

# POVERTY AND LONG- TERM OUTCOMES: EVIDENCE FROM LINKED ADMINISTRATIVE DATA IN MARYLAND

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Health

# CO-AUTHORS AND ACKNOWLEDGEMENT

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- ▶ Alison Preston
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# GROWING USE OF ADMINISTRATIVE DATA FOR RESEARCH

- ▶ Big data, including administrative data systems, are increasingly being used for research and policy evaluation (Figlio, 2017; Figlio et al., 2017).
- ▶ The goal is to provide actionable information to support evidence-based policy making
- ▶ Often an iterative process where researchers engage with stakeholders
- ▶ Challenges for researchers:
  - ▶ Data access
  - ▶ Record linkage
  - ▶ Legal agreements and prohibitions
  - ▶ Dissemination of findings and translation to policy

# THE MLDS CENTER

## 12 Member Governing Board



The MLDS Center is an independent unit of State government.

**Purpose:** Generate timely and accurate information about student performance that can be used to improve the State's education system and guide decision makers at all levels.

# THE MLDS DATA



# PARTNERSHIP WITH THE UNIVERSITY OF MARYLAND

- ▶ The MLDS research branch conducts advanced statistical analyses and policy evaluation to provide actionable information for policy and practice.



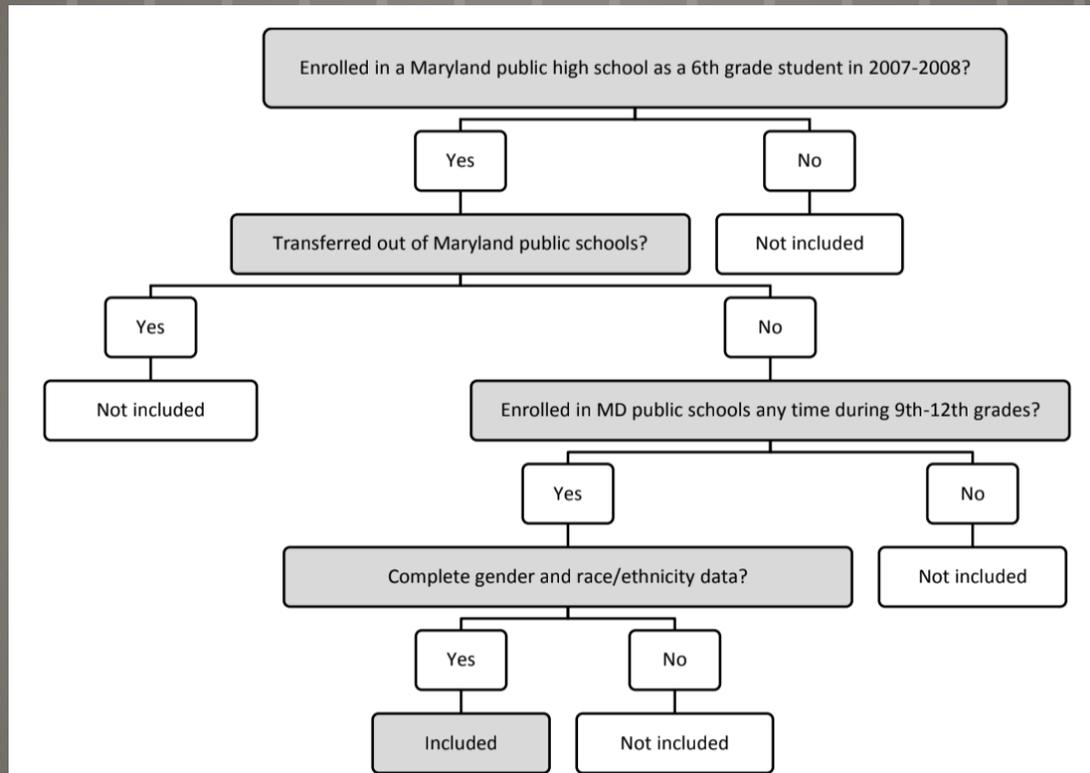
# COMMISSION ON INNOVATION AND EXCELLENCE IN EDUCATION



# THE CURRENT STUDY

- ▶ The current funding formula for education in Maryland provides additional funds for higher-poverty schools in a linear fashion.
  - ▶ Additional dollar amount provided for each additional low income student.
- ▶ Under consideration by the Commission was the possibility of exponentially increasing the dollar amount for low income students as the school concentration of poverty increases.
- ▶ Specifically, we were asked:
  - ▶ What is the relation between school concentrated poverty and long-term academic and workforce outcomes?

