

Aging in Place in the Big House:

A Demographic Analysis of the North Carolina Prison Population

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Introduction

As in other states, North Carolina increased the severity of punishment for many crimes in the 1990s. Sentencing reforms effective in 1994 eliminated the traditional concept of parole from the state's prison system and enhanced the length of punishment for the most serious crimes. The felony punishment chart laid out in the "structured sentencing" system enacted in 1993 provides for the punishment of LWOP sentences for all level A felonies as well as B1 felonies committed by those with significant numbers of prior points, and a decision by the judge to assign the "aggravated" sentence in the case. Level A felonies are limited to first-degree murder, which may also carry the sentence of death; LWOP here is the lesser sentence. Level B1 crimes include second-degree murder and 18 other crimes, mostly rape and sexual offenses³ (see NC Sentencing and Policy Advisory Commission 2014).

One obvious consequence of a reform that increases the number of individuals serving prison terms that provide no opportunity of parole is that they will "age in place" within the prison system until they die. Since these reforms were effective in 1994, as of 2020 we have had

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³ The list also includes terrorist killings with chemical, biological, or nuclear weapons, but no one listed in the NC DPS database is associated with this crime. See Table A-1 for a list of all crimes associated with those currently serving death, life without parole, or term sentences of longer than 50 years.

26 years of experience with them. If an individual committed a crime at age 24 in 1994, they would be 50 in 2020. In what follows we track the number of older prisoners in the North Carolina prison system. The reforms of 1993 should not be expected to have an immediate impact on the age-distribution of those incarcerated by the state, but rather it would imply a slow build-up of ever-increasing numbers of older prisoners, shifting the distribution towards older prisoners. We show that this is precisely the case, and we discuss some of the implications of these changes.

We should note that the 1993 reforms reduced sentencing levels for some crimes at the same time as they mandated longer sentences for a small number of crimes. The result, perhaps unintended, is to create a prison system with large numbers of individuals “churning” through the system, with relatively short sentences, and simultaneously with a small but growing share of individuals serving extremely long sentences. Slowly, as time goes by, this group will represent a larger and larger part of the overall prison population. Documenting these trends is our goal here.

Data and Methods

We make use of publicly available data from the NC Department of Public Safety. The DPS Offender Public Information website, <https://webapps.doc.state.nc.us/opi/downloads>, provides a wealth of information about North Carolina prisoners. We use the “Inmate Profile (INMT4AA1)” set of files. This large database contains information on all individuals having served in North Carolina prisons for many decades, including those who have since been released. By filtering on the variable showing whether the person is currently “active” in the system, we can limit our analysis to those currently incarcerated. By using the “date received”

and the “date released” variables, we can generate statistics for any given day in history.⁴ We generate annual files based on the prison population on December 31 of each year from 1975 through 2019, and for the last date available in 2020. The file consists of a total of 458,976 individuals, of whom 31,749 were active as of August 7, 2020, when we last retrieved the data.⁵

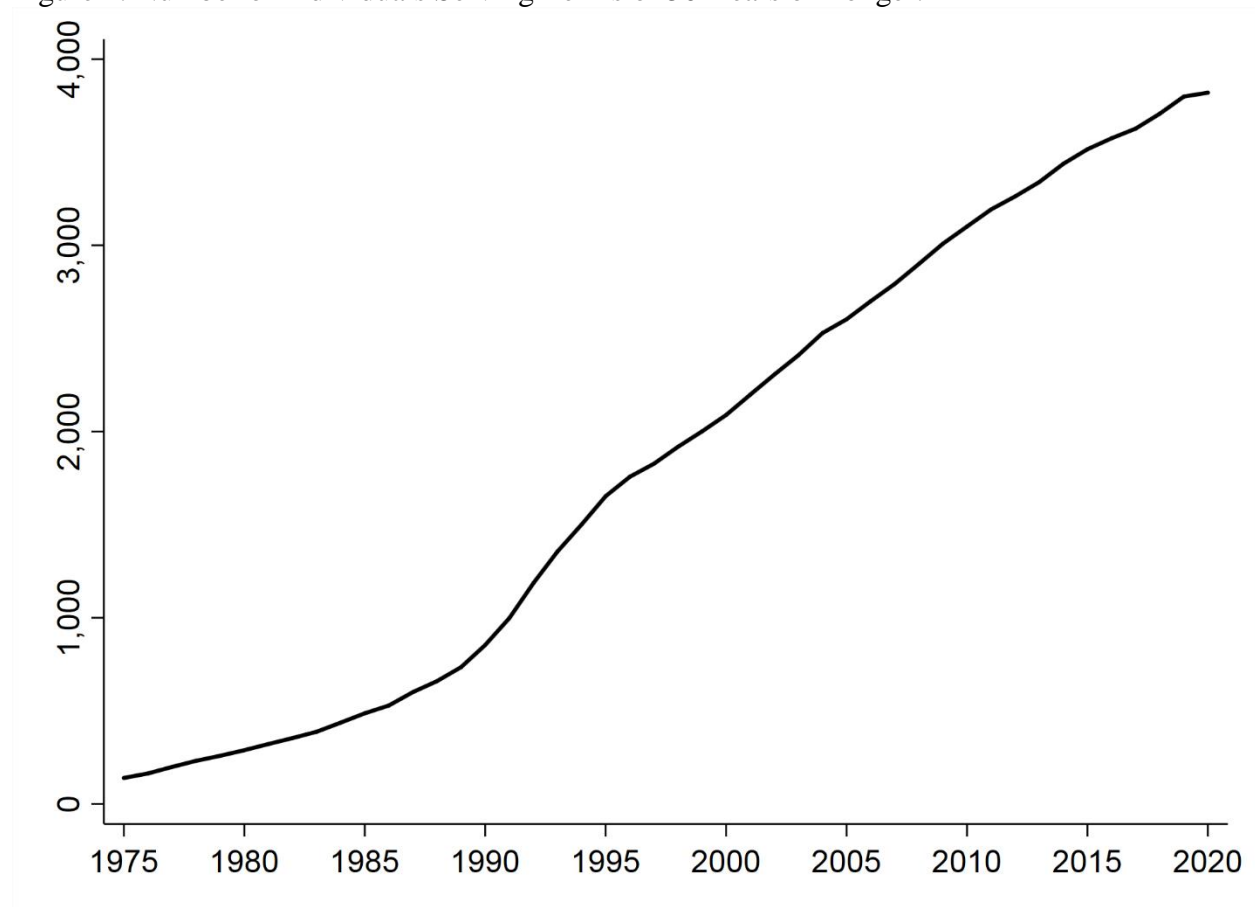
The Growth in Long Prison Sentences

In 1975, 140 individuals were serving sentences of over 50 years; by 2020 this number had increased to 3,820. Figure 1 shows the numbers of individuals serving terms of 50 years or more. The figure includes those with terms of more than 50 years, natural life, life without the possibility of parole, and death.

⁴ Admission date: CIRADMDTY, CIRADMDTM, CIRADMDTY; date released: CILAMVDY, CILAMVDTM, CILAMVDTD; “active”: INMRCDSTA=="ACTIVE".

⁵ Our numbers generally correspond with, but are not identical to, those of the NC DPS through the “Offender Search” query system (<https://webapps.doc.state.nc.us/opi/offendersearch.do?method=view>), allowing such things as searches for all individuals in the prison system who are of a certain age range. We are not aware of the reason for these disparities.

Figure 1. Number of Individuals Serving Terms of 50 Years or Longer.



This group represented less than two percent of the prison population in 1975, but over 12 percent in 2020. No other group showed a similar increase. Table 1 shows the crimes associated with those serving these long sentences. It shows the number of and percent of Black, White, Other race, and the Total number of individuals serving long prison terms for each type of crime.

Table 1. Crimes of those Serving a 50+ Year Prison Sentence.

