



Michigan

2020 State of Computer Science Education: Illuminating Disparities

Computer science education is more important than ever. The COVID-19 pandemic has highlighted our society's reliance on computing and its power to help businesses innovate and adapt, yet at the same time has surfaced greater disparities for students studying computer science. Computing is the number one source of all new wages in our economy, and there are currently 400,000 open computing jobs across the United States. Yet the U.S. education system does not provide widespread access to this critical subject.

Although access to computer science is key to addressing the equity issues in society, only 47% of our nation's high schools teach foundational computer science. In addition, students from marginalized racial and ethnic groups, students in Title I schools, and students from rural areas are less likely to attend a school that provides access to this critical subject.

States are working to broaden participation in computer science by passing policies to make computer science a fundamental part of the K-12 education system. In addition to adopting more policies, state education leaders extend and innovate on previously adopted policies: continuing to fund

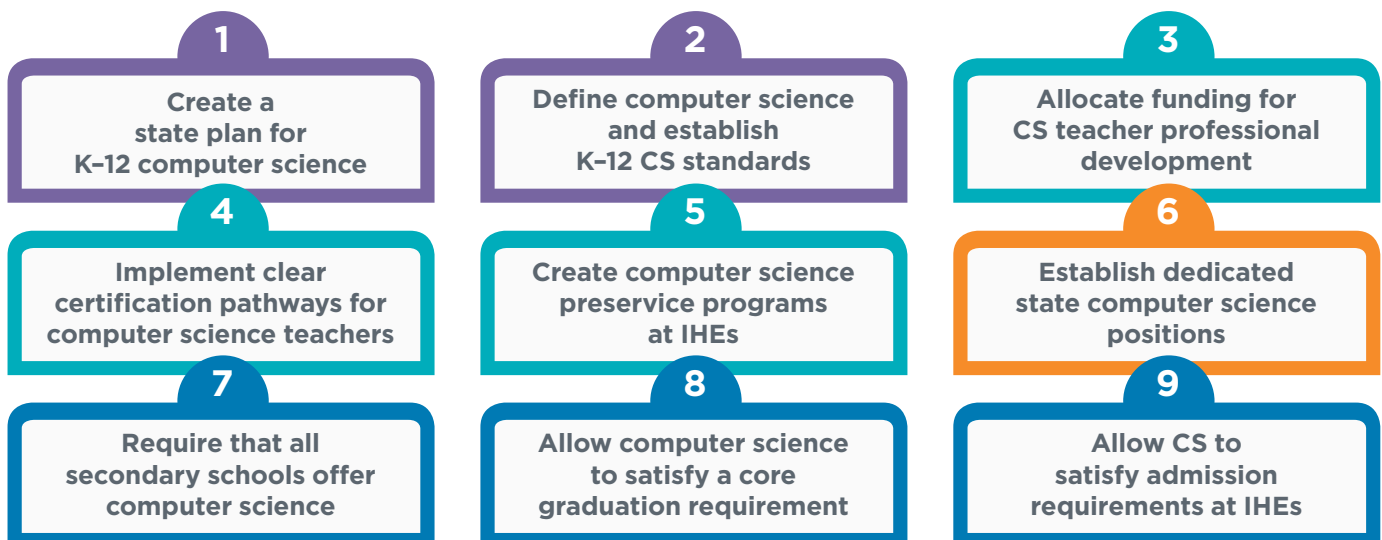
computer science education, supporting teachers and students, and providing leadership and guidance.

States that have adopted more of these nine policies have a larger percentage of high schools teaching computer science. States that have funded K-12 computer science professional learning have higher implementation rates than states that have not provided direct funding.



Pursuing an access agenda to K-12 computer science provides policymakers a rare opportunity to address equity, workforce, and education issues on a bipartisan basis. States should enact or expand on all nine of these education policies in order to provide opportunities for all students regardless of where they live, their race/ethnicity, gender, or socioeconomic status.

