Large drug trials are expensive and results often misleading. A new genetic tool might cure those problems.

[C]orrelation is not causation. The fact that two phenomena or trends are correlated in time does not mean one causes the other. Arguably, the most important question in all of medicine and public health is how to tell which correlations are causal and which are not.
Now health researchers are wielding a new tool they hope will let them determine the true causes of chronic disease. And it comes through a surprise route: genetics. Researchers say that by employing innate genetic differences between people—an inborn susceptibility to alcohol, say, or to higher cholesterol levels in the arteries—they can now mimic, at much less effort and expense, the kinds of large trials that would be necessary to determine if an [HDL cholesterol]-lowering medicine is really beneficial. The new technique [is] called Mendelian randomization.

…

Here's how it works, using HDL as the example. At the moment of conception, some of us inherit specific variants of genes that boost our HDL levels. If HDL really protects against heart disease, then people with more of these HDL-raising variants should have lower rates of heart disease.

…

Before randomly assigning people to different HDL-raising drugs or diets in huge, costly studies, the equally random lottery that determines which gene variants we inherit can be used to gauge whether such trials would be worth the risk and investment.

Read full, original post: Researchers find a way to mimic clinical trials using genetics