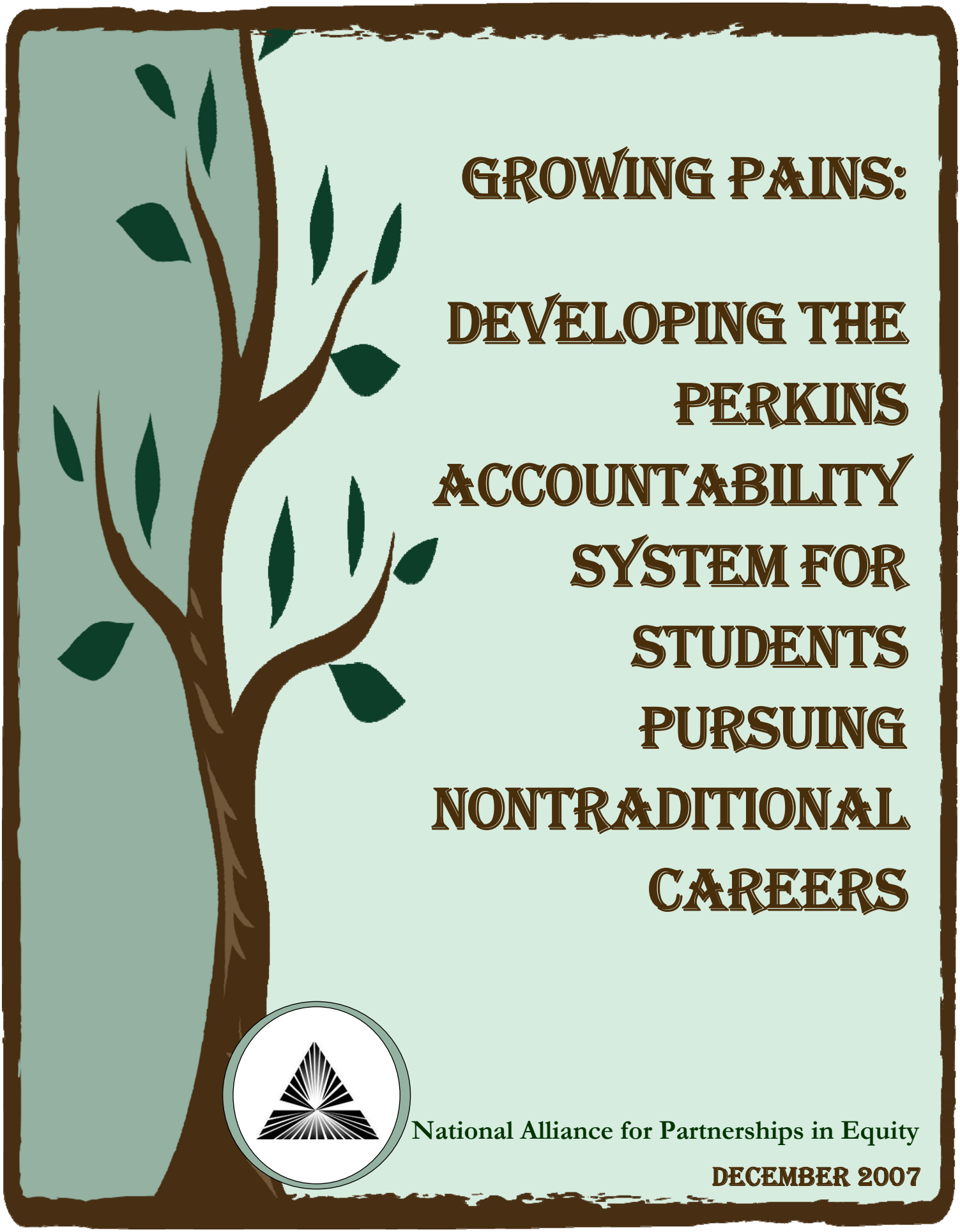

GROWING PAINS:

DEVELOPING THE PERKINS ACCOUNTABILITY SYSTEM FOR STUDENTS PURSUING NONTRADITIONAL CAREERS

National Alliance for Partnerships in Equity

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EXECUTIVE SUMMARY

Introduction

In the Carl D. Perkins Vocational and Technical Education Act of 1998 (Perkins III),[1] accountability measures were put in place to accompany a state's acceptance of the federal funds to be used for the improvement of secondary and postsecondary career and technical education (CTE) programs. Each state was required to report annually on the following Core Indicators:

I. Student attainment of challenging state-established academic, and vocational and technical, skill proficiencies
II. Student attainment of a secondary school diploma or its recognized equivalent, a proficiency credential in conjunction with a secondary school diploma, or a postsecondary degree or credential
III. Placement in, retention in, and completion of postsecondary education or advanced training, placement in military service, or placement or retention in employment
IV. Student participation in and completion of vocational and technical education programs that lead to nontraditional[2] training and employment

In addition to the accountability measure for students pursuing nontraditional careers, Perkins III, and subsequently the Carl D. Perkins Career and Technical Education Improvement Act of 2006[3] (Perkins IV), contains a $60,000-150,000 setaside of state leadership funds for the purpose of providing services that prepare individuals for nontraditional occupations (NTOs).

As Perkins was reauthorized in 2006 and states approached the implementation of Perkins IV, the National Alliance for Partnerships in Equity (NAPE) became interested in what the data collected during Perkins III might reveal about the participation and completion of underrepresented gender students in nontraditional CTE programs (hereinafter referred to as "NTO CTE"). As a result, several questions were postulated and data analyzed for national trends and/or other observations that could inform the continued development of quality data collection, reporting, and accountability regarding gender equity in CTE. These questions included

- How well did states do on meeting their Negotiated Performance Measures (NPMs; also referred to as Final Agreed Upon Performance Level, or FAUPLs)[4] for each subpart of Core Indicator IV?

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[1] The Carl D. Perkins Career and Technical Education Act of 1998 (P.L. 105-332) is available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=105_cong_public_laws&docid=f:publ332.105.pdf.

[2] From Perkins IV (see footnote 3), the term "nontraditional fields" means occupations or fields of work, including careers in computer science, technology, and other current and emerging high-skill occupations, for which individuals from one gender comprise less than 25 percent of the individuals employed in each such occupation or field of work.

[3] The Carl D. Perkins Career and Technical Education Improvement Act of 2006 (P.L. 109-270), also known as Perkins IV, is available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ270.109.pdf.

[4] On an annual basis, each state and OVAE negotiate a Net Performance Measure (expressed as a percentage) for each subpart of Core Indicator IV upon which the state's performance will be assessed.

- Disregarding NPMs, did the states increase their performance on Core Indicator IV over the five years for which data were available?[5]
- What quality issues are reflected in the data?
- What trends were there in the amount of the setaside from state leadership funds for services to students pursuing nontraditional careers?
- What do the data reveal about enrollment trends of males and females in CTE, underrepresented males and females in NTO CTE, Hispanics in CTE, and underrepresented gender Hispanics in NTO CTE?[6]

The information used in the analysis was obtained from the Peer Collaborative Resource Network (PCRN)[7]; OVAE's Consolidated Annual Performance, Accountability, and Financial Status Report Database[8]; and hard copies of the states' Perkins Consolidated Annual Reports (CAR)[9] archived at the U.S. Department of Education, Office of Vocational and Adult Education (OVAE). These sources included data from all 50 states plus Guam, Puerto Rico, and Washington, DC.