Nine Policies to Make Computer Science Fundamental





Michigan Computer Science Policy

State Plan

No

Michigan has not yet created a state plan for K-12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state's education system.

Standards

Yes

Michigan adopted the CSTA K-12 Computer Science Standards in 2019. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.

Funding

No

Michigan does not yet provide dedicated funding for rigorous computer science professional development and course support. Although funds may be available via broader programs, the state can strengthen its computer science programs by creating specific opportunities to bring computer science to school districts, such as matching fund programs.

Certification

No

Michigan phased out the computer science endorsement in 2017 so that any licensed teacher is eligible to teach computer science.

Preservice

No

After Michigan phased out the computer science certification, teacher preparation programs in the state also phased out preservice programs in computer science education.

CS Supervisor

Yes

The Michigan Department of Education has a Computer Science Consultant.

All HS Offer

No

Michigan does not yet require that all secondary schools offer computer science. The state can support the expansion of computer science courses by adopting policies that require schools to offer a computer science course based on rigorous standards, with appropriate implementation timelines and allowing for remote and/or in-person courses.

Grad Credit

Yes

In Michigan, any department-approved computer science course can count as the fourth mathematics credit for graduation or replace the Algebra II requirement.

IHE Admission

No

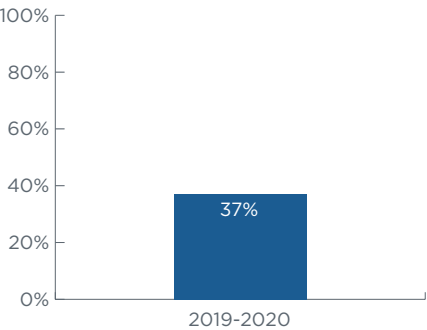
Michigan does not yet allow computer science to count as a core admission requirement at institutions of higher education. Admission policies that do not include rigorous computer science courses as meeting a core entrance requirement, such as in mathematics or science, discourage students from taking such courses in secondary education. State leaders can work with institutions of higher education to ensure credit and articulation policies align with secondary school graduation requirements.

Michigan has a CSTA chapter.

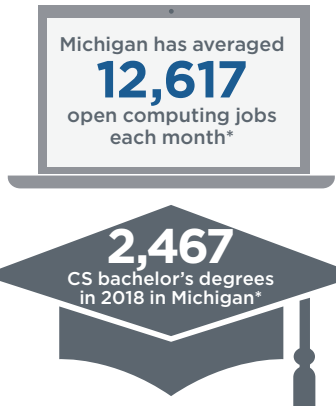
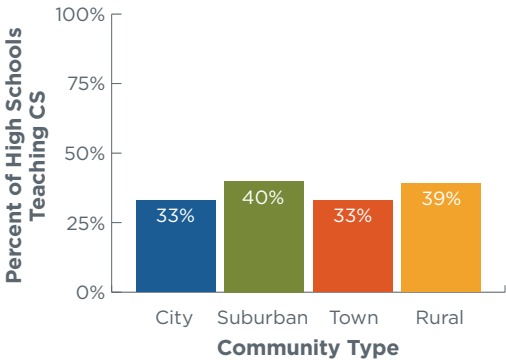