# METHOD: SAMPLE SELECTION



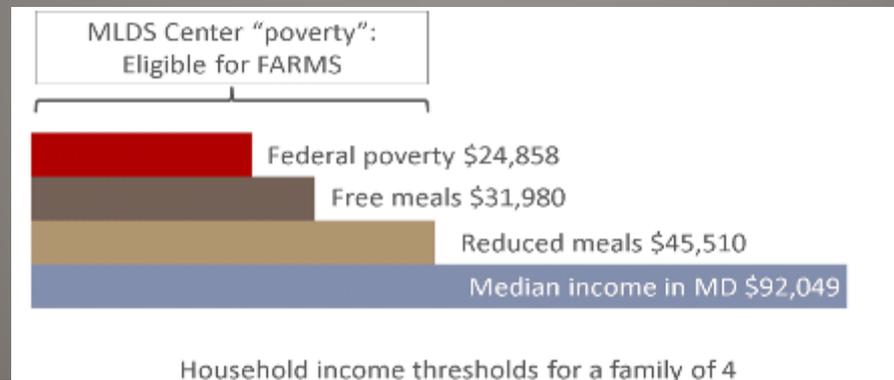
$N = 52,610$

# METHOD: DESCRIPTIVE STATISTICS

| Student Characteristic (N = 52,610)                          | %  |
|--|----|
| Male   | 50 |
| Asian  | 5  |
| Black  | 35 |
| Hispanic   | 10 |
| Other  | 4  |
| White  | 45 |
| Ever eligible for FARMS (6 <sup>th</sup> -12 <sup>th</sup> ) | 49 |
| Ever English Learner (6 <sup>th</sup> -12 <sup>th</sup> )    | 3  |
| Ever Special Education (6 <sup>th</sup> – 12 <sup>th</sup> ) | 14 |
| Ever Homeless (6 <sup>th</sup> – 12 <sup>th</sup> )          | 4  |

# METHOD: MEASURING POVERTY

- ▶ Education researchers typically use eligibility for the National Student Lunch Program (free/reduced meals; FARMS)
  - ▶ Free meals = 185% of the poverty level
  - ▶ Reduced meals = 130% of the poverty level
  - ▶ Typically measured at a single point in time

