

ABSTRACT: 2017 ELAM Institutional Action Project Symposium

Project Title: Support of Basic Science Research at Academic Medical Centers (AMCs)

Name and Institution: Angeles B. Ribera, University of Colorado

Mentor: John J. Reilly, Jr., Dean, School of Medicine and Vice-Chancellor for Health Affairs

Background, Challenge or Opportunity: Basic science research (BSR) underlies advances in clinical care, but extramural funding does not fully cover research costs. At AMCs, clinical funds often provide the additional needed support, on average 53 cents for every dollar of extramural support (AAMC). However, both health care insurers and extramural funding agencies face uncertain futures, raising questions about the sustainability of the current model.

Purpose/Objectives: To identify challenges and strategies that support BSR at AMCs.

Methods/Approach: Ten research-intensive Schools of Medicine (SOMs) were selected for study. SOM Deans and leaders provided financial information, and were interviewed to discuss mechanisms that they use to support BSR. The information gathered was analyzed to identify challenges and effective strategies for continued support of BSR.

Outcomes/ Evaluation Strategy: Review of the data identified common, as well as institution-specific, challenges facing support of BSR at AMCs. In response to current and potential financial pressures, AMCs have or are developing strategic plans that focus research priorities, leverage existing strengths and seek out new sources of revenue. Collaborative and team-based research programs were recognized as especially effective and successful models.

Many AMCs developed strategic plans that prioritized efforts to increase extramural funding via recruitment of new faculty, intramural support to promote receipt of multi-investigator grants and/or multiple grants to an individual investigator, and/or bridge-funding. These efforts were further supported by investment in cutting-edge core facilities that provide critical tools, technology and expertise for BSR. The challenge of providing appropriate research space was often a “work in progress” and involved strategic utilization of existing space, renovation of existing space and/or erecting new buildings. Most metrics used to determine space allocation were based on the amount of extramural support received, often emphasizing F&A. Less frequently, the number of personnel involved in a research program was used as a determinant factor for determining space allocation.

Multiple revenue sources (e.g., extramural funding, clinical revenues, tuition, state/government support and philanthropy) support BSR at AMCs. Given the anticipated pressures on extramural funding and clinical revenues, philanthropy efforts were recognized as increasingly more important. Such efforts typically target grateful patients who donate to clinical departments. Several strategies are being employed to increase philanthropic gifts that target BSR.

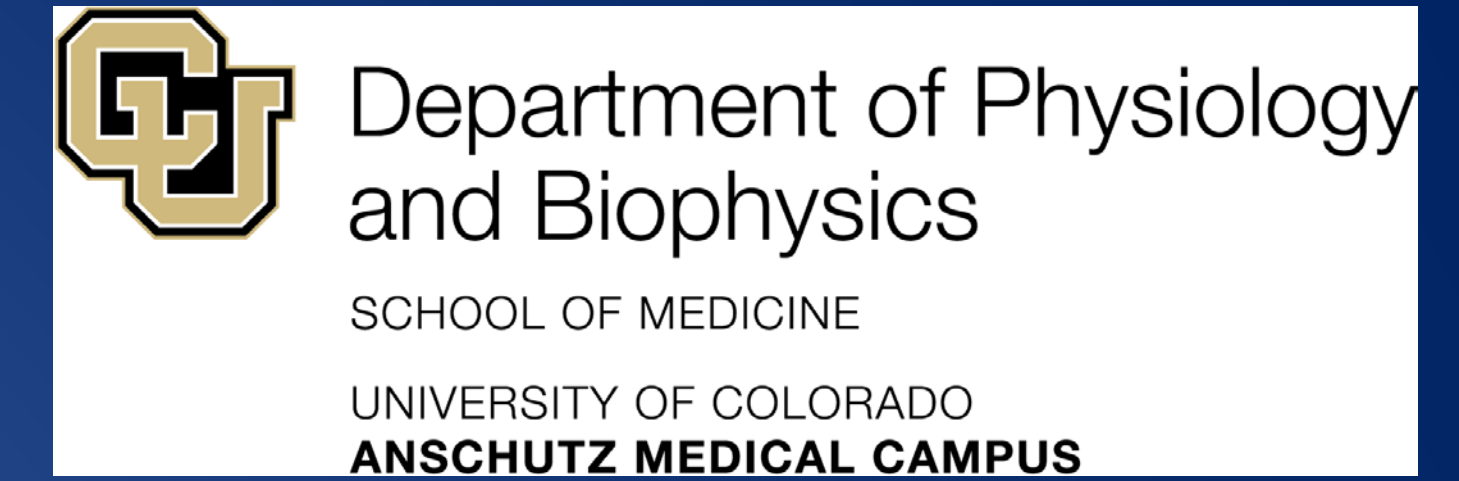
Conclusion/Impact Statement: Overall, the efforts supporting BSR lead to concomitant increases in the number of faculty, research staff, and buildings at AMCs. IN response to pressures on current income streams supporting BSR, other sources of revenue are being developed. In addition to securing continued support, future strategic planning would benefit from coordination of growth supporting BSR with other SOM and AMC missions and by setting a target for the optimal/ultimate size of the campus.

