based learning** in which to apply knowledge, skills – including service projects in underserved community settings nationally and globally.
• **Diverse Instructors** included clinical as well as basic science faculty, community leaders, hospital administrators and peers.

Effectiveness was measured using the Kirkpatrick training evaluation model. Results varied with an average effectiveness score of 1.5 and a median quality of evidence score of 2. Three programs scored a 4 on both scales and may be considered models for best practice at demonstrating change. 25-27 Forty two percent measured a change in learners’ attitudes, 8% demonstrated modification to learners knowledge or skills, 25% showed change in behaviors, and 17% observed a tangible system level change.

**Personal and Professional Leadership Development - A Core Competency at Geisel**

In 2014, Geisel adopted 8 competencies. The addition of the Personal and Professional Leadership Development competency stemmed from the work of an integrated interdisciplinary faculty and student advisory group across the Geisel community. This group, formed in 2010, functioning under the direction of the Geisel Office of Leadership Development (GOLD), and in accordance with the Geisel mission, to create a community of leaders that promote and foster effective leaders and leadership in themselves, their teams and their community. The process began with a commitment to designing and implementing a comprehensive longitudinal leadership curriculum. The process ends with a future where all community members are optimally supported and functioning as leaders. Specific tasks and initiatives were completed. (APPENDIX B. Leadership Development at Geisel 2010-2017). Evaluation methods were initiated, but stalled in implementation as team resources were cut. Funding for GOLD ended in 2015, but the work continued as part of the Year 1 and 2 Patients & Populations course throughout 2015-2017. Publication on pilot and elective outcomes began and remain in progress, 28 (APPENDIX C. "Prioritizing leadership training in medical education: results of an experiential pilot and regular elective at Dartmouth" is currently in revision for resubmission to Medical Teacher).

**Defining Leadership at Geisel:**
Leadership is defined not by one’s title, but by one’s ability to model professional behaviors and sustain personal wellness, articulate a vision, inspire others to collaborate, transform challenges into opportunities, and deliver meaningful and measurable results.

**Leadership Characteristics at Geisel:**
1. Personal Competence and Character: Knowledge and technical skills are a must; these are necessary but not sufficient to being an effective physician leader. Physicians are held to the highest standard for
professional behaviors and integrity. Health professionals must also sustain personal well-being in order to optimally care for others.

2. Compassion: Caring for patients and collaborating with others are fundamental in medicine. Empathy and appreciation of human life are required on a daily basis and critical to developing trusting relationships.

3. Capable of leading change: Life is impermanent and medical professionals are called upon daily to transform themselves, their practices, and their systems. An effective leader reflects on and learns from successes and failures, responds to feedback, tests different perspectives and possesses the capacity to change as needed.

**Geisel Leadership Competency 2015:**

<table>
<thead>
<tr>
<th>Personal, Professional, and Leadership Development</th>
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<tr>
<td><em>This competency focuses on taking responsibility for self-improvement and well-being.</em></td>
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1. Demonstrate critical and accurate **self-assessment**, reflection, and effective learning strategies to engage in **lifelong learning** and improve one’s performance.

2. Demonstrate **resilience** skills by taking responsibility for one’s own physical, emotional, mental, and social health and well-being, accessing appropriate assistance as needed.

3. Elicit, learn from, and offer constructive **feedback**.

4. Engage in active discussion and debate, taking advantage of different perspectives to advance knowledge and understanding, and improve **decision-making**.

5. Design, implement, and sustain a personal, professional, and leadership **development plan** aligned with one’s values and sense of purpose, with appropriate mentorship.

6. Identify and demonstrate the qualities, knowledge, skills, and attitudes to **lead effectively** at the level of one’s self, team, organization, and community.

7. Be a positive **role model** to fellow students in academic, clinical, research and/or service-learning contexts.

**Student Identified Leadership Challenges:**

In the 2013-2014 Leadership Electives, the following themes emerged as core challenges for students:

1. **Professionalism:** Establishing personal and professional identity in relationship to peers, patients, faculty, family, friends and the community. (Who am I as a physician?)
2. **Personal Wellness**: Handling the pace and maintaining physical, emotional, and social aspects of wellness. Difficulty with isolation and capacity to maintain old and develop new meaningful relationships.

3. **Acknowledging weaknesses**: Managing personal deficits “perfectionism” and maintaining confidence while also asking for help to fill in gaps in knowledge, skills, and general areas for improvement.

4. **Communicating**: Giving and receiving feedback that is constructive, appropriate and effective with peers, patients, and faculty.

5. **Managing Time**: Balancing requests of others with commitment to personal priorities. Managing choices and saying “no” without guilt.

6. **Achieving Shared Goals**: Collaborating with and motivating others on team towards meaningful outcomes; being assertive without being aggressive or passive.

### Leadership Competency: Mapped, Occurring & 2018 Recommendations

The above Personal, Professional, and Leadership Development (PPLD) competency was reviewed, mapped and revised. Geisel 2015 Competencies were activated, and curriculum data were mapped for the Class of 2019, using the new competencies beginning AY 2016-2017. Geisel curriculum inventory and mapping of existing course objectives were prepared and reviewed per OASIS - Illos inventory [https://ilios.dartmouth.edu/](https://ilios.dartmouth.edu/). Material is limited by revisions that may not be updated annually. Task force members and contributors reviewed current and past-proposed course objectives and noted where objectives were occurring, but had not been mapped. Mapping includes only content from required courses that all students are exposed to and thus excludes electives and optional programs. Additionally, task force members and contributors made future recommendations for course objectives. The 7 PPLD sub-competencies were condensed to 6, secondary to redundancy. ([APPENDIX D. Leadership Competency: Mapped, Occurring and 2018 Recommendations](#))

### Leadership Competency Assessed: Student Data 2017

The PPLD competency is assessed in many different courses, clerkships, and graduate surveys (please find the list below). Unfortunately, assessment questions are currently only linked to competency objectives 1 and 3 (self-directed learning and elements of feedback). Additionally, the wording of questions and associate scales use varying terminology making direct comparison difficult. The remaining competency objectives are not directly linked to any existing evaluations or assessments, lacking the ability to appropriately gauge student mastery or exposure to these topics.

Also important to note is that matters related to wellness (competency objective number 2) have become a larger topic assessed in the AAMC’s Y2 survey. And while Geisel created a Y3 “Wellness” survey using numerous elements from the Y2 survey, this Y3 survey was aimed more at “temperature taking” than assessing the curriculum’s ability to deliver and teach topics related to wellness.
GEISEL EVALUATIONS:

YEAR 1:
• On Doctoring Student Performance Evaluation – Maps to Objective 3

YEAR 2:
• On Doctoring Student Performance Evaluation – Maps to Objective 3

YEAR 3:
• Family Medicine Student Performance Evaluation – Maps to Objective 1 and 3
• Inpatient Medicine Student Performance Evaluation – Maps to Objective 1 and 3
• Surgery Student Performance Evaluations – Maps to Objective 1 and 3
• Psychiatry Student Performance Evaluation – Maps to Objective 1 and 3
• Pediatrics Student Performance Evaluation – Maps to Objective 1 and 3
• OB GYN Student Performance Evaluation – Maps to Objective 1 and 3

YEAR 4:
• Neurology Student Performance Evaluation – Maps to Objective 1 and 3
• Geriatric and Ambulatory Medicine Student Performance Evaluation – Still using older competencies

POST-GRADUATION:
• PGY 1 Student Survey – Maps to Objective 1 and 3
• PGY 1 Residency Director Survey – Maps to Objective 1 and 3

Conclusions

Summary of Findings

Leadership skills are essential in all disciplines in medicine. Formal leadership training in undergraduate medical education is in its infancy, but is a growing priority across medical schools in our nation. The leadership competency is a priority in training medical students nationally and at Geisel.

Curriculum redesign should encompass leadership training and include an ability to cultivate role models competent in self-awareness, self-care, and self-improvement and capable of team collaboration and leading systems change. Students must be prepared to succeed as individuals, communicate and collaborate effectively within relationships across diverse environments, and improve the systems in which they work.
Beginning in 2010, Geisel had been in the forefront of leadership training including defining the competency, describing objectives, and designing leadership content and experiential learning opportunities. Evaluation methods were initiated, but stalled in implementation as resources were cut. Given past work and current commitments, Geisel has the potential to not only graduate competent physician leaders, but to excel in delivering, assessing and publishing on leadership training in medical education.

