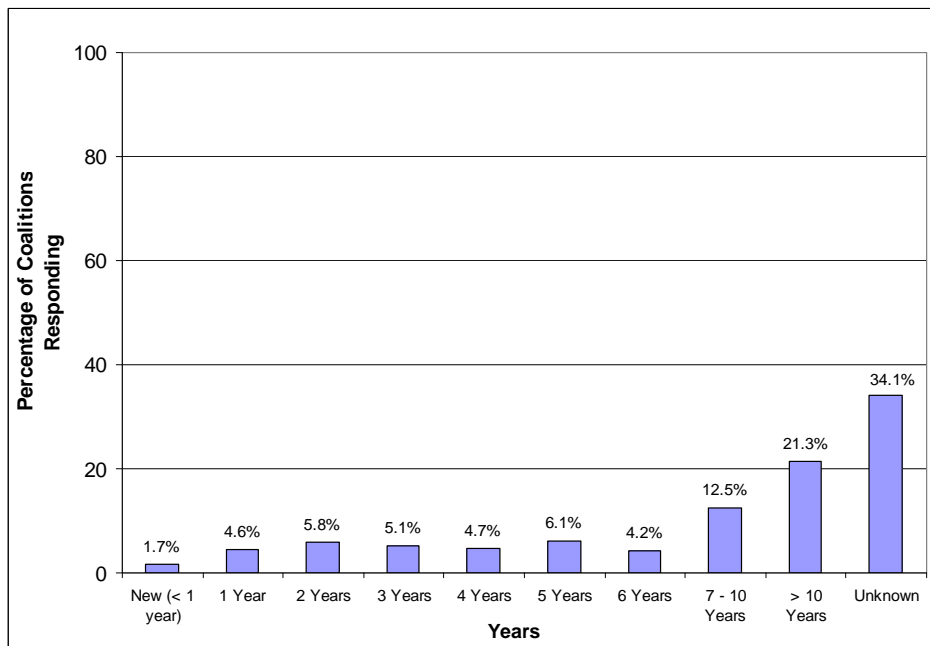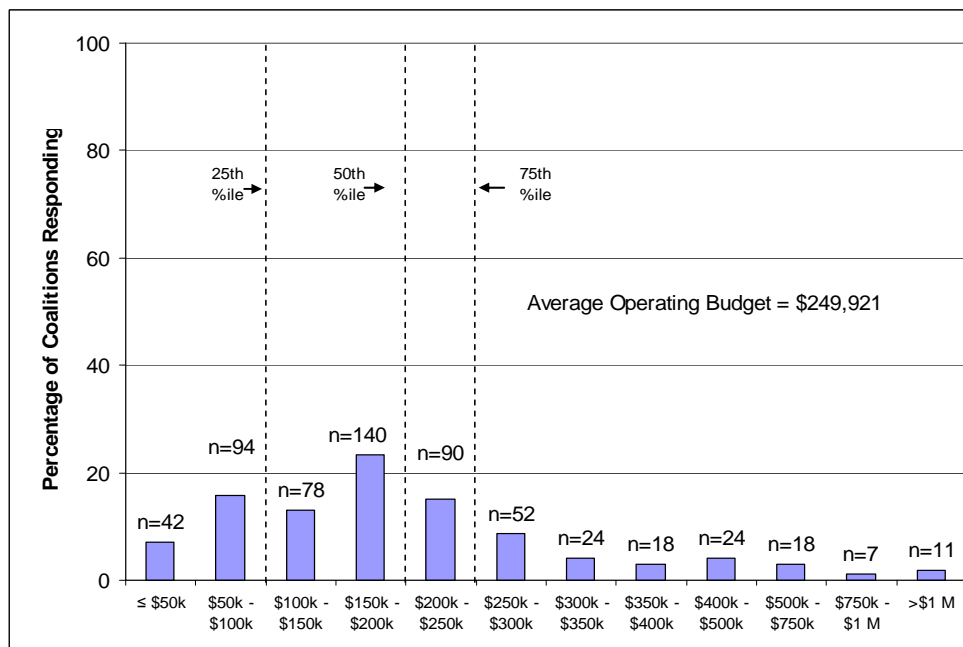## Appendix A: Detailed Findings

**Figure A-1.    34% of Coalitions Have Been Established for Seven Years or More: Number of Years that DFC Coalitions Have Been Established**