Category	Black		White		Other		Total	
	N	%	N	%	N	%	N	%
Murder, 1st deg.	1,345	61.16	699	31.79	155	7.05	2,199	100.00
Murder, 2nd deg.	291	65.54	141	31.76	12	2.70	444	100.00
Rape and Sexual Assault	511	51.77	428	43.36	48	4.86	987	100.00
Drug-Related	6	66.67	1	11.11	2	22.22	9	100.00
Habitual Felon	25	78.13	7	21.88	-	-	32	100.00
Violent Habitual Felon	32	80.00	6	15.00	2	5.00	40	100.00
Other and Lesser Crimes	84	77.06	24	22.02	1	0.92	109	100.00
								-
Total	2,294	60.05	1,306	34.19	220	5.76	3,820	100.00

Overall, 69 percent of the crimes associated with those serving very long prison sentences relate to homicide (2,199 first degree and 444 second degree constitute 69 percent of the total of 3,820 individuals listed), but large numbers relate to lower-level offenses. In fact, the full list of crimes includes some individuals serving more than 50 years for robbery, burglary, breaking and entering, assault on a female, assaults with intent to inflict serious injury, and possession of a firearm by a felon. Appendix Table A-1 shows the full set of crimes included in the database and how we combined them for the table above. We are not certain of the methodology that the Department of Public Safety uses in listing the crimes associated with each individual; some of the lesser crimes listed in Table A-1 do not appear to merit such long prison terms.

Table 1 illustrates a number of important racial factors associated with long prison sentences. Black individuals constitute 60 percent of all those serving terms of more than 50 years. That number, however, is starkly different among women, who constitute 124 of the 3,820 individuals serving long terms. Among women, 58 percent (72 of 124) are white. Among male prisoners serving these long sentences, blacks are 52 percent of those serving for sex-related crimes, 61 percent for first-degree murder, 66 percent for second-degree murder, 67 percent for drug-related crimes, 77 percent for other and lesser crimes, 78 percent for those serving for the

designation of habitual felon, and 80 percent (32 of 40 individuals) serving for the designation of “violent habitual felon.” Black men, of course, represent approximately 11 percent of the North Carolina population.

Year of Imprisonment, Age at Crime, and Current Age of Long-Term Prisoners

Figure 2 shows when these long prison sentences were imposed (note that it is limited to those currently incarcerated).

Figure 2. Year of Imprisonment for NC Prisoners Serving more than 50-Year Sentences.

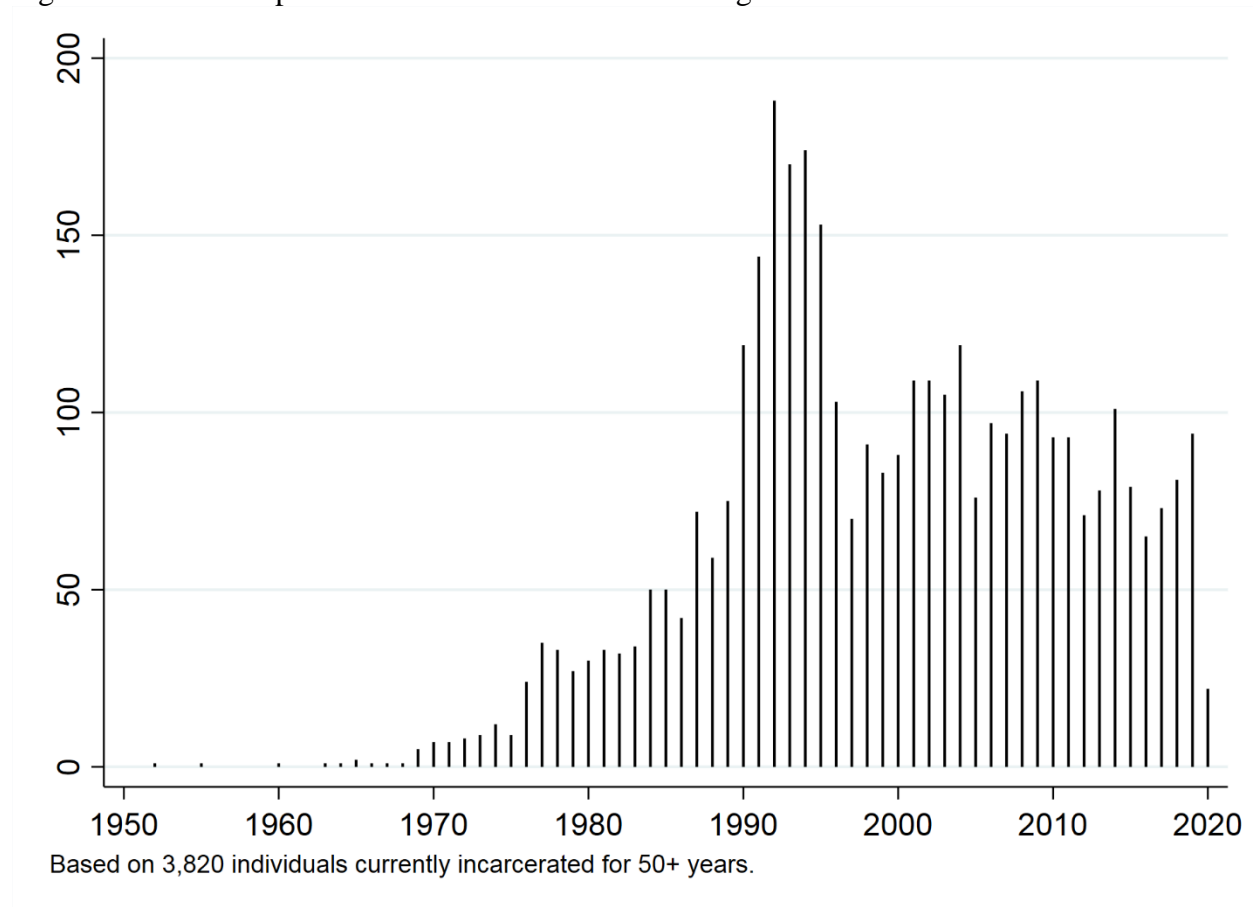
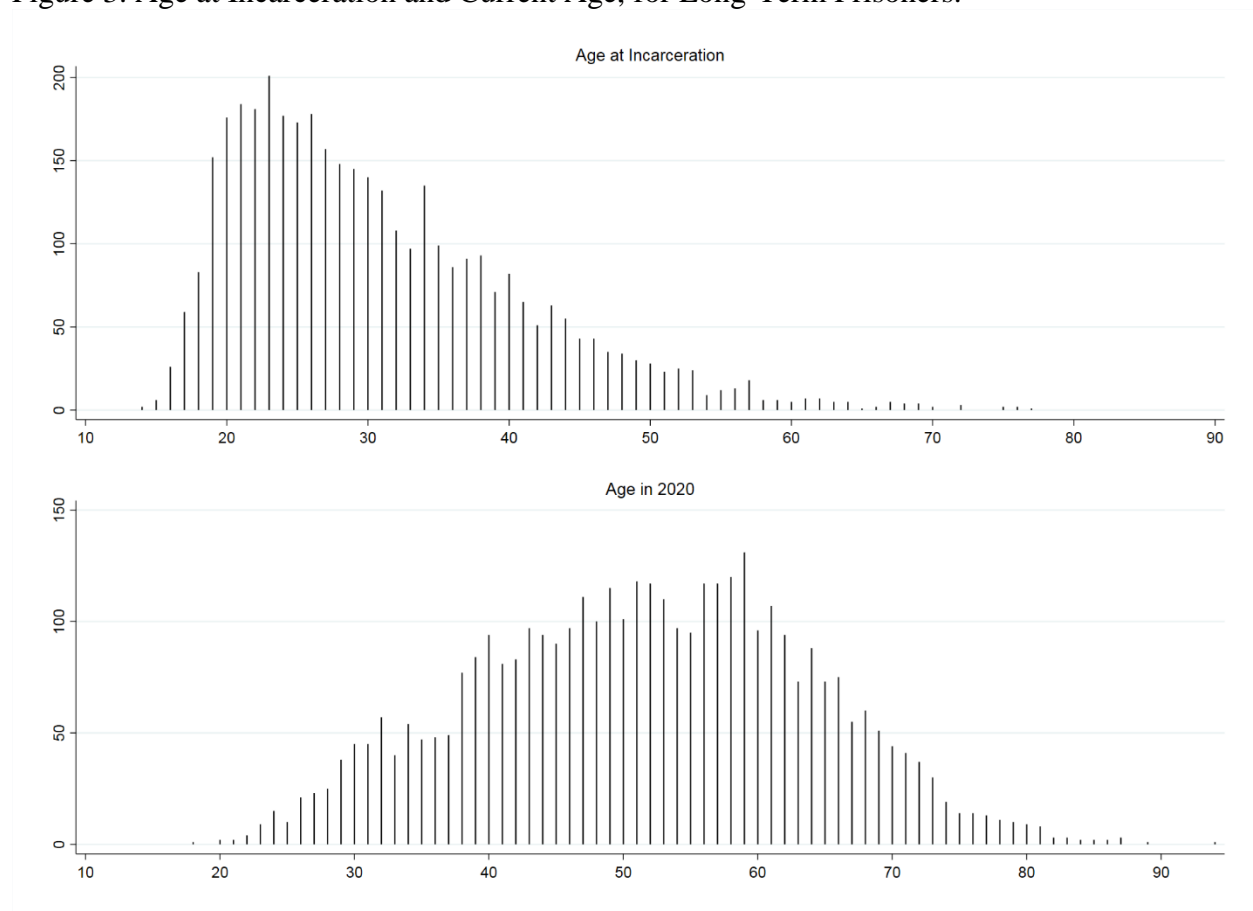