**Task Force SWOT Results**

After reviewing recent literature, past work at Geisel and current curricula inventory mapping and student survey data, the task force individually and collectively completed a SWOT. Highlights of perceived Strengths, Weaknesses, Opportunities and Threats to Geisel’s ability to effectively deliver a leadership competency include the following:

**Geisel Strengths and Successes:**
- A Personal, Professional and Leadership Development Competency defined in 2015.
- GOLD initiated pilots including an 80 hour – 4 year-long Comprehensive Longitudinal Leadership Course (CLLC) designed with content and methods consistent with current Best Practice programs.
- Diverse group of faculty and student champions committed to modeling leadership and integrating leadership principles and training.

**Geisel Weaknesses:**
- Curriculum mapping and student assessment processes, while extensive, are limited by gaps in standardization and adoption of common use of terminology, thus limiting the validity and ability to fully assess competence.
- Leadership program assessment currently limited to past electives and pilots. To assess outcomes and contribute to the literature, we need to reengage a robust evaluation team.

**Geisel Opportunities:**
- A growing body of literature exists describing effective pedagogy consistent with the proposed principles and methods (longitudinal, integrated, experiential, project based and taught by a variety of faculty) for leadership
curriculum at Geisel. These can be formally addressed and fully integrated at appropriate levels across all 4 years.

- Experiential opportunities exist for many students with applied leadership projects in service and research areas. Expanding these so that ALL students are exposed to experiential learning environments and complete projects in which they demonstrate core knowledge, skills and attitudes of leadership.

**Geisel Threats:**
1. Students at Dartmouth lack tools and mentoring critical for longitudinal self-directed learning. Tracking their personal and professional learning needs over the course of their medical training is foundational to self-awareness, and is a cornerstone of successful leadership. Medical students must have supportive and sufficient role models and advisors whom they know, trust and can formally review personal goals with over their entire training period.
2. The educational system is still designed to favor block learning and not experiential learning over time. Limited time in curriculum and limited time and resources for faculty to collaborate prevents a cohesive achievement of complex learning objectives over 4 years.

**Recommendations**
To effectively deliver and assess our leadership competency for all Geisel graduates, the Task Force recommends the following six items. The scope of the first two recommendations is broader than leadership, and applies to the process of assessing all competencies at Geisel. While analyzing data and completing the work, the task force and medical school leadership noted this was the first comprehensive review from the context of a competency, as opposed to a course or a learner. Thus the first two recommendations are from a systems process perspective.

1. **Enhance the Competency Review Process.** To graduate the complete physician, we must assure our ability for faculty to teach and for students to learn the Geisel competencies. A robust effort is needed to communicate priorities, standardize terminology, and simplify processes for mapping, evaluating, and assessing all competencies at Geisel. Formal and ongoing training will enhance consistency over time.

2. **Update 2014 Geisel Competencies.** Overlap exists among the 8 Geisel MD program level competencies (adding to the complexity of the above recommendation). Changes to the PPLD Competency have been suggested to compliment all other competencies, particularly Communication, Professionalism, Team Work and Collaboration, and Evaluation and Improvement. We suggest a comprehensive competency review and revisions (as needed) within the next 2 years and every 5 years thereafter.
3. **Name a Leadership Champion and Resources.** Teaching leadership optimally in medical school requires both bursts of knowledge and ample opportunity for skills development and experiential application at the individual and team level. We recommend supporting a PPLD champion with resources to assure delivery and assessment of the PPLD competency. (Equivalent of GOLD. A PPLD champion will be responsible to

a. Direct a team of inter-professional faculty/students to oversee leadership development at Geisel.
b. Deliver teaching bursts in level-appropriate point courses (OD, POI, P&P, ICE, HSP).
c. Partner with all course and clerkship directors to assure skills development continuously across 4 years.
d. Oversee project-based experiential learning opportunities, placed strategically across 4 years.
e. Partner with medical school leadership to align the PPLD competency within a longitudinal mentoring program (#6 below) and within a personal portfolio (# 7 below).
f. Partner with evaluation experts to assess teaching and learning, and contribute to the literature.
g. Visit best practice schools to understand and collaborate on leadership training (i.e. Brown, Duke and UCLA).

4. **Adopt the PPLD curriculum across 4 years for ALL students.** The Leadership Curriculum Task Force has reviewed the PPLD competency, revised and proposed course objectives, mapped existing course content and made recommendations for future areas of PPLD teaching and learning in the following three areas. **(Colors correspond to APPENDIX D. Leadership Competency: Mapped, Occurring and 2018 Recommendations).**

   a. **Leadership Knowledge Acquisition:** Formal core content to be taught in lecture-discussion format as theory bursts within the classroom setting across years 1, 2, 3 and 4.

   b. **Leadership Skills Development:** Practice opportunities to be integrated longitudinally across multiple courses with purposeful repetition across 4 years. Methods for skills practice and assessment can include case-based, clinical practice and simulated learning.

   c. **Experiential Leadership Application:** Projects linked to real life challenges provide ALL students the ability to combine knowledge and skills, and demonstrate the capacity to LEAD Change. Challenges that students face across all fours years serve as prompts to assure leadership capabilities at the level of the

   i. Individual – personal learning plan (PLP), personal health improvement plan (PHIP), personal leadership plan (PLEAD-P), (Year 1/2)

   ii. Team – team improvement plan (TIP) (Year 1/2), and

   iii. System/community level – system improvement plan and community service plan (CSP) (Year 3/4).
5. **Implement a Longitudinal Mentorship Program.** No single course or clerkship is capable of monitoring or addressing a student’s academic, physical, mental, emotional or social needs over the four years of medical school. Thus, a new design is needed where students are coached with a continuous faculty member within a small-group setting with peers over 4 years. Students’ comprehensive personal and professional medical school experience is the responsibility of Geisel, yet, many objectives necessary to achieve the PPLD competency cannot be met within the given medical school structure or resources. The purpose of this program is to:
   
   a. Support students’ longitudinal development.
   b. Collect information for formative assessment.
   c. Foster the habit of lifelong learning.
   d. Create a faculty-student peer learning community over time.
   e. Maintain record of progress and accomplishments.
   f. Support summative assessment of students and programs.

   This program should be inclusive of:
   
   a. Faculty development necessary to assure training of coaches.
   b. Standardized Objectives to assure standard outcomes.
   c. Protected time for faculty coaches to effectively mentor and model personal leadership and wellness.
   d. Peer mentoring and training as needed.

6. **Adapt a Personal and Professional Leadership Development Portfolio.** A comprehensive electronic tool will assure standardization and assist ALL students and their faculty partners to adequately monitor and address learning and leadership goals over their 4-year period in the program above. Hofstra and other medical schools have well developed models that we have viewed and can adapt to Geisel needs. *(Appendix E Geisel Portfolio Task Force Report 2012)*

**Appendices**

A. Task Force Sample Agenda  
B. Development at Geisel 2010-2017  
C. Draft of Publication "Prioritizing leadership training in medical education: results of an experiential pilot and regular elective at Dartmouth"  
D. Leadership Competency: Mapped, Occurring and 2018 Recommendations)  
E. Geisel Portfolio Task Force Report 2012
A. Task Force Sample Agenda

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<th>Meeting</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tr>
<td>2017 Leadership Curricular Review Task Force</td>
<td>Dec, 4 2017</td>
<td>3-5 pm</td>
<td>TBD, Geisel Campus</td>
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**Vision**

In accordance with the Geisel mission, we aim to Create a Community of Leaders that Foster Effective Leadership in themselves, their teams and their community. The process begins with: Assessing how the current Leadership Competency IS being taught and learned. The process ends with: A recommendation for how the Leadership (PPLD) Competency Should and Could be Achieved at Geisel.

