Washington State Department of Social and Health Services

Transforming Lives

REPORT TO THE LEGISLATURE

Predicting Referrals for Competency Evaluation

As required per Engrossed Substitute Senate Bill 5092, Section 202(g)(i)

Dec 1, 2022

Facilities, Finance, and Analytics Administrations
Research and Data Analysis Division
PO Box 45204
Olympia WA, 98504-5204
(360) 902-0707
https://www.dshs.wa.gov

Washington State Department of Social & Health Services
Transforming lives

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Engrossed Substitute Senate Bill 6032 (ESSB 6032) directed the Department of Social and Health Services (DSHS) to develop and implement a predictive modeling tool to identify persons with behavioral health needs who are at high risk of future involvement with the criminal court system. In response to this directive, a predictive modeling tool was developed, as described in the legislative report submitted in 2018. This report describes the subsequent operational enhancement of the predictive modeling approach, its implementation and use.

The operationalized approach reflects several considerations including:

- The predominance of Medicaid beneficiaries in the population of persons with behavioral health needs involved in the criminal court system;
- The potential for Medicaid-contracted integrated managed care plans and behavioral health organizations to implement behavioral health interventions to reduce the likelihood of arrest for their high-risk enrollees; and
- The urgency to improve outcomes for persons in the Trueblood class who are at risk of involvement in the forensic mental health system.[1]

The original predictive model was developed using a machine-learning methodology applied to risk factors derived from several data sources to predict the target outcome of a referral for competency evaluation within the following six months. Following exploration of model performance in a validation sample, an alternative method was developed for operational use. The alternative approach provides:

- Higher predictive accuracy in validation samples;
- More equitable risk scoring for persons without prior enrollment in medical, food, or cash assistance programs;
- More timely data for operational use; and
- More accurate identity management in a programmatic context where it is highly desirable to avoid "false positives" that might arise through inaccurate linkage of individual-level information from multiple data systems.

In the model currently in place, the DSHS Research and Data Analysis Division (RDA) identifies individuals with two or more competency evaluation orders in the last two years – a population at relatively high risk of future interaction with the criminal court system. Lists of these clients are then matched with contact information to support targeted outreach and engagement in a service model called "Forensic Projects for Assistance in Transition from Homelessness (FPATH)."

[1] In April 2015, a federal court found in the case of Trueblood v DSHS that the Department was taking too long to provide competency evaluation and restoration services. As a result, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days. The Trueblood class includes individuals detained in local jails awaiting competency evaluation or restoration services, and individuals previously receiving competency evaluation and restoration services who are released and at-risk for re-arrest or re-hospitalization.

Under this approach:

- RDA identifies clients at high risk for involvement with the criminal court system and for future forensic competency evaluation referrals;
- RDA creates monthly datasets of names and contact information for these clients, by Managed Care Organization (MCO) and region;
- RDA transfers the datasets to the Health Care Authority (HCA), which then distributes them to MCO and Behavioral Health – Administrative Service Organization (ASO) staff;
- MCOs and ASOs conduct outreach activities and other methods of improving care coordination for these individuals at high risk.

This report will provide a description of the processes currently in place, as well as details about the numbers of clients identified for outreach and a description of how MCOs and ASOs use this information to improve care coordination.

SCOPE AND PURPOSE

ESSB Bill 6032 directed DSHS to develop and implement a predictive modeling tool which identifies persons with behavioral health needs who are at high risk of future involvement with the criminal court system. This report is in accordance with the budget proviso *(ESSB Bill 5693)*:

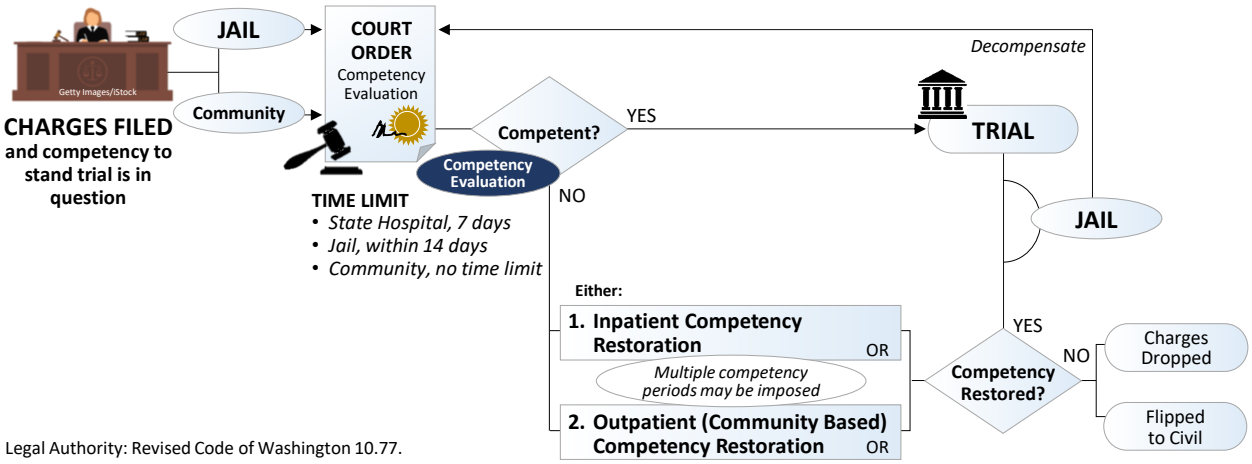
> (i) By the first day of each December during the biennium, the department, in coordination with the health care authority, must submit a report to the office of financial management and the appropriate committees of the legislature which summarizes how the predictive modeling tool has been implemented and includes the following: (A) The numbers of individuals identified by the tool as having a high risk of future criminal justice involvement; (B) the method and frequency for which the department is providing lists of high-risk clients to contracted managed care organizations and behavioral health administrative services organizations; (C) a summary of how the managed care organizations and behavioral health administrative services organizations are utilizing the data to improve the coordination of care for the identified individuals; and (D) a summary of the administrative data to identify whether implementation of the tool is resulting in increased access and service levels and lower recidivism rates for high-risk clients at the state and regional level.

The first section of this report provides an introduction to the Forensic PATH program, and background on the development and refinement of the predictive modeling tool. The following section provides information about numbers of clients identified and related administrative data. The closing section describes the methods of providing information to MCOs and ASOs, and how those organizations use the information.

BACKGROUND

The forensic mental health system operates at the intersection of the legal and behavioral health care systems, providing competency evaluation services when a court believes a mental health condition may prevent a criminal defendant from assisting in their own defense, and treatment for restoration when the evaluation finds the defendant is not competent. The court will then order the individual to receive competency restoration services. Figure 1 provides a high-level overview of the operation of the forensic mental health system.

FIGURE 1.
Competency Evaluation/Restoration Pathway



Legal Authority: Revised Code of Washington 10.77.

The Trueblood v. DSHS lawsuit challenged unconstitutional delays in competency evaluation and restoration services for people detained in city and county jails. The Trueblood Contempt Settlement Agreement establishes a plan for providing services to those involved in the criminal court system and for providing treatment to people when needed so they are less likely to become involved in the criminal court system.

Forensic Projects for Assistance in Transition from Homelessness (FPATH)

As part of the Trueblood Settlement of Contempt Agreement, the state is funding targeted outreach and engagement to connect identified individuals with behavioral health services using a federal model called Projects for Assistance in Transitions from Homelessness. In the Agreement, this program is called Intensive Case Management for High Utilizers. HCA, in partnership with DSHS' RDA, created a referral list to identify individuals who are at risk of repeat court orders for competency evaluations. RDA identified individuals with two or more competency evaluation orders in the last two years who are at higher risk of future intersection with the criminal court system. FPATH is focusing outreach and engagement efforts to individuals on that list who are predominately homeless or have had multiple competency evaluations.

FPATH teams, within community behavioral health agencies, include certified peer counselors who have experience working with individuals who may be experiencing homelessness or housing instability combined with multiple competency evaluation orders within the last two

years. FPATH teams assertively seek to engage people to help them connect with community supports including housing, transportation, health care, and behavioral health services. People court-ordered for forensic navigator or outpatient competency restoration services may also use FPATH for case management services if they appear on the referral list created by RDA.

Current Status and Areas of Positive Impact

FPATH teams have been providing targeted outreach and engagement to people identified on the referral list since March 2020. Using a model similar to the federal PATH program, teams have been reaching out to eligible individuals with an emphasis on homeless or unstably housed individuals. The goal is to connect people with community resources and services by building relationships and rapport. While most eligible individuals are homeless or unstably housed, some are not. In all instances, teams seek out to engage the individual "where they are at."

FPATH teams are located within community behavioral health agencies with experience providing outreach and engagement services, which allows for warm handoffs to other needed services. This includes services from certified peer counselors who have experience working with individuals involved in the forensic mental health system experiencing homelessness or housing instability.

Teams prioritize outreach and engagement efforts to individuals prioritized by the following criteria: individuals living in rural areas, individuals who have had four or more referrals for competency evaluation in the past 24 months regardless of housing status, and/or individuals experiencing homelessness. The intent behind prioritization is to assist in connecting those most at risk of additional referrals for competency evaluations to services in hopes of diverting them away from further court involvement.

Data – Crisis Triage and Diversion – FPATH

FPATH data in the current report are from the Homeless Management Information System, as well as monthly Excel trackers submitted by FPATH providers in the Phase 1 regions. Program eligibility is based on a referral list (formerly the "high utilizer list") of individuals with two or more competency evaluation referrals in the past 24 months.

