To: Ruth Gaare-Bernheim and Doug Bayliss, for the Strategic Planning Steering Committee

From: Adrian Halme and Donna Chen, on behalf of the Education Mission Strategic Planning Workgroup

Date: May 15, 2014

Re: Education group progress report and early draft initiative ideas

As part of this stage in the strategic planning process, the education mission workgroup identified a guiding vision focused in four areas. These four areas support the values the School of Medicine aspires to in our educational mission. Second, we have identified priority issues that are critical to address quickly as they are foundational to achieving our vision. To address these issues, we highlight first step initiatives that should be implemented immediately. Finally, we present a description of some important initiatives that will be necessary to achieve our vision, and outline some of the positive outcomes that we could identify as benchmarks for progress or success in these areas.

The initiatives described here were selected based on the following criteria:

- Initiatives that will produce broad effects across all components of the University of Virginia School of Medicine educational mission
- Initiatives that will have significant impact in support of our educational vision for the University of Virginia School of Medicine
- Initiatives that could be rapidly implemented to produce positive change and establish a precedent for valuing and improving the educational mission through strategic planning processes

However, it is important to emphasize that the education mission workgroup feels strongly that our efforts to identify and bring forth these initiatives are only the first steps of a much larger process of advancement and support of our educational mission at the SOM. An effective strategy to help the School of Medicine reach the goals outlined in our guiding vision will require additional initiatives, working groups, and task forces charged with developing thoughtful proposals, many with a much longer timeframe to realization. These are necessary for both the School of Medicine as a whole, and for the various existing and proposed educational programs within it.
I. Vision

The School of Medicine at the University of Virginia aspires to provide an educational environment in which learners at all levels develop and apply the knowledge, skills and perspectives needed to ensure excellence in tomorrow’s health care, biomedical research, and public health fields.

To achieve this vision, we believe it is essential to focus on the following four areas that form the columns supporting our vision for future educational excellence:

- **Recognize and value our faculty’s contribution to the educational mission**

  Our faculty, both tenure track and non-tenure track, form the bedrock of the education we provide at the School of Medicine. To maintain deep dedication to this important mission and to recognize the time, effort, and expertise required to excel in education, the School of Medicine must effectively and materially recognize the value that faculty contributions make towards this mission.

- **Strive continually to improve the quality of our educational products and processes**

  The field of education is undergoing rapid and seismic change. The way we help our students learn in 10 years may be nearly unrecognizable in comparison to the way our current faculty were taught. To respond to this rapidly changing environment we need a faculty that constantly evaluates and updates their approach to teaching, incorporates new material at the frontiers of current knowledge, and continually innovates to produce new educational approaches. In addition, we must to take full advantage of the broad expertise of our faculty in all of our educational missions.

- **Provide our graduates and trainees with experiences that will help them to gain recognition over their peers**

  It is essential that the School of Medicine provide educational experiences that offer our students of science, medicine, and public health their best opportunity for success. In addition to core knowledge and skills, we want our graduates to be recognized for their leadership, critical thinking, commitment to teaching, skills in communication, and ability to collaborate. To achieve this, we need curricula designed to promote these attributes in our students and trainees as well as concrete, documented experiences that can be used to demonstrate advancement in these areas.

- **Expand the educational mission of the School of Medicine to encourage close collaboration across Grounds to enhance learning, research, scholarship, and service throughout the University**

  The complex systems supporting health care, biomedical research, and public health require individuals to have knowledge, skills and perspectives that draw from a variety of disciplines. To respond to this changing environment the School of Medicine should expand its educational mission to include close collaborations across grounds to enhance learning, research, scholarship, and service throughout the University.
II. Priority Issues

In crafting our vision for the University of Virginia School of Medicine educational mission, the working group identified several issues that are essential to prioritize, as they are central to our ability to reach the vision described in section I. above.

