CRIMINAL JUSTICE POLICY & PLANNING DIVISION:
REVIEW OF RECENT RESEARCH

MARCH 30, 2023

2023 Correctional Population Projection
2023 Recidivism Analysis: 2019 Release Cohort

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Office of Policy and Management

Today's report includes two sections:

I. 2023 Correctional Population Projection

II. 2023 Recidivism Analysis: 2019 release cohort

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I. 2023 Correctional Population Projection

OPM's approach to developing the *2023-24 Annual Forecast*

1. Hold preliminary discussions with DOC staff to inform our expectations for 2023 and 2024

2. Build upon insights from prior *Annual Forecast* development and performance

3. Employ multiple forecast methodologies

4. Assess range of forecast estimates

5. Develop composite forecast interpreting results across forecast methods

Revisiting the *2022 Correctional Population Projection*

- OPM reviewed the year-end performance of its 2022-23 forecast, a key step in OPM CJPPD's annual projection process.

- OPM also reviewed long-term correction trends and the COVID 19 pandemic's continued effect on population changes.

CRIMINAL JUSTICE POLICY & PLANNING DIVISION   FEBRUARY 2022

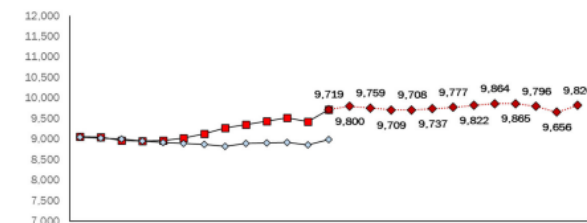## BRIEF: CORRECTIONAL POPULATION
2022-23 Projection

Forecasting the Correctional Facility Population

Each February, the Office of Policy and Management Criminal Justice Policy & Planning Division (OPM CJPPD) forecasts the state's prison population over the subsequent 12 months. OPM CJPPD began forecasting the DOC facility population in 2007, with OPM's methodology evolving over time. In recent years, OPM CJPPD's forecast relied on 1) an analysis of prison-population trend data 2) the use of an input-output model to track operational flows and rates of change in the size and composition of the prison population, and 3) assessments of the impact of proposed legislative and policy changes. In all cases, historical performance underpins OPM's analysis.

Between 2007 and 2020, Connecticut's correctional facility population closely followed a linear, downward trend with modest seasonal variation. OPM CJPPD's February projections over these years predicted the correctional facility population twelve-months ahead within five percent of actual counts. Following the 2020 onset of the COVID-19 pandemic, however, population trends shifted sharply and have since limited the precision of OPM's forecast. By February 2021, the first year of the pandemic, the correctional population contracted 27 percent compared to the 4.4 percent contraction OPM CJPPD anticipated. For February 2022, OPM CJPPD forecast a-less-than-one-percent decline, while the correctional population instead grew by 7.2 percent.

With changing trends and continued pandemic uncertainty to begin the year, OPM CJPPD expanded upon its forecasting approach to develop the 2022-2023 projection. OPM CJPPD utilized a traditional approach in combination with a mix of forecast methods, in an effort to robustly consider recent population changes and long-term historic trends. **Figure 1** presents OPM CJPPD's forecast for 2022-2023, a composite that concentrates results from the mix of projection approaches.

This brief was produced by the Research Unit in the Criminal Justice Policy & Planning Division at:

The Connecticut Office of Policy and Management
450 Capitol Avenue
Hartford CT, 06106

The **full version of this report** will be presented to the Criminal Justice Policy Advisory Commission in March 2022.

This report and others are available for download on the OPM CJPPD website: https://portal.ct.gov/OPM/CJ-About/CJ-SAC/SAC-Sites/SAC-Homepage. Please submit questions and comments to:

OPM CJPPD Research Unit
CJPPDResearch.OPM@ct.gov

Figure 1: Connecticut correctional facility population, actual and projected: February 2021 to February 2023

On February 1, the correction population stood at 10,046, 2% higher than OPM's *2022 Correctional Population Projection*.

- On February 1, 2020, DOC facilities held over 12,000 people. Despite growth following a steep pandemic decline, the February 1, 2023 count remained nearly 20% below the pre-pandemic level.

- Although the facility population continued to rise through much of 2022, the February 1, 2023 count varied only modestly from OPM's *2022 Annual Forecast*.

- For comparison, DOC pretrial population growth drove the population to an **8%** variation from the *2021 Annual Forecast*
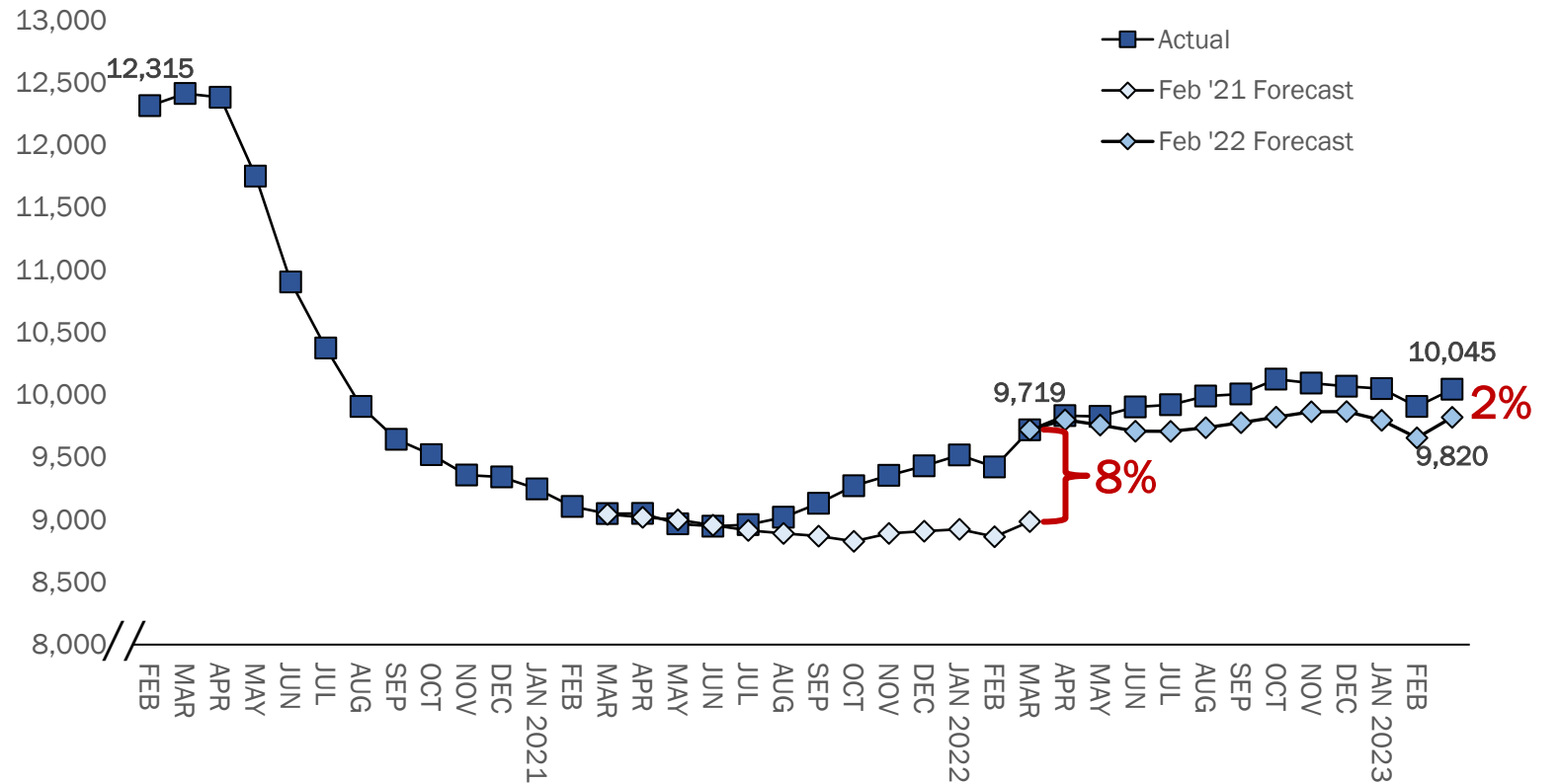
OPM's 2022 projection was within 5 points of the actual population, a contrast with the two previous, more pandemic-impacted years.

