PRESS RELEASE

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New Study Findings Suggest U.S. High School Science Standards in Genetics Are 'Inadequate'

Most States Fail to Keep Pace with Modern Genetics in Their Science Curricula

BETHESDA, MD – September 1, 2011 – A new study by the American Society of Human Genetics (ASHG), the country's leading genetics scientific society, found that more than 85 percent of states have genetics standards that are inadequate for preparing America's high school students for future participation in a society and health care system that are certain to be increasingly impacted by genetics-based personalized medicine. ASHG's study findings are being published in the September 1 issue of the *CBE–Life Sciences Education* journal (Citation: *CBE-Life Sciences Education*, Vol. 10, 1-10, Fall 2011). *[*MEMBERS OF THE PRESS: If you wish to request an embargoed copy of the paper, please e-mail ASHG Press Office at press@ashg.org.]*

"Science education in the United States is based on testing and accountability standards that are developed by each state," said Michael Dougherty, PhD, director of education at ASHG and the study's lead author. "These standards determine the curriculum, instruction, and assessment of high school level science courses in each state, and if standards are weak, then essential genetics content may not be taught."

According to ASHG's study, which included all 50 states and the District of Columbia:

- Only seven states have genetics standards that were rated as 'adequate' for genetic literacy (Delaware, Illinois, Kansas, Michigan, North Carolina, Tennessee, and Washington).
- Of the 19 core concepts in genetics that were deemed essential by ASHG, 14 were rated as being covered inadequately by the nation as a whole (or were absent altogether).
- Only two states, Michigan and Delaware, had more than 14 concepts (out of 19) rated as adequate. Twenty-three states had six or fewer concepts rated as adequate.

"ASHG's findings indicate that the vast majority of U.S. students in grade 12 may be inadequately prepared to understand fundamental genetic concepts," said Edward McCabe, MD, PhD, a pediatrician and geneticist who is the executive director of the Linda Crnic Institute for Down Syndrome at the University of Colorado. "Healthcare is moving rapidly toward personalized medicine, which is infused with genetics. Therefore, it is essential we provide America's youth with the conceptual toolkit that is necessary to make informed healthcare decisions, and the fact that these key concepts in genetics are not being taught in many states is extremely concerning."

*[**NOTE:** ASHG's 19 core genetics concepts are listed on page 3 of the embargoed paper. See the two U.S. map graphics below for a state-by-state summary of the quality and comprehensiveness of genetics coverage in states' science education standards. For a list of the individual concept scores for each state, see the supplementary data chart from the paper posted at: www.ashg.org/education/pdf/StateConceptScores.pdf.]*

"We hope the results of ASHG's analysis help influence educators and policy makers to improve their state's genetics standards," said Dougherty. "Alternatively, deficient states might benefit from adopting science standards from the National Research Council's Framework for K-12 Science Education, which, although not perfect, does a better job of addressing genetics concepts than most state standards that are currently in place."

ABOUT THE AMERICAN SOCIETY OF HUMAN GENETICS

Founded in 1948, the American Society of Human Genetics (ASHG) is the primary professional membership organization for human genetics specialists worldwide. The nearly 8,000 members of ASHG include researchers, academicians, clinicians, laboratory practice professionals, genetic counselors, nurses and others with a special interest in human genetics. The Society's mission is to serve research scientists, health professionals and the public by providing forums to: (1) share research results through the ASHG Annual Meeting and in the *American Journal of Human Genetics (AJHG)*; (2) advance genetic research by advocating for research support; (3) educate current and future genetics professionals, health care providers, advocates, policymakers, educators, students, and the public about all aspects of human genetics; and (4) promote genetic services and support responsible social and scientific policies. For more information about ASHG, please visit our Web site at: http://www.ashg.org.

