

Pregnancy Outcomes Among Immigrant Women from Eastern Europe and the CIS in New York City

Teresa Janevic, MPH

Natasha Ossinova, MPH RN BsN

Mary Janevic, PhD

David Savitz, PhD



Columbia University
MAILMAN SCHOOL
OF PUBLIC HEALTH

Background

- Immigrant Paradox
 - Hispanic and African immigrants are at decreased risk of poor pregnancy outcomes compared to US-born women from same groups
 - Not been found consistently among Asian immigrant groups
 - Two studies examining whites in 1985-1987 and 1998 found similar outcomes between US-born and foreign born whites (Singh 1996, Acevedo-Garcia 2005)

Background

- Literature has failed to address more specific immigrant groups
- Immigrant groups from specific regions may differ in
 - Timing of immigration
 - Reasons for immigration
 - Socioeconomic and political circumstances in home country
 - Degree of established community resources
- No previous study examining EE/CIS immigrants

Significance

- Immigrant women from EE/CIS are unique because:
 - Many are economic or conflict refugees
 - Immigrating from countries undergoing social and economic transition
 - Overwhelming majority immigrated after 1989

Significance

- Preterm delivery and small for gestational age
 - Being born too early or small has serious consequences on infant and child health
 - Useful as an indicator of maternal and child population health

Research Questions

- What are the sociodemographic characteristics of immigrant mothers from EE/CIS?
- Do immigrant women from EE/CIS have similar pregnancy outcomes as US born whites?

Methods

- New York City birth certificate data 1995-2003
- 266,017 singleton births
 - 33,393 EE/CIS (6% of all foreign-born births in NYC)
 - 232,624 US-born non-Hispanic white

Outcome measure

- Preterm delivery
 - <37 completed weeks of gestation
 - Clinical estimate of gestational age on birth certificate
- Small for gestational age
 - Proxy for fetal growth
 - In bottom 10% of weight distribution for gestational age compared to 2000 US standard

Countries of Origin

- East Central Europe
 - Poland (n=6106)
 - Czech Republic / Slovakia (n=512)
 - Hungary (n=493)



Countries of Origin

- Southeastern Europe
 - Romania (n=1379)
 - Bulgaria (n=274)
 - Former Yugoslavia (Slovenia, Croatia, Serbia, Macedonia, Montenegro) (n=5088)
 - Albania (n=1731)