**Variance between First-of-the-month DOC Population Counts and OPM Forecast Estimates**
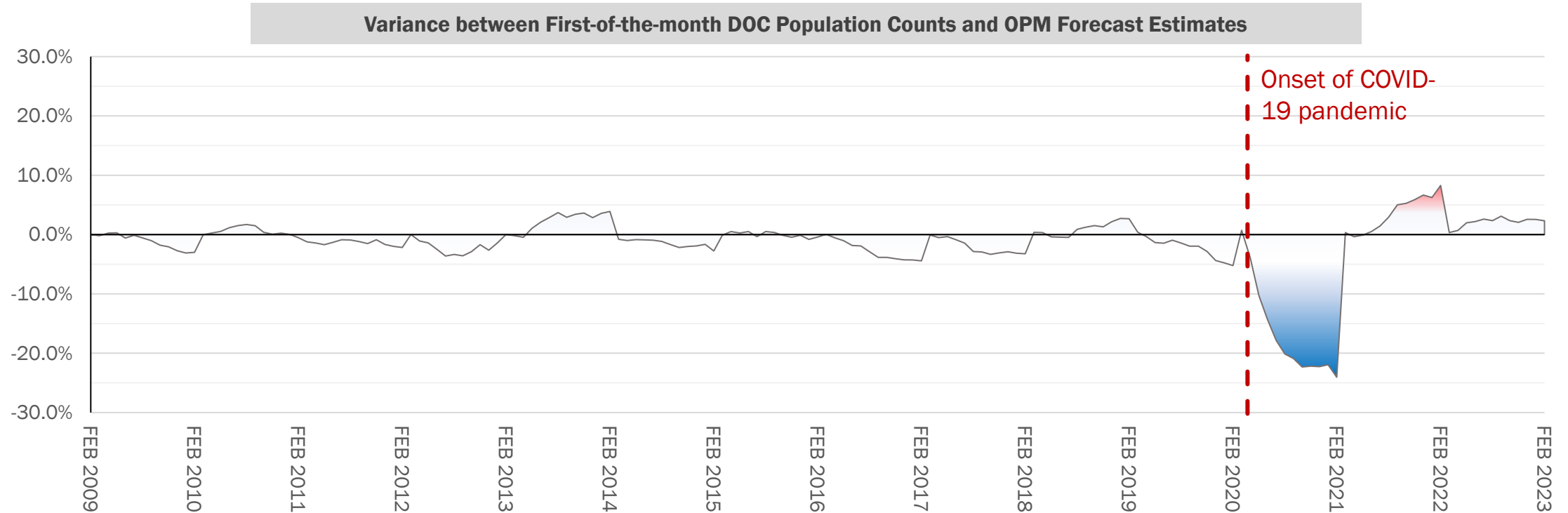
- Most years, including the 2022 Forecast, the variances from OPM's forecasted population to the actual population range within 5% at the February end-of-reporting cycle.

- Only twice has the correction count varied from OPM's projections by more than 5% at the end of the reporting cycle: the prior pandemic-era Februarys, 2021 and 2022.

COVID-19 pandemic's disruption of long-term population trends

- The pandemic's onset drastically shifted correction population trends between March 2020 and February 2021, after which we anticipated a gradual regression to the mean.

