



Oregon Youth Authority

Issue Brief

January 2015

Using predictive analytics to improve youth outcomes

10

Number of OYA close-custody facilities

650

Approximate number of youth offenders OYA supervises in close custody

550

Approximate number of youth offenders OYA supervises in community residential treatment and foster care settings

450

Approximate number of youth offenders OYA supervises who live independently or at home in communities

323

Total Funds, in millions of dollars, allocated to OYA in 2013-2015

88

Approximate percent of OYA's budget spent locally in facilities and communities

What is predictive analytics?

Predictive analytics uncovers patterns of human activity within large volumes of data to forecast behavior. It studies past activity, represented by data, to make decisions in the present by predicting the future.

One way predictive analytics is used is by medical professionals. Every day physicians, nurses and other medical professionals use data and clinical study results to make health care decisions for their patients. Medical professionals review a patient's personal and family histories; collect current information such as weight, blood pressure, and cholesterol levels; and use this information to predict the likelihood of a patient developing certain health problems. The next step is to recommend changes in behaviors or use of medications to lessen the patient's symptoms or prevent existing health problems from worsening.

Another use of predictive analytics was described in the book and movie *Moneyball*, in which the Oakland Athletics general manager used predictive analytics to build a competitive baseball team with limited financial resources. By analyzing player data, the Oakland Athletics was able to create a championship-level team.

Predictive analytics also can help organizations – both private and public – improve operations, better understand and serve their customers and constituents, and anticipate problems before they become crises.

How are predictive analytics used in juvenile justice?

The Oregon Youth Authority is in the process of bringing predictive analytics to the field of juvenile justice. The goal is to improve outcomes for youth by collecting and analyzing data to help OYA's juvenile justice professionals make better decisions about the optimum placements and treatments for youth in OYA's care and custody.

Oregon

Youth Authority

530 Center Street NE
Salem, OR 97301-3765
Reception: 503-373-7205
En Espanol: 503-373-7205
Web: www.oregon.gov/OYA



Mission

The Oregon Youth Authority protects the public and reduces crime by holding youth offenders accountable and providing opportunities for reformation in safe environments.



Vision

Youth who leave OYA will go on to lead productive, crime-free lives.



Core Values

Integrity
Professionalism
Accountability
Respect



Director

Fariborz Pakseresht



Deputy Director

Joe O'Leary



Key Service Areas

Business Services
Community Services
Facility Services
Health Services
Information Services
Treatment Services

The data used for this purpose resides in the Juvenile Justice Information System (JJIS), which contains years of carefully maintained statistics on youth who interact with Oregon's juvenile justice system locally in counties and at the state level. OYA applies predictive analytics to this data, which – together with professional discretion and judgment – helps juvenile probation and parole officers and treatment managers make decisions about the actions needed to achieve the best outcomes for youth offenders.

For example, data in JJIS can help OYA staff decide whether a youth would best be served at an OYA facility or by a community residential service provider. Treatment managers can use data to inform their decisions about needed treatment, other programming, and length of stay. Case managers (juvenile probation and parole officers) can use that data to help arrange for appropriate transition services when youth are ready to return to the community.

Predictive analytics also can be used to make short- and long-term forecasts regarding operational service capacity at facilities and community residential providers. This helps ensure the right number of placements are available and the right types of programs are in place to meet the needs of the youth coming to OYA.

How do predictive analytics support decision making?

Predictive analytics is not a substitute for human intelligence, professional discretion, or experienced judgment. Ultimately, juvenile justice professionals must interpret the results of predictive analytics and then make the best decisions to benefit youth.

Predictive analytics is another tool – and a powerful one – to inform and prepare decision makers to help improve outcomes for at-risk youth, help those youth build better lives for themselves and their families, reduce future victimization, and create safer communities.