Genetic tests can cost about the same, if not less, as more commonly ordered tests; genetic conditions can be as prevalent as non-genetic conditions; a genetic diagnosis and primary care provider are essential to managing the disorder as well as associated conditions; and family history is an important component of genetics that can take a matter of minutes to complete. These were some of the facts used to dispel many common myths about genetics during the webinar, “Myths of Primary Care Providers and Patients/Families Regarding Genetics–Setting the Record Straight,” held on July 26, 2012. The webinar was presented by Wendy Chung, MD, PhD, and Beth Tarini, MD, MS, FAAP, as part of the Time Out for Genetics webinar series hosted by the Genetics in Primary Care Institute (GPCI).

Following are some of the frequently heard myths about genetics and the facts that were discussed during the webinar to dispute these myths.

**Myth: Genetics Just Deals With Rare Diseases**

**Truth:** When comparing the incidence of what are thought of as “rare” genetic conditions to “rare” non-genetic disorders, the prevalence can be similar, indicating that not all genetic conditions are rare. For example, sickle cell disease (a genetic condition) has an incidence rate of 1:500, the same prevalence rate for neonatal sepsis (a non-genetic condition). In some instances, genetic conditions can be more prevalent than non-genetic conditions: cystic fibrosis (a genetic condition) occurs in one out of every 3,000 births compared to meningococcal disease (a non-genetic condition) that has an incidence rate of 1:200,000.

**Truth:** Patients can be referred to genetic specialists for many common indications, including short stature/failure to thrive, fetal anomalies/birth defects or family history of a condition.

**Myth: Testing is Too Complicated and Too Expensive**

**Truth:** While it is true that some genetic tests can be expensive, there are other less expensive options. For example, a karyotype or routine chromosome analysis can cost approximately $650 to $800, and a plasma amino acid test can cost about $270. These costs are comparable to some of the more frequently ordered tests, such as a thyroid function test that costs approximately $250 or a CT scan that can cost $1,000 to $1,500.

**Truth:** Private insurance and Medicaid coverage of more customary genetic tests has improved. Genetic testing laboratories are familiar with this and can also assist with obtaining pre-authorization.

**Truth:** Primary care providers are urged to seek guidance from a genetic specialist or testing laboratory if they are uncertain about genetic tests and costs.

**Myth: A Genetic Diagnosis is Only a Label, It Doesn’t Help Anyone**

**Truth:** While this may be true for some genetic conditions, it is important to recognize that a diagnosis usually can be helpful for prognosis and anticipatory guidance. It can also be useful for planning treatment, when possible, as well as determining the potential risk for family members. In addition, a genetic diagnosis allows for information about conditions associated with the diagnosis.
Truth: Patients who are concerned about the possible risks a diagnosis poses to health insurance coverage and employment status can feel more confident knowing they are protected under the Genetic Information Nondiscrimination Act (GINA), a federal law that prevents the use of genetic information to make employment decisions, determine insurance enrollment or coverage, classify a genetic condition as a pre-existing condition, or require individuals or their family members to undergo genetic testing.

Truth: A genetic diagnosis can play an importance role in reproductive planning. Genetic testing may show that the parents have a risk of a recurrence in a future child of <1% for de novo mutations. For couples with a 25% or 50% risk of recurrence, preimplantation genetic testing and prenatal testing can help families decide whether to continue with a pregnancy or to prepare for caring for a child who will be born with a genetic condition.

Myth: The Geneticist Doesn’t Need My Help to Manage the Patient

Truth: Following the medical home model of care, primary care providers play a crucial role in the management of patients who have the potential for or have been diagnosed with a genetic condition, especially since a multitude of conditions can accompany a genetic condition.

Myth: Collecting Family History Takes Too Long and Doesn’t Help Anticipatory Guidance

Truth: Although primary care providers do have time constraints, a study of family practice physicians found that it took only three minutes to take the family history of existing patients and six minutes for new patients.

Truth: More time-saving options for family history gathering include asking patients to complete forms at home or in the waiting room prior to the examination, using a standardized collection form or checklist, integrating the family history into electronic health records or utilizing online resources.

Truth: Collecting family history can prevent serious consequences, including death, from an undiagnosed genetic condition not only in patients but family members as well who may be unaware they are carriers of a potentially life-threatening gene.

About the Presenters
Dr Tarini is co-medical director of the GPCI, a practicing general pediatrician and a health services researcher at the University of Michigan. Dr Chung is a member of the GPCI Quality Improvement Expert Group and director of the clinical genetics program at Columbia University, where she is also a clinical and molecular geneticist and researcher.

About GPCI
The GPCI was established to increase primary care providers’ knowledge and skills in the provision of genetic-based services. The GPCI is a cooperative agreement between the US Department of Health and Human Services, the Health Resources & Services Administration, the Maternal & Child Health Bureau and the American Academy of Pediatrics.

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