Support of Basic Science Research at Academic Medical Centers



ELAM Fellow: Angeles B. Ribera, PhD

Mentor: John J. Reilly, Jr., M.D., Dean, School of Medicine
and Vice Chancellor for Health Affairs



University of Colorado Anschutz Medical Campus

BACKGROUND

Basic science research (BSR) underlies advances in clinical care, but extramural funding does not fully cover BSR costs. At academic medical centers (AMCs), clinical funds often provide the additional needed support, ~ 53 cents for every dollar of extramural support (AAMC, 2015). However, both health care insurers and extramural funding agencies face uncertain futures, raising questions about the sustainability of the current model (Ref. 1).

METHOD: Three Phase Approach

Phase 1 – Selection of SOMs for study: As the study focused on BSR, NIH funding ranks were used to guide selection of the ten SOMs for the study. Representation from different US regions was sought as well as a mix of public and private institutions.

Phase 2 – Financial Questionnaire: Each SOM responded to a questionnaire about their school's income streams; SOM relationships with 1^{ary} teaching hospital and physician/faculty practice plans; faculty salary support; internal research support mechanisms; bridge funding; support of research core facilities; philanthropic efforts supporting BSR.

Phase 3 - Phone interviews. Via phone conversations, discussions with Deans /Associate Deans covered a range of topics related to support of BSR including processes for establishing research priorities – top-down vs. grass roots approach; space utilization – reactive vs. proactive planning for new space; support of basic science departments/faculty; philanthropic efforts directed at BSR; future challenges and opportunities.

OUTCOMES

SOM Selection: Ten SOMs in the top 40 for NIH rankings were selected for study. Four of the schools had NIH rankings that remained stable between 2001-2015 (Group 1); for the other six, the ranking changed (Group 2).

Financial Data: The Table summarizes the financial information obtained from the SOMs and indicates that SOMs face the challenge of having a small % of their budgets derived from “hard” sources, i.e., state, tuition (see also ref. 2).

BSR investment: The phone discussions covered issues about (1) funding BSR, and (2) strategic use of available funds.

Funding BSR: For the SOMs studied, extramural support provides 10-85% of the total budget (Table 1). The recent White House-proposed ~20% cut to the NIH budget, while not yet reviewed by Congress, signals challenging times for BSR support. In view of this, philanthropic efforts are receiving increased attention. At SOMs, “grateful” patients provide the majority of philanthropic gifts, and these \$ typically target clinical Efforts with little going to direct support of BSR (or the educational mission). One solution is to “tax” philanthropic gifts made by “grateful” patients. In addition, Many SOMs are planning “Capitol Campaign”-like events to raise funds specifically for BSR. SOMs are also expanding their Development Offices; Development Officers work with BSR investigators for effective communication with the public and potential donors.

Strategic planning: SOMs regularly engage in strategic planning efforts to set research priorities, and, focus BSR investment. Given that the NIH funding rank (total amount of NIH support received) is a commonly used measure of a SOMs research strength. Many efforts seek to bring a SOM into the top “ten” by NIH rank. A straight-forward way to do this is increase the number of faculty who receive NIH funding. Accordingly, much Of BSR investment consists of the start-up packages required for hiring new faculty. The new hires are often junior faculty but “anchor” well-funded senior investigators are another common target of investment. Some SOMs have mechanisms that focus investments on existing faculty, by having intramural grant programs that provide pilot support to faculty to obtain either more than one NIH R01-type grant or develop Multi-PI funded research programs. Mentoring efforts focus primarily on junior faculty, although some SOMs recognize that faculty at later stages also benefit from attention and advice. Research core facilities were another major target of investment. However, the degree to which an SOM expected a core to be self-sufficient varied. Regarding infrastructure, both proactive and reactive mechanisms guided utilization of space. A trend was emerging to allocate space on the basis of research programs rather than traditional departmental boundaries. Such a strategy synergizes with recruitment efforts that focus on cross-departmental programs.

Table 1: Income streams' % contributions to total SOM budget

Group	1				2					
	Stable NIH ranking				NIH ranking changed					
State	1.5	5	<2	4	0	12	8	9.4	1	0
Tuition	2.8	1	1	2	18	3	4	2.8	1	9.8
Total Extramural Support ¹	19.7	32 ^b	10	13	66	38	22	22.6	23	85.2
Total from Clinical Income ²	55.6	49	81	70	0	24	59	61.6	65	3.1
Philanthropy, Gifts, Endowments	11.3	8	5	3	10	6	6	2	2	14.9
Other	9.1	6 ^a	3	-	6	17	1	1.6	8	1.9

¹, includes direct and indirect dollars and/or indirect cost recovery.

², includes income from hospitals, clinics and physician/faculty practice plans.

CONCLUSIONS/DISCUSSION

Future strategic planning would benefit from consideration of the optimal target size of the SOM to coordinate growth with this vision and associated infrastructure needs. Targeted recruitment of new faculty and continued investment in existing faculty will allow optimal leveraging of resources.

NEXT STEPS

Ensure that measures put in place to address financial challenges do not come at the cost of support for innovative research.

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References

1. Levine et al., 2015, SciTransMed, 7: 289fs22.
2. Miller et al., 2012, Acad Med, 87:1746-51.