**Figure A-2.    Coalitions have Other Funding Sources in Addition to their DFC Grant: DFC Coalitions Annual Operating Budget**

**Table A-1.** **Eleven Coalitions have Annual Operating Budgets Greater Than $1 Million: DFC Coalitions with an Annual Operating Budget of Greater Than $1 Million**

| Grant Award Number | Grantee State | Grantee Name | Operating Budget |
|---|---|---|---|
| SP11284 | OH | Lucas County Community Prevention Partnership | $1,200,000 |
| SP11229 | CA | Vallejo Community Consortium; Fighting Back Partnership | $1,700,000 |
| SP11236 | NJ | Prevention Links, Inc. | $1,389,510 |
| SP11517 | CT | Regional Youth/Adult Substance Abuse Program | $1,900,000 |
| SP12087 | GA | Augusta-Richmond County Community Partnership | $1,730,000 |
| SP12323 | TN | Alternative Learning Advisory Council (ALAC) | $2,000,000 |
| SP12336 | CA | Council on Alcoholism and Drug Abuse | $3,373,282 |
| SP12388 | MO | United Way of the Ozarks, Inc. | $2,659,581 |
| SP12438 | NM | San Juan County Partnership, Inc. | $3,282,000 |
| SP12458 | WI | IMPACT Alcohol & Other Drugs Abuse Svcs | $2,770,000 |
| SP11514 | CA | Community Coalition for Substance Abuse Prevention and Treatment | $2,400,000 |

**Figure A-3.** **Coalitions Located Throughout the United States, with a Concentration along the Eastern Seaboard: Location and Target Communities of DFC Coalitions**
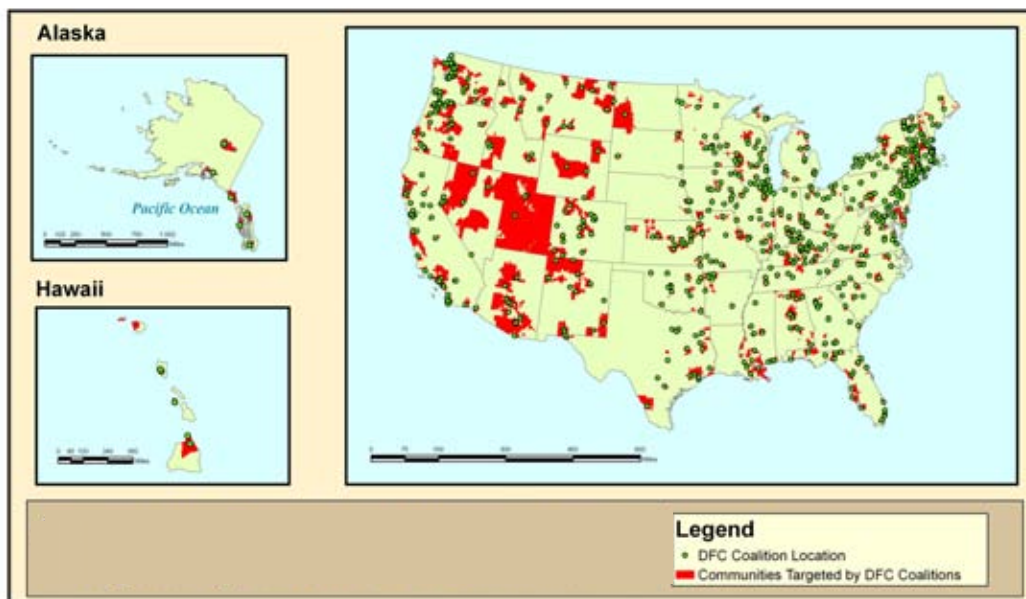
**Figure A-4.  Coalitions are the Only Substance Abuse Prevention Coalitions Operating in Most Target Communities: Number of DFC and Other Substance Abuse Coalitions Operating within DFC Coalitions Target Areas**
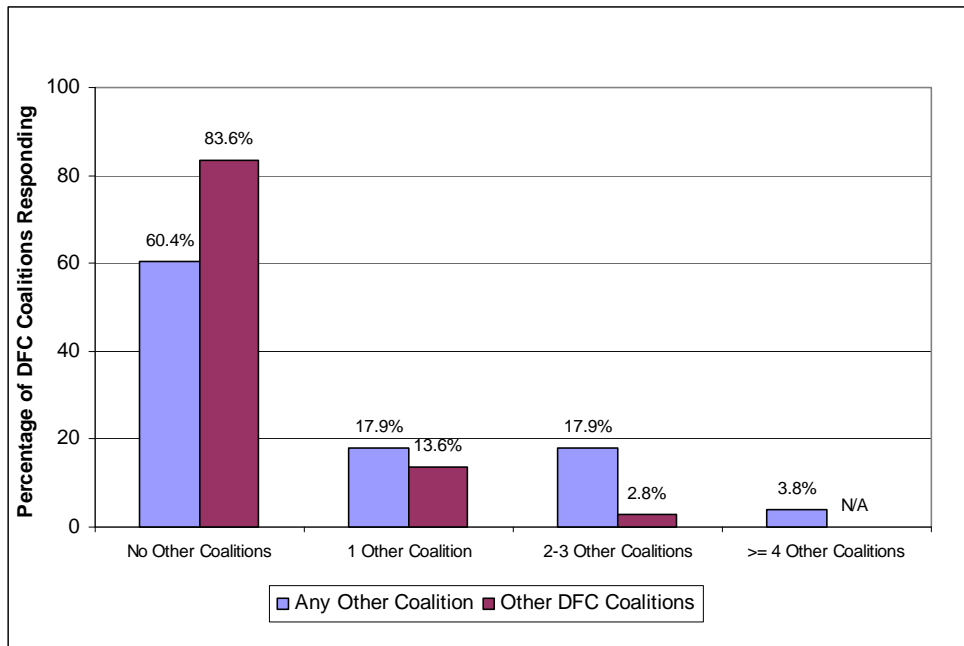


