Justice Analysis Review

DPS Governor's Crime Commission
NC DEPARTMENT OF PUBLIC SAFETY

Demographic Analysis of Arrestees Using Computerized Criminal Histories

The Criminal Justice Analysis Center analyzed criminal history records from the Computerized Criminal History (CCH) file provided by the State Bureau of Investigation to examine arrest trends in North Carolina. Deidentified arrests occurring between 2013 and 2022 were used to examine arrestee demographics, which were then compared to the North Carolina population. [1] This analysis revealed appreciable changes in arrestee age trends. This is the first time CCH data has been used for this type of analysis, therefore, an examination of data quality was conducted, as well as research on relevant legislative changes that would affect the data.

North Carolina's Computerized Criminal History File

The most comprehensive source for arrest data across the state is the North Carolina Computerized Criminal History File housed at the State Bureau of Investigation. This database combines information from a variety of sources including law enforcement agencies, courts, and prisons about an individual's arrests and subsequent dispositions.[2] In North Carolina, all CCH records are supported by fingerprints to ensure positive identification.[3] This information can be queried for criminal justice purposes such as latent fingerprint matching and identification, as well as non-criminal justice purposes such as background checks.

Fingerprinted Arrests

CCH only contains the arrest information of those processed in the adult criminal justice system, regardless of age, for which fingerprints are recorded. Not all arrests require fingerprinting. Currently, North Carolina General Statute § 15A-502 requires that any person arrested and charged with the commission of a felony must be fingerprinted by the arresting law enforcement agency and those fingerprints must be forwarded to the State Bureau of Investigation. This also applies to persons charged with specific legislatively defined misdemeanors that involve domestic violence, impaired driving, and possession of a controlled substance.[4] For this publication, the terms "arrest" and "fingerprinted arrest" are used interchangeably.

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[1] No personally identifiable information was received for this analysis.
[2] Computerized Criminal History files began with the FBI in 1971 as part of the National Crime Information Center (NCIC) system. Currently, each state maintains and operates their own system for criminal history files and shares them via the Interstate Identification Index (III).
[3] As of 2020, 99% of fingerprints in North Carolina are submitted electronically, Survey of State Criminal History Information Systems, 2020.
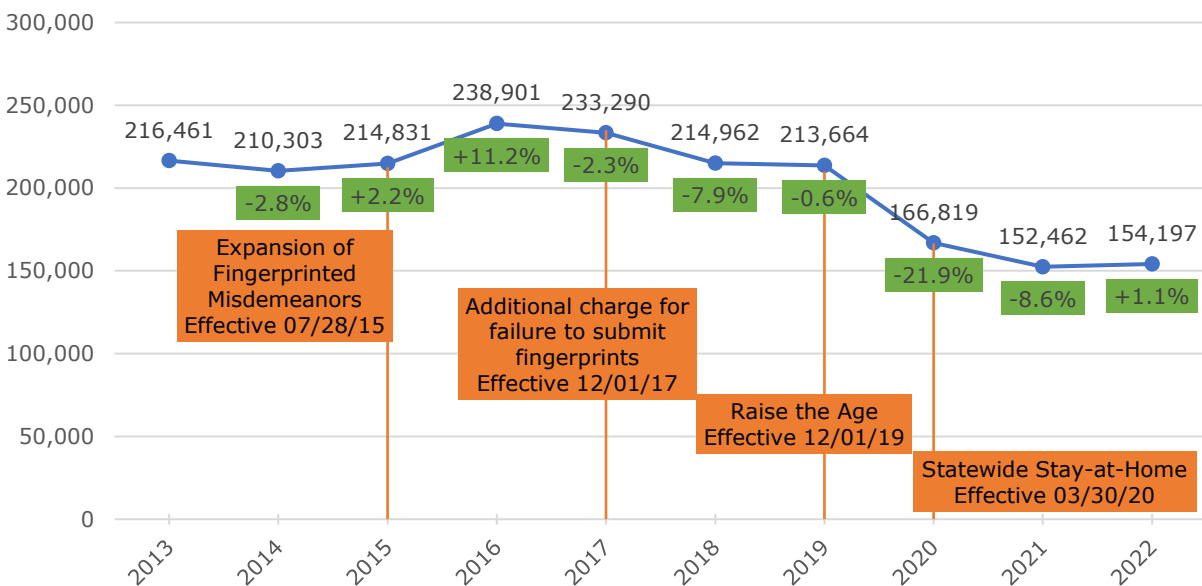[4] Defined in G.S. § 15A-502 as misdemeanor crime of domestic violence, domestic criminal trespass, offense that involved domestic violence, violation of a valid protective order, impaired driving, or possession of a controlled substance.

