

ABSTRACT: 2019 ELAM Institutional Action Project

Project Title: Strategic Planning to Grow the Research Enterprise at Boonshoft School of Medicine, Wright State University

Name and Institution: Madhavi Kadakia, PhD, Professor and Chair, Department of Biochemistry and Molecular Biology, Associate Dean of Research Affairs, Boonshoft School of Medicine, Wright State University

Collaborators and Mentors: Margaret Dunn, MD, Dean of Boonshoft School of Medicine, Robert Fyffe, PhD, Professor, Department of Neuroscience Cell Biology and Physiology, Wright State University, Carol Murray, Applied Policy Research Institute, College of Liberal Arts, Wright State University

Topic Category (choose 1): Administration Clinical Education Faculty Development Research X

Background, Significance of project: BSOM is a community-based medical school with clinical departments and faculty remotely distributed across a number of affiliated hospitals throughout the Dayton region. WSU is an R2 institution, and currently BSOM contributes about 20% of the university's research expenditures. Currently we do not have a BSOM-specific internal system or process for collecting and reporting of all the activities and resources (personnel and dollars) being allocated toward promoting research endeavors at BSOM. Additionally, a critical evaluation of the current status of research has not been conducted recently. Recent University fiscal challenges, declining state and federal funding, increasing regulatory burden, combined with increased competition for extramural funding indicate that this project is critical and timely.

Purpose/Objectives: The goal of this project is to develop a strategic plan to grow the research enterprise at WSU BSOM. A critical evaluation of organizational structure, management, resource allocation, and opportunity will focus on expanding the research enterprise within the Wright State University Boonshoft School of Medicine. This project will identify the most significant barriers to increased grant funding and research productivity, inform potential reallocation of programmatic support, and cultivate collaborative interdisciplinary translational research projects across basic science and clinical departments. In the short term, we will develop a plan which prioritizes faculty development and collaborative projects with core research themes/teams which transcend departmental boundaries. In the long term, we will recruit additional faculty, increase intramural pilot grant funding, invest in core facilities that provide cutting edge instrumentation, and support collaborative interdisciplinary research.

Methods/Approach/Evaluation Strategy: I led an appointed group comprised of faculty, chairs, staff and administrators tasked with consolidating information about research related activities, identifying needs, and developing strategies to support collaboration and growth. My action plan included targeted questionnaires for key stake-holders followed by a survey for all the BSOM faculty members. All the responses were gathered and all the responses from stakeholders were summarized to define the opportunities and challenges facing the BSOM research enterprise.

Outcomes/Results: We obtained a 25% response rate to the survey sent to all faculty, and almost 100% response rate from the targeted questionnaires sent to the key stakeholders. Based on these responses a set of recommendations will be put forward to the Dean of the medical school and subsequently shared with BSOM and WSU leadership to optimize allocation of BSOM and WSU resources to promote scholarly activity.

Discussion/Conclusion with Statement of Impact/Potential Impact: This plan will also cultivate junior faculty members who require support and mentorship to submit competitive grants in this era of declining funding opportunities by providing grant writing support and pre-submission reviews. Enhanced mentoring will impact positively on grant dollars. The most important change will be a change in culture leading to deeper collaboration and, for the first time, designated central budget support in BSOM to directly resource the most promising and productive research projects.

Madhavi Kadakia, PhD, Professor and Chair, Department of Biochemistry and Molecular Biology, Associate Dean of Research Affairs, WSU BSOM
Collaborators and Mentors: Margaret Dunn, MD, Dean of BSOM; Robert Fyffe, PhD, Professor, Department of Neuroscience Cell Biology and Physiology, WSU; Carol Murray, Applied Policy Research Institute, College of Liberal Arts, WSU

Presented at the 2019 ELAM® Leaders Forum

Background: BSOM is a community-based medical school with clinical departments and faculty remotely located in affiliated hospitals spread throughout the Dayton region. Although currently BSOM contributes approximately 20% of the university's research expenditures, the number of clinical providers actively involved in basic or translational research is low. Moreover, a critical evaluation of the current state has not been conducted recently.

