

Overtesting for diabetes patients reaps negative rewards

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In a study released online today in *The BMJ*, researchers from Mayo Clinic report a national trend toward overtesting glycated hemoglobin (HbA1C) levels in adult patients with Type 2 diabetes.

Overtesting causes redundancy and waste says the study team, adding unnecessary costs and time burden for [patients](#) and providers. In addition, excessive testing can result in overtreatment with hypoglycemic drugs, adding additional cost and potential health complications.

Type 2 diabetes monitoring and treatment protocols are not well defined by professional societies and regulatory bodies. While lower thresholds of testing frequencies often are discussed, the upper boundaries are rarely mentioned. Yet, most agree that for [adult patients](#) who are not using insulin, have stable glycemic control within the recommended

targets and have no history of severe hypoglycemia or hyperglycemia, checking once or twice a year should suffice. Yet, in practice, there is a much higher prevalence of excess testing.

"Our findings are concerning, especially as we focus more on improving the value of care we deliver to our patients—not only ensuring maximal benefit, but also being mindful of waste, patient burden and [health care costs](#)," says Rozalina McCoy, M.D., a Mayo Clinic [primary care physician](#) and endocrinologist, and the study's lead investigator. "As providers, we must be ever vigilant to provide the right testing and treatment to our patients at the right times—both for their well-being and to ensure the best value in the health care we provide."

The investigators believe this study provides definitive evidence of such excess testing, examining a national cohort of 31,545 nonpregnant adults with controlled noninsulin-treated Type 2 diabetes. Approximately 55 percent of patients in this cohort achieved and maintained the recommended less than 7 percent HbA1C level and were tested three or four times a year. Six percent were tested five or more times. The patient cohort examined was derived from the OptumLabs Data Warehouse (OLDW) using de-identified administrative, pharmacy and laboratory data from 2001 to 2011.

Dr. McCoy notes that there are a number of potential reasons for frequent testing—some of which are failings in the health care system.

"Potential reasons for more frequent testing include clinical uncertainty; misunderstanding of the nature of the test—that is, not realizing that HbA1C represents a three-month average of glycemic control; or a desire for diagnostic and management thoroughness," she says. "Other times, it may be the result of fragmentation of care (more than one unconnected provider); the need to fulfill regulatory demands, such as public reporting of performance metrics; or internal tracking of

performance.

"Because our culture often thinks that more is better," she says that patients and providers may favor additional testing due to a desire for comprehensive care.

The researchers found that excessive testing increased the odds of overtreatment with one or more drugs, despite normal HbA1C levels. They also found that among patients receiving bundled testing (i.e., cholesterol, creatinine and HbA1C tests in the same day), rates of overtesting were lower.

"My colleagues and I recognize we still have work to do," says Dr. McCoy, "And, we hope that these findings will help inform decision-making for [health care providers](#) and patients everywhere."

This research is a result of the ongoing commitment of Mayo Clinic to improve health and enhance the way patients experience the delivery of health care. Through the Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery and its collaborations across Mayo and around the world, Mayo's vision is borne out.

The OLDW includes data from more than 150 million individuals of all ages and races, from across all 50 states, and includes commercially insured and Medicare Advantage enrollees. It is a resource of OptumLabs, a collaborative research and innovation center cofounded by Mayo Clinic and Optum in 2013. This large data source enables the researchers to investigate across a much broader patient base than previously available to health science researchers, resulting in more definitive findings.

The Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery leads that relationship for Mayo Clinic and has

published a number of studies identifying areas for potential improvements in [health care delivery](#) using the OLDW.

More information: HbA1c overtesting and overtreatment among US adults with controlled type 2 diabetes, 2001-2013: observational population based study, www.bmj.com/content/351/bmj.h6138

Editorial: Excessive testing of adults with type 2 diabetes, www.bmj.com/content/351/bmj.h6549

Provided by Mayo Clinic

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