The data for Core Indicator IV of Perkins III (participation and completion of programs leading to nontraditional careers) were collected at the secondary and postsecondary level. The indicators were then named

4S1: Participation of underrepresented gender secondary students in programs leading to nontraditional careers
4S2: Completion of underrepresented gender secondary students in programs leading to nontraditional careers
4P1: Participation of underrepresented gender postsecondary students in programs leading to nontraditional careers
4P2: Completion of underrepresented gender postsecondary students in programs leading to nontraditional careers

[5] Data were available for fiscal years 2000-2001, 2001-2002, 2002-2003, 2003-2004, and 2004-2005. Unless otherwise noted, all years in this report are fiscal years (FYs) and are designated by the calendar year in which they end, e.g., 2001 denotes FY 2000-2001. Data for adult programs reported separately from postsecondary programs were not analyzed. All totals are unduplicated.
[6] Hispanic students were the only race/ethnic group reviewed due to the general bias in the field that Hispanics do not pursue nontraditional careers because of cultural barriers. In addition, a lack of resources available to fund the analysis of the data base for all race/ethnic groups was also a limiting factor. This analysis could be done in the future for other race/ethnic groups as the data is available.
[7] The Peer Collaborative Resource Network can be found at http://edcountability.net.
[8] The Consolidated Annual Performance, Accountability, and Financial Status Report Database is available at http://www.perkinscar.com/admin/admin-login.cfm?CFID=2710266&CFTOKEN=13427997.
[9] For information on the Consolidated Annual Report go to http://www.ed.gov/policy/sectech/guid/cte/carmemo.htm. See also Appendix A.

What Did the Data Tell Us?

Meeting Negotiated Performance Measures

- 2 states (3.77%) met all four subparts of Core Indicator IV in all five years. Both of these states had NPMs below 15.00% for 4S1 and 4S2 and below 10.00% for 4P1 and 4P2.
- 18 states (33.96%) met 4S1, 17 states (32.08%) met 4S2, 13 states (24.53%) met 4P1, and 10 states (18.87%) met 4P2 in all five years.
- 5 states (9.43%) met all four subparts in four of the five years, 5 states (9.43%) met all four subparts in three of the five years, 7 states (13.21%) met all four subparts in two of the five years, and 16 states (30.19%) met all four subparts in one of the five years.
- Disregarding NPMs, 24 states (45.28%) increased their performance on 4S1, 19 states (35.85%) increased their performance on 4S2, 21 states (39.62%) increased their performance on 4P1, and 18 states (33.96%) increased their performance on 4P2 over the five years.
- NPMs are not consistent enough, even within a state over time, to be very useful in state-to-state comparisons. However, the data are very informative when viewed as part of a continuous improvement model.

Enrollment Data

- The number of students enrolled in CTE steadily increased between 2002 and 2005.
- In the aggregate, there were consistently more underrepresented males enrolled in NTO CTE than females.
- Nationally, from 2002 to 2005 the number of underrepresented gender students enrolled in NTO CTE expressed as a percentage of all students enrolled in CTE rose from 14.61% to 16.15% in 2005 at the secondary level and from 13.15% to 14.55% at the postsecondary level.
- 3 of the 4 states that had a steady decrease in underrepresented female enrollment in NTO CTE at the postsecondary level also had a steady increase in underrepresented male enrollment in NTO CTE at the postsecondary level.
- With regard to secondary enrollment in NTO CTE from 2002 and 2005, 15 states (28.30%) had a decrease in the number of underrepresented males; 21 states (39.62%) had a decrease in the number of underrepresented females; 12 states (22.64%) had an increase in the number of underrepresented males and a decrease in the number of underrepresented females; and 25 states (47.17%) had an increase in the number of both underrepresented males and underrepresented females.

Expenditures

- Amounts set aside from the Perkins state leadership funds for programs and services for students pursuing nontraditional fields decreased steadily from 2001 to 2005.
- Some states reported spending less than the required $60,000 in a fiscal year.
- Those states that used a continuous improvement model to identify how to use the leadership money most effectively, as observed in several of the CAR narratives, appeared to have better performance.

Enrollments by Ethnicity (Hispanic)

- The data show that underrepresented gender Hispanic students enrolled in NTO CTE at a greater rate than Hispanic students enrolled in NTO CTE at both the secondary and postsecondary levels.
- The percent increase of underrepresented gender Hispanic students in NTO CTE programs was more than double that of underrepresented gender students of all races in NTO CTE from 2002 to 2005.
- It appears from the data that underrepresented gender Hispanic students participate in NTO CTE at a greater rate than Hispanic students participate in NTO CTE. In other words, of those Hispanic students participating in NTO CTE more of them are in programs nontraditional for their gender than you would expect based on their participation rates.

Issues with the Data

The data were not always available. For example, we learned that OVAE granted some states extensions to report the dollar amounts set aside from leadership funds to spend on NTO CTE. However, OVAE's Consolidated Annual Performance, Accountability, and Financial Status Report Database was not updated to reflect those states' amounts when they were later reported.

NPMs were very erratic, but seemed to level out in 2004 and 2005. This trend was also true for the states' adjusted levels of performance (ALPs). Data collected since 2004 should be a good baseline to use in the next cycle of the Perkins accountability system.

There appeared to be a problem with inconsistent reporting of enrollment data from state to state and even within a state from year to year. The CAR narratives indicated that many states were working hard to develop accurate reporting systems.

CONCLUSIONS AND RECOMMENDATIONS

1. If data are to be used for state-to-state comparisons, definitions of program participation and completion must be uniform. In addition, a set of CTE programs that are acknowledged by all states to be "nontraditional" is necessary. Otherwise, national comparisons will always be inaccurate since they will reflect incongruous program data.

2. Selection of a CTE program to be included in the set of nontraditional programs for data collection purposes can be problematic if it is unclear whether or not the program prepares students for nontraditional careers for both genders. Program designations for nontraditional must be for one gender only.

3. To ensure accurate reporting, states should collect data on student participation and completion at the most detailed classification of program (Classification of Instructional Programs [CIP] code) level as possible. Some states showed huge nontraditional enrollments (over 50% of all students enrolled in NTO CTE), which indicates an over-

assignment of nontraditional status, most likely due to the designation of programs as nontraditional that are not truly preparing students for nontraditional careers.

4. There were significant changes in NPMs for some states across the five years of data studied. This may be due to significant changes in the reporting systems used or changes in the identification of NTO CTE. Unless NPMs become more uniform over time, whether or not a state meets its NPMs will not be an accurate reflection of the progress it is making in enrolling and graduating underrepresented gender students in NTO CTE.

5. Perkins III data indicate that a state would benefit from using a continuous improvement model for Core Indicator IV. The states that showed internal growth, regardless of their NPMs, appeared to be using the data to drive the projects funded by the state leadership nontraditional set-aside dollars.

6. For reasons that remain unclear, some states did not report data disaggregated by race/ethnicity or special population status. Perkins IV requires states to develop data collection and accountability systems that report such data. These data can be used to identify performance gaps between groups and all students in CTE as required by Perkins IV, as well as to determine if any group is underrepresented or overrepresented for civil rights review purposes. States and locals must make a greater effort than they did in Perkins III to accurately collect data on special population students.

7. States should set their baselines for Perkins IV using a multi-year average starting in 2004 to eliminate the possibility of excessive high/low years from inflating/deflating the baseline.

8. Using a five-year average of the Perkins III data for those states that increased their performance from 2001 to 2005, states could expect to increase their NPMs by at least .35 percentage points each year.

ANALYSIS OF INFORMATION PROVIDED BY CONSOLIDATED ANNUAL REPORTS FOR PERKINS III, FISCAL YEARS 2000-2001 THROUGH 2004-2005

Question # 1: What states met their NPMS for all subparts of Core Indicator IV for 2001, 2002, 2003, 2004, and 2005?
(Data are based on a total of 53 reporting entities: 50 states plus DC, Puerto Rico, Guam.)

