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July 12, 2010

Via Regular Mail and Email: [GTR@od.nih.gov](mailto:GTR@od.nih.gov)

Francis S. Collins, M.D., Ph.D.  
Attn: NIH GTR RFI Comments  
National Institutes of Health, Office of Science Policy  
6705 Rockledge Drive  
Room 750  
Bethesda, MD 20892

Dear Dr. Collins:

On behalf of Quest Diagnostics Incorporated, I write regarding the Genetic Testing Registry (GTR or Registry) proposal being developed by the National Institutes of Health (NIH). We share your objective to improve the accessibility to and availability of testing information and to improve patient care. As a leading clinical laboratory with substantial interest in genetic testing and in the NIH's GTR proposal, we provide these comments with the goal of working with the NIH on this important effort that will impact the laboratory industry, providers, patients, researchers, policymakers and others. We are also pleased to offer our expertise in an advisory capacity to assist the NIH to develop and/or implement the GTR.

Quest Diagnostics is the world's leading provider of diagnostic testing, information and services that patients and doctors rely on to better manage their health and health care decisions. The company offers the broadest access to diagnostic testing services through its national network of laboratories and patient service centers and approximately 43,000 employees, and provides interpretive consultation through its extensive medical and scientific staff. Quest Diagnostics provides clinical and anatomic laboratory testing services for over 150 million patients on an annual basis as ordered by thousands of physicians and over one-half the hospitals in the United States. We have an extensive genetics testing menu that includes molecular genetics, cytogenetics, biochemical genetics, HLA/immunogenetics and pharmacogenetics.

Following are our general comments and recommendations and our responses to the specific questions posed in the Request for Information (RFI).

## **I. General Comments and Recommendations**

### **A. Guidance Needed on Scope of the GTR**

Guidance is needed regarding the scope for the categories of laboratory tests to be included in the GTR, particularly in light of the recent announcement by the U.S. Food and Drug Administration

(FDA) that it may exercise regulatory oversight over Laboratory Developed Tests (LDTs) and include those tests in a registry. We ask whether the GTR will include only genetic tests or all LDT's.

We also appreciate the NIH's guidance on how it views the GTR's near- and long-term development in light of the FDA's announcement. Specifically, how will the NIH and the FDA coordinate to eliminate duplication of voluntary or required information to more than one registry?

#### B. Guidance Needed on Registry Purpose

We appreciate your guidance on the GTR's purpose (e.g., whether the GTR is for clinical or research purposes), which will guide those data that we and other contributors would submit. For example, information that we and others in the industry would provide for clinical purposes may reference a test compendium, which would provide ordering information, whereas we might provide different information if the test is for research or investigational purposes.

#### C. Assurance of Comparability Needed

It is our understanding that under the NIH proposal, the GTR contributor rather than the NIH will be responsible for ensuring data accuracy and comparability. We also understand that the contributor will decide what data to provide given the voluntary nature of the Registry. Nevertheless, it is essential that the contributor understand what information to provide to facilitate data comparisons on such important issues as the laboratory's validation.

Not only must the submitted information be comparable in order to be useful, but the GTR must differentiate between research laboratories that do not provide patient specific reports and clinical laboratories; which are regulated according to the Clinical Laboratory Improvement Amendments (CLIA) and other applicable laws and standards.

We strongly recommend a system that will provide comparability between tests but which also has some controls to prevent dissemination of misinformation. One approach is to include hyperlinks to GeneReviews or to peer-reviewed published information. Also, the hyperlinks currently in place for GeneTests must not be lost once the GTR is developed.

#### D. Ease of User Interface Needed

We recommend that the GTR facilitate ease of information searching and retrieval by delineating the user. For example, the GTR could provide the user with a drop-down menu or other option (e.g., "click here if you are a patient" or "click here if you are a healthcare professional") to ensure that the appropriate audience receives the appropriate level of information and to limit confusion or misunderstanding of the data elements.

#### E. GTR Alignment with Electronic Test Compendium Framework

We recommend that the NIH align the GTR with the electronic Test Compendium Framework developed by the American Clinical Laboratory Association (ACLA), which is now in the final ballot stages of Health Level Seven (HL7). Because the GTR generally seeks the same type of information as the Test Compendium Framework used for the electronic delivery of a Laboratory Directory of Services (eDOS), alignment would greatly increase ease of participant administration, including electronic auto-formatted uploading and downloading of information. Considering the sheer amount of data for possible contribution to the database, such alignment would increase participation in the GTR. The draft ACLA Test Compendium Framework is available at: [http://www.clinical-labs.org/issues/technology/documents/ACLA\\_LabTestCompendium.pdf](http://www.clinical-labs.org/issues/technology/documents/ACLA_LabTestCompendium.pdf).

