ECEP

Expanding Computing Education Pathways
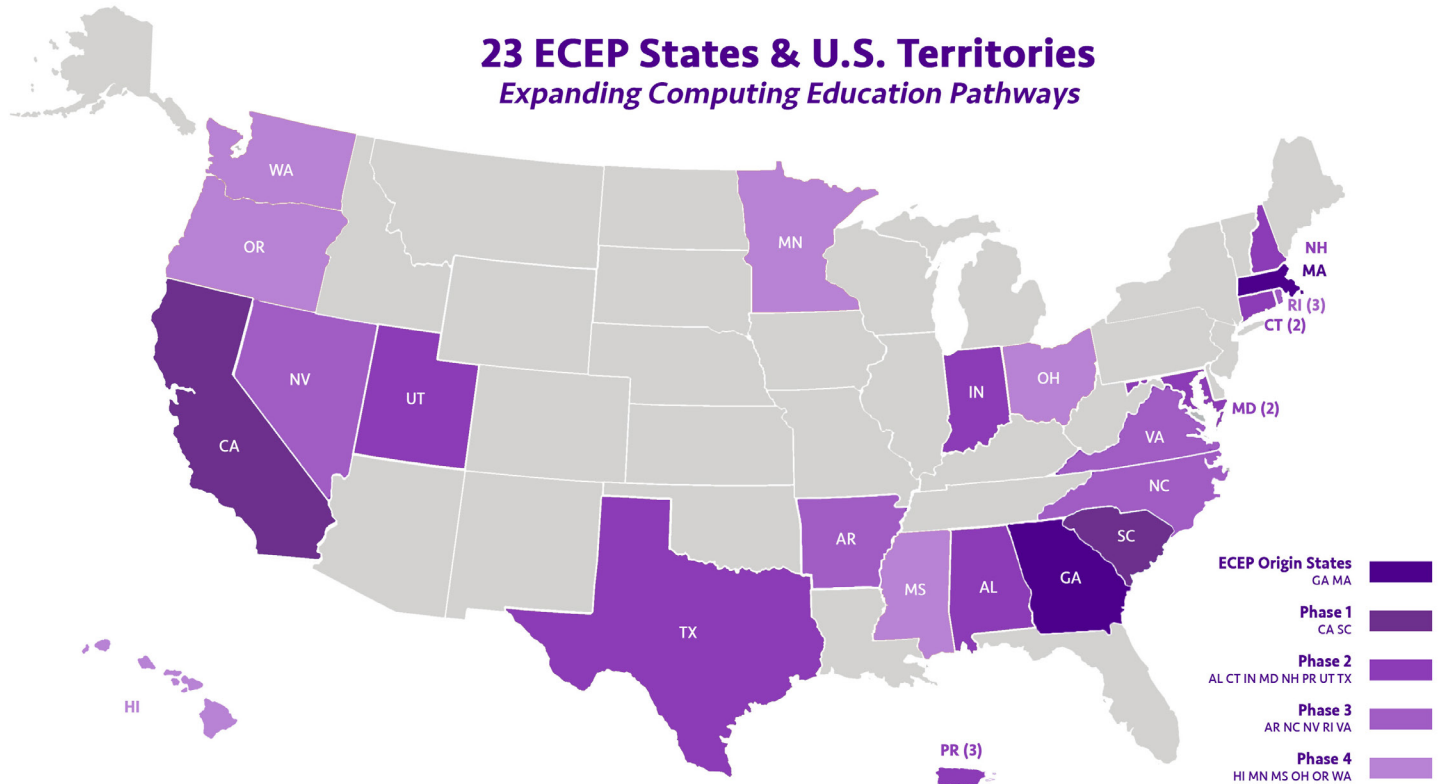
www.ecepalliance.org

The Expanding Computing Education Pathways (ECEP) Alliance seeks to increase the number and diversity of students in the pipeline to computing and computing-intensive degrees by promoting state-level computer science education reform. ECEP supports 23 states and territories to develop effective and replicable interventions to **broaden participation** in **computing** (BPC) and to create state-level infrastructure to foster equitable computing education policies.