Computer Science Access and Participation in Michigan

High Schools Teaching CS

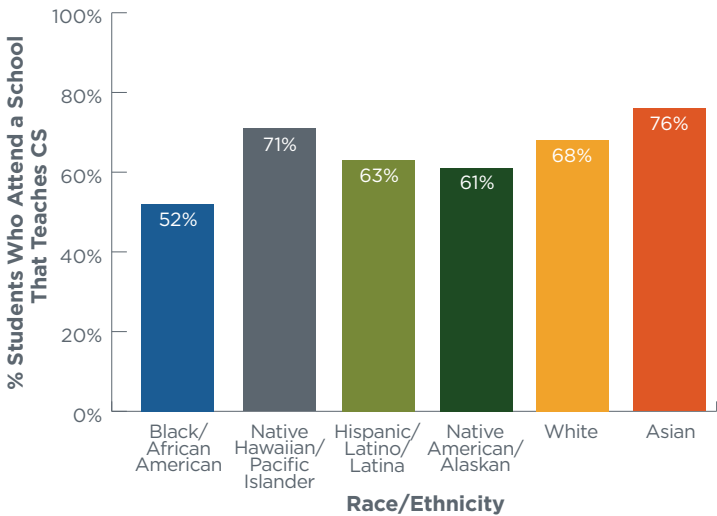


Percent of High Schools Teaching CS by Community Type

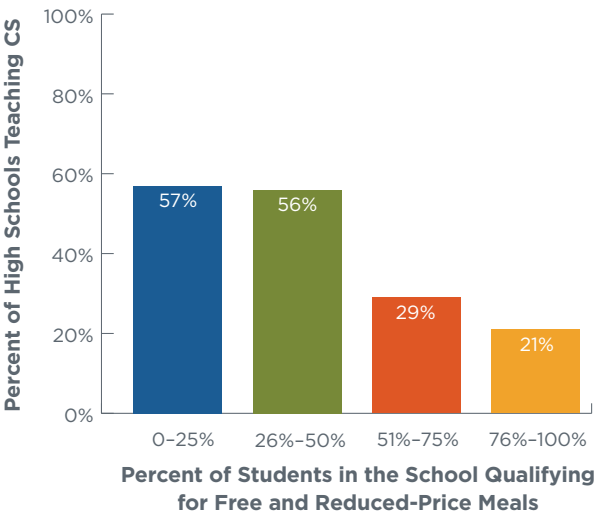


* Sources: The Conference Board and the National Center for Education Statistics

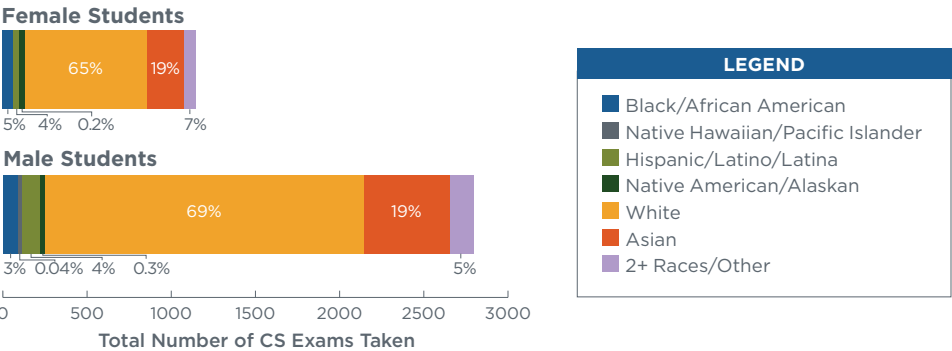
Race/Ethnicity and Access to Computer Science



