



# MOTORIST CRASH DATA

An Interrupted Time Series Analysis  
of the Sociodemographics of Crash  
Victims during the Illinois Stay at  
Home Order



# REDUCED DRIVING

In 2020, a 13 percent reduction in driving was seen as measured by vehicle miles traveled.

With less driving there were fewer opportunities for linked crashes which also comes out in the data.

There was a 25 percent reduction in the number of people involved in linked crashes in 2020.

# CRASH RATES DOWN, FATAL CRASHES UP

The proportion of linked fatal crashes grew from 0.139 percent in 2019 to 0.218 percent in 2020.

Another 18 percent of linked motor vehicle crashes in 2020 resulted in severely injured motorists, up from the prior four year mean of 11 percent.



# INCREASE IN INJURY SEVERITY

Increases in injury severity are also evident in the nearly 72 percent growth in average hospital charges to over \$16,000 during 2020.

The previous four year mean for MVC patients was at just 1.6 percent growth and less than \$10,000.



# RISKY BEHAVIORS



## Unsafe Riding

From 2016 through 2019 an average of 3.9 percent of MVC victims were either un-belted or un-helmeted; that proportion jumped to 6 percent in 2020.



## Impaired Driving

Crashed drivers diagnosed at the hospital as positive for at least one of more than six intoxicating substances ballooned in 2020 to 5.4 percent, up from the previous four year mean of 2.25 percent.



## Speeding

Linked crashes in which speeding was a contributing factor were also up in 2020 to 46.3 percent, relative to the prior four year mean of 43.6 percent.

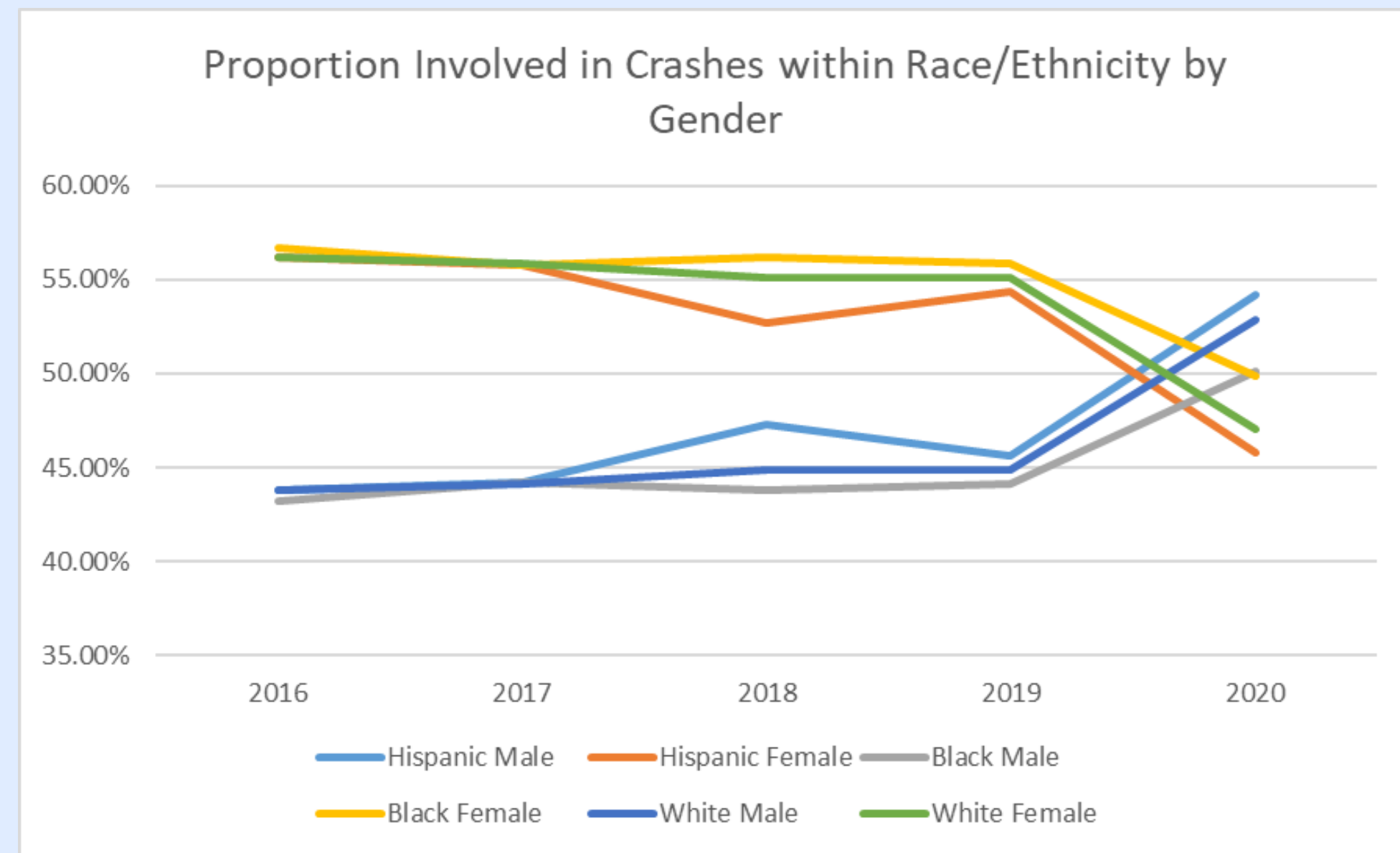
# GENDER, RACE AND ETHNICITY

In 2020, the demographics of the typical crash victim changed. Between 2016 – 2019, little variation is seen in the race/ethnicity and gender of those involved in linked crashes. Within race and ethnicity, females were involved in the majority – like 57 percent – of linked crashes with males making up the remaining percentages.

