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Prep Questions for Case: "Child Welfare and Predictive Analytics: Safety in Numbers?"

Please come to class prepared to discuss these questions and related variations:

Question 1. How well does the predictive analytics tool match the needs of DCFS? That is, is this the right tool for the job? Or is this a mis-match in some way?

Question 2. What about DCFS' organizational structure and staffing lends itself to success (or failure) with a predictive analytics tool? Where is there alignment / mis-alignment? For instance, what if DCFS had regular and significant turnover in the case workers who use the predictive tool – would that make success with the tool more or less likely? What if DCFS had very little turnover?

Question 3. What are the different ways that the predictive model might be right or wrong? Specifically, what do (true/false) (positives/negatives) look like here? How do false positives and false negatives affect deployment of resources, for instance, and what are the implications of being wrong?

Question 4. Consider this: if you were using a predictive model to prevent customer churn for your company, then a predictive tool might tell you that customer A is 90% likely to churn, whereas customer B is 30% likely to churn. If you wanted to use your resources optimally, you would intervene with the person whose likelihood of churn is most reduceable. That is, if you could reduce A from 90% to 80%, but you could reduce B from 30% to 10%, then – *ceteris paribus* - intervening with customer B would be the better profit-maximizing choice. (Make sure you're comfortable with why this is the case, please!)

Does the same logic hold for DCFS regarding identifying and preventing child abuse? What are the differences between preventing a bad outcome like customer churn versus a bad outcome like human suffering? How do those differences affect decisions around resource deployment? What do you think is the objective function that DCFS was trying (or should try) to maximize? How does (or should) that objective function relate to their actions?

Question 5. Do you think Beverly Walker was correct in getting rid of the predictive tool? What would you have done / counseled her to do?