**Key words from 7 PPLD MD Program Objectives**

1. Self-Assessment/ Life-long learning
2. Self-Care
3. Feedback
4. Communication- Decision Making
5. Self-Improvement
6. Collaboration
7. Role Modeling

**PRIORITIES**

Oct: Assess background, current data and best practices on teaching and learning the competency of leadership
Dec: Mapping & Recommendations for What IS, Should (Essentials) and COULD (Best Practice Comparable) be taught

**Task Force Members**

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<thead>
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<th>Leader</th>
<th>Facilitator</th>
<th>Minutes/Action Items/Parking Lot</th>
<th>Timekeeper</th>
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<td>Cathy Pipas</td>
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Pending Confirmation: Jason Valle, Debra Hastings, Amanda Albright, Steve Plume, Vicki Patric, Richard McNulty, Mike Zubkoff, Hyun O. Hong, Natalie BV Riblet, Kathleen M. Wira Sarah Freemantle, Natalie Guzman, Craig Westling

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<tr>
<th>Topic/Presenter</th>
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<th>Action Items Handouts</th>
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<tr>
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<td>Presenter: All</td>
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<td><strong>(30 min)</strong></td>
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<tr>
<td>1. Provide training, consistency and standardization of terminology for mapping and assessment of all competencies at Geisel</td>
<td>MEC proposal - Jan MEC presentation Jan</td>
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<tr>
<td><strong>Summarize Recommendations, Next Steps and Feedback</strong>&lt;br&gt;<strong>Presenter: Cathy</strong></td>
<td>2. Support an equivalent of the Geisel Office of Leadership Development (GOLD) with resources to assure integration of learning, teaching and assessing PPLD competency. 3. Incorporate Competency Level changes noted in PPLD with next Competency Revision 4. Adopt PPLD sub-competencies as recommended per the 2017 Leadership Curriculum Task Force 5. Other?</td>
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B. Development at Geisel 2010-2017

LEADERSHIP DEVELOPMENT at GEISEL 2010-2017

Vision

A Community of Leaders that Promote and Foster Effective Leadership in Themselves and Others

Goals and Objectives

1) Develop and Sustain a Core Faculty and Critical Infrastructure to Support Leadership Development - Geisel Office of Leadership Development (GOLD)
   a) Maintain monthly meetings of an inter-professional team of students, faculty and administrators from Geisel, DH, TDI and DC who define, design and test leadership curriculum and evaluation.
   b) Identify and train inter-professionals as small group facilitators to facilitate leadership curriculum 2013 (8) 2014(10) 2015 (10) 2016 (23) 2017 (10)

2) Design, Teach and Disseminate Leadership Training and Mentoring to internal / external professionals, including Students, Faculty and Staff
   a) Design and Implement the Applied Leadership Curriculum beginning Aug 2015 for all Geisel first year medical students within the P&P course, 15-16, 16-17
   b) Integrate Applied Leadership Improvement Projects for all Students in P&P course: Team Improvement Project (TIP) with Anatomy Lab Teams 2015-2016, Leading Change Improvement Project (L-ChIP) with Faculty driven projects 2016-2017
   c) Pilot the Applied Leadership Curriculum beginning 2014 for all residents in the Leadership Preventive Medicine Residency at DHMC (2014-ongoing)
   d) Pilot Longitudinal Leadership Mentor Program (4 Student/Mentor Dyads 2015)
   e) Pilot Student Leadership Elective 2013 (12), 2014 (8)
   f) Deliver a 40-hour Leadership CME course to internal / external professionals summer 2012 (Total=147, Internal=55, External=92), 2013 (67), 2014 (138)
   g) Deliver Applied Leadership Curriculum locally, regionally and nationally to inter-professional groups 2013 (60 participants), 2014 (90), 2015 (27), 2016 (>100), 2017 (>100)

3) Facilitate Student Led Leadership Activities and Speaker Series
   a) Support monthly Student Leadership Development Council (SLDC) meetings: 2012-13 (10) 2013-2014 (10) 2014-2015(10)

4) Provide Leadership Assessment, Evaluation, Research and Scholarship
   a) Develop, Implement and Analyze assessment tools to understand short and long term outcomes and impact of all Leadership Training, 2013 included: Being an Effective Leader Scale (BELS), Nine Step Heuristic Exercise, Personal Leadership Plan (PLP), Course and Session evaluations.
   b) Publish/Present annually 2013 – 2, 2014 -2, 2016-1, 2017 (in draft)
   c) Identify applicable Grant and Donor support (TBD)
5) Promote Recognition in Leadership
   a) Deliver Annual Deans Student Leadership Award To the Geisel graduating student who has demonstrated exceptional leadership during his/her time at Geisel 2013-

6) Participate in National Collaborative initiatives to advance leadership in medical education
   a) AAMC LEAD Faculty Partnership, AAMC CFAS Representation, STFM Leading Change Task Force
C. Draft of Publication "Prioritizing leadership training in medical education: results of an experiential pilot and regular elective at Dartmouth"
Prioritizing Leadership Training in Medical Education: Results of an Experiential Pilot and Regular Elective at Dartmouth

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Abstract

Problem
Despite the need for future physicians to function as leaders, formal leadership training is lacking in undergraduate medical education curricula. For leaders in disciplines such as business and law, traditional training includes communication and strategy. We believe these competencies are necessary but not sufficient, and that leadership in medical education should address the ability to know and improve one’s self, articulate a shared vision, transform challenges into opportunities, inspire partnerships, and contribute to meaningful and measurable outcomes.

Approach
Geisel School of Medicine at Dartmouth designed an undergraduate medical education leadership curriculum to incorporate the aforementioned components and experiential learning elements. The eight-week elective was piloted in 2013 and offered as a regular elective in 2014. A total of 20 medical students participated in the elective in these two years. The elective focused on providing tools and skills to improve individual effectiveness and team performance through training in self-assessment, critical thinking, and problem-solving.

Outcomes
A comprehensive evaluation of the elective justified the need for personal leadership training as evidenced by the spectrum of leadership challenges articulated by students (e.g., feelings of burnout, isolation and disconnectedness, time management, clinical incompetence, personal imbalance, and communication conflicts). Students reported that the elective was valuable to them and improved their leadership skills.
Next

Results highlight the need for comprehensive, longitudinal, personalized leadership training in undergraduate medical education.
**Problem**

Physicians are often called upon to provide critical and transformational leadership when faced with complex challenges at the patient, team, organization, and population levels. Leadership training is relevant to all physicians from solo practitioners to academic educators to researchers to physician executives.

In order to prepare medical students to become effective leaders, leadership training must become a core component of undergraduate medical education (UME). UME must evolve in parallel with our fast-changing healthcare environment. As we redesign our health systems to utilize new interprofessional models of care, optimize population health, and better engage patients, families, and communities, developing leadership skills is essential for physicians. Incorporating this training during the formative years of medical school allows for application of skills within a supportive learning environment.

Despite this, today’s medical students are not being adequately trained to lead change. At the turn of the last century, the Undergraduate Medical Education for the 21st Century (UME-21) project called for an organized approach and development plan for an innovative curriculum to address critical competencies needed for students to be able to provide high quality, accessible, and affordable care in the modern healthcare system. Leadership and teamwork, which previously received very little attention in UME, were jointly identified as two of the nine content areas. While interprofessional leadership and team training have become priorities in academic health systems and a joint core competency and recommendation of the Accreditation Council for Graduate Medical Education and Liaison Committee on Medical Education, leadership training for medical students has received much less attention.
There are many examples of leadership programs designed for physicians and other health professionals and, in some cases, across disciplines and professions. At the national level, they include the Association of American Medical College’s Leadership Education and Development (LEAD) Certificate Program, the Society of Teachers of Family Medicine’s Emerging Leaders and Leading Change Fellowships, and the American College of Physicians Leadership Academy. At our local level they include the Dartmouth-Hitchcock (D-H) Leadership Preventive Medicine Residency and the D-H Breakthrough Leadership Development Program. However, a very small proportion of these initiatives reach U.S. medical students.

