August 2, 2013

Via Edgar and Facsimile to 202-942-9585

Mr. Russell Mancuso
Branch Chief
Securities and Exchange Commission
Division of Corporation Finance
Washington, D.C. 20549

Re: CollabRx, Inc.
Form 10-K for the Fiscal Year Ended March 31, 2013
Filed June 27, 2013
File No. 001-35141

Dear Mr. Mancuso:

We are responding to the Staff's comment letter dated July 31, 2013 on behalf of CollabRx, Inc. ("CollabRx" or the "Company"). A courtesy copy of this letter is being submitted to the Staff via facsimile transmission. The Staff's comments are set forth below, followed by CollabRx's response to the Comment in Italics.

Item 1. Business, page 1

1. Please tell us, and revise your future filings as appropriate to include, the disclosure required by Regulation S-K Item 101(h)(4)(ix). In this regard, we note your last three risk factors on page 16.

We did not include a discussion of the effect of existing or probable governmental regulations on the business, since we do not believe that any of our current or planned products and services is directly subject to regulation by the FDA or other regulatory authorities worldwide. Nevertheless, our business may be affected by the increased regulation of our customers. In addition, our business may also be adversely affected by the reimbursement policies of third-party and government payors. We undertake to include in future filings appropriate disclosure in both the "Business" and "Risk Factor" sections regarding the effect of existing or probable government regulations, including reimbursement.

Overview of Our Current Business, page 5

2. Please tell us how you define, and revise your future filings as appropriate to explain, the terms "big data analytics" and the "cloud."

We use the term "big data" to refer to datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze. Our reference to the "cloud" is meant that a product or service can be delivered via the Internet, usually on a pay-for-use or subscription basis, versus the purchase and installation of enterprise-based software, which typically requires investments in both software and hardware, often also requiring large-scale customization efforts. We undertake to define these terms with more clarity in our future filings.

3. We note your disclosure that you have "proprietary content." Please tell us, and revise your future filings as appropriate to clarify, how your content is proprietary. For example, please clarify how the content you provide is different from or in addition to the information available through ClinicalTrials.gov, Cancer.gov or other publicly accessible websites.

We search publicly available databases as source documents for our knowledgebase. Such databases include those that are available, either free or on a commercial basis, in the areas of clinical trials, drugs, investigational compounds, biomarkers, bioinformatics, cancer ontology and literature. We aggregate, annotate and integrate these datasets for the purpose of defining the relationship of biomarkers to therapeutic strategies, drugs and clinical trials. None of the individual databases we utilize as sources provide information on the interrelationships of these discrete elements. In addition, CollabRx has developed a process for incorporating the guidance of our network of physician and research advisors in the selection of the most relevant data for specific diagnoses, histopathological data, prior treatments and biomarkers. The result of this software- and expert-assisted process is proprietary content which includes decision rules, succinct statements of therapeutic strategy and a comprehensive listing of appropriate drugs and clinical trials, all related to specific aberrations which might be observed in connection with genomic testing. Although the process and results are proprietary, we always refer to the relevant source documentation that provides the support for the identification of an actionable biomarker, typically a peer-reviewed, published paper. In this way, we avoid the "black-box algorithm problem", which is prevalent in other companies' predictive analytical models, but is not currently a trusted methodology in medical practice. Our proprietary content is incorporated into our knowledgebase, which is updated regularly with the assistance of a large network of independent advisors, and which forms the basis for all our products and services.

We undertake to clarify how our content is proprietary in future filings.

4. We note your disclosure that your "Genetic Variant Application" provides the clinical interpretation of genetic variants present in human tumor biopsies. Please tell us, and clarify in future filings as appropriate, what information is provided by your clinical interpretation. Please also tell us and disclose in future filings how that information is different from the information that is available for free on your website or through the websites referred to in the prior comment.

Please refer to our response to the previous comment regarding our proprietary content. In addition, please note that our knowledgebase informs two distinctly different products and services. The GVA is a service offered to diagnostic testing laboratories, including academic medical centers and commercial laboratories. Our lab customers provide us with a test result, usually in the form of an electronic file that represents the results of a genomic test, typically from a "Next Generation Sequencing" (NGS) or similar testing platform. We analyze the test results for the purpose of identifying those aberrations which we have annotated in advance as being "actionable" (i.e., related to a therapeutic strategy). We provide the testing lab with a report, incorporating specific information regarding identified biomarkers and associated therapeutic strategies for each, along with relevant drugs and clinical trials, to a level and in a format that we have agreed in advance with our customer. We are compensated for this service either on a per-test or on a volume-adjusted subscription basis. This service is not available to the public and is not available on our website.

