



One in Three First-Time Participants in Laboratory-Based Wellness Program Learn of High Risk for Chronic Disease, Quest Diagnostics Study Shows

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Eighty-Nine Percent of Those at High Risk for Chronic Kidney Disease, 59 Percent of Those at High Risk for High Cholesterol, and 28 Percent of Those at High Risk for Diabetes First Learned of Health Condition through Lab-Based Wellness Program

MADISON, N.J., Dec. 8, 2011 /PRNewswire/ -- One in three first-time participants in a company-sponsored, lab-based wellness program were not aware they were at high risk for a serious medical condition, according to an article published today in the peer-reviewed journal *PLoS ONE*. The study by Quest Diagnostics (NYSE: DGX), the world's leading provider of diagnostic testing, information and services, found that 36 percent of first-time participants in lab-based wellness programs had evidence in diagnostic testing of at least one newly identified common chronic condition.

In addition, 89 percent of those found to be at high risk for chronic kidney disease, 59 percent of those found to be at high risk for high cholesterol, and 28 percent of those found to be at high risk for diabetes first learned of the health concern through their employer-sponsored lab-based wellness program. The remaining participants who were at high risk had self-identified as having those conditions. Nearly all of the participants in the study were insured, meaning that healthcare access alone does not guarantee detection of high risk for common chronic health conditions, and suggesting that lab-based employee wellness programs are playing an important role in filling the gap.

"This is exciting research that documents the importance of using health risk data with actual lab results, not just relying on self-reports," said Helen Darling, President and CEO of the National Business Group on Health. "Most employers know that helping employees and dependents understand and reduce their risk factors will improve health and quality of life, while also avoiding serious and costly medical problems down the road. But getting individuals to focus on the seriousness of these issues and the need to act sooner rather than later is a big challenge for employers. These data are compelling because they show that lab-based wellness programs provide medical evidence of serious health risk that individuals really can't ignore."

The study, "Value of Laboratory Tests in Employer-Sponsored Health Risk Assessments for Newly Identifying Health Conditions," is the first of its kind to examine the role that laboratory-based employer wellness programs play in identifying high risk for common chronic disease. It was limited to a cross-sectional analysis of health risk assessment laboratory results of 52,270 first-time wellness plan participants (adult employees and their eligible spouses or domestic partners) conducted between 2003 and 2010. The premise of the health risk assessment was based on the Quest Diagnostics [Blueprint for Wellness®](#) service, which includes a health and lifestyle questionnaire, biometric data (such as height, weight, body mass index, and blood pressure), and laboratory tests. The analysis focused on three common health conditions: hyperlipidemia (high cholesterol), diabetes mellitus and chronic kidney disease, due to their high prevalence and related costs in the United States, and the benefit of effective intervention associated with early detection.

Definitions of High Risk

Chronic kidney disease risk (disease stages 3 to 5) was defined as eGFR values below 60ml/min/1.73m², and kidney function was assessed with the estimated glomerular filtration rate (eGFR), a calculation based on serum creatinine, age, gender, and ethnicity (African American or non-African American). Diabetes risk was based on elevated fasting glucose levels greater than 125 mg/dl. Hyperlipidemia risk was defined as meeting one or more of the following criteria: total cholesterol above 199 mg/dl, low density lipoprotein (LDL) cholesterol above 129 mg/dl, or total cholesterol to high density lipoprotein (HDL) cholesterol ratio above 5.0.

Age, Gender, and Education Level

The rate of newly identified disease increased progressively with age, ranging from 24.4 percent among 20 to 29 year olds to 41.7 percent among 50 to 60 year olds. Among 20 to 29 year olds, high cholesterol risk was especially elevated at 29.2 percent, while diabetes risk presented at 1.7 percent and chronic kidney disease risk at 1.0 percent. When it comes to men and women, men (39 percent) were slightly more likely than women (33 percent) to have at least one newly identified condition. Education level provided little benefit in the early awareness of the three conditions described.

Risks and Costs of Chronic Disease

"The growing obesity epidemic poses serious health risks to Americans, including dangers associated with heart disease, diabetes and chronic kidney disease," said Harvey W. Kaufman, M.D., Senior Corporate Medical Director, Quest Diagnostics, and study author along with Fred R. Williams, the company's Director of Health Management Strategies, and Mouneer A. Odeh, Director of Informatics and Analytics. "As our country works to address this public health crisis, lab-based wellness programs empower individuals with the data they need to face their health risks, change their behaviors, and improve their health – and in some cases, dramatically change their prospects for the future."

Per the Centers for Disease Control and Prevention (CDC), high cholesterol can lead to heart disease and stroke, the first and third leading causes of death for men and women. They are among the most widespread and costly health problems facing our nation today. In 2010, the total costs of cardiovascular diseases in the United States were estimated to be \$444 billion. According to the CDC, treatment of these diseases accounts for about \$1 of every \$6 spent on health care in this country. Further, the CDC estimates that by the year 2050, one in three people will have diabetes. The direct medical costs in 2007 for diabetes were \$116 billion, while indirect costs (disability, work loss, premature death) in 2007 were \$58 billion – on average medical costs for a person with diagnosed diabetes are more than twice as much as the expense of a person without diabetes. Awareness of chronic kidney disease is low, even though the prevalence (26.3 million in the United States) is similar to diabetes (25.8 million). According to the National Institute of Diabetes and Digestive and Kidney Diseases, end-stage renal disease in 2008 cost \$39.46 billion in public and private spending. Early detection and treatment can slow or halt the progression of chronic kidney disease and associated co-morbidities.

To access the full article published in the peer-reviewed scientific journal *PLoS ONE*, visit <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0028201>.

About Quest Diagnostics

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