Lack of attention to leadership in UME is also reflected in the literature. A MEDLINE search (1966-2015) using the MeSH headings “leadership” and “education-medical-undergraduate” yielded 72 articles, the majority of which addressed the need for leadership development and the call for leadership to change medical education rather than the description of leadership as a content area in the curriculum. The existing literature that describes curriculum changes focuses on acquisition of new knowledge and skills to address future leadership roles in overcoming health disparities and leading change at the population level. The UCLA PRIME Program addresses issues of self-care, burnout, and relationship management, but aims to do so focused on preparing students for future challenges of working with underserved communities. The literature remains limited to examples of leadership training meant to equip students to overcome the immediate, real, and complex challenges they face day-to-day as opposed to knowing themselves and their personal strengths and limitations well enough to be able to drive true change in ever more complex healthcare environments.

Traditional leadership training in medicine has emphasized strategy, performance, and action-oriented management skills with gaps in addressing personal growth and self-awareness
and links to meaningful outcomes.³ Non-medical experts representing insurance companies, economists, public health leadership, and community and business administrators generally teach these areas. Content can include team building, economics, finance, policy, and managed care.¹³⁶

In UME, leadership training, when offered, focuses on developing knowledge, skills, and attitudes primarily around three domains: communication, strategy and performance, and systems improvement.¹⁵⁶ Consistent with accepted learning theory, student satisfaction in leadership training is reported highest when delivered in an iterative process aligned with appropriate learner level and when content is relevant and experiential.⁷

Leadership training is often part of students’ exposure to systems improvement. In this context, leadership topics vary from demonstrating the use of simple quality improvement (QI) tools to analyzing systems failures and designing and implementing change at the frontline. Students in some institutions are asked to map clinical microsystem processes; identify factors contributing to quality, safety, and costs; and apply experiential learning within clinical teams and to complete practice or community improvement projects.⁵⁶⁸

However, to date, leadership training that applies tools and processes to focus on personal transformation as an essential component of effective leadership has not been described, nor implemented, in UME.

Approach

The focus of our leadership elective at Geisel School of Medicine at Dartmouth in 2013 and 2014 was to pilot and assess educational content and methods for understanding and applying personal leadership skills among medical students; “personal,” because when it comes
to changing, we often overlook the fundamental truth that systems do not change in any meaningful way until and unless people change first. We envisioned creating a community of learners who would promote and foster effective leadership within themselves and others. The purpose of the elective was to provide students with a deep understanding of the personal knowledge and skills required to be an effective leader.

The process of curriculum design began with a commitment to merge the more traditional leadership training components of communication, strategy, and systems improvement with personalized, self-reflective components built upon Self-determination Theory (SDT). The curriculum was developed to apply systems improvement processes to personal improvement as a means to improve leadership at the team, organizational, and community levels. Our aim was to create a learning environment wherein the following occurred:

- Personal and professional development and transformation was supported through guided self-assessment, self-reflection, self-discovery, and self-monitoring to increase motivation, performance, satisfaction, personal effectiveness.9

- Learning communities were created and supportive mentors were provided to foster team-based learning, enhance communication, strengthen relationships, and increase trust, performance, and outcomes.10

- Quality improvement and systems thinking were incorporated to demonstrate that the QI framework, tools and processes can be applied to individual change and to emphasize that improvements must be measured.8

Eight, two-hour sessions were ultimately developed (see Table 1) wherein students completed independent readings and were guided through self-reflective, team-based, and experiential learning approaches. Learners identified a personal leadership challenge and vision
and aligned their goals towards overcoming the challenge and achieving the vision. They assessed and analyzed personal strengths and weaknesses in order to prioritize and execute personal improvements, demonstrated effectiveness in assessing and directing their own learning needs, and recorded reflections in learning journals. Students were guided in discussions on readings and reflections in small and large groups. There was an emphasis throughout the elective on individual reflection as well as team-based learning. An overview of how each session was structured is described in Table 2.

An evaluation plan, consisting of four tools (described in Table 3), was designed and implemented with the 2013 pilot elective and 2014 regular elective. The evaluation plan and tools were reviewed in advance by the Institutional Review Board (IRB)/Committee for the Protection of Human Subjects (CPHS) at Dartmouth and given exempt research designation. The plan and tools were also reviewed in advance by the medical school committee charged to protect students’ academic interests. The evaluation plan for the learners and the curriculum was linked to five overall elective learning objectives:

1. Demonstrate effective interpersonal, team-based skills within a small group.

2. Identify a personal leadership challenge, differentiating its content and context, and the role of language in shaping the challenge.

3. Evaluate one’s ways of being and acting as a leader, and their impact on one’s effectiveness as a leader.

4. Apply the foundations of being a leader to one’s day-to-day activities and interactions.

5. Construct an actionable personal leadership plan.
Outcome

Twenty medical students in total enrolled in and completed the pilot elective offered in 2013 and the regular elective offered in 2014. Eighteen of 20 students completed the Personal Leadership Questionnaires and General Elective Evaluation. Results showed that a majority of students (range 80.1% to 100%) felt that they were very or extremely able to meet all or nearly all of the learning objectives, and rated the methods and teaching faculty highly. Many students reported that the elective changed their personal attitudes and leadership skills to at least a moderate degree (81.8% and 90.9%, respectively). The students’ comments indicated deep self-reflection and significant self-awareness, as well as mastery of key concepts. Students reported that they appreciated learning from faculty who came from broad, interprofessional backgrounds (e.g., MD, PhD, EdD, MPH, MBA, etc.) because they added varied perspectives to discussions. Students also reported that they appreciated that the experiential learning components were based on their own real-life challenges.

A majority (87.5%) of students who completed the elective demonstrated competency in the culminating assessment called the Nine-Step Heuristic (NSH) which assessed how well participants could identify a personal leadership challenge and apply the elective principles to that challenge. Students stated clear personal leadership challenges around feelings of burnout, isolation and disconnectedness, time management, clinical incompetence, personal imbalance, and communication conflicts; the articulation of these challenges indicated deep self-reflection and significant self-awareness. The students reflected upon why they enrolled in medical school and factors contributing to it being a stressful environment. Many expressed the personal experience of recalibrating their confidence level from feeling competent and successful to adoption of a rookie mentality with a fear of failure. NSH responses demonstrated that the
students understood and were able to apply key leadership concepts to a leadership problem of their own choosing. They used the elective content, student peers, and faculty mentors to gain new confidence and leadership skills. NSH findings suggested that the pilot elective taught key concepts effectively, and that student participants were able to learn the key concepts of “leading yourself” while in a period of intense self-awareness and self-doubt.

Eighteen of 20 students completed the Personal Leadership Plan (PLP) which assessed students’ ability to write a specific, measurable, achievable, results-focused, and time-bound (SMART) goal of intended changes/actions. Most leadership goals were personal, non-technical goals focused on self-improvement. The follow-up survey, which asked about implementation of intended changes and actions, was completed by 14 students (of the 18 who completed the initial PLP). There was a range in students’ “confidence” to complete their goals. Nevertheless, seven (of 18) respondents completed their goals within three months and many of the others were “mostly” or “partly” finished.

Next Steps

Leadership training must begin in medical school and should include a focus on personal awareness, improvement, and transformation. The content of leadership curricula should be broader than it has traditionally been so as to include not only the domains of communication, strategy, and systems improvement, but also self-reflection, critical thinking, and team-based experiential learning around real and complex personal challenges. We cannot solve our quality, cost, and access challenges in healthcare with technical solutions alone. As educators, we must equip future physicians to be effective leaders. UME leaders and educators have the responsibility to align clinical, educational, and research priorities to assure all medical students
have optimal learning environments inclusive of inter professional mentors, in which to become competent leaders of change.

The results of our two electives (pilot and regular elective) show that transformational leadership learning objectives can be attained by medical students within a relatively short period of time. To understand the full impact and ability to transform personal leadership, however, a longitudinal model for teaching and evaluation is critical. To that end, our pilot elective has inspired a new leadership competency at the medical school and a four-year long *Applied Leadership* curriculum as part of the new Patients and Population: Improving Health and Healthcare course, beginning summer 2015, for all first-year medical students at Dartmouth. This new longitudinal course incorporates the educational components that we piloted in five redesigned modules: 1) personal health and wellness in the face of change, 2) team assessment and performance, 3) personal assessment of leadership styles and skills, 4) transformative leadership, and 5) cost-benefit analysis on decision-making with a focus on ethical leadership. Students will complete two longitudinal improvement projects—the first focusing on personal improvement and the second on team improvement based upon challenges faced within their anatomy small groups.