Our Therapy Finder™ products are available free-of-charge on our website. Our Therapy Finders are a series of cancer-specific, web-based apps which are accessed by physicians and patients, usually in the physician's office. After indicating a number of pre-set options related to stage of cancer, histopathology, prior treatments and presence of biomarkers on an input page, the physician is presented with a results page which explains the role of the biomarker, identifies a possible therapeutic strategy for that particular set of inputs, along with tabs associated with searchable lists of relevant drugs and clinical trials. Therapy Finders are an interactive, informational and educational resource for both physicians and patients, and can be used for decision-support. Therapy Finders do not provide the level of detailed information on specific test results that are available from the GVA. Therapy Finders are offered free of charge and the advisors associated with the development and updating of each app are prominently featured. The development and distribution of Therapy Finders is partially supported by sponsorships and advertising revenue. Our aim is to make this tool available as widely as possible, through as many channels as possible, to help community physicians understand the relevance of biomarker testing and the availability of potential therapies for their advanced cancer patients.

We undertake to expand our disclosure in future filings to make this distinction clearer.

5. Please tell us, and disclose in future filings as appropriate, the relevance of the estimate on page 7 that the U.S. cancer testing market is approximately $10 billion in value and that the molecular diagnostic market is approximately $4 billion, given that you are not providing testing equipment or testing services. Also please tell us, and disclose in future filings as appropriate, the basis for your statements on the following page that you are a "leader in 'cloud-based' expert systems" and that you possess "deep expertise in molecular oncology" given that you are still entering the commercialization phase of business, as disclosed on page 5. If your leadership or expertise originate from members of your network of editorial and advisory board members, please state so clearly.

We included broad disclosure in the "Overview of our Current Business—The Market" section regarding the factors we believe are most relevant to the market that we serve. We believe that overall size of the market for cancer diagnostics and therapeutics is a good indicator of the increasing importance of this market to a wide spectrum of health care providers, researchers and value-chain participants, and should be of interest to investors and potential investors in CollabRx. The number of people affected by cancer, the information generated in connection with cancer research, the amount of money spent in the United States on cancer diagnostics and therapeutics are all relevant to the opportunity that we have identified. Further, we know that within these large markets, certain areas, including those that are directly addressed by CollabRx, are growing disproportionately because of advances in technology. However, because our customers (particularly those within the diagnostic laboratory segment) are still developing their own diagnostic tests in oncology, we are currently unable to accurately estimate the size of that particular market.

Because the markets are emergent, there are no reliable, publicly-available estimates for the sizes of the markets that CollabRx addresses. With regard to our GVA, while genomic testing for cancer has been performed for a number of years by academic medical centers, such testing was largely focused on single biomarkers, for which the interpretation is relatively straightforward. It is with the recent emergence of multi-biomarker testing and multi-gene panels, to date largely performed by a single private company, that the requirement for complex integration of interpretive data has become a recognizable need. As the providers of testing platforms enable such testing at the individual laboratory level through increasingly more cost-effective technologies, and as more diagnostic labs develop their own tests based on these technologies, we believe that the market for independent interpretive analysis will expand rapidly. With regard to the market for our Therapy Finders and related products, we expect to garner some portion of the advertising budgets related to the marketing of cancer diagnostics and therapies, but we are not aware of any reliable, publicly-available estimates of market sizes for web-based tools of the type that we have developed.

Based on the foregoing, we respectfully submit that the information that we have presented in the "Overview of our Current Business—The Market" section of our annual report, including the estimates of the U.S. cancer testing market and of the molecular diagnostics market, should remain substantially unchanged in future filings.

Our statement that we "repositioned the Company as a leader in 'cloud-based' expert systems" in early 2012 is based on our belief that the pioneering work that CollabRx had done since its founding in 2008 placed it in a leading position in the field. CollabRx had combined three unique elements to solidify its position in advance of commercialization, namely the creation of a highly specialized knowledgebase (that, to our knowledge, no other entity had previously constructed), specialized software tools and applications (that, to our knowledge, no other entity had developed for any comparable use) and a large network of independent experts (that, to our knowledge, no other commercial entity can rival in size, scope and expertise). We possess "deep expertise in molecular oncology" through the efforts of our staff of PhD-level molecular biologists who have worked directly on the curation of our oncology-specific knowledgebase for over 5 years, and who are supported by others on our team who are trained in molecular biology and bioinformatics, along with consultants, contractors and interns. In addition, our staff includes a former professor of molecular pathology from the Harvard Medical School and a world-renowned physician / pathologist and former editor-in-chief of the Journal of the American Medical Association, who has guided the creation, organization and utilization of our network of 75 independent key opinion leaders since 2010. We believe that CollabRx has been the leader in this field for several years, and further, has made a unique and lasting contribution to the field of oncology through the peer-reviewed publication of molecular disease model in lung cancer, the development and distribution of its Therapy Finders, and other efforts, making its accumulated expertise and deep knowledge in molecular oncology readily available to physicians and patients "in the cloud" via the Internet.

We undertake to disclose the basis for these statements more clearly in future filings.

Technologies, page 6

6. With respect to the network of more than 75 independent key opinion leaders, please tell us, and disclose in future filings as appropriate, how you compensate these opinion leaders for their participation, and what agreements or understandings you have with these individuals as to their contribution to, and the duration of their terms in, your network.

