Collaboration between Basic and Clinical Scientists

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Motivation & Background. BUSM has 6 basic science departments and 18 clinical departments with vibrant research activities. In addition, the School of Engineering at CRC has active research labs that could offer opportunities to collaborate with faculty at the medical campus. However, many faculty have expressed frustration of not being able to cross collaborate between basic and clinical scientists due to various barriers. Often basic scientists have to reach out to colleagues at other universities for human specimens and/or to apply basic research to clinical applications. This project's goal is to address these challenges.

Significance. In today's research environment, collaboration is ever more important, as our collective knowledge grows wider and deeper, and requires a set of complementary expertise achievable only through team science. Collaboration between basic and clinical scientists would not only raise the profile of the institution, creating high impact and meaningful research, but would also attract diverse talent and procure funding imperative to the success of the institution.

Methods. We conducted a Qualtrics survey with the faculty at both campuses. The survey consisted of two components: a multiple-choice component assessing utilization of the existing initiatives on campus (*Clinical and Translational Science Institute* (CTSI), *BU Profiles*, *Evans Center Affinity Research Collaboratives* (ARC), *Research on Tap*, and *Biomedical Bridge BUilders Initiative*), and an open response component where respondents were asked to describe aspects that are working well, challenges, and any additional suggestions they might have.

Results. The survey results suggest that familiarity with the existing campus-wide initiatives varies widely, with BU Profiles and the CTSI being the best known and most utilized initiatives, and the others not as well known. A major theme of the open responses was the perception of insufficient resources, both financial (e.g., limited seed funding, and lack of protected time for research), and administrative (inter-institutional gaps, a desire for mechanisms to connect potential collaborators, and ideas for enhancement of BU Profiles). These latter "structural" challenges may not require substantial capital to address, and present a real opportunity to enhance the collaborative research experience at BU.

Recommendations. Our recommendations for addressing these challenges come in three categories:

1. <u>*Raising awareness of existing programs to increase use*</u>: Excellent collaboration-promoting initiatives already exist, which our survey shows are insufficiently known. Several existing mechanisms could be adapted and used to raise awareness about these initiatives. These include: enhanced orientation for new faculty; periodic reminders about the existing initiatives linked to existing programs such as CITI training, and online health assessments; and department-/division-specific outreach.
2. <u>*Increasing the usability of the current programs*</u>: BU Profiles is a great resource and our results show that clinicians and scientists are aware of it. We suggest adding a "Find collaborator" tab, which should include links to the BU Profile of current and past collaborators and, taking a cue from social media, a "suggested collaborators" functionality based on keywords, interests, grants, friends of friends. We also recommend the development of a BU Profile smartphone app to maximize adoption and use.

Concurrently, ensuring the regular update of BU Profiles will become all the more important as its use increases. Some updates can be automated, such as co-authors and investigators sharing funding. Others will need to be carried out manually, which could be incentivized by linking it to annual review, promotion, or other periodic "required" activity. Finally, we recommend creating a central web repository with links to all the collaboration sites. The link to the central repository should in turn be widely distributed and included in all the search boxes.

3. _Creating new opportunities for collaboration_: Redirect some of the existing pilot funding to specifically encourage collaboration between basic scientists _and_ clinicians. For example, $50K could be redirected annually to a pilot grant. This could be tested for 2 years, after which time the number of resulting first time collaborations will be assessed. This pilot could be added to the list of BU funding opportunities.

While the first two recommendations are aimed at making it easier to find collaborators for people who are looking for them, the third recommendation is designed to increase the number of people who are looking for collaborators by creating opportunities for engagement.

Expected outcomes, potential pitfalls, and future plans

Usability of the software. We have emphasized BU profiles because of its wide adoption and user friendliness, and because it has the potential to be even more helpful with relatively small adjustments. The other initiatives (ARC, Research on Tap, CTSI, etc.) would also need to have their visibility raised by being better advertised and their sites better integrated, and our recommendation for a common web repository linking all existing initiatives would contribute to that outcome.

Institutional funding. Funding is often the crucial difference between a successful and an unsuccessful program. Our suggestion for an initial pilot program should not be considered as the end point. We acknowledge that funding is challenging given the many competing interests and institutional needs. However, it would provide a crucial signal that fostering collaboration between clinicians and basic scientists is an institutional priority. Seed funding should ultimately be seen as an investment, as it will likely lead to larger grants/funding from the NIH, foundations, and private industry.

Next Steps

Going forward, it will be necessary to follow up with the appropriate stakeholders regarding implementation of our recommendations. In particular, follow-up with the key stakeholders regarding enhanced orientation and other mechanisms aimed at raising awareness of existing initiatives; consulting with BU profiles personnel to enhance the usability of the tool; and follow-up with key stakeholders (e.g., CTSI leadership) to push for pilot funding redirection.