Population Association of America
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Response to NOT-OD-15-096
http://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-096.html

Sent via electronic submission form

To whom it may concern:

On behalf of the Population Association of America and Association of Population Centers, we are pleased to submit comments in response to NOT-OD-15-096, the National Institutes of Health Request for Information (RFI) regarding the proposed million-person cohort component of the Precision Medicine Initiative (PMI).

PAA (www.popassoc.org) and APC (www.popcenters.org) are two affiliated organizations that together represent over 3,000 behavioral and social scientists, demographers, epidemiologists, economists, sociologists, and over 40 population research centers nationwide. Our members' research interests are very diverse and include longevity, chronic diseases, disability, infant, child and adolescent health, population aging, immigration, marriage and divorce, health disparities, and population forecasting. Our members have significant expertise in the areas of longitudinal survey design, large-scale data collection and management, and data sharing practices. Several of our most prominent members are NIH grantees who manage long-term surveys supported by the NIH, including the Health and Retirement Study, the National Longitudinal Study of Adolescent to Adult Health (Add Health), and Fragile Families and Child Well Being Study. Our organizations' collective expertise provides unique insights into the questions posted by the RFI.

A. General topics on the development and implementation of this large U.S. cohort.

Given the initiative's reliance on electronic health records (EHR), we would like to suggest an approach for strengthening the study's design. Specifically, we suggest starting with a "sample" or census of EHRs and then branching out to social media to solicit participants rather than pursuing the reverse strategy. If the study began with cohorts of people who have EHRs, it would be easier to track response rates and recruit systematically and would improve the likelihood of drawing a representative sample. Some EHR systems, such as Kaiser and Blue Cross Blue Shield, are not completely representative of populations, but they come much closer. If these EHRs were integrated with existing cohorts, the data would be much more representative of the population and, therefore, more valuable to the scientific research community.

An important feature of the PM initiative is the innovative use of social media to allow individuals to volunteer, participate, share their information and possibly allow linkage to their electronic health records. This could be a creative way to identify rare subgroups in the population, but it raises questions about selection bias and representativeness of the study subjects. The population research community could help address these potential weaknesses of a volunteer component of the initiative through modeling of the characteristics of those who do volunteer, possibly adding measures to representative surveys to help estimate the selectivity or through other methodological approaches. It is important that consideration be given early to the potential uses of data from the volunteer portion and that steps are taken to understand and possibly mitigate the potentially enormous selectivity bias that will likely occur.

B. Suggestions for existing or potentially new research entities (a health care system, research network, cohort study or consortium, or other entities such as longitudinal studies using digital-based platforms) that might be combined into a large U.S. cohort.

The centerpiece of the PM initiative is the million-person cohort. While much of this initiative is developing, NIH has noted that it could be possible to augment existing cohorts. This could be a valuable approach, but only if the NIH embraces a broad perspective and includes social science based cohorts in its approach. For example, the Health and Retirement Survey already has longitudinal data on a substantial cohort of subjects and those subjects are at ages when they are at substantial risk of conditions such as cardiovascular disease, Alzheimer and related dementias and other maladies. The investigators have demonstrated that they can collect biological health measures and retain a large, diverse and representative population over time. It would be appropriate to urge that the NIH consider the feasibility of augmenting the HRS to achieve some of the goals of the PMI.

The Add Health survey includes over 20,000 young adults who have been followed from adolescence. The sample is large, diverse, representative and includes an oversample of twins**.** Add Health could be a vehicle to look not only at diseases that affect younger respondents, but consider the youthful precursors of later disease. In addition to the wealth of information about social, educational, economic, and behavioral factors that are often associated with the risk of disease, Add Health directly measured the social environments of young people's lives including family, peers, schools and neighborhoods, and their role in health outcomes in adulthood. The survey has collected genetic and biological data beginning in adolescence and the addition of health record data could help elucidate the interactions of biologic and social risks. There is accumulating evidence for the importance of understanding the implications of genetic and environmental interactions for various health outcomes.

These two surveys are merely examples of representative cohorts that should be explored for their ability to further the goals of the PM initiative.

Another way to develop the million-person cohort would be through the development of a new cohort. While this could offer advantages, it would be expensive and time consuming as the National Children’s Study demonstrated. There would be clear advantages to making use of augmentation of existing cohorts and we urge that existing cohorts that are already rich in social and behavioral data be included.

As the specific goals of the PM initiative are clarified there may be other approaches to consider, and again, we would urge that the demographic research community be included in those deliberations. Members of this community already have extensive experience with large, representative cohorts that are followed over many years. They also have already demonstrated their ability and willingness to work in interdisciplinary teams and to include and manage the collection of biomarkers along with social and behavioral indicators.

Thank you for considering our comments as the PMI evolves. Please do not hesitate to contact us if we can be of further assistance.

Regards,

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