- Previously, in developing the 2021 Annual Forecast, OPM needed to anticipate whether and how quickly the correctional population might return to the historic, long-term trend in years ahead.
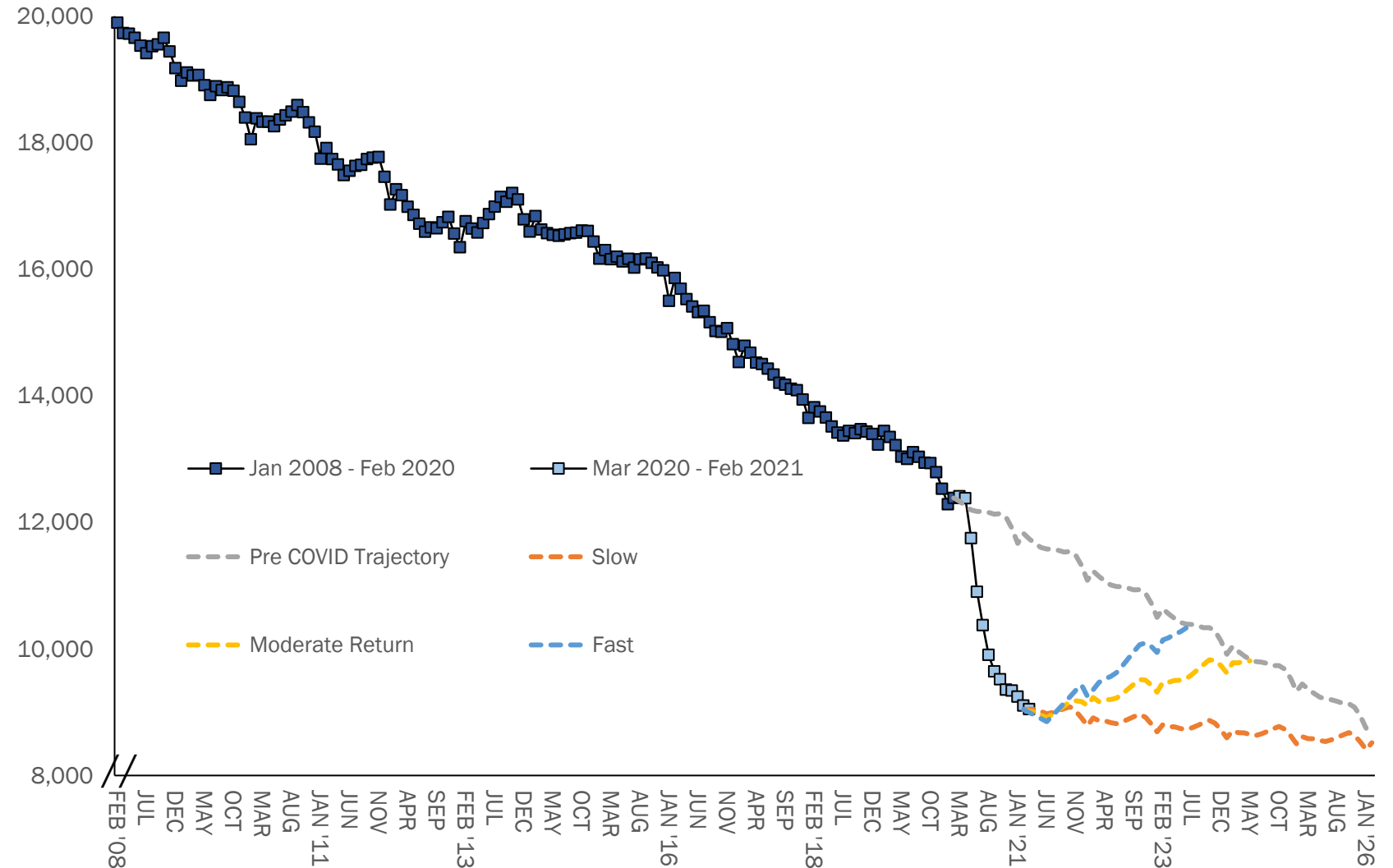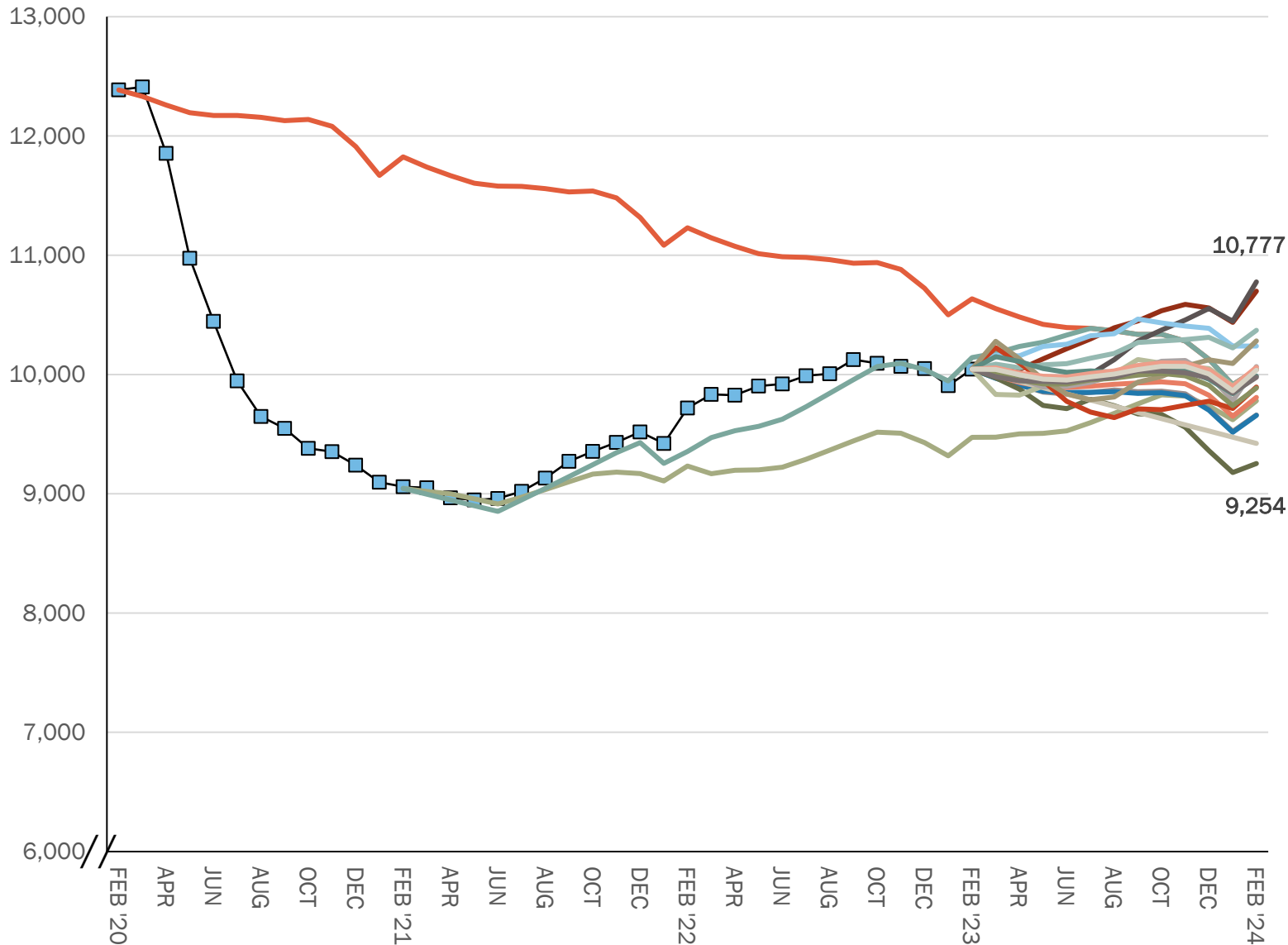
Comparing OPM's *2021 Annual Forecast* approach against actual population changes through February 2023
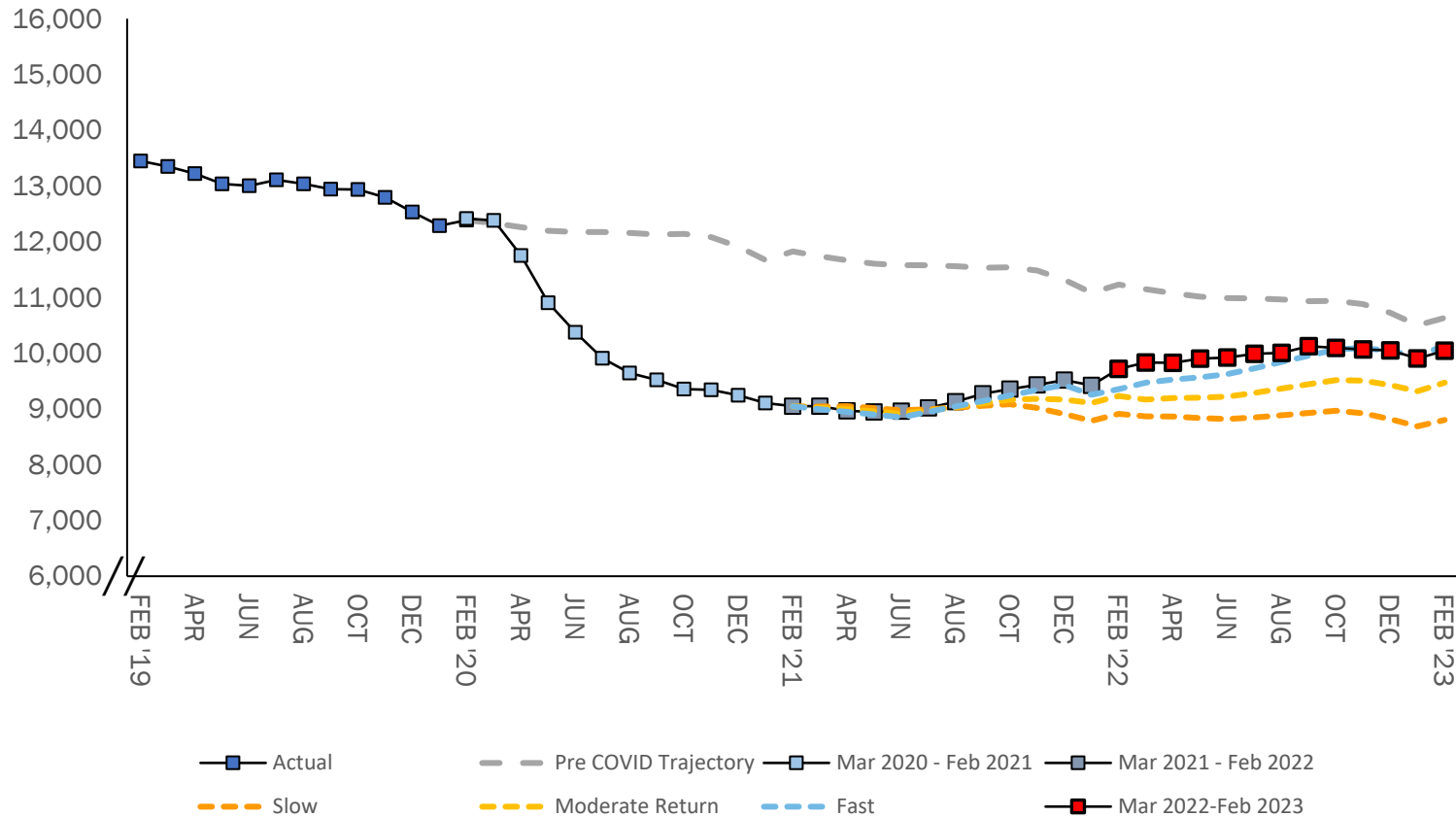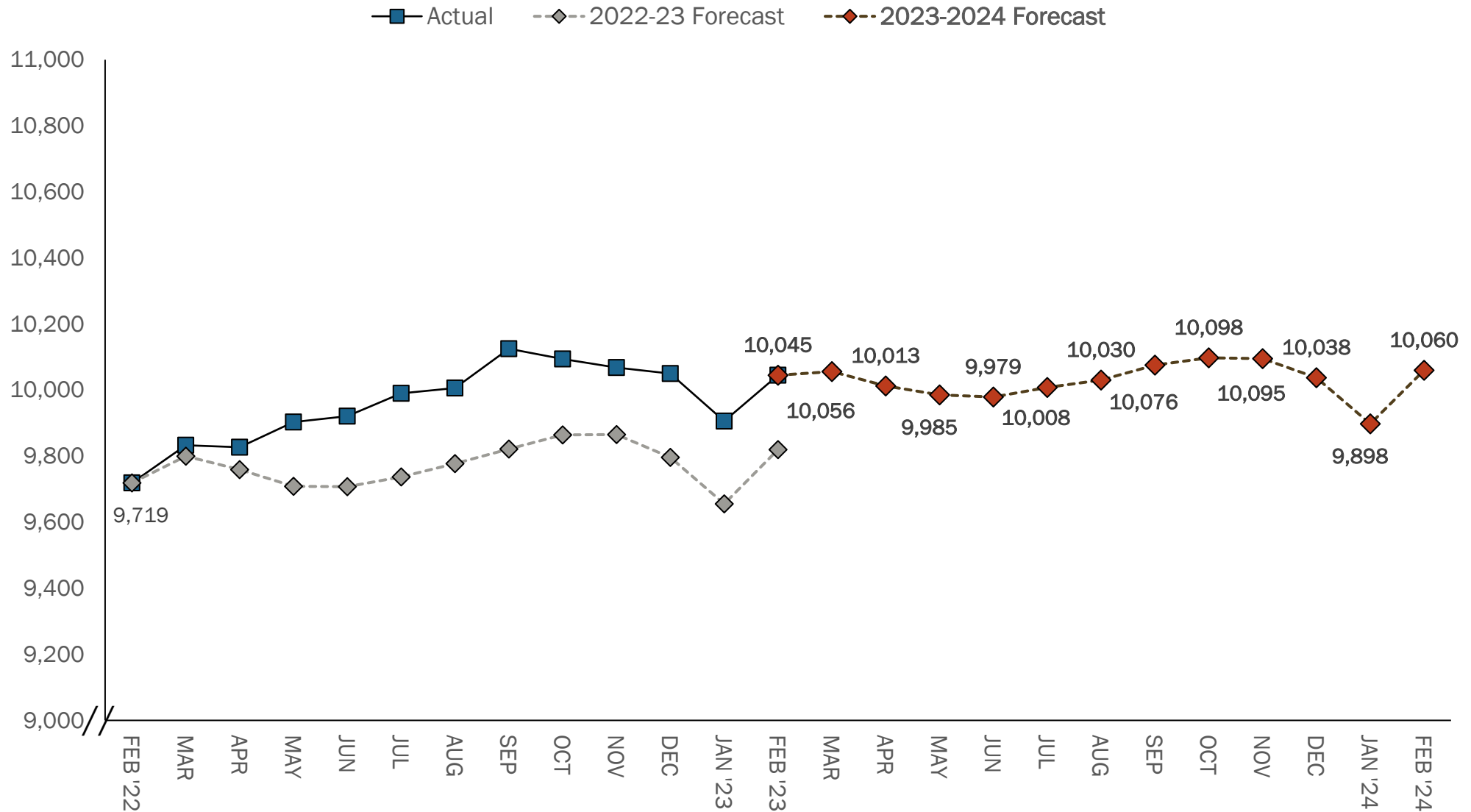