The FPATH program began March 1, 2020 in Phase 1 regions, and April 1, 2022 in the Phase 2 region. Between March 1, 2020 and June 30, 2022, 1,770 people were referred to the program across all regions. HCA has asked providers to focus outreach efforts on a subset of these people based on housing status (prioritizing unstably housed and homeless), number of referrals (four or more in the past 24 months), and county of residence (prioritizing rural counties). The number of people in the prioritized group was 844.

Of all people on the referral list, FPATH providers attempted to contact 875 (49 percent), and successfully contacted 520 (29 percent). As of June 30, 2022, a total of 299 people (17 percent of overall referrals) were enrolled in the FPATH program. Of these, the majority were male (77 percent) and between 30 and 49 years old (58 percent). More than half of enrollees (66

percent) were homeless, while 21 percent were unstably housed, indicating that providers were focused on enrolling those in the priority population.

PREDICTIVE MODEL DEVELOPMENT

ESSB 6032 directed the DSHS to develop and implement a predictive modeling tool to identify persons with behavioral health needs who are at high risk of future involvement with the criminal court system. In response to this directive, a predictive modeling tool was developed, as described in the legislative report submitted in 2018. With consultation with legislative staff, the target population for the predictive model was focused on referrals for competency evaluation, to align with the Trueblood objectives. Among the key lessons learned and included in the legislative report:

- "Prior experiences in the forensic mental health system are by far the most important information in predicting future competency evaluation referrals."
- "Rapid-cycle linkage of managed care enrollment with data from the recently implemented Forensic Data System (FDS) offers the most timely opportunity for identifying enrolled Medicaid beneficiaries who are at high risk of a future competency evaluation referral."
- "We dropped arrest history, adjudication history, and behavioral health diagnosis variables from our final model due to data timeliness limitations in an operational context, with minimal loss of predictive accuracy in the validation sample."

Subsequent analysis of the validation sample developed for the legislative report (described further below) led RDA to make the following recommendations for operationalizing client lists to support the Forensic PATH program:

- Target the Forensic PATH program to persons with two or more prior competency evaluation referrals in the past 24 months.
- Use rapid-cycle linkage of FDS data, ACES social service data, and ProviderOne Medicaid eligibility, managed care enrollment, and behavioral health data to identify the target population, measure risk factors, and create client lists to be updated on a monthly basis.
- Create distinct client lists for different user groups and populations to align with privacy requirements and care management responsibilities (e.g., separate lists for Medicaid MCOs, ASOs, state agency staff, and Forensic PATH program staff).
- To support triage, outreach/engagement, and intervention planning, supplement client lists with client-level risk factors including homelessness, prior psychiatric hospitalization, and volume/result of prior evaluation/restoration referrals.

The advantages of the proposed approach include:

- Higher predictive accuracy in validation samples relative to the original model;

- More equitable risk scoring for persons without prior enrollment in medical, food, or cash assistance programs;
- More timely data for operational use; and
- More accurate identity management (in a programmatic context where it is highly desirable to avoid "false positives") by providing a far more focused set of cases where manual identity linkage is required.

These recommendations were presented to Plaintiff's Counsel and the Court Monitor involved in Trueblood litigation in January 2020, with consensus support for proceeding in the proposed direction.