Countries of Origin

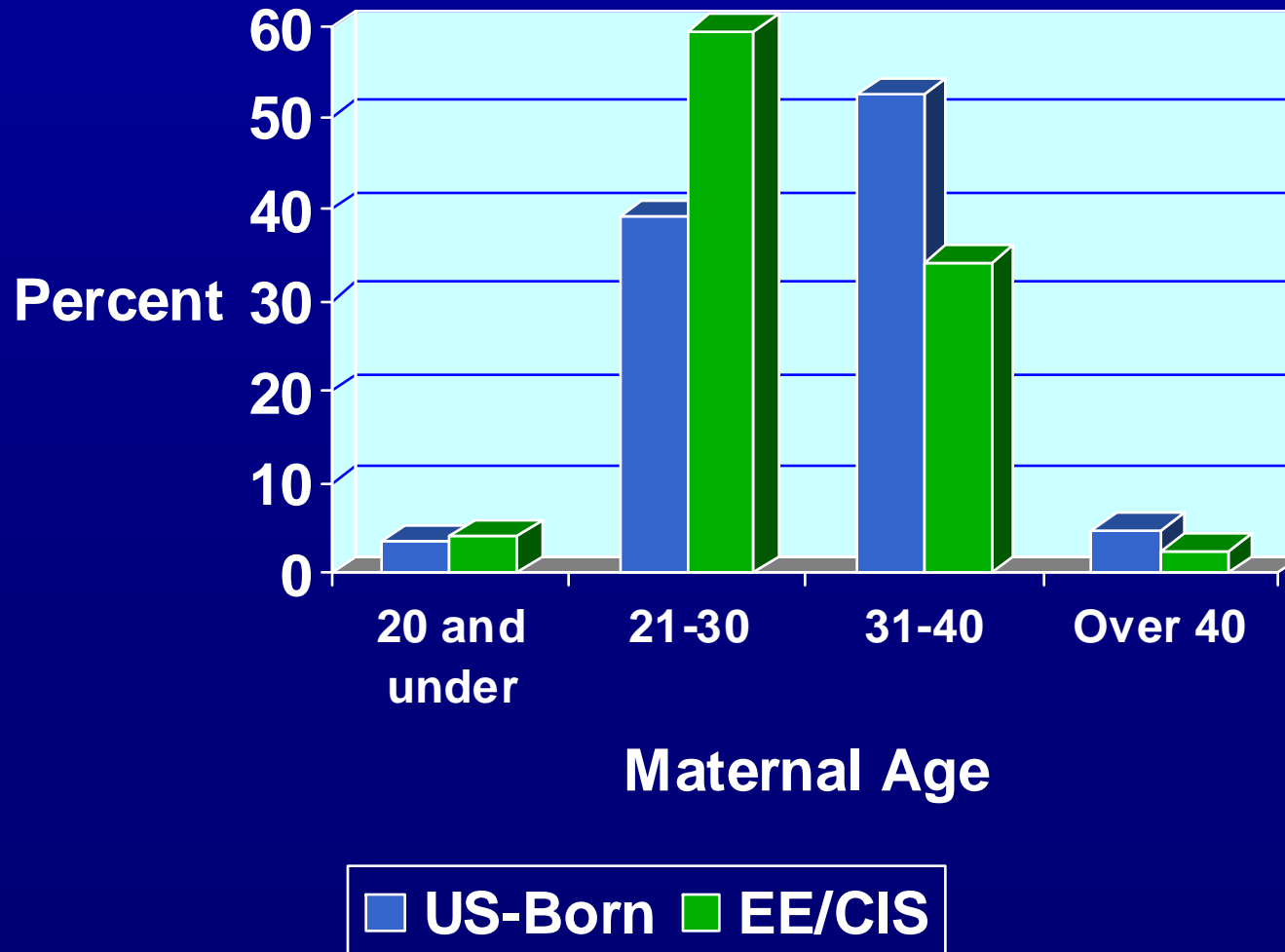
- Former Soviet Union
 - USSR (n=870)
 - Russia (n=8499)
 - Baltic (Estonia, Latvia, Lithuania) (n=385)
 - Eastern Europe (Belarus, Ukraine, Moldova) (n=5141)
 - Caucasus (Georgia, Armenia, Azerbaijan) (n=925)
 - Central Asia (Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan) (n=1990)



