Germline Gene Editing and Embryo Selection

Intercountry Medically Assisted Reproduction
January 20, 2016

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Why GGE in an IMAR workshop?

- IVF would be the platform technology
- Already existing differences in policy would set up the kind of intercountry travel we see now for surrogacy and eggs
Does an “ethic of care” help?

- It provides an alternative framework to more individualistic approaches.
- But it is insufficient to focus on interpersonal responsibility and trust.
- We need to look at broader societal dynamics and power relations, with a goal of maximizing social justice.
They raise some similar concerns; embryo selection is problematic.

But it is a better option than germline gene editing for preventing the transmission of serious genetic disease.

How to keep both points in view?
Germline gene editing is unsafe

- Irreversible changes to every cell in the bodies of future children and all their descendants.
- Current problems include:
  - Off-target mutations
  - Inaccurate edits
  - Mosaicism
  - Unintended effects elsewhere
  - Persistence of “molecular scissors”
Germline gene editing is unneeded

- Embryo selection (PGD) allows those at risk of transmitting genetic disease to have children who are unaffected and genetically related to both members of a couple.
- Only a very small number of couples will be unable to produce unaffected embryos.
To open the door to one kind of germline modification is to open it to all kinds.
What social, cultural, political, commercial dynamics might be set in motion?

Business competition, with fertility clinics offering the latest upgrades?

National rivalries around technological advance?
- Reproductive germline gene editing would be socially dangerous.

- We need not and should not risk the unacceptable outcomes that are all too likely.