A model for expected improvement of high school 1600-meter runners’ race times throughout a track season could improve coaches’ ability to determine the effectiveness of a given training program. 

**PURPOSE:** To develop a model for improvement within and between seasons for high school track athletes in the 1600-m run through analysis of New Jersey meet results across one track season. 

**METHODS:** The results of the 1600-m races from 36 high school indoor and outdoor track meets from December 2014 to May 2015 were downloaded from a publicly available website ([http://nj.milesplit.com](http://nj.milesplit.com)), and regression lines were used to model the average race time as a function of the week of the season by gender and grade. 

**RESULTS:** The regression parameters for 9th grade females were an intercept of $384.2 \pm 6.2$ s (mean±SE) and a slope of $-1.2\pm0.5$ s·week$^{-1}$ ($r^2=0.28$). For 10th grade females the intercept was $377.9\pm5.7$ s and the slope was $-1.2\pm0.5$ s·week$^{-1}$ ($r^2=0.29$). For 11th grade females the intercept was $362.3\pm4.1$ s and the slope was $-0.4\pm0.3$ s·week$^{-1}$ ($r^2=0.29$). For 12th grade females the intercept was $366.5\pm4.1$ s and the slope was $-0.5\pm0.4$ s·week$^{-1}$ ($r^2=0.19$). For 9th grade males the intercept was $323.9\pm5.1$ s and the slope was $-0.5\pm0.4$ s·week$^{-1}$ ($r^2=0.08$). For 10th grade males the intercept was $314.9\pm4.1$ s and the slope was $-1.0\pm0.3$ s·week$^{-1}$ ($r^2=0.39$). For 11th grade males the intercept was $304.1\pm4.0$ s and the slope was $-0.6\pm0.3$ s·week$^{-1}$ ($r^2=0.22$). For 12th grade males the intercept was $300.5\pm4.1$ s and the slope was $-0.5\pm0.3$ s·week$^{-1}$ ($r^2=0.15$). 

**CONCLUSIONS:** Further research is needed verify the accuracy of this model. We speculate that this model would be a poor predictor of week-to-week 1600-m times, but a better predictor of long term improvement.