Priority Issue 1: The School of Medicine must demonstrate that the educational mission is valued in a manner that is materially meaningful at the institutional level and visible to the faculty and student body. The education group set this as a priority for the following reasons:

- There is a strong faculty perception that efforts towards the educational mission are not appropriately valued in the Promotion and Tenure process. In addition, departmental financial models and the contraction in federal research funding create strong disincentives for faculty engagement with education mission activities.

- We are at risk of losing many talented educators, either because they leave the School of Medicine or because they disengage from the educational mission. This may be due to curricular decisions, increased administrative and documentation burdens associated with teaching, the perception that educational efforts are not sufficiently valued, or other barriers or disincentives to teaching that prevent the School of Medicine from fully engaging its range of faculty expertise as educators across both clinical and research curricula.

- The Education Mission group was dismayed to learn that students in the UME program have also reported their perception that “faculty who are great teachers get no support,” or that “we will lose people who are interested in teaching to other schools if we don’t invest in this.” (see Appendix 2 “UME student strategic planning focus group notes 4/1/14”) This suggests that these issues have already had an impact on students’ perceptions of the educational mission at the University of Virginia.

- It is clear that the University of Virginia School of Medicine is not alone in facing this issue. Appropriately valuing the educational mission is a difficult issue at almost every prominent research medical school. However, the University of Virginia School of Medicine can become a national leader by developing an appropriate, sustainable model for incentivizing and valuing its educators and its educational mission.

Initiatives to address Priority Issue 1:
To address this issue we highlight several initiatives, described in more detail in section III that can be started immediately:

1) Form a working group to re-evaluate and rewrite the guidelines for Promotion and Tenure to better reflect the value we place on education at the School of Medicine (Initiative A2a). The new guidelines should reflect the following values:
- Recognize that the educational mission is central to our identity as a School of Medicine. This mission is what separates us from a research institute or a non-academic hospital.
- Recognize that teaching effort and the generation of enduring teaching and assessment resources should be valued equivalently to other components of faculty evaluation (Research and Clinical)
- Recognize that individuals who focus their efforts on making meaningful contributions to education are valuable to the overall mission of the School of Medicine
- Recognize that administrative leaders of educational programs are making an important contribution to the educational mission

2) Initiate a task force to review the administrative and documentation responsibilities associated with teaching across all programs to ensure that they are appropriate and necessary, and to make sure that we are fully utilizing our faculty resources in support of our educational mission (Initiative A1a). The administrative burdens associated with teaching have led many to “opt out” of teaching responsibilities. Administrative support for educational efforts, in contrast to other areas of the School of Medicine, is often insufficient to meet the growing needs. The growing administrative burden increases time and effort associated with teaching, but does little to improve the actual quality of the educational product and has a negative impact on faculty engagement with teaching. In addition, there is a substantial amount of faculty expertise that is not being fully utilized across components of the educational mission at the School of Medicine (e.g. academic investigators in UME, clinical researchers in BIMS, etc.). This may be due to curricular decisions, administrative burdens such as those described above, or other barriers or disincentives. Full engagement of our faculty is essential for us to provide the highest quality education for both our medical and research curricula.

Priority Issue 2: We must determine the best size for our student body, in both BIMS and UME, which is determined by our educational vision and abilities to deliver a high-quality educational experience in the currently existing core educational activities. The education group has identified this as a priority for the following reasons:

- The recent expansion of the UME class size was driven in part by a now-discredited study suggesting that we would need many more doctors in the near future, and was implemented despite the concerns of the significant majority of faculty about the effects of increased class size on education quality and available resources.

- Some UME students report that their clerkship training experiences at some sites are of variable quality (in student evaluations and in the annual Mulholland reports), due to uneven teaching and role modeling by non-UVA residents, or the perceived lack of high-quality hands-on experiences available to medical students.

- GME slots did not increase proportionately, and thus competition for residency spots has intensified. We must ensure that graduates from the University of Virginia School of Medicine remain competitive for the best positions.