Objective: To develop plans and strategies to collectively expand the funding and reputation of our research enterprise, remove barriers to faculty conducting research, cultivate collaborative interdisciplinary translational research projects across basic science and clinical departments and support the participation of learners in research.

Approach and strategy:

Phase 1: Formation of task force comprised of members representing key constituencies. The task force identified 10 topic areas to evaluate, developed questionnaires for key stakeholders: (a) Chairs of all basic science and clinical departments, (b) Vice chairs of Research and PhD directors in clinical departments and (c) Core faculty and center of excellence directors. In addition, the task force pilot tested questions which went into a general survey sent out to all the BSOM faculty in collaboration with APRI staff at WSU.

Phase 2: Targeted questionnaires were sent out to key stakeholders (Phase 1 a-c) and a general survey was sent out to all BSOM faculty.

Phase 3: Responses from Phase 2 consolidated, summarized and evaluated by the task force.

Phase 4: Opportunities and challenges facing the BSOM research enterprise were identified and used to formulate a list of recommendations to be put forward to the dean.

Impact and Significance: This project involved a first systematic review of the BSOM research enterprise. Overall the results provide new insights into our culture and needs, and, provide a baseline for future assessment of our programs.

Input gathered and synthesized from key stakeholders helped to identify the most significant barriers to increased grant funding, and reallocation of programmatic support.

A list of recommendations will be shared with BSOM and WSU to optimize allocation of BSOM and WSU resources and enable clinicians to maintain a stronger intellectual link to their research programs.

Project findings will help the new Vice Provost for Research and Innovation to effectively address challenges in the research enterprise. It will also provide external stakeholders with information and resources to tap into BSOM research programs.

Project goal

- Implement changes that will enhance research productivity, provide mentorship to faculty.
- Implement changes to enhance research productivity and mentorship for medical students for whom scholarship is a requirement in the new curriculum.

Metrics of Success

- Increased grant funding
- Reducing impediments to Research
- Increased number of active and productive research teams and clinical groups
- Increased mentorship and resources.

Outcomes/Results: We obtained a 25% response rate to the general survey sent to all faculty, and almost 100% response rate from the targeted questionnaires sent to the key stakeholders.

