



Frequently Asked Questions (FAQ)

Q. **What is the New York Genome Center (“NYGC”)?**

- A. The New York Genome Center (“NYGC”) is an independent, nonprofit consortium of leading academic medical centers, research universities and commercial organizations that will transform biomedical research and clinical care in New York through the creation of what will become one of the largest bioinformatics and genomics facilities in North America. Equipped with the latest molecular scanning technologies, the NYGC will enable the most prestigious research institutions in the greater New York region to share data and resources on an unprecedented scale, helping to accelerate new discoveries, diagnostics, and treatments for human diseases. Through this national and international collaboration, NYGC can have an impact globally.

Q. **How is genomics impacting science and medicine?**

- A. The technology that launched the biomedical revolution and made the Human Genome Project possible – DNA sequencing – is once again on the cusp of transforming biomedical research and healthcare. National thought leaders have forecast that the cost of sequencing an entire human genome will soon be reduced to \$1,000 or less. This advance will pave the way for each person’s genome to be sequenced as part of the standard of care, leading to a revolution in the practice of medicine.

This revolution is unfolding in a variety of ways. The cost and duration of genomic sequencing is rapidly falling, the federal government is making a strong commitment to support full implementation of electronic health records that are a requisite for genomic medicine, and the number of targeted drugs and companion diagnostics entering clinical practice continues to rise. Today, there are already more than 100 FDA-approved drugs – about 10% of all marketed drugs – that recommend or require genetic testing for optimal treatment, and this number is expected to climb significantly as greater than 60% of all drugs in preclinical development rely on biomarker data.

Genomic medicine approaches are now being applied in diagnosing and treating cancer, diabetes, neurological diseases, autoimmune diseases, and other conditions. Medical schools are changing their curricula to teach physicians in training about genomics-based approaches. Clinical decision tools are being developed for healthcare professionals that will guide their diagnostic and treatment methods, based on patients’ genomic profiles. And at the patient level, ubiquitous digital devices such as the iPhone already are starting to provide customized health information that will enable consumers to handle their ‘health portfolio’ on a customized basis. At the heart of all these dramatic shifts is the ability to apply complex bioinformatic analysis and large-scale sequencing, both of which NYGC will provide, combined with access to massive amounts of clinical information that can lead to new discoveries of the molecular underpinnings of disease.

Q. **How will NYGC impact biomedical research and clinical care?**

- A. Through this collaboration, scientists and physicians will be able to share vast amounts of diverse clinical and genomic data on a scale not yet realized to understand the molecular underpinnings of disease, identify and validate biomarkers, and accelerate development of novel diagnostics and therapeutics to improve clinical care. As a result, NYGC will advance implementation of the rapidly growing field of genomic medicine and will provide an engine for life science product commercialization in the region and nationally. The open model of NYGC is consistent with the Applied Sciences initiative established in 2010 by Mayor Bloomberg.

Q. Why does New York City need a genome center?

- A. Despite the sophistication and strength of the life science market and clinical capability in New York, New York City institutions lack access to the high-throughput sequencing capability available within other life science clusters, such as Boston. This lack of access puts New York institutions at a competitive disadvantage for advancing their research and obtaining additional National Institutes of Health (NIH) funding.
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Q. Who are the founding members of NYGC?

- A. The Institutional Founding Members of NYGC include Cold Spring Harbor Laboratory, Columbia University, Cornell University/Weill Cornell Medical College, Memorial Sloan-Kettering Cancer Center, Mount Sinai Medical Center, NewYork-Presbyterian Hospital, New York University/NYU School of Medicine, North Shore-LIJ Health System, Stony Brook University, The Jackson Laboratory, and The Rockefeller University. Being at the forefront of genomics-based clinical research and practice will drive patients to these specialized centers for diagnostic and preventive screenings and clinical treatment.
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Q. How will NYGC differ from other genome centers?

- A. There are several ways in which NYGC will be novel. First, it encompasses 11 member institutions whose combined scientific breadth, diversity of patient population, access to clinical outcomes data, and scale of basic and clinical research are unlike other genomics centers. Second, it starts out and will continue to have extensive collaborations among the biomedical ecosystem, including technology companies such as Illumina and pharmaceutical and diagnostic companies, in order to enable rapid and seamless translation of discoveries. Third, it draws on a wide range of public and private financing from a highly diverse cadre of funders. And fourth, it is very much 'outward facing,' seeking from inception to engage with the broadest range of collaborators in the scientific and clinical community in the New York area, nationally, and globally.
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Q. How will NYGC help New York regain global biomedical leadership?

- A. NYGC will provide New York with an opportunity to regain and sustain its global leadership in biomedical research and clinical care by providing infrastructure to support world-class genomics research to the entire research community, attracting new institutions and companies to the region, providing resources to recruit and train talented genomics researchers and clinicians, strengthening the ability of New York's academic and medical institutions to compete for NIH grants, and generating new spin-off companies in the New York region.
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Q. What is the estimated economic impact of NYGC on New York City?

- A. Genomics is a powerful economic driver, currently representing a \$7.4 billion industry. NYGC will leverage existing strengths in genomics and attract new genomics talent to create a center where companies that develop applications of this research can drive the future economy in the New York region. According to an economic impact study conducted by Tripp Umbach, ten years after the NYGC is fully operational, the economic impact of commercial applications stemming from patents and licenses will equal more than \$1.1 billion annually in the Metro New York economy. The estimated economic impact of NYGC's operations, related research and educational programs, expansion of clinical programs, and bioscience industry expansion on Metro New York is anticipated to reach \$2.9 billion by 2025.

Q. How will NYGC impact job creation in the New York City region?

- A. According to an economic impact study conducted by Tripp Umbach, NYGC is expected to generate about 2,000 new jobs in the New York area by 2015, both directly and indirectly, and potentially as many as 20,000 jobs by 2025.
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Q. How is NYGC being funded?

- A. Launched with a substantial portion of the required \$125 million investment already committed from diverse public/private sources, NYGC funding is being provided by Institutional Founding Members, the Simons Foundation, Bloomberg Philanthropies, Russell L. Carson, Anthony B. Evnin, WilmerHale, other private foundations, individual philanthropists, and technology collaborators. Other support has been committed from the New York City Economic Development Corporation and the New York City Investment Fund.

Illumina, a leading developer and manufacturer of tools and integrated systems for analysis of genetic variation and function, and Roche, a global healthcare company, are commercial collaborators.

NYGC is also negotiating additional private sector relationships with other technology collaborators, pharmaceutical companies, diagnostics companies, and other collaborators that will bring extensive commercial resources to NYGC and the founding member institutions.

Q. Will NYGC focus research on specific diseases?

- A. Initially, NYGC will not focus on any one disease area, but over time, its members may collaborate on specific disease projects.
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Q. Who will lead NYGC?

- A. Nancy J. Kelley is the Founding Executive Director of NYGC. Ms. Kelley is a nationally recognized executive and lawyer with a long history of leadership in scientific institutions, life science companies, and in life science real estate development. She has intimate knowledge of the New York life science marketplace and has been responsible for projects such as managing the development process for the East River Science Park in New York.
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Q. Where is NYGC located?

- A. NYGC is currently considering several locations in Manhattan. Its facility will be designed by Elkus Manfredi Architects.
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Q. When will the NYGC be fully operational?

- A. NYGC could be open as early as spring 2012 and be fully operational by the end of 2012.