When students have the opportunity to analyze and overcome real, personal challenges in a supportive learning community they become better equipped to address the complex changes needed to improve the healthcare system. Medical students must be prepared to succeed personally, establish effective relationships in a diverse, complex environment, and strive as leaders to improve the systems in which they work.
Acknowledgements

The authors wish to thank all of the students and faculty who have and continue to collaborate to design, implement, and evaluate the *Applied Leadership* curriculum at Dartmouth.

Funding/Support

None.

Other Disclosures

None.

Ethical Approval

The evaluation plan and tools were reviewed in advance by the Institutional Review Board/Committee for the Protection of Human Subjects, as well as the medical school committee charged to protect students’ academic interests.

Disclaimer

None.

Previous Presentations

None.


Table 1. Leadership Elective Topics by Session

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leadership Challenges and Language in the Human World</td>
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<tr>
<td>2</td>
<td>What Impacts Your Ability to Lead Effectively: Contexts and Occurring</td>
</tr>
<tr>
<td>3</td>
<td>Language Leadership Performance Model</td>
</tr>
<tr>
<td>4</td>
<td>The Foundations of Leadership Part 1: Awareness</td>
</tr>
<tr>
<td>5</td>
<td>The Foundations of Leadership Part 2: Integrity</td>
</tr>
<tr>
<td>6</td>
<td>The Foundations of Leadership Part 3: Authenticity and Commitment</td>
</tr>
<tr>
<td>7</td>
<td>Re-contextualizing the Leadership Challenge</td>
</tr>
<tr>
<td>8</td>
<td>Applying and Evaluating What You Learned</td>
</tr>
<tr>
<td>Time Allotment</td>
<td>Activity</td>
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<td>----------------</td>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>Optional</td>
<td>Pre-session dinner with faculty mentors</td>
</tr>
<tr>
<td>30 minutes</td>
<td>Overview of key concepts presented in a large group setting</td>
</tr>
<tr>
<td>55 minutes</td>
<td>Team-based, small-group (four peers and two inter professional mentors) critical thinking and problem-solving discussions</td>
</tr>
<tr>
<td>30 minutes</td>
<td>Personal experiential learning activity using actual student leadership challenges and cases</td>
</tr>
<tr>
<td>5 minutes</td>
<td>Wrap-up with review of next session’s topics</td>
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<tr>
<td>n/a</td>
<td>Short de-brief post-session with a non-faculty facilitator</td>
</tr>
</tbody>
</table>
**Table 3. Elective Evaluation Instruments**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Construct Evaluated</th>
<th>Evaluation Questions</th>
</tr>
</thead>
</table>
| Personal Leadership Questionnaire (pre- and post-elective) | Leadership attitudes, experiences, skills, and training | **Pre-elective:** What are the students’ pre-elective attitudes about and experience with leadership positions, skills, and training?  
**Post-elective:** Did the elective result in changes in the participants’ attitudes, experiences, skills, and behavior? |
| Nine-Step Heuristic | Competence in application of leadership principles | Can the participants in the elective identify a personal leadership challenge and apply the principles that were taught to their own case? |
| General Elective Evaluation | Satisfaction and perspective on mastery and purpose | What was the students’ assessment of various aspects of the elective? Did the participants report mastery of elective concepts and language? |
| Personal Leadership Plan (initial and follow-up*) | *Initial:* Ability to write a specific, measurable, achievable, results-focused, and time-bound (SMART) goal of intended changes/actions  
*Follow-up:* Implementation of intended changes and actions | *Initial:* What do participants want to learn or change in relation to a topic covered in the elective? Strategies? Timeline? Measures? Resources?  
*Follow-up:* To what extent did students follow through on the goals and actions they described in the initial Personal Learning Plan? |

*Follow-up Personal Leadership Plan was delivered three months post-elective completion.
To: Mary Turco
Date: 1/22/2014
From: The Committee for the Protection of Human Subjects

Committee

Exemption Granted

Action: CPHS #:
23854

Study Title:
Outcomes Measurement: The Science and Practice of Leading Yourself
### Leadership Competency: Mapped, Occurring and 2018 Recommendations

<table>
<thead>
<tr>
<th>Personal Professional and Leadership Development (PPLD) Competency</th>
<th>Mapped (Class of 2019 AY 16-17)</th>
<th>Occurring (not mapped) (Y1- P&amp;P occurred AY16-17, not 17-18)</th>
<th>Recommendation for AY 18-19 and beyond</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PPLD Core Competency (MD Program Objective #1)</strong></td>
<td></td>
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</tr>
<tr>
<td><em>Demonstrate self-awareness and capacity for lifelong learning and personal improvement (2017)</em></td>
<td>Y1-Respiration/Cardio; HAE I; Biochem; On Doc; HAE II; P&amp;P; Neuroscience; Metab</td>
<td>Y2- On Doc; Hematology; Bone &amp; Tissue; Kidney; Endocrine; GI; Derm; Themes; Reproduction; ID; Respiration; Cardiology; Neurology Y3- Family Med; Inpatient Med; OB Gyn; Peds; Psy; Surg</td>
<td></td>
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</tbody>
</table>

#### Course Objectives

<table>
<thead>
<tr>
<th>Discuss the value of self-reflection and self-assessment</th>
<th>OD</th>
<th>P&amp;P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflect on one’s own leadership strengths, areas for improvement, opportunities and threats</td>
<td>OD (V), Y1 Micro&amp; Immuno, HAE, Y2 and Y4 Pharm, , ICE, HSP</td>
<td>P&amp;P</td>
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<tr>
<td>Reflect on one’s own bias and prejudice</td>
<td>Biochem, OD, SBM, POI, Y2 Pharm, ICE, Y3MED, All-CI(V)</td>
<td>OB, All Clerkships</td>
</tr>
<tr>
<td>Define personal values, mission and vision</td>
<td>P&amp;P</td>
<td>Formal longitudinal mentorship program and portfolio</td>
</tr>
<tr>
<td>Analyze personal feelings, thoughts, actions and behaviors</td>
<td>OD, POI, Y3- Peds, Psych, FM, OB, HSP</td>
<td>All Clerkships</td>
</tr>
<tr>
<td>Perform formal self-assessment using validated tools (Ex. PSS, TKI, Test Error Assessment, AAMC Career Survey, other…)</td>
<td>Learning Support Office (V), Y3/4 Advising</td>
<td>TKI- P&amp;P</td>
</tr>
<tr>
<td>Apply narrative writing to reflect on personal learning’s</td>
<td>Y1 Micro &amp; Immuno, OD, POI, SBM, Y2 &amp; Y4 Pharm, Y3 ICE, FM, Psych, Med, Peds</td>
<td>PBL</td>
</tr>
<tr>
<td>Discuss and Monitor personal learning successes, gaps and priorities over time (PERSONAL LEARNING PLAN)</td>
<td>OD-1, OD-2, POI, FMC, Peds,</td>
<td>Formal longitudinal mentorship program and portfolio</td>
</tr>
<tr>
<td>Personal Professional and Leadership Development (PPLD) Competency</td>
<td>Mapped (Class of 2019 AY 16-17)</td>
<td>Occurring (not mapped) (P&amp;P occurred AY16-17)</td>
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<tr>
<td><strong>PPLD Core Competency (MD Program Objective #2)</strong></td>
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</tbody>
</table>

*Demonstrate personal resilience and care of one’s physical, emotional, mental, intellectual, financial, spiritual, and social well-being.*

Demonstrate resilience and self-care skills by taking responsibility for one’s own physical, emotional, mental, and social health and well-being, and accessing appropriate assistance as needed.

