

ONE HUNDRED FOURTEENTH CONGRESS
Congress of the United States
House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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July 26, 2016

The Honorable Robert M. Califf, M.D.
Commissioner
Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993

Dear Commissioner Califf:

We are conducting oversight of Theranos' failure to comply with federal regulatory standards governing clinical laboratory testing, and the resulting impact on patients nationwide. Such failures led Theranos to recently void two years of test results from its Edison blood-testing devices, affecting thousands of patients who may have received inaccurate blood test results and therefore incorrect medical care.¹ Given Theranos' disregard for patient safety and its failure to immediately address concerns by federal regulators, we write to request more information about how regulators are working with Theranos to address these failures.

In August and September 2015, the Food and Drug Administration (FDA) conducted two inspections of Theranos laboratories. These inspection reports documented a number of significant compliance issues, including the use of an unapproved medical device (a blood-collection container described by Theranos as a "capillary tube nanotainer"), as well as recordkeeping failures, failure to conduct quality audits, and failures in validation processes to ensure that an unnamed device "conforms to defined user needs and intended uses."²

In response to these inspection reports, Theranos announced its decision to suspend using the nanotainers and associated proprietary testing technology until FDA reviews and clears tests offered by Theranos using these technologies.³ Theranos asserts that it has submitted

¹ *Theranos Voids Two Years of Edison Blood-Test Results*, Wall Street Journal (May 18, 2016).

² *Theranos Device Validation is Flawed, FDA Inspection Finds*, Bloomberg (Oct. 27, 2015).

³ *Id.*

information on 120 tests for FDA approval.⁴ However, it has only received 510(k) clearance for one laboratory test, to detect the herpes simplex virus.⁵

On January 25, 2016, the Centers for Medicare and Medicaid Services (CMS), the federal agency charged with clinical laboratory oversight and administration of the Clinical Laboratory Improvement Amendments (CLIA), issued a letter to Theranos citing a number of serious compliance failures discovered at its Newark, California facility pursuant to a November 2015 CMS inspection. Theranos was cited for violating five condition-level CLIA requirements and a number of other standard-level requirements. CMS wrote that some of these compliance violations, “pose immediate jeopardy to patient health and safety.”⁶

CMS mandated that Theranos submit information to the agency demonstrating that it had remedied all cited CLIA violations within 10 days of receiving the January 25 letter. Despite providing an extension to submit this information, CMS found that Theranos’ submission did not contain a credible allegation of compliance or acceptable evidence that Theranos had corrected the deficiencies cited in the January 25, 2016 letter. CMS subsequently issued a letter to Theranos on March 18, 2016, to put the company on notice that CMS was considering imposing sanctions for Theranos’ continued disregard for federal law.⁷

According to news reports, the 121-page inspection report issued by CMS in connection with its January 25, 2016 letter documented serious concerns regarding the accuracy of the tests Theranos marketed in the United States. It appears that both Theranos’ proprietary Edison blood-testing devices, as well as tests run by Theranos laboratories using conventional equipment, may have produced inaccurate results.⁸ In a particularly troubling finding, news reports indicate that inspectors found that 81 of 81 final patient results reported to patients on the blood thinner Warfarin were not accurate. Too much Warfarin can lead to internal bleeding and too little can leave a patient with an increased risk of stroke.⁹ According to news reports, the inspection report also contained what appeared to be comparisons between results from

⁴ *Id.*

⁵ Food and Drug Administration, *510(k) Substantial Equivalence Determination Decision Summary: Theranos Herpes Simplex Virus-1 (HSV-1) IgG Assay* (www.accessdata.fda.gov/cdrh_docs/reviews/k143236.pdf) (accessed June 7, 2016).

⁶ Letter from the Centers for Medicare & Medicaid Services, Western Division of Survey and Certification, to Sunil Dhawan, Director, Theranos, Inc. (Jan. 25, 2016).

⁷ Letter from the Centers for Medicare & Medicaid Services, Western Division of Survey and Certification, to Elizabeth Holmes, Owner, Theranos, Inc. (Mar. 18, 2016) (wsj.com/public/resources/documents/cms20160412.pdf).

⁸ *Theranos Devices Often Failed Accuracy Requirements*, The Wall Street Journal (Mar. 31, 2016) (www.wsj.com/articles/theranos-devices-often-failed-accuracy-requirements-1459465578).

⁹ *Report Shows Theranos Testing Plagued by Problems*, New York Times (Mar. 31, 2016).