Respondent Demographics and Research Productivity

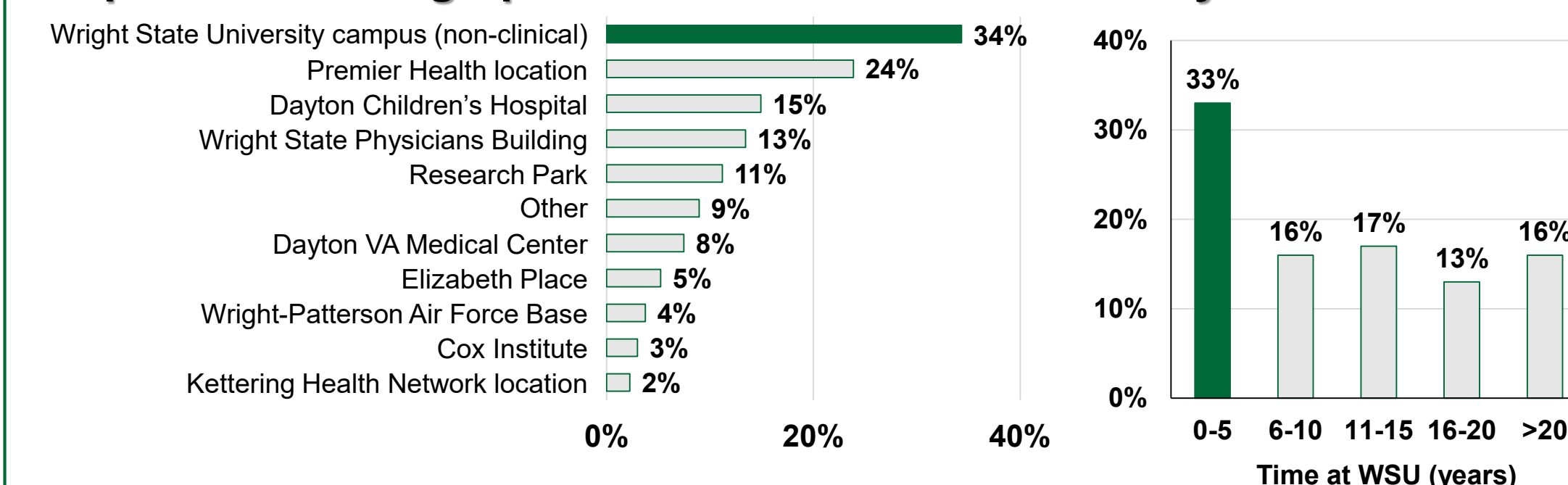


Figure 1: Demographics of the survey respondents. Half of respondents work on the WSU and Premier Health (left). 33% of faculty have been at WSU less than 4 years so mentoring and faculty development is critical (right).

Research Productivity

- 29% participate in departments conducting clinical research
- 34% involved in translational research.
- 65% received research funding in past 3 years.
- 52% served as a PI, co-PI or collaborator on externally sponsored research performed at WSU.
- 47% have served these roles for externally sponsored research with an external entity.
- 50% report less than 25% of their time is spent on research.
- 50% report publishing 1-4 peer-reviewed papers in the last 3 years.

Barriers to Research

Figure 2: A majority of respondents feel additional support for research is needed

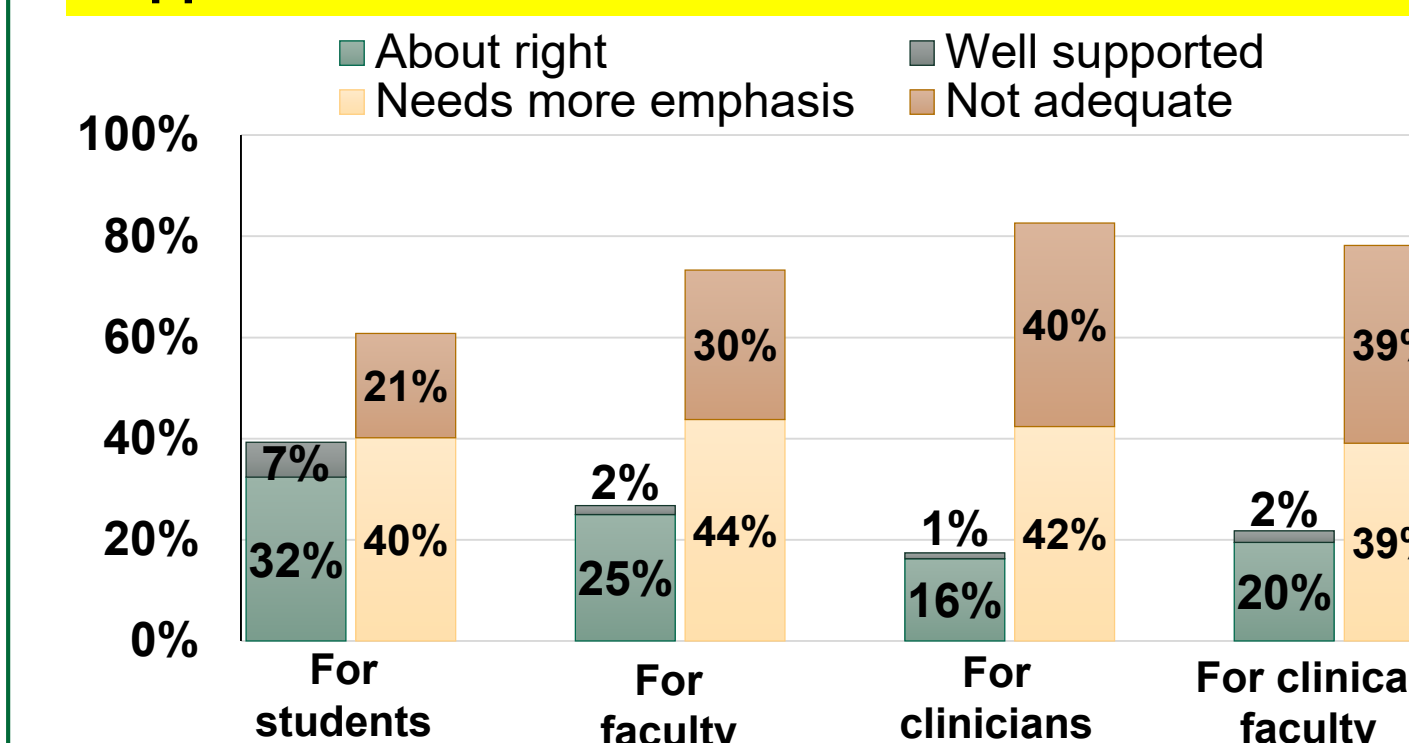


Table 1: Barriers to research identified across all respondents.