- The population changes between March 2021 and February 2022 exceeded the *fast-return* trajectory, developed during OPM's *2021 Annual Forecast.*

- Trends through September 2022 continued to exceed that *fast* trajectory, before mirroring that projection into 2023.

Legend: Actual | Pre COVID Trajectory | Mar 2020 - Feb 2021 | Mar 2021 - Feb 2022 | Slow | Moderate Return | Fast | Mar 2022-Feb 2023

Resulting range of 2022-23 forecast point estimates

- For 2023's forecast, OPM CJPPD again utilized 20 different forecasts representing a variety of methods, including:
  - Benchmark methods
  - OPM's input-output methodology
  - ARIMA
  - ETS

- Included a mix of forecasts utilizing pre-COVID trends only and forecasts built with post-pandemic data.

- Resulting composite forecast then creates a weighted average across these methods that factors in historic forecast performance.

The *2023 Annual Forecast of the Correction Population*

Legend: Actual · 2022-23 Forecast · 2023-2024 Forecast

Data labels: 9,719 · 10,045 · 10,056 · 10,013 · 9,985 · 9,979 · 10,008 · 10,030 · 10,076 · 10,098 · 10,095 · 10,038 · 9,898 · 10,060

X-axis: FEB '22, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, JAN '23, FEB '23, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, JAN '24, FEB '24

**Today's report includes two sections:**

II. 2023 Recidivism Analysis: 2019 Cohort

For 2023, OPM examined the 2019 release cohort's recidivism trends over 36 months along with the prior years' cohorts.

- Study population: **sentenced individuals released or discharged** into the community from a correctional facility in calendar years 2015, 2017, 2018, and 2019.
  - **New for 2023:** All cohorts now **include** people released with DOC status code of *X* on special parole.
- **New for 2023: Four** recidivism measures shown
  - First rearrest following release or discharge (2018 & 2019 cohorts)
  - First return, for any reason, to a Connecticut DOC facility (2015, 2017, 2018 & 2019 cohorts)
  - First conviction following release or discharge (2018 & 2019 cohorts)
  - First new incarceration sentence (2017, 2018 & 2019 cohorts)
- Our analysis of recidivism by key characteristics uses **returns to prison for any reason**, due to its availability across all four study cohorts.

	Year		Change (2015 to 2019)
	2015	2019	%
DOC Population on July 1st	16,025	13,107	-18.2%

Release/Discharged Study Population			
Sentenced	11,332	9,120	-19.5%
Male	10,038	8,011	-20.2%
Female	1,294	1,109	-14.3%
Under the age of 25	2,214	1,299	-41.3%

The 2019 release cohort's cumulative recidivism rate has fallen compared to prior cohorts across each of the four measures.