- 2 states (1.06%) met all subparts of Core Indicator IV in all five years (MA, ND).
    - Massachusetts's and North Dakota's NPMs for 4S1 and 4S2 were less than 10.00% and in the 15.00% range, respectively. Both Massachusetts and North Dakota had NPMs less than 10.00% for 4P1 and 4P2.
    - Both Massachusetts and North Dakota explained how they used their data to identify statewide projects and efforts to address areas still of concern. Massachusetts disaggregated its data and determined that it was not making as much progress in preparing males for nontraditional careers as it was for females. North Dakota disaggregated its data by all of the required groups and by the 16 clusters to identify which clusters were successful in enrolling underrepresented gender students and encouraged mini-grants to assist those areas that needed improvement.

- 6 states (3.18%) met all subparts of Core Indicator IV in four of the five years (AK, GA, SC, UT, VA, WY).

Question # 2: Which states met their negotiated 4S1, 4S2, 4P1, or 4P2 in the five years?
(Data are based on a total of 53 reporting entities: 50 states plus DC, Puerto Rico, Guam.)

- 18 states (33.96%) met 4S1 in all five years (FL, IA, IN, KY, LA, MA, MI, ND, NE, NJ, NV, OH, OK, SC, VA, VT, WI, WY). 10 additional states (18.87%) met 4S1 in four of the five years (AK, AR, CA, CO, DE, NS, MT, OR, PA, WV).
- 17 states (32.08%) met 4S2 in all five years (AK, CA, FL, GA, IA, ID, KS, MA, MI, ND, NE, NJ, OK, VA, VT, WI, WY). 9 additional states (16.98%) met 4S2 in four of the five years (AR, CO, HI, ME, MN, NV, SC, TN, UT).
- 13 states (24.53%) met 4P1 in all five years (AK, CT, GA, IA, MA, ND, NM, OR, SC, WA, WI, WV, WY). 8 additional states (15.09%) met 4P1 in four of the five years (AR, CA, GU, LA, NM, NJ, VA, VT).
- 10 states (18.87%) met 4P2 in all five years (AK, AZ, CT, GA, MA, ND, NM, SC, SD, VA). 8 additional states (15.09%) met 4P2 in four of the five years (DC, DE, LA, MD, MN, NC, NY, WY).
- More states were successful in meeting the goals set for secondary than for postsecondary students. Many of the narratives pointed to the nature of community college CTE students, who often don't complete programs because their goals are not the degree but the skills necessary for employment.

Questions # 3: Which states showed an increase in performance in 4S1, 4S2, 4P1, and/or 4P2 from 2001 to 2005 regardless of what occurred in between and regardless of meeting NPMs?

- 3 states (5.66%) increased their performance on all four measures (CO, CT, NV).
- 24 states (45.28%) increased their performance on 4S1.
    - 19 states (35.84%) increased their performance by .01 to 5.00 percentage points (AL, CA, CO, DC, FL, GA, ID, IL, IN, KS, MI, MT, NC, NE, NV, NY, RI, VA, VT).
    - 2 states (3.77%) increased their performance by 6.00 to 10.00 percentage points (AR, MO).
    - 3 states (5.66%) increased their performance by 16.00 to 20.00 percentage points (CT, Guam and New Mexico).
- 18 states (33.96%) increased their performance on 4S2.
    - 14 states (26.42%) increased their performance by 1.00 to 5.00 percentage points (AL, AZ, CO, DC, IN, KS, NE, NH, NV, RI, SC, SD, UT, VT).
    - 2 states (3.77%) increased their performance by 16.00 to 20.00 percentage points (CT and Guam).
    - 2 states (3.77%) increased their performance by 21.00 to 25.00 percentage points (CA and GA).
- 21 states (39.62%) increased their performance on 4P1.
    - 19 states (35.85%) increased their performance by 1.00 to 5.00 percentage points (AK, AZ, CO, CT, GA, IA, IL, IN MI, MO, MT, NJ, NV, NY, OK, PA, TN, WA, WI).
    - 1 state (1.89%) increased its performance by 6.00 to 10.00 percentage points (CA).
    - 1 state (1.89%) increased its performance by 11.00 to 15.00 percentage points (DC).
- 17 states (32.08%) increased their performance on 4P2.
    - 16 states increased their performance by 1.00 to 5.00 percentage points (CO, CT, IA, IL, MI, MO, NE, NJ, NV, OR, PA, UT, VT, WA, WI, WV).
    - 1 state (1.89%) increased its performance by 6.00 to 10.00 percentage points (TN).
- A review for increase in performance regardless of the NPM reveals the following:
    - 1 state (1.89%) consistently increased its performance on 4S1 (MO).
    - No state consistently increased performance on 4S2.
    - 1 state (1.89%) consistently increased its performance on 4P1 (NJ).

- 1 state (1.89%) consistently increased its performance on 4P2 (CO).

Questions # 4: Which states never met their NPMs for any of the subparts of Core IV Indicator any time during Perkins III?

- In 2001, 19 states (35.85%) did not meet all four subparts (AR, CT, DC, DE, FL, HI, IA, KY, LA, MI, MN, NJ, NV, PA, RI, SC, UT, VT, WV).
- In 2002, 20 states (37.74%) did not meet all four subparts (DC, DE, FL, HI, ID, MD, MI, MN, MS, NC, NM, NV, OK, OR, PA, RI, UT, VT, WA, WV).
- In 2003, 20 states (37.74%) did not meet all four subparts (DC, HI, IA, ID, IN, KY, LA, MD, MN, MS, NC, OK, OR, PA, PR, RI, WA, WI, WV, WY).
- In 2004, 22 states (41.51%) did not meet all four subparts (DE, FL, GA, HI, ID, IN, KY, MD, MS, NC, NJ, NM, NV, OK, OR, PA, PR, VA, VT, WA, WI, WV).
- In 2005, 19 states (35.85%) did not meet all four subparts (DE, FL, GA, ID, KY, LA, MD, MI, MN, MS, NC, NM, NV, OR, PR, RI, VT, WA, WI).
- 5 states (9.43%) did not meet all four subparts in only one of the years (AR, CT, and SC, 2001; WY, 2003; VA, 2004).
- 5 states (9.43%) did not meet all four subparts in two of the five years (GA, IA, IN, NJ, UT).
- 7 states (13.21%) did not meet all four subparts in three of the five years (DC, LA, MI, NM, OK, PR, WI).
- 16 states (30.19%) did not meet all four subparts in four of the five years (DE, FL, HI, ID, KY, MD, MN, MS, NC, NV, OR, PA, RI, VT, WA, WV).
- 0 states did not meet all four subparts in all five years.

Question # 5: Which states did not meet their negotiated 4S1, 4S2, 4P1, or 4P2 any time during Perkins III?

- 14 states (26.42%) missed at least one of the four measures every year (AL, GU, IL, KS, ME, MO, MT, NE, NH, NY, OH, SD, TN, TX).
- 2 states (3.77%) never met 4S1 (MO, Guam).
- 1 state (1.89%) never met 4S2 (Guam).
- 5 states (9.43%) never met 4P1 (MO, NH, OH, TN, TX).
- 6 states (11.32%) never met 4P2 (AR, CO, NE, NV, TN, TX).
- 2 states (3.77%) never met 4P1 or 4P2 (TN, TX).
- 1 state (1.89%) never met its 4S1 or 4S2 measures (Guam).

Question # 6: What were the data quality problems that make the data difficult to analyze or draw conclusions from?

- The states did not have to report which programs were considered nontraditional programs for data collection purposes. Therefore, the data may not be comparing the same sets of programs.
- Since there is not a common standard to meet, the ability to compare one state's success/ failure to another's is difficult. For instance, Missouri's NPMs are in the 30.00% range,

while other states' NPMs are in the 10.00% range. Missouri did not reach an NPM, missing by only hundredths of a percentage point. But in actual numbers, Missouri has more underrepresented gender students involved and successful in NTO CTE than states that met their NPMs.

