



Presenter: Bruce Simons-Morton, EdD, MPH

Co- Investigators

NICHD: Marie Claude Ouimet; Jing Wang, Anuj Pradhan

VTTI: Tom Dingus; Charlie Klauer; Suzie Lee

Sponsors

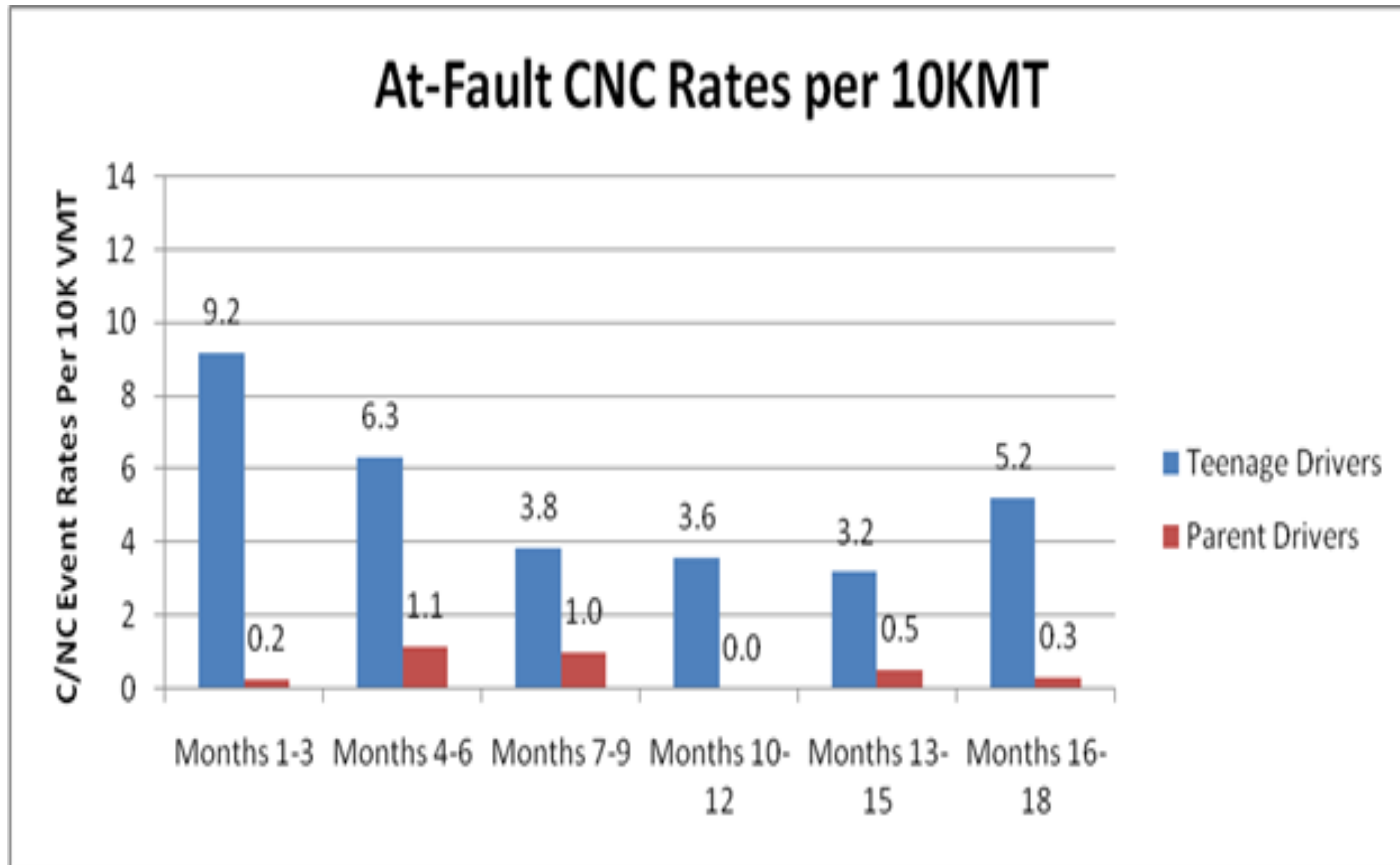
NICHD

NHTSA

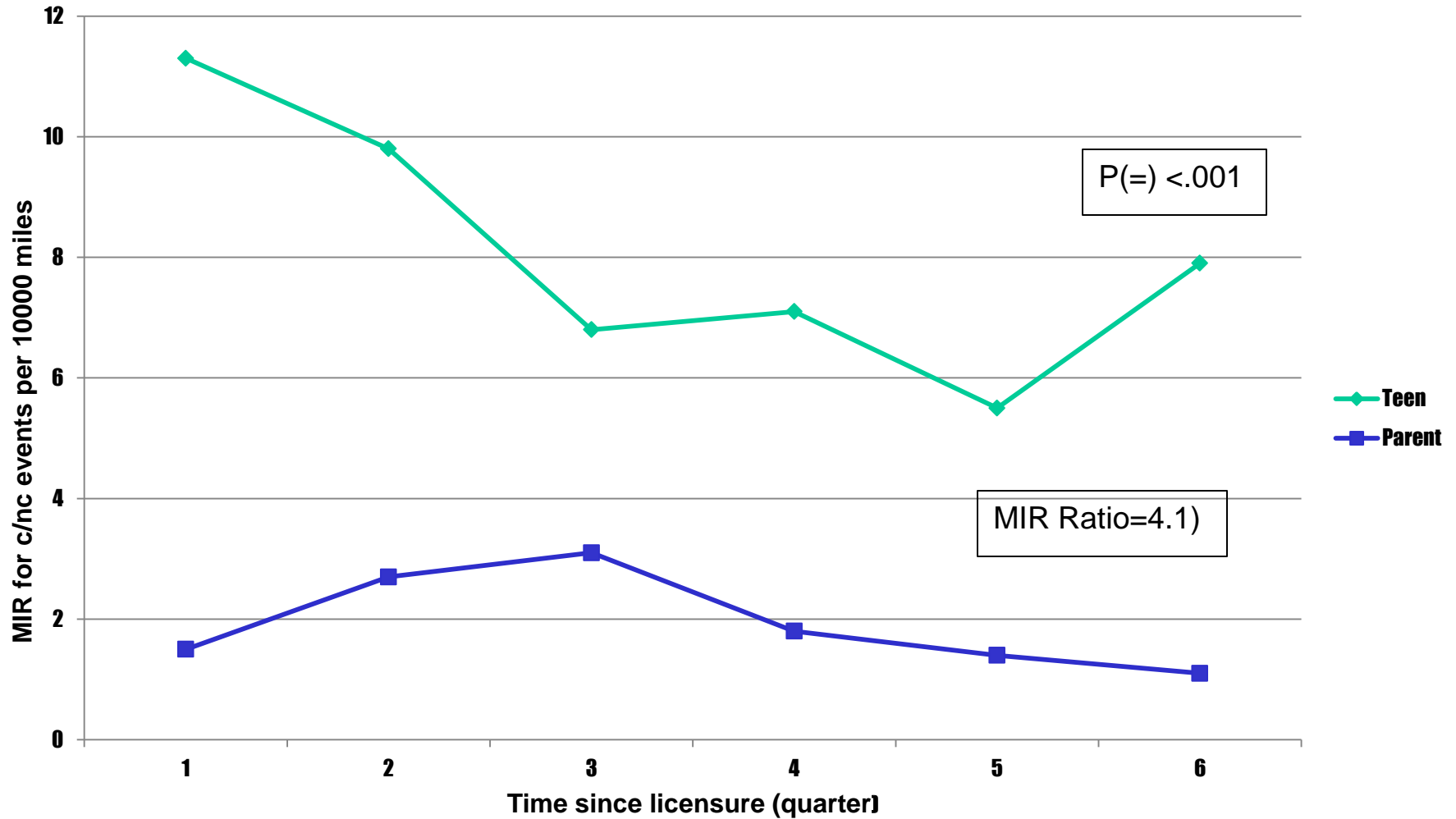
“Theories” of Teenage Driving Risk

1. Inexperience: errors should reduce over time
2. Inattention/distraction: passenger effects
3. Risk taking/risk propensity: some teens may engage in more risk than others

Crash/Near Crash Rates



Crash/Near Crash Median Incident Rates (MIR)