- Due to the reliance on rapidly contracting investigator research grant funding for supporting BIMS students, students have reported difficulty finding quality research experiences that fit their interests. In addition, due to the financial burden they would pose to research funds, the University of Virginia School of Medicine has not been able to recruit highly qualified foreign students that could substantially improve the overall quality of the students within the BIMS program and could make also significant contributions to the research mission at the School of Medicine.
Initiatives to address Priority Issue 2
To address this issue we are highlighting several initiatives that are described in more detail in Section III that can be started immediately:

1) Convene a committee to determine the optimal sizes for incoming medical school and BIMS classes to best balance the size of the student body with the availability of excellent educational experiences at UVA SOM and affiliated teaching facilities (Initiative B1). In order to provide an educational experience that is consistently excellent, we have to realistically determine what number of students we can effectively serve. To address this, it is essential that the committee consider the following:

- What are the near- and long-term career pathways available for MD and PhD graduates and are we providing an education that will give them the best opportunity for success in these areas?

- Where are we limited in the availability of high-quality educational resources (e.g. direct clinical patient contact, sufficiently funded graduate research laboratories, etc.)?

- Can we expand resources available for clinical education through collaboration with other institutions willing and able to maintain high standards of excellence in clinical education?

- Are there other models for funding BIMS students? This could include increasing philanthropic effort towards supporting graduate education (such as with the Wagner Predoctoral Fellowships), graduate teaching assistant opportunities combined with increased undergraduate participation in research labs, coordinated efforts towards increasing graduate student support through federal training grants, and increased School of Medicine support.

- Are there new revenue streams available in education that fit within our educational mission and vision? Among the initiatives we have highlighted initiatives that could also provide additional sources of revenue to the School of Medicine (for example see Initiatives B2d, C3a, D1, and D2)

These two Priority Issues fundamentally affect UVA SOM’s educational mission. It is essential that we retain faculty engagement with the educational mission in order to sustain our current core educational operations or develop new initiatives. In addition, in order to achieve our long-term vision, it is important that we maintain our reputation for excellence in medical and biomedical research education, which can only be accomplished through a sustainable model that will carry us well into the future.
III. Initiatives

Implementation of the initiatives described below will impart value to the educational mission and will enhance confidence in the strategic planning process.

A. Recognize and value our faculty’s contribution to the educational mission

1) Recognize, reward, and incentivize teaching excellence

An important step in valuing faculty contributions in education is through the creation of mechanisms that recognize, reward, and incentivize truly excellent teaching. To that end, several processes should be initiated:

a. **(Priority Initiative)** Make sure that we are fully engaging the broad faculty expertise at the School of Medicine with all the components of the academic mission. There is a substantial amount of faculty expertise that is not being fully utilized within components of the educational mission at the School of Medicine (e.g. academic investigators in UME, clinical researchers in BIMS, etc.). This may be due to curricular decisions within the programs, the increasing administrative burdens associated with teaching or documenting learner progress, or other barriers or disincentives. One way to address this would be to identify ways to reduce the administrative burden associated with teaching across all programs. The administrative burdens associated with teaching require additional time and effort that eats into clinical and/or research time and effort. Administrative support for educational efforts, in contrast to other missions of the School of Medicine, is often insufficient to meet the growing needs. The growing administrative burden increases time and effort associated with teaching, but does little to improve the actual quality of the educational product and puts negative pressure on faculty engagement with teaching. Full engagement of our faculty is essential for us to provide the highest quality education for both our medical and research curricula.

b. Realign funds from the Harrison Medical Teaching Professorships, which were created “...to promote outstanding teaching and innovative curriculum development,” to specifically support these stated goals.

c. Create additional teaching fellowship opportunities. These will allow faculty to devote a defined period of time (short-term) to developing innovative curricula, learning and/or evaluation resources, or approaches to teaching. These short-term fellowships could be funded in part from realigned Harrison funds, or serve as an opportunity for new philanthropy fundraising efforts.