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>T1- On Doc</th>
<th>T2- On Doc; Kidney</th>
<th>T3- Peds; OB Gyn</th>
<th>P&amp;I-Extended POI facilitator grouped with clinicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define self-care and resilience and describe the importance of both for health professionals</td>
<td>OD(V), POI, SBM-Psych, Y3 Psych, ICE, AMS(V)</td>
<td>POI, SBM (Psy), ICE, HSP</td>
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<tr>
<td>Describe the impact of physician burnout on individuals, teams and communities</td>
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<td>POI, SBM, ICE, HSP</td>
</tr>
<tr>
<td>Discuss factors that threaten personal wellness</td>
<td>OD, POI, SBM, ICE, HSP</td>
<td></td>
<td></td>
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<tr>
<td>Discuss factors that threaten organizational wellness</td>
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<td>P&amp;I, HSP</td>
</tr>
<tr>
<td>Task</td>
<td>Responsible Party</td>
<td>Additional Information</td>
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<tr>
<td>Discuss evidence-based strategies that support physical, emotional,</td>
<td></td>
<td>SBM, POI, HSP</td>
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<td>mental, intellectual, financial, and social wellbeing</td>
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<tr>
<td>Monitor personal health for stress and risks for burnout and access</td>
<td>Stud Affairs(V)</td>
<td>Formal longitudinal mentorship program and</td>
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<tr>
<td>appropriate assistance as needed</td>
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<td>portfolio</td>
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<tr>
<td>Apply strategies for personal wellness as needed over time. Ex.</td>
<td>SBM- Psych</td>
<td>Formal longitudinal mentorship program and</td>
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<td></td>
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<tr>
<td>mindfulness, emotional intelligence, appreciative inquiry</td>
<td></td>
<td>portfolio</td>
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<tr>
<td>Contribute to a culture of wellness by supporting colleagues in</td>
<td></td>
<td>Formal longitudinal mentorship program and</td>
<td></td>
<td></td>
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<tr>
<td>caring for themselves</td>
<td></td>
<td>portfolio</td>
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<td></td>
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<tr>
<td>Construct A Personal Health Improvement Plan (PHIP)</td>
<td>OD and P&amp;P (16-17)</td>
<td>Formal longitudinal mentorship program and</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>portfolio</td>
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<tr>
<td>Personal Professional and Leadership Development (PPLD) Competency</td>
<td>Mapped (Class of 2019 AY 16-17)</td>
<td>Occurring (not mapped) (P&amp;P occurred AY16-17)</td>
<td>Recommendation for AY 18-19 and beyond</td>
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<tr>
<td><strong>PPLD Core Competency (MD Program Objective #3)</strong></td>
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<tr>
<td><strong>Elicit, learn from, and offer constructive feedback.</strong></td>
<td>Y1- HAE I; On Doc; HAE II; P&amp;P; Neuroscience Y2- Bone &amp; Tissue; Intro Pharm; Cardio; On Doc; ID Y3- Family Med; Surg; OB Gyn; Psy</td>
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<tr>
<td><strong>Course Objectives</strong></td>
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<tr>
<td>Describe formal models for feedback and the feedback loop</td>
<td></td>
<td>OD, ICE Y3 Peds,</td>
<td></td>
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<tr>
<td>Elicit feedback from faculty/teachers regarding personal performance</td>
<td>OD,</td>
<td>OD, PBL, All Clerkships</td>
<td>PBL</td>
<td></td>
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<tr>
<td>Demonstrate personal flexibility and adaptability to feedback</td>
<td></td>
<td>All Clerkships (V)</td>
<td></td>
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<tr>
<td>Provide constructive and timely feedback to peers</td>
<td>OD, HAE, SBM- ID, POI, Y3 Peds, FM, HSP</td>
<td></td>
<td>PBL, CTO, Y2 P&amp;P</td>
<td></td>
</tr>
<tr>
<td>Provide constructive and timely feedback to other health professionals</td>
<td>SBM, HSP</td>
<td></td>
<td>P&amp;P2</td>
<td></td>
</tr>
<tr>
<td>Demonstrate ability to recognize and effectively report unprofessional behavior</td>
<td>Y1 orientation, Y2BPL, Ethics, ICE, HSP,</td>
<td></td>
<td>Simulation recommended in Yr 1/2 &amp; 3/4 for reporting issues relevant to level of learning</td>
<td></td>
</tr>
<tr>
<td>Maintain active relationship with trusted mentor over time</td>
<td>PBL, OD, HSP</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
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<tr>
<td>-----------------------------------------------------------</td>
<td>--------------</td>
<td>---------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide mentorship to others</td>
<td>Big Sis/Lil Sis- Big Bro/Lil Bro (V)</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Personal Professional and Leadership Development (PPLD) Competency

<table>
<thead>
<tr>
<th>PPLD Core Competency (MD Program Objective #5) (from #4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identify the knowledge, skills, attitudes and characteristics necessary for effective leadership among physicians</strong></td>
</tr>
<tr>
<td>Identify and demonstrate the knowledge, skills, and attitude to lead effectively at the level of one’s self, team, organization, and community.</td>
</tr>
</tbody>
</table>

#### Course Objectives

<table>
<thead>
<tr>
<th>Compare and contrast leadership theories and models and their application in medicine</th>
<th>(P&amp;P AY16-17)</th>
<th>Y1 course-TBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define leadership in Medicine</td>
<td></td>
<td>Y1 course-TBD</td>
</tr>
<tr>
<td>Topic</td>
<td>Course/Year</td>
<td>Timeline</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Compare and Contrast the relationship between leadership and management</td>
<td>(P&amp;P AY16-17)</td>
<td>Y1 course-TBD</td>
</tr>
<tr>
<td>Describe character attributes in the context of medicine including: integrity, authenticity, humility, trust and commitment</td>
<td>(P&amp;P AY16-17)</td>
<td>Y1 course-TBD</td>
</tr>
<tr>
<td>Describe the roles of ethics in effective medical leadership</td>
<td>Ethics thread</td>
<td>Y1 course-TBD</td>
</tr>
<tr>
<td>Deconstruct personal leadership experiences and roles</td>
<td>(P&amp;P AY16-17)</td>
<td>Y1/2 &amp; Y3/4-TBD</td>
</tr>
<tr>
<td>Discuss the impact of different leadership skills, behaviors, actions and styles on teams and outcomes</td>
<td>AAMC Career survey</td>
<td>Y1/2 &amp; Y3/4-TBD</td>
</tr>
<tr>
<td>Compare and Contrast physicians roles as leaders in settings including: 1) Clinical, 2) Research, 3) Education, 4) Mentoring, 5) Administration, 6) Policy Advocacy, 7) Public &amp; Population Health, 8) Improvement, 9) Industry and 10) Finance</td>
<td>POI (clinician), SBM themes(clinician), Clerkships (clinician- V), Micro and Immuno (Research), SBM (educ), P&amp;P (QI), HSP (finance and policy)</td>
<td>Career Pathways/ Panel Discussion in Y3/4 (ICE/HSP)</td>
</tr>
</tbody>
</table>
### Personal Professional and Leadership Development (PPLD) Competency

<table>
<thead>
<tr>
<th>Mapped (Class of 2019 AY 16-17)</th>
<th>Occurring (not mapped)</th>
<th>Recommendation for AY 18-19 and beyond</th>
</tr>
</thead>
</table>

#### PPLD Core Competency (MD Program Objective #5) (Combined 4 & 7)
(Complementary to Professionalism, Communication, Collaboration and Teamwork)

**Demonstrate effective leadership personally and as a member of a team in academic, clinical, research and service-learning settings.**

Engage in active discussion and debate, taking advantage of different perspectives to advance knowledge and understanding, and improve decision-making.

PLUS

Be a positive role model to fellow students in academic, clinical, research and/or service-learning contexts.