Figure 2 makes clear a spike in long prison sentences around the time of the 1993 reform and a steady number of just under 100 individuals per year being so sentenced in the period since then. Figure 3 shows the age at the time of incarceration as well as the current age of these individuals.

Figure 3. Age at Incarceration and Current Age, for Long-Term Prisoners.



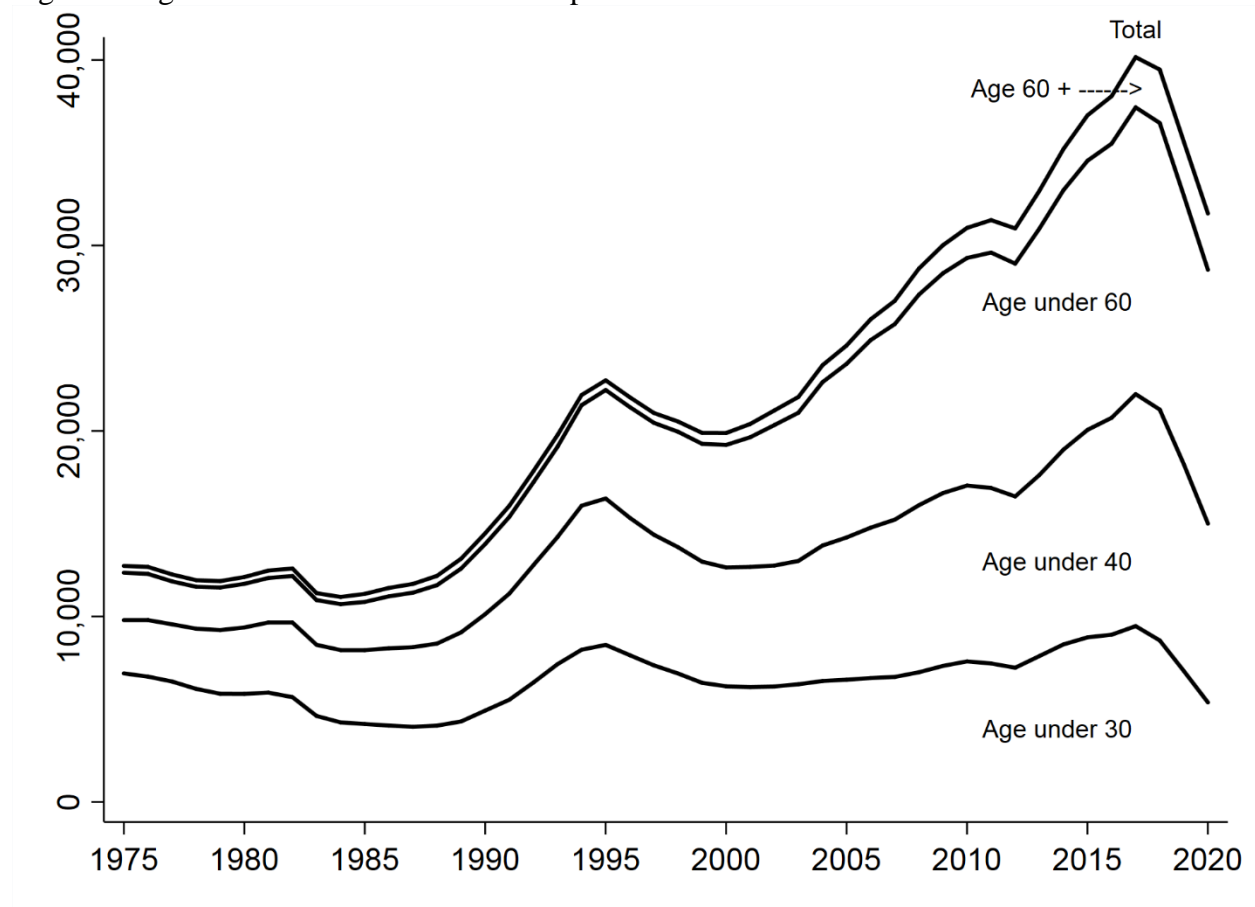
The median age at the time of incarceration for individuals currently incarcerated for these long terms is 29 (and therefore they were slightly younger at the time of the crime), and their median age as of 2020 is 52. One-quarter of those serving these long sentences is 60 years old or older. It is in the nature of such long prison terms that individuals do not “churn” through the prison system as may be the case with those serving shorter terms. Rather, they will most likely remain in prison until they die. If we look at all 31,749 individuals serving active prison time in 2020, their median age at entry into the prison system was 33, and their median age as of 2020 is 39. The long-termers were slightly younger than the others when they entered the system; they committed their crimes, on average, almost 20 years earlier; and they are much older today as a group. Recall from Figure 2 that fewer than 100 individuals enter the system each year with a long prison term, but, barring a change in their sentence based on appeals, no

one leaves other than by natural death. It should be clear that the difference in ages among these two groups will only continue to accentuate in the coming decades. We noted earlier that an individual sentenced to a long term in 1994 at age 26 would be 50 years old today and could easily serve another 25 years, depending on life expectancy in the prison system. In other words, the system created in 1994 has not had time yet to reach equilibrium in terms of the age distribution of people in the prison system. The number of older individuals incarcerated can be expected to expand for the next two decades at least, as the initial cohort of individuals sentenced under these new guidelines grow into their later years. In the next section, we explore the growth in elderly prisoners, including those serving long terms as well as others.