d. Realign and strengthen the Academy of Distinguished Educators (ADE) as a mechanism to recognize and reward individuals who demonstrate teaching excellence at the School of Medicine. The ADE suffers from a misperception that it is a “club of self-nominated individuals.” To counter this, the ADE selection procedures should be evaluated to ensure a rigorous application and selection process, including the possibility for time-limited membership terms, reapplication requirements, documentation of continued excellence combined with periodic
reassessment of membership, etc. We also need to align the current activities of the ADE that promote educational innovation, which include medical education week, poster sessions, invited speakers, and educational grants, with other initiatives that promote the overall educational mission at the School of Medicine.

e. Determine ways to more effectively publicize advances and innovations in education that come out of the School of Medicine. This might include raising awareness of our education mission within Alumni Affairs, Development, and Public Relations, and working with them to determine how best to communicate educational activities both within UVA and to external communities.

**Timeline:** It is critical that we make substantive advancements in this area immediately, with substantive changes to all elements within 6 months. There needs to be a mechanism for sustained attention to this issue over the long-term.

**Outcomes / Metrics:**

- **Educational fellowships.** The most important outcome of these initiatives would be increased perception that faculty are supported in their efforts to develop excellent educational products and that doing so will be valued and rewarded. Broader recognition that education is valued by the institution will result in increased faculty participation in the educational mission. To assess this, we should evaluate application frequency and distribution over time to determine if awards are encouraging participation. Faculty presentations at the end of the award period could be used to evaluate the value of these awards towards curriculum advancement and educational innovation.

- **Publicity.** The goal of this initiative would be to better publicize the educational innovations at the School of Medicine and create an environment where the faculty and community appreciate the institutional value placed on education. To assess whether this effort is advancing, we should monitor the frequency of “educational” stories featuring in School of Medicine publicity and the outside press to see if efforts at engaging public relations are effective.

- **Relieving administrative burden and recognizing overall value of faculty participation in education.** To assess our progress on both of these issues, we should immediately initiate a survey that assesses the level of faculty satisfaction with their educational activities, the level of perceived burden associated with educational activities, and their perceptions about how the institution values those efforts. This data will provide a baseline on which to evaluate implemented initiatives based on faculty satisfaction and perceptions in later surveys.

2) Create concrete metrics for teaching effort tied to excellence

A difficulty in valuing faculty contribution to teaching is that no standard metrics exist within the School of Medicine for evaluating the teaching participation of faculty across
all settings, despite our use of a formal teaching portfolio. To address this, the education mission workgroup supports forming a new education task force composed of a diverse representation of School of Medicine faculty charged with the following:

a. **(Priority Initiative)** Re-write the guidelines for Promotions and Tenure (P&T) to explicitly state what the teaching metrics and standards are for advancement in each of the faculty tracks. This effort would draw directly from the results from parts (b), (c), and (d) below. This re-evaluation of the P&T process should reflect the following values:
   - Recognize that the educational mission is central to our identity as a School of Medicine. This mission is what separates us from a research institute or a non-academic hospital.
   - Recognize that teaching effort should be valued equivalently to other components of faculty evaluation (Research and Clinical)
   - Recognize that individuals who focus their efforts on making meaningful contributions to education are valuable to the overall mission of the School of Medicine
   - Recognize that administrative leaders of educational programs are making an important contribution to the educational mission

b. Establish concrete teaching metrics for evaluating teaching effort with an eye towards reassessing how we use our current teaching portfolio. New metrics should 1) be inclusive of all aspects of the educational mission, 2) reflect the abundance of non-traditional teaching that occurs at the School of Medicine, including apprenticeship in the clinic or laboratory and mentoring of students or other faculty, 3) account for the time and effort associated with administration and documentation that accompanies some forms of teaching (e.g., grading, observed clinical skills, etc.), and 4) take into account efforts that serve the educational mission of the School of Medicine, and/or encompass efforts that grant degrees or certificates, provide learning together with service, promote life-long learning opportunities and contribute to cross-grounds/University-wide educational opportunities. One option worth exploring would be “Teaching-RVUs” (TVUs), which could define teaching and educational effort in a manner comparable to clinical RVUs. Information from other successful institutions could help us to determine how to move forward in this effort.

