

Precision Medicine Through the Use of Genomics

An Interview with Howard P. Milstein,
Co-Chair, Howard & Abby Milstein Foundation

EDITORS' NOTE Howard Milstein is the third generation to lead the Milstein business and philanthropic family. An entrepreneurial builder of innovative, large-scale companies, Milstein's ability to marshal business, government, philanthropic, and family resources drives a breadth of initiatives across health, civic, educational, and security matters. Milstein is Chairman and CEO of New York Private Bank & Trust and its operating bank, Emigrant, and chairs and operates the Milstein family's real estate companies. In the philanthropic arena, Milstein is Chairman of the New York Blood Center, the American Skin Association, the Howard and Georgeanna Jones Foundation for Reproductive Medicine, and the Milstein Medical Asian American Partnership Foundation. He is a trustee at Cornell University, an overseer of Weill Cornell Medical College, and serves on the Dean's Advisory Board of Harvard Law School. He also serves on the boards of the National September 11th Memorial and the Nicklaus Children's Healthcare Foundation. Milstein was Chairman of the New York State Thruway Authority from 2011-2014, where he successfully led the design and procurement process for a new Tappan Zee Bridge, the largest infrastructure project in the nation.



Howard P. Milstein

ORGANIZATION BRIEF The Howard and Abby Milstein Foundation (howardandabbymilsteinfoundation.org) participates actively in the organizations it supports, with hands-on leadership and long-term financial support. Eight core areas of focus have emerged from their vision: medical research and care, biotechnology and science, higher education and youth, history, religious and communal organizations, arts and culture, law enforcement and homeland security, and civic engagement. The foundation's involvement, leadership, and giving align with the essence of its homegrown "Venture Philanthropy," which brings the principles of venture capitalism to philanthropy, including active engagement in organization and operations; encouraging an entrepreneurial approach to innovation and change; and finding and investing in leaders in the field.

You serve as Chairman of the Board for New York Blood Center (NYBC). Would you provide an overview of NYBC and what makes this organization so special?

It is an exciting time to lead the New York Blood Center, as we further key initiatives that, quite literally, have the potential to change the world. As a nonprofit community blood center, NYBC serves more than 20 million people in the New York and Kansas City metropolitan areas. Each year, we provide approximately one million blood products to nearly 200 hospitals in the Northeast, and offer an array of transfusion-related medical services. But NYBC is not only one of the largest community blood centers in the nation; we're also home to some of the most innovative research initiatives in blood-related medicine worldwide. Our advanced research in virology, immunochemistry, and red cell physiology is redefining the state-of-the-art treatments for blood diseases. Our blood donations save thousands of lives each year, and the medical breakthroughs we've achieved in hematology and related fields have saved tens of thousands more worldwide.

NYBC recently announced with its partner organization, Community Blood Center of Greater Kansas City (CBC), the creation of the National Center for Blood Group Genomics. Would you highlight this effort and your vision for the National Center for Blood Group Genomics?

In 2013, Community Blood Center of Greater Kansas City (CBC) became a part of New York Blood Center. CBC is an outstanding institution serving the Kansas City area and an ideal partner for NYBC as we diversify our operations nationally.

Most recently, NYBC and CBC announced the creation of the National Center for Blood Group Genomics. Based in Kansas City, this new laboratory and research center will be national in scope, testing blood donor and patient samples from across the United States. This National Center of Excellence will apply precision medicine through the use of genomics for the treatment of hematological malignancies, inherited and acquired anemias, autoimmune diseases, and transplantation when selecting products for transfusion.

This is important for the following reason: matching patients and blood donors has not changed materially since the 1950s, despite the discovery of more than 300 other blood group antigens. In most cases, the healthcare field is still matching based only on the ABO and Rh types. Our new center will specialize in providing "precise-matched" blood products to avoid complications by properly screening patients for the suitability of various transfusion treatment regimens.

What do you see as the impact that the National Center for Blood Group Genomics will have in advancing the field of genomics?

This will be a vast improvement in the overall practice and safety of transfusion medicine. Researchers will focus on developing the next generation of testing, as well as training future leaders in the field of genomics. NYBC has extraordinary experience and capability in blood group genomics, and we're harnessing this talent as a resource in cancer treatment and personalized precision medicine – each recognized as advancing the frontiers of medicine. Our new center will combine state-of-the-art methods in serological investigation and DNA blood group analysis to resolve complex cases of blood type matching, determine clinical significance, and provide consultation for the selection of blood for transfusion to hospitals around the country. The implications for healthcare, both nationally and worldwide, are enormous.

How has NYBC evolved over the years and expanded its reach?

From our start more than 50 years ago, research has been an integral part of the New York Blood Center's mission. NYBC's research has led to breakthroughs in the treatment of such conditions as Hepatitis, AIDS, SARS, and MERS viruses, and neurodegenerative disorders such as Alzheimer's and Parkinson's. The organization is the New York-area registry for the National Marrow Donor Program, which has helped register close to 240,000 potential bone marrow donors since 1989, and helped more than 1,400 donors donate bone marrow or stem cells to patients in need. We're also home to the National Cord Blood Program at the Milstein Cord Blood Center (NCBP), the world's oldest and largest public cord blood bank. Since its founding, NYBC has banked more than 60,000 cord blood units, and in 2011 became the first public cord blood bank

in the world to receive NetCord-FACT accreditation (2003) and FDA licensure for one of its stem cell products: HEMACORD™.

Most recently, support from my foundation has allowed NYBC to announce a new collaboration with the University of California, Davis Health System to manufacture specialized lines of stem cells as potential therapies for repair and regeneration of retina, kidney, lung, and liver tissue, as well as for the treatment of neurodegenerative diseases. This partnership signals the next step in the advancement of regenerative medicine, which has already saved thousands of lives worldwide and has the potential to save millions more. Regenerative medicine is the next frontier in medical science: It will ultimately give doctors the ability to repair or replace every major organ in the human body.

How does your business experience and expertise impact your philanthropic approach?

In all of the areas of philanthropy where I'm involved, active engagement is key. Our leadership and involvement brings the principles of venture capitalism to philanthropy, encouraging an entrepreneurial approach to innovation and change, and finding and investing in leaders in the field. In every philanthropic area in which we operate, we look to find innovative solutions in a hands-on manner that brings the intensity and skills honed in the business world to philanthropic causes.

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How do you decide which philanthropic areas to become involved with?

As in most endeavors, I believe that focus is a central element of success. This is why my philanthropic work is concentrated on eight core areas where we feel we can have critical impact. In addition to medical research, and biotechnology and science, these areas include higher education and youth, history, religious and communal organizations, arts and culture, law enforcement and homeland security, and civic engagement.

With all of the success you have had in business and philanthropy, do you take time to reflect and appreciate all that you have accomplished?

I don't think very much about what I have accomplished, but instead look to what still needs to be done. I do, however, take time to celebrate what others have accomplished, because in any organization, it is the team that makes the difference. At the New York Blood Center, for example, we would not have had any of the success we've achieved over these decades without the dedicated work of our Board of Trustees, our CEO, our researchers and staff, and the volunteers who coordinate blood drives and play other key roles. One of the things that makes NYBC great is our community: while philanthropists are able to write checks, everyone can give blood. I think this communal focus on saving human lives and making the world a better place expresses our humanity and gives meaning to life. ●



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