**Figure A-5.  Coalitions Primarily Targeting Counties in Rural Areas: Geographic Areas Targeted by DFC Coalitions**
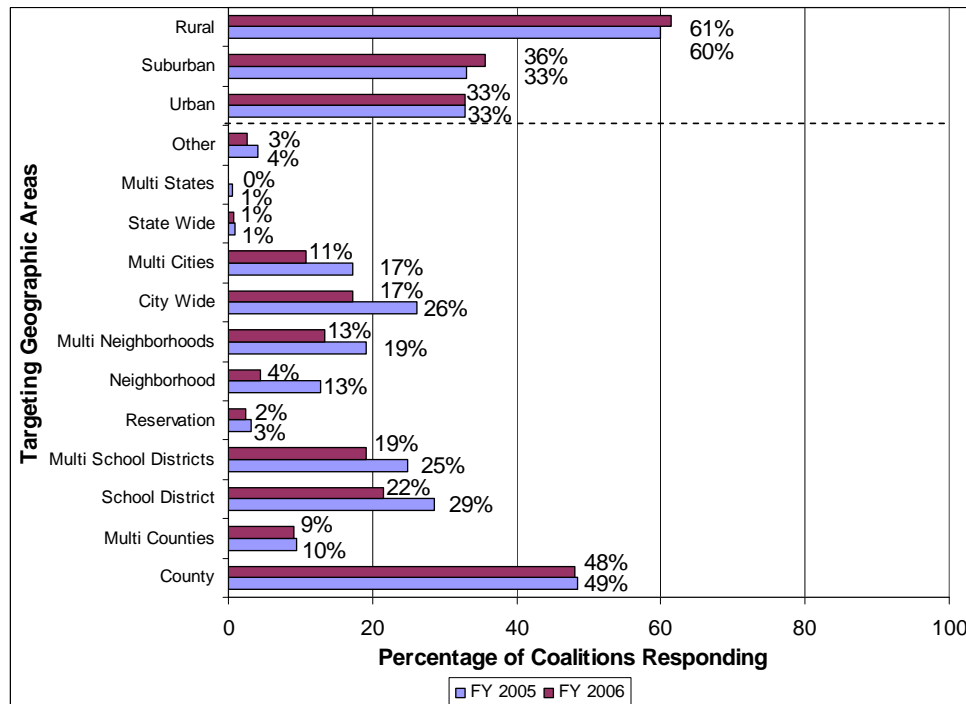
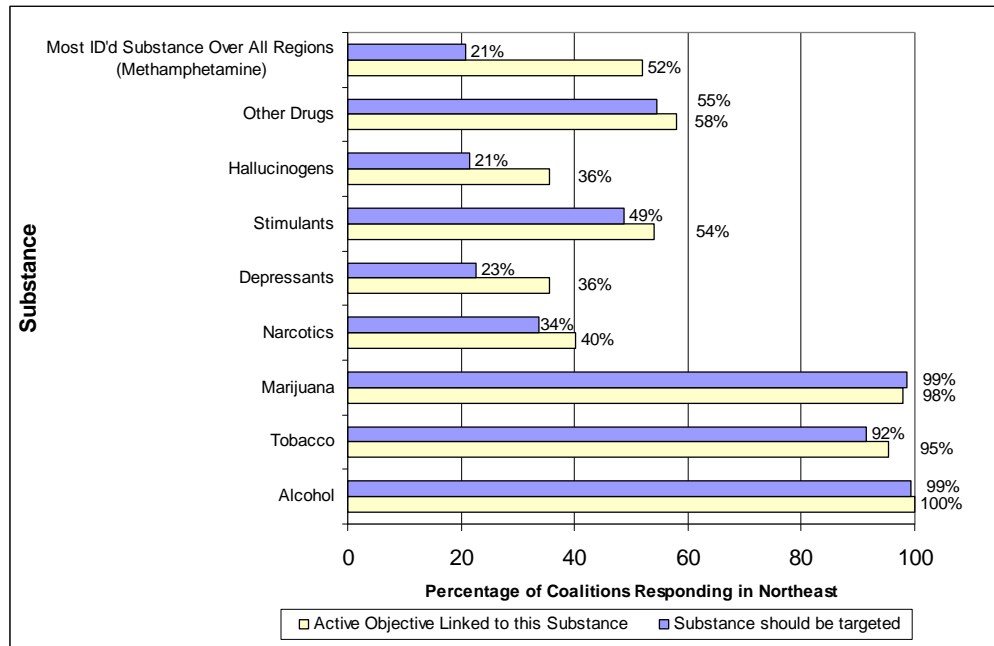**Figure A-6.    Coalitions in the Northeast Targeting National and Local Priority Substance Abuse Needs: Substances Identified as an Issue in DFC Communities and Actively Being Targeted by DFC Coalitions in the Northeast**