Theranos' proprietary technology and the same samples run on conventional equipment. The comparisons showed that test results differed by 21 percent to 130 percent, although results should have been within 20 percent of one another.¹⁰

A recent independent assessment conducted by the Icahn School of Medicine at Mount Sinai also raised significant concerns regarding the accuracy of Theranos' tests. The study looked at 22 common clinical laboratory tests and compared the uncertainty and accuracy of results between the Theranos finger-prick blood draw method and two nationwide clinical testing service providers that utilize the traditional venipuncture blood draws (Quest and LabCorp). The study found that Theranos tests yielded results outside their normal range 1.6 times more frequently than results from Quest and LabCorp.¹¹

A particularly troubling example highlighted in the study demonstrated that Theranos' results for total cholesterol were lower by an average of 9.3 percent than those produced by Quest and LabCorp.¹² Doctors often use cholesterol data from blood tests to determine whether to prescribe statins, a class of drugs indicated to lower cholesterol levels. The Mount Sinai researchers found the discrepancy in cholesterol results between Theranos and other labs studied was large enough to cause medical professionals to "either inappropriately initiate or fail to appropriately initiate statin therapy" in some patients.¹³

Recently, in response to regulatory action taken by CMS, Theranos announced that the company has voided two years of results from its Edison blood-testing devices, and has issued tens of thousands of corrected blood-test reports to doctors and patients.¹⁴ According to the company's recent announcement, these tests represent less than one percent of all blood test results provided by Theranos.¹⁵ However, this appears to contradict Theranos' own statements about the percentage of patients receiving tests using Theranos' proprietary technology. In October 2015, the company stated that "by the fourth quarter of 2014, 57 percent of guests got lab tests run on finger-stick samples. This transition was by choice—not by necessity. In December of 2014, more than 80 tests on Theranos' online test menu were offered via finger-stick and performed using proprietary technologies."¹⁶ Additionally, a Theranos spokesperson

¹⁰ *Id.*

¹¹ Brian A. Kidd, et al, *Evaluation of direct-to-consumer low-volume lab tests in healthy adults*, Journal of Clinical Investigation (Mar. 28, 2016) (www.jci.org/articles/view/86318/).

¹² *Id.*

¹³ *Id.*

¹⁴ *Theranos Voids Two Years of Edison Blood-Test Results*, TheWall Street Journal (May 18, 2016).

¹⁵ *Theranos Says Only 1% of Results Affected; Some Doubt Tests*, Associated Press (June 3, 2016); *Theranos Has Thrown Out Two Years of Blood-Test Results*, Fortune (May 19, 2016).

¹⁶ *Theranos Facts*, Theranos, Inc. (Oct. 22, 2015) (www.theranos.com/news/posts/custom/theranos-facts).

recently stated that no patients have suffered harm due to the inaccurate tests, citing an internal analysis conducted by the company; the company has not provided details of the analysis publicly.¹⁷

It is unclear whether the corrected blood-test reports Theranos has issued thus far capture the universe of inaccurate blood test results that the company has provided patients. Given that the corrected blood-test reports appear to be focused on test results from the proprietary Edison blood-testing devices, it is unclear whether Theranos has addressed the universe of inaccurate test results arising from testing using conventional devices.¹⁸

Given our ongoing concerns about Theranos' compliance with federal statutes and regulations and the quality and accuracy of Theranos' testing and the devices used in its testing, we are requesting that you provide a briefing to Committee staff on the following issues:

- 1) Please provide an overview of the 14 observations documented in the agency's August and September 2015 inspections of Theranos' Newark, California and Palo Alto, California laboratories and how the agency identified these deficiencies.
 - a. Has the agency conducted an inspection of Theranos' laboratories located in Arizona, or does it plan to conduct such inspection in the future? Please explain.
- 2) According to Theranos, the company has submitted information for 120 tests for FDA approval.¹⁹ Has FDA cleared or approved any other Theranos test other than the one test cleared to detect the herpes simplex 1 virus?
- 3) To date, FDA has generally exercised enforcement discretion and not enforced applicable provisions of the Federal Food, Drug, and Cosmetic Act and FDA regulations with respect to laboratory developed tests. Recognizing the increasingly complex nature of these tests, and other changes that create potential increased risks for patients, FDA issued draft guidance in October 2014 describing how the agency plans to begin enforcing certain regulatory requirements for laboratory developed tests. Please clarify whether the blood tests marketed by Theranos are under the enforcement discretion policy for laboratory developed tests.
 - a. What additional authority, if any, does the agency require in order to ensure that tests, such as the blood tests marketed by Theranos, are not marketed to health care providers and patients prior to FDA finding that the test is safe and effective, as well as accurate, reliable, and clinically meaningful, so that health care

¹⁷ *Theranos Issues Thousands of Blood-Test Corrections*, CNN Money (May 19, 2016).

¹⁸ *Theranos Voids Two Years of Edison Blood-Test Results*, The Wall Street Journal (May 18, 2016).

¹⁹ *Theranos Device Validation is Flawed, FDA Inspection Finds*, Bloomberg (Oct. 27, 2015).

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providers and patients can rely on these results when making important medical decisions?

We would appreciate your response to this request as soon as possible, but no later than August 10, 2016. If you have any questions regarding this request, please contact Kimberlee Trzeciak of the Democratic staff at 202-225-3641.

Sincerely,



Frank Pallone, Jr.
Ranking Member



Gene Green
Ranking Member
Subcommittee on Health



Diana DeGette
Ranking Member
Subcommittee on Oversight and
Investigations