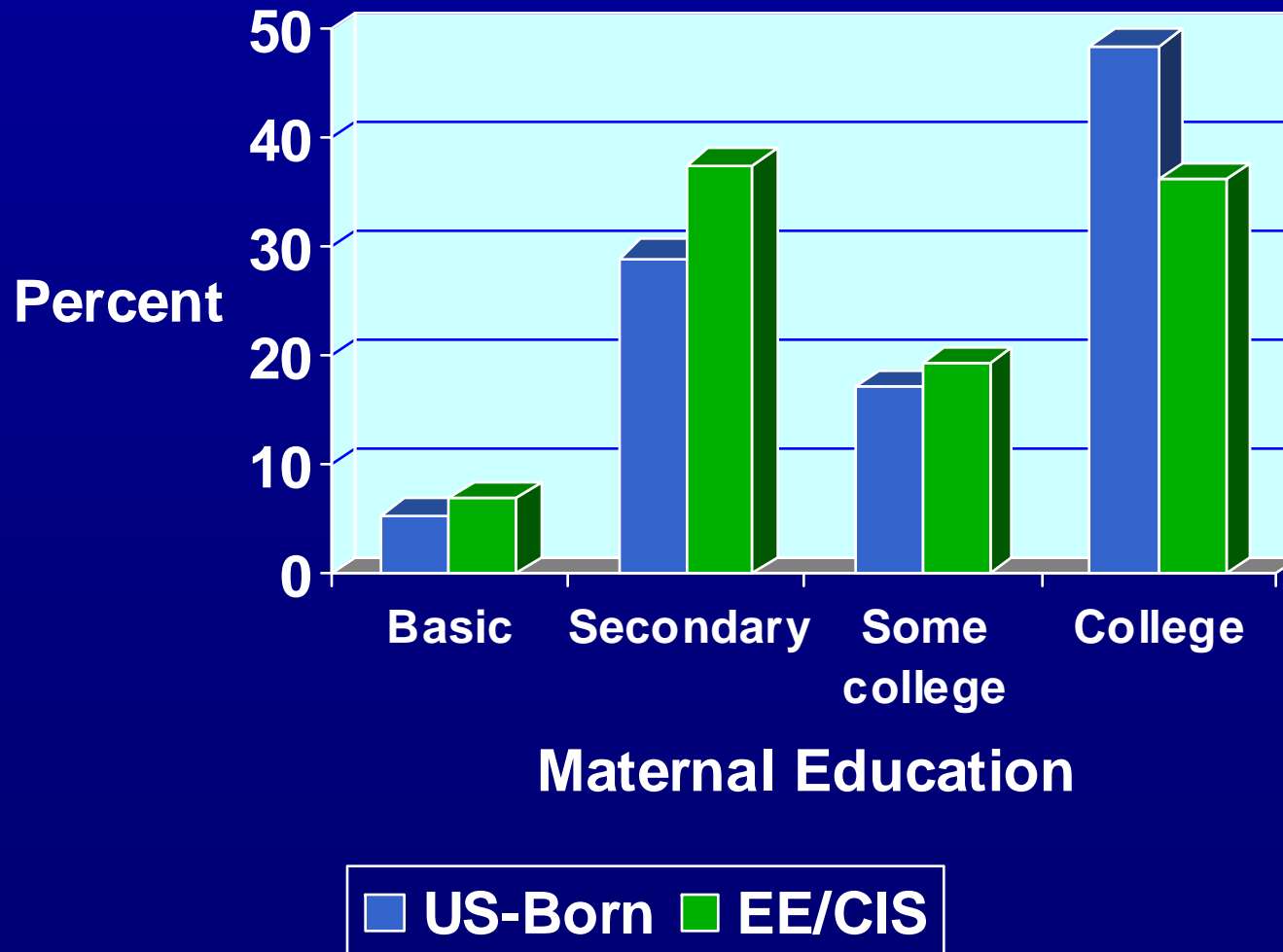
Statistical Methods

- EE/CIS groups compared to US-born Non-Hispanic whites using multivariable logistic regression
- Potential confounders
 - Maternal age
 - Previous live births
 - Maternal education
 - Pre-pregnancy weight
 - Smoking during pregnancy