23 ECEP States & U.S. Territories
Expanding Computing Education Pathways

ECEP Origin States
GA MA

Phase 1
CA SC

Phase 2
AL CT IN MD NH PR UT TX

Phase 3
AR NC NV RI VA

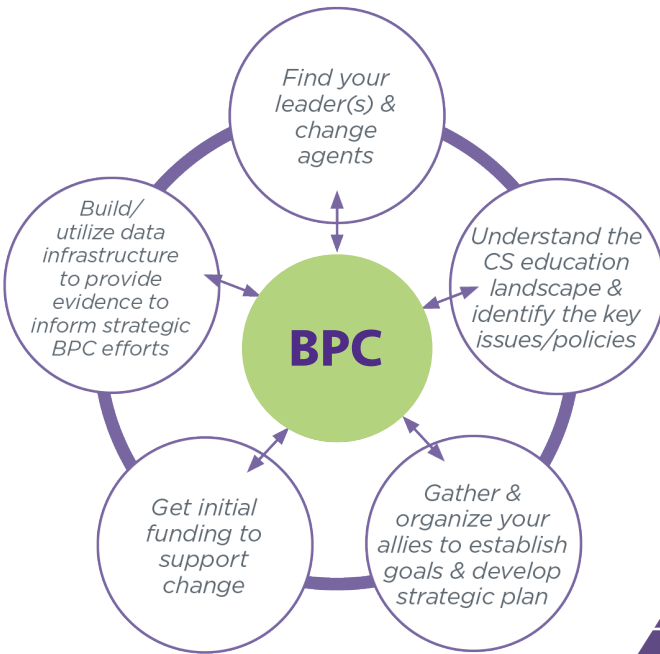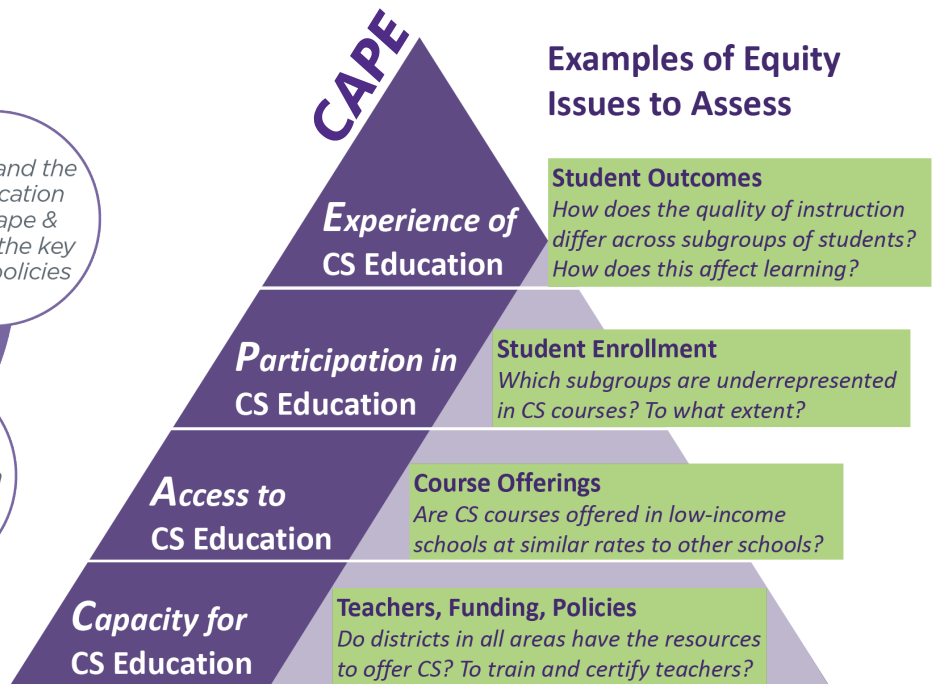**Phase 4**
HI MN MS OH OR WA

Key Features of ECEP

The ECEP Alliance deploys a collective impact model in which ECEP manages the backbone functions of the Alliance while state BPC leadership teams engage directly in the implementation and data collection activities specific to each state.

- ECEP focuses on **STATES as the unit** of change by supporting systemic improvements in policy, organization, and data systems that lay the foundation for large-scale and sustainable advances in BPC.

- ECEP provides **technical support** to state leadership teams for BPC data analysis, goal setting and tracking, and policy design and implementation rather than engaging in direct student interventions.

- ECEP outcomes are grounded in systems change, an approach that focuses on policies and practices that are often codified in law, leading to **policy based sustainability**.

- ECEP requires **cross-disciplinary collaboration** at a systems level among diverse stakeholders representing the computing, education, and policy components of the entire CS education ecosystem.

- Catalyze and **incubate diverse state leadership** teams that keep BPC at the forefront in state level actions around **Capacity** for CS ed, **Access** to CS ed, **Participation** in CS ed, and **Experiences** of CS ed (**CAPE**).
- Provide **coaching** and technical assistance to state ECEP leaders advancing them through the **ECEP 5-stage change model**.
- **Connect** ECEP leaders to expertise, resources, and promising practices to help them advance BPC through monthly virtual meetings, annual ECEP convening, special projects, website, and social media.
- Provide **seed funding** to ECEP states through mini-grants that facilitate state **CS education summits**, develop **goals and metrics** for tracking large scale, longitudinal change in BPC, create CS **landscape reports**, and support **community building** around BPC.

5-Stage Change Model

- Find your leader(s) & change agents
- Understand the CS education landscape & identify the key issues/policies
- Gather & organize your allies to establish goals & develop strategic plan
- Get initial funding to support change
- Build/utilize data infrastructure to provide evidence to inform strategic BPC efforts

BPC

CAPE

Examples of Equity Issues to Assess

Experience of CS Education

Student Outcomes
How does the quality of instruction differ across subgroups of students? How does this affect learning?

Participation in CS Education

Student Enrollment
Which subgroups are underrepresented in CS courses? To what extent?

Access to CS Education

Course Offerings
Are CS courses offered in low-income schools at similar rates to other schools?

Capacity for CS Education

Teachers, Funding, Policies
Do districts in all areas have the resources to offer CS? To train and certify teachers?

Capacity, Access, Participation, and Experience (CAPE)
A Framework for Examining Equity in CS Education

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