**Figure A-7.    Coalitions in the Midwest Targeting National and Local Priority Substance Abuse Needs: Substances Identified as an Issue in DFC Communities and Actively Being Targeted by DFC Coalitions in the Midwest**



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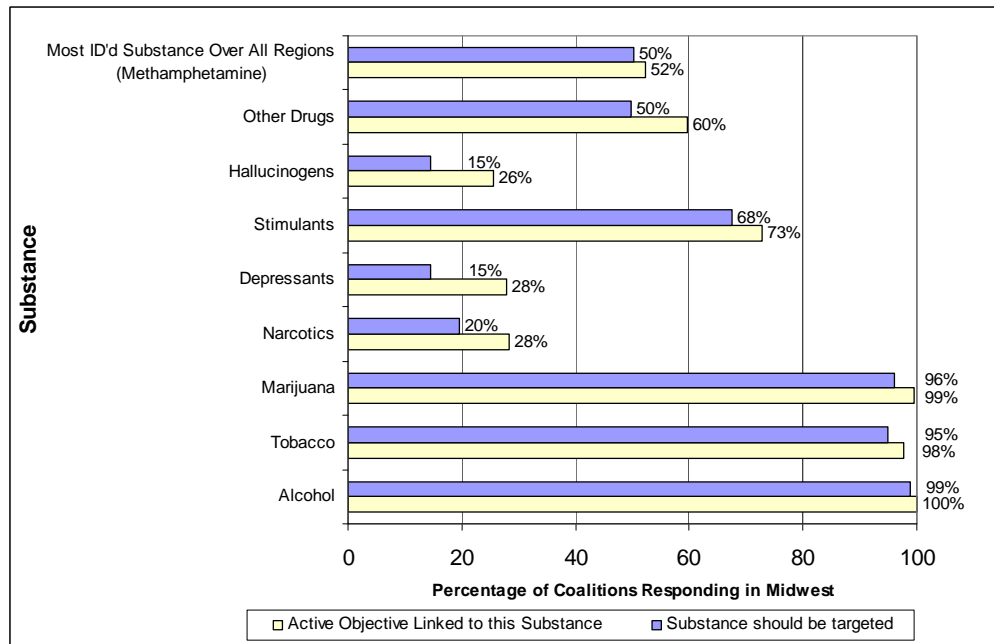
**Figure A-8.** **Coalitions in the South Targeting National and Local Priority Substance Abuse Needs: Substances Identified as an Issue in DFC Communities and Actively Being Targeted by DFC Coalitions in the South**