The Growth in Elderly Prisoners

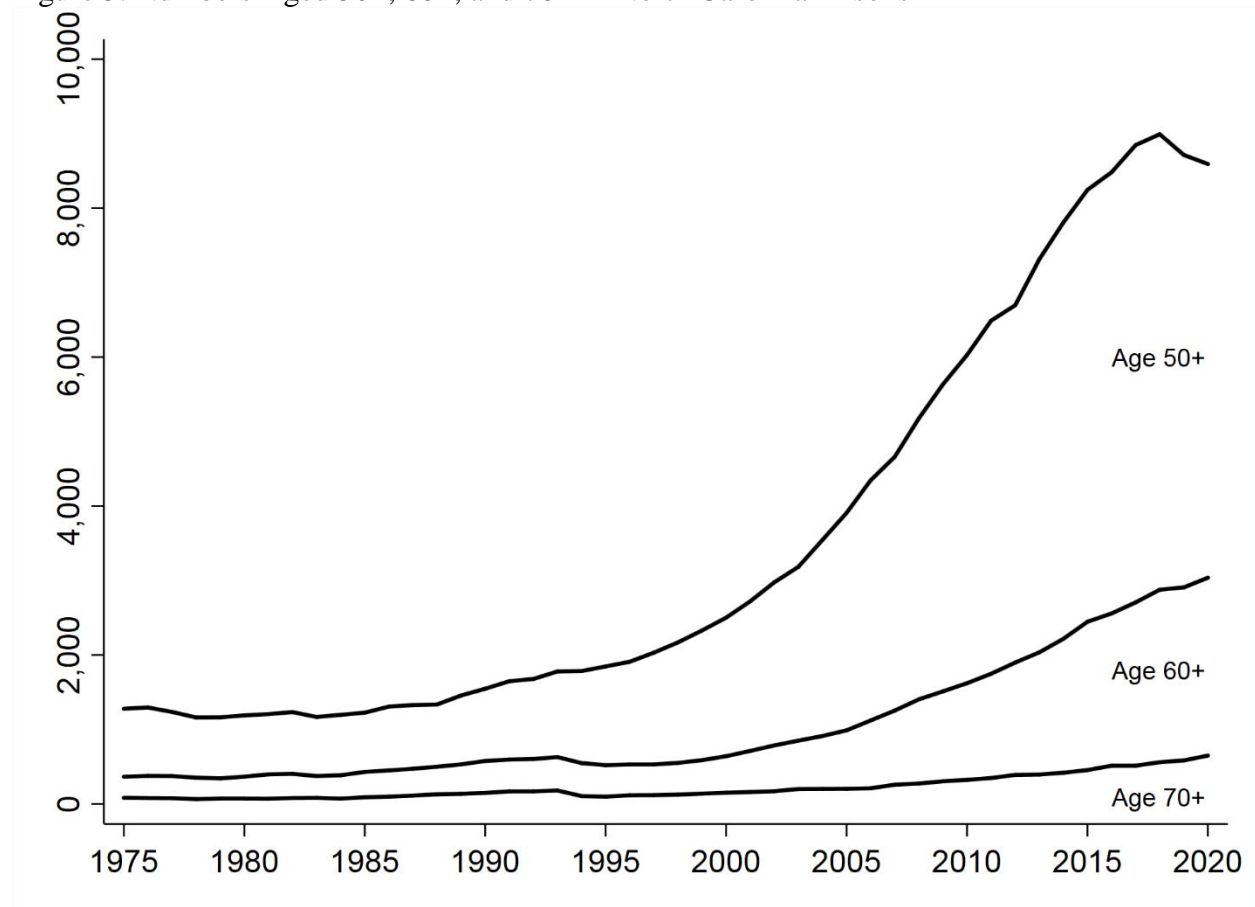
Here we look at the age distribution of all individuals in the state prison system. Figure 4 shows the age distribution of prisoners in each year from 1975 to the present.

Figure 4. Age Distribution of NC Prison Population



In 1975, 6,934 individuals, over half of the 12,727 individuals incarcerated, were under the age of 30; just 366 individuals were aged 60 or older. By 2020, the number of older prisoners had increased to 3,038, whereas the number of those under the age of 30 had declined to 5,368 (despite the rapid rise in total prison population that Figure 4 makes clear). Prisoners in their 30s, 40s, and 50s grew substantially as well. Figure 5 breaks down the group of 50+ prisoners to show the dramatic rise in those over 50 beginning in the late-1990s, almost immediately following the implementation of the 1994 sentencing reform.

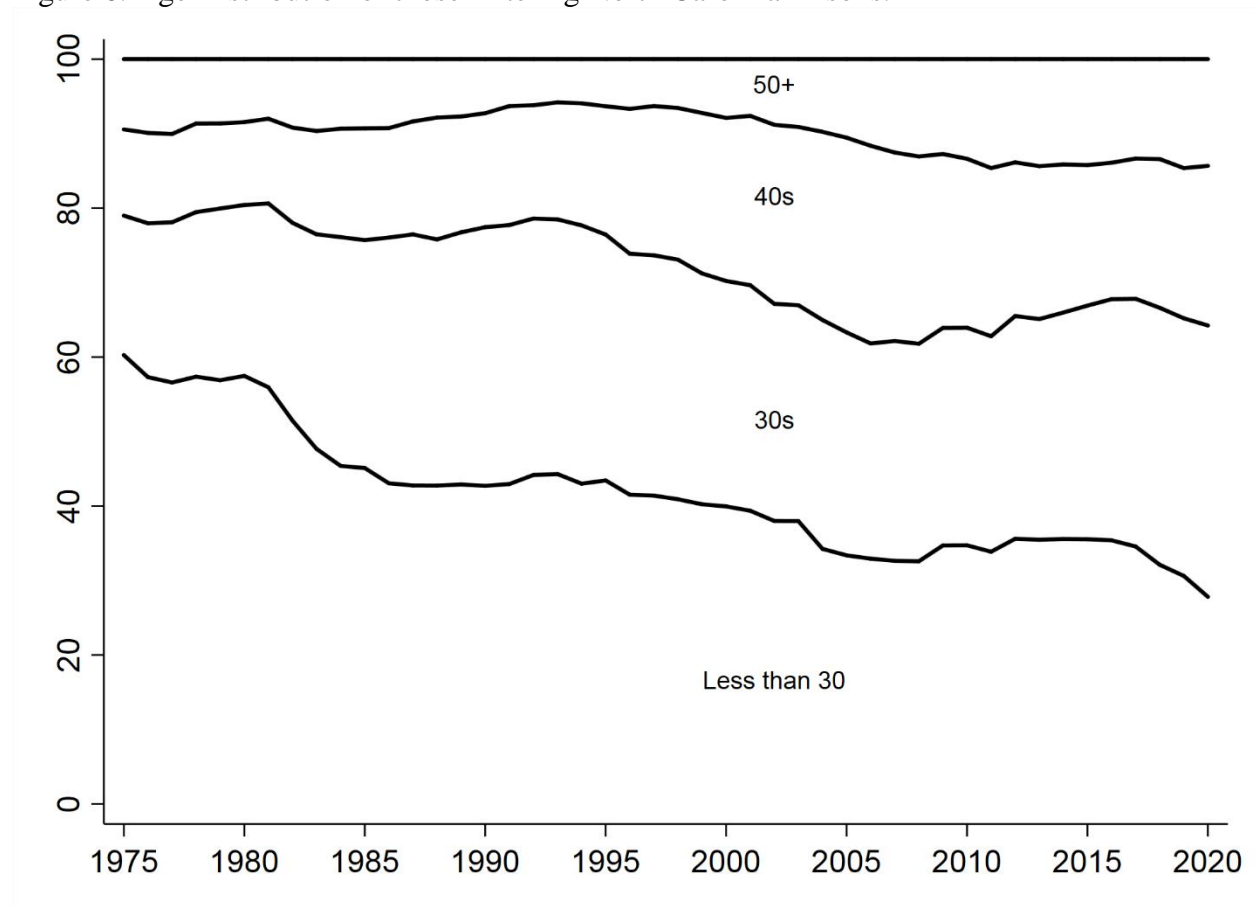
Figure 5. Numbers Aged 50+, 60+, and 70+ in North Carolina Prisons



The number of prisoners aged 50 and older, which had never been above 1,500 before 1990, rose to almost 9,000 in 2018. Those 60 and older increased from fewer than 500 in every year before 1988 to over 3,000 in 2020; those over 70 numbered fewer than 100 in every year before 1987, but rose to 650 by 2020.

The growth in the age of those incarcerated is due to an increase in the age at which individuals enter the system as well as to longer sentences imposed following the 1993 reforms. Figure 6 shows the ages at which individuals entered the prison system over time.

