

## **When Frictionless Fails: Designing Deliberation into Embryo Screening Platforms**

*Exploring the central tension in designing for high-stakes healthcare: When does frictionless design actually create friction with human dignity?*

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### **The Dilemma**

Teams often face situations like this: A UX designer working on a genetic testing platform reports that they've reduced the time to complete consent from 20 minutes to 3 minutes. Patient satisfaction scores are up, and completion rates have improved significantly. The interface is cleaner, the language simpler, the flow more intuitive. But in those streamlined 3 minutes, prospective parents are making decisions about which embryos to implant - choices that will shape their families for generations.

This is the central tension in designing for high-stakes healthcare: When does frictionless design actually create friction with human dignity? In embryo screening platforms, we're witnessing a collision between two powerful narratives about what technology should do.

### **Competing Principles**

#### “Remove Friction” (Efficiency)

- Optimize completion rates over abandonment
- Streamline complex processes into simple flows
- Reduce cognitive load to prevent user fatigue
- Measure success through conversion metrics

#### “Honor Deliberation” (Quality)

- Ensure meaningful informed consent, not just legal compliance
- Support autonomous decision-making through understanding
- Recognize that some choices deserve friction
- Measure success through quality of decision-making

The conflict isn't theoretical. Real platforms are making real design choices about how couples navigate embryo selection, and those choices embed values about autonomy, time, complexity, and human dignity.

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## Case Study Spotlight

Consider the embryo screening interface shown in [my recent UX Camp presentation](#). The platform displays genetic risk comparisons with clean visualizations: Embryo #1 shows 22/100 risk for coronary artery disease, Embryo #2 shows 65/100. The design is elegant, scannable, efficient.

But what story does this interface tell? That genetic complexity can be reduced to simple risk scores. That comparing embryos should feel as straightforward as comparing products. That speed of decision-making correlates with quality of decision-making.

The interface includes genetic counseling options, but they are positioned as nice-to-have additions rather than integral to the decision process. The primary flow optimizes for quick comparison and selection. This is most evident where the user experience is displayed on mobile.

## Reframe: Healthy Friction as Feature

What if we designed embryo screening platforms around "healthy friction" - intentional design choices that slow users down in service of better decisions?

This isn't about making interfaces difficult or patronizing users. It's about recognizing that certain decisions require time, reflection, and support to honor their complexity.

*Healthy friction strategies include:*

- Mandatory pause periods
  - Built-in waiting times between receiving results and making decisions
- Progressive disclosure
  - Revealing information complexity gradually rather than all at once
- Comprehension checkpoints
  - Ensuring understanding before proceeding, not just acknowledgment
- Required counselor touchpoints
  - Making genetic counseling integral, not optional

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## Design Recommendations

### 1. Redesign the Decision Architecture

Instead of optimizing for quick comparison, design for informed deliberation. The primary flow should include genetic counseling as a required step, not an optional add-on.

### 2. Time as a Design Element

Build waiting periods into the interface. After receiving results, couples must wait 48-72 hours before making selections. Use this time for education and reflection, not just delay.

### 3. Values-First Approach

Before showing genetic data, help couples identify their values around disability, risk tolerance, and family planning. Let values inform how they interpret data, not the reverse.

### 4. Complexity Transparency

Rather than hiding complexity behind clean interfaces, help users understand what genetic risk scores actually mean, their limitations, and uncertainties.

### 5. Support Network Integration

Design features that help couples involve their support networks - partners, family, counselors - in appropriate ways throughout the process.

## Implementation Checklist

- Audit current flows for speed optimization versus reflection support
- Interview genetic counselors about common misconceptions and decision-making patterns
- Test comprehension of risk visualizations with non-technical users
- Design mandatory waiting periods with meaningful content, not empty time
- Create values clarification exercises for couples to complete before viewing results
- Build genetic counseling integration as a core feature, not an add-on service

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## Policy & Regulatory Context

The FDA provides guidance on informed consent for genetic testing, but focuses primarily on information disclosure rather than decision-making quality. Professional genetic counseling organizations recommend mandatory counseling for certain types of screening, but these guidelines vary by state and clinic.

Currently, most embryo screening regulations address the technical accuracy of tests rather than the design of decision-making interfaces. This regulatory gap means design choices effectively become policy choices about how much autonomy to support.

## Acknowledgments & Limitations

This brief focuses on interface design for embryo screening platforms but doesn't address broader questions of access, equity, or the ethics of genetic selection itself. The recommendations assume genetic screening is already happening and aim to improve decision-making quality within existing frameworks.

Implementing healthy friction requires organizational commitment beyond design changes - including staff training, revised success metrics, and potentially longer decision timelines that may conflict with clinical schedules.

## Additional Reading and Resources

- Deliberate Intervention: Using Policy and Design to Blunt the Harms of New Technology by Alexandra Schmidt - <https://rosenfeldmedia.com/books/deliberate-intervention/>
- Design Justice Network – <https://designjustice.org/>
- Hmntyctrd – <https://www.hmntyctrd.com/>
- Melissa Eggleston's Trauma Informed Website Resources – <https://www.melissaegg.com/blog/trauma-informed-website-resources>
- Superbloom Feature Guide for High-Risk Contexts (2025) – <https://superbloom.design/learning/blog/feature-guide-for-high-risk-contexts-2025/>

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