

Report on CAWMSET

**Committee on Underrepresented Groups and the
Science and Engineering Workforce Pipeline**

Keck Center of the National Academies, Washington D.C.

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Presented by Beatriz Chu Clewell, PhD



The Urban Institute

The Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology Development (CAWMSET)

- I Established by Congress in 1998 (Public Law 105-255, approved October 14, 1998)
- I Sponsored by Congresswoman Constance A. Morella (R-MD)

Commission's duties – to recommend a specific set of actions that would:

- ∅ Advance the full and equitable participation of all Americans in science, engineering, and technology (SET) education;
- ∅ Increase the number of qualified American scientists and engineers by expanding the human resources pool of women, members of racial and ethnic minority groups, and persons with disabilities; and
- ∅ Thereby enhance the nation's economic capacity and technological growth in an era of global competitiveness

To meet these duties, the Commission strove to:

- ∅ Broaden access to quality SET precollege education for all Americans, particularly underrepresented minorities;
- ∅ Improve the preparation of women, underrepresented minorities, and persons with disabilities for access to higher education and increase the number of SET degrees earned by these populations; and
- ∅ Increase the retention and reentry of women, underrepresented minorities, and persons with disabilities in SET education and the SET workforce

Basic Approach for the Final Report – Land of Plenty

- I A pipeline approach
- I Began by looking at the main issues in four areas:
 - ∅ Precollege Education
 - ∅ Higher Education
 - ∅ Professional Life
 - ∅ Public Image of Science and Scientists
- I Within each of these areas we reported on:
 - ∅ The status of the targeted groups in STEM
 - ∅ Barriers to STEM participation
 - ∅ Recommendations to overcome identified barriers

Summary of the Commission's Recommendations

Precollege Education

- ✓ the adoption and implementation of comprehensive high-quality education standards

Higher Education

- ✓ aggressive, focused intervention efforts targeting women, underrepresented minority, and disabled students at critical pipeline junctures
- ✓ Significant expansion of federal and state financial investments in support of target groups in STEM

The Commission's Recommendation's (continued)

Professional Life

- ✓ public and private SET employer accountability for the career development and advancement of their employees

Public Image

- ✓ establishment of a body representing public, nonprofit, and private sectors to coordinate efforts to transform the image of the SET professions and practitioners

Nationwide Accountability

- ✓ establishment of a collaborative body to continue the efforts of the Commission

CAWMSET vs The Committee on Underrepresented Groups

- I CAWMSET had a broader charge: focused on women, underrepresented minorities, and persons with disabilities
- I CAWMSET was more focused on identifying the problems
Committee more focused on developing a targeted, well-thought out, and effective response to the problem

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 1:

I The key social and institutional factors that shape decisions of minority students to commit to education and careers in STEM fields.

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I Touches on this issue in the Public Image section (regarding the influential role played by the media in shaping young people's perceptions)

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 2:

- I Specific barriers preventing greater minority student participation in the STEM fields.

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- I Specific barriers were identified for each of the four areas addressed in the final report

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 3:

I Primary focus points for policy intervention to increase the recruitment and retention of underrepresented minorities in America's workforce in the future.

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I This issue is addressed indirectly for each of the four areas.

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 4:

- I Programs that are underway to increase diversity in the STEM fields.

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- I A few programs are mentioned as examples but they are not reported on in depth

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 5:

I The role of minority-serving institutions in the diversification of America's workforce in these fields.

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I This issue is addressed in the Higher Education section of the report. The role of two-year colleges is also addressed.

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 6:

I How public and private sectors can better assist minority students in their efforts to join America's workforce in these fields.

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I CAWMSET called for the establishment of a collaborative body to implement its recommendations.

Questions laid out by the Committee and areas of overlap with CAWMSET

Question 7:

I The implementation strategy – the Committee should develop a prioritized list of policy and funding action items (e.g., tax credits) with milestones and cost estimates that will lead to a science and engineering workforce that mirrors the nation’s diversity population.

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I Recommended the establishment of a collaborative body to continue the efforts of the Commission by:

- øDeveloping action items
- øFurther developing and replicating existing programs
- øAssigning responsibility to appropriate sectors
- øMonitoring progress through ongoing data collection and analysis