Public needs to be more informed on human germline gene editing

The news that scientists have edited the genomes of human embryos induced a predictable sharp intake of breath. The work is notable because it altered the germ line, meaning that in a viable embryo, the genetic changes would have been passed on to all future offspring. What should be society's response to such research?

Gene-editing tools have evolved to the point at which targeted changes to a genome can be made with unprecedented ease. In theory, gene editing allows specific genetic traits to be changed. The potential clinical applications, in which babies are engineered so that they no longer carry faulty, disease-causing genes that run in the family, might be attractive to many. But even such potentially legitimate clinical applications remain some way off. There are also longer-term ethical concerns that germline gene therapy might creep beyond eliminating deadly or debilitating heritable disorders to include disabilities, less serious conditions, and cosmetic and other supposed enhancements — leading to 'designer babies' and raising the spectre of eugenics.

Now is a good time for a public debate about such human germline editing — gene editing in sperm, eggs or embryos applied in ways that would allow changes to propagate to subsequent generations. Not only should voices from civil society outside the closeted worlds of science, bioethics and regulation be heard, but their highly diverse viewpoints must also help to set the terms of the debate.

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