THE STATE OF US HEALTH:

INNOVATIONS, INSIGHTS, AND RECOMMENDATIONS FROM THE GLOBAL BURDEN OF DISEASE STUDY

INSTITUTE FOR HEALTH METRICS AND EVALUATION UNIVERSITY OF WASHINGTON

This report was prepared by the Institute for Health Metrics and Evaluation (IHME) based on seven papers for the Global Burden of Diseases, Injuries, and Risk Factors Study 2010 (GBD 2010) published in *The Lancet* (2012 Dec 13; 380) as well as in the *Journal of the American Medical Association* (2013 July). GBD 2010 had 488 co-authors from 303 institutions in 50 countries. It also draws on US county-level research published in *Population Health Metrics* (2013 July). The work was made possible through core funding from the Bill & Melinda Gates Foundation. The views expressed are those of the authors.

The contents of this publication may be reproduced and redistributed in whole or in part, provided the intended use is for noncommercial purposes, the contents are not altered, and full acknowledgment is given to IHME. This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. To view a copy of this license, please visit: http://creativecommons.org/licenses/by-nc-nd/3.0/.

For any usage that falls outside of these license restrictions, please contact IHME Communications at comms@healthmetricsandevaluation.org.

Citation: Institute for Health Metrics and Evaluation. *The State of US Health:* Innovations, Insights, and Recommendations from the Global Burden of Disease Study. Seattle, WA: IHME, 2013.

Institute for Health Metrics and Evaluation 2301 Fifth Ave., Suite 600 Seattle, WA 98121 USA www.healthmetricsandevaluation.org

Printed in the United States of America

ISBN 978-0-9894752-4-2
© 2013 Institute for Health Metrics and Evaluation



THE STATE OF US HEALTH:

INNOVATIONS, INSIGHTS, AND RECOMMENDATIONS FROM THE GLOBAL BURDEN OF DISEASE STUDY

| Introduction | 6 |
|--|----|
| The GBD approach to tracking health progress and challenges | 12 |
| GBD results for the United States | 16 |
| Comparing US health performance to performance of peer countries | 30 |
| Health in US counties | 34 |
| Policy recommendations | 50 |
| Conclusion | 52 |
| Annex | 54 |

ABOUT IHME

The Institute for Health Metrics and Evaluation (IHME) is an independent global health research center at the University of Washington that provides rigorous and comparable measurement of the world's most important health problems and evaluates the strategies used to address them. IHME makes this information freely available so that policymakers have the evidence they need to make informed decisions about how to allocate resources to best improve population health.

To express interest in collaborating, participating in GBD training workshops, or receiving updates of GBD or copies of this publication, please contact IHME at:

Institute for Health Metrics and Evaluation 2301 Fifth Ave., Suite 600 Seattle, WA 98121 USA

Telephone: +1-206-897-2800 Fax: +1-206-897-2899

E-mail: comms@healthmetricsandevaluation.org

www.healthmetricsandevaluation.org

ACKNOWLEDGMENTS

The Global Burden of Disease Study 2010 (GBD 2010) was implemented as a collaboration involving 488 researchers from 303 institutions in 50 countries. We are grateful to IHME's Board for their continued leadership, particularly Board member Harvey Fineberg, President of the Institute of Medicine. We thank Sam Kass, Executive Director of Let's Move! and Senior White House Policy Advisor on Nutrition, and Julie Moreno, White House Public Health Advisor for Childhood Obesity, for important policy discussions that inspired the county-level analysis in this report. We are grateful to the report's writer and production manager Katherine Leach-Kemon; Christopher Murray, Ali Mokdad, Michael MacIntyre, Rhonda Stewart, and William Heisel at IHME for content guidance; Laura Dwyer-Lindgren, Austin Schumacher, Daniel Dicker, Carly Levitz, Tom Fleming, Emily Carnahan, and Greg Freedman for data analysis; Gillian Hansen for program coordination; Patricia Kiyono for production oversight; Brian Childress for editing; and Ann Kumasaka for design. This report would not have been possible without the ongoing contributions of Global Burden of Disease collaborators around the world as well as Alison Levin-Rector and Sandeep Kulkarni.

Finally, we would like to extend our gratitude to the Bill & Melinda Gates Foundation for generously funding IHME and for its consistent support of the Global Burden of Disease research.

GLOSSARY

Years of life lost (YLLs): Years of life lost due to premature mortality.

Years lived with disability (YLDs): Years of life lived with any short-term or long-term health loss, adjusted for severity. The definition of disability in GBD differs from US legislation such as the Americans with Disabilities Act.

Disability-adjusted life years (DALYs): The sum of years lost due to premature death (YLLs) and years lived with disability (YLDs). DALYs are also defined as years of healthy life lost.

Healthy life expectancy or health-adjusted life expectancy (HALE): The number of years that a person at a given age can expect to live in good health, taking into account mortality and disability.

Sequelae: Consequences of diseases and injuries.

Health states: Groupings of sequelae that reflect key differences in symptoms and functioning.

Disability weights: Number on a scale from 0 to 1 that represents the severity of health loss associated with a health state.

Risk factors: Potentially modifiable causes of disease and injury.

Risk-outcome pairs: Groupings of risk factors and the specific causes of death and disability they affect.

Uncertainty intervals: A range of values that is likely to include the correct estimate of health loss for a given cause. Narrow uncertainty intervals indicate that evidence is strong, while wide uncertainty intervals show that evidence is weaker.