Impacts of Legislative Changes and COVID-19

Because CCH contains only arrests for which fingerprints are captured, it is crucial to consider the timing of legislative changes to fingerprinting requirements and other pertinent events that would impact the number of arrests between 2013 and 2022. Figure 1 presents a timeline of these events along with the number of fingerprinted arrests and the percent change in arrests from the previous year.

Session Law 2015-195, Section 11(h) added a fingerprinting requirement for certain misdemeanor charges including violation of a protective order, impaired driving, and possession of a controlled substance. This expansion of fingerprinted misdemeanors became effective July 28, 2015. This resulted in the 11.2% increase seen in the volume of arrests between 2015 and 2016 (214,831 to 238,901). It is important to note that this is not necessarily indicative of an increase in arrests for these offenses, just the inclusion of them in the data set because of the new fingerprinting requirement.

Figure 1: Fingerprinted Arrests, Percent Change Year over Year, and Pertinent Events, 2013-2022

A second legislative change which occurred during this time was Session Law 2017-176, Section 4(a) effective December 1, 2017. This requires that when a person is charged with an offense for which fingerprints are required but is not taken into custody immediately, they must still submit to fingerprinting at a later time. Failure to do so results in an additional charge of criminal contempt. This change does not appear to have had an apparent impact on the volume of fingerprinted arrests.

The implementation of Raise the Age through the Juvenile Justice Reinvestment Act removed a large portion of 16- and 17-year-old juveniles from automatic processing in the adult criminal justice system for offenses committed on or after December 1, 2019. Sixteen and 17-year-olds are now only included in the file when a juvenile complaint is filed for a nondivertible offense and

they are in the physical custody of law enforcement.[5] This largely removed them from the fingerprinted arrestee population after this date.

Finally, the emergence of the COVID-19 pandemic and the subsequent statewide stay-at-home order issued by the governor in March 2020 led to an unprecedented 21.9% drop in fingerprinted arrests between 2019 and 2020.[6] Ultimately this led to a 10-year low of 152,462 arrests in 2021.
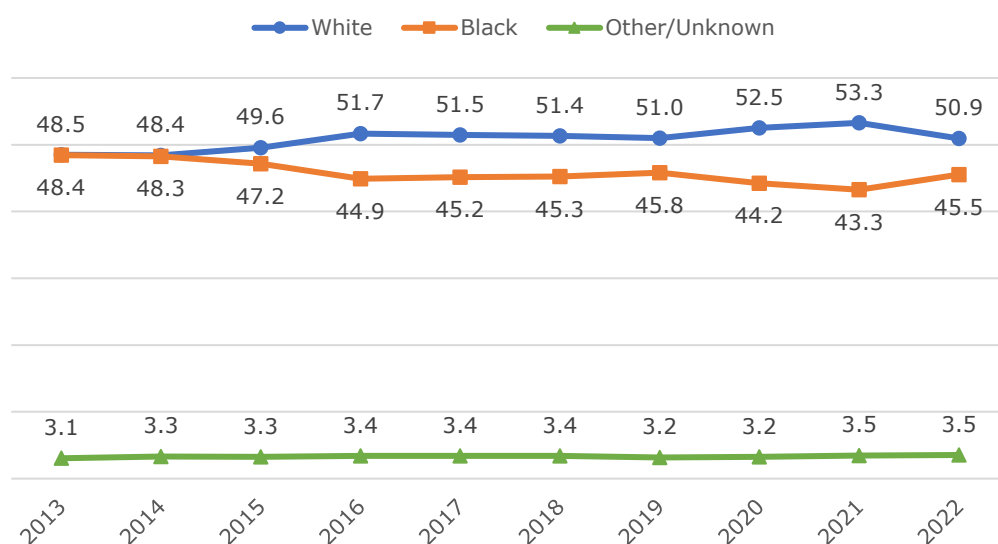
Arrestee Demographics

Gender
The majority of arrestees over the ten years were male. Between 2013 and 2022, males made up an average of 75.5% of all arrestees each year. This remained consistent over the time period – ranging from a low of 74.7% male in 2016 to a high of 76.3% male in 2020.