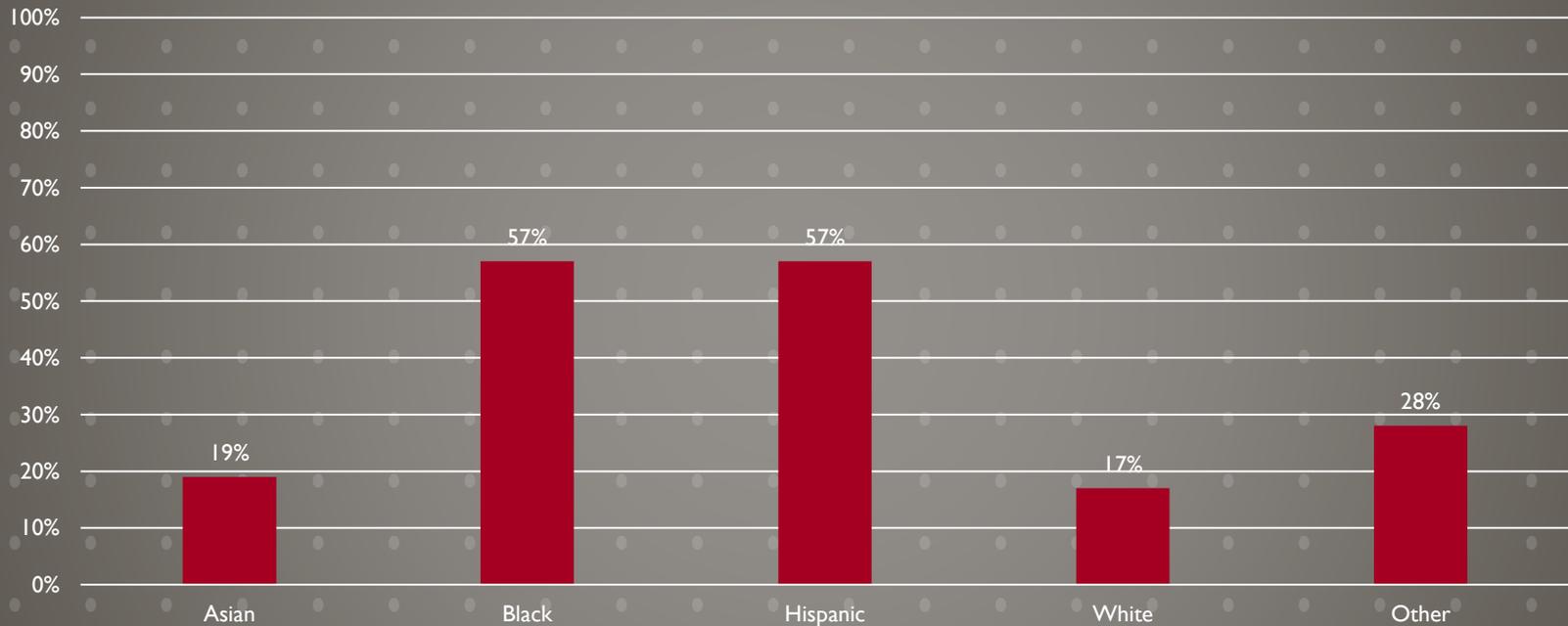


# METHOD: MEASURING POVERTY

- ▶ Limitations in using FARMS at a single point in time
  - ▶ Fails to capture timing and duration of poverty
    - ▶ Transitory versus persistent poverty
    - ▶ Early versus later poverty
  - ▶ Community Eligibility Provision (CEP)
  - ▶ Binary variable limits variation
- ▶ Micheltmore & Dynarski (2016) proposed using the % of time eligible for FARMS
  - ▶ 6<sup>th</sup>-12<sup>th</sup> grade ( $R = 0-1$ ;  $M = 0.36$ ;  $SD = 0.42$ )
  - ▶ Aggregated to school level to measure school poverty ( $M = 0.49$ ;  $SD = 0.25$ )

# METHOD: POVERTY AND RACE

Percent of Time Eligible for FARMS in 6<sup>th</sup>-12<sup>th</sup> Grade by Student Race/Ethnicity



Based on the 2007-08 6<sup>th</sup> grade cohort (N=54,465)

# METHOD: MEASURING OUTCOMES

- ▶ High school graduation (ever)
- ▶ High school assessment (HSA) scores
  - ▶ Algebra
  - ▶ English
- ▶ Enrollment in college (1 year post high school)
  - ▶ MD and out-of-state
  - ▶ 2-year and 4-year, public and private colleges
- ▶ Employment and earnings (1 year post high school)
  - ▶ MD employer subject to UI
  - ▶ Excludes federal and military employment; self-employment; out-of-state

# METHOD: ANALYTIC APPROACH

Multiple Membership Multi-level Modeling (Chung & Beretvas, 2012)

Level 1 (Students):

$$Outcome_{i\{j\}} = \beta_{0j} + \beta_{1j}SchPov_{i\{j\}} + \beta_{2j}Black_{i\{j\}} + \beta_{3j}Other_{i\{j\}} + \beta_{4j}MSA_{i\{j\}} + e_{i\{j\}}$$

(7)

Level 2 (Schools):

$$\beta_{0j} = \gamma_{00} + \gamma_{01}SchPov_{0\{j\}} + \gamma_{02}Black_{0\{j\}} + \gamma_{03}Other_{0\{j\}} + \gamma_{04}MSA_{0\{j\}} + \sum_{h \in \{j\}} w_{ih}u_{0h} \quad (8)$$

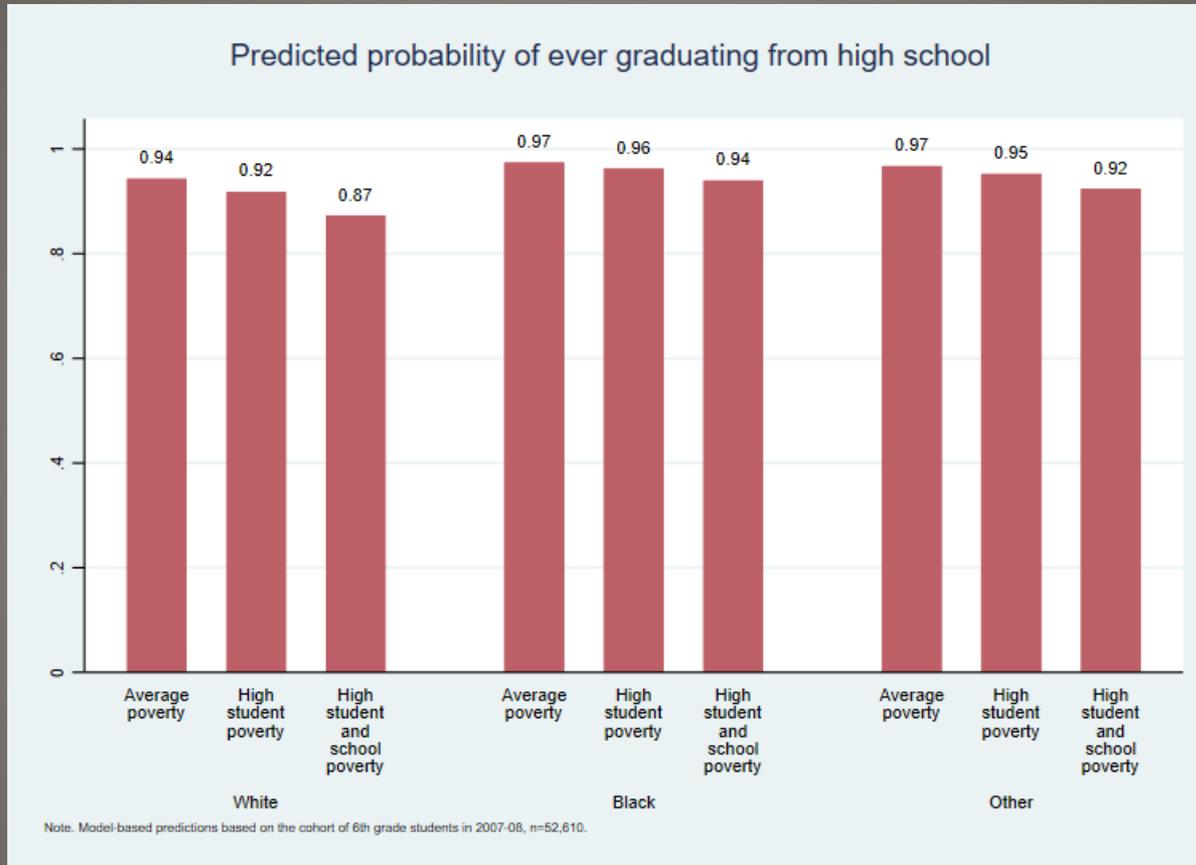
$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