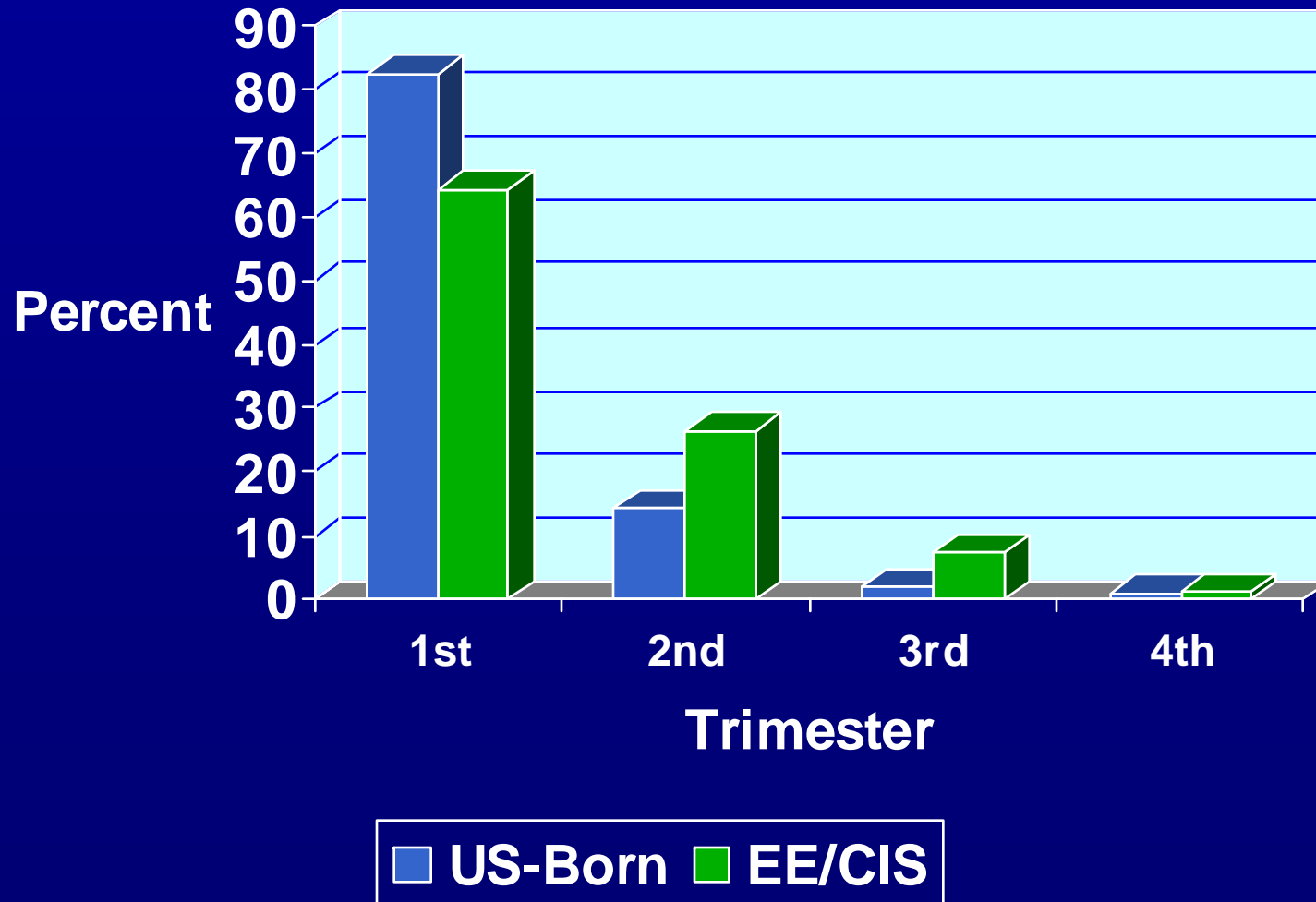
Maternal Age



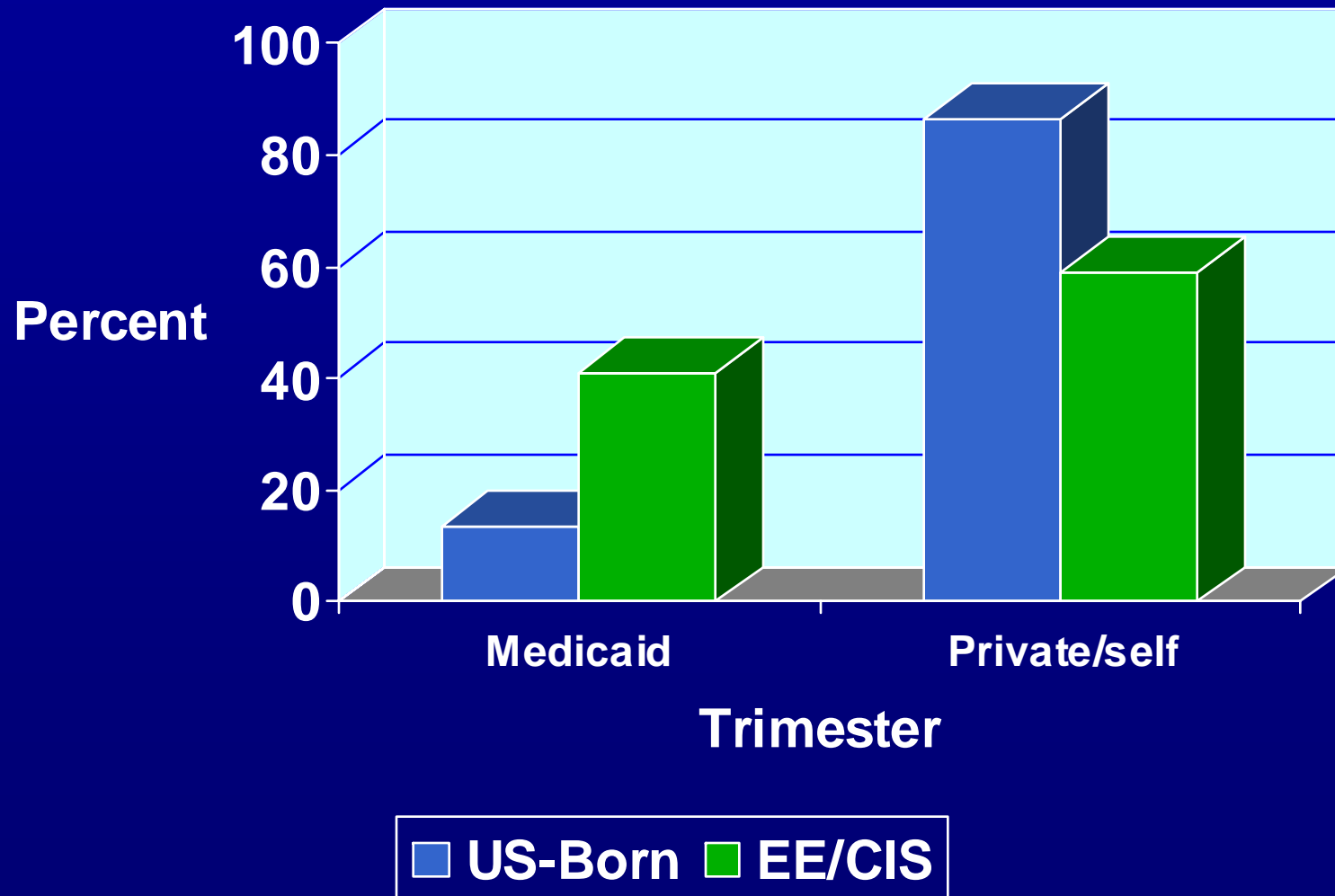
Maternal Education



Trimester of first prenatal visit



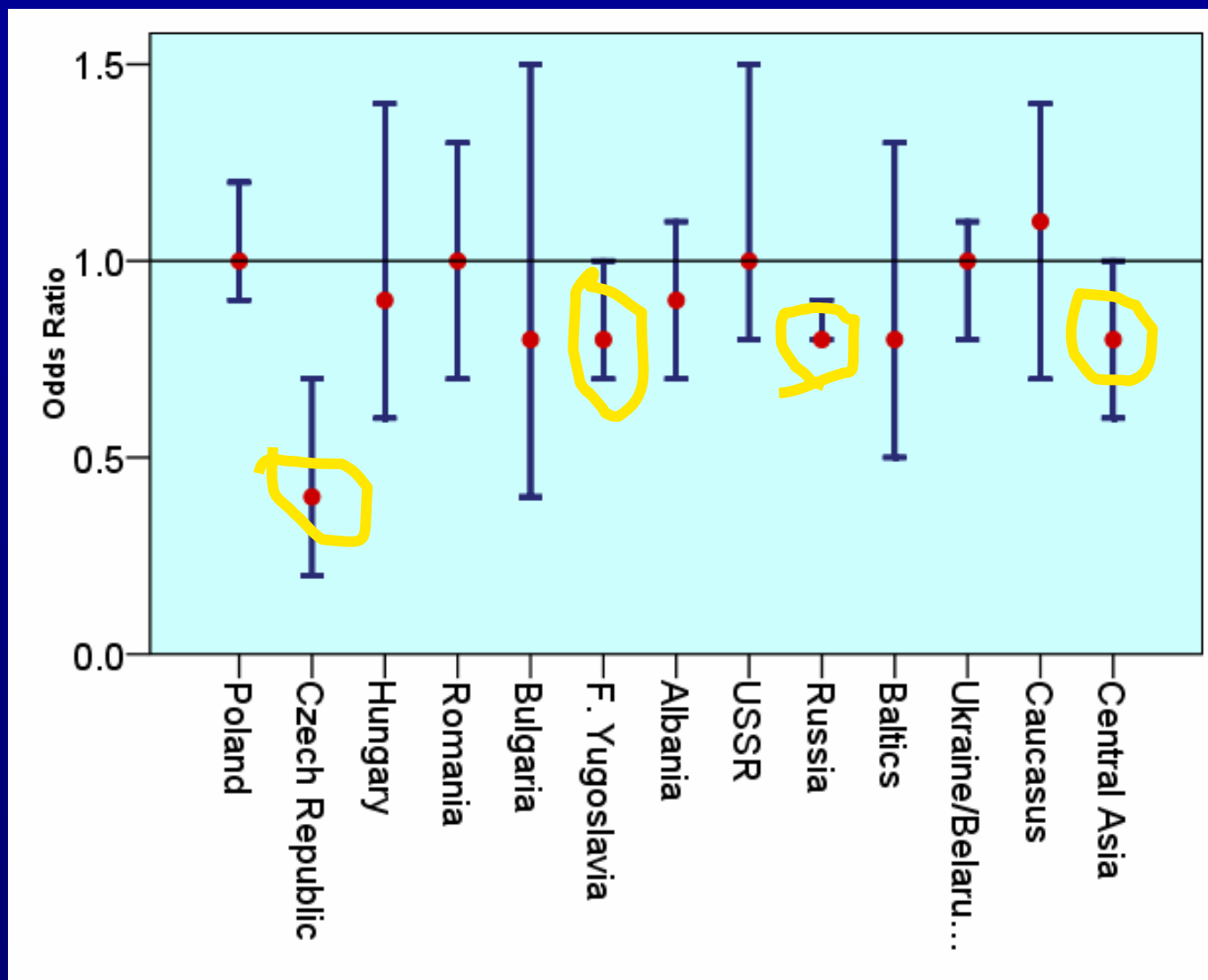
Payment method



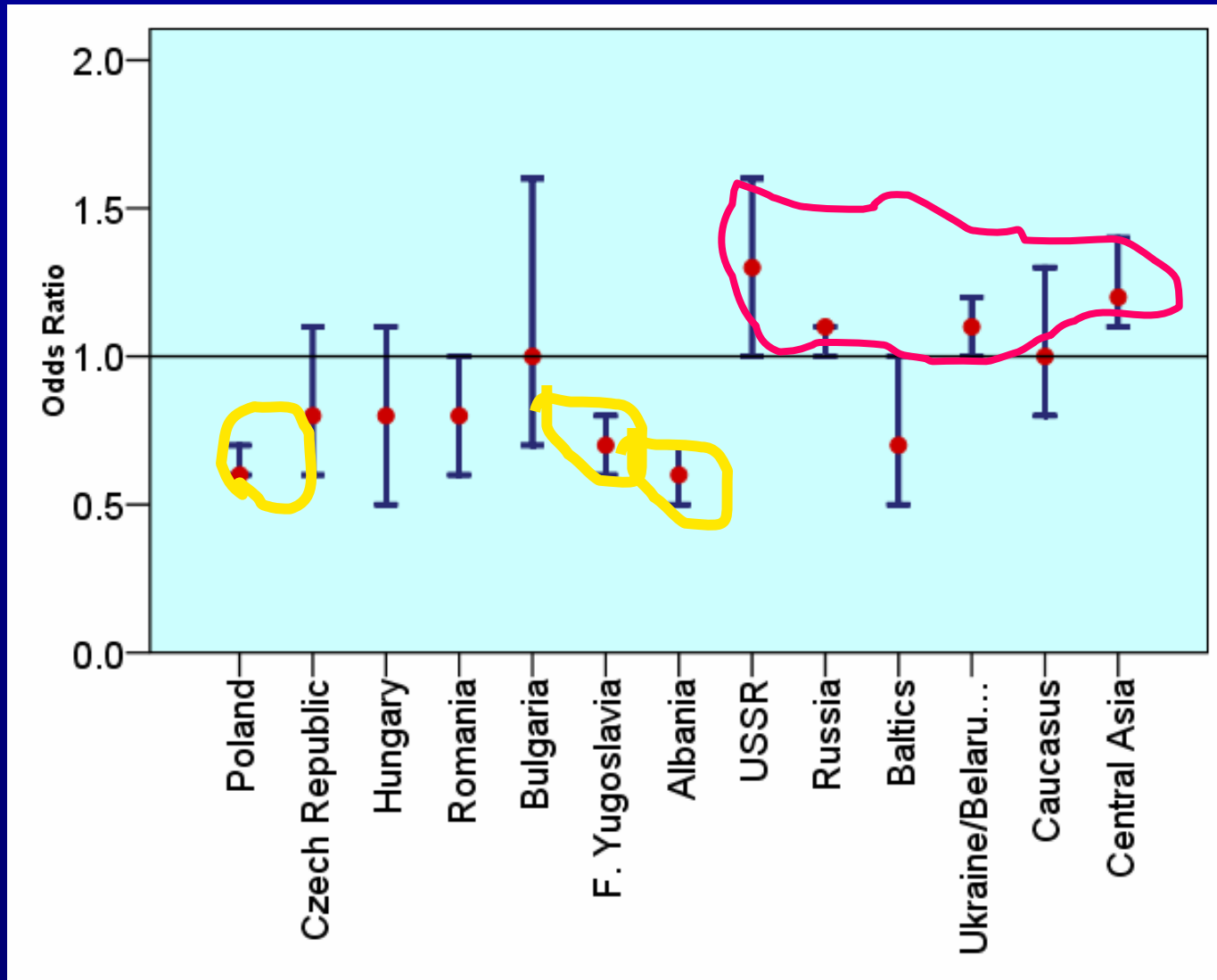
Heterogeneity in characteristics

Characteristic	Highest	Lowest
Basic maternal education only	F. Yugoslavia 23% Albania 15%	Belarus/Ukraine 2% /Moldova Central Asia 3%