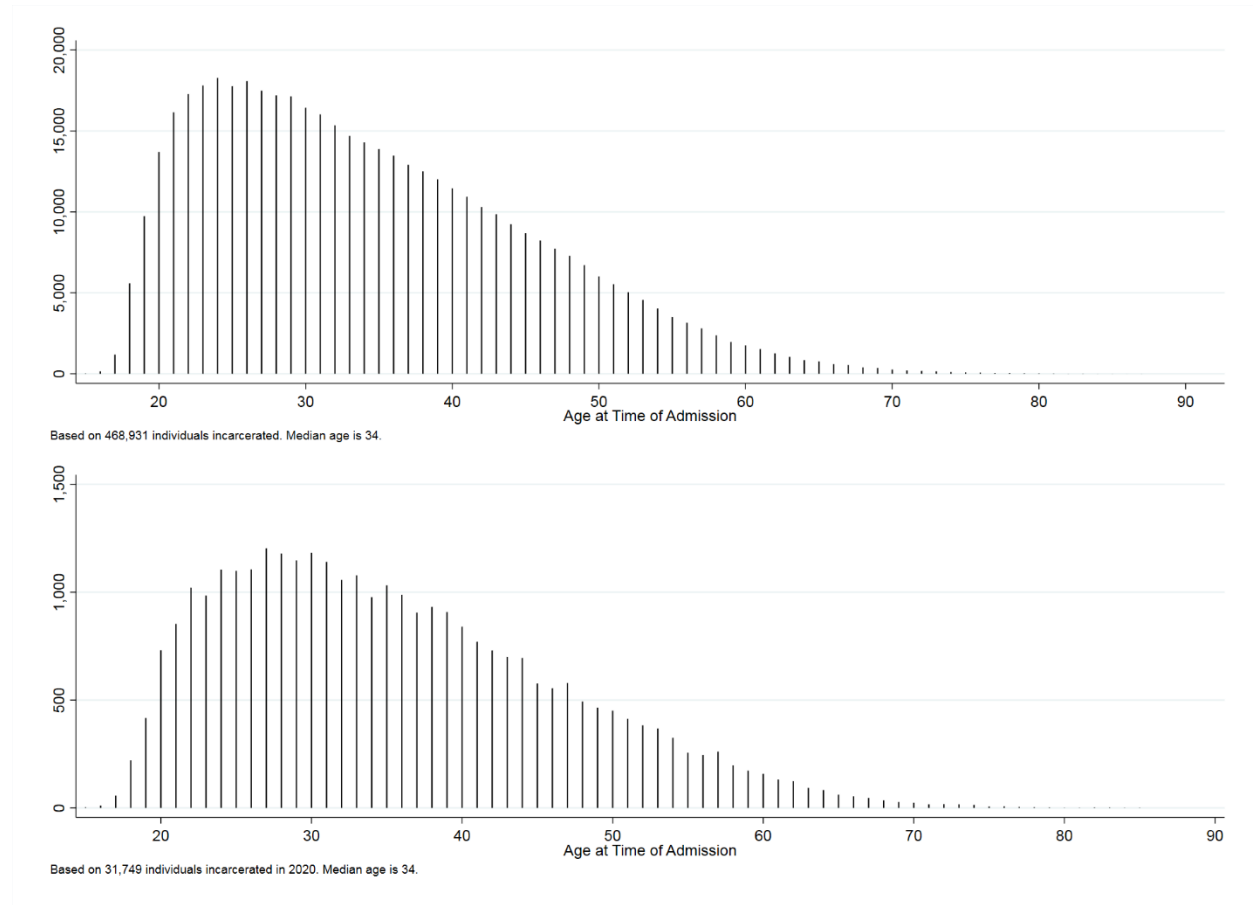
Figure 6. Age Distribution of those Entering North Carolina Prisons.



In 1975, 3,500 individuals aged under 30 entered the North Carolina prison system; they represented 60 percent of those incarcerated that year. This share declined to 27 percent by 2020. Those in their thirties increased from 19 to 36 percent; those in their forties moved from 12 to 21 percent; and those aged 50 or more moved from nine to 14 percent. Clearly there was a movement toward those in their 30s and 40s over time. Of course, if a person enters prison at age 35 for a two-year term, they will not grow old in the prison system. So, the age distribution of the current prison population is affected more by the numbers of individuals serving extremely long terms rather than the ages of individuals as they enter the system. Figure 7 shows that the current group of 31,749 individuals serving in prison shows the same age profile as the full historical set of all prisoners over time. The median age for both sets is 34, and the distribution makes clear

that it is much more common to come into prison in one's 20s or 30s than at older ages, though these things do occasionally occur.

Figure 7. Age at Time of Entry to Prison, all those Incarcerated over Time and those Incarcerated in 2020.



The growth in elderly prisoners is, overall, more due to changes in the structure of sentencing than because of an increase in the age at which individuals commit crimes. The structure of the prison population at any given time is more due to the distribution of terms imposed than due to any changes in the ages at which people enter the system. Figures 8 and 9 make this clear. Figure 8 shows the initial terms of those sentenced over time, and Figure 9 shows the composition of the prison population according to those same categories.

Figure 8. Percent of Individuals Sentenced to Shorter and Longer Terms, Over Time

