

Germline Gene Editing and Embryo Selection

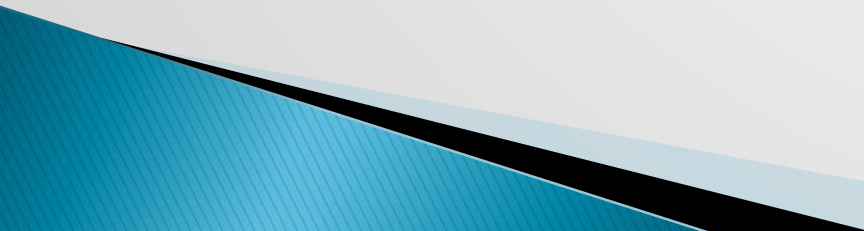
Intercountry Medically Assisted Reproduction
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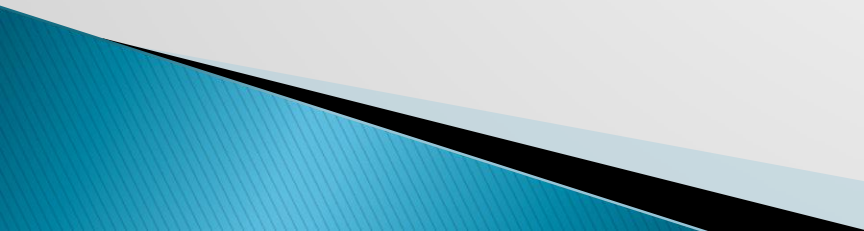
Why GGE in an IMAR workshop?

- ▶ 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

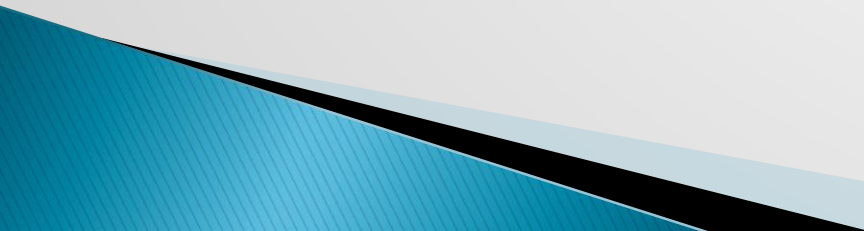
Does an “ethic of care” help?

- ▶ 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.
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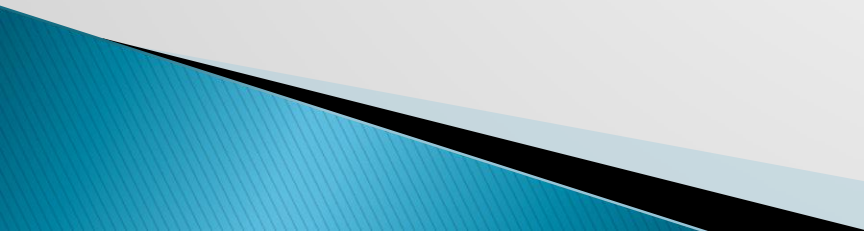
Why GGE in a session on embryo selection?

- ▶ 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?
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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”
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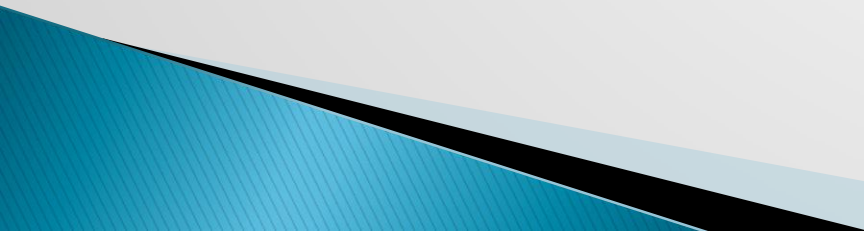
Germline gene editing is unneeded

- ▶ 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.
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To open the door to one kind of germline modification is to open it to all kinds.



New forms of discrimination and inequality?

- ▶ 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?
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- Reproductive germline gene editing would be socially dangerous.
- We need not and should not risk the unacceptable outcomes that are all too likely.