Race
The racial distribution of arrestees varied over the 10-year period. Notably, limited racial categories available – white, Black, Asian, Indigenous, or unknown. No separate field captures ethnicity. Rather, the race definitions provided in CCH specifically instruct that persons of Hispanic ethnicity are to be included as white.[7]

Figure 2: Percent of Total Arrests by Race, 2013-2022

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[5] Nondivertible offenses are defined in G.S. 7B-1701 as murder, first- or second-degree rape, first- or second-degree sexual offense, arson, felony drug offense under Article 5 of Chapter 90 of the General Statutes, first-degree burglary, crime against nature, or a felony involving the willful infliction of serious bodily injury or which was committed by use of a deadly weapon.

[6] Executive Order 121: Stay at Home Order and Strategic Directions for North Carolina in Response to Increasing COVID-19 Cases; issued by Governor Roy Cooper, 03/27/20.

[7] In CCH, "white" is defined as *Caucasian, Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race*.

The use of CCH in North Carolina began in 1976, before it became commonplace for race and ethnicity to be recorded separately. Additionally, positive identifications are made through fingerprints, as opposed to other secondary personal characteristics that can be subject to alteration or counterfeiting on a document, such as a driver's license or birth certificate.[8]

Between 2013 and 2022, white arrestees made up an average of 50.9% of arrests each year, while Black arrestees made up an average of 45.8% of arrests each year. As shown in Figure 2, these proportions vary by year. The proportion of white arrestees began to outpace Black arrestees starting in 2015 and remained higher through 2022. This shift corresponds in time with the expansion of misdemeanors for which fingerprinting was required.[9]
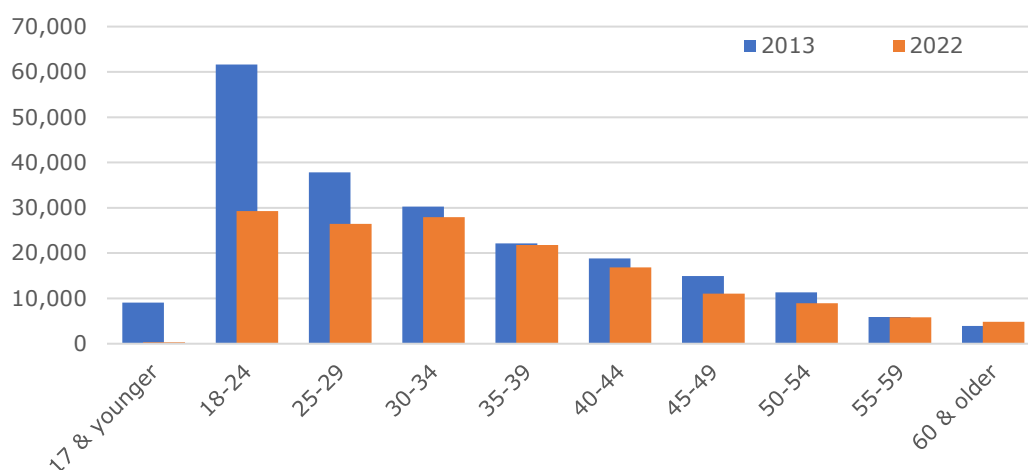
The remaining race categories – Asian, Indigenous, and Unknown – made up an average of 0.5%, 1.5%, and 1.3% of arrestees per year, respectively. For analytic purposes, these three categories were combined into Other/Unknown which consistently made up between 3.1% and 3.5% of arrestees each year with no relative proportional change during the 10-year period. Arrestees in this category are included in calculations of total arrestees but are not analyzed separately as a racial group because of the large number of unknowns in this already small category.

Age at Time of Arrest

Age at the time of arrest was calculated by subtracting the arrestee's date of birth from their date of arrest and rounding to the nearest whole number. To reduce the impact of incorrect age data due to possible typographical errors in birthdate entry, ages that fell outside of three standard deviations of the original mean of the entire dataset were excluded from analysis of age.[10] This was less than one percent of arrests each year.