- The measures negotiated by the states with OVAE are not useful in making state-to-state or intrastate comparisons over time, because they are very inconsistent. During the five-year period from 2001-2005, 27 out of 54 states (50%) had irregularities in their NPMs (AL, AZ, AK, CA, DE, GA, Guam, IL, IN, KS, LA, ME, MD, NT, NE, NV, NM, NY, NC, OH, R, PR, RI, TN, TX, WI, WY).

  - Of the 27 states, 4 (14.81%) had a substantial change in their negotiated 4S1 and/or 4S2 after the initial year (2001).

    Alabama (4S2: 35.24% to 8.37%)
    Arkansas (4P1: 38.51% to 15.75%; 4P2: 47.59% to 18.75%)
    Delaware (4S2: 95.98% to 13.67%)
    Montana (4S2: 91.37% to 14.28%)

  - Of the 27 states, 9 (33.34%) had annual increases consistently over .25 percentage points [10] in their negotiated 4S1 and/or 4S2.

    California (NPM for 4S2 increased from 25.13% in 2004 to 49.00% in 2005)
    Georgia
    Guam
    Nebraska
    New Mexico (negotiated 4S1 increased from 41.00% in 2004 to 62.50% in 2005)
    New York (except that negotiated 4S2 remained the same in 2004)
    Ohio
    Puerto Rico
    Wyoming

  - Of the 27 states, 11 (40.74%) had annual increases consistently over .25 percentage points for their negotiated 4P1 and/or 4P2.

    California
    Arizona
    Louisiana
    Maryland (negotiated 4P2 increased from 20.41% in 2004 to 25.79% in 2005)
    Montana (negotiated 4P2 increased .50 percentage points each year)
    New Mexico
    New York (negotiated 4P2 jumped from 18.52% in 2004 to 28.52% in 2005)
    Ohio
    Oregon
    Rhode Island

[10] It appears that OVAE was requiring states to increase their performance on Core Indicator IV by at least .25 percentage points per year.

Wyoming

- Of the 27 states, 6 (22.22%) had annual NPM increases of less than .25 percentage points for one or more subparts of Core Indicator IV over the five years (DE, IN, KS, ME, NV, TN).

- Of the 27 states, 6 states (22.22%) appear to have renegotiated their 4S1 and 4S2 in the middle or at the end of the five years (AZ, MD, NC, PR, RI, TX).

- Of the 27 states, 8 (29.63%) appear to have renegotiated their 4P1 and 4P2 in the middle or at the end of the five years (KS, ME, NE, NV, NY, OH, TN, TX).

- Of the 27 states, 5 (18.52%) had NPMs that were erratic and did not fit any of the other categories for at least one of the four subparts of Core Indicator IV (AL, IL, LA, PR, WI).

- Of the 27 states, 7 (25.93%) had NPMs with a large jump (+/− 10 percentage points or greater) from one year to another for at least one of the four subparts of Core Indicator IV (AR, CA, DE, GA, LA, NM, RI).

- There did not appear to be consistent definitions from state to state, so again comparisons are difficult to make. For instance, Massachusetts defined a vocational completer as a student who takes a particular sequence of courses, Oregon defined a completer as a student who earns a high school diploma or recognized equivalent, and Mississippi defined a completer as a vocational student who completes both years of a two-year program.

- Data for CTE enrollment by gender were inconsistently reported but improved over the years. Such data were incomplete on the OVAE website. In 2002, Arizona, Illinois, Nebraska, Tennessee, and Vermont did not provide secondary data by gender. That same year, Arizona, Guam, Illinois, Indiana, Kentucky, Oklahoma, and Tennessee did not provide postsecondary data by gender. In 2003, only Georgia did not provide data by gender. By 2005, however, all states provided CTE enrollment data by gender.

- Data for enrollment of underrepresented gender students in NTO CTE programs disaggregated by gender were incomplete on the OVAE website. In 2002, Montana, New Mexico, Rhode Island, and Vermont did not provide such data. In 2003, Kansas, Montana, Rhode Island, and Vermont did not provide such data.
  By 2004 and 2005, however, all states provided such data.

Questions # 8: How much money did each state set aside in state leadership funds for NTO CTE each year?

Table 1 shows the distribution of states by the amount of state leadership funds spent for NTO CTE during each of the five years studied.

TABLE 1 State Setasides for NTO CTE, 2001-2005

	2001	**2002**	**2003**	**2004**	**2005**
$0 or no data[a]	9.43% DE, GU, MT, TN, TX	11.32% DE, GU, IL, NC, TN, TX	22.64% AL, DE, GU, IL, MI, MT, NJ, NY, PR, RI, TN, TX	20.75% DE, FL, GU, HI, IL, MI, NJ, NM, PR, TN, VT	16.98% GU, HI, IL, IN, MI, NJ, NM, PR, TN
< $60,000	9.43% DC, MD, MS, SC, VA	5.66% CO, IN, MD	0.00%	1.89% NV	1.89% NV
$60,000	22.64% FL, IA, ID, LA, ND, NH, NV, OK, OR, RI, SD, WI	24.53% AK, GA, IA, ID, MS, ND, NH, NV,OR, RI, SC, SD, WI	35.85% AK, CO, GA, IA, ID, IN, LA, MD, MS, NC, ND, NH, NV, OH, OR, SC, SD, VT, WI	22.64% CO, IN, ID, MS, NC, ND, NH, OR, RI, SC, SD, WI,	30.19% AZ, CO, DE, ID, MD, MS, NC, ND, NH, OK, OR, RI, SC, SD, VT, WI
> $60,000 < $100,000	16.98% GA, HI, IN, ME, NC, PA, PR, VT, WV	20.75% HI, ME, MT, NE, OH, OK, PA, PR, UT, VT, WV	13.21% HI, ME, NE, OK, PA, UT, WV	18.87% AK, GA, ID, ME, MT, OK, PA, UT, WV, WY	16.98% AK, FL, GA, MA, ME, MT, PA, UT, WV
$100,000	3.77% AK, AL	7.55% AL, NM, VA, WY	5.66% NM, VA, WY	5.66% AL, IA, VA	9.43% AR, AL, IA, OH, VA
> $100,000 < $125,000	5.66% CO, NE, NM	3.77% DC, FL	3.77% DC, FL	1.89% DC	3.77% DC, TX
> $125,000 < $150,000	7.55% AZ, MO, OH, WY	1.89% NY	0.00%	5.66% NY, OH, TX	1.89% NY
$150,000	24.53% AR, CA, CT, IL, KS, KY, MA,MI, MN, NJ, NY, UT, WA	24.53% AR, AZ, CA, CT, KS, KY, LA, MA, MI, MN, MO, NJ, WA	18.87% AR, AZ, CA, CT, KS, KY, MA, MN, MO, WA	22.64% AR, AZ, CA, CT, KS, KY, LA, MA, MN, MO,NE, WA	18.87% CA, CT, KS, KY, LA, MN, MO, NE, WA, WY
Totals	100.00%	100.00%	100.00%	100.00%	100.00%

[a] Zero funds were reported for those states that had been granted reporting extensions by OVAE. At the time of this writing, the OVAE website had not been updated to reflect those states' information if it had been reported per the extension.

- 6 states (11.32%) spent the maximum of $150,000 in all five years (CA, CT, KS, KY, MN, WA).
- 4 states (7.55%) spent the minimum in all five years (ND, OR, SD, WI).
- 2 states (3.77%) had a decrease in funds each year (NV, WV).
- No state increased its funds each year.

Question # 9: Which states spent less in 2005 than in 2001?
(Data for 2001 and 2002 were available only in hard copy from OVAE, and data for 2003, 2004, and 2005 were available on the OVAE website.)

