

Does an old arrest still predict future crime? New research says: not for long.

A population-scale study of more than **16.5 million people** and four decades of criminal-history records finds that the predictive power of a past charge **fades in a strikingly consistent, predictable pattern** — and largely expires within about a decade.

9-10 yrs

Time until a prior charge's predictive "risk" converges with the general population's baseline rate — its **expiration date**.

63%

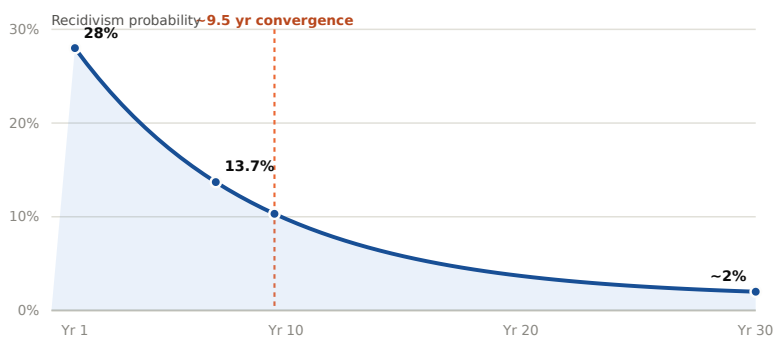
Of people charged with a crime were **never charged again** — non-recidivism, not recidivism, is the norm.

-51%

Drop in recidivism risk by year 7 relative to year 1 — most of the "decay" happens early.

A criminal record's predictive value fades like a ripple

Illustrative recidivism-risk decay curve, based on reported findings (Fig. 3 & 9)



Criminologists have long known that people "age out" of crime. But criminal-justice systems — risk tools, sentencing, parole, background checks — mostly treat a past charge as a **permanent, fixed risk label** that never changes.

This study is the first to directly measure, at population scale, exactly **how fast** that predictive value actually decays — year by year — and to test whether the pattern holds across states, demographic groups, offense types, and incarceration history.

It mostly does. The shape of decay is remarkably consistent — groups differ in their starting risk level, not in how quickly that risk fades.

FINDING 1

Risk decays fast, then levels off.

Recidivism probability drops from 28% one year after a charge to about 2% by year 30 — a steep early decline that tapers off over time.

FINDING 2

The pattern holds almost everywhere.

The same decay curve appears across 5 states, sex, race/ethnicity, violent vs. non-violent charges, and incarceration exposure. People differ in baseline risk — not in how fast risk fades.

FINDING 3

Records have an "expiration date."

Roughly 9-10 years after a charge, its predictive value converges with the population's ordinary base rate — it stops meaningfully signaling elevated risk.

• Why it matters

Risk-need assessment tools used daily in pretrial, sentencing, probation, and parole decisions typically assign a prior charge the **same weight forever**, regardless of how long ago it happened. This study provides the first empirical, population-scale evidence for building the next generation of assessments — and policies on record sealing, expungement, and background checks — around a simple idea: **a record's predictive power should fade the way real-world risk actually does.**

16,594,838

individuals tracked

746M+

person-year observations

40 yrs

of data (1980-2020)

5 states

AK · AZ · FL · TX · WA

86.6M

recidivism events analyzed

✓ **OPEN ACCESS** — free to read, share, and cite on publication

Hamilton, Z., Kigerl, A., Tostlebe, J. J., & Ursino, J. "Criminal history's expiration date: Evidence of prediction decay." Forthcoming, *Criminology*, the journal of the American Society of Criminology. School of Criminology and Criminal Justice, University of Nebraska Omaha.

Replication data & code publicly available · Media & interview requests: Zachary Hamilton, zhamilton@unomaha.edu