UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

August 6, 2021

Lishan Aklog, M.D.
Chief Executive Officer
Lucid Diagnostics Inc.
One Grand Central Place
Suite 4600
New York, NY 10165

Re: Lucid Diagnostics Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted July 14, 2021
CIK No. 0001799011

Dear Dr. Aklog:

We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Amendment No. 1 to Draft Registration Statement on Form S-1 filed July 14, 2021

Prospectus Summary
Overview, page 5

1. Please clarify in the Summary the significance of EsoGuard being commercialized as a Laboratory Developed Test. Your disclosure surrounding such designation should include a balanced discussion, including the limitations and implications thereof.

Current Status of EsoGuard and EsoCheck, page 7

2. We note your statements on page 7 and elsewhere that in late 2021, you expect to complete the process of transferring EsoCheck manufacturing to Coastline International

Inc., which will increase EsoCheck manufacturing capacity from over ten thousand units per year to over one million units per year. Please disclose whether or not a written agreement is in place between the company and Coastline at this time, and if so, discuss the material terms of such agreement. Please also file the agreement as an exhibit, pursuant to Item 601(b)(10)(ii)(B) or tell us why such filing is not required. To the extent the company has not entered into a formal agreement, please qualify your disclosure accordingly.

3. We note your statements on pages 7 and 86 that you held a "successful" first advisory board meeting with medical directors of major insurers which "provided positive feedback and indicated good alignment with [y]our strategic approach", which implies that coverage will likely be forthcoming. Because this determination is not within the company's control, please remove or revise these statements and limit the discussion to factual developments to date.

Summary Financial Data , page 13

4. We note here and on page 58 that your pro forma column gives effect to the conversion of your $22.4 million payable into a convertible note that will convert into 11.2 million shares of your common stock. Please explain to us why the conversion of the $22.4 million payable into a $22.4 million convertible note that converts into 11.2 million shares upon the offering impacts your historical cash outstanding. Within your discussion, please explain how you calculated your outstanding pro forma cash to be $4.5 million and outstanding equity to be $5.4 million. Please note that this comment also applies to your pro forma net tangible book value presented on page 57.

Use of Proceeds, page 55

5. We note your response to prior comment 5 and your disclosure that you anticipate that the net proceeds of the offering will be sufficient to fund the specified uses. Please further revise to separately state the amount allocated to complete your ongoing ESOGUARD BE-1 and BE-2 clinical trials, the amount allocated to extend your ESOGUARD BE-1 trial to support a dysplasia indication and amount allocated to expand your other clinical trial activities.

Capitalization , page 58

6. Please explain why you did not include the $17.4 million due to Pavmed, Inc. as of March 31, 2021 within the historical column of this table since this will convert into a convertible promissory note that ultimately converts into common shares within your pro forma column of this table.

Management's Discussion and Analysis
Results of Operations, page 61

7. Please clarify the reasons for the increase in research and development expense from the

year ended December 31, 2019 to the year ended December 31, 2020.

Critical Accounting Policies , page 65

8. We note your response to comment 6 and that on page F-14 you have granted 1 million restricted shares during the three months ended March 31, 2021 and 65,000 restricted shares subsequent to March 31, 2021. Please provide an updated analysis between the recent valuations of your common stock leading up to the IPO and the estimated offering price that addresses the beneficial conversion feature of the notes, any stock options issued during six months prior to the offering and these restricted shares . This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

Index to Financial Statements
Notes to Condensed Financial Statements
Note 3. Agreements Related to Acquired Intellectual Property Rights, page F-8

9. We note your response to comment 11. As previously requested, please quantify here and on page F-31 the amounts in which you may be required to pay and the respective conditions that would require payment of the milestones as well as the minimum royalty or tell us why additional disclosure is not required.

You may contact Tara Harkins at 202-551-3639 or Mary Mast at 202-551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Laura Crotty at 202-551-7614 or Christine Westbrook at 202-551-5019 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Eric T. Schwartz, Esq.