



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

DIVISION OF  
CORPORATION FINANCE

Mail Stop 4561

June 6, 2017

Rouven Bergmann  
Chief Financial Officer  
Medidata Solutions, Inc.  
350 Hudson Street, 9<sup>th</sup> Floor  
New York, NY 10014

**Re: Medidata Solutions, Inc.**  
**Form 10-K for the fiscal year ended December 31, 2016**  
**Filed February 28, 2017**  
**Form 10-Q for the period ended March 31, 2017**  
**Filed May 8, 2017**  
**Form 8-K furnished April 26, 2017**  
**File No. 001-34387**

Dear Mr. Bergmann:

We have limited our review of your filings to the financial statements and related disclosures 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for the year ended December 31, 2016

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Revenues, page 22

1. We note your disclosure here of revenue retention rate, as well as your discussion of this metric during your fourth quarter 2016 and first quarter 2017 earnings calls. Please revise to provide a definition and calculation of this metric.

Form 10-Q for the period ended March 31, 2017

Notes to Consolidated Financial Statements

Note 14. Income Taxes, page F-26

2. You state on page 25 that the effective tax rate was impacted by the mix of foreign jurisdictional earnings, and losses incurred by a foreign subsidiary for which you have not realized the related tax benefit. Please revise to provide a further quantitative breakdown of "Foreign earnings" in the income tax rate reconciliation table pursuant to Rule 4-08(h)(2) of Regulation S-X.

Form 8-K furnished April 26, 2017

Financial Outlook

3. Please revise to include a quantitative reconciliation of your non-GAAP guidance measures to the most directly comparable GAAP measure, or include a statement that such reconciliation is not practicable without unreasonable effort. Refer to guidance in Item 10(e)(1)(i)(B) of Regulation S-K and Question 102.10 of the Non-GAAP Compliance Disclosure and Interpretations issued May 17, 2016.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Brittany Ebbertt, Staff Accountant at (202) 551-3572, or me at (202) 551-3449 with any questions.

Sincerely,

Kathleen Collins  
Accounting Branch Chief  
Office of Information Technologies  
and Services

cc: Michael Otner, General Counsel