#### F. Preserving Proprietary Information

We appreciate that the NIH will preserve proprietary information, that the GTR is voluntary and, accordingly, that the contributor decides what to contribute within the framework of the GTR. Although we address our strong opinion against disclosing cost information in our specific responses, below, we believe that the NIH's decision to preserve the user's right not to disclose proprietary information is essential to the GTR's credibility.

#### G. Limiting Exposure to Litigation

We seek guidance on how the NIH will minimize participants' exposure to litigation that may stem from a user's misunderstanding or misuse of GTR information in decisions ranging from health care to payment decisions. NIH should consider use of a disclaimer and direct users to the laboratory for the most current information. Lack of assurance that such exposure is minimized or, best yet, eliminated may dissuade would-be participants from contributing to the GTR.

We now address the specific questions for which the NIH is seeking input and advice.

## **II. Data Elements**

### ***1. Are there any types of genetic tests that should not be included in the GTR?***

As an initial matter, we request guidance from the NIH whether all LDTs will be migrated to the GTR.

We recommend limiting the GTR to tests on human genes and gene products that play a role promoting health, prediction, prevention, diagnosing disease, treatment and prognosis. This would include inherited disorders, cancers and pharmacogenetics. All analytes (DNA, RNA, protein, metabolites, etc.) that are specifically used in the diagnosis, treatment follow-up and prognostics should be included in the Registry. While we understand that the GTR will not include genetic tests for infectious disease information in the first phase of its development, we appreciate clarification whether the NIH anticipates including infectious disease information in any subsequent phase of the GTR's development.

***2. What are the potential uses of the GTR for (1) researchers, (2) patients/consumers, (3) health care providers, (4) clinical laboratory professionals, (5) payers, (6) genetic testing entities/data submitters, (7) policymakers, and 8) electronic health records?***

We view the GTR as serving several important purposes, not the least of which is to provide information to patients, health care providers and others about the availability and uses of genetic tests. The GTR should also provide users with an accurate comparison of different methodologies particularly as technology and science advances.

While we cannot anticipate all potential uses of the GTR, we are concerned about contributors who may try to use the GTR to misrepresent their test's performance characteristics based on information it makes available. We hope that the NIH will work to ensure that the GTR is designed as a scientific resource rather than as a platform for unverified representations or claims or as a mechanism for companies that wish to gain proprietary information about their competitors' tests. The GTR will be most useful if it remains a scientific resource.

Moreover, the database may be organized in a manner that facilitates research but the NIH should not mandate that laboratories provide data for NIH research.

***3. What data elements are critical to include for use by (1) researchers, (2) patients/consumers, (3) health care providers, (4) clinical laboratory professionals, (5) payers, (6) genetic testing entities / data submitters, (7) policymakers, and (8) electronic health records?***

The GTR should include recommendations and guidelines by various professional societies and/or foundations when available, or comments by these institutions to aid the user (such as a patient or physician) in deciding which tests or methodologies are most appropriate for the patient's condition. The GTR could capture this information through a hyperlink or separate data field.

We also recommend that the NIH use the laboratory's own description of "clinical utility" (e.g., the laboratory's intended purpose of the test) to provide the user with the best information about that particular test and to reduce confusion for lay audiences.

We oppose inclusion in the GTR of cost and pricing information, which are not only proprietary but are also derived using complex calculations that are not easily explainable, and particularly regarding pricing information that cannot be explained by reference to a single pricing schedule.

***4. What are the potential benefits and risks associated with facilitating public access to information about the:***

***a. Availability and accessibility of genetic tests?***

The GTR's essential benefit includes providing users, such as the patient and physician, with information on genetic testing that may help them make more informed health care decisions. However, the main benefit of the GTR is threatened by the submitters' deliberate or accidental data manipulation. Deliberate data manipulation may stem from a submitter's desire to populate

fields with information that is more favorable than the assay's actual performance. Accidental manipulation may result when different laboratories fail to account for bias when performing validation. Both risks could result in inaccurate interpretation of information by the user, and may be remedied by the NIH's use of effective curation, including confidence intervals around data points.

We also appreciate guidance from the NIH as to whether it intends to provide oversight of the Registry to ensure that the submitted data is fair, true and unbiased. If not, we again recommend that the NIH provide hyperlinks from the GTR to peer-reviewed, published information. However, we recognize that this safeguard still does not make up for misleading data submissions.