The physicians and researchers within our network of advisors have agreed to participate in our efforts for an indefinite term, on an uncompensated basis, and without a formal agreement, which we undertake to disclose in future filings. The board assignments, biographies and current affiliations of all of our advisors are posted on our website.

The Market, page 6

7. Please tell us, and disclose in future filings as appropriate, how the information in the last paragraph of this section is relevant to your current business model. For example, how do you intend to provide "novel insights" from genetic sequencing data? We note in this regard your disclosure on page 6 that "[t]he information that [you] aggregate, synthesize and report to physicians is based solely on data available publicly in the medical literature."

Please refer to our response to comment #3 regarding our proprietary content. Although we rely on a number of publicly available databases, we derive proprietary content from these sources based on the interrelationships of the components. We identify and categorize biomarkers based on objective criteria based on the strength of evidence of reported data which appears publicly in the medical literature. In addition to analyzing the sequencing data that we collect, we intend to pursue collaborative arrangements with other companies and entities that provide contract research services to oncology practices, conduct in-house clinical and translational research, collect information on patient outcomes and link this information to genetic sequencing data, and calculate the relative costs and benefits associated with different diagnostic tests and therapies. We expect such efforts to lead to novel insights and advances to improve the quality of cancer care and reduce the costs of delivering it. We undertake to include appropriate disclosure in future filings.

Business Strategy, page 7

8. We note your reference on page 8 to financial support from Pfizer via the Cancer Commons initiative. If you still receive such support from Pfizer, please tell us and disclose in future filings what this support entails. For example, did you receive any material grants from Pfizer? Did Pfizer invest a material amount in your company? What are your obligations to Pfizer, if any, in exchange for financial support? If you no longer receive financial support from Pfizer, please state so clearly.

In 2011, Pfizer made a one-time grant of $250,000 to the Cancer Commons initiative, which contracted with CollabRx to develop and publish a molecular disease model for lung cancer in that same year. CollabRx received $150,000 for this effort. Pfizer gave no material grants to CollabRx, nor did it invest any capital in CollabRx, and CollabRx has no continuing obligations to either Cancer Commons or Pfizer. We undertake to include appropriate disclosure in future filings.

Engineering, page 29

9. Please explain to us, and disclose in future filings as appropriate, the nature of your engineering operating activities and how they are different from your research and development activities.

We define "engineering" as those development activities that are related to products, content or services which have been offered for sale or for which we have been paid. We define "R&D" as those development activities which are NOT related to products which have been offered for sale or for which we have been paid. We undertake to include appropriate disclosure in future filings.

Research and Development, page 29

10. Please reconcile for us your statement on page 29 that you do not have any employees dedicated to R&D with your disclosure on page 9 that you employ "approximately six full-time scientists and engineers in [your] R&D organization." Also explain to us where you discuss in your results of operation the increase in R&D expenses disclosed on page 9. As appropriate, please include related disclosure in your future filings.

We included under the heading "Research and Development" on Page 9 all of those employees who work both on engineering activities and R&D activities. We included the headcount within the Engineering disclosure on Page 29, and allocated the expense to R&D, as categorized above, to avoid double-counting the number of employees. The increase in R&D expenses in fiscal 2013 compared to fiscal 2012 reflected compensation paid to scientists and engineers that become our employees in connection with the CollabRx merger described on page 4. We undertake to make this distinction clearer in future filings.

Index to Exhibits, page 60

11. Please tell us where you have filed a complete copy of your amended and restated certificate of incorporation as required by Regulation S-K Item 601(b)(3)(i).

We have filed the CollabRx's certificate of incorporation and amendments as exhibits to the following: Annual Report on Form 10-K dated June 29, 2007; Proxy Statement dated July 30, 2007; Registration Statement on Form 8-A dated April 14, 2011, Report on Form 8-K dated June 21, 2011; and Report on Form 8-K dated September 25, 2012. We undertake to file a complete copy of our certificate of incorporation and amendments as required by Regulation S-K Item 601(b)(3)(i).

12. Please tell us where you have filed your agreements with Life Technologies, Inc. and Everyday Health, Inc. disclosed on page 29. Refer to Regulation S-K Item 601(b)(10)(ii)(B).

We respectfully submit that CollabRx's agreements with Life Technologies, Inc. and Everyday Health, Inc. were entered into in the ordinary course of our business. We are not substantially dependent upon any such agreement, and we have not sold a major part of products or services or contracted with another party to purchase a major part of our products or services, nor have we licensed any material portion of our trade secrets, processes or trade name. Accordingly, we do not believe that these agreements are required to be filed under Regulation S-K Item 601.

The Company hereby acknowledges that: the Company is responsible for the adequacy and accuracy of the disclosure in the filing; staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and the Company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Should the Staff have any comments on the contents of this letter, please contact William Davisson, Goodwin Procter LLP at (650) 752-3114.

Sincerely yours,

/s/ Thomas R. Mika
Thomas R. Mika
President & CEO
CollabRx, Inc.

cc: William Davisson
Goodwin Procter LLP