The Regeneron Genetics Center® (RGC) is a uniquely integrated research initiative that seeks to improve patient care by using genomic approaches to speed drug discovery and development.

**WHAT THE RGC DOES**
- As one of the world’s most comprehensive genetics databases, uses state-of-the-art automation and cloud-based informatics to sequence and analyze exomes
- Pairs sequenced data with de-identified real-world electronic health records and other clinical datasets to make genetic and disease associations to:
  - Identify novel drug targets
  - Validate indications and screen for safety considerations in existing development programs
  - Explore pharmacogenetics (the effect of genetics factors on reaction to a drug) and how to apply precise, personalized medical approaches to treating diseases
- Allows Regeneron to potentially speed and optimize drug development by applying findings to initiate and validate clinical explorations and inform ongoing translational medicine approaches across the company

**REAL WORLD APPLICATION**
Our RGC scientists were the first to identify a variant in the HSD17B13 gene that is associated with reduced risk of, or protection from, various chronic liver diseases for which there are currently no approved therapeutics. Based on these findings, we are collaborating with Alnylam to discover potential RNAi therapies for this target.


**The New York Times**
Aiming to Push Genomics Forward in New Study
“Scientifically and medically, it’s pretty exciting. As far as I’m aware, it’s the largest clinical sequencing undertaking in this country so far by a long shot.”
DR. LESLIE G. BIESECKER, chief of the Genetic Research Branch at the National Human Genome Research Institute

**BARRON’S**
Regeneron: The Best Bet in Biotech Stocks
“There are sequencing efforts underway elsewhere, of course, but none matches Regeneron’s for its combination of size, speed, diversity of samples, and detail of their accompanying health records.”
JACK HOUGH, Senior Editor, Barron’s

**OUTCOMES TO DATE**
- Sequencing at a rate of 500,000 exomes per year, with DNA from more than 600,000 people sequenced as of July 2019
- Identified hundreds of novel candidate disease genes across range of diseases and traits
- Predicted loss of function variants identified for virtually all of Regeneron’s target genes
- Published actionable discoveries — in peer-reviewed publications including *New England Journal of Medicine* and *Science*
OUR COLLABORATION MODEL

The RGC is collaborating with leading academic institutions, government organizations and integrated medical systems. Our high-touch collaborative model is focused on working closely together to gather and analyze data, exchange expert perspectives and ultimately make discoveries that will lead to improved patient care.

"These findings further emphasize the importance of large-scale human genetics data in drug discovery, and represent yet another actionable breakthrough coming from the Regeneron Genetics Center."

GEORGE D. YANCOPOLOUS, M.D., PH.D.,
President and Chief Scientific Officer,
Regeneron Pharmaceuticals

"For Geisinger, this relationship is about the potential to improve individualized patient care...we expect that many of our patients and their family members will directly benefit from their participation in this research."

DAVID H. LEDBETTER, PH.D.,
Executive Scientific Officer and Chief Scientific Officer,
Geisinger Health System

RGC COLLABORATORS

60+ Collaborators

500,000 planned; more than 100,000 sequenced and shared in open source database
250,000 planned; nearly 200,000 sequenced with results returned to Geisinger to be validated and shared with patients