Source: OPM CJPPD analysis of Department of Correction & Connecticut Judicial Branch data
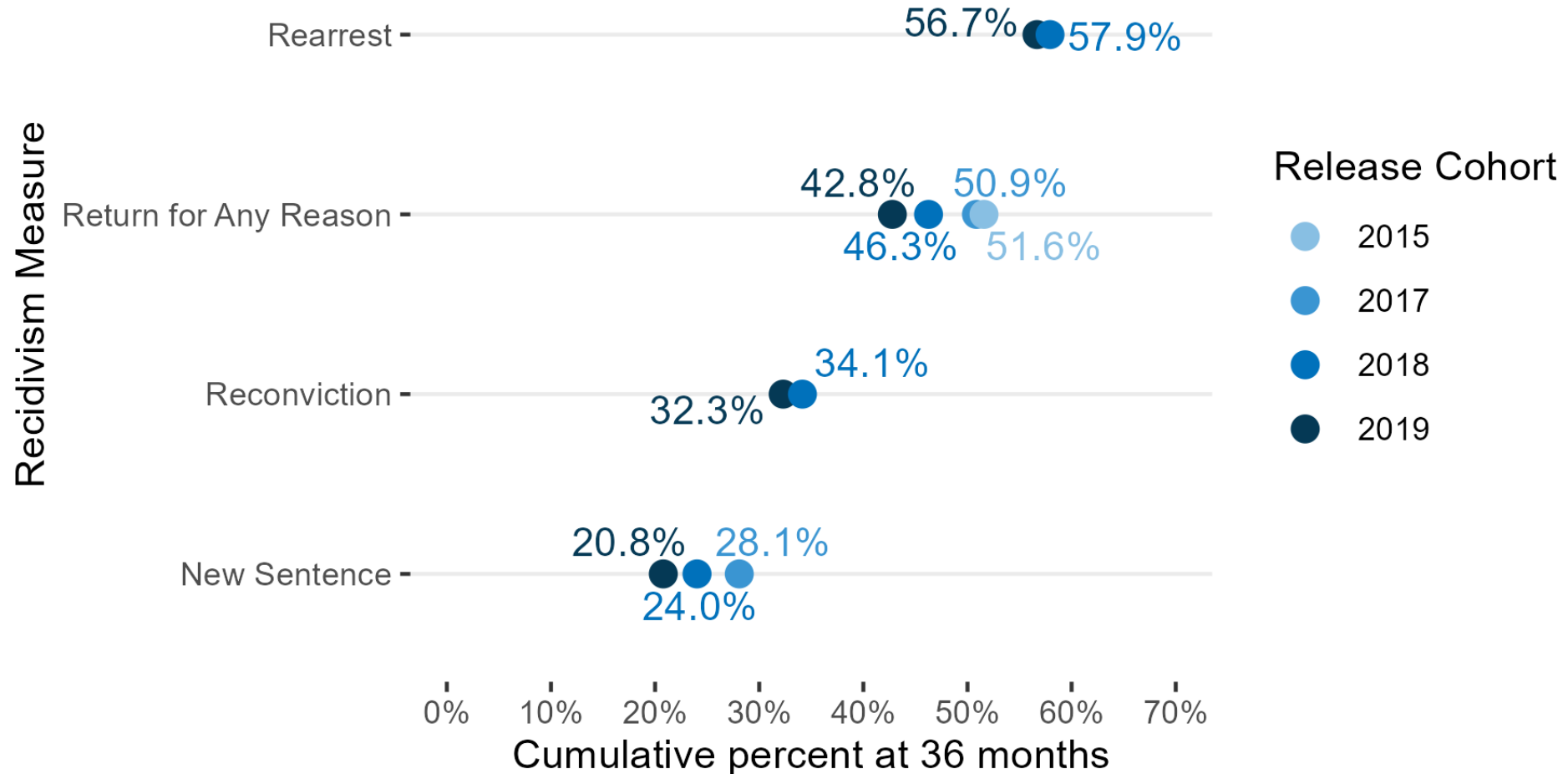
The 2019 cohort's three-year rearrest rate is slightly lower than the 2018 cohort and diverges more noticeably between months 6 and 36.

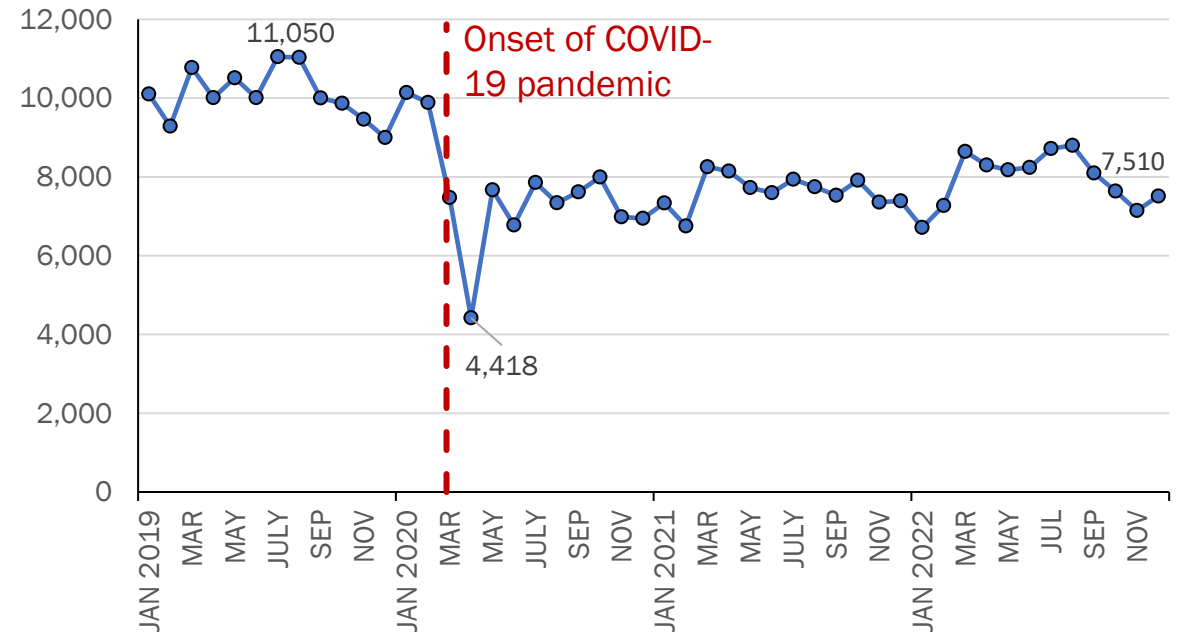**Cumulative Percentage Rearrested by Month Following Release or Discharge**
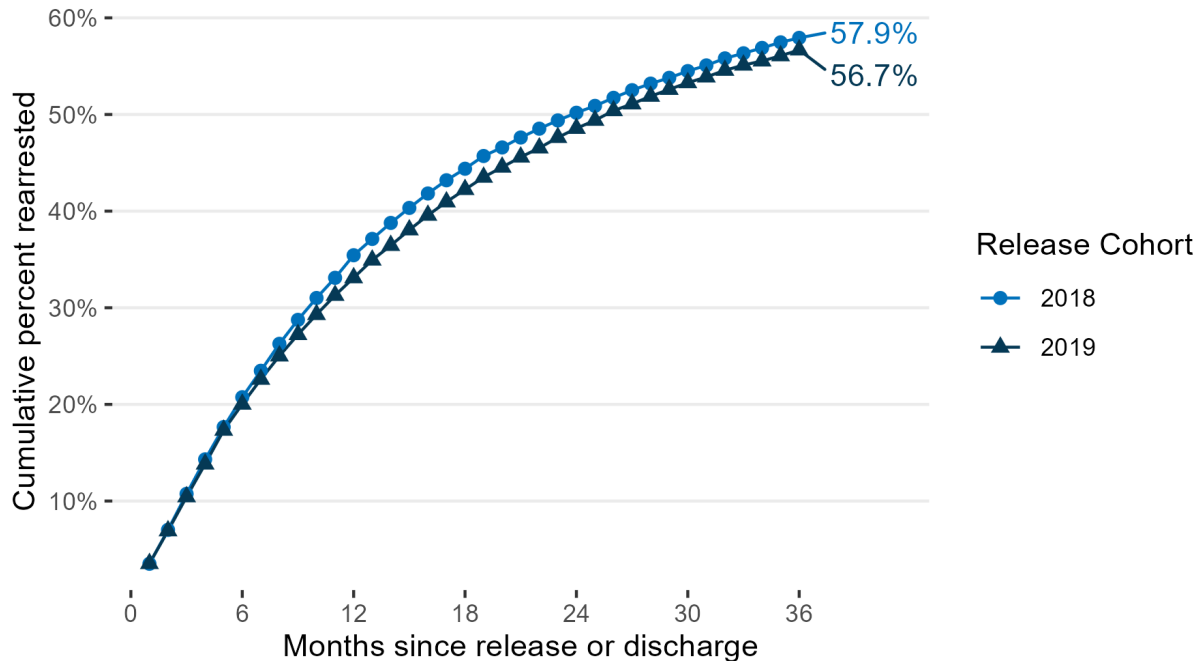
Source: OPM CJPPD analysis of Department of Correction & Judicial Branch data