Barrier	Frequency (%)
Lack of time	24%
Funding/money	21%
Lack of/weak admin support	11%
Protected time	6%
Resources/infrastructure	5%
IRB	9%
Data/statistical support	6%
Lack of mentorship	4%
Training	4%
Clinical demands	6%
Regulations	3%

Table 2: Resource focus priorities identified across all respondents

Resource Focus	Frequency (%)
Grant writing support/admin support	15%
Funding	13%
Collaboration	12%
Infrastructure	9%
Data/statistical support	8%
Protected time/Sabbatical leave	8%
Seed funding	7%
Mentorship	5%
Student research support	5%
Incentivize research	5%
Training/faculty development	4%
Hire faculty dedicated to research	4%
Reduce HIRC & IRB barriers	4%

Table 3: Actions that could be taken to increase visibility of your department research activity.

Action	Frequency (%)
Funding and incentives for presentations / publications / conferences & meetings	32%
Develop website/social media	26%
Collaboration	15%
News/newsletters/annual report	13%
Additional personnel – staff, faculty, writers, research assistant	9%
PR to media outlets	6%

Professional Development

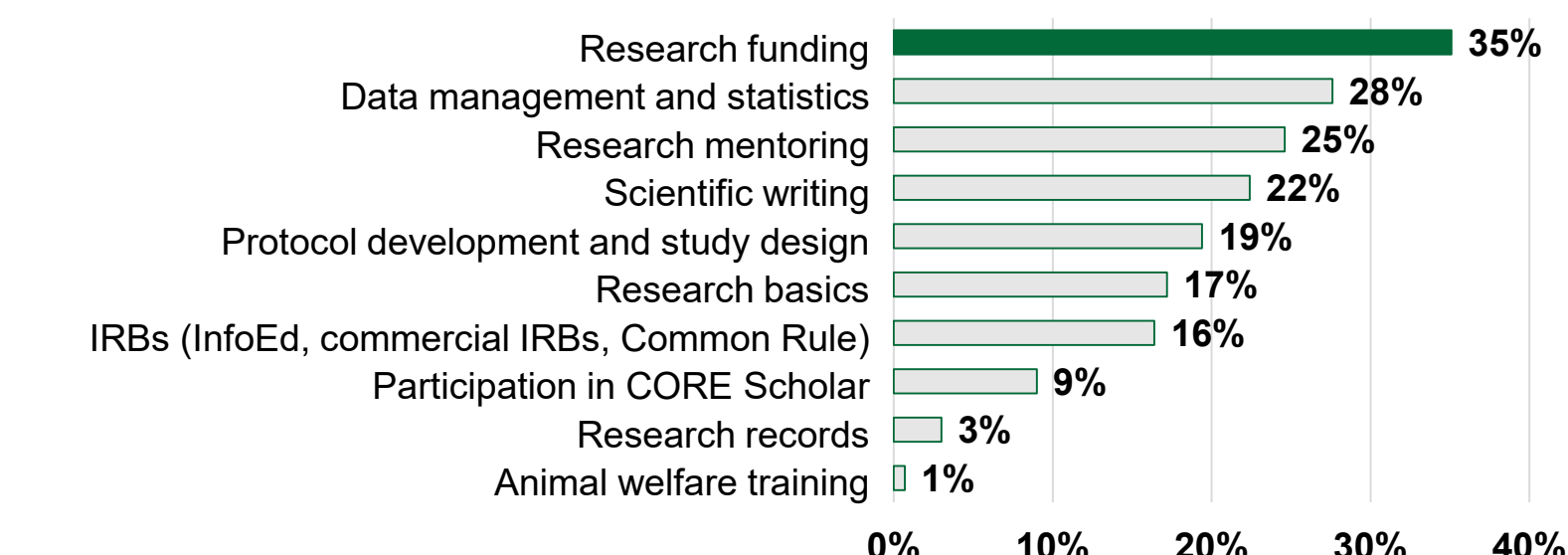


Figure 3: Additional research funding training is a critical need.