c. Generate defined standards for teaching excellence in consultation with faculty at the Curry School of Education. The goal of this effort would be to evaluate individual and collaborative teaching efforts not only in terms of quantity, but in terms of quality. This could involve a combination of metrics including, but not limited to, outcomes, peer evaluation, and student reporting (both at the end of a specific course as well as at graduation) with the goal of identifying those faculty that are both successful teachers and those faculty who have had a significant impact on student development.

d. Create a task force to explore the possibility of creating an educational tenure track. This option would be available for faculty members from any disciplinary background and would recognize the value of having a subset of faculty at the
School of Medicine devote the majority of their effort to teaching, curriculum development and educational innovation across the entire School of Medicine educational mission. We understand that this would require developing a model for financially sustaining such a track and we recommend that such a model be developed in conjunction with defining the overall faculty compensation model for both tenure-track and non-tenure-track faculty.

**Timeline:** The implementation of a committee charged with re-evaluating the guidelines for Promotion and Tenure should begin immediately. We expect this process to require thoughtful consideration, but believe that this committee should be able to suggest concrete changes to the P&T guidelines within 6 months. We would then hope these suggestions would be implemented as soon as possible.

**Outcomes / Metrics:**

**Re-evaluation of P&T guidelines.** Since the goal of this effort is to better reward faculty for their participation in educational mission and improve faculty perceptions of teaching value to the institution, we should examine whether changes to P&T guidelines produce broader and more extensive participation in teaching and the educational mission, including appropriate faculty participation in an Educational tenure track. In addition, faculty perceptions about teaching across faculty tracks could be assessed through the surveys described above in A1. These could include questions about whether faculty have a concrete sense of their teaching expectations.

**Standards for teaching excellence.** The goal of this is to give faculty a sense of the expectations of teaching quality at the School of Medicine, and to hopefully improve the overall quality of the teaching through those standards. To evaluate the success of this initiative, we could survey the faculty to see if they know the metrics and standards necessary to document productivity as well as excellence in education. We could also examine the frequency of faculty participation in educational development activities, which would reflect faculty interest in improving their teaching, and student and peer evaluations of teaching, which would see if faculty are making concrete improvements.

**B. Strive continually to improve the quality of our educational products and processes**

1) **(Priority Initiative) Determine the optimal size for incoming medical school and BIMS classes to best balance the size of the student body with the availability of excellent educational experiences at UVA SOM and affiliated teaching facilities**

While diversity of clinical experiences across a variety of settings has a recognized educational value, the educational experiences students receive at the various clerkship sites is uneven, and perceived by some as not meeting the excellent quality they have come to expect from UVA SOM even when meeting criteria for adequacy and comparability. Similarly, BIMS students have at times struggled to find positions in research labs due to reduced federal funding for research. Therefore the education group recommends that the School of Medicine convene a committee charged with identifying the optimal medical school and BIMS class sizes, as well as optimal numbers of learners across the educational mission. This will allow UVA SOM to maintain an
appropriate balance between size of the student body, goals of the educational programs, and our high standards for educational experiences for all students. The committee will take into account: 1) trends in the near- and long-term career steps available to graduates with an eye towards providing students with the best opportunities for success, 2) where we are limited in our ability to produce high-quality educational experiences, 3) are there ways to expand the resources available through new collaborations, new funding models, and identifying new sources of educational revenue.