Age Group Distribution

Figure 3: Age Group Distribution Among Fingerprinted Arrestees, 2013 vs. 2022

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[8] Survey of State Criminal History Information Systems, 2020.
[9] Session 2015-195, Section 11(h)
[10] Original dataset mean was 33.0 with a standard deviation of 11.7.

Between 2013 and 2022, arrests in North Carolina decreased 28.8%. As Figure 3 shows, this decrease was driven substantially by the youngest age groups:

- Ages 17 and younger: arrests decreased by 96%, from 9,078 to 350.[11]
- Ages 18-24: arrests decreased by 53% from 61,620 to 29,262.
- Ages 25-29: arrests decreased by 30% from 37,848 to 26,471.

The three youngest age groups represented 84% of the decreases between 2013 and 2022. This caused large proportional changes in the overall makeup of arrestees. In 2013, 4.2% of fingerprinted arrestees were ages 17 and younger. By 2022, they made up less than 1% of all arrestees.[12] Similarly, the proportion of arrestees who were between the ages of 18 to 24 fell by nearly 10% (from 28.6% of all arrestees in 2013 to 19.1% of all arrestees in 2022).

The decrease in the youngest age groups was seen universally, though as shown in Figure 4, not consistently across racial and gender groups. In 2013, 26% of white male arrestees were between the ages of 18-24, far more than any other age group among white males. By 2022, white males no longer had a clear age group peak, with ages 30-34 only slightly outpacing ages 18-24. Black males, however, continued to exhibit a noticeable peak in the age group 18-24.

Figure 4: Age Group Distribution Among Fingerprinted Arrestees by Race and Gender, 2013 vs. 2022

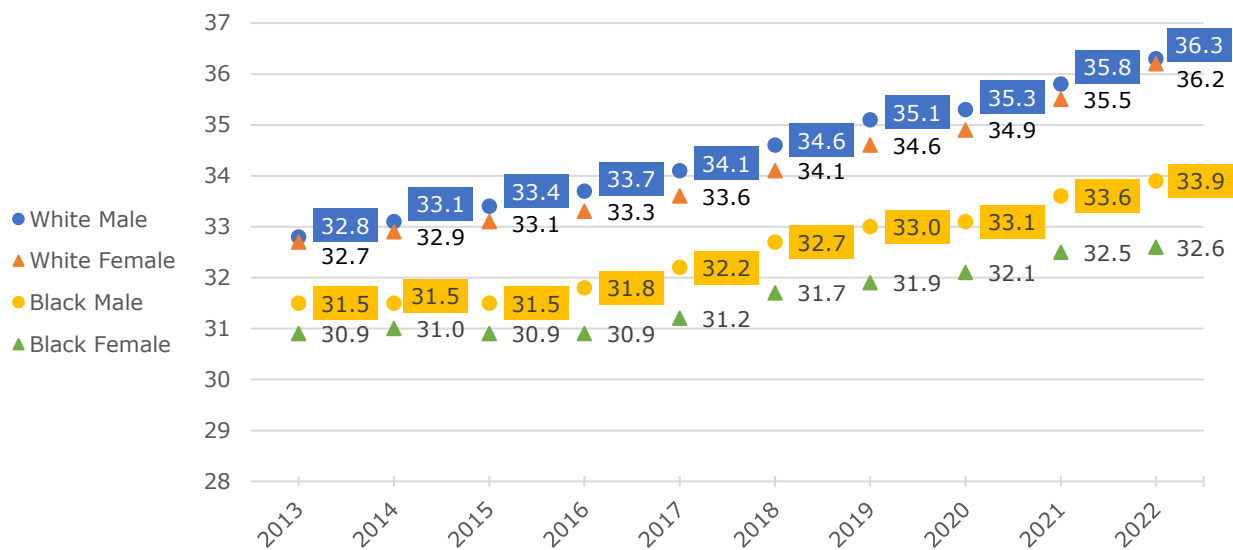[11] Arrests processed in the adult criminal justice system.
[12] Note that the implementation of Raise the Age went into effect December 1, 2019.