- 18 states (33.96%) spent less in 2005 than in 2001 (AK, AR, AZ, CO, IL, IN, MA, MI, NJ, NM, NV, NY, NC, OH, PR, UT, VT, WV).

Question # 10: Which states spent more in 2005 than in 2001?
(Data for 2001 and 2002 were available only in hard copy from OVAE, and data for 2003, 2004, and 2005 were available on the OVAE website.)

- 13 states (24.53%) spent more in 2005 than in 2001 (DC, DE, GA, IA, LA, MD, MO, MS, MO, NE, SC, VA, WY).

Question # 11: Was there any connection between the money spent and performance?

- 5 of the 13 states (38.46%) listed in Question #10 that spent more money in 2005 increased their performance in 2004 and 2005.
- Of the 2 states that met their NPMs in all five years, Massachusetts spent the maximum allowed, or $150,000 each year with the exception of 2005 when the state spent $95,000. North Dakota consistently spent the minimum of $60,000 each year.
- 6 of the 12 states (50.00%) that spent $150,000 each year increased and maintained their NPMs for NTO participation and completion.

Question # 12: What is the amount of state leadership set aside by all states for NTO CTE in each of the five years of Perkins III? How does this compare to the amount that would have been set aside if the 3.5% requirement of Perkins II had still been in place during Perkins III?

- The amounts set aside by all states were as follows (see also Figure 1):

  2001: 4,600,502
  2002: 4,499,598
  2003: 3,684,585
  2004: 4,162,230
  2005: 4,112,569

- If the 3.5% setaside had still been in place in 2004, the amount would have been $40,888,380.

Question # 13: What were the enrollment patterns for all CTE students and underrepresented gender students in NTO CTE?[11]

[11] Data were available for fiscal years 2002-2005.

Secondary Enrollment

Table 2 and Figure 1 provide the patterns of secondary students enrolled in secondary CTE by gender from 2002 to 2005.

TABLE 2 Numbers of Secondary Students Enrolled in CTE, by Gender, Fiscal Years 2002-2005

Year[12]	Males	Females	Total
2002	3,259,426	2,810,277	6,069,703
2003	3,745,541	3,116,847	6,862,388
2004	3,901,703	3,384,485	7,286,188
2005	3,928,207	3,404,602	7,332,809

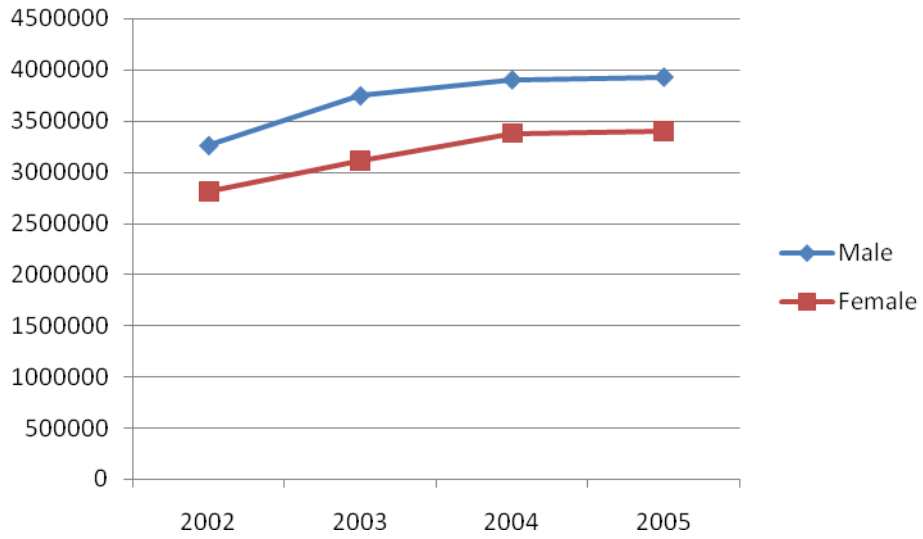

FIGURE 1 Number of secondary students enrolled in CTE, by gender, fiscal years 2002-2005.

Tables 3 and 4 and Figures 2 and 3 provide the patterns of underrepresented females and underrepresented males enrolled in NTO CTE from 2002 to 2005.[13]

[12] Data prior to 2001 were not complete enough to use for this report.
[13] Male = M Numerator for 4S1; Female = F Numerator for 4S1.

TABLE 3 Numbers of Underrepresented Gender Secondary Students Enrolled in NTO CTE, by Gender, Fiscal Years 2002-2005

Year	Underrepresented Males	Underrepresented Females	Total
2002	501,132	385,680	930,581
2003	717,292	550,868	1,268,160
2004	673,158	488,410	1,161,568
2005	677,878	506,379	1,184,257

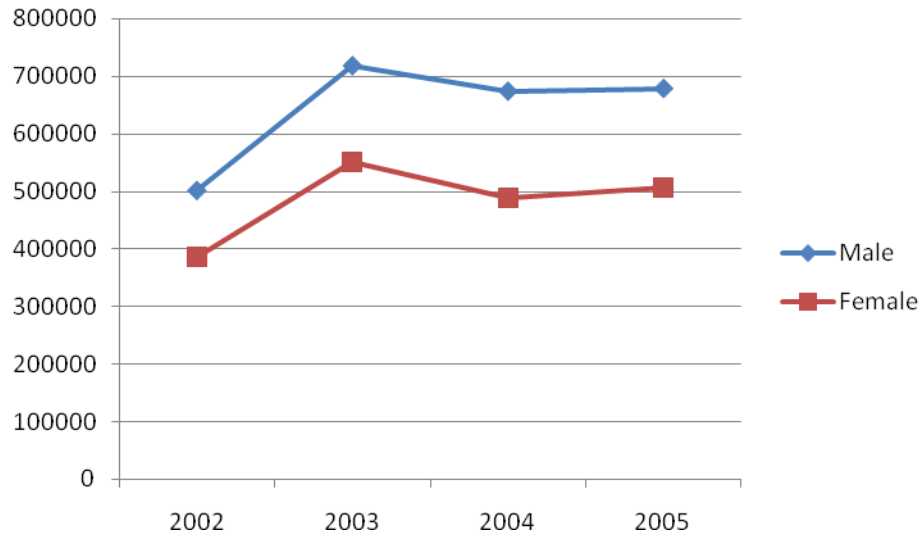

FIGURE 2 Number of underrepresented gender secondary students enrolled in NTO CTE, by gender, fiscal years 2002-2005.

TABLE 4 Percentage of Underrepresented Gender Secondary Students Enrolled in NTO CTE, by Gender, Fiscal Years 2002-2005

Year	# Underrepresented Males in NTO CTE/ # Males in NTO CTE[14]	# Underrepresented Females in NTO CTE/ # Females in NTO CTE	# Underrepresented Gender Students/ Total Students in NTO CTE
2002	15.37	13.72	14.61
2003	19.15	17.67	18.48
2004	17.25	14.43	15.94
2005	17.26	14.87	16.15

[14] This is the comparison made on the CAR when the data is desaggregated by gender for the fourth core indicator This is NOT the percentage of males in CTE programs identified as nontraditional for males (i.e. the percentage of males in healthcare programs). This IS the percentage of males enrolled in NTO CTE programs for males as compared to all males enrolled in programs identified as nontraditional for males and females (i.e. the # of males in health care/# males in health care and auto technology). See Appendix A for a detailed explanation.