2) Improve and facilitate faculty development in education

To maintain a high standard for faculty teaching we must have ways for faculty to receive useful feedback on the quality of their teaching, and provide effective development opportunities for faculty to improve their teaching, develop new curriculum, or create innovative new educational tools. This goal can be promoted through the following process:

a. Generate defined standards for teaching excellence, with the goal of evaluating individual and collaborative teaching efforts not only in terms of quantity, but in terms of quality. As described earlier, this could involve a combination of metrics including, but not necessarily limited to, outcomes, student reporting, and peer evaluation, and should include standards for excellence in mentoring. These standards would then be used to:
   - Identify faculty strengths and weaknesses in teaching and mentoring and provide concrete feedback as a basis for continual improvement
   - Provide a metric of teaching excellence that can be used to identify outstanding teachers for recognition.

b. Provide new faculty development opportunities, or provide better access and publicity to existing faculty developmental programs, that incorporate “Best Practices” in education, including, but not limited to:
   - Hands on experiences
   - “Shadowing” excellent teachers
   - Mentoring in teaching
   - Having the recognized best teachers lead faculty development in education

c. Develop a Master’s program in Medical/Biomedical Education in collaboration with the Curry School that would be available for faculty who want to become faculty leaders in education

d. (Potential source of new revenue) Create an improved, user-friendly system (perhaps built off of the existing X-CREDIT system) to capture educational and teaching innovations developed within the School of Medicine. This system will allow SOM faculty across the educational mission (e.g., BIMS, UME, GME, and CME) to access and implement these creative and innovative ideas in their own teaching and could include a parallel effort to create mechanisms that would leverage this IP/content for distribution outside the university. The potential to lead to
development of additional sources of revenue for the School of Medicine should be explored.

C. Provide our graduates and trainees with experiences that will help them to gain recognition over their peers

We aspire to produce graduates and trainees that will be recognized for their leadership, critical thinking, commitment to teaching, skills in communication, and abilities to collaborate with others. Graduates and trainees would benefit by being especially competitive for residencies and postdoctoral appointments or whatever they choose as the next stage in their professional careers. To that end we propose the following initiatives:

1) Create opportunities for students and residents to develop teaching and leadership skills through the core curriculum and through documented experiences such as certificate programs or degree options.
   
   a. Develop a focus on teaching within the School of Medicine curriculum. This focus on teaching can be achieved through both educational approaches that encourage, or require, student teaching, and by creating specific opportunities such as a joint MD/MEd or PhD/MEd programs run jointly with the Curry School of Education. This effort could also enrich the training of residents as clinician-educators.

   b. Incorporate a leadership curriculum into all components of the School of Medicine educational mission. The University has committed to a strategic focus on leadership development as part of its Cornerstone Plan and various units across the University currently have strong programs to foster leadership development. By collaborating across Grounds, we can embed a focus on developing leadership skills into the educational experiences at the School of Medicine across all parts of our educational mission for learners at all levels.

2) Provide educational experiences that better prepare students and trainees for diverse roles in the health care, biomedicine, and public health fields. Early ideas include, but are not limited to:

   a. Develop certificate programs or Master’s degree programs in Patient Safety, Clinical Ethics, Biomedical Engineering, Medical Innovation, Global Health, Translational and Regulatory Sciences, Regulatory Policy, Research Ethics, and Clinical Research Coordination, among many potential areas of focus.

   b. Create dual-degree programs and other forms of cross-Grounds instruction between the School of Medicine and other schools, including Darden, Curry, Public Health, Engineering, Law, Public Policy, Nursing, and the College and Graduate Schools of A&S as examples. While some of these dual-degree programs currently exist, we must advertise them better, both internally and externally, as well as lower the barriers that prevent students from exploring these options (e.g., explore ways to increase alignment between the academic calendars across grounds).
3) **Provide other training opportunities that give School of Medicine students and trainees an advantage over their peers.** Early ideas include, but are not limited to:

a. **(Potential source of new revenue, consider prioritizing)** Implement an educational focus on patient safety and quality care that touches all aspects of medical education at the SOM (including UME, GME, and CME). This should be both infused throughout the existing curriculum, but also could entail a certificate program as noted above by which students could document their unique training in these areas. This could also serve as a basis for an MOC module that would benefit our clinical faculty and enhance CME initiatives to promote UVA SOM as the place to participate in life-long learning activities. These efforts could lead to new research and scholarly activities in this area as well as potentially generate new revenue.

b. Expand the program of pre-internship “Boot Camps” or “Skills Camps,” that provide graduates with essential skills before entering their area of clinical specialization. This could be part of a curriculum designed around “Core Entrustable Professional Activities for Entering Residency (CAPAER)” an effort being promulgated by the AAMC.