Another way to reduce risk, as stated above, would be for the NIH to target the GTR user and his or her reasons for access to information, to allow that person to find the most relevant data in the most direct manner by offering an initial menu option such as a pull-down menu targeted at a type of user (e.g., "click here if you are a patient"), as a portal to a designated part of the Registry. The NIH would similarly reduce user confusion by limiting laypersons' access to certain fields containing technical information.

***b. Scientific basis and validity of genetic tests?***

See subsection 4(c), below.

***c. Utility of genetic tests?***

We request guidance on the nature of the matter for comment, whether we are discussing analytical validity or clinical validity, including how the NIH defines these terms. Utility and usefulness are often two different issues. For example, there may not be a change in treatment for a rare disorder based on a test result, but it is useful to have a diagnosis for reasons including health care planning for the patient. Without confidence intervals for analytical sensitivity and analytical specificity and clearly defined populations, biases can occur.

Information on the utility of genetic tests will be most beneficial to the public and to laboratory professionals if it is supported by published data. References to peer-reviewed articles, where available, should be the preferred source of support for posted information regarding utility. If information on utility is provided without support, or if the support provided is complex and technical in nature, there is a risk that the utility of tests will be misunderstood by patients and practitioners alike.

***5. What is the best way to distinguish between data fields left blank because of an absence of data/evidence and those left blank for other reasons?***

We recommend giving submitters three options to select from in order to indicate why a field is left blank: "no information available," "not applicable," or "information not provided." As a default, blanks would be automatically filled in with "information not provided." Laboratories

would have the option of indicating that the requested information is not available or not applicable for the test in question.

Moreover, we recommend that the NIH provide a disclaimer that no adverse inference should be drawn by the user if a data field is not filled in.

***How important is this distinction for enhancing transparency, including for the purpose of identifying research opportunities***

We recommend that the GTR distinguish whether the test is performed in a research laboratory that does not report patient-specific results or in a clinical laboratory.

***6. To describe adequately and accurately a genetic test, which of the following data elements should be included in the GTR? Are there other data elements that should be added? What information is necessary to represent adequately each data element?***

***a. Contact information (e.g., location, name of the laboratory director, and contact information for the laboratory performing the test).***

Yes, but we would propose the following change: e.g., location, name of the laboratory director, contact information for the laboratory performing the test and if available, genetic counselors. Contact person need not be the laboratory director.

***b. Laboratory certifications (e.g., Federal or State certification of the laboratory that performs the test).***

Yes, we agree with inclusion of all appropriate laboratory certifications.

***c. Name of the test (e.g., common test name, commercial name, marketing materials about the test and/or genetic testing entity, standard identifier (e.g., CPT codes, LOINC)).***

Yes. We recommend that the GTR use the laboratory's test name in the field so the user can cross-reference the test with the laboratory's directory of services to promote ease of use. We also recommend that there be an additional field (e.g., an "alias field"), which has a common name or another common identifier that allows the user to review like tests. The NIH should clarify that the "alias" should not be used for the trademark of a drug, which could represent a "claim" unless the FDA has cleared the test or labeling for the drug for that use.

We do not recommend CPT codes in the name field as they are not necessarily specific to a single test. Also, proposed molecular coding changes will change CPT codes for most genetic tests.

Also, we do not recommend including LOINC names. The LOINC naming convention does not necessarily use names that adequately describe the individual laboratory's test. LOINC codes may provide some value for a limited subset of tests, but could create confusion given that the same test may be performed differently by different laboratories and, therefore, may have

different LOINC codes.

***d. Regulatory clearances (e.g., for tests reviewed by the FDA, the 510(k) or premarket approval (PMA) number).***

We agree that this data element may be useful to include, but it is important NIH to recognize that not all genetic tests require FDA review. We recommend allowing submitters to select one or more of the following options using a drop-down menu;

“regulatory approval not currently required”; “Laboratory Developed Test”; “PMA”; “510(k)”; “RUO;” “IUO” and New York State approved. The GTR should include a general explanation of these terms, including information alerting users of the Registry that LDTs are not required to be cleared or approved by the FDA.

