

Considering the Collective in Ethical Decision-Making Concerning Non-Medical Uses of Non-Invasive Prenatal Testing

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INTRODUCTION

In their recently published target article, Bowman-Smart *et al.* (2022) summarise the ethical issues at play in both the case for and the case against using NIPT to screen for non-medical traits.

Their aim in outlining the ethical arguments for and against using NIPT for non-medical traits is to prepare parents, clinicians and policymakers for the potential future significance of population-wide NIPT use, potentially publicly funded. This would better inform reproductive decision-making, including decisions regarding selective termination of pregnancies (TOP). They claim,

‘We are moving into a new era of increased prenatal screening and diagnosis. [...] NIPT significantly lowers the barriers for accessing this information, can be implemented as a population screening programme, and may be ‘routinized’ in a way that impacts informed choice.’ (Bowman-Smart *et al.* 2022, lines 15-20)

As a result, the authors hold that we need to think carefully about what parents should be able to screen for, how information is presented, how NIPT for non-medical traits should be funded, and whether commercial options should remain available. (lines 44-48)

OVERLY LIMITED SCOPE

My first argument here is that the scope of the authors’ work is overly limited. That is, they outline what constitute the key ethical considerations in the cases for and against *specifically and only* in the context of current policy. By limiting themselves to this setting, the authors are accepting the status quo, wherein publicly funded population-wide prenatal screening programmes cannot have goals related to public health and wellbeing. The analysis

¹ The author would like to acknowledge funding from the Wellcome Trust, grant 221719.

emphasises the practical context, at the expense of a complete ethical analysis. In reading this article, future policymakers might be unaware of other relevant ethical considerations, and thus continue to accept the status quo.

A broader, more philosophically relevant discussion is preferable for three reasons. First, because despite policy prescriptions, public health and wellbeing outcomes are ethically relevant. Not considering the population-scale potential effects of NIPT use for non-medical traits leaves policymakers unprepared for outcomes which might not be included in the *goals* of NIPT but are nevertheless ethically relevant *consequences* of its use.² For instance, the impacts of changing the future population composition as a result of widespread use of NIPT for non-medical traits must be considered, along with how funding and information-offering decisions might affect tax-paying members of the public.³ Second, a broader discussion would allow the authors to leave room for further development of existing attitudes and policies regarding NIPT in the future toward acknowledging the ethical relevance of public health and wellbeing in population-wide prenatal screening. Third, a broader discussion might actively challenge and guide policymakers toward enacting changes that align better with ethically relevant considerations in the time left before the advent of NIPT use for non-medical traits.

THE IMPORTANCE OF COLLECTIVISM

My second argument is that if a broader ethical analysis were used in the target article, it should include much more ‘collectivist’ content, as part of considering public health and wellbeing effects of NIPT for non-medical traits. The analysis as it stands is limited to the context of harms and benefits for the parents and future child. This ‘individualist’ trend is common in other examples of reproductive technologies and decision-making, including uses for human enhancement. Insofar as using NIPT for non-medical traits and selective TOP has population-scale effects, we can think of this as another form of population-scale human enhancement. As I have argued elsewhere, to adequately consider all the relevant harms and benefits of such interventions, we need more ‘collectivist’ analyses, which emphasise ethical

² Indeed, the initial objective of the Fetal Anomaly Screening Program in the UK was the ‘reduction in numbers of affected births’, although this was later changed to increasing the ‘number of women making an informed choice’. For more, see: Ravitsky 2017, quote at S37.

³ Although, challenging this, see: Ravitzky 2017.

considerations at the group, societal or population level (Johnson 2021). Whilst there is not the space for full exploration here, the above paper and other works have defended collectivism in this context (Anomaly and Johnson forthcoming; Cabrera 2017).

In the remainder of this commentary, I outline some collectivist ethical considerations that would be particularly important to include in a thoroughgoing ethical analysis.