**Figure A-9.** **Coalitions in the West Targeting National and Local Priority Substance Abuse Needs: Substances Identified as an Issue in DFC Communities and Actively Being Targeted by DFC Coalitions in the West**
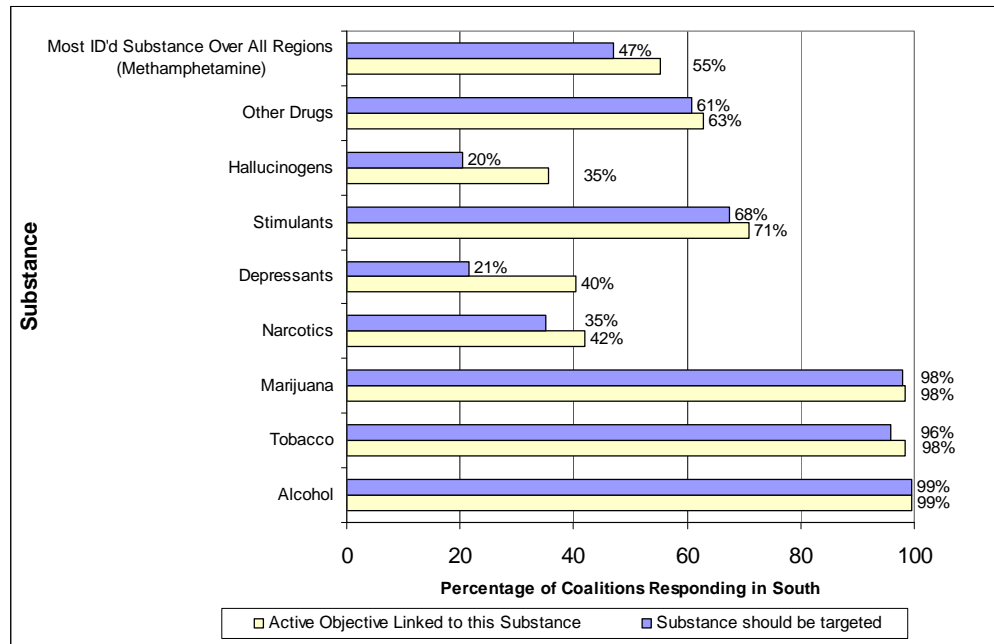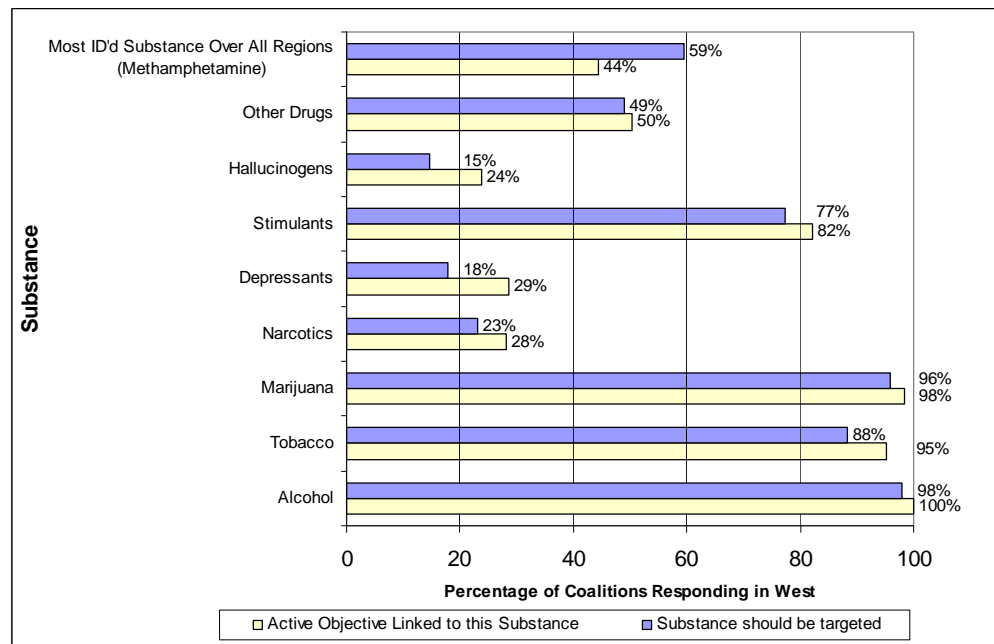