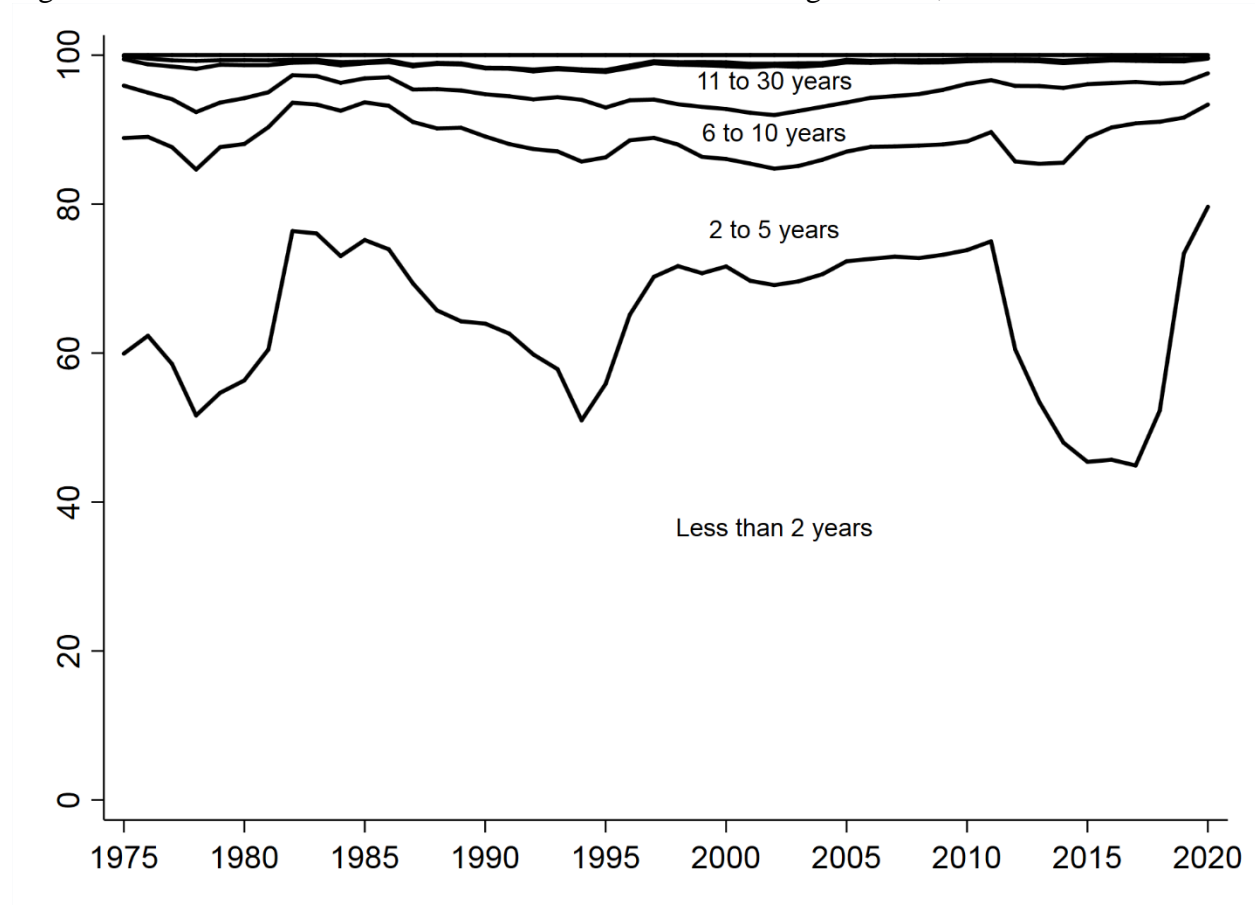
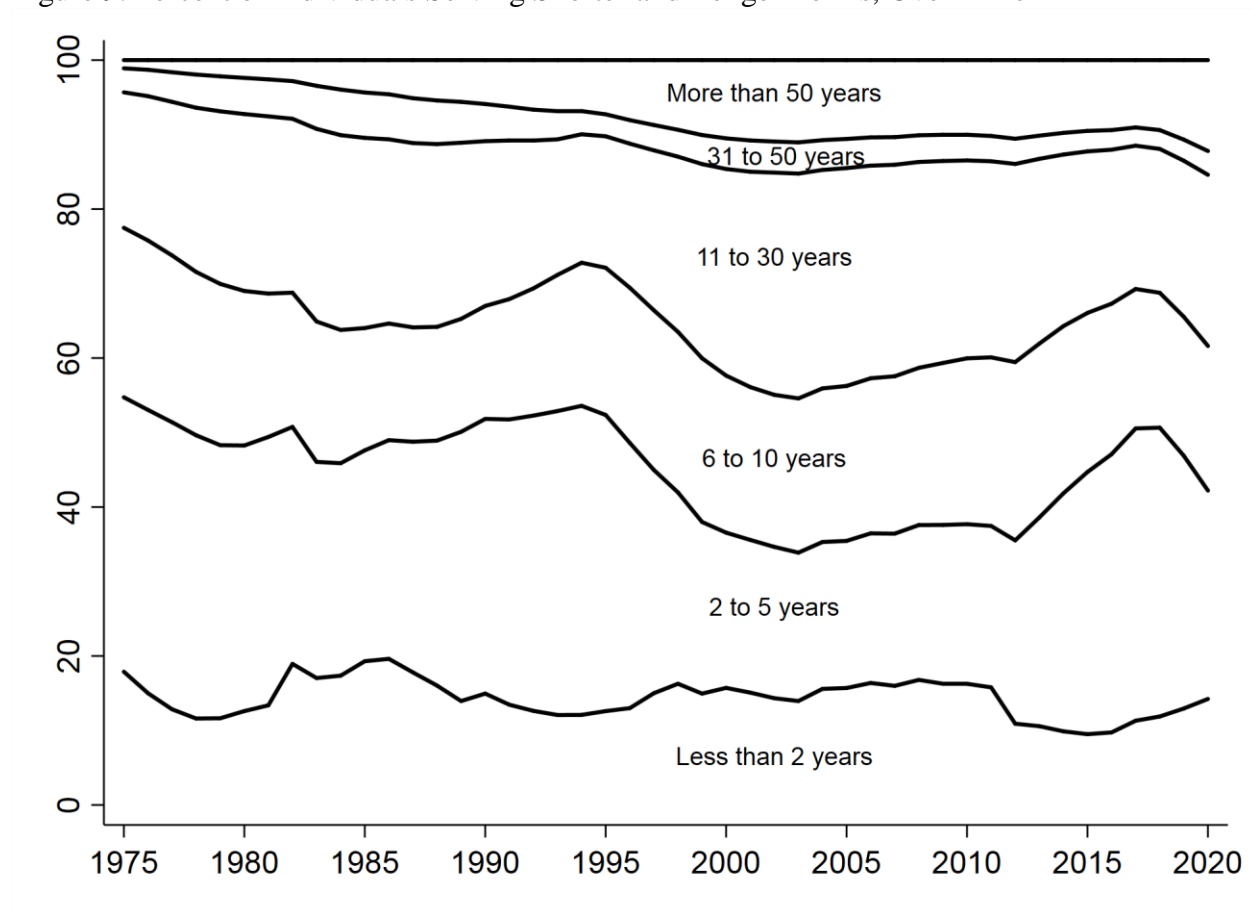


Figure 8 makes it clear that short terms are the norm. Over the entire time period of this study, 65 percent of all those incarcerated in a given year are sentenced to a term of less than two years; 89 percent are sentenced to a term of 5 years or less; 95 percent, 10 years or less, and so on. The issue of growing old inside prison is almost entirely accounted for by a very small share of the prison population sentenced to extremely long terms. Figure 2 above showed that these generally represent 100 or fewer new admissions each year. Figure 1, however, showed how these numbers add up. Since these individuals never leave the prison system except by death, their numbers accumulate every year, and that growth is nowhere near its end as of today. We can see this clearly in Figure 9. It is identical in format to Figure 8, but where Figure 8 presented the data in terms of how many individuals enter into the system with which length of sentence, Figure 9 shows the data in terms of who is serving at a particular time. Obviously, those with

longer sentences remain in the system whereas those entering for a short term rotate out of the system. Therefore, Figure 9 has a very different look than Figure 8. In particular, the number prisoners serving very long terms at any given time is much larger than the number entering the system with such terms, in any given year. Correspondingly, those serving short terms represent a much greater share of those entering in a given year than of the resident population of the prison system in that same year.

Figure 9. Percent of Individuals Serving Shorter and Longer Terms, Over Time

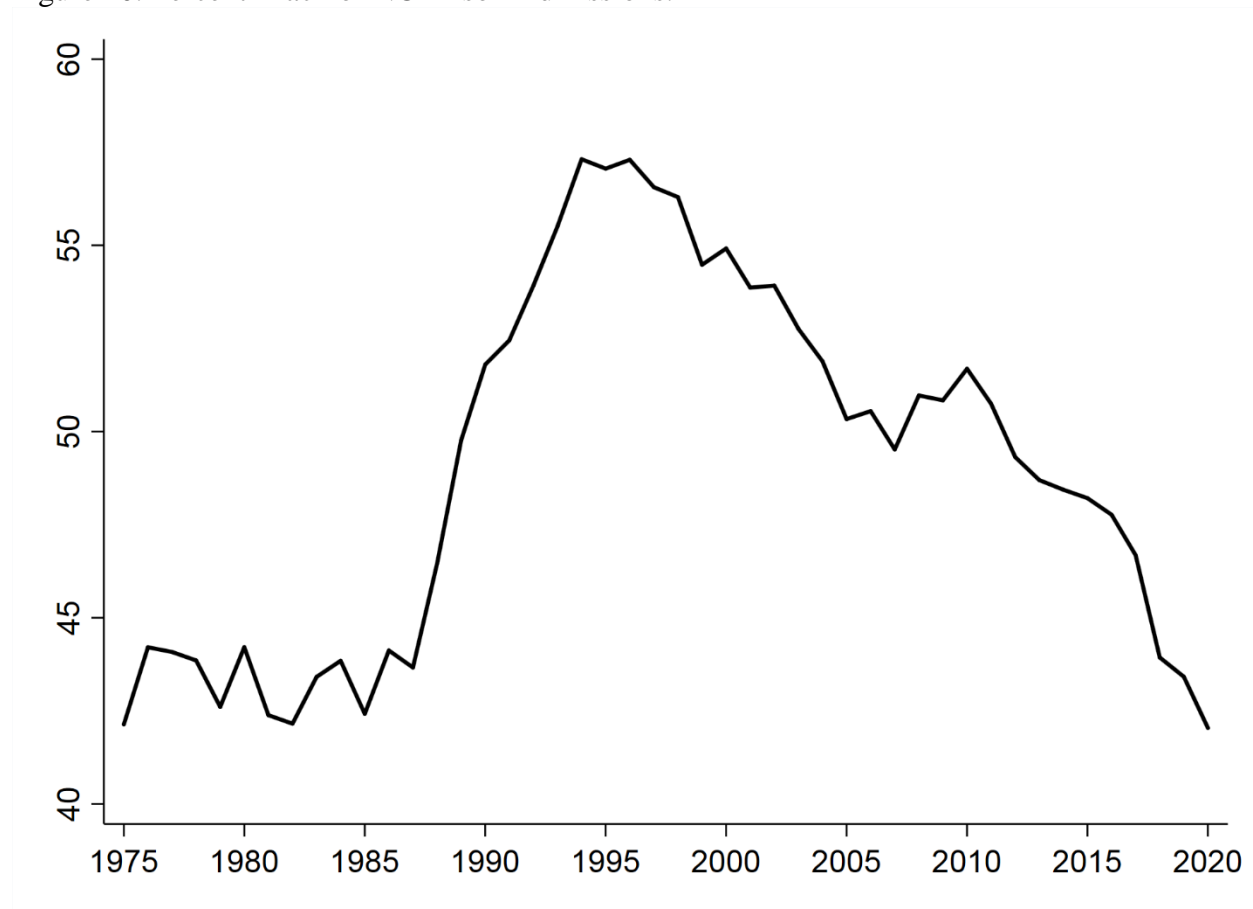


A comparison of Figures 8 and 9 makes clear the impact of long prison sentences. Figure 8 shows that individuals continue to enter the system for relatively short terms, but Figure 9 makes clear that a small group, barely visible in Figure 8 as a share of those entering prison, are a much larger share of the resident population in any given year. Those serving 50 years or more grew from 2 percent of the total to over 12 percent from 1975 to 2020.