***e. Intended use of the test (e.g., diagnosis, screening, drug response).***

While it is important for patients, practitioners and other users of the GTR to be able to determine how tests are used, we recommend that the description of this data element be rephrased. We are concerned that information provided on the “intended use” of a test could be construed as a health claim and, in the case of similar devices or drugs cleared or approved by the FDA, be considered a labeling claim. Such claims could lead to consumer confusion because consumers are accustomed to seeing the phrase “intended use” in conjunction with FDA cleared or approved products, but not all genetic tests are reviewed by the FDA. We recommend replacing “intended use” with “purpose of the test” to better reflect the type of information that can be provided and to avoid consumer confusion. We would also recommend using the “purpose of the test” data element to identify carrier, diagnostic and prenatal/fetal tests.

***f. Recommended patient population.***

The NIH should consider associating this information with the “purpose of the test.” Where appropriate, the submitter should add information regarding the recommended patient population.

***g. Limitations of the test (e.g., is the test validated only for certain subpopulations or limited to particular uses such as screening but not diagnostic testing?)***

In order for this to be a useful data element for inclusion in the GTR, we appreciate NIH guidance on what is meant by test “limitations”. As with “intended use,” the word “limitations” has a unique meaning within the FDA context. Because not all genetic tests are FDA-regulated, its meaning for purposes of the GTR will need to be carefully defined. For example, in some cases, the same test is used for screening and for diagnosis, yet tests that are purely for screening purposes do not necessarily have limitations. Certain limitations on the use of a test may also be suggested simply, due to the limited amount of data available for a particular population or use.

***h. Test methodology.***

General descriptions of test methodology are appropriate for inclusion in the GTR. More specific descriptions of testing methods, such as the gene sequence identified, may be proprietary. We recommend that the NIH develop a list of high-level, standardized test methodology descriptors (e.g., amplification) for use in connection with this element. In conjunction with this type of high-level description, laboratories could cite to methods described in published literature.

***i. Analyte(s)—What is being measured in the test (e.g., genetic sequence).***

Yes, where appropriate, we recommend reporting the mutation but not the entire sequence, which may be proprietary or licensed.

***j. Specimen requirements (e.g., blood, saliva, tissue samples, amniotic fluid).***

Yes.

***k. Availability (e.g., is the submitter the sole provider of the test or are there multiple providers?).***

We recommend excluding this element from the Registry. There is no way for the laboratory to ensure that it is the sole provider of the test, which, for example, may be provided at an academic medical center. This information is impossible for a laboratory to track, particularly given the global marketplace for these tests.

***l. Accessibility (e.g., accessible through a health provider, public health mandate, and/or direct-to-consumer).***

As with test availability, laboratories submitting data to the GTR may not have complete information on the accessibility of a test at the time of submission. Not only is this information dynamic, but it also depends on a patient's location as well as governing state laws related to the ability of consumers to order their own tests. Accessibility during a public health crisis may depend upon an emergency use authorization. Patients would benefit more from a consistent instruction within the GTR to contact laboratories for additional information about the availability and accessibility of tests.

If this field remains, we recommend that the GTR provides a drop-down menu asking the submitter to check all that apply or to whom the test is made available (e.g., health provider, public health).

***m. Performance characteristics.***

Regulations implementing CLIA currently require laboratories to establish and verify performance specifications. Specifically, "before reporting patient test results, [each laboratory must] establish for each test system the performance specifications for the following

performance characteristics, as applicable: (i) Accuracy. (ii) Precision. (iii) Analytical sensitivity. (iv) Analytical specificity to include interfering substances. (v) Reportable range of test results for the test system. (vi) Reference intervals (normal values). [and] (vii) Any other performance characteristic required for test performance.” [21 C.F.R. § 493.1253(b)(2).] The CLIA regulations further require that laboratories make these performance specifications available to clients upon request. [21 C.F.R. § 493.1291(e).]

We believe that the existing list of CLIA-required performance characteristics is sufficient and appropriate for inclusion as part of the GTR to provide assurance of test accuracy. As such, we recommend that the GTR include only the information required by CLIA. This will make it easier for laboratories to submit information and will make the information provided more reliable and consistent given CLIA oversight.

Even with the assurance provided by compliance with CLIA standards, we remain concerned that some entities may choose to report specific data in a manner that shows their tests in the most favorable light, even if such statements are not fully accurate or reflect bias (intentional or not). It is important that performance characteristics reported through the GTR reflect actual test accuracy and are comparable from one laboratory test to another. Keeping the performance characteristics listed on the GTR consistent with CLIA requirements will further this goal.