**Figure A-10.  Coalitions are Receiving Training and Technical Assistance an Average of Four Times Per Every Six Months: Number of Times that DFC Coalitions Received Training and Technical Assistance in FY 2006**
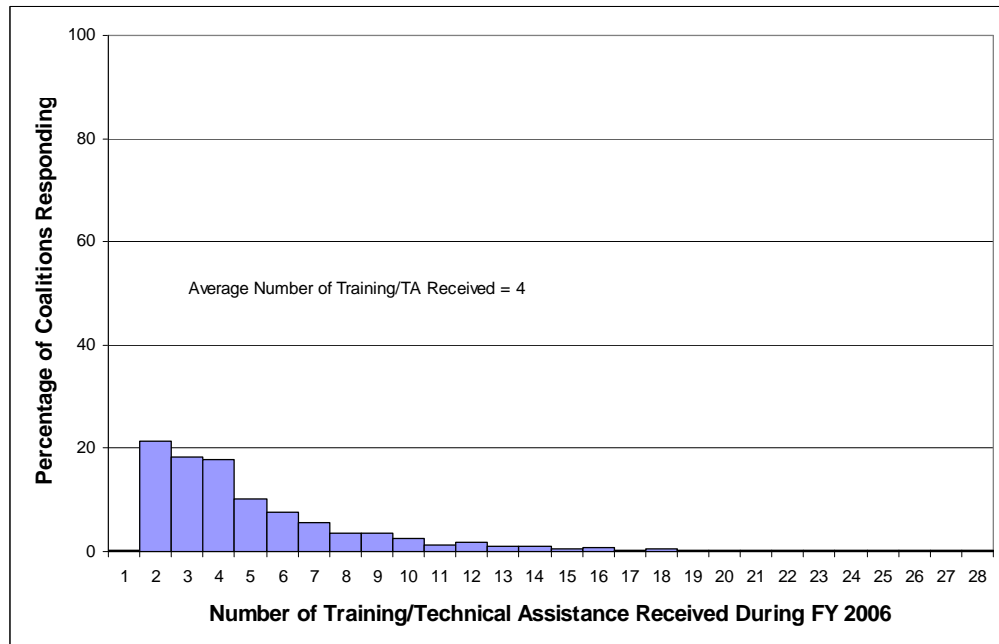