Statewide arrest volumes by month (Jan. 2019 – Dec. 2022)

Source: CJIS CRMVS monthly arrest reports provided to OPM

- On average, individuals released in 2019 encountered the pandemic within six months. At six months following release, 2019's cumulative rearrest rates begin to differ from 2018's rate.
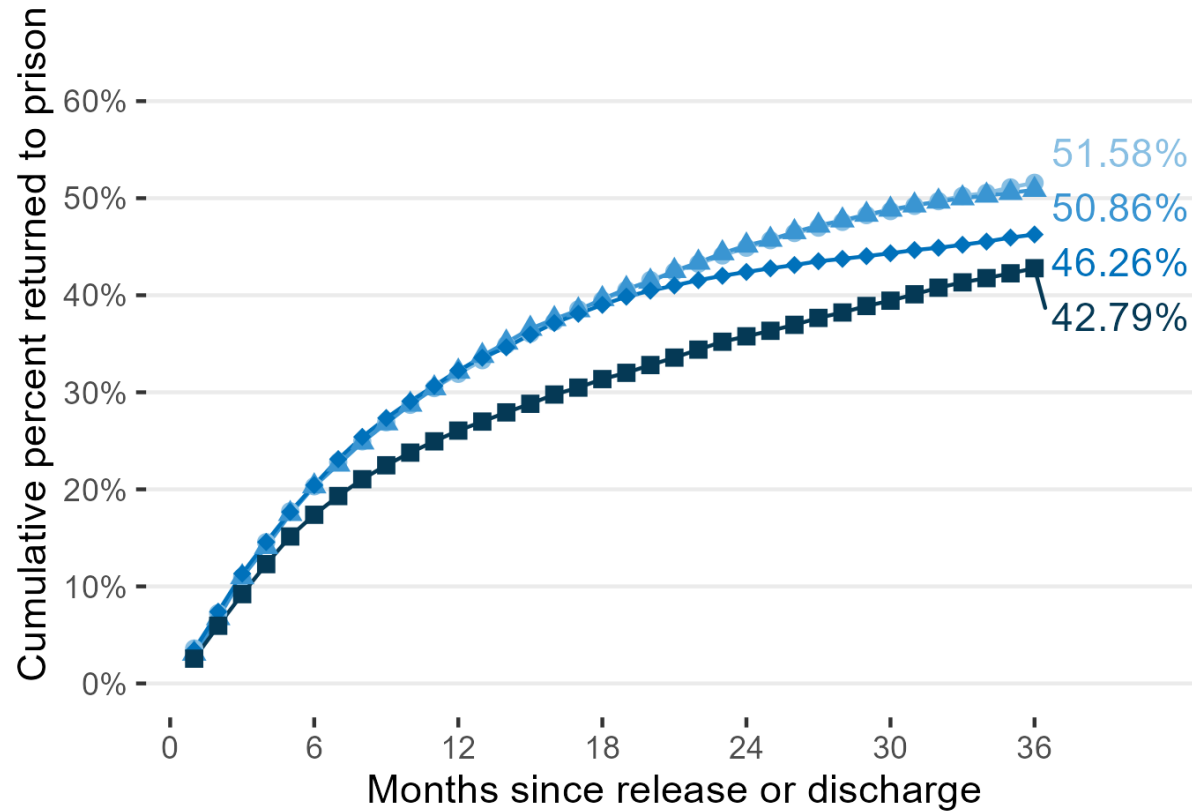
- Statewide arrests declined sharply with the pandemic's onset, and had yet to fully reach pre-pandemic volumes, even by December 2022.

# The differences among rates of return to DOC for any reason were even more pronounced between 2019 and the prior cohorts.

Cumulative percent returned to prison (y-axis) vs. Months since release or discharge (x-axis)

Release Cohort:
- 2015
- 2017
- 2018
- 2019

51.58%
50.86%
46.26%
42.79%

- 2018 & 2019 diverge from the pre-pandemic benchmark curve (2015) at 18 and 6 months, respectively, coinciding with the strongest effects of the pandemic.

- To a lesser extent, the aging of the correction population and the **41% reduction** of the under-25 population may also have influenced observed returns.

Reconviction and new-incarceration-sentence rates also exhibit pandemic impacts over the cohorts' respective 36 month study periods.
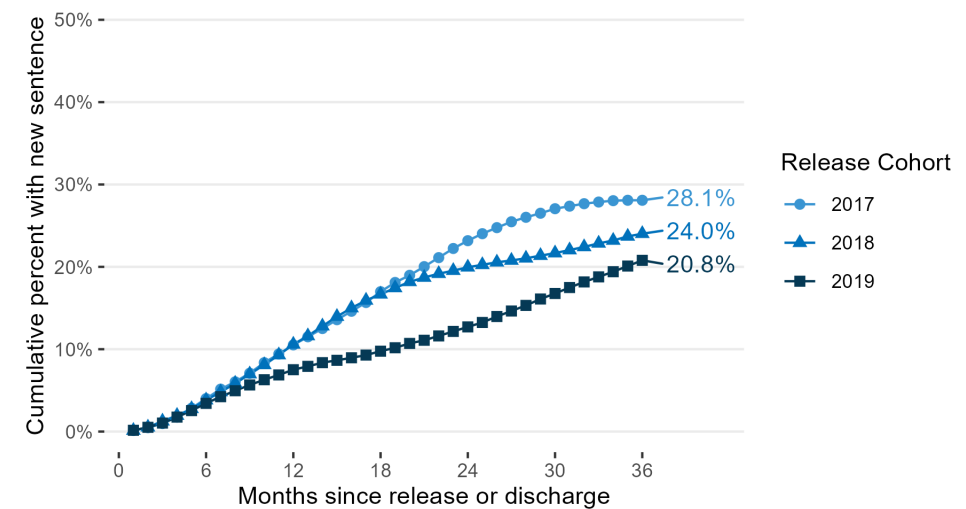
Reconvictions by Month Following Release or Discharge

Source: OPM CJPPD analysis of Department of Correction & Judicial Branch data

New Incarceration Sentences by Month Following Release or Discharge
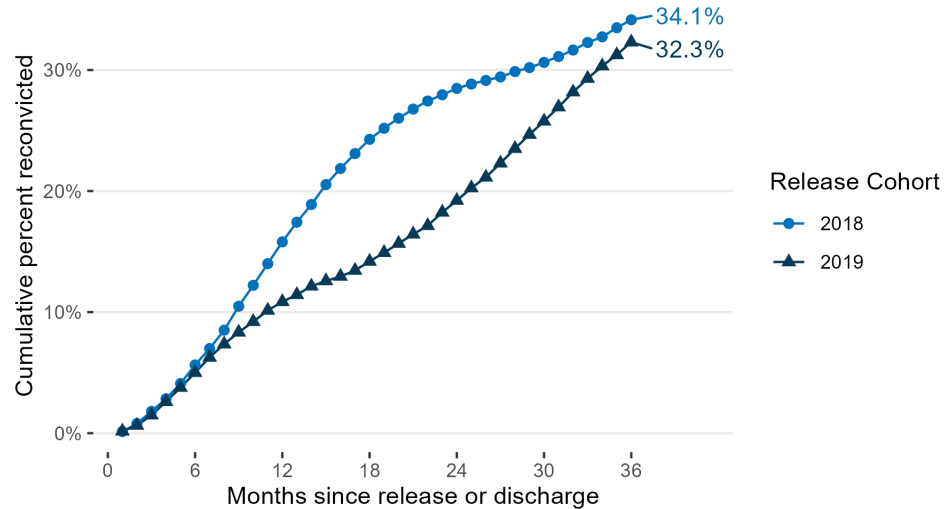
Source: OPM CJPPD analysis of Department of Correction & Judicial Branch data

- The 2018 cohort's reconviction curve begins to change after the 18th month mark, again coinciding with pandemic timing. The 2019 curve deforms by month 9, before climbing steadily after 24 months.

