



Research Impact Under COVID-19

JANUARY 2021 ADDENDUM

Research output has been severely impacted during the COVID-19 pandemic, at home and abroad. The Research Impact Metric (RIM) Model is a novel tool that estimates the impact. The United States remains the global leader in research—however, as the financial impact to research approaches the tens of billions of dollars, our global leadership in research is threatened and national security and economic stability are jeopardized. Losses to research output and U.S. competitiveness may be irreparable—now is the time for all stakeholders to rally around the longstanding Federal Government - Research Institution Partnership.

Research Impact Under COVID-19 January 2021 Addendum

In August 2020, the Council on Governmental Relations released the paper, *Research Impact Under COVID-19: Financial Crisis and the “Pandemic Normal.”* The paper presents a model—the *Research Impact Metric (RIM) model*—which estimates research output loss and financial impact, describes the challenges of doing research under the “Pandemic Normal,” and advocates for renewed commitment and a substantial infusion of new research investment.

Council on Governmental Relations

The Council on Governmental Relations (COGR), established in 1948, is an association of almost 200 leading universities and research institutions and is nationally recognized as the technical expert on a wide range of research policy issues, including how the research funding model works in the United States. For more information on COGR, please visit www.cogr.edu



As we approach one full year of life under COVID-19, it is more important than ever for federal leaders, research institutions, and all stakeholders to rally around the longstanding Federal Government-Research Institution Partnership. This Addendum to the August paper provides updated data on the severity of the research output and financial loss.

The research output loss in just one year has manifested itself in a number of disturbing ways: *research interrupted, altered, and/or cancelled, experiments and specimens permanently lost, and the loss of research talent and expertise to other countries. The loss of graduate students and postdocs, our future scientists and innovators, is an irreversible loss and one that the nation cannot tolerate—each represents a major step backwards in United States competitiveness.* Even as the vaccine seems to promise a path to recovery, an unprecedented response, now, to safeguard the research enterprise is imperative. Without a federal response, the losses to research output and U.S. competitiveness may be irreparable.

In the August 2020 paper, we presented case studies at mission-diverse and geographically-widespread institutions, representing real-life research institutions in the United States. In this Addendum, we have updated and expanded the case studies. Using the RIM Model, research output and financial loss are shown for the 12-month period March 2020 through February 2021. These case studies demonstrate: 1) *research output losses between 20 and 40 percent*, 2) financial disinvestment impact in the *hundreds of millions of dollars* at individual institutions, and 3) potential impact approaching *tens of billions of dollars* across the entire U.S. research enterprise.

While the research enterprise appears vulnerable during the COVID-19 pandemic, the same could be said of the United States research enterprise in 1957 after the launch of Sputnik by the Soviet Union. At that time we rallied behind the tenacity of university and academic leaders, the foresight of federal policy experts and lawmakers, and the visionary promise of science and discovery to ensure that the United States would be the global leader in research. With that same commitment to and investment in the nation’s current research enterprise, we can thrive and remain the aspirational standard to the world.

The updated data for the Case Studies support our initial August 2020 assessment—the research output loss and financial impact are real and severe and the potential impact for the entire U.S. research enterprise could reach tens of billions of dollars.

**Research Output and Financial Loss due to COVID-19
(March 2020 thru February 2021)**

Private/ Public	Med School	Land Grant	Annual Research	Output Loss (1)	Financial Loss (1)	Output Loss (2)	Financial Loss (2)
Private	Y		\$900 M	24%	\$218 M	33%	\$296 M
Public	Y		\$409 M	21%	\$88 M	38%	\$153 M
Public		Y	\$150 M	23%	\$34 M	41%	\$61 M
Private	Y		\$670 M	22%	\$145 M	31%	\$206 M
Public	Y	Y	\$1,097 M	18%	\$201 M	28%	\$302 M
Private	Y		\$211 M	33%	\$63 M	42%	\$89 M
Public	Y		\$1,161 M	12%	\$139 M	15%	\$176 M
Private	Y		\$937 M	33%	\$309 M	42%	\$394 M

(1) No Interruption of Research during recent recurrence of COVID-19

(2) Interruption of Research during recent recurrence of COVID-19

Research Output Loss =

Research Output Loss due to COVID-19 Emergency Restrictions

divided by:

Research Output under Pre-COVID-19 (Normal) Conditions

The Research Impact Metric (RIM) was designed to illustrate the degree to which research output (as a percentage) has been negatively affected under the COVID-19 pandemic. For example, the first Private institution above shows a projected research output loss of 24% under the scenario where (so far) there has not been a significant interruption of research during the most recent surge of COVID-19. And under this scenario, the projected financial loss is \$218 million for the period March 2020 through February 2021.

Research output loss is more important than just the real and damaging financial loss to the institution. Equally devastating are the long-term repercussions of research interrupted, altered, and/or cancelled, experiments and specimens permanently lost, and the loss of research talent and expertise to other countries—and ultimately, a major step backwards in United States competitiveness. ***When research program goals and aims are so severely impacted, discovery and innovation should be expected to be delayed, over the long-term and perhaps permanently, if mitigating action is not taken quickly.***

A reasonable extrapolation of the case studies to the entire United States research enterprise demonstrates a financial impact approaching tens of billions of dollars, which threatens our global leadership in research, national security and economic stability. ***Fortunately, the Federal Government-Research Institution Partnership has been the engine for fundamental research since the 1940s—now, more than ever, is the time to leverage the partnership.***

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