As females were often forced to stay home as caregivers, they drove less – and since they drove less they were involved in fewer crashes. Meanwhile, males were involved in more linked crashes relative to the years before 2020.

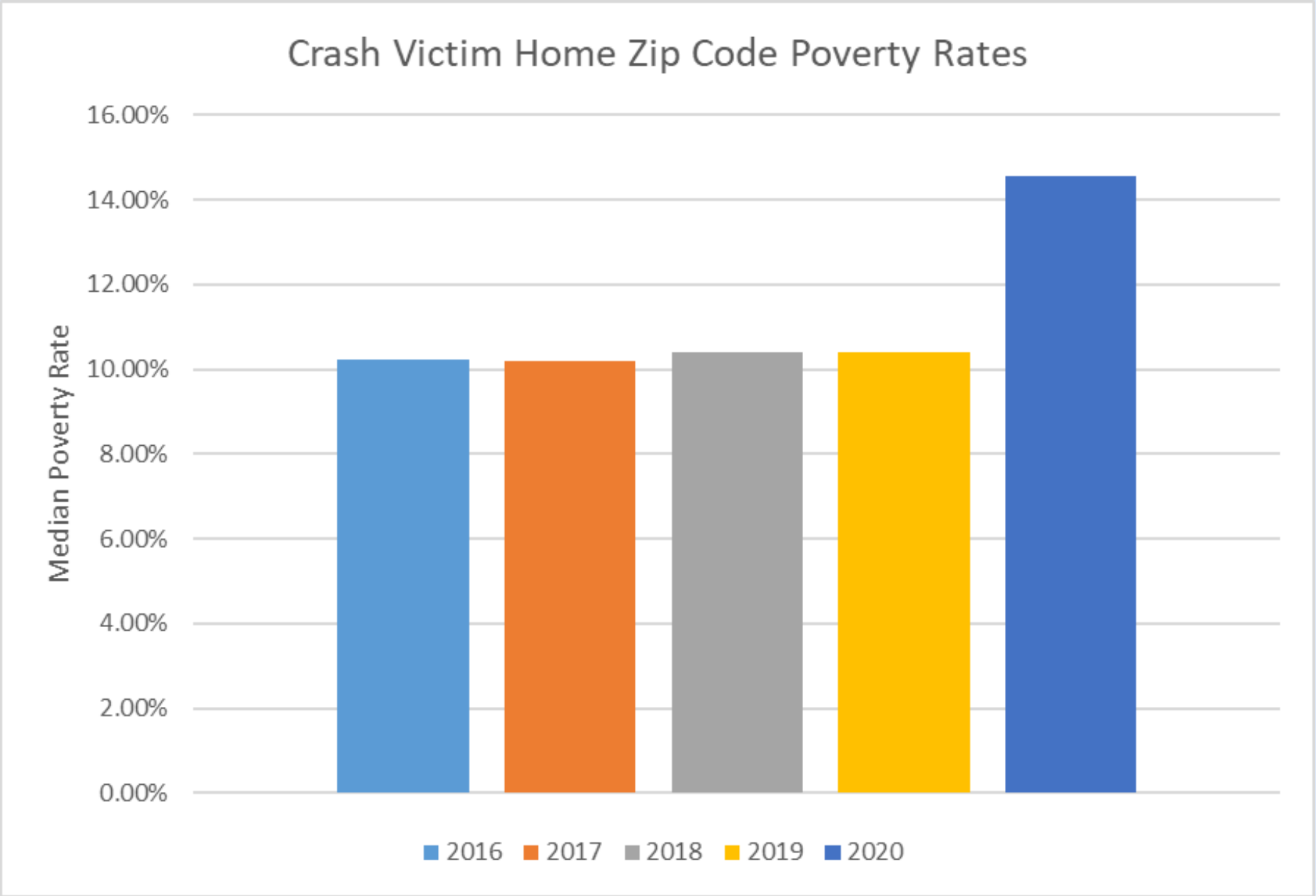
Males and females essentially swapped their share of crashes – with Hispanic males resulting in the biggest gain in shares of linked crashes followed by White males and Black males – again with Hispanic, White, and Black females making up the remaining shares within race and ethnicity.

**Crash involvement within race/ethnicity by gender limited to Illinois stay at home order dates for each calendar year (March 21 – May 29, 2020)\***



*\*Pearson chi-square tests for independence for each year,  $p < 0.05$*

**Median Poverty Rate of Crash Victim  
Home Zip Codes by Year\***



*\*2019 American Community Survey 5-year estimates*

# POVERTY

The median poverty rate of linked crash victims was steady for 4 years straight, just north of 10 percent or a little below the state average.

In 2020, that median poverty rate jumped to closer to 15 percent.

This indicates that those involved in linked crashes during the stay at home order were disproportionately living in zip codes with high poverty rates.

# GENDER

Researchers did not find indication that females changed their behavior as motorists in any significant manner that would lead to fewer crashes.

Without evidence of safer behavior, a reasonable assumption could be made that females had a diminished opportunity for crash involvement – perhaps by heeding the stay at home order and driving less.



# WHAT NOW?

Researchers are still trying to sort out the consequences of the COVID-19 pandemic. More research is needed to better understand and help plan for future emergencies.