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tions.

- Ethical challenges: The development and use of HDTs raise several profound ethical concerns, beginning with patient autonomy and consent and continuing with ingesting, processing, and simulating patient data. This introduces ambiguity around informed consent: when does a patient consent to updates, simulations, or interventions made by their twin? Moreover, how are patients involved in decisions made by or with the twin, and how can they contest or override its recommendations? Bias and fairness are also critical concerns. HDT models trained on biased datasets may perpetuate or even exacerbate disparities in healthcare outcomes. Last but not least, data privacy and security constitute another major ethical challenge. HDTs operate on sensitive health data, some of which may include behavioral, genomic, or social context information. This data, if compromised, could be used to infer personal details or discriminate in employment, insurance, or social settings.

Regulatory and legal challenges: The