VALIDATION SAMPLE ANALYSIS

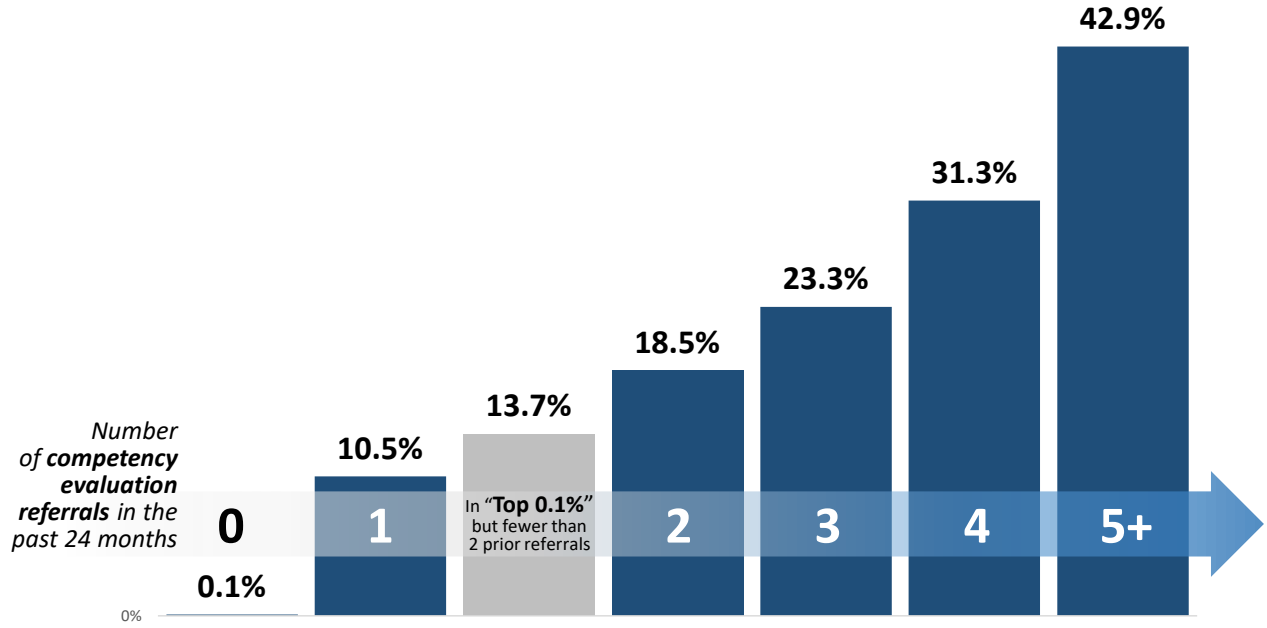
Figure 2 illustrates the efficacy of the implemented approach, relative to the results of the original predictive model, in the validation sample developed for the predictive modeling reflected in the 2018 legislative report. The implemented approach targets the population with 2+ referrals for eligibility for Forensic PATH program services. As shown in the figure below, the population receiving a high risk score via the original predictive model (defined as those in the top 0.1% of the risk pool) who do not meet the 2+ referral criterion have a significantly lower rate of subsequent occurrence of the target outcome (a competency evaluation referral within the next 6 months), relative to persons meeting the 2+ referral criterion.

In part this is an illustration of the overwhelming importance of historical referral patterns in the original predictive model. Most clients scored in the top 0.1% based on the original predictive model did have two or more competency evaluation referrals in the prior 24 months. But among those who did not meet this criterion, observed rates of the target outcome in the validation sample were relatively low. This observation, along with the significant operational considerations previously noted (timeliness of data, identity management implications, equity for persons not connected to public assistance programs), formed the rationale for RDA's proposed (and subsequently implemented) approach.

FIGURE 2.

Assessing Predictive Accuracy: Proportion with an Evaluation Referral in the Following 6 Months, by Number of Previous Referrals

Supplemental analysis of proviso report validation sample data



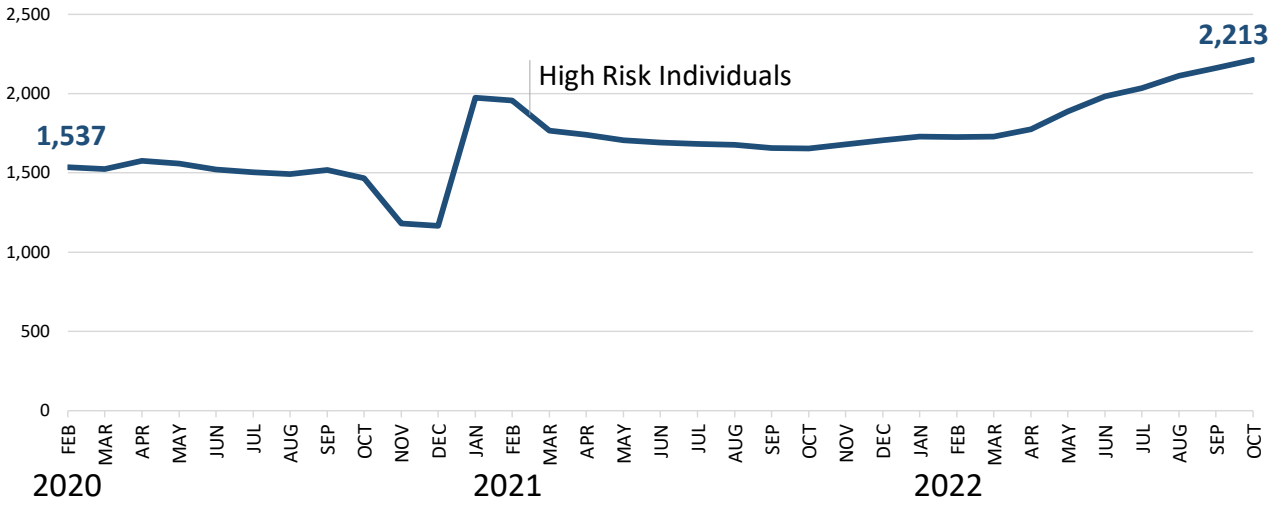
SOURCE: DSHS Research and Data Analysis Division.

THE NUMBER OF INDIVIDUALS IDENTIFIED FOR THE REFERRAL LIST

Figure 3 shows the trend in the statewide aggregate referral list size. The list was originally restricted to persons with recent participation in food, cash, or medical assistance. The increase in January 2021 reflects the removal of this restriction.