- These unusual curves likely owe to pandemic impacts in initial months on court operations affecting conviction and sentencing activities.

- The 2017 cohort's new-incarceration-sentence rate exhibits recidivism's conventional shape. The 2017 cohort would only have experienced the pandemic in the late months of the three-year study period.

- The 2018 and 2019 rates mirror the atypical shape of their reconviction counterparts.

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Across all cohorts, people with multiple prior sentences have a higher likelihood of returning to a correctional facility than those with fewer prior sentences.

Cumulative Percent Returned for Any Reason by Number of Prior Sentences at Release

Number of prior sentences
- 12 or more
- 6-11
- 3-5
- 1-2
- None

63.9%
56.4%
50.7%
40.5%
29.8%

Additional findings: Recidivism among women & by Race/Ethnicity

Cumulative Percent of Women Returned

Source: OPM CJPPD analysis of Department of Correction data

Cumulative Percent Returned by Race/Ethnicity
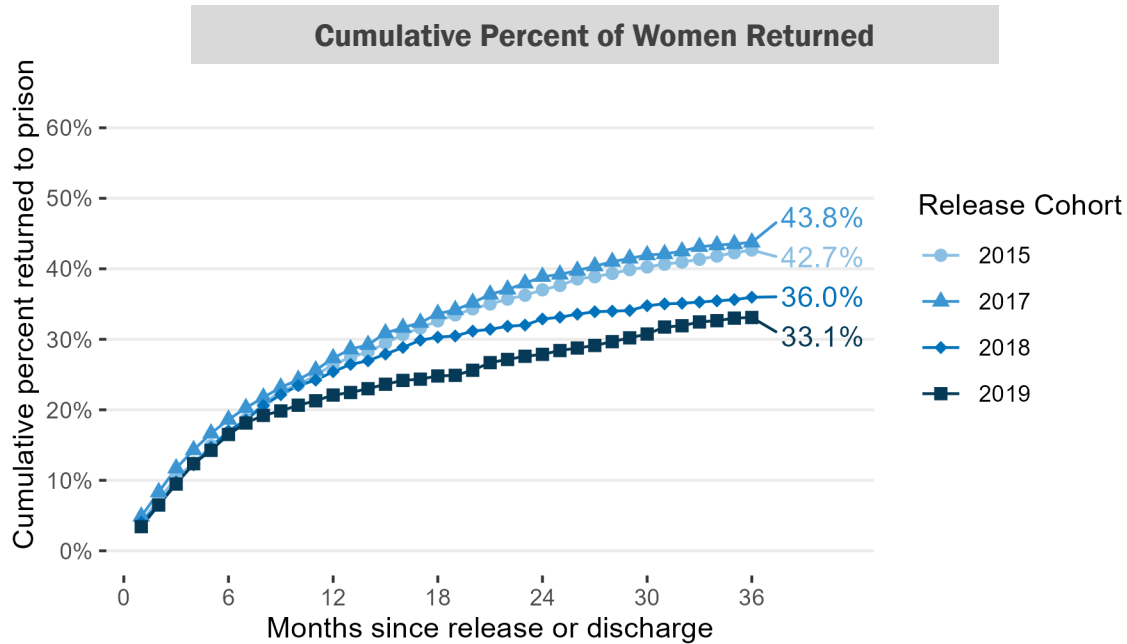
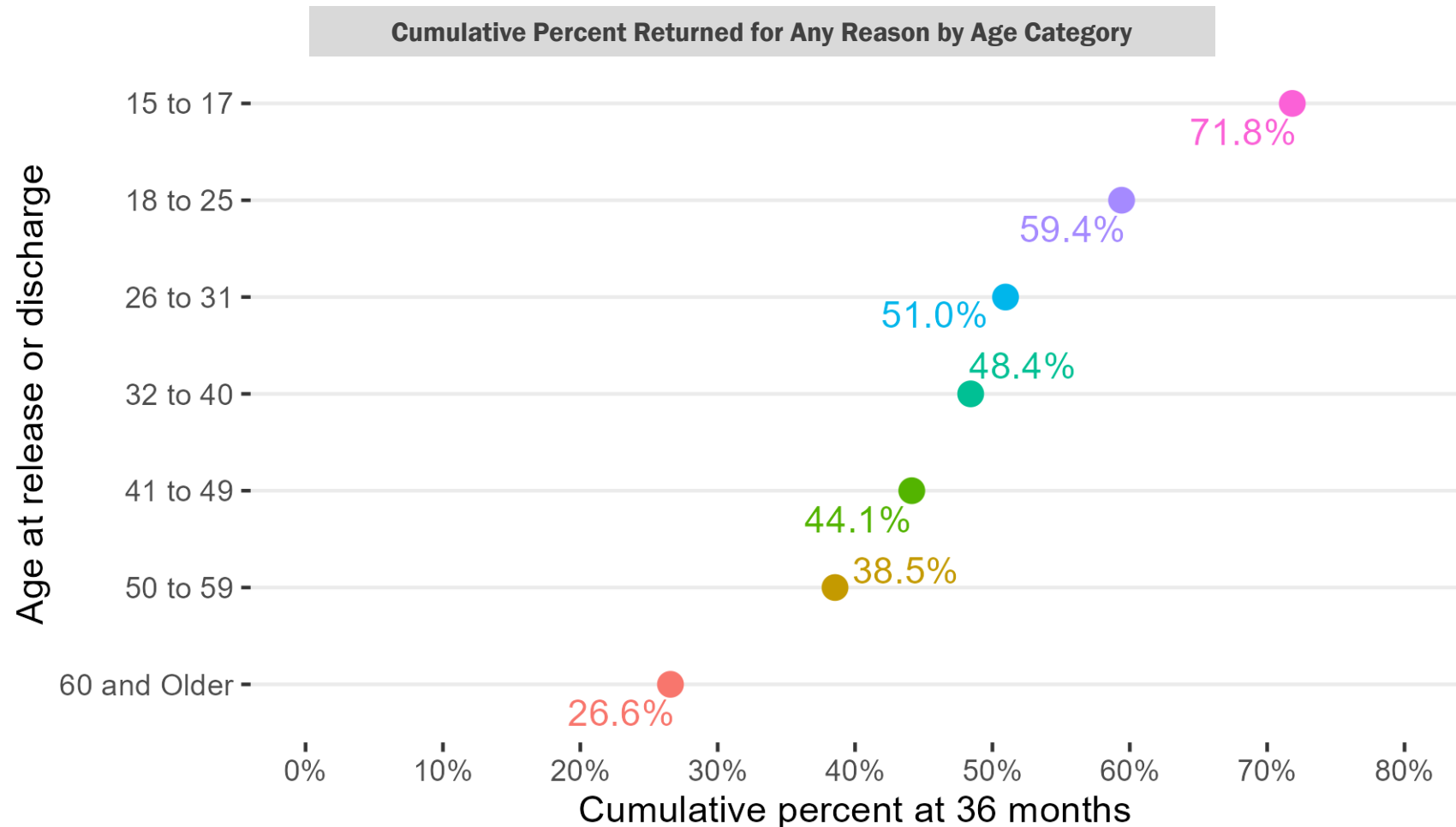Source: OPM CJPPD analysis of Department of Correction data

- **Women returned to correctional facilities at significantly lower rates in the 2018 & 2019 cohorts than the 2015 rate.**