<table>
<thead>
<tr>
<th>Y1- P&amp;P; CTO; HAE II; Immunology Y2- P&amp;P Y3- Peds; OB Gyn; Family Med</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

**Course Objectives**

- Demonstrate active and authentic listening skills
- HAE, Micro and Immuno, SBM, OD, Y3 FM, HSP
<table>
<thead>
<tr>
<th>Activity</th>
<th>Activities</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead discussion that invites inclusivity of perspectives and diverse audiences</td>
<td>OD, PBL, P&amp;P, Y2/4 Pharm, Micro, Immun, Y3 Clerkships (V), HSP, AMS</td>
<td>HAE, Y3/4</td>
</tr>
<tr>
<td>Demonstrate critical thinking and decision making that incorporates different perspectives</td>
<td>HAE, Y2-Ethics, Biochem, SBM, Clerkships (V), HSP</td>
<td></td>
</tr>
<tr>
<td>Prepare, lead and assess your TEAMs performance; including running an effective team meeting.</td>
<td>HAE, Micro &amp; Immuno, PBL, OD(v), HSP</td>
<td>PBL; Y3/4, Immun, P&amp;P, Y3 Clerkships,</td>
</tr>
<tr>
<td>Manage conflict</td>
<td>P&amp;P2, HSP</td>
<td>Y3 Clerkships</td>
</tr>
<tr>
<td>Demonstrate coaching skills to engage team participation and multiply team success</td>
<td>On Doc; Y3/4</td>
<td>Y3/4</td>
</tr>
<tr>
<td>Demonstrate inter-professional collaboration</td>
<td>P&amp;P; POI, SBM, HSP, Y3 Clerks (V)</td>
<td>Formal longitudinal mentorship program and portfolio</td>
</tr>
<tr>
<td>Demonstrate the roles of effective members of a team, such as leader, facilitator and timekeeper.</td>
<td>PBL, OD, HSP</td>
<td>P&amp;P2</td>
</tr>
<tr>
<td>Demonstrate ability to use data, story-telling, and other tools, to inspire, persuade, motivate, investigate, analyze, and illuminate information</td>
<td>P&amp;P- Pitch, Micro, Biochem, Immun, PBL, Y3 Surg, Peds, OB, HSP</td>
<td>Poster presentation Research / service learning project</td>
</tr>
<tr>
<td>Demonstrate public speaking, oral presentations and scholarly presentation skills</td>
<td>*Added from 7 On Doc, Y3/4 (HSP), Immunology, PBL, P&amp;P, Y3 Clerkships</td>
<td>Poster presentations Research / service learning project</td>
</tr>
</tbody>
</table>
### Personal Professional and Leadership Development (PPLD) Competency

<table>
<thead>
<tr>
<th>Personal Professional and Leadership Development (PPLD) Competency</th>
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<th>Recommendation for AY 18-19 and beyond</th>
</tr>
</thead>
</table>

#### PPLD Core Competency (MD Program Objective #6) (Complementary to Evaluation and Improvement)

**Lead change by setting a vision and executing strategic improvement plans**

Design, implement, and sustain a personal, professional, and leadership development plan aligned with one’s values and sense of purpose, with appropriate mentorship.

| Y1- P&P L-CHIP ’16-17 | Y3- Family Med | | |

<table>
<thead>
<tr>
<th><strong>Course Objectives</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze complex medical and healthcare challenges</td>
<td>SBM, P&amp;P, HSP</td>
<td>P&amp;P, Y3/4</td>
<td></td>
</tr>
<tr>
<td>Formulate direction and articulate a shared vision to engage others and empower change</td>
<td>P&amp;P, HSP</td>
<td>P&amp;P, Y3/4</td>
<td></td>
</tr>
<tr>
<td>Synthesize a needs assessment</td>
<td>P&amp;P, HSP</td>
<td>P&amp;P, Y3/4</td>
<td></td>
</tr>
<tr>
<td>Apply cost/benefit analysis to weigh decisions, align priorities and make choices</td>
<td>SBM, P&amp;P, HSP</td>
<td>P&amp;P, Y3/4</td>
<td></td>
</tr>
<tr>
<td>Manage a strategic improvement plan to include: recruitment of a team, identification of an aim, measurable goals, metrics, monitoring and reporting on outcomes, impact and sustainability</td>
<td>P&amp;P, HSP</td>
<td>P&amp;P Y3/4</td>
<td></td>
</tr>
<tr>
<td>Discuss the complexity of leading change in medicine</td>
<td>HSP</td>
<td>P&amp;P Y3/4</td>
<td></td>
</tr>
<tr>
<td>Apply cognitive reframing principles to address challenges</td>
<td>HSP</td>
<td>P&amp;P Y3/4</td>
<td></td>
</tr>
<tr>
<td>Demonstrate ability to meet expectations and hold others accountable (ex. Team contract)</td>
<td>HSP</td>
<td>P&amp;P Y3/4</td>
<td></td>
</tr>
<tr>
<td>Demonstrate ability to celebrate partial and complete successes</td>
<td>HSP</td>
<td>P&amp;P Y3/4</td>
<td></td>
</tr>
<tr>
<td>Construct and Complete A Personal Learning Plan (PLP)</td>
<td>PBL, Y3 FM, Peds</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
</tr>
<tr>
<td>Construct and Complete A Personal Health Improvement Plan (PHIP)</td>
<td>P&amp;P (past)</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
</tr>
<tr>
<td>Construct and Complete A Personal Leadership Plan (PLEADP)</td>
<td>P&amp;P (past)</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
</tr>
<tr>
<td>Construct and Complete a Team Improvement Plan (TIP)</td>
<td>HSP</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
</tr>
<tr>
<td>Construct and Complete a System (Research) Plan (SIP)</td>
<td>GQ-80%, Stud affairs (V)</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
</tr>
<tr>
<td>Construct and Complete a Community Service Plan (CSP)</td>
<td>GQ-80%, Stud affairs (V)</td>
<td>Formal longitudinal mentorship program and portfolio</td>
<td></td>
</tr>
</tbody>
</table>
GEISEL E-PORTFOLIO TASKFORCE

Charge: To deliver a preliminary design and implementation proposal by 6/30/12
Members

**Chair:** Catherine F. Pipas, MD, MPH
Alison D. Ricker
Ann J. Davis, MD
Brian Reid
Cara A. Clark
Carrie Hertel
G. Dino Koff
Harley P. Friedman, MD
Jennifer K. Friend
Laura Cousineau
Leslie H. Fall, MD
Mary G. Turco, EdD
Michele W. Jaeger
Rand S. Swenson, MD, PhD
Richard Simons, MD
Susan Harper, MD
Student (TBN)
Resident (TBN)
Global Aim Statement

We aim to:
Design/adapt, implement, and evaluate an electronic portfolio process and tool for medical students, residents, and faculty that provides a comprehensive documentation of experiences and performance and sets a global standard as a transportable product into residency, practice, MOC, and beyond.

In:
Geisel School of Medicine at Dartmouth and in the Dartmouth-Hitchcock System

The process begins with:
Acceptance into medical school

The process ends with:
End of professional and community service work
Objectives (Mary, Leslie, Cathy, Alison, Mikki, Jen)
Template for UME (PHASE 1 UME, PHASE 2 GME, PHASE 3 CME)

1. Document individual student **competencies and gaps** in a career-long continuum inclusive of future milestones

2. Provide an accessible, comprehensive summary of student:
   a. **academic performance** for MSPE (dean’s letter), residency application, credentialing and licensing bodies and future promotion and tenure
   b. **professional activities** (teaching, learning, service, research, academic awards, nominations, achievements and accomplishments, etc.)

3. Provide a platform for **personal development**, student active learning and monitoring through self-assessment, reflections, career planning and goal setting

4. Provide a standard and structured **roadmap** for assessment, documentation and remediation by **advisors/mentors** in tracking student progress and identifying gaps (e.g. professionalism, ethics, community service) and allow for detailed resources on all available student opportunities (e.g. dropdown options of research programs)

5. Provide basis for **reports**, including:
   a. Regular advisor/mentor/society leader reviews and roadmap
b. LCME requirements
c. Research analysis database
d. MSPE (formerly known as Dean’s Letter)
e. CV
f. Remediation

**Content** (Ann, Sue, Rand)
The portfolio should be organized into three main folders, with subfolders. When entering data in some fields within the subfolders there will be prompts (as described below) to provide additional information. Entry in some fields will be by way of tables that will be populated.

At entry, the user will be prompted to describe their level (UME, GME, CME). The fields that open (especially under “Academic Development”) will be customized to the level (although will allow access to all fields, if desired by the user).