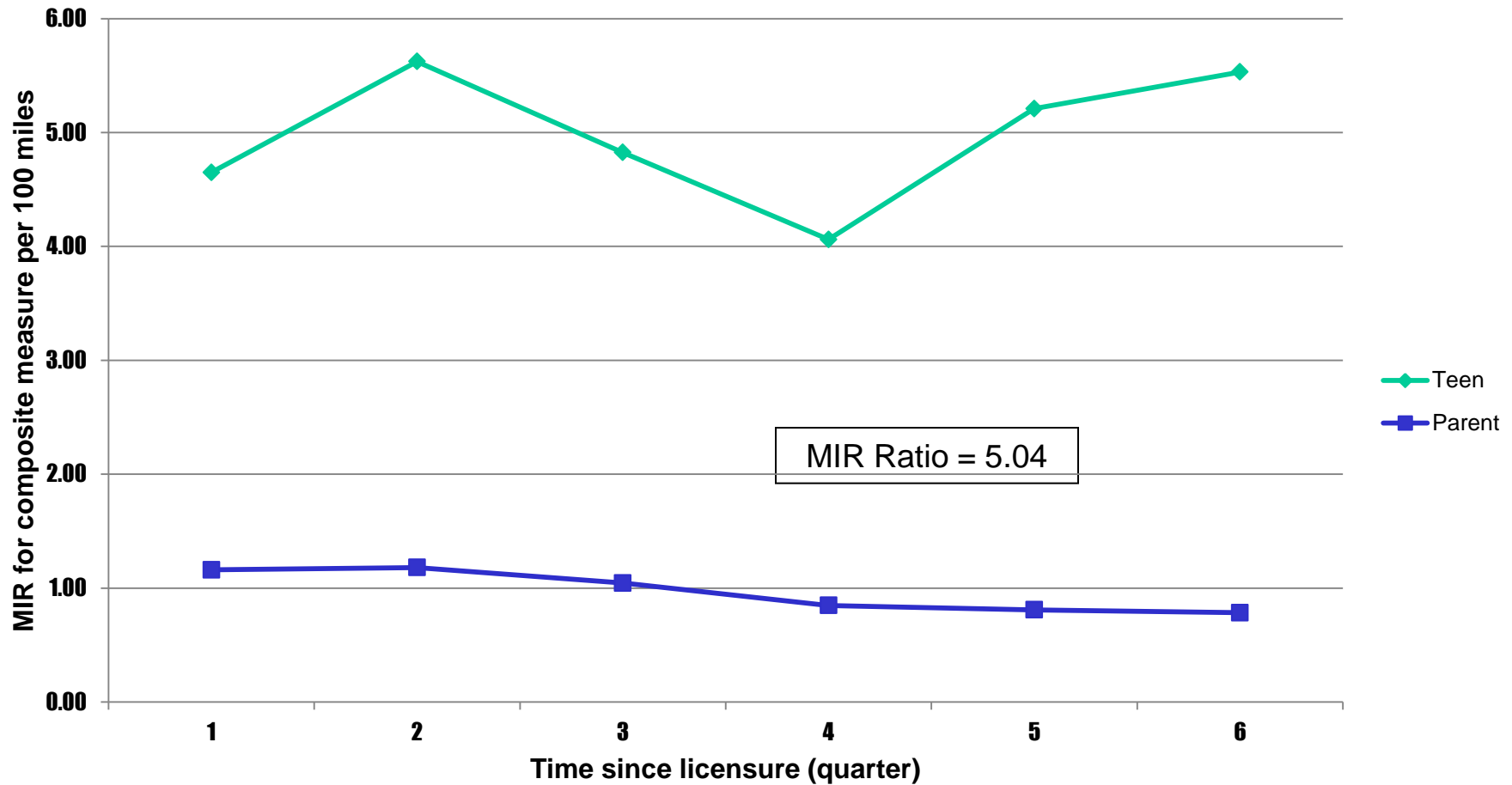


Pearson Correlations

Risky Driving and Crash/Near Crash Rates

G-force Rates	Correlation with C/NC rate	p-value
Rapid starts >0.4 g	0.23	0.15
Hard stops >0.45 g	0.71	<0 .01
Hard left turns >0.5g	0.35	0.02
Hard right turns >0.5 g	0.57	<0.01
Yaw >0.6 g	0.31	0.04
Composite	0.52	<0.01

Teen & Parent Risky Driving Rates (Median Incident Rates for Composite Score)



Unadjusted Poisson Regression Analysis

Individual Variation in Teen Risky Driving

Covariate	Overall	P1
Male vs. Female	1.20	0.550
Early night vs. Day	0.80	0.000
Late night vs. Day	0.94	0.039
Adult vs. No Pass	0.33	0.000
Teen vs. No Pass	0.82	0.000
Sensation seeking	0.87	0.653
Substance use	1.03	0.920
# Risky friends	2.21	0.007

Multivariate Analyses

Individual Variation in Teen Risky Driving

Covariate	IRR [95% CI]	P-value
Time of day		
Early night vs. Day	0.81 [0.78-0.84]	0.000
Late night vs. Day	0.95 [0.89-1.00]	0.072
Passengers		
Adult vs. None	0.32 [0.28-0.36]	0.000
Teen vs. None	0.81 [0.78-0.83]	0.000
Risky friends		
More vs. Fewer	2.14 [1.25-3.66]	0.005

Conclusion

Logic Model

1. Crash rates declined over time
2. Risky driving correlated with C/NC
3. Risky driving did not decline over time

Conclusions

1. Findings are not “real”.
2. Teens appear to improve crash rates not by reducing risky driving, but by getting better at it.
3. Teens have a risky driving “style”.

Discussion

Evidence for Each Theory of Risk

1. Inexperience
 - No decline in risky driving over time
 - Low rates with adult passengers
2. Inattention/distraction
 - Low rates with adult passengers
 - Low rates with teen passengers
 - ✓ Not distracting?
 - ✓ Distracting under complex conditions?
3. Risk taking/risk propensity
 - No effect of sensation seeking or substance use
 - Effect of risky friends
 - ✓ No direct effects
 - ✓ Social norms?

Thank you

Bruce Simons-Morton, EdD, MPH
Chief, Prevention Research Branch
DESPR, NICHD, NIH
6100 Executive Blvd 7B13M
Bethesda, MD 20892-7510
Mortonb@mail.nih.gov
301-496-5674
301-402-2084 (FAX)



The End