White female's peak shifted from age 18-24 to age 30-34 between 2013 and 2022. Age group 18-24 decreased by over 50% for Black females between 2013 and 2022 and they no longer exhibited a clear age group peak.

Average Age of Arrestees

The average age of all fingerprinted arrestees increased by three years from 32 years old at the time of arrest in 2013 to 35 years old at time of arrest in 2022. This was also not a consistent increase across racial and gender groups, however. The average age of arrestees went up in each of the four groups between 2013 and 2022 as depicted in Figure 5. For white males, the average age at time of arrest went from 32.8 in 2013 to 36.3 in 2022. Their Black counterparts saw a smaller increase in average age at time of arrest going from 31.5 in 2013 to 33.9 in 2022. Age at time of arrest for white females moved from 32.7 in 2013 to 36.2 in 2022 – similar to their male counterparts. Black females saw the smallest change in average age at time of arrest, moving from 30.9 years to 32.6 years over the 10-year period.

Figure 5: Average Age of Arrestees by Race and Gender, 2013-2022

Comparisons to the North Carolina Population

To see if these demographic shifts in arrests were the result of changes in the state's population, additional analysis of race and gender population data was conducted. Statewide race and gender population data provided by the state demographer showed that each year between 2013 and 2022, approximately 20% of the North Carolina population are younger than 16 years of age.[13] People in this age range are largely not part of the "arrestable" population. The CCH data shows that between 2013 and 2022 only 195 fingerprinted arrestees were under the age of 16 (0.01% of the entire dataset). To make effective comparisons between the two groups, North Carolinians under the age of 16 were excluded from the analysis. Consequently, any references to the NC population or general population refer only to the population ages 16 and older.
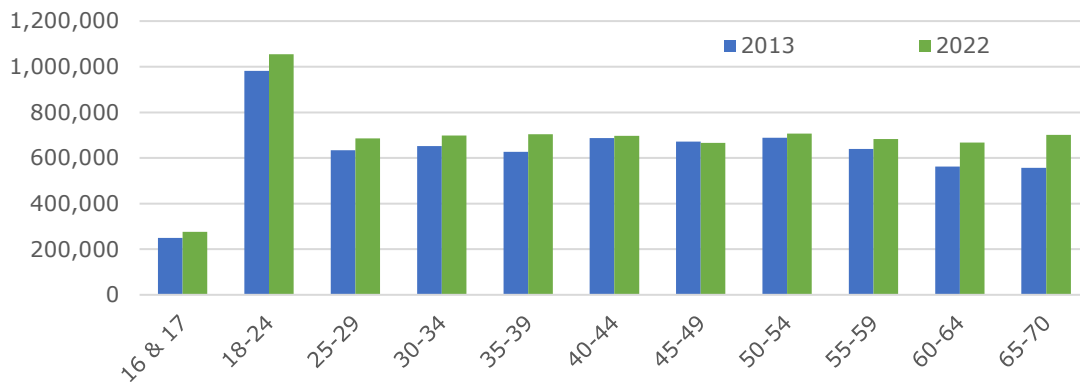
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[13] State Demographer, NC Office of State Budget and Management; provided January 2024.

Age Groups

Between 2013 and 2022, North Carolina's population increased by a total of 10.7%. As shown in Figure 6, nearly every age group saw growth:

- The population of 16- and 17-year-olds in North Carolina grew by nearly 10%.[14]
- The population of 18- to 24-year-olds in North Carolina saw a 7% increase.
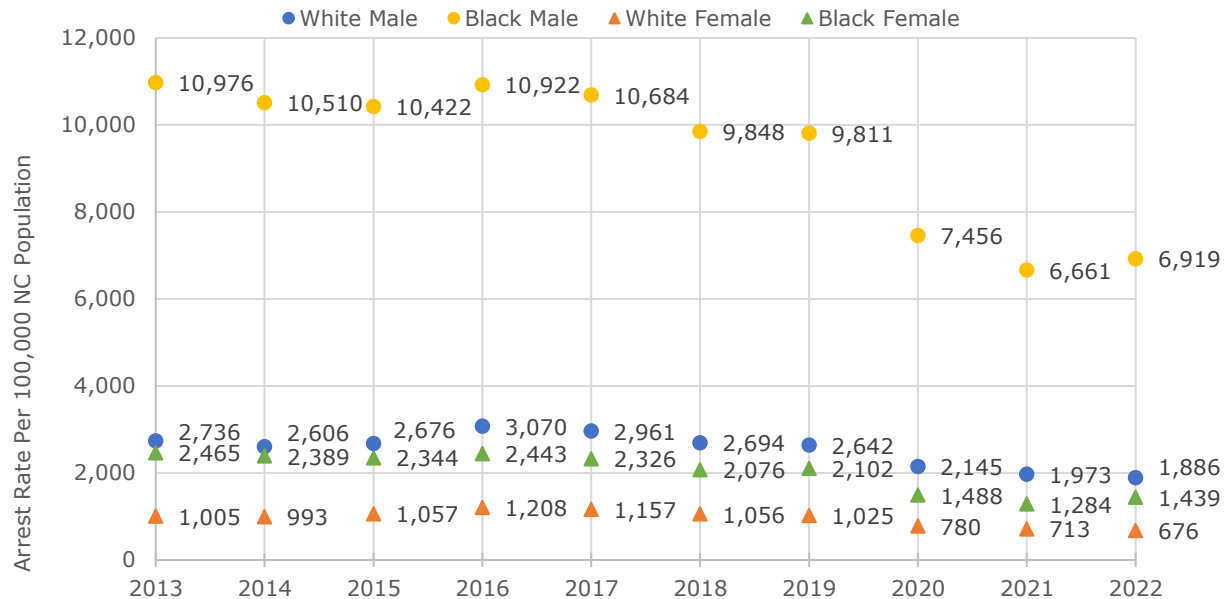- The population of 25- to 29-year-olds in North Carolina increased by 7.6%.

Figure 6: Age Group Distribution in NC Population, 2013 vs. 2022

Rate of Arrest by Race and Gender

The rate of arrests has decreased overall from a rate of 2,781 per 100,000 North Carolinians in 2013 to 1,769 arrests per 100,000 in 2022. As shown in Figure 7, decreases were seen in all race and gender groups.

Figure 7: Arrest Rate per 100,000 NC Population by Race and Gender, 2013-2022

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[14] Note that the implementation of Raise the Age went into effect December 1, 2019.

While the arrest rate for Black males saw the largest decrease over the 10-year period, it remained well above the rates of other arrestees. In 2013, the arrest rate for Black males was four times that of white males. In 2022 the rate stood at 3.7 times that of white males.

The arrest rate for Black females also remained higher than their white counterparts over the 10-year period. Black females were arrested at a rate that was 2.5 times higher than white females in 2013. In 2022, their arrest rate was 2.1 times higher than that of white females.

Findings

This analysis provides insight into recent demographic trends of fingerprinted arrestees in North Carolina. Overall, the age of arrestees is trending upward. The average age at time of arrest went up for all race and gender groups with larger increases in the age of white arrestees than Black. The arrest rate of Black males and females also remained higher than their respective white counterparts.

The decrease in arrests between 2013 and 2022 came largely from decreases in the arrests of those under 30 years old, including those that would not have been affected by Raise the Age. These changes in arrestee age are not explained by changes in the North Carolina population. Notably, there was population growth in North Carolina among the youngest age groups – age groups that experienced the largest decreases in arrests during this same period.

While the arrests of persons 17 and younger dropped precipitously (down 96%) between 2013 and 2022, as a result of Raise the Age, the number of 16 and 17 year-olds in North Carolina grew by nearly 10%.[15] The population of 18 to 24 year-olds grew by 7% but decreased by over 50% of arrestees. The population grew for 25 to 29 year-olds in North Carolina (7.6%) while decreasing by 30% in arrests.

While the Computerized Criminal History file contains only arrests for which fingerprints are submitted by law enforcement agencies, the records prove to be a valuable source of information on the arrestee population. The capture of racial and ethnic information, as previously mentioned, can lead to a largely bifurcated racial analysis. This data is also very suitable for use in the analysis of age at time of arrest. In conjunction with population statistics and other data sources, can be used to explain the impact of legislative changes on different demographic groups.

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[15] Note that the implementation of Raise the Age went into effect December 1, 2019.