**Academic Development**
1) Statement of academic goals---short-term, long-term. Prompted to revise periodically.
2) Medical student (UME)
   a) Educational Record—institutions –dates- matriculation/expected graduation, LOA, other
   b) Academic Record – Grades; copy of transcript, narratives of clinical evaluations, etc.
   c) USMLE scores-Part 1 CK, Part 2 CK, Part 2 CS
   d) Course Citations
   e) Academic Honors and Awards
   f) Academic products (papers, posters, presentations)
   g) Disciplinary actions
3) Resident/fellow (GME)
   a) Rotation evaluations
   b) In-service exams
   c) USMLE scores-Part 1 CK, Part 2 CK, Part 2 CS
d) Academic products (papers, posters, presentations)
e) Mentors statement(s)
f) Disciplinary actions

4) Attending (CME)
a) CME – with space for details of the activity and reflection on the importance
b) Non-CME courses and workshops – with similar details to the CME
c) Licensure
d) Staff status/professional affiliations
e) Specialty boards
f) Recertification activities
g) MOC
h) Recertification exams
i) Academic products (papers, posters, presentations)

Professional Development
NB – within “folders” detailing activities there should be cues to encourage logging of pre-activity preparation and post-activity reflection.


2) Development as a medical professional
   a) Professional or institutional organizations and roles
   b) Professional Service (with details of preparation, experience, reflection & mentor comments)
      i) Institutional
      ii) Local
      iii) National
      iv) International

3) Development as a medical educator (this begins as medical student)
   a) Educator Portfolio - See handout
4) Development as a leader
   a) Leadership courses, preparatory activities
   b) Leadership roles – with space for preparation, reflection on lessons learned, documentation of success and growth as a result of the leadership position.

5) Development as a researcher
   a) Courses taken
   b) Skills and techniques learned
   c) Academic products (papers, posters, presentations)
   d) Election to boards, committees or selective organizations
   e) Mentorships (with reflections on the purpose and impact of the mentorship)

6) Professional Honors and Awards – with reflection

Personal Development
2) Interests, hobbies, activities
   a) Engagement with this activity
   b) What has been needed to prepare for this activity
3) Non-professional community engagement, with reflection (e.g., coaching, organizing or participating in recycling effort, town beautification, personal mentoring, other community service, church or school engagement)
4) Community honors, awards and/or recognition

Additional Information:
www.mededportal.org/publication/1659
## Examples *(Ann, Cara, Laura)*

<table>
<thead>
<tr>
<th>Medical School</th>
<th>System/product</th>
<th>Notes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYU</td>
<td>Professional Development Portfolio</td>
<td>* Not well received by students, but very well organized</td>
<td>Conversation and article: Acad Med. 2007 Nov;82(11):1065-72.</td>
</tr>
<tr>
<td>NYU</td>
<td>3 other segments incl. clinical skills, foundational knowledge, scholarship &amp; research</td>
<td>These units not as developed as the Professional Development segment</td>
<td>ALEX Management System, on website</td>
</tr>
<tr>
<td>U. Ottawa</td>
<td>Simple blogging feature for personal development</td>
<td>Concluded that open architecture was best</td>
<td>Acad Med. 2012 Jun;87(6):744-751</td>
</tr>
<tr>
<td>UCSF</td>
<td>Portfolio milestones, competencies, reflections &amp; reviews of reflections, disciplinary</td>
<td>Readily available for anyone to see For small group use (e.g.: yellow card can be given by reviewer)</td>
<td>Web site MedEd Portal: <a href="https://www.mededportal.org/publication/9086">https://www.mededportal.org/publication/9086</a></td>
</tr>
<tr>
<td>U. Washington</td>
<td>Professional Goal Work, mentor-mentee, discussed and revised at face to face meetings</td>
<td>Short and long term goals (GME)</td>
<td>Conversation Web site</td>
</tr>
</tbody>
</table>

*Template for UME

### Additional Examples & Information

[http://www.dartmouth.edu/~csrc/students/portfolio/index.html](http://www.dartmouth.edu/~csrc/students/portfolio/index.html)
http://ctl.byu.edu/sites/default/files/ELI3001.pdf

http://portfolio.psu.edu/

http://www.eportfolio.lagcc.cuny.edu/support/templates.htm

https://portfolio.umn.edu/faq.jsp#howLong

i-folio at the University of Iowa
http://its.uiowa.edu/apps/services/service.aspx?id=188

NCBI search results from Laura Cousineau
Display the 51 citations in PubMed

https://www.aamc.org/members/gir/gir_resources/112072/viewpoint_aug08.html

http://groups.medbiq.org/medbiq/display/ET/Home
Resource, System and Other Requirements

Resource Requirements

PHASE 1
Implementation team:

- Taskforce working group reorganization – Administration Implementation, Technical Implementation, Curriculum Implementation
- System-wide project manager (UME, GME, CME)
- Developer/Tech support
- Subject matter experts (people who understand processes that the portfolio will support, e.g. Dean’s letter, advising)
- User advisory group – student participants, faculty participants representing UME, GME, CME

Communication team

- Administration Implementor (TBN and Hired?)
- Technical Implementor (? PALT)
- Curriculum Implementor (? PALT/Core/CLL)

PHASE 2
Business analyst (for marketing and distribution)
Software license
Development environment for system configuration, modification and testing

Ongoing Support
System administrator
Reporting/business analyst
Tech support – if web based does OASIS supply this?
Trainer/Operation support for users
Project manager/content expert
User advisory group
Project requirements

- Institutional mandate for 2015
- Integration and prioritization of this project with Curriculum Redesign
- Marketing/communications plan (Curriculum Redesign Communications Working Group)
- Training materials and support (PA or PALT)
Software Requirements (Brian, Cara, Dino, Harley, Jen)

Working Group Scope
• Identify systems currently being used and/or to be implemented at Geisel and DH
• Identify opportunities, common priorities
• Recommend an approach to e-portfolio software that will address immediate needs and future goals

Context
• LCME requires Geisel to provide a plan for implementing e-Portfolios
• AAMC 2010 survey shows less than 50% of US and Canadian Med Schools have implemented e-Portfolios; half of these use home grown systems; no dominant commercial vendors
• Market for e-portfolio tools is new, highly fluid and will evolve in the coming years
• E-Portfolios are new to Geisel; we are learning as we implement

Current Systems at Geisel and DH

<table>
<thead>
<tr>
<th></th>
<th>UME</th>
<th>GME</th>
<th>CME</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>OASIS</td>
<td>E*Value</td>
<td>CME 360</td>
</tr>
</tbody>
</table>
| Currently used for  | Registration for electives, clerkships, sub-Is, course evaluations | n/a – implementation starting in ???
| Planning to implement for | Mid - clerkship feedback, faculty evaluations | Registration, materials, transcripts, course evaluation, ACGME data requirements |
Has E-portfolio capabilities? | Yes
---|---
Med-biquitous compliant? | Yes

**Common Priorities**
- Portable portfolio
- User friendly interface – easy to add information (transcripts, course evaluations, etc.)
- Auto-population of data from existing systems, e.g. schedules
- Auto-generation of commonly used documents, e.g. CV, MSPE (dean’s letter)

**Opportunities**
- Between Geisel/DH
  - Evaluate systems used by each entity and determine whether one system could meet all needs
  - Partner with vendors to develop and test portable portfolios
- Outside the Geisel/DH system
  - Partner with other OASIS institutions
  - Partner with vendor to enhance capabilities

**System Requirements**
- Ability to access portfolio or transfer data to another portfolio system post-graduation
- Ability to interface with Banner, student scheduling system and self-populate
- Med-biquitous compliant
- FERPA compliant
- Compliant with AAMC data standards (when defined)
- Ability to upload documents to add to portfolios
- User friendly and accessible to appropriate personnel
Recommendations
• Address immediate need for Geisel by implementing OASIS e-Portfolio module
• Schedule product demo; include representatives from GME, CME
• Refine approach to addressing common priorities after we’ve all seen the product

Next Steps
Submit report/preliminary proposal by 6/29

August
• Demo of Oasis (Dino & Paul)
• Collaboration and/or integration with Curriculum Redesign (presentation at WGLT meeting)
• Finalize budget

September
• Welcome student and resident members
• Discussion of advising & mentoring program (Ann & Mikki)
• Budget to Dr. Simons for approval

October
• Formation of 3 Implementation Working Groups: Technical, Administrative, Curric
References