FIGURE 3.

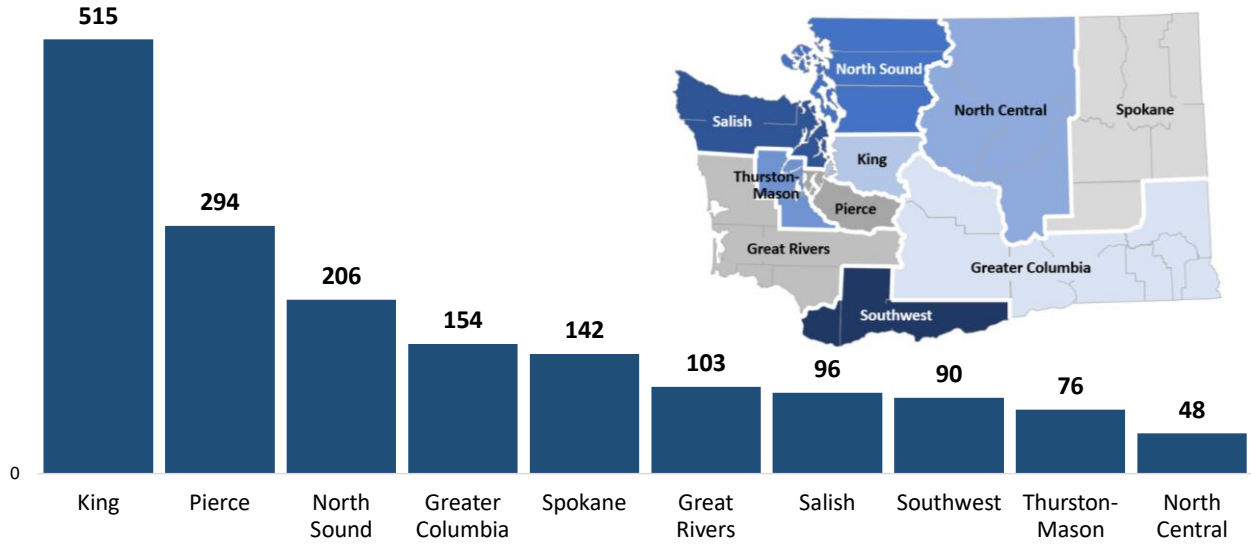
Statewide Monthly Trend in Individuals at High Risk



SOURCE: DSHS Research and Data Analysis Division.

Figure 4 provides the distribution of the January 2022 referral list by Apple Health region, excluding four persons for whom region could not be assigned. King County represents 30 percent of the statewide target population.

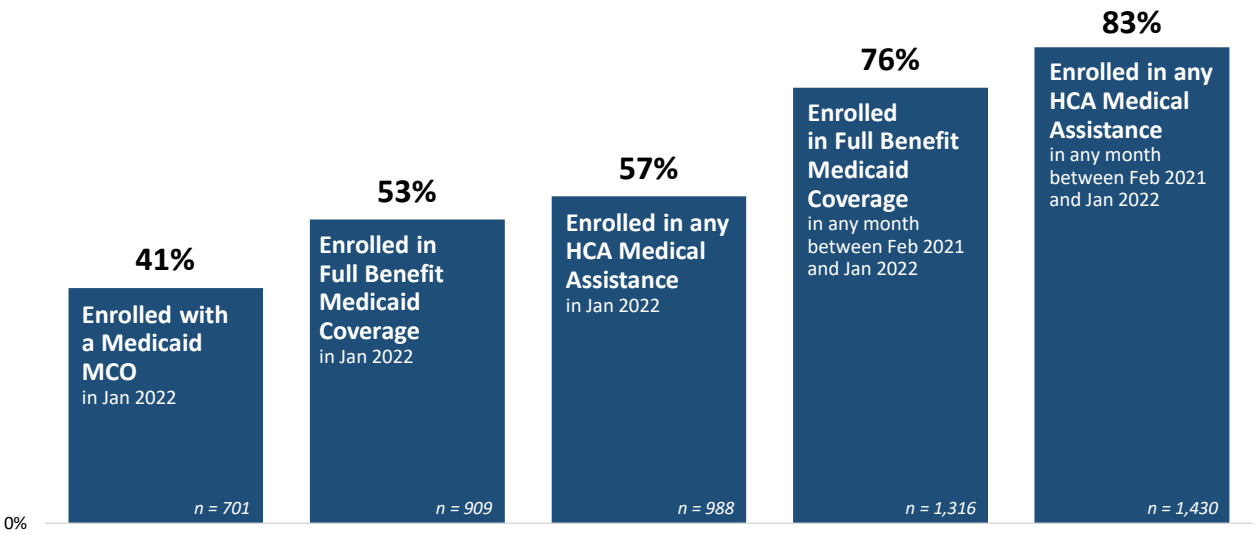
FIGURE 4.
High-Risk Population by Apple Health Region
January 2022, Total = 1,728



SOURCE: DSHS Research and Data Analysis Division.