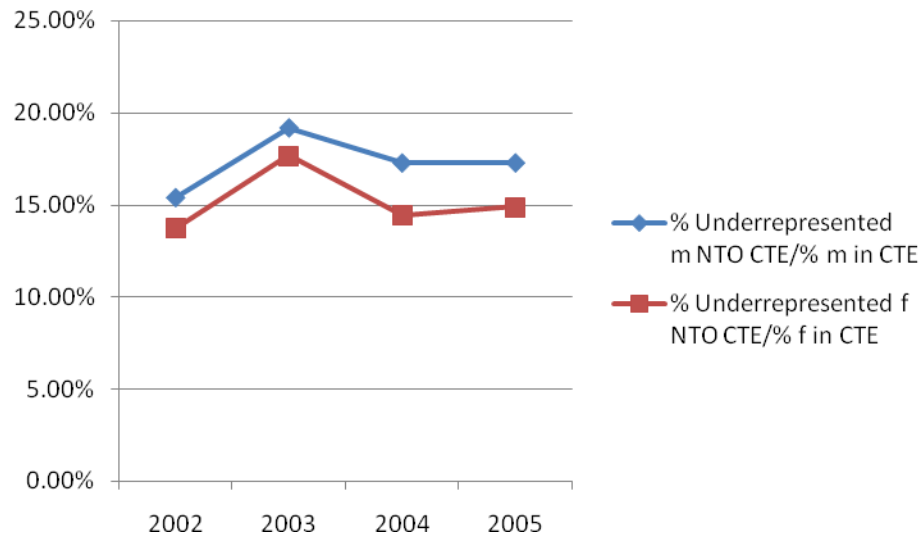

FIGURE 3 Underrepresented gender secondary students enrolled in NTO CTE as a percentage of all secondary students enrolled in NTO CTE, by gender, fiscal years 2002-2005.

Postsecondary Enrollment

Table 5 and Figure 4 provide the patterns of postsecondary students enrolled in CTE from 2002 to 2005.

Table 5 Numbers of Postsecondary Students Enrolled in CTE, by Gender, Fiscal Years 2002-2005

Year	Males	Females	Total
2002	1,972,671	2,372,146	4,344,817
2003	2,109,644	2,505,888	4,615,532
2004	2,105,452	2,656,402	4,761,854
2005	1,972,960	2,503,453	4,476,413

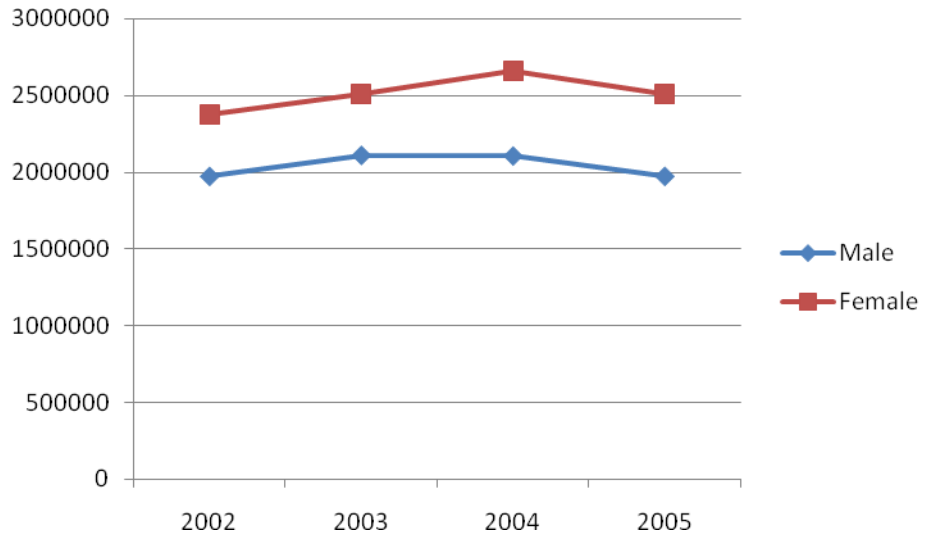

FIGURE 4 Number of postsecondary students enrolled in CTE, by gender, fiscal years 2002-2005.

Tables 6 and 7 and Figures 5 and 6 provide the patterns of underrepresented females and underrepresented males enrolled in NTO CTE from 2002 to 2005.

TABLE 6 Numbers of Underrepresented Gender Postsecondary Students Enrolled in NTO CTE, by Gender, Fiscal Years 2002-2005

Year	Underrepresented Males	Underrepresented Females	Total
2002	263,090	308,040	571,130
2003	266,370	309,902	576,272
2004	299,250	321,268	620,518
2005	324,412	326,777	651,189

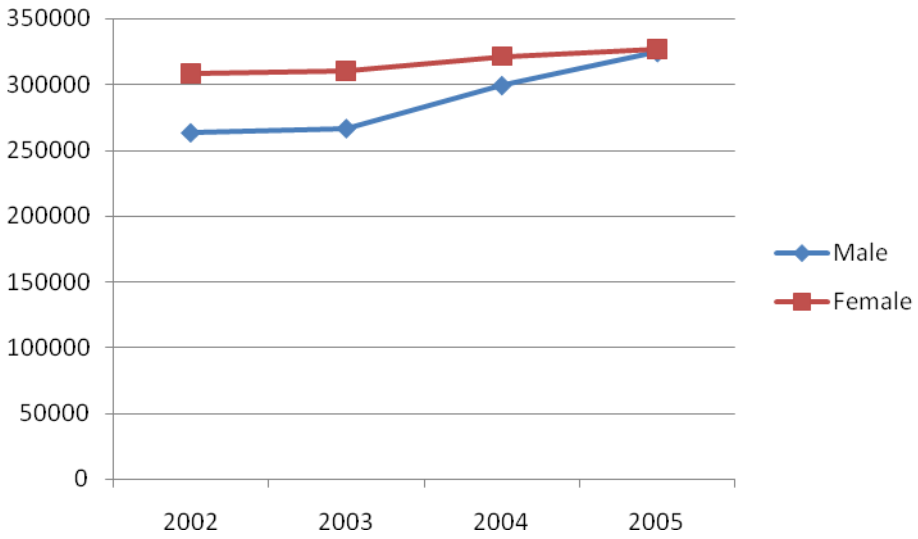

FIGURE 5 Number of underrepresented gender postsecondary students enrolled in NTO CTE, by gender, fiscal years 2002-2005.

TABLE 7 Percentage of Underrepresented Gender Postsecondary Students Enrolled in NTO CTE, by Gender, Fiscal Years 2002-2005

Year	# Underrepresented Males in NTO CTE/ # Males in CTE	# Underrepresented Females in NTO CTE/ # Females in CTE	# Underrepresented Gender Students/ Total Students in CTE
2002	13.34	12.99	13.15
2003	12.63	12.37	12.49
2004	14.21	12.09	13.03
2005	16.44	13.05	14.55

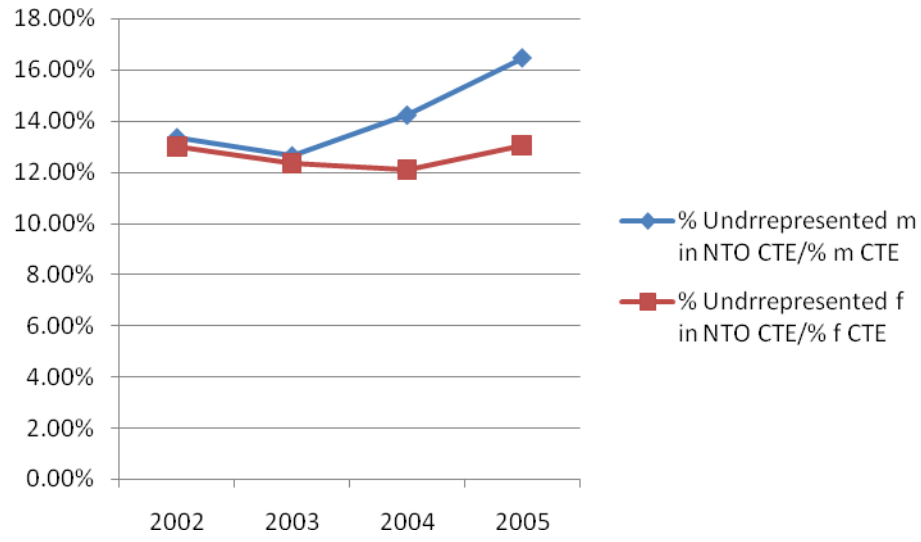

FIGURE 6 Percentage of underrepresented gender postsecondary students enrolled in NTO CTE, by gender, fiscal years 2002-2005.