***i. Analytical sensitivity.***

***ii. Analytical specificity.***

***iii. Accuracy.***

The utility of the GTR is only as good as the quality of the data. Laboratories may not choose to participate in a voluntary registry that accepts and lists any data submitted unless there is some objective basis for assuring data accuracy and comparability. In this context, the term “accuracy” goes well beyond an assay’s stated analytical performance characteristics. For example, an assay’s performance characteristics may appear “accurate” when based on a validation study; however, the study itself may be inherently flawed or biased.

***iv. Precision***

CLIA requires the laboratory to verify the precision of each test system by assessing day-to-day, run-to-run and within-run variation as well as operator variance. This may be accomplished by multiple methods such as repeat testing of known patient samples over time; testing QC material in duplicate and over time; or repeat testing of calibration materials over time. What information would the NIH expect to be provided in this field? Because of the various methods used, within a single laboratory or between different laboratories, to access precision of the assay the same method may not necessarily be used each time even for the same assay.

***v. Reportable range of test results.***

***vi. Reference range.***

***vii. Method used for proficiency testing (e.g., formal PT program, alternative assessment) and score.***

Although we do not oppose providing the method used for proficiency testing, we do oppose the inclusion of a proficiency test “score” as a test performance characteristic. Proficiency testing score relates to how well a laboratory performs a test over time (i.e., its “proficiency”) and does not reflect or test the underlying validity or utility of the test. As a result, such information is irrelevant to genetic testing and pertains to laboratory compliance rather than test accuracy.

***n. Clinical validity***

***i. Clinical sensitivity.***

***ii. Clinical specificity.***

***iv. Prevalence.***

***v. Penetrance.***

Inclusion of these factors is highly subject to misinterpretation and misuse, and may cause more problems than may be solved in the name of “transparency.” Clinical laboratories may base their clinical validity on supportive medical literature references rather than internal data. As such, submitters themselves rely on that information to be correct. The laboratory also needs assurance from the NIH that its exposure to potential litigation is limited if the information in the medical literature turns out to be inaccurate in some way. Appropriate disclaimers must be included in the GTR to provide this assurance.

Should the NIH choose to include this section in the GTR, we recommend that the populated field always includes hyperlinks to the credible source such as GeneReviews. Also, clinical validity information should generally be supported by literature citations, which should be included in the GTR. Published articles may or may not address each of the elements of clinical validity listed above, but we believe that references will provide the most complete and accurate information available and serve the transparency objective.

***iii. Positive and negative predictive value.***

As appropriate.

***vi. Modifiers.***

We request clarification on this term.

***o. Utility (e.g., clinical and/or personal utility) or outcomes.***

***i. Benefits.***

***ii. Harms.***

***iii. Added value, compared with current management without genetic testing.***

As an initial matter, we would appreciate clarification as to “personal utility”. Utility and usefulness are often two distinct issues. Clinical laboratories often use the information in GeneReviews to document clinical utility. This data field, “utility”, seems to provide redundant information if the test is broadly available such as for Cystic Fibrosis (e.g., there may not be a change in treatment for a rare disorder, but it is useful to have a diagnosis in planning health care decisions).

Citations to literature are the often best source of available information on genetic test utility. Moreover, while laboratories can show the analytical validity of the test (e.g., that the test consistently detects the same genetic variables) and the clinical validity (e.g., that the test has proven useful for a particular clinical purpose), it is far more difficult for laboratories to demonstrate clinical utility (e.g., how the physicians use the test in their care and treatment of the patient). This is because clinical utility must be shown by actual experience in clinical settings, to which laboratories do not have access. As a result, the physician community, rather than the laboratory community, is best suited to make determinations about clinical utility. Therefore, laboratories submitting information to the GTR may be unable to provide information beyond citations to literature.

***p. Cost (e.g., price of the test, health insurance coverage).***

Cost information should not be included as part of the GTR. Such information is not only irrelevant to the goals of the GTR, but it is also very difficult to define. Because of the prevalence of insurance and the types of coverage available, the cost to the patient will vary widely. Moreover, given the competitive sensitivity of pricing information, laboratories are unlikely to voluntarily publish this information. As a result, requiring this information will likely be counterproductive, because it may cause patients or physicians to *not* to order tests out of a mistaken belief that will be too costly without taking into account coverage, deductibles, whether the laboratory is in or out of network, etc. As a result, such information would be misleading in the GTR. To the extent a patient or a physician needs further information, it would be preferable for him or her to contact the laboratory that has developed the test.

In addition to the reasons stated above, decisions should be made not on cost alone but on appropriateness of the test, which we believe is the NIH’s intent for the GTR.

