Preface

This report was written for the general public and for mental health professionals in order to draw attention to—and offer some scientific insight about—the mental health issues faced by LGBT populations.

It arose from a request from Paul R. McHugh, M.D., the former chief of psychiatry at Johns Hopkins Hospital and one of the leading psychiatrists in the world. Dr. McHugh requested that I review a monograph he and colleagues had drafted on subjects related to sexual orientation and identity; my original assignment was to guarantee the accuracy of statistical inferences and to review additional sources. In the months that followed, I closely read over five hundred scientific articles on these topics and perused hundreds more. I was alarmed to learn that the LGBT community bears a disproportionate rate of mental health problems compared to the population as a whole.

As my interest grew, I explored research across a variety of scientific fields, including epidemiology, genetics, endocrinology, psychiatry, neuroscience, embryology, and pediatrics. I also reviewed many of the academic empirical studies done in the social sciences including psychology, sociology, political science, economics, and gender studies.

I agreed to take over as lead author, rewriting, reorganizing, and expanding the text. I support every sentence in this report, without reservation and without prejudice regarding any political or philosophical debates. This report is about science and medicine, nothing more and nothing less.

Readers wondering about this report's synthesis of research from so many different fields may wish to know a little about its lead author. I am a full-time academic involved in all aspects of teaching, research, and professional service. I am a biostatistician and epidemiologist who focuses on the design, analysis, and interpretation of experimental and observational data in public health and medicine, particularly when the data are complex in terms of underlying scientific issues. I am a research physician, having trained in medicine and psychiatry in the U.K. and received the British equivalent (M.B.) to the American M.D. I have never practiced medicine (including psychiatry) in the United States or abroad. I have testified in dozens of federal and state legal proceedings and regulatory hearings, in

most cases reviewing scientific literature to clarify the issues under examination. I strongly support equality and oppose discrimination for the LGBT community, and I have testified on their behalf as a statistical expert.

I have been a full-time tenured professor for over four decades. I have held professorial appointments at eight universities, including Princeton, the University of Pennsylvania, Stanford, Arizona State University, Johns Hopkins University Bloomberg School of Public Health and School of Medicine, Ohio State, Virginia Tech, and the University of Michigan. I have also held research faculty appointments at several other institutions, including the Mayo Clinic.

My full-time and part-time appointments have been in twenty-three disciplines, including statistics, biostatistics, epidemiology, public health, social methodology, psychiatry, mathematics, sociology, political science, economics, and biomedical informatics. But my research interests have varied far less than my academic appointments: the focus of my career has been to learn how statistics and models are employed across disciplines, with the goal of improving the use of models and data analytics in assessing issues of interest in the policy, regulatory, or legal realms.

I have been published in many top-tier peer-reviewed journals (including *The Annals of Statistics*, *Biometrics*, and *American Journal of Political Science*) and have reviewed hundreds of manuscripts submitted for publication to many of the major medical, statistical, and epidemiological journals (including *The New England Journal of Medicine*, *Journal of the American Statistical Association*, and *American Journal of Public Health*).

I am currently a scholar in residence in the Department of Psychiatry at Johns Hopkins School of Medicine and a professor of statistics and biostatistics at Arizona State University. Up until July 1, 2016, I also held part-time faculty appointments at the Johns Hopkins Bloomberg School of Public Health and School of Medicine, and at the Mayo Clinic.

An undertaking as ambitious as this report would not be possible without the counsel and advice of many gifted scholars and editors. I am grateful for the generous help of Laura E. Harrington, M.D., M.S., a psychiatrist with extensive training in internal medicine and neuroimmunology, whose clinical practice focuses on women in life transition, including affirmative treatment and therapy for the LGBT community. She contributed to the entire report, particularly lending her expertise to the sections on endocrinology and brain research. I am indebted also to Bentley J. Hanish, B.S., a young geneticist who expects to graduate medical school in 2021 with an M.D./Ph.D. in psychiatric epidemiology.

He contributed to the entire report, particularly to those sections that concern genetics.

I gratefully acknowledge the support of Johns Hopkins University Bloomberg School of Public Health and School of Medicine, Arizona State University, and the Mayo Clinic.

In the course of writing this report, I consulted a number of individuals who asked that I not thank them by name. Some feared an angry response from the more militant elements of the LGBT community; others feared an angry response from the more strident elements of religiously conservative communities. Most bothersome, however, is that some feared reprisals from their own universities for engaging such controversial topics, regardless of the report's content—a sad statement about academic freedom.

I dedicate my work on this report, first, to the LGBT community, which bears a disproportionate rate of mental health problems compared the population as a whole. We must find ways to relieve their suffering.

I dedicate it also to scholars doing impartial research on topics of public controversy. May they never lose their way in political hurricanes.

And above all, I dedicate it to children struggling with their sexuality and gender. Children are a special case when addressing gender issues. In the course of their development, many children explore the idea of being of the opposite sex. Some children may have improved psychological well-being if they are encouraged and supported in their cross-gender identification, particularly if the identification is strong and persistent over time. But nearly all children ultimately identify with their biological sex. The notion that a two-year-old, having expressed thoughts or behaviors identified with the opposite sex, can be labeled for life as transgender has absolutely no support in science. Indeed, it is iniquitous to believe that all children who have gender-atypical thoughts or behavior at some point in their development, particularly before puberty, should be encouraged to become transgender.

As citizens, scholars, and clinicians concerned with the problems facing LGBT people, we should not be dogmatically committed to any particular views about the nature of sexuality or gender identity; rather, we should be guided first and foremost by the needs of struggling patients, and we should seek with open minds for ways to help them lead meaningful, dignified lives.

Lawrence S. Mayer, M.B., M.S., Ph.D.