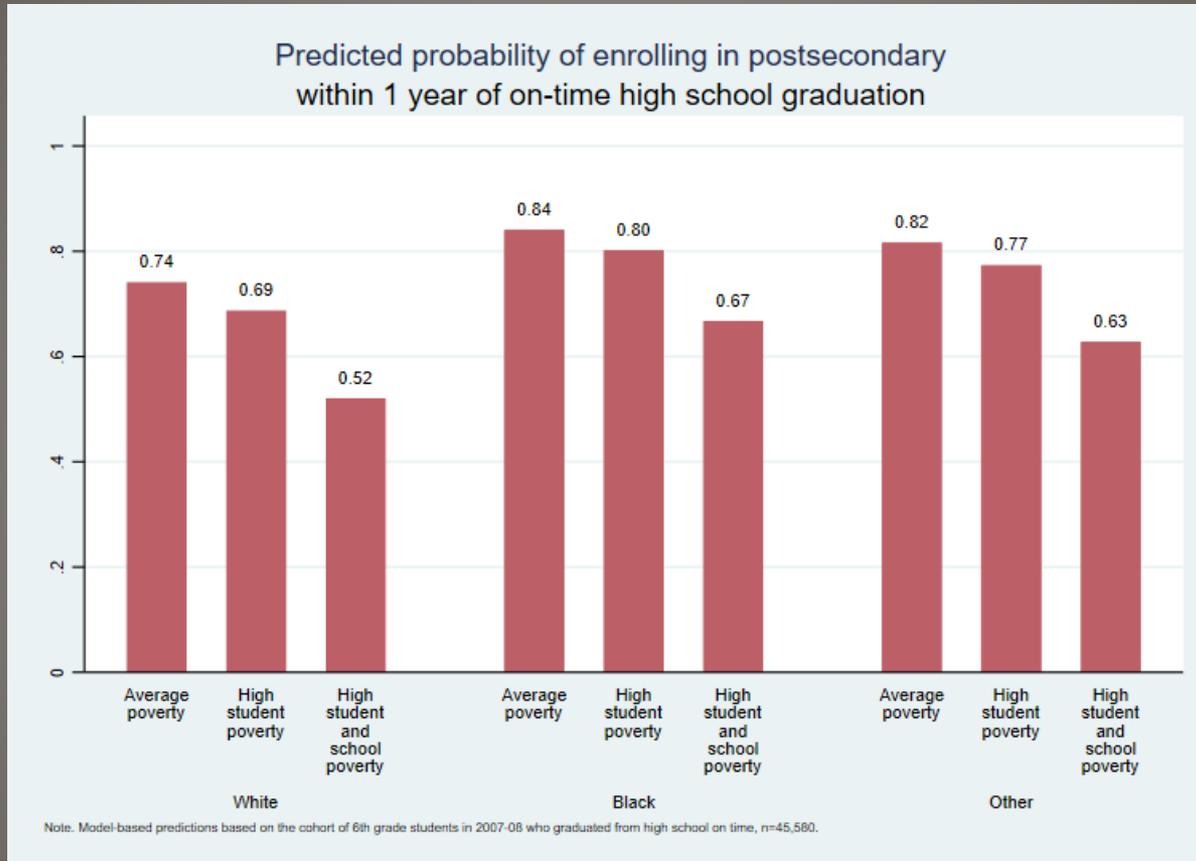
$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

