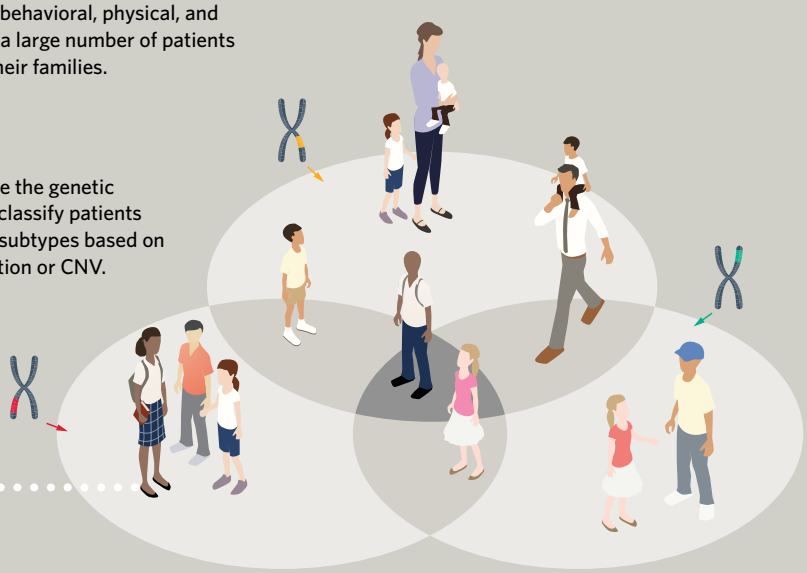
PERSONALIZING AUTISM TREATMENT

More than 800 genes are suspected to be involved in autism, and researchers today attribute 30 percent of cases to known copy number variations (CNV)—large deletions or duplications in the genome—or spontaneous genetic mutations in a protein-coding gene. For the other 70 percent of cases, the causes remain unknown.

As researchers learn more about the underlying causes of this diverse disorder, they are beginning to think about developing personalized treatments for patients with specific genetic subtypes of autism. While a drug for a single subtype may only be applicable to less than half of 1 percent of patients, such an approach might increase the chances of finding a successful treatment for larger groups of patients.

Physicians gather behavioral, physical, and genetic data from a large number of patients with autism and their families.



Researchers use the genetic information to classify patients into molecular subtypes based on a genetic mutation or CNV.

Often, phenotypic data and gene expression data will be added to the genetic data to more accurately group patients.

If a treatment proves effective for a particular subtype, doctors can then classify new patients based on biomarkers for that group.