Gary H. Gibbons, MD, is director of the National Heart, Lung, and Blood Institute (NHLBI), the third largest institute at the NIH, with an annual budget of more than $3 billion. Before joining the NHLBI, Gibbons served as founding director of the Cardiovascular Research Institute, chairperson of the Department of Physiology, and professor of physiology and medicine at the Morehouse School of Medicine in Atlanta.

**NHLBI Work Spans Heart, Kidney Care**

**KN:** You have led NHLBI for a year. Tell us about the institute and your vision for the future direction of NHLBI.

**Gibbons:**
The National Heart, Lung, and Blood Institute (NHLBI) provides global leadership for a research, training, and education program to promote the health of all communities; elucidate and eliminate health inequities in the U.S. and around the globe. My vision for the NHLBI is guided by several key enduring principles:

- **Value** and support investigator-initiated fundamental discovery science.
- **Maintain** a balanced, cross-disciplinary portfolio (basic, translational, clinical, population science).
- **Support** implementation science that empowers patients and enables partners to improve the health of the nation.
- **Train** and nurture a diverse biomedical workforce.
- **Value** the health of all communities; elucidate and eliminate health inequities in the U.S. and around the globe.

Our work to address issues related to CVD and high blood pressure reaches beyond research and into health education campaigns that seek to help individuals live healthier lifestyles. Examples include We Can! (Ways to Enhance Children’s Activity & Nutrition), The Heart Truth (focused on raising awareness of heart disease in women), and the DASH eating plan (Dietary Approaches to Stop Hypertension).

**Gibbons:**

We fund a number of clinical trials related to the link between high blood pressure and cardiovascular disease and kidney disease. One example of a trial we’re currently funding along with NIDDK is the Syzygic Blood Pressure Intervention Trial (SPRINT), a randomized controlled trial that is testing whether a systolic blood pressure (SBP) level of less than 120 mm Hg (intensive arm) is better than a SBP level of less than 140 mm Hg (standard arm). The trial is looking at whether the lower SBP will further reduce the risk of cardiovascular disease (CVD), kidney disease, stroke, or dementia.

Another great example is the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT), which was the largest antihypertensive treatment trial ever conducted. The main study and subsequent studies using ALLHAT data have looked at a number of issues including blood pressure, diabetes, heart failure, chronic kidney disease, atrial fibrillation, and metabolic syndrome. The NHLBI is supporting the continuing analysis of the ALLHAT data by the scientific community. There are also highly productive Renal Working Groups within a number of our studies—including ALLHAT, the Cardiovascular Health Study (CHS), Multi-Ethnic Study of Atherosclerosis (MESA), Atherosclerosis Risk in Communities Study (ARIC), and the Jackson Heart Study—that are looking at the relationships among cardiovascular disease, hypertension, and chronic kidney disease.

**KN:** How does NHLBI collaborate with other NIH institutes and federal agencies on kidney-related studies?

**Gibbons:**
The NHLBI co-funds a number of studies with other NIH institutes and federal agencies that have kidney disease as a component of the study, such as the SPRINT trial mentioned earlier. We’re always looking for new opportunities to co-fund important studies. Increasingly, investigators are realizing that you can’t

**Mission of NHLBI changing with the expanded focus by NIH recently on translational research?**

**Gibbons:**
The NHLBI has a proud legacy of funding a balanced portfolio that includes the full spectrum of basic, clinical, translational, and population science. We are pursuing a leadership agenda that rethinks prior approaches and incorporates the lessons from a “holistic,” systems approach in order to address the complexities of diseases such as sickle cell disease, hypertension, heart failure, and asthma.

Science is an iterative, interactive process. In my Director’s Corner “Behind the Bench” conversations with NHLBI grantees, these renowned experts offer provocative viewpoints on how these four arenas are increasingly seen as interdependent parts of their research. Many of them talk about the benefits of being a clinician-scientist and how the patients, i.e., clinical science, often guide the research questions that they ask and seek to answer. These conversations are instructive and reinforce our “balanced portfolio” philosophy here at NHLBI.

We are always seeking new opportunities to innovate and have an even greater impact on human health, which often means further engagement in the translational research space. One recent example is the launch of the NIH Centers for Accelerated Innovations (NCAl). The NHLBI currently is the only NIH IC (institute or center) funding these centers, which are a great example of the intersection between basic and translational science. Our hope is that through the NCAls, we can better leverage our existing R&D investments and ensure that the basic research we’re supporting through Small Business grants results in breakthroughs that can become commercially viable products to improve patient care and advance public health.

**KN:** High blood pressure and cardiovascular disease place patients at increased risk for conditions such as kidney disease. The reverse is also true. What is NHLBI doing to address this issue?

**Gibbons:**

Research into causes of hypertension and ways to control blood pressure are top priority areas for the NHLBI.

**KN:** How do you balance basic, clinical, and translational research opportunities? Do you see the
tools and technologies available to researchers. There are unprecedented scientific opportunities out there today thanks to the incredible advances in stem cell technologies, bioinformatics, and big data all present huge opportunities for today’s young investigators who are best poised to leverage these technologies. It is genuinely an exciting time to be in this field, even with the fiscal challenges.

KN: Have you considered the greatest research opportunities for NHLBI over the next decade?

Gibbons: I mentioned earlier the unprecedented scientific opportunities that currently exist thanks to advances in science that simply were not there just a decade ago. The explosion of -omics and imaging technology and the advances in stem cell technologies, bioinformatics, and big data all present huge opportunities for today’s young investigators who are best poised to leverage these technologies. It is genuinely an exciting time to be in this field, even with the fiscal challenges.

KN: How does NHLBI balance approaches to retain established researchers with the need to attract new researchers to the field?

Gibbons: One of the most important investments the NHLBI can make is to support and encourage the next generation. We are committed to ensuring that we help sustain a vibrant, innovative, and diverse biomedical workforce despite the current fiscal challenges. That’s one of the reasons that we’ve prioritized training grants, K-awards, and investigator-initiated grants, despite budget reductions. This is an issue about which I’m extremely passionate. I look forward to ideas coming from the people at the front lines—such as your members—about how we can do an even better job at nurturing career development.

KN: How can NHLBI make sure that new researchers in the CVD space have access to established researchers?

Gibbons: We are increasingly seeing this research cross traditional boundaries. We are increasingly seeing this research cross traditional boundaries. Furthermore, the NHLBI is engaged in fostering collaborations between investigators at different stages of their career, including senior investigators and early-career researchers, to encourage the development and growth of new investigational teams. We believe that this approach will help to ensure that new researchers have access to the expertise and resources they need to succeed.