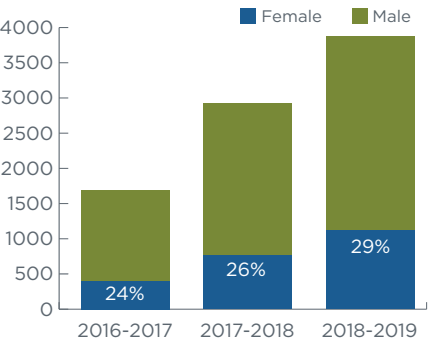
Income Level and Access to CS



AP CS Participation by Race/Ethnicity and Gender



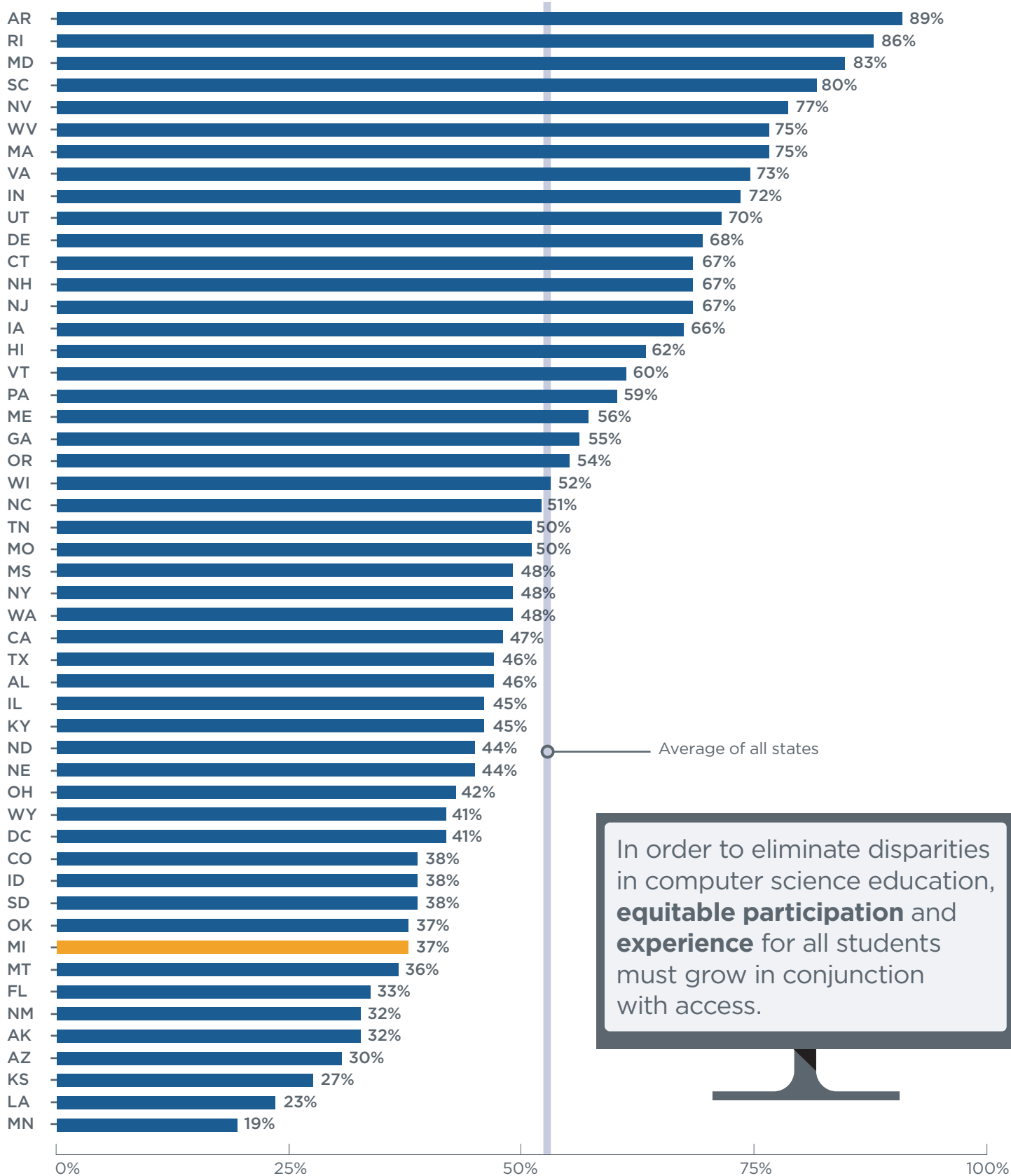
AP CS Student Participation



Hispanic/Latino/Latina students and Black/African American students are each 2 times less likely than their white and Asian peers to attend a school that offers AP CS. Black/African American students and Native American/Alaskan students are 3.5 times less likely to take an AP CS exam when they attend a school that offers it.



Percent of High Schools Teaching Computer Science by State



For more details on policy, access, and participation, see the full 2020 State of Computer Science Education report at advocacy.code.org/stateofcs



Advocacy
Coalition

