



May 8, 2022

The Honorable Frank Pallone  
Chairman  
Committee on Energy and Commerce  
United States House of Representatives  
Washington DC, 20515

The Honorable Cathy McMorris Rodgers  
Ranking Member  
Committee on Energy and Commerce  
United States House of Representatives  
Washington DC, 20515

Re: South Asian Heart Health Awareness and Research Act

Dear Chairman Pallone and Ranking Member McMorris Rodgers:

We are pleased to provide our strong support for the South Asian Heart Health Awareness and Research Act. We highlight our expertise, provide evidence demonstrating a higher risk of heart disease in South Asians, outline current research efforts, and highlight how the South Asian Heart Health Awareness and Research Act can further transform health care for this high-risk population.

Our research leverages a rich scientific environment and resources across the Cardiovascular Research Center and the Center for Genomic Medicine at Massachusetts General Hospital, and the Program in Medical and Population Genetics at the Broad Institute. Briefly,

- Dr. Pradeep Natarajan is the Director of Preventive Cardiology and Paul & Phyllis Fireman Endowed Chair in Vascular Medicine at Massachusetts General Hospital, Associate Professor of Medicine at Harvard Medical School, and Associate Member of the Broad Institute of Harvard and MIT.
- Dr. Amit Khera is the Associate Director, Precision Medicine Unit, Center for Genomic Medicine, Massachusetts General Hospital, Associate Director, Cardiovascular Disease Initiative, Broad Institute of MIT and Harvard, Instructor of Medicine, Harvard Medical School, Cardiologist, Corrigan Minehan Heart Center, Massachusetts General Hospital.
- Dr. Romit Bhattacharya is a general and preventive cardiologist at Massachusetts General Hospital, Medical Director of OurHealth, Associate Director of the Cardiac Lifestyle Program at Massachusetts General Hospital, and Instructor of Medicine at Harvard Medical School.
- Dr. Whitney Hornsby is the Director of Operations for OurHealth, Center for Genomic Medicine, Massachusetts General Hospital

Individuals of South Asian ancestry represent 23% of the global population – corresponding to 1.8 billion people. An estimated 5.4 million individuals of South Asian ancestry live in the United States, one of the fastest growing ethnic subgroups. South Asians are consistently recognized to be at a 2- to 3-fold increased risk for heart disease and up to 4-fold increased risk of diabetes (especially diabetes that occurs in the absence of obesity). In the United States, South Asian ancestry is now described as a ‘risk-enhancing factor’ for heart disease in current practice guidelines, highlighting an awareness of the risk but a glaring knowledge gap. No single gene has been found to be responsible and current clinical risk calculators are unable to account for the specific impact of South Asian ancestry. Clinical risk factors, such as increased cholesterol, increased blood pressure, diabetes, and smoking, are well recognized to influence heart disease risk. Additional ‘risk-enhancing’ factors are more recently recognized conditions or traits linked to excess risk beyond conventional clinical risk factors. Given the accumulating evidence, and a consensus in the clinical community that these individuals are at

increased risk of morbidity and mortality, in 2018, the American Heart Association and American College of Cardiology uniquely distinguished South Asian ancestry as a ‘risk-enhancing factor.’

At present, we don’t know why South Asians are at higher risk because there have been very few studies focused on this population. Our team of physician scientists have looked closely at the contribution of genomics toward heart and metabolic diseases in individuals of South Asian ancestry living outside of the United States. Through such efforts, they have helped develop new genotyping arrays optimized for South Asians. These efforts have been supported by the National Institutes of Health. Unfortunately, South Asian datasets remain limited in size, cultural diversity, and diasporic representation. Furthermore, research tools to characterize culturally sensitive lifestyle practices that may influence risk of disease do not currently exist.

We are launching OurHealth in summer 2022 to address this knowledge gap. OurHealth aims to build a coalition of researchers and participants to better understand – and ultimately overcome – the persistently high rates of heart disease among South Asian populations through the creation and study of a new cohort. Participants will consent to the linkage of electronic health record and lifestyle data with corresponding genetic data. This effort will facilitate the discovery of new genes or pathways underlying heart disease and potentially advance the health of South Asian communities in the U.S. and worldwide through lifestyle modifications and medical therapies.

The South Asian Heart Health Awareness and Research Act is critical to closing the knowledge gaps outlined above, and to developing public health interventions and novel therapeutics to help Americans of South Asian ancestry and all individuals who suffer from heart disease. It has been demonstrated repeatedly that identifying mechanisms of disease in a small high-risk population can lead to the development of therapeutics that benefit all other racial and ethnic groups. Through federal funding a national recruitment effort could be launched along with linkages to federal databases. Research tools developed in the OurHealth Study would enable unique identification of lifestyle and genomic risk factors. Surveys of dietary and physical activity practices could help describe beneficial or harmful effects of issues applicable to American society writ large – intake of turmeric or ghee, practices of mindfulness and yoga, to name a few.

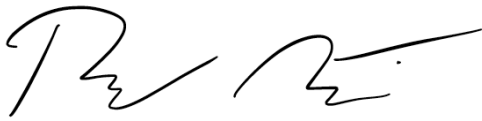
Funding from the South Asian Heart Health Awareness and Research Act would benefit from leveraging already-existing infrastructure at the Massachusetts General Hospital and the Broad Institutes of Harvard and MIT. Technology and pipelines for high-throughput next generation sequencing are already optimized – they were critical to mass testing efforts during COVID. The Broad Institute’s CountMeIn initiative has created a virtual Data Donation Platform which has already been used in cancer moonshot initiatives to allow individuals to consent to studies remotely on their mobile device and mail in a cheek swab with their DNA. Millions of dollars have already been invested in developing this infrastructure. Federal funds could then immediately be put to use recruiting and sequencing individuals, building novel research surveys, and generating new insights. While the pilot phase of this project is being funded through philanthropic support, federal funds are needed to fund genomic sequencing at large scale where the costs exceed individual philanthropic donors’ capacity.

**In summary, the South Asian Heart Health Awareness and Research Act is critically important to addressing knowledge gaps as to why Americans of South Asian ancestry die of cardiometabolic disease at higher rates and at younger ages than other Americans. Infrastructure is already in place to make this work immediately actionable and uniquely impactful.**

Drs. Pradeep Natarajan, Amit Khera, Romit Bhattacharya, and Whitney Hornsby thank the Committee for its thoughtful consideration of this key public health priority. Please contact Dr. Pradeep Natarajan (pnatarajan@mgh.harvard.edu) for any further information.

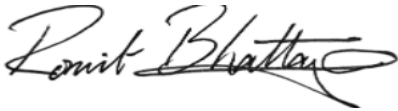
Thank you. Cc: House of Representatives Committee on Energy and Commerce

Sincerely,



**Pradeep Natarajan, MD MMSc**

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