Figure 5 provides information about the medical coverage status of the January 2022 referral list in that month (first three columns) or over the 12-month period ending in January 2022. This figure is discussed further below.

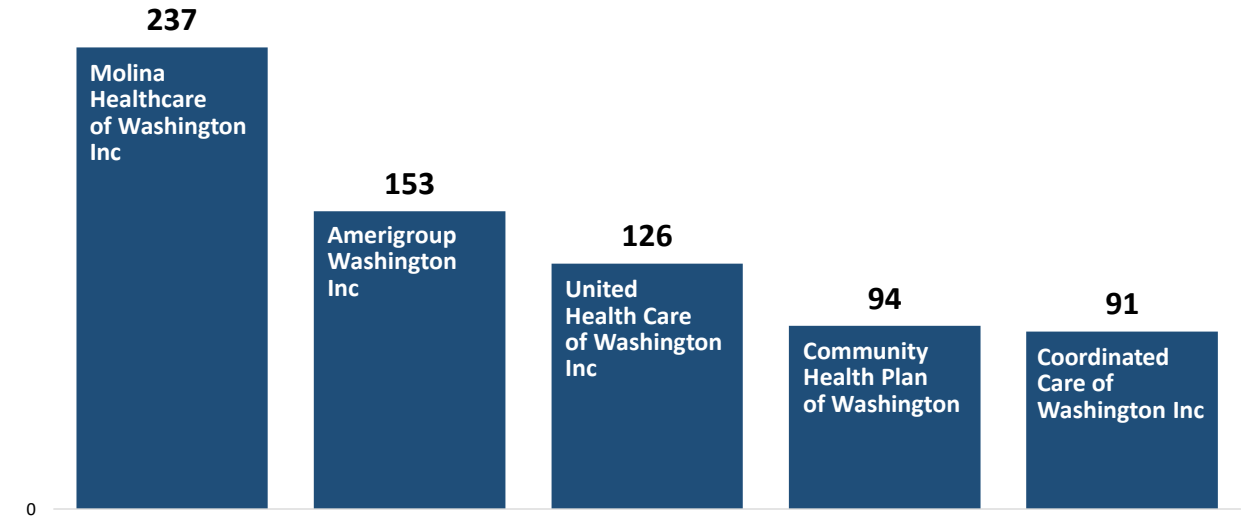
FIGURE 5.
High-Risk Population by Coverage Status
January 2022, Total = 1,728



SOURCE: DSHS Research and Data Analysis Division.

Figure 6 shows the distribution of the MCO-enrolled January 2022 referral list by organization. At 34 percent, Molina Healthcare of Washington had the largest share of Medicaid beneficiaries on the January 2022 referral list.

FIGURE 6.
Forensic PATH Referral List by Plan
January 2022, Total = 701



SOURCE: DSHS Research and Data Analysis Division.

In conclusion, we highlight the following observations derived from Figure 5:

- A far higher proportion of this target population is enrolled in FFS coverage than the broader Medicaid population. For example, about a third of the population with full benefit Medicaid coverage on the January 2022 list were enrolled in fee-for-service coverage.

- There is significant Medicaid coverage churn in this population, likely driven by relatively high rates of incarceration and homelessness. For example, among persons on the January 2022 list, 53 percent had full benefit Medicaid coverage in that month, while 76 percent had full benefit Medicaid coverage at some time over the 12-month period spanning February 2021 through January 2022.

Analysis of Impacts on Access to Services and Recidivism

The budget proviso asks the Department to provide "a summary of the administrative data to identify whether implementation of the tool is resulting in increased access and service levels and lower recidivism rates for high-risk clients at the state and regional level." Data are not sufficiently mature to evaluate impacts in the context of Forensic PATH program operations, but an evaluation design and timeline have been developed and shared with the Trueblood Plaintiff's Counsel and Court Monitor as part of the State's Trueblood Settlement Agreement activities. In this section we describe the planned evaluation approach and timeline, along with potential measurement challenges.

The ability to evaluate a specific Trueblood program component such as the Forensic PATH program, and evaluation design options, will depend on factors including:

- Availability of encounter (or similar) data identifying when clients engage in services,
- A sufficient number of persons served by the program component to detect likely effect sizes, and
- The extent of overlap with services provided through other Settlement Agreement components.
- The extent to which the FPATH target population in regions not yet implementing Trueblood programs was targeted for intervention by MCOs and ASOs, vitiating the "natural experiment" of phased Trueblood program implementation.