- The 2019 women's cohort cumulative rate was nearly 10% lower than the 2017 women's cohort.
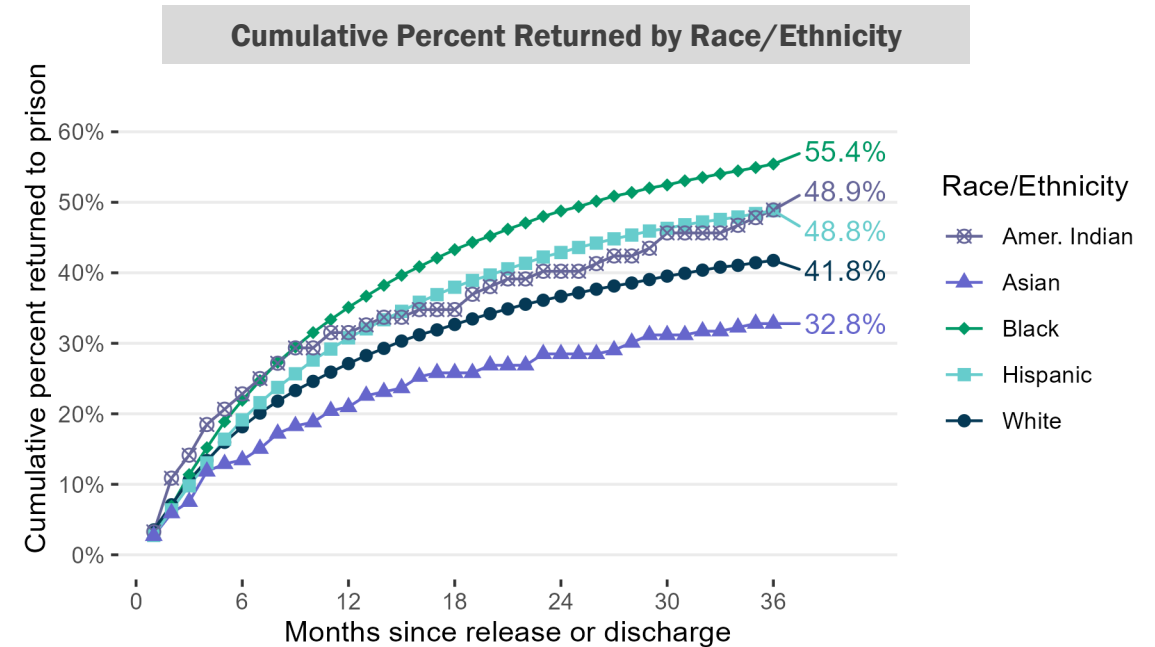
- Rates of return varied considerably across all cohorts when examined by individuals' race and ethnicity.

- The above chart contains descriptive statistical analysis and does not assign a correlative or causal link.

Additional findings: Recidivism rates declined with age, with returns among those 50 to 59 nearly 20% lower than 18- to 25-year-olds.

Cumulative Percent Returned for Any Reason by Age Category

Age at release or discharge

- 15 to 17: 71.8%
- 18 to 25: 59.4%
- 26 to 31: 51.0%
- 32 to 40: 48.4%
- 41 to 49: 44.1%
- 50 to 59: 38.5%
- 60 and Older: 26.6%

Cumulative percent at 36 months

Source: OPM CJPPD analysis of Department of Correction data

Additional findings: Recidivism rates among those earning RREC

Cumulative Percent with RREC at Discharge Returned For Any Reason
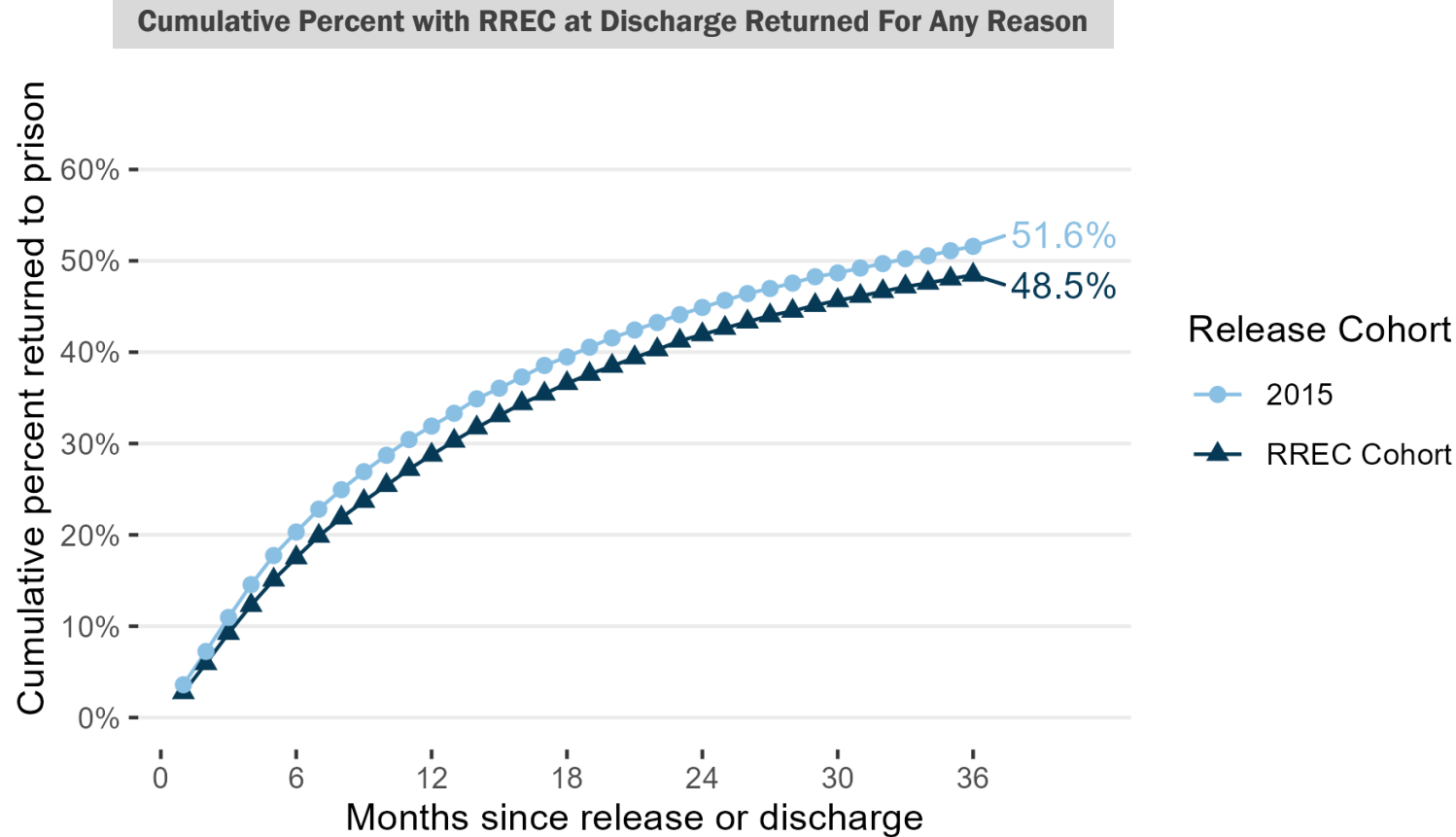
Source: OPM CJPPD analysis of Department of Correction data

- In 2023, OPM CJPPD again examined returns by individuals discharged with Risk Reduction Earned Credit (RREC) across all study cohorts.

- After three years, RREC earners demonstrate slightly lower rates of return compared to the 2015 cohort benchmark rate.

Future OPM CJPPD recidivism study priorities

- Continuing to provide aggregate comparisons between future cohorts and previous cohort years.

- Continuing to analyze alternative recidivism measures for pre-pandemic cohorts.

- Expand study of sub-group and special topical analyses.

- Develop a OPM CJPPD site to host analyses and other resources regarding recidivism studies.

THANK YOU

For more information, please visit