Racial Dynamics Associated with the “Tough on Crime” period of the 1990s

It is important to note that the “tough on crime” reforms adopted in North Carolina and throughout the nation corresponded with a rise in the share of black individuals being incarcerated. Much of this may have had to do with the crack epidemic. In any case, Figure 10 makes clear that blacks, already over-represented in the NC prison population at about 45 percent in the period of 1975 through the late 1980s, increased their share by about 10 percentage points in the period just preceding the 1993 reforms. These numbers later declined to about where they started, but we should not lose sight of the racial differences in incarceration rates surrounding the implementation of the 1993 reforms. It may have been easier to enact reforms generating extremely long prison terms because the prison population was increasingly made up of blacks.

Figure 10. Percent Black of NC Prison Admissions.



Mortality in Prison

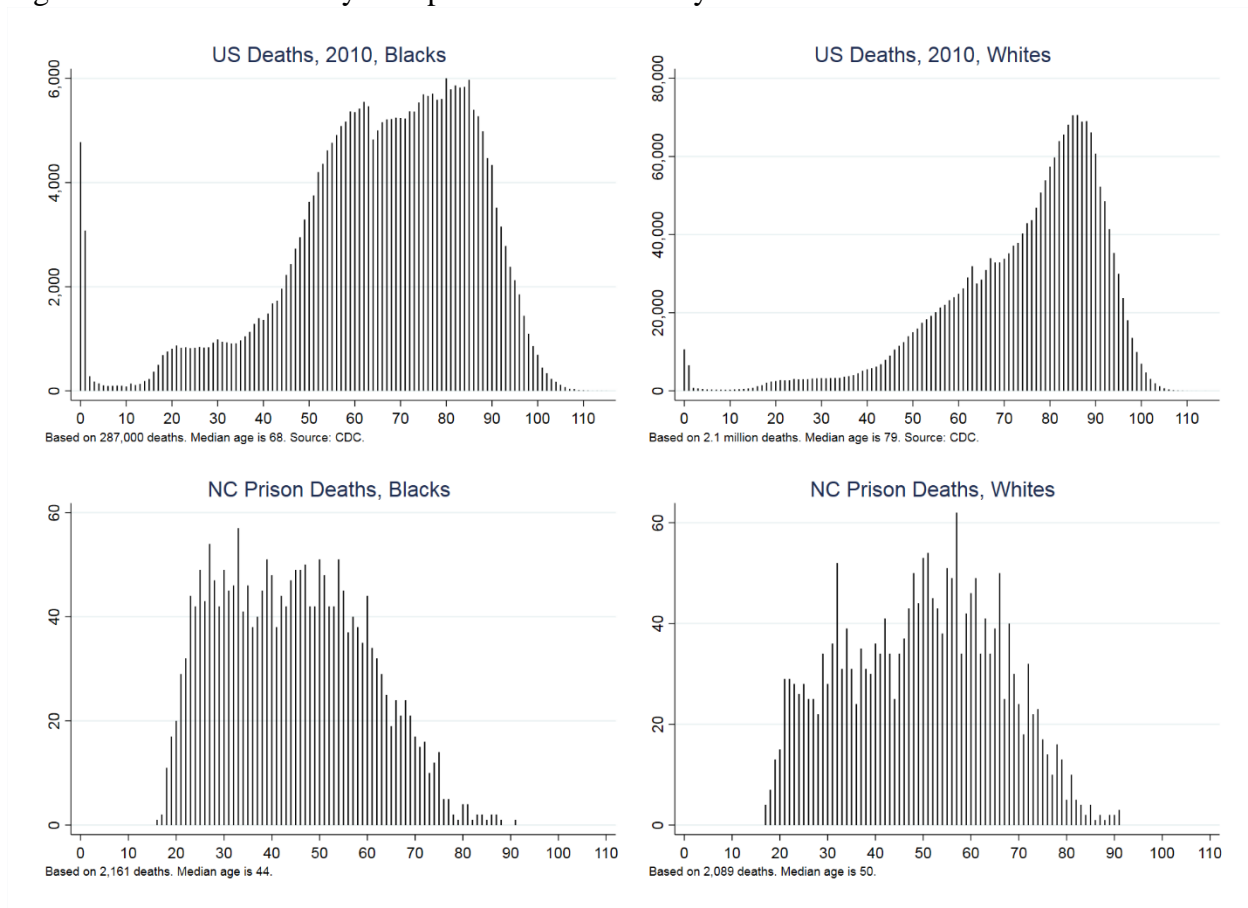
Death comes early in prison. In this section we compare the age at death for white and black prisoners and compare it with the US population. There may be other appropriate benchmarks, but a simple comparison to the US total is also instructive. In 2010, the US counted almost 309 million individuals and there were approximately 2.7 million deaths; the rate of death was therefore 8.7 deaths per 1,000 population. In North Carolina prisons, 4,416 individuals have died while in custody out of a population of 458,976 individuals who have been in custody at one point or another. This generates a similar rate of death: 9.4 per 1,000. However, such a calculation is misleading since most individuals come into the prison system at a relatively young age, and leave quickly. It is more instructive to look at the ages at which these individuals

pass away. Figure 11 compares the distributions of ages at which whites and blacks pass away.

The upper two panes show US figures from the Centers for Disease Control for the year 2010.

The bottom row shows identically formatted data for those who have died while in custody of the NC prison system.

Figure 11. Prison Mortality Compared to US Mortality.