The target population for the Forensic PATH program is defined through processes maintained by RDA, with target populations generated monthly on a statewide basis for all regions. This data resource could support an intent-to-treat, difference-of-difference evaluation design based on the populations identified in the monthly lists, assuming that the rate of engagement in Forensic PATH program services is relatively high. An intent-to-treat approach is desirable because it would help mitigate the threat that selection bias poses to measurement validity (discussed further below). To date, engagement has been relatively modest due to the relatively high number of eligible clients, and the challenges associated with building provider capacity and engaging a population with high rates of homelessness and co-occurring serious mental illness and substance use disorders. With currently observed engagement rates, an intent-to-treat approach would likely wash out any effect of the Forensic PATH program on "treated" beneficiaries, by including their experience with the larger number of untreated persons in the target population.

Given currently observed engagement rates, we might consider a propensity score matching approach to identify an untreated comparison group whose experiences will be contrasted with the experiences of persons engaging in the program. This simulates the treatment/control

structure of a clinical trial. The comparison group would be defined through a matching process comprised of the following steps:

- Comparison frames for matching would be identified by criteria that align with the program targeting criteria outside of the Phase 1 regions. This initial stage of the process identifies all person-months for persons not engaging in the Forensic PATH program where the person meets the targeted risk criteria in the relevant time period. The comparison matching frame may exclude non-participants from the Phase 1 regions meeting program targeting criteria to help mitigate the impact of selection bias (see internal validity discussion below).
- Key predictors of engagement within the pooled intervention and comparison matching frame would be examined to ensure inclusion of appropriate measurement dimensions in the propensity score model. This includes creating an extensive set of "engagement predictors" that are determined, ex ante, to be potentially relevant to the matching process. This set of predictors is expected to span a wide range of the measurement domains contained within RDA's integrated client data environment.
- Application of machine-learning techniques (e.g., stepwise logistic or lasso regression) to determine the final propensity score model. Propensity score matching will be conducted using procedures in the R programming language. Exact matching may be required for key variables (e.g., race, gender, prior evaluation referral count).

Impact analyses generally would be conducted using a difference-of-difference design, where the pre-to-post change in experiences for treatment group members will be compared against the pre-to-post change experienced by the matched comparison group. For analyses using a difference-of-difference design, the pre-post boundary for the treatment group will be based on the point at which they engage in the Forensic PATH program. The pre-post boundary for the comparison group would be defined through the matching process, which uses a person-month matching frame for matching against the "person-months" associated with entry into the intervention by the treatment group. This approach leverages the richness of RDA's integrated analytical data infrastructure, which supports data management techniques that scan all relevant persons at all relevant points in time when they might be a "best" match to a person at the time they entered the specific intervention under study.

Analyses will likely focus on the following outcome areas:

- Arrests,
- Subsequent referrals for competency evaluation,
- Changes in housing status (e.g., becoming stably housed),
- Enrollment in Medicaid, and
- Use of Medicaid-funded mental health or SUD treatment services.

Assessment of Data Limitations and Threats to Validity

In the context of quasi-experimental evaluation of programs such as Forensic PATH, in the absence of randomized design for program implementation the key potential threat to the

validity of measured impacts is selection bias. Selection bias refers to uncontrolled differences between treatment and comparison group members that account for observed differences in outcomes between the two groups. Although propensity score matching (often combined with second-stage regression adjustment) is recognized as a valid evaluation design and frequently accepted in the peer-reviewed literature, this approach may not fully mitigate the threat of selection bias. It would be critical to understand the processes associated with engagement in Forensic PATH services and to use this knowledge to define a credible "matching frame" and set of engagement predictors in creating the matched comparison group. The richness of the administrative data available to the RDA evaluation team would help reduce the threat of selection bias to the validity of measured impacts.

MCO AND ASO ACTIVITIES

The Health Care Authority requires both the Managed Care Organizations (MCOs) and Behavioral Health Administrative Service Organizations (ASOs) to engage in care coordination for high-risk clients, including those involved with the forensic system. To support those efforts, HCA has provided lists of FPATH-eligible clients to MCOs, ASOs, and the FPATH providers, including information on clients in highest need of outreach and assistance.

Managed Care Organizations

The Health Care Authority contracts with five MCOs across the State of Washington. MCO contracts include language requiring them to develop and implement plans for improving access to timely and appropriate treatment for individuals with behavioral health needs and current or prior criminal justice involvement.[2] MCOs are also able to work with jail release planners on an individual's release plan, helping to ensure that they have access to as many resources as possible at time of release.