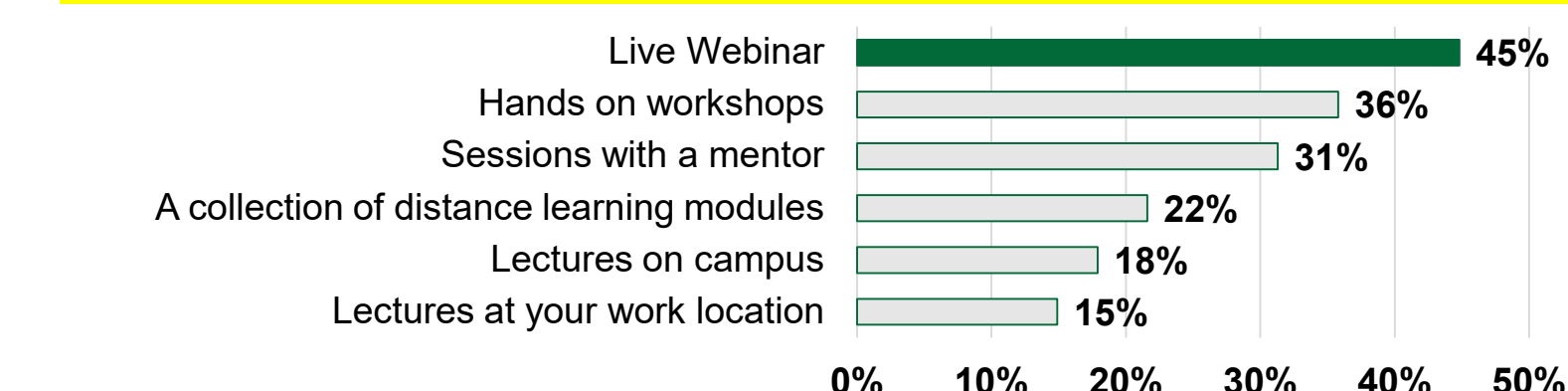


Figure 4: Live webinar is the preferred means of receiving research training.

Mentorship

- 43% of respondents would be interested in working with a research mentor.
- 37% of respondents would be interested in serving as a research mentor.

Recommendations

1. Identify faculty and personnel shortages; prioritize hiring needs.
2. Hire physician scientists and research active faculty.
3. Develop a Formal Faculty Development and Mentorship Program
4. Establish Collaborative interdisciplinary projects.
5. Implement non-financial incentive for faculty.
6. Allocate protected time for clinicians and incentive programs.
7. Provide seed and bridge funding for new and/or established investigators seeking a new research path or translational projects. Build database of active grants and research interests of all BSOM faculty members.
8. Provide professional grant writing seminars and support.
9. Increase biostatistics and bioinformatics support.
10. Hold monthly meetings of Vice chairs and PhD directors in clinical departments to generate reports on the status of research in BSOM.
11. Strengthen infrastructure of cores and centers, biostatistics, big data and core technicians.

Next steps / Implementation:

1. *Strategic planning:* prioritize and schedule timing to implement recommendations.
2. *Dissemination:* present to executive committee of chairs and deans, BSOM faculty meeting; set up working group of deans across WSU campus; meet regularly with stakeholders; hold central research forum highlighting translational research.
3. Setup research Affairs office and develop budget.

Acknowledgements: I would like to thank Michael Craig PhD and the task force members, Eric Bennett PhD, Ellen Reinsch Friese MH, Danielle Gainer MD, Josh Lader MPA FACHE, Robert Mott MD, Marietta Orlowski PhD, Priti Parikh PhD, Kimberly Paul MHA, Mark Rich MD, Catherine Sherwin PhD, Courtney Sulentic PhD, Jerry Yaklic MD, Lynn Compton and Rose Maxwell for their help throughout this project.