

# Health Economics Close Out Report Summary

## Introduction

Launched in 2011 and supported through 2018, the Common Fund's [Health Economics](#) program focused on building research capacity in health economics and developing products or tools to address the lack of available data needed to conduct economic analyses. The original program initiatives were restructured in fiscal year 2013 to focus on areas most aligned with the NIH mission, and the revised goals were (1) identifying factors that influence optimal adoption of high-value health technologies; and (2) facilitating the transition of medical practice to personalized approaches by identifying factors likely to have a significant impact on the adoption of personalized medicine approaches. To build research capacity by attracting economists to focus their expertise on NIH-relevant research questions, the Health Economics program supported investigator-initiated ideas within these broad topic areas. This structure also provided a forum for health economists aligned with NIH Institutes and Centers to come together and work towards the overall goal of building research capacity. Awardees conducted their projects independently and met on an annual basis with NIH staff and fellow awardees to share their work and discuss future needs and direction.

The total amount awarded to 36 unique extramural awards and several administrative supplements over the life of the program was \$41,364,104. Individual NIH Institutes and Centers (ICs) contributed an additional \$5,086,313 in co-funding or continuing funding for Health Economics projects that transitioned from Common Fund support when the program was restructured.

## Program Accomplishments

### *Publications*

The Health Economics program produced some widely cited publications, and publications appeared in several top biomedical and economics journals. A bibliometric analysis conducted in June 2018 identified 173 publications, including 158 non-review publications. Of these papers, 142 were old enough to receive a Relative Citation Ratio (RCR)<sup>1</sup> by the time of the analysis. These papers have been cited more than 1,600 times. Bibliometric analysis demonstrated that these papers had a mean RCR of 1.8 and a median RCR of 1.0. The difference between mean and median RCR values can be attributed to a subset of highly cited papers skewing the mean RCR towards higher values.

### *Research Findings*

The Health Economics program generated important discoveries within the field of health economics. Key examples from several funded projects include:

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<sup>1</sup> The Relative Citation Ratio is calculated the number of citations per year received by each paper, normalized to the citations per year received by NIH-funded papers in the same field and year. This benchmarking process ensures that a paper with an RCR of 1.0 has received the same number of cites/year as the median NIH-funded paper in its field.

- Demonstration that patent laws affect incentives for private-sector funding for therapeutic trials for early stage prostate cancer; changes to patent laws may help rectify an imbalance in the development pipeline that currently favors late-stage cancer drugs and may potentially be relevant to other chronic diseases.
- Determining there is no one-size-fits-all explanation of diffusion of new drugs/devices; at least three levels of the system matter in the process of adoption: influential individual physicians, well-connected practice types with relevant specialties in the practice, and hospital culture.
- Demonstration that accounting for differences between ideal and real-world implementation is important when assessing the cost-effectiveness of genome sequencing and gene expression tests; for example, considering test effects on patient worry versus reassurance, and whether information will be used routinely by medical providers in subsequent interactions.
- Demonstration that access to and use of price information through health insurance website led to significant, albeit modest, reductions in claim payments, suggesting greater price transparency can help consumers limit health care costs.

### *Resources and Tools*

The Health Economics program developed a number of resources to enable health economics research, including a [source for metrics](#) quantifying patterns of medical intervention diffusion, an [online registry](#) of clinical prediction models, a [model](#) to estimate clinical benefit and cost-effectiveness of pharmacogenomic testing strategies, and a [platform](#) for predicting diffusion of personalized medicine technologies. A major resource developed by the program is the [State Health Practice Database for Research \(SHPDR\)](#), which catalogs variation in states' health care statutes and laws to enable researchers to more effectively perform clinically-oriented health economics research and investigation of diffusion of medical technology and other health services research outcomes. As of June 30, 2018, the website had 2,565 unique users who accessed 20,656 page-views in 3,912 sessions. SHPDR has been acquired by AHRQ as of August 2018.

### *Promotion of Health Economics Research*

A significant success of the Health Economics program was the promotion of health economics research, both within and outside NIH. The program sponsored workshops, teleconferences, and webinars, and Health Economics program investigators and Working Group members were active at scientific conferences. In the years following the program's launch, there was a modest increase in applications similar to Health Economics program awards and the number of different ICs receiving applications also increased. Although it is not possible to draw a direct line of causality, increased awareness of health economics research promoted via program activities may have contributed to this increase. Within NIH, the program organized a speaker series and established a special interest group to continue trans-NIH collaboration on health economics research after Common Fund support ended.

### *Conclusions*

The U.S. healthcare system is large, complex, and involves many actors and stakeholders. Although a modest investment, the Common Fund's Health Economics program led to several important findings and resources. Importantly, the program drew the attention of NIH and of economists to several lines of research that will help NIH pursue its overall mission to improve health.