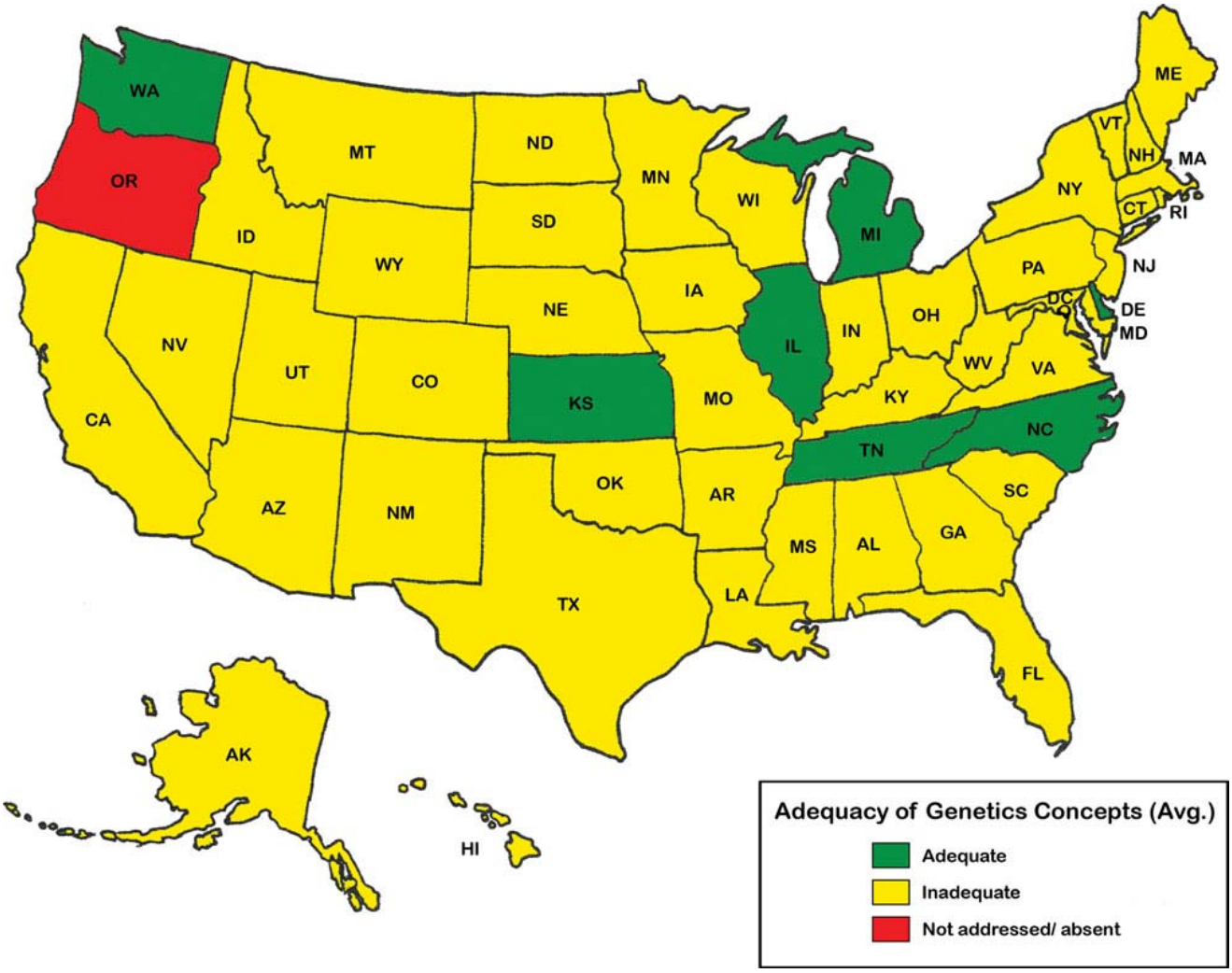

Figure 1. Map of the United States summarizing the average quality of genetics standards on a state-by-state basis.