D. **Expand the educational mission of the School of Medicine to encourage close collaboration across Grounds to enhance learning, research, scholarship, and service throughout the University**

To provide students throughout the University with an educational experience that best reflects the expanding opportunities in health care, biomedicine, and public health, we must generate collaborative educational ventures with other schools across Grounds to develop new courses and create new certificate and degree offerings. Additionally, **these new offerings could provide new sources of tuition revenue for the School of Medicine.** Early examples of programs the educational group identified include, but are not limited to:

1) **(Potential source of new revenue, consider prioritizing)** Collaborate with the College and Schools across grounds to create Bachelor’s level courses and potentially a Bachelor’s degree offering

A substantial number of career paths could benefit from a Bachelor’s level education that emphasizes strong quantitative skills in the basic sciences applied to biomedical science, and areas of innovation such as nanomedicine, medical engineering, and imaging science. Therefore, there is an opportunity for the School of Medicine to provide our expertise, in conjunction with other departments across Grounds, to design and implement courses that would contribute to this degree. There are similar opportunities to develop collaborative courses in ethics, humanities, art, and social sciences for students interested in pursuing medicine, since upcoming changes to the MCAT are expected to draw more students towards such course offerings.

The potential also exists for a Bachelor’s degree program in a quantitative biomedical science that our faculty are uniquely suited to teach, and that will attract a different student than those attracted to biology (e.g., biophysics, nanomedicine, etc.). Each new
course taught by SOM faculty could be an additional source of educational revenue as described in the initiatives to address Priority Issue 1.

2) **(Potential source of new revenue)** Create a Master’s degree program in Biotechnology within the School of Medicine

Many positions being created in the biotechnology and pharmaceutical industries require expertise beyond a bachelor’s degree, but do not require a PhD or MD. The School of Medicine has the educational resources to provide appropriate training for students that would like to pursue these careers. This Master’s programs could also provide a new stream of education revenue for the School of medicine as described in the initiatives for Priority Issue 1.

3) **Expand the dual degree opportunities for both MD and PhD students**

Dual degree programs between the School of Medicine and other schools, including Darden, Curry, Engineering, Law, Public Policy, Nursing, and the College and Graduate Schools of A&S would help to provide students with documented educational experiences that would better prepare them for diverse roles in health care, biomedicine, and health policy. While some dual-degree programs currently exist, we need to address the barriers that prevent students from exploring these options including scheduling conflicts and insufficient publicity, both internally and externally.

4) **Create training programs and joint degrees in undergraduate (college) STEM teaching**

Many graduate students and postdoctoral researchers that come to the School of Medicine would like to eventually combine their research with teaching at a college or other primarily undergraduate institution. Currently there are few opportunities for these trainees to get the teaching or educational qualifications that will help them stand out when applying for these types of positions. By creating certificate or Master’s degree programs in undergraduate science teaching in conjunction with the Curry school, we can provide these trainees with a strong educational background. We should then reach across Grounds and even outside the University to set up collaborations with other universities, colleges, and community colleges, to create teaching opportunities for trainees and give them valuable in-class experience.
Appendices:

Appendix 1. Education Mission Group – Initiative Ideas  
pp. 2-40

Appendix 2. UME student strategic planning focus group notes 4/1/14  
pp. 41-44

Appendix 3. Education Mission Group SWOT analysis 03/24/14  
pp. 45-46

Appendix 4. Education group survey results 3/27/14  
pp. 47-62