Behavioral Health Administrative Service Organizations

The Health Care Authority contracts with eight Behavioral Health Administrative Service Organizations in ten regions across the State of Washington. ASOs may provide the following services to individuals who are not eligible for Apple Health:[3]

- Mental health evaluation and treatment services for individuals involuntarily detained or who agree to a voluntary commitment.
- Residential SUD treatment services for individuals involuntarily detained as described in state law.
- Outpatient behavioral treatment services, in accordance with a Less Restrictive Alternative court order.
- Within available resources, the ASO may provide non-crisis behavioral health services, such as outpatient SUD and/or mental health services, or residential SUD and/or mental

[2] See Appendix 1 for excerpts from the Apple Health Integrated Managed Care contract related to clients involved in the criminal justice system. Found at https://www.hca.wa.gov/assets/billers-and-providers/ahimc-medicaid.pdf.
[3] HCA fact sheet found at https://www.hca.wa.gov/assets/program/bhaso-fact-sheet.pdf.

health services to low-income individuals not eligible for Apple Health and who meet other eligibility criteria.

Collaborative Activities

HCA FPATH staff holds regular regional calls to facilitate care coordination. Most regions use these calls to share best practices and information about programs and services. Because of its unique role as both ASO and network contractor, King County supports regular calls with each MCO separately in order to solve problems around outreach and care coordination for individual clients.

Misdemeanor diversion funds within the HCA budget have been leveraged to resource ASOs to provide outpatient treatment services for non-Medicaid individuals on the FPATH referral list, in outpatient competency restoration, or with other criminal court involvement. These limited resources were distributed statewide and distributed based on the number of non-Medicaid enrolled individuals with multiple competency evaluation orders. HCA requires both the MCOs and ASOs to submit reports on the number of clients served with Misdemeanor Diversion Funds, which includes services provided to FPATH-eligible clients. In future reports, findings from these reports will be summarized

DISCUSSION

RDA and HCA have partnered on sharing lists of potential FPATH participants who are at high risk of a subsequent competency evaluation referral. Important observations from the initial use of these lists by MCOs and ASOs include:

- MCOs and ASOs have been actively using these lists to improve internal and external referrals for care coordination;
- The clients identified by this process are extremely difficult to locate, and when reached, are reluctant to engage with an unknown care coordinator.

The data shared above also highlight the importance of coordinating across service delivery systems. First, because of the large proportion of fee-for-service clients, the ASOs have a major role in helping to locate those who use the crisis system, to make new resources available to those clients, to reestablish eligibility, and to make connections back to providers and MCOs where possible. Second, regional meetings have supported new cross-sector connections for education, coordination, and maximizing local resources that support clients at high risk.

APPENDIX 1

MCO and ASO Requirements Related to Criminal Justice

Examples of specific contract requirements from the Apple Health Integrated Managed Care contract:[4]

- 14.1.7 The Contractor shall provide for the smooth transition of care for Enrollees who lose Medicaid eligibility while hospitalized in behavioral health inpatient or residential treatment facilities or while incarcerated or in homeless shelters. The Contractor shall include protocols for coordination with the ASO to facilitate referral for state funded or federal block grant services, when such funds are available, in order to maintain Continuity of Care.
- 14.6.15 The Contractor will provide Care Coordination to Enrollees who are named on the HCA Referral List, also known as the "high utilizer list," in the Trueblood, et al., v. Department of Social and Health Services Settlement Agreement. HCA will provide the HCA Referral List to the Contractor monthly. The Contractor will support connecting Enrollees with behavioral health needs and current or prior criminal justice involvement to receive Care Coordination.
- 14.21 Transitional Planning for Incarcerated Enrollees. For the purposes of this subsection, "correctional facility" includes city and county jails, Department of Corrections (DOC) facilities, and Juvenile Rehabilitation facilities.
  - 14.21.1 The Contractor shall coordinate care for Enrollees as they transition into a correctional facility or upon release from a correctional facility. The Contractor shall initiate development of and make progress toward obtaining data sharing agreements with correctional facilities to enable the Contractor and these facilities to share health information about the Enrollees. Transitional care coordination shall be provided for up to the first thirty (30) calendar days of incarceration or as needed and upon the Enrollee's release, including honoring another MCOs prior authorization for admission to SUD residential facility.

ASO contract requirements excerpt:[5]

- 14.1.2 The Contractor will provide Care Coordination to Individuals who are named on the HCA Referral List, also known as the "high utilizer list," in the Trueblood, et al., v. Department of Social and Health Services Settlement Agreement. HCA will provide the HCA Referral List to the Contractor monthly. The Contractor will support connecting Individuals with behavioral health needs and current or prior criminal justice involvement receive Care Coordination.
- 14.1.3 The Contractor will report semi-annually, using the Semi-Annual Trueblood Misdemeanor Diversion Fund Report template. Reports must be submitted to HCA by

[4] https://www.hca.wa.gov/assets/billers-and-providers/ahimc-medicaid.pdf.
[5] Found at Behavioral health-administrative services organization contract (wa.gov).

January 31, for the reporting period of July through December of the previous year, and by July 31, for the reporting period of January through June of the current year.