

Re: Teacher's perspective: educating children with autism in the pandemic

Hi X,

Researchers through Qatar Foundation's Qatar Genome Program [recently found](https://www.nature.com/articles/s41467-021-21381-3) [https://www.nature.com/articles/s41467-021-21381-3] that today's genome datasets do not accurately reveal the genetic architecture of diseases affecting Arab populations, who represent over 400 million people around the world. Furthermore, they have found that basic genetic screening tests often miss common disease-causing mutations. Genomic data has been helping medical professionals to identify patients who are at high risk of developing certain conditions and better plan for treatments. However, these advances have so far disproportionately benefited one group: the Caucasian population.

To address this lack of ethnic diversity in the identification of genetic disease among people of Arab descent, Qatar Genome Programme and Qatar Biobank have been developing the 'Q-Chip' – the Qatari gene chip which contains gene variants specific to the Qatari population, identified through the sequencing and genetic screening of the DNA of 10,000 of Qatar citizens. The Q-chip, which is a device much smaller than a postage stamp, will allow to efficiently and inexpensively test an individual for the presence or absence of some 360,000 mutations with a known or potential role in causing diseases, and which are particularly likely to appear in the local population.

The Q-Chip is an example of an innovation that has the capacity to improve the diagnoses and personalize the treatment of other underrepresented populations. Only one part of the important work in genetics and precision medicine underway in Qatar, the Q-Chip is now at the early stages of clinical implementation.

I would be happy to connect you with a spokesperson from the Qatar Genome Programme who can speak to the development of the Q-Chip and its global implications on work in genomics and precision medicine. I look forward to hearing from you.

Best,
X

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