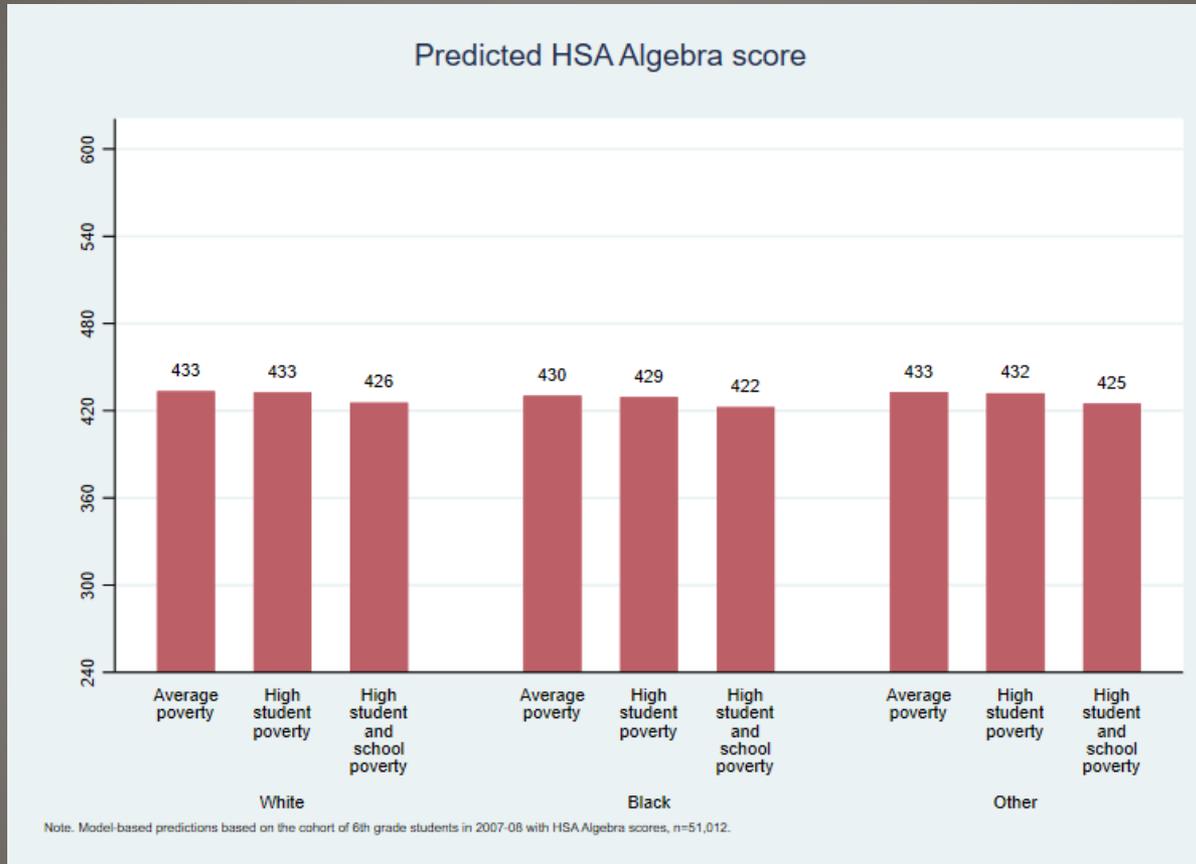
# RESULTS: HIGH SCHOOL GRADUATION



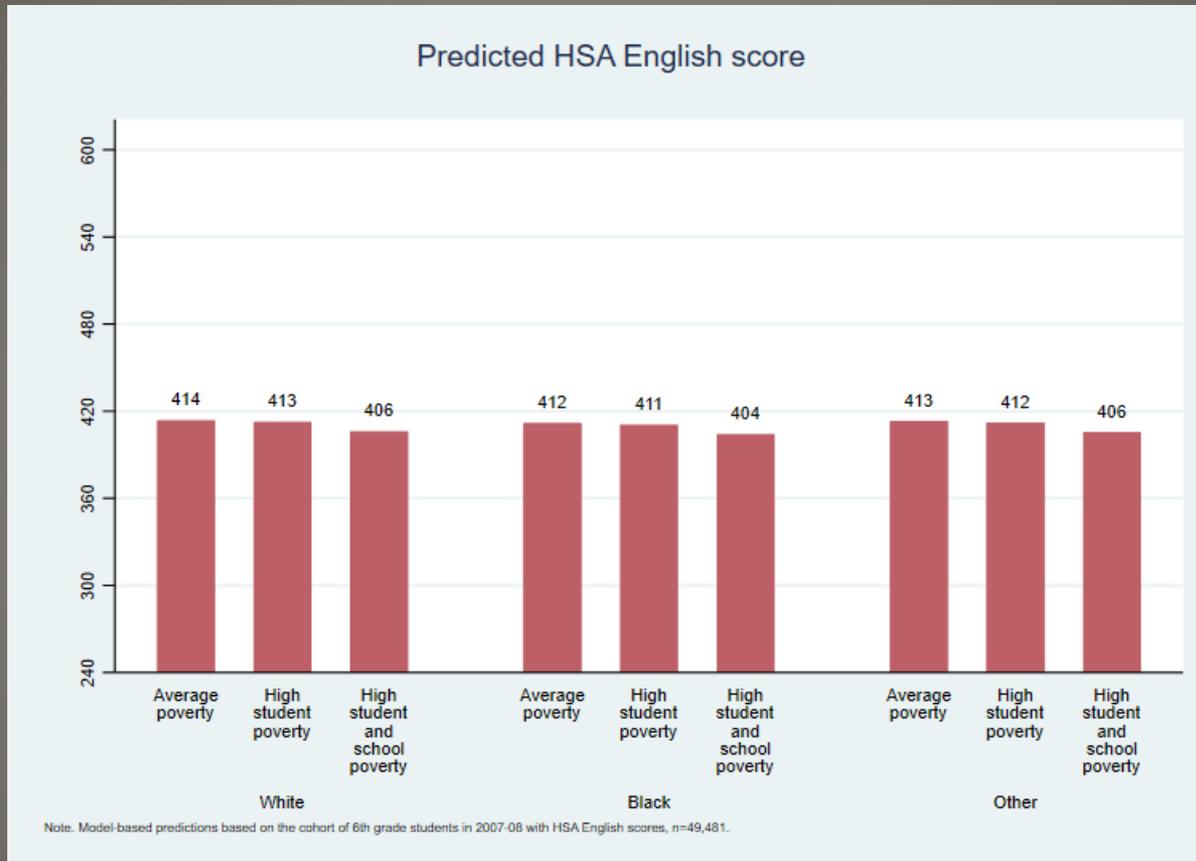
# RESULTS: ENROLLMENT IN COLLEGE



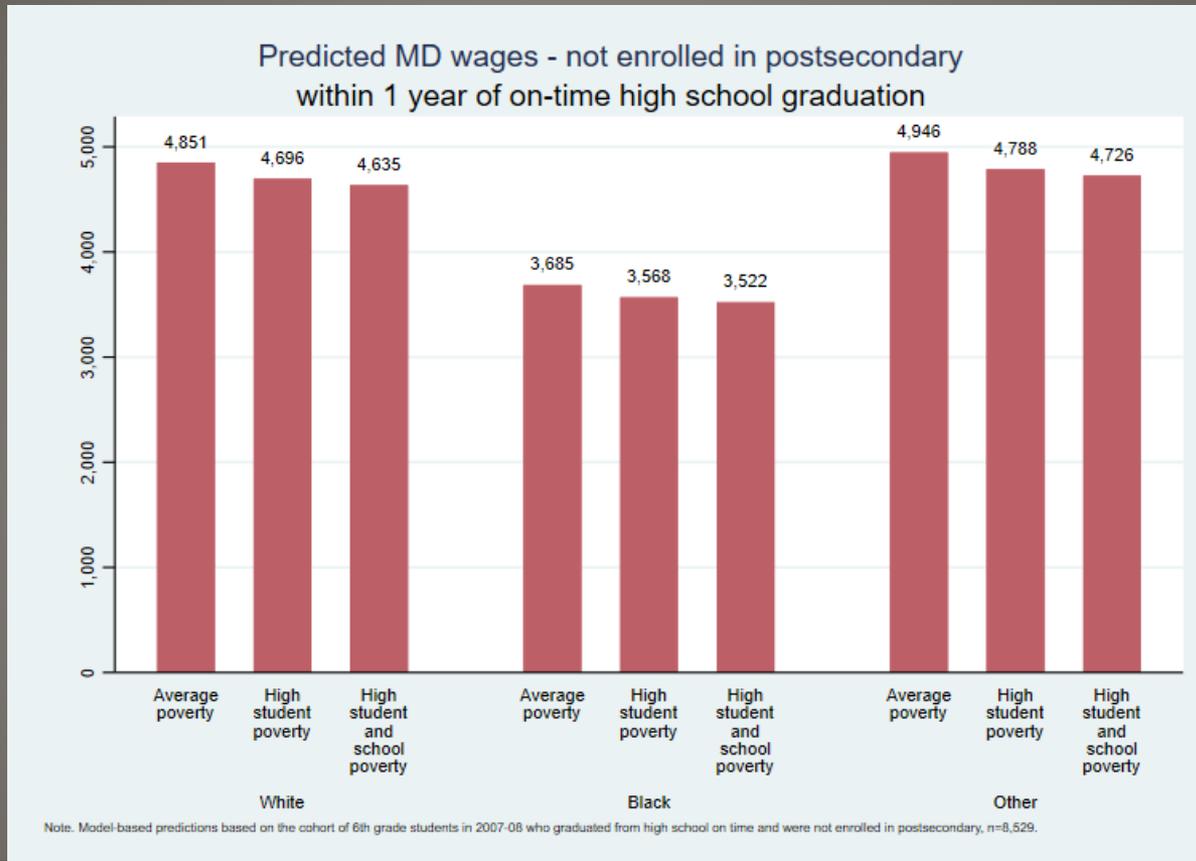
# RESULTS: HSA ALGEBRA



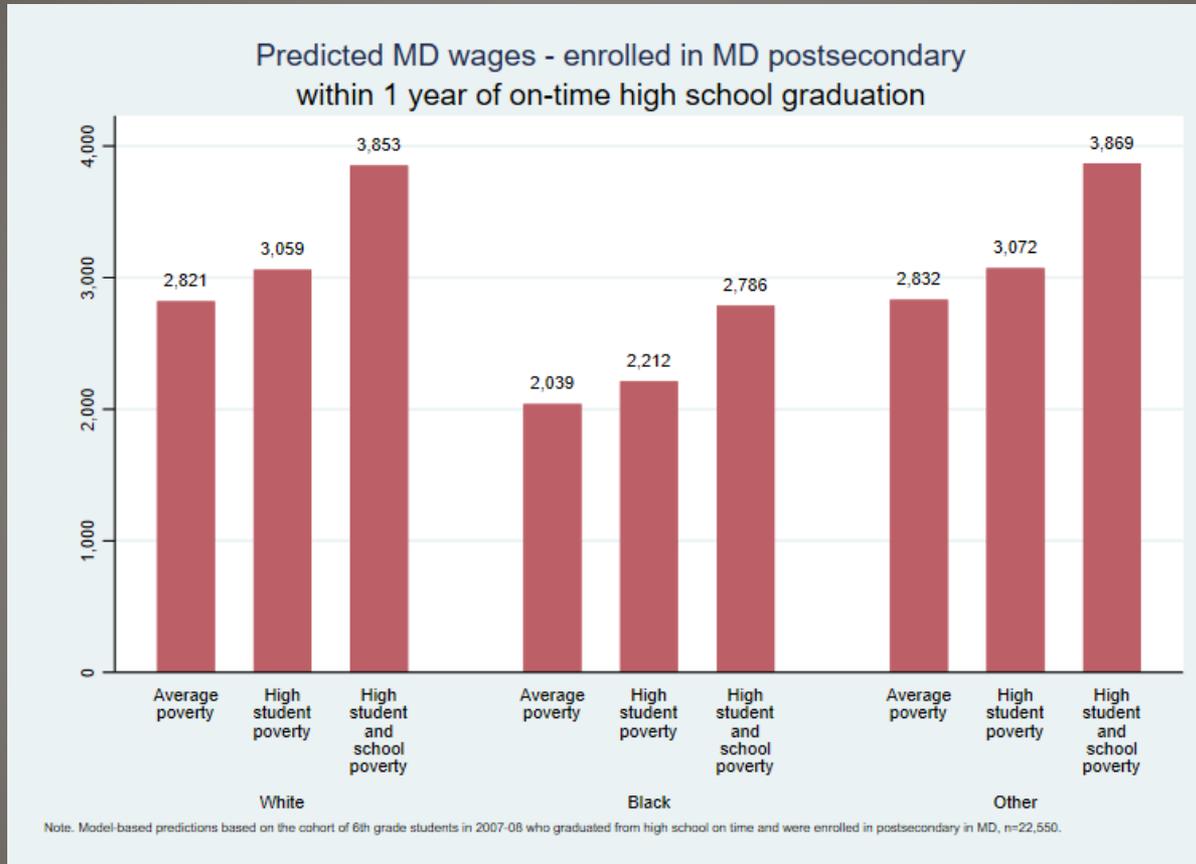
# RESULTS: HSA ENGLISH



# RESULTS: EARNINGS



# RESULTS: EARNINGS



# SUMMARY OF RESULTS

- ▶ For most outcomes, impoverished students and students in impoverished schools had worse outcomes
- ▶ For most outcomes, the strength of the association between school poverty and the outcome was stronger than that of student poverty and the outcome
- ▶ Black students had more positive outcomes for high school graduation and college enrollment after controlling for student and school poverty
- ▶ Poverty is related to lower earnings for students not enrolled in college
- ▶ Poverty is related to higher earnings for students enrolled in college
