

The Role of Method Intuition in Translational Ethics

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Abstract

Discourse in translational ethics has typically focused on the relationship between investigators and research subjects, but rarely between researchers themselves. Understanding inter-researcher responsibilities is critical in translational teams where members use discipline-specific methods that are often opaque to their colleagues. Potential conflicts such as in the underlying assumptions of the methods can result in eroded trust, and compromised research aims. To address this problem, we developed an approach called Method Intuition, which guides translational researchers to explain without jargon, the goals, procedures, limitations, and research issues related to the methods they use. Preliminary results reveal that the approach can lead to unexpected research insights due to the increased transparency and comprehension of methods. These results suggest that discourse in translational ethics should include inter-researcher responsibilities.

Introduction

While ethical best practices in translational science have defined responsibilities between researchers and subjects¹, they rarely make explicit the ethical responsibilities researchers owe each other. This is especially important in translational teams where researchers from different disciplines use methods that are often opaque to their colleagues. A lack of transparency can potentially lead to clashes in underlying assumptions, and impair efforts to foster trust among translational teams.

Method

To increase methodological clarity and foster trust within translational teams, we designed and used an approach called *Method Intuition* (MInt). This approach guides researchers to explain, with minimal jargon, the **goals** of the methods they use, **procedures** (e.g., input, transformations, and output of the data), **limitations** (e.g., biases, assumptions, and error rates), and **research issues** (e.g., attempts to improve accuracy). Seven researchers from a multidisciplinary translational team (focused on identifying biomarkers implicated in severe asthma) were asked to give MInt presentations at their bimonthly one-hour team meetings. The meetings were digitally recorded, and a qualitative analysis of critical incidents² (defined as discussions motivated by the presentations that go beyond clarifications of the content) is in progress.

Results and Conclusion

We present two critical incidents from our preliminary analysis of the MInt presentations:

1. Sample Collection from Asthma Patients. Two clinicians presented how *bronchoalveolar lavage* samples (fluids from lung membranes) are collected from subjects. They explained that samples from the lower respiratory tract provided more accurate biomarkers compared to samples from the upper airways, which led to a discussion on the trade-offs between data accuracy and procedural invasiveness. This trade-off is expected to play a role in future data collection, and appears to be a result of the climate of transparency resulting from the MInt presentation.

2. Network Visualization and Analysis. Using concrete examples from an asthma dataset, an informatician presented key concepts related to network visualization and analysis, followed by the pros and cons of the method. A network visualization, which integrated asthma patients and their cytokine and phenotype information, led to a discussion among the clinicians and basic scientists about the possible biological pathways involved in the disease. Furthermore, the discussion resulted in a proposal for a novel molecular-based classification of asthma patients. The researchers attributed this insight to an intuitive understanding of the network representation, which enabled the team to comprehend the complex molecular and phenotypic relationships.

These preliminary results suggest that MInt presentations can enable researchers to arrive at new insights when there is a mutual attempt to intuitively explain discipline-specific methods. The results also suggest that discourse in translational ethics should include inter-researcher responsibilities that enable greater methodological transparency, resulting in novel insights and trust within translational teams.

Acknowledgements: Funded in part by NIH grant UL1RR029876.

References

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