COLLECTIVISM IN THE CASE AGAINST

Consider the case against using NIPT for non-medical traits. There is some collectivist content here already, but more is needed. Bowman-Smart *et al.* discuss the utility of polygenic risk scores, mainly in terms of their value for parents' individual decision-making. That said, they do also discuss burdens on the healthcare system that may arise from additional confirmatory testing required to confirm NIPT results. In discussing how using NIPT this way might increase inequities, their analysis doesn't go beyond mentioning how a divide may ensue 'between the genetic 'haves' and 'have-nots''. (Bowman-Smart *et al.* 2022, line 56) They gloss over eugenics and expressivist concerns with the claim that 'we may question whether individual decisions made in the private sphere propagate negative attitudes on the societal level.' (lines 18-20)

Bowman-Smart *et al.*'s analysis of the case against using NIPT for non-medical traits would be much improved by further emphasis in these sections on collective-level impacts. NIPT for non-medical traits used across a population might lead to issues of resource allocation, for instance, which would link in with their discussion of increasing inequities. Reproductive technologies are notoriously expensive, and the reallocation of funding from other medical needs toward expanded NIPT has important implications for patient populations suffering from conditions that require medical care.⁴

When considering the implementation of NIPT with continued commercial availability, we must also consider how links between wealth and access to NIPT for certain non-medical traits. Continued commercial availability might mean that the wealthy have the ability to make more informed reproductive decisions including TOP, which might be reproduced over generations, and lead to ingrained, self-perpetuating systems of inequity in both wealth and

⁴ For further discussion of funding allocations to for reproductive services, see: McTernan 2014.

reproductive choice. This is a significant additional risk of NIPT for non-medical traits insofar as traits like intelligence that might be selected for through NIPT and selective TOP are associated with advantages throughout life including increased income (Zagorsky 2007).

COLLECTIVISM IN THE CASE FOR

Consider, next, the case for using NIPT for non-medical traits. There is little to no collectivist content here. In this section, unlike the case against, the authors do not present a separate ‘positive impacts’ section to correspond to the ‘negative impacts’ section in the case against that features at least some collectivist discussion. The choice to keep to the individual level is most likely due to the limited scope for the work. Within that scope, key concepts are covered in the case for. However, there are important analogues of the ethical principles that Bowman-Smart *et al.* refer to in the case for that might affect reproductive decision-making by parents (and policymakers). Again, if policymakers and clinicians of the future are not to be limited by an adherence to the current status quo, then such considerations should be included. In particular, there is an analogue to the principle of procreative beneficence (Savulescu 2001) that the authors discuss, which should be included here. This analogue, ‘procreative altruism’ (Douglas and Devolder 2013), holds roughly that parents have reason not only to have a child most likely to lead a good life, but also to have a child most likely to improve the lives of others. We might base such discussion on a duty of general beneficence (Singer 1972), and hold that where there is insignificant cost for the parents and future child from an increased ability to improve the lives of others, parents have a moral reason to pursue NIPT and selective TOP for those purposes.⁵

Another point at which collectivist considerations should feature is in the authors’ discussion of the kinds of goods produced through NIPT for non-medical traits. They discuss how traits might be ‘all-purpose goods’, benefiting the future child, no matter their life course. With a broader scope, they should also, at this point, consider how traits might benefit others, where they constitute ‘public goods’ whose benefits are non-excludable and non-rivalrous, or where they might provide ‘network effects’ that benefit others (Anomaly and Johnson forthcoming).

⁵ Note, however, that this argument is limited by how burdensome selective TOP and another pregnancy might be for the parents.

For instance, a child who is resistant to a certain infectious disease might benefit all others they are in contact with by also being less likely to spread that disease.

CONCLUSION

Bowman-Smart *et al.* are not alone in their individualist ethical analysis of non-medical uses of reproductive technologies. This is the status quo in the literature and policy. However, work that aims to ethically inform future policy must look beyond the individualist lens. There is time to change policy and have it informed by all ethically relevant considerations, if philosophers are not limited by accepting the status quo, and instead aim to cover all (or at least a representative sample) of the key ethical considerations.

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