

Q1. Phased approach to developing the GTR

Priority should be given to tests that will have the highest impact for the public's health. Certainly, diagnostic tests for single gene disorders are low hanging fruit for testing the robustness of the system, and we would look for the system to handle those immediately and with competence. Following that 'pilot' we would recommend the NIH tool the registry to meet the emerging regulatory needs, as well as those of developers, provider and consumers. FDA will likely proceed with a risk-based schema for oversight, and so tests associated with diagnosis and/or treatment related decisions should be in the registry early on. Further, newborn screening and prenatal tests impact the largest number of American's on a regular basis, so they should be added with expedience as well.

Q2. Clinicians and genetics professionals to be the source of clinical utility evidence rather than test developers and/or test providers. Given that data submitters are unlikely to have clinical utility information, how is this data element best addressed in the GTR?

This data element should be as objective as possible, however, every source has bias and limitations. These limitations should be as transparent as possible. It is not simply a matter of clinicians providing this information, since they often do not have the technical evidence or have not done the necessary reviews. The most obvious source for clinical utility evidence is the published literature. Commercial providers of tests should be required to indicate the available peer-reviewed literature associated with the test. Beyond that, professional societies that engage in an assessment of a test to create guidelines, test developers (both academia and industry) and payers are all possible sources of evidence. Commercial developers (anyone selling a test or testing service) are sometimes the only source of clinical utility information, since they may be running registries and amassing data. It is probable that phase four, post-market, monitoring and adverse event reporting, will be the responsibility of test manufacturers, and so GTR will want to amass this data as well.

The GAPPNet initiative is preparing to support the Genetic Testing Registry by generating evidence reviews and data that can link to the registry and create a more robust data-source for genetic tests.

Patients often look for informational utility, and a more multifaceted 'usefulness' that is sometimes not reflected in a test's clinical utility determination.

Q3. What are the benefits, risks, and challenges of including cost information in the GTR?

Defining 'cost' will be very important. Does this mean cost of goods, commercial costs, gross costs, net costs? How will those be measured to ensure comparability?

We believe it would be very beneficial to capture costs in some agreed upon manner since the issues of coverage and cost are important to the entire ecosystem of genetic testing.

The benefits: transparency, leveling effect, price control pressures, consumer pressures

The risks: profit margins of companies, discordant information access, big companies could compete and attempt pure market access, which could trigger antitrust and/or monopoly issues.

The challenges: This will be the most transient information, since it can change at any time in response to many pressures. This will be a unique data element to monitor and manage: turn over and lifecycle will eclipse anything else in the registry. One way to alleviate some of this is to create pricing bands that could put tests into buckets – categorizing the information would be useful for navigating past antitrust and monopoly issues, and for provider and consumer comparisons.

From the patient and provider perspective, providing cost information can help in determining whether a patient can afford tests out-of-pocket that may not be covered by their insurance. It allows them to weigh the costs of different methods and different laboratories so that they can choose a service that might be more affordable.

Q4. What safeguards can be put in place to prevent GTR users from misunderstanding, misinterpreting, or misusing the information in the Registry?

The registry is not going to create marketplace stupidity, that already exists. In fact, there will be less misunderstanding, misinterpreting, and misuse with a transparent registry. Further, test developer's attorneys (both academic and industry) will be very conservative about making claims about treatment decision making. The registry's existence does not mean consumers can choose a test and order it, a medical professional is still required for the practice of medicine. In fact, the transparency that the GTR will provide will mitigate to some extent the risk of harm.

The registry is ultimately organizing the long tail and providing access to informational utility, demonstrating, disclosing, compiling. Informational management is clearly a challenge, and education must be a part of the endeavor, for both providers and consumers. The NIH has an opportunity to bring order to a healthcare marketplace and empower providers and consumers in the process. This may set a precedent for the cottage industry that is medicine today.

Q5. What mechanisms can be used to provide materials that explain the GTR's data elements to audiences with varying technical expertise?

This will be an exciting and interesting challenge. It maybe a good pathway to improving the public's health literacy level. Pilot testing of the registry in various communities could help to pinpoint data in the registry that may be at risk for misunderstanding and misinterpretation. Forecasting these problems is possible for a few of these items such as cost, clinical utility and the reason for certain data fields being empty.

It is important that this information is tailored to reach audiences with varying levels of experience and genetic literacy levels. There are many partners for the NIH to engage: health professional societies, consumer and disease advocacy organizations, regulatory and oversight bodies, umbrella coalitions of the labs, and direct to consumer testing companies that have spent millions of dollars on understanding how to explain tests to the public.

Surveillance of the use of the GTR will also be critical for understanding its impact on test ordering and decision-making. Careful tracking of GTR use will be necessary to determine the impact of its use.

It will be important to provide users with additional resources to help them interpret and understand the data provided in the GTR. NCBI has the capacity to provide linkouts for data elements that have additional resources and descriptions to increase the value of the information in the GTR for those who may not be able to interpret it at face value.

From a patient perspective, we appreciate that aggregating data in the GTR might be considered onerous, by the laboratories, and by NIH, but we also know how onerous it is to love and die with disease. We appreciate NIH's efforts on the GTR.