DR. T’S CORNER

Trump budget takes aim at university grants to cover ‘Indirect’ research costs

The Trump administration is taking aim at billions in grant funding distributed each year to universities and research institutions to cover the overhead costs of running their laboratories. University administrators indicate that they rely on these grants, which amounted to more than $6 billion last year, to keep their research running smoothly; the funding pays to keep the freezers running, the lights on, and laboratories stocked with supplies. But in a detailed budget proposal the administration calls for “critical reform” at the National Institutes of Health and targets indirect grant cost in particular.

The new budget plan calls for a slashing of the overall NIH budget by nearly 20 percent, or $5.7 billion. Instead of allowing each institution to negotiate its own indirect cost rate, the new budget-in-brief calls for a uniform, capped rate for all grantees. It argues that such an approach “mitigates the risk for fraud and abuse.” The budget document does not give details on the capped rate. But NIH said that indirect costs may be capped at 10 percent. That would be a substantial departure from the status quo: Most universities have negotiated a rate of between 50 and 60 percent. In return, the administration appears to promise regulatory relief — which is something that university administrators have been seeking for years. “NIH will implement reforms to release grantees from the costly and time-consuming indirect rate setting process and reporting requirements,” the budget declares.

The administration makes a point of noting in the budget document that “other entities” like private foundations and payers “spend a much higher portion of their grants on direct cost science.” Indeed, the Gates Foundation caps its reimbursement rate for indirect costs at 10 percent, as does the American Heart Association. Maryland Congressman Andy Harris, who has spoken out before on indirect costs, said he would support the NIH budget cuts, but only with the provision that indirect costs be capped. Health and Human Services Secretary Tom Price first hinted that indirect cuts could get cut back in March, when he said he was “struck by one thing at NIH” — that 30 percent of grant funds cover indirect expenses, which he said means that taxpayer dollars are supporting “something other than the research being done.” The administration is also likely to make the point that many of the private institutions getting taxpayer funds to cover their light bills are quite wealthy, with endowments in the billions — or tens of billions. But the money also goes to public universities that don’t have anywhere near the resources of a Harvard or a Stanford. And any proposal to cut indirect costs is likely to kick up an outcry from universities and other research institutions. Since colleges in every state receive federal research funds, they make a potent lobbying force. Capping indirect costs at 10 percent, should that come to pass, “would seriously handicap the American research enterprise, in addition to immediately producing layoffs of thousands of fairly well-paid positions.” Despite ongoing controversy around indirect costs, the NIH has long elicited strong bipartisan support and it seems unlikely that congress would approve these budget reductions.

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Animals on campus, children in lab areas and laboratory attire

Now that summer is upon us, it is time to refresh everybody’s memory regarding the University policies concerning animals on campus, children in the laboratories and proper attire in lab areas. Pets and emotional support animals are not permitted in University facilities. Employees with a disability who require or are training a Service Animal may bring their Service Animal to their place of employment. The University may prohibit or otherwise restrict the access of Service Animals in certain University facilities due to health or
safety restrictions or concerns, where the presence of a Service Animal may compromise the integrity of certain research, or otherwise fundamentally alter a program or activity or may put the animal at risk. For clarification of restricted areas and further information regarding the University policy for animals on campus, please go to: http://www.ucdenver.edu/faculty_staff/employees/policies/Policies%20Library/Admin/Service%20Animal%20Policy%20FINAL%20DRAFT%202016%2011%2030.pdf.

With children out of school for the summer, many of us are faced with childcare challenges. As a reminder, it is University policy that minors under the age of 14 are not permitted in laboratory areas under any circumstances. Minors 14 and older may enter lab areas if they are part of an approved research and education program that has been reviewed by University Risk Management and Environmental Health and Safety. There are a number of additional caveats and limitations to minors working in laboratory and hazardous areas that are reviewed here: http://www.ucdenver.edu/research/EHS/RS/compliance/Pages/Minors%20in%20Labs.aspx

Finally, as a reminder with warm weather upon us: everyone who is actively engaged bench research must wear personal protective equipment (PPE) that is suitable for the task at hand. For nearly all bench research, this at a minimum includes closed toed shoes, long pants or skirt, eye protection, gloves and a lab coat. Per NIH and OSHA guidelines, shorts and open-toed shoes (i.e. flip-flops or sandals) are NEVER acceptable in lab areas. For more information regarding appropriate PPE contact EHS and visit this page: http://www.ucdenver.edu/research/EHS/RS/compliance/Pages/Personal%20Protective%20Equipment.aspx

RESEARCH CORNER

Advances in microsystems engineering have recently made it possible to create biomimetic microfluidic cell culture devices, known as ‘Organs-on-Chips’, that contain continuously perfused microchannels lined by living human cells that recapitulate the multicellular architecture, tissue-tissue interface, physicochemical microenvironment and vascular perfusion of the body, which potentially offer new opportunities for disease modeling, drug development and mechanistic studies. Kambez H. Benam, D.Phil, an Oxford graduate recently recruited from Harvard University, is Assistant Professor of Medicine at the Division of Pulmonary Sciences and Critical Care Medicine. He is the founder of Lung Microengineering Lab, which aims to bring together researchers from the engineering, biology, biopharmaceutical industry, clinical and business communities with the aim of developing new technologies that recreate complex human organ-level pathophysiology in vitro, and translating them to discover novel therapeutics and personalized biomarkers. His research lies at the intersection of respiratory medicine, immuno-microbiology, tissue engineering, and systems and synthetic biology, and focuses on elucidating cellular and molecular mechanisms that govern tissue pathology or offer protection during lung injury and host-environment interaction. Specially, the Benam Lab has adapted the Organ-on-Chip approach to create a microfluidic ‘Lung Small Airway-on-a-Chip’ that accurately reconstitutes normal airway physiology, and recapitulates complex human asthmatic and chronic obstructive pulmonary disease (COPD) inflammatory and immune-pathogenic processes in vitro (Nature Methods 2016;13(2): 151-157). Moreover, most recently they described a novel multi-compartment and microfluidically compatible linked system (Breathing-Smoking Lung Chip technology) that permits analysis of the effects of whole smoke, from both conventional tobacco and electronic cigarettes, delivered under physiologically relevant flow conditions that mimic breathing on the pathophysiology of differentiated human mucociliated bronchiolar epithelium in vitro (Cell Systems 2016; 3(5): 456-466.e4). For more information, please visit his laboratory webpage at: https://benamlab.net.