Observations

- At the secondary level, there is a question as to whether or not the states reported accurate and consistent data for the numerators for underrepresented males and underrepresented females in NTO CTE. A review of individual states' numbers of underrepresented males and underrepresented females enrolled in NTO CTE revealed that only three states (5.66%) had a consistent pattern across all four years.

- In the aggregate at the secondary level, there were consistently more underrepresented males than underrepresented females in NTO CTE. At the postsecondary level, there were more underrepresented females enrolled; however, the number of underrepresented males increased each year so that, by 2005, there were almost equal numbers of underrepresented males and underrepresented females.

- From 2002 to 2005, the percentage of underrepresented gender students enrolled in NTO CTE rose from 14.61% to 16.15% at the secondary level and from 13.15% to 14.55% at the postsecondary level.

- A review of secondary enrollments in NTO CTE from 2002 to 2005 revealed the following:

    - 2 states (3.77%) had a steady increase in the number of underrepresented males (AR, VA).
    - 1 state (1.89%) had a steady increase in the number of underrepresented females (AZ).

  - 50 states (94.34%) had erratic enrollment figures.[15]

- A review of postsecondary enrollments in NTO CTE from 2002 to 2005 revealed the following:

  - 18 states (33.96%) had a steady increase in the number of underrepresented males (AL, AZ, CA, CT, DE, FL, IL, KY, ME, MI, MN, NM, OK, OA, SC, SD, VI, WI).
  - 8 states (15.09%) had a steady increase in the number of underrepresented females (HI, IA, IL, NC, NM, OK, SC, VT).
  - 4 states (7.55%) had a steady decrease in the number of underrepresented females (AL, AZ, FL, WV).

    - Of these, 3 also had a steady increase in the number of underrepresented males (AL, AZ, FL).

  - 32 states (60.38%) had erratic enrollment figures.

- A comparison of secondary enrollments in NTO CTE in 2002 to those in 2005 revealed the following:

  - 15 states (28.30%) had a decrease in the number of underrepresented males (AK, DC, GU, HI, ID, IA, KS, MS, MO, MT, NY OH, PR, TN, WV).
  - 21 states (39.62%) had a decrease in the number of underrepresented females (AL, CT, DC, FL, GU, KS, KY, LA, MA, MS, NH, OH, OR, PR, SD, TN, TX, UT, VA, WA, WV).
  - 12 states (22.64%) had an increase in the number of underrepresented males and a decrease in underrepresented females (AL, FL, KY, LA, MA, NH, OR, SD, TX, UT, VA, WA).
  - 25 states (47.17%) had increases in the number of both underrepresented males and underrepresented females (AZ, AR, CA, CO, DE, GA, IL, IN, ME, MD, MI, MN, NE, NV, NJ, NM, NC, ND, OK, PA, RI, SC, VT, WI, WY).

- A comparison of postsecondary enrollments in NTO CTE in 2002 to those in 2005 revealed the following:

  - 13 states (24.53%) had a decrease in the number of underrepresented males (DC, GU, HI, ID, IA, KS, MS, MO, MT, NY, OH, PR, TN).
  - 22 states (41.51%) had a decrease in the number of underrepresented females (AL, CA, CT, DE, DC, GA, GU, KS, KY, LA, MA, MS, NH, OH, OR, PR, SD, TN, TX, UT, VA, WA).
  - 14 states (26.42%) had an increase in the number of underrepresented males and a decrease in the number of underrepresented females (AL, CA, CT, DE, GA, KY, LA, MA, NH, OR, SD, TX, UT, and VA).

[15] A large increase in enrollment figures was reported for 2004, which might mean that the data requested in 2004 was not consistent with that requested in other years.

- 24 states (45.28%) had an increase in the number of both underrepresented males and underrepresented females (AK, AZ, AR, CO, FL, IL, IN, ME, MD, MI, MN, NE, NV, NJ, NM, NC, ND, OK, PA, RI, SC, VT, WI, WY).

Question # 14: What were the enrollment trends by ethnicity?

Table 8 lists those states that did not provide data by ethnicity for the years 2002-2005.

TABLE 8 States That Did Not Provide Data by Ethnicity, Fiscal Years 2002-2005

Year	Ethnicity for 4S1	Ethnicity for 4P1	Ethnicity Enrollment for CTE
2002	ID, KY, MT, NM, NY, SC	CT, ID, KY, NY, PA	AZ, GU, IL, IN, KY, NE, OK, TN, VT
2003	GU, KY, MT, NY, VA	CT, KY, ME, NY, PA	GA
2004	GU, ID, MT, NY, VA	CT, GU, ID, NY, PA	DC, PR
2005	GU, ID, MT, NY, VA	CT, ID, NY	

Tables 9 and 10 provide data for the percentage of Hispanic students enrolled in CTE for the fiscal years 2003, 2004, and 2005.

TABLE 9 Enrollments of Secondary Hispanic Students in CTE, Fiscal Years 2003-2005

	0-2%		3-5%		6-8%		9-11%		12-14%		15-17%		18-20%		Greater than 20%	
	#[a]	%[b]	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2003	28	59.57	9	19.15	3 DE NV UT	6.38	1 FL	2.12	0	0	1 OR	2.12	1 CO	2.12	4 AZ CA CT PR	8.51
2004	30	65.22	8	17.39	2 DE UT	4.35	1 FL	2.17	1 CT	2.17	1 AZ	2.17	2 CO OR	4.35	1 CA	2.17
2005	24	50.00	14	29.17	2 NM UT	4.17	4 CT FL NV OR	8.33	0	0	0	0	1 AZ	2.08	3 CA CO PR	6.25

[a] Number of states.
[b] The denominator is 47, 46, and 48 states in 2003, 2004, and 2005, respectively.

TABLE 10 Enrollments of Postsecondary Hispanic Students in CTE, Fiscal Years 2003-2005

	0-2%		3-5%		6-8%		9-11%		12-14%		15-17%		18-20%		Greater than 20%	
	#[a]	%[b]	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2003	32	65.31	6	12.24	3 GU MD NV	6.12	1 FL	2.04	3 AZ CA TX	6.12	2 CO NM	4.08	0	0	2 CT PR	4.08
2004	33	70.21	5	10.64	3 NV RI TX	6.38	1 FL	2.13	1 AZ	2.13	2 CA CO	4.26	1 NM	2.13	1 MO	2.13
2005	35	72.92	6	12.24	0	0	2 FL NV	4.08	1 TX	2.04	1 CO	2.04	2 CA NM	4.08	2 AZ PR	4.08

[a] Number of states.
[b] The denominator is 49, 47, and 48 states in 2003, 2004, and 2005, respectively.

- In half the states, less than 3.00% of the secondary students enrolled in CTE were Hispanic. Many of the states with smaller populations were in this group. However, Texas had less than 3.00% Hispanic enrollment in CTE in all three years.
- Over the three years, the number of states reporting less than 3.00% of the postsecondary CTE population as Hispanic increased from 32 states to 35 states.

Table 11 shows that from 2002 to 2005 the percentage increase in enrollments of Hispanic students in secondary NTO CTE outpaced that of all students in secondary NTO CTE. Similarly, the enrollments of underrepresented gender Hispanic students in secondary NTO CTE outpaced that of all underrepresented gender students in secondary NTO CTE.