**Figure A-11.  Coalitions Are Confident They Can Conduct Evaluation Activities: Percentage of Coalitions Reporting They Have the Capacity to Conduct Evaluation Activities**



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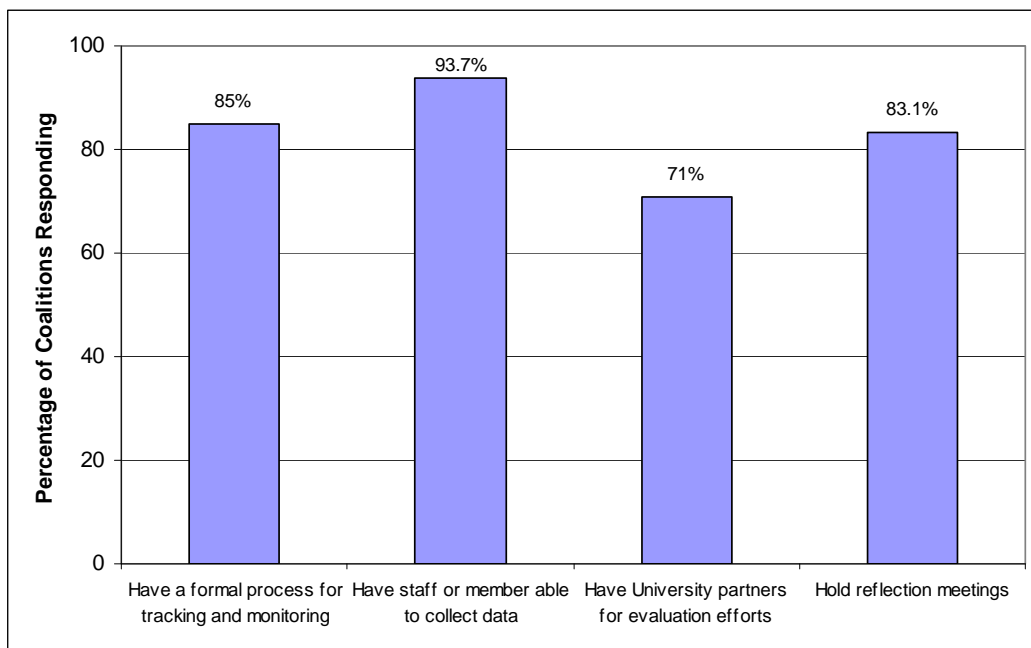
**Figure A-12.  Coalitions are Conducting on Average 10 Collaborative Activities with their Membership: Number of New or Active Collaborative Activities Reported by DFC Coalitions**

Average Number of Collaborative Activities per Coalition = 9.7

Percentage of Coalitions Responding

Number of New or Active Collaborative Activities
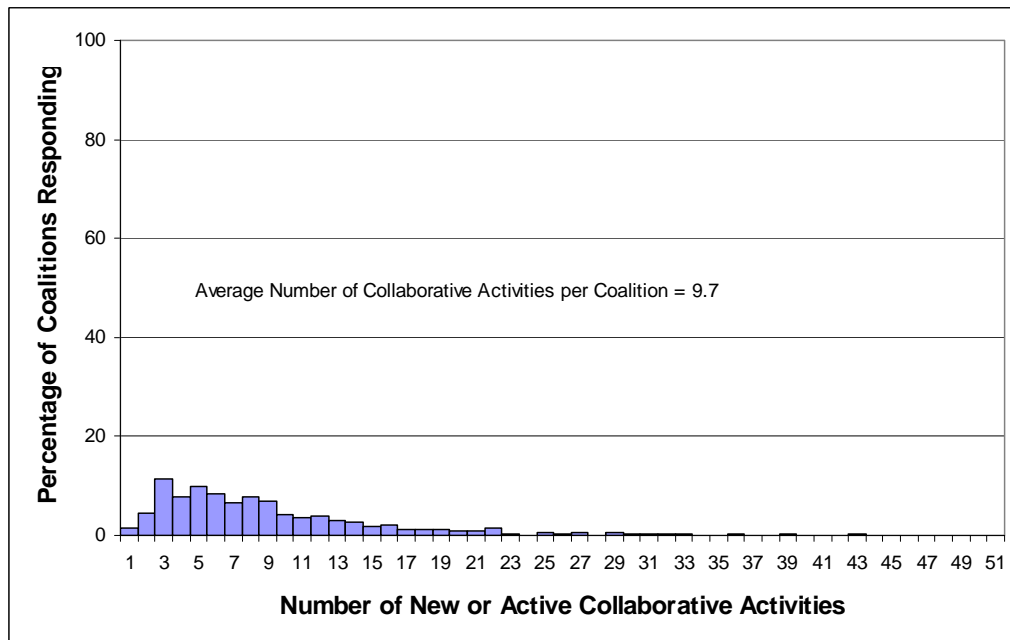
**Figure A-13.  Coalitions Report Combining Efforts to Enhance their Ability to Change their Community (Synergy): Percentage of DFC Coalitions Reporting Synergy**

Percentage of Coalitions Indicating Agreement with Components of Synergy

| Developed a common language to communicate among diverse members | Developed, understood and supported common goals | Increased effectiveness due to diverse membership | Communication of impact of actions to community | Combined perspectives, skills and resources of members |
|---|---|---|---|---|
| 71.6% | 85.6% | 87.3% | 68.3% | 85.3% |

**Figure A-14.  Coalitions Believe They Have the Capabilities Needed To Create Community Change (Collective Self-Efficacy): Percentage of DFC Coalitions Reporting Collective Self-Efficacy**