Started prenatal care after 1 st trimester	Albania 48% F. Yugoslavia 43%	Baltics 24% Russia 31%
Medicaid	Albania 66% F. Yugoslavia 53%	Belarus/Ukraine 24% /Moldova USSR 26%

Adjusted odds ratios for preterm delivery among EE/CIS groups relative to US-born NH Whites



Adjusted odds ratios for delivering a small for gestational age infant among EE/CIS groups relative to US-Born NH Whites



Conclusions

- Women from EE/CIS have lower or similar risk of adverse pregnancy outcomes than do US-born NH Whites
 - Women from former Yugoslavia and Albania have lower risk despite poorer socioeconomic indicators
 - Some groups from CIS have higher risk of delivering a SGA infant

Discussion

- The Immigrant Paradox applies to many groups from EE/CIS
- Potential explanations for differences among EE/CIS groups:
 - Different experiences upon entry into New York City
 - Refugee and legal status
 - Family or community connections
 - Health care providers in own language
 - Reflect different selection processes
 - Only healthier women able to immigrant from some countries



The following are extra slides

Maternal education measure based on years of education

	US-Born	EE/CIS
Basic or none	0-11 years	0-9 years
Secondary	12 years	10-12 years
Some college	13-15 years	13-15 years
College or grad	≥ 16 years	≥ 16 years