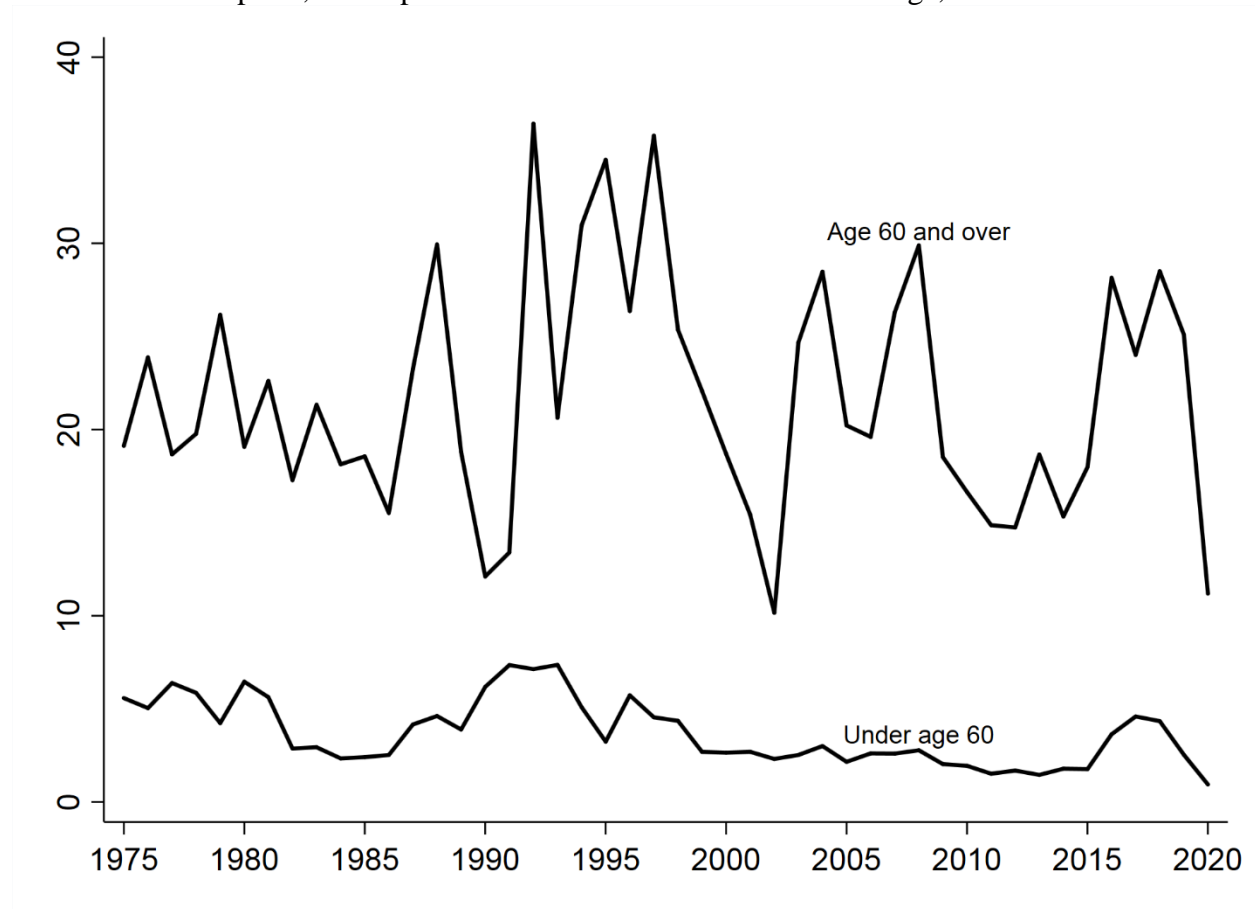


It is important to recall how young, on average, incarcerated individuals are; see Figures 2, 3, and 4 above for a reminder. While the NC prison population is growing older, it remains skewed toward the young, when compared to the US population in general. This makes it all the more remarkable that the rates of death in prison are so similar to the US population, with one major difference. Individuals die in prison at very young ages, compared to those not incarcerated. A significant racial difference is also apparent; blacks dying in prison do so at 44

years of age, on average, and whites live until age 50. Neither of these numbers corresponds favorably to the typical case in the US in general, where the median ages are 68 and 79, respectively. The fact that large numbers of prisoners of both races die in their 20s and 30s raises a number of troubling questions.

One thing is clear. Few of those serving long prison terms have (yet) passed away from “old age.” (In fact, just 10 of 4,086 ever sentenced to a term of 50 years or longer have died in custody.) But in general, older individuals have a much higher rate of death than younger ones. Recall that the overall age distribution in the NC prison system skews relatively young, compared to the general population. So while many young individuals have died, they die at a lower rate per 1,000 in the population than older individuals. As the number of older individuals ratchets up in the years to come, we can expect a corresponding increase in mortality. Figure 12 compares rates of death per 1,000 for those over and under age 60. The younger group shows an average rate of about 3.7 per 1,000, and the older group is at 21.7, on average.

Table 12. Deaths per 1,000 Population Over and Under 60 Years of Age, NC Prisons.



Conclusion

This review of the North Carolina state prison population data has documented a powerful shift toward an older prison population, based on a small share of all those incarcerated being sentenced to terms of 50 years and longer, and to the elimination of parole. The system has not yet come close to reaching a steady state, so for at least the next 20 years we can expect that the number of older individuals in the system will continue to rise, and dramatically so. Our prisons will increasingly resemble nursing homes. It will be up to our state's elected leaders, as in other states where the same processes are occurring, to decide if the public safety value of these policies remains apparent now a generation after they were adopted and some of the obvious but unexamined implications of them are coming to fruition.

References

The North Carolina Sentencing and Policy Advisory Commission. 2014. *A Citizen's Guide to Structured Sentencing*. Raleigh: North Carolina Judicial Branch. Available at:
<https://www.nccourts.gov/documents/publications/citizens-guide-to-structured-sentencing>.

Appendix

Table A-1. Full List of Crimes for those Serving more than 50 Years.

Crime	Black	White	Other	Total	Category
MURDER FIRST DEGREE	1,345	699	155	2,199	Murder, 1st deg.
MURDER SECOND DEGREE	291	141	12	444	Murder, 2nd deg.
1ST DEGREE FORCIBLE RAPE	-	4	1	5	Rape, Sex Asslt.
1ST DEGREE FORCIBLE SEX OFFENSE	1	-	-	1	Rape, Sex Asslt.
1ST DEGREE STAT RAPE	1	-	-	1	Rape, Sex Asslt.
INCEST CHILD 13/14/15 DEF ≥ 6 YRS	1	-	-	1	Rape, Sex Asslt.
RAPE CHILD BY ADULT	5	6	3	14	Rape, Sex Asslt.
RAPE FIRST DEGREE	309	156	24	489	Rape, Sex Asslt.
RAPE LESS THAN AGE 13	26	30	5	61	Rape, Sex Asslt.
RAPE SECOND DEGREE	27	8	-	35	Rape, Sex Asslt.
SEX OFF W/CHILD BY ADULT	5	3	-	8	Rape, Sex Asslt.
SEXUAL OFF 1ST DEGR W/CHILD	7	53	3	63	Rape, Sex Asslt.
SEXUAL OFFENSE 1ST DEGREE	88	127	6	221	Rape, Sex Asslt.
SEXUAL OFFENSE 2ND DEGREE	9	1	-	10	Rape, Sex Asslt.
STAT RAPE CHILD ≤ 15 DEF ≥ 6 YRS	1	2	-	3	Rape, Sex Asslt.
STAT RAPE OF CHILD BY ADULT	-	4	1	5	Rape, Sex Asslt.
STAT RAPE/SEX OFFN ≥ 6 YR	30	31	5	66	Rape, Sex Asslt.
STAT SEX OFFN W/CHILD BY ADULT	1	3	-	4	Rape, Sex Asslt.
TRAFFICK COCAINE >400 GRAMS	1	-	-	1	Drug-Related
TRAFFICKING SCHEDULE I	1	-	1	2	Drug-Related
TRAFFICKING SCHEDULE II	4	1	1	6	Drug-Related
HABITUAL FELON	25	7	-	32	Habitual Felon
VIOLENT HABITUAL FELON	32	6	2	40	Viol. Hab. Felon
AISI LAW/PROB/PAR OFFIC W/DUTY	-	1	-	1	Other
ARMED ROBBERY	12	2	-	14	Other
ARSON 1ST DEGREE	1	1	-	2	Other
ARSON 2ND DEGREE	1	-	-	1	Other
ASSAULT ON FEMALE	1	-	-	1	Other
ATT FIRST DEG MURDER	13	-	-	13	Other
AWDWISI	1	-	-	1	Other
AWDWWITKISI	7	3	-	10	Other
BURGLARY 1ST DEGREE	22	8	-	30	Other
BURGLARY 2ND DEGREE	-	2	-	2	Other
COMMON LAW ROBBERY	1	-	-	1	Other
FELONY B&E	-	1	-	1	Other
KIDNAPPING 1ST DEGREE	11	-	1	12	Other
KIDNAPPING 2ND DEGREE	2	1	-	3	Other

KIDNAPPING/ABDUCTION	-	1	-	1	Other
POSSESSION OF FIREARM BY FELON	2	-	-	2	Other
ROBBERY W/DANGEROUS WEAPON	10	4	-	14	Other

Total	2,294	1,306	220	3,820	
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Note: This is the full data among individuals serving active prison sentences as of August 7, 2020. The categories in the right-most column refer to those used in Table 1 in the main text of this report.