TABLE 11 Secondary Enrollments of Hispanic Students in NTO CTE, Fiscal Years 2002-2005

	Secondary			
Year	# Hispanic Students in NTO CTE[a]	# Students in NTO CTE[b]	# Underrep. Gender Hispanic Students in NTO CTE[c]	# Underrep. Gender Students in NTO CTE
2002	377,032	3,218,376	92,907	897,700
2003	558,101	3,927,519	209,319	1,286,811
2004	514,222	3,478,135	213,208	1,161,568
2005	532,320	3,501,477	223,356	1,186,509
% Change	41.19%	8.80%	140.41%	32.17%

[a] Denominator of 4S1 disaggregated by Hispanic students.
[b] Denominator of 4S1 total.

[c] Numerator of 4S1 disaggregated by Hispanic students.
[d] Numerator of 4S1 total.

Table 12 shows similar trends at the postsecondary level.

TABLE 12 Postsecondary Enrollments of Hispanic Students in NTO CTE, Fiscal Years 2002-2005

	Postsecondary			
Year	**# Hispanic Students in NTO CTE[a]**	**# Students in NTO CTE[b]**	**# Underrep. Gender Hispanic Students in NTO CTE[c]**	**# Underrep. Gender Students in NTO CTE[d]**
2002	307,779	2,187,594	93,056	571,318
2003	323,846	2,417,352	97,047	608,130
2004	376,292	2,471,387	114,561	620,576
2005	384,573	2,575,118	112,686	651,189
% Change	24.95%	17.71%	21.09%	13.98%

[a] Denominator of 4P1 disaggregated by Hispanic students.
[b] Denominator of 4P1 total.
[c] Numerator of 4P1 disaggregated by Hispanic students.
[d] Numerator of 4P1 total.

Table 13 provides trends in enrollments on Hispanic students in NTO CTE expressed as percentages.

TABLE 13 Secondary and Postsecondary Enrollments of Hispanic Students in NTO CTE, Percentages, Fiscal Years 2002-2005

	Secondary		**Postsecondary**	
Year	**% Students in NTO CTE That Are Hispanic**	**% Underrep. Gender Students in NTO CTE That Are Hispanic**	**% Students in NTO CTE That Are Hispanic**	**% Underrep. Gender Students in NTO CTE That Are Hispanic**
2002	11.71	10.35	14.07	16.29
2003	14.21	16.27	13.40	15.96
2004	14.78	18.36	15.22	18.46
2005	15.20	18.82	14.93	17.30

The following trends were noted at the secondary level:

- The percentage of Hispanic students in NTO CTE increased each year for an overall increase of 3.49 percentage points.
- After 2002, the percentage of underrepresented gender Hispanic students enrolled in NTO CTE was greater than the percentage of Hispanic students enrolled in NTO CTE.

The following trends were noted at the postsecondary level:

- From 2002 to 2005, the percentage of Hispanic students and the percentage of underrepresented gender Hispanic students enrolled in NTO CTE fluctuated but increased overall (.86 and 1.01 percentage points, respectively).
- In each year, the percentage of underrepresented gender Hispanic students enrolled in NTO CTE was greater than the percentage of Hispanic students enrolled in NTO CTE.

APPENDIX A

Disaggregating Gender for the Nontraditional Accountability Measure

The U.S. Department of Education's Office of Vocational and Adult Education, requires state recipients of Perkins funds to annually complete a Consolidated Annual Report (CAR). The CAR asks states to report data for each of the accountability measures as a total and disaggregated by gender, race/ethnicity, and special population status.

The disaggregation of the data by gender in the CAR has not been well understood and in many cases has been misinterpreted resulting in incorrect conclusions about the participation and completion rates of males and females in nontraditional career and technical education (CTE) programs.

Using participation (4S1 or 4P1) as an example, the following will explain the data reported in the CAR illustrating the possible misinterpretation of the data, and describing how to reconstruct the measure using the elements in the CAR to calculate the participation of males and females in CTE programs that are nontraditional for their gender. This same analysis can also be done for completion (4S2 or 4P2). The data reported in the CAR for 4S1 is as follows:

TABLE A-1 Data Reported in the State Annual Consolidated Annual Report for 4S1

Indicator	Code	Level	Population	Number of Students in the Numerator	Number of Students in the Denominator	Adjusted Level of Performance	Actual Level of Performance
Participation	4S1	Secondary	Total	4224	14866	34.99%	28.41%
Participation	4S1	Secondary	Male	1743	8322		20.94%
Participation	4S1	Secondary	Female	2481	6544		37.91%

From the above CAR report one would assume that this state (or local if looking at local data) was doing a better job of getting females into nontraditional CTE programs than it was getting males into nontraditional CTE programs and so should step up its efforts to increase the participation of underrepresented males in nontraditional CTE. Unfortunately, this is not what the data is telling us.

What is not clear from looking at the CAR is the construction of the measure when it is disaggregated by male and female for both the numerator and the denominator.

In the CAR, the numerator of 4S1 is all the underrepresented males enrolled in nontraditional CTE programs for males. The denominator is all the males enrolled in nontraditional CTE programs for males and for females (i.e., all the males enrolled in health care and in auto technology, since both of these programs are considered nontraditional). The data in the CAR tells us the rate at which males are willing to risk enrolling in a nontraditional program for males (i.e., health care). This is what we have been calling the RISK RATIO for nontraditional CTE participation. It does NOT tell us at what rate males are participating in programs nontraditional for males.

However, the data does give us the information necessary to recalculate the actual participation rates of males in nontraditional programs for males and the participation rates of females in nontraditional programs for females.

Participation Rate of Males in Nontraditional CTE for Males measure construction:

$$\frac{\text{\# of underrepresented males in nontraditional CTE programs for males}}{\text{\# of students (males and females) in nontraditional CTE programs for males}}$$

Using the data from the CAR this is how to reconstruct the measure above:

$$\frac{\text{Numerator of 4S1 male}}{\text{Numerator of 4S1 male + (Denominator of 4S1 female - Numerator of 4S1 female)}}$$

Participation Rate of Females in Nontraditional CTE for Females measure construction:

$$\frac{\text{\# of underrepresented females in nontraditional CTE programs for females}}{\text{\# of students (males and females) in nontraditional CTE programs for females}}$$

Using the data from the CAR this is how to reconstruct the measure above:

$$\frac{\text{Numerator of 4S1 female}}{\text{Numerator of 4S1 female + (Denominator of 4S1 male - Numerator of 4S1 male)}}$$

Using the formulas above and the data given in Table 1, let's look at the difference in the actual participation rates of males and females in nontraditional CTE programs for their gender as compared to their risk ratios as reported in the CAR.

Table 2 Risk Ratios and Participation Rates of Males and Females in NTO CTE Programs

Population	Number of Students in the Numerator	Number of Students in the Denominator	Risk Ratio[16]	Participation Rate of Underrepresented gender students in nontraditional CTE programs
Total	4224	14866	28.41%	28.41%
Male	1743	8322	20.94%	30.02%
Female	2481	6544	37.91%	27.38%

What the data now shows us is that in this state or local educational agency males are participating in nontraditional CTE programs for males at a slightly higher rate than are females in nontraditional CTE programs for females. Although these data alone are not enough to indicate what implementation strategy should be used it does tell us that focusing efforts on increasing the participation of males alone is not indicated.

[16] These data are reported in the CAR as the Actual Level of Performance

This analysis should be done whenever using the disaggregated data for gender from the CAR. The National Alliance for Partnerships in Equity has developed table shells where you can input the actual raw enrollment numbers and all the calculations will be done for you. These table shells are available at www.edcountability.net.