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## OxRec model for assessing risk of recidivism: ethics

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Concerned by the increasing use of actuarial risk assessments in our criminal justice system and worldwide, we read with interest the Article (June, 2016)<sup>1</sup> by Seena Fazel and colleagues presenting the derivation and validation of one such model, OxRec, in Sweden. Typically, these tools use a variety of factors, such as criminal, medical, and demographic information, to calculate an individual's risk of either recidivism generally or committing specific, usually violent, crimes.<sup>2</sup> Assessments are then used to set sentences, determine conditions and time of parole, and target post-release interventions, among other applications depending on local laws.<sup>2,3</sup> Furthermore, the Sentencing Reform and Corrections Act of 2015, which is under review by the US Congress, would enshrine these assessments in the federal penal system. This expansion continues despite serious ethical and legal challenges, conflicting evidence on the predictive superiority of actuarial assessments to clinical assessments, and negligible evidence on whether their application translates into reduced recidivism.<sup>2,3</sup> Because broad ethical analyses that critique these models' applications are common in published literature<sup>2,3</sup> and lay press,<sup>4,5</sup> we will focus on several distinctive aspects of OxRec.

First, we appreciate the authors' transparency. Many models, some currently in use, do not disclose their derivation or validation procedures, the weighting associated with risk factors, or even which factors are used to evaluate risk.<sup>4</sup> Withholding such information hinders external enquiry and individuals' ability to contest their risk assessments.

Second, we are troubled by the inclusion of disposable income, as well as factors that track socioeconomic status and race, such as education, employment, and neighbourhood deprivation, as components of the tool. Experimenting with the OxRec calculator, we found that the smallest allowable shift in any one of these variables—for example, from medium to low income—can alter a person's risk assessment from low to medium or medium to high. Although most US models do not explicitly include class and race,<sup>5</sup> some do include associated characteristics.<sup>2,3</sup> The incorporation of these factors is especially concerning if the assessment influences the provision of advantages such as early release to low-risk individuals or disadvantages such as greater supervision to high-risk individuals. These applications run counter to the principles of justice and fairness. We expect our legal system to treat people equally, especially when it comes to features outside one's control.<sup>3</sup> Moreover, certain tools now used in sentencing in the USA have been found to falsely

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For more on **OxRec** see <http://oxrisk.com/oxrec>

identify more black people as high risk and fewer as low risk than white people;<sup>4,5</sup> this bias could further institutionalise racism in the US criminal justice system, compounding the status quo of mass incarceration. Consequently, we disagree with the authors that their model could appropriately be used “to assist in decisions about the timing of parole and conditions associated with it”<sup>1</sup> in Sweden or any other country, though particularly in the USA, given the socioeconomic factors the model includes.

Third, we are apprehensive about unintended consequences of releasing OxRec online as a simple and free tool. Since the model is validated only in Sweden, use in other countries would likely increase the already substantial error rate: based on the threshold of 20% risk over 2 years, 33% of Swedish people who violently reoffend would not be identified, and 63% of those identified as risky would not violently reoffend.<sup>1</sup> Accordingly, any application in other countries, and certain applications in Sweden, could produce serious harms, including unequal treatment of incarcerated people on the basis of class, extended sentences for the poor, and exacerbation of pre-existing societal inequities. Therefore, we believe the risks of releasing the tool without substantial guidance on appropriate use outweigh the benefits.

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## References

1. Fazel S, Chang Z, Fanshawe T, et al. Prediction of violent reoffending on release from prison: derivation and external validation of a scalable tool. *Lancet Psychiatry*. 2016; 3:535–43. [PubMed: 27086134]
2. McGuire J. Minimising harm in violence risk assessment: practical solutions to ethical problems? *Health Risk Soc*. 2004; 6:327–45.
3. Starr SB. Evidence-based sentencing and the scientific rationalization of discrimination. *Stan L Rev*. 2014; 66:803–72.
4. Angwin, J., Larson, J., Mattu, S., Kirchner, L. Machine bias. New York: ProPublica; 2016. <http://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> [accessed June 23, 2016]
5. Barry-Jester, AM., Casselman, B., Goldstein, D. Should prison sentences be based on crimes that haven't been committed yet?. New York: FiveThirtyEight; 2015. <http://www.fivethirtyeight.com/features/prison-reform-risk-assessment/> [accessed June 23, 2016]