***7. What types of information might be difficult for test providers to submit and why?***

The GTR should not ask for proprietary information. Some laboratories will have concerns about posting proprietary information on a public website due to confidentiality obligations in license agreements and/or the need to protect proprietary intellectual property.

An additional concern is that information not presented in a standard format will make it difficult for a contributor to know exactly what information to include in certain sections. If the submission is too complex, some contributors will simply refrain from populating all or portions of the GTR.

***8. What are the advantages and disadvantages of collecting and providing information on the molecular basis of genetic tests, such as detailed information about what the test detects and the specific methods employed?***

As stated above, the more onerous the submission process the less likely a potential contributor may be to submit data to the GTR. This sentiment is particularly true regarding providing information on the molecular basis of genetic tests, which take much time and effort to maintain and will be of little value to the user.

***9. In addition to the data elements, would it be helpful to reference other resources, and if so, which ones (e.g., published studies, recommendations from expert panels such as the Secretary's Advisory Committee on Heritable Disorders in Newborns and Children, U.S. Preventive Services Task Force, or Evaluation of Genomic Applications in Practice and Prevention Working Group)?***

Yes, the GTR will best serve its purpose when the information is curated from these and other reputable sources. Again, we recommend hyperlinks to GeneReviews and to peer-reviewed or published information. Also, the hyperlinks currently in place for GeneTests must not be lost once the GTR developed.

***10. As the GTR is being designed, what are the important processes to consider to make the submission of data as easy as possible for the data provider (e.g., the capability of linking to information that has been submitted to other agencies, such as the FDA and the CMS, or a master file of data common to particular tests)?***

The GTR must be able to auto-populate from GeneTests. We also recommend that the NIH provide the ability to electronically upload data from the laboratory's online directory of service (using the Test Compendium template), where applicable.

As stated above, ACLA's online Test Compendium Framework could serve as a practical template for data submission and format for the GTR. ACLA developed the framework for its Laboratory Test Compendium to provide the ability to electronically share the laboratory's eDOS. This development effort simplifying the exchange of data related to test Directories of Services and associated orders, while increasing their functionality and value within compatible EHR systems. Although this framework was developed for a different purpose, using the Compendium Framework would also facilitate the submission of data for the GTR.

***11. Which potential benefits and risks would be most likely to affect the decisions of researchers, test developers, and manufacturers on whether to submit data to the GTR, and what factors will best encourage submission of complete and accurate data?***

Clinical laboratories are service providers, and from our perspective, the proposed contributors mentioned above would be less likely to participate in the GTR if the NIH requires cost and proprietary information, makes the submission process too onerous, and lacks curation of the data submitted to ensure the data is accurate and unbiased.

***12. What are the most effective methods to ensure continued stakeholder input into the maintenance of the GTR?***

A key issue is whether a patient could be harmed by the posting of unverified or exaggerated performance characteristics that could lead a physician to choose a test that is not appropriate for that patient.

***13. For what purpose(s) would you use the Registry to support your professional efforts?***

The GTR would be a good resource to review clinical information and to find reference laboratories. Many of our geneticists currently use GeneTests on a daily basis to find research and clinical laboratories and to find laboratories that offer specific genetic tests, usually for rare diseases. The GTR could be used in the same way, and would be equally if not more valuable if the Registry included more information, such as sample types, the laboratory's order codes and ordering information. We also encourage the NIH to expand GeneReviews capability in the GTR for pharmacogenetics, cancer and cytogenetics.

Similarly, we encourage the NIH to continue GeneReviews given its importance as a resource to physicians and genetic counselors who use and oftentimes rely on the information provided there.

***14. Are there any other issues that NIH should consider in the development of the GTR?***

In closing, we would like to reemphasize two considerations stated above for the NIH's consideration in its development of the GTR: Guidance is needed regarding the NIH's scope for the categories of laboratory tests to be included in the GTR, particularly in light of the recent FDA announcement that it intends to exercise oversight over LDTs. Also, we strongly recommend for the GTR's credibility that the NIH implement a system that will allow curation of the data and measure of comparability between tests.

Francis S. Collins, M.D., Ph.D.

July 12, 2010

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Again, we thank you for the opportunity to provide our comments and recommendations to this RFI. We look forward to continuing to work with you and your staff to ensure the success of this important effort.

Sincerely,

A handwritten signature in black ink that reads "Stephen C. Suffin". The signature is written in a cursive style with a large initial 'S'.

Stephen C. Suffin, M.D.

Vice President and Chief Laboratory Officer