- ▶ Black students have lower earnings after controlling for other variables

# POLICY IMPLICATIONS

## SENATE BILL 1030

F1

9lr2562  
CF HB 1413

**By: The President (By Request – Commission on Innovation and Excellence in Education) and Senators King, Pinsky, Ferguson, and Young**  
Introduced and read first time: March 4, 2019  
Assigned to: Education, Health, and Environmental Affairs and Budget and Taxation

### A BILL ENTITLED

1 AN ACT concerning

2

#### **The Blueprint for Maryland's Future**

3 **FOR** the purpose of stating findings and declarations of the General Assembly; establishing  
4 the public policy of the State; establishing principles of The Blueprint for Maryland's  
5 Future that are intended to transform Maryland's early childhood, primary, and  
6 secondary education system to the levels of high-performing systems around the  
7 world; stating certain actions necessary to achieve certain principles; stating certain  
8 requirements necessary to establish a world-class education system in Maryland  
9 under The Blueprint for Maryland's Future; altering a certain Consumer Price Index  
10 used for calculating the target per pupil foundation amount and the student  
11 transportation amount for education; requiring the State to provide a certain  
12 supplemental grant to certain county boards of education through a certain fiscal  
13 year; establishing a Concentration of Poverty School Grant Program; stating the  
14 purpose of the Program; requiring the State to distribute certain grants to each  
15 county board and the State Department of Education in certain fiscal years;  
16 requiring each county board to distribute a certain amount to each eligible school;  
17 requiring each eligible school to employ certain staff using certain grant funds;  
18 requiring certain eligible schools to use certain funds to provide wraparound services