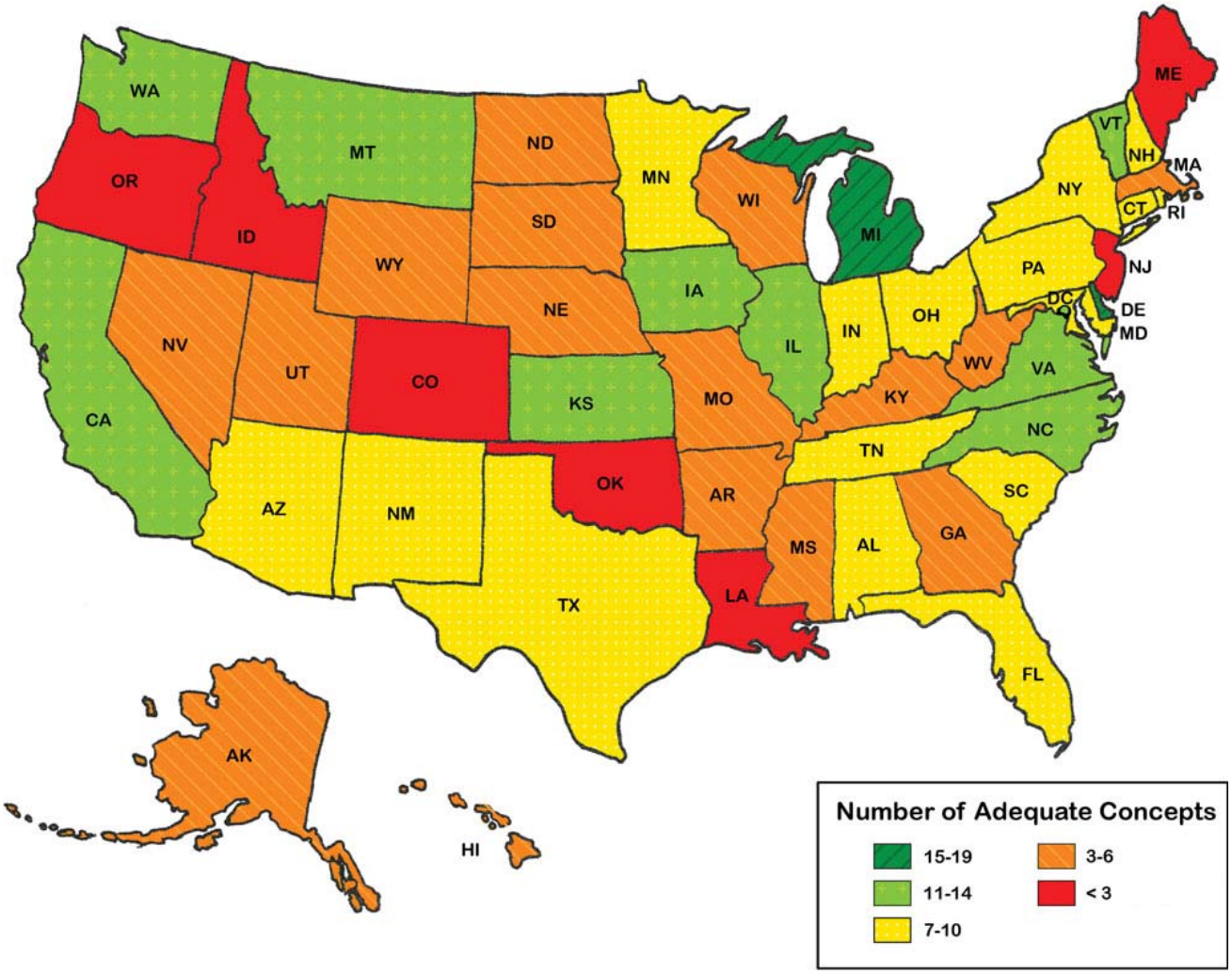

Figure 2. Map of the United States summarizing the comprehensiveness of genetics standards on a state-by-state basis. The ASHG benchmarks list included 19 concepts (see Table 1); colors indicate the total number of concepts rated by reviewers as Adequate.

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