# POLICY IMPLICATIONS

12                   **(2) THE PURPOSE OF THE PROGRAM IS TO PROVIDE GRANTS TO**  
13 **ELIGIBLE SCHOOLS WITH A HIGH CONCENTRATION OF STUDENTS WHO ARE**  
14 **ELIGIBLE FOR FREE OR REDUCED PRICE MEALS.**

15                   **(C) (1) (I) FOR EACH OF FISCAL YEARS 2020 AND 2021, THE STATE**  
16 **SHALL DISTRIBUTE A GRANT TO EACH COUNTY BOARD EQUAL TO \$248,833 FOR**  
17 **EACH ELIGIBLE SCHOOL IN THE COUNTY.**

18                   **(II) EACH COUNTY BOARD SHALL DISTRIBUTE DIRECTLY TO**  
19 **EACH ELIGIBLE SCHOOL AN AMOUNT EQUAL TO \$248,833.**

20                   **(2) FOR EACH OF FISCAL YEARS 2020 AND 2021, THE STATE SHALL**  
21 **DISTRIBUTE TO THE DEPARTMENT AN AMOUNT EQUAL TO \$126,170 TO FUND ONE**  
22 **DIRECTOR OF COMMUNITY SCHOOLS IN THE DEPARTMENT.**

23                   **(D) (1) EACH ELIGIBLE SCHOOL SHALL EMPLOY ONE COMMUNITY**  
24 **SCHOOLS COORDINATOR STAFF POSITION AND ONE HEALTH CARE PRACTITIONER**  
25 **STAFF POSITION IN THE ELIGIBLE SCHOOL.**

26                   **(2) EACH ELIGIBLE SCHOOL SHALL USE THE GRANT TO FUND THE**  
27 **POSITIONS REQUIRED UNDER PARAGRAPH (1) OF THIS SUBSECTION.**

28                   **(3) IF THE GRANT PROVIDED TO AN ELIGIBLE SCHOOL EXCEEDS THE**  
29 **COST TO EMPLOY THE POSITIONS REQUIRED UNDER PARAGRAPH (1) OF THIS**  
30 **SUBSECTION, THE ELIGIBLE SCHOOL SHALL USE THE EXCESS FUNDS TO PROVIDE**  
31 **WRAPAROUND SERVICES TO THE STUDENTS ENROLLED IN THE ELIGIBLE SCHOOL.**

# NEXT STEPS

LAWRENCE J. HOGAN, JR., Governor

Ch. 417

Chapter 417

**(Senate Bill 350)**

AN ACT concerning

**Morgan State University – Task Force on Reconciliation and Equity**

FOR the purpose of requiring the Institute for Urban Research at Morgan State University to convene a task force to foster reconciliation and inclusionary justice and work toward achieving racial equity by taking certain actions; requiring the task force to include certain members; requiring, to the extent practicable, the members of the task force to have expertise in certain matters and reflect a certain diversity; prohibiting a member of the task force from receiving certain compensation, but authorizing the reimbursement of certain expenses; providing for the chair and staffing of the task force; authorizing the task force to establish certain subcommittees; requiring the task force to consult with certain units of State government; authorizing the task force to consult with certain units of State or local government; requiring, on request of the task force, a unit of State government to provide information or staff support in a certain manner or to designate a representative to serve as a member or attend a meeting or hearing of the task force; requiring the task force to hold certain hearings and invite certain persons to testify at the hearings, to study and make recommendations regarding certain matters, and to monitor and evaluate the implementation of certain recommendations using certain criteria; prohibiting a certain person from retaliating against an individual for giving testimony at a hearing held by the task force; requiring, on or before certain dates, the Institute for Urban Research at Morgan State University to submit certain preliminary and full reports to the Governor and the General Assembly; providing for the termination of this Act; and generally relating to a task force on reconciliation and equity convened by the Institute for Urban Research at Morgan

# ADDITIONAL MLDS RESEARCH PROJECTS

- ▶ Estimating attrition in school-based studies
- ▶ Methods for handling student mobility in school-based studies
- ▶ Evaluation of the MD Educational Assistance (EA) grant award
- ▶ Dual enrollment and long-term college and career outcomes
- ▶ Brain drain in MD
- ▶ Evaluation of the High School Bridge program
- ▶ Synthetic Data Project

<https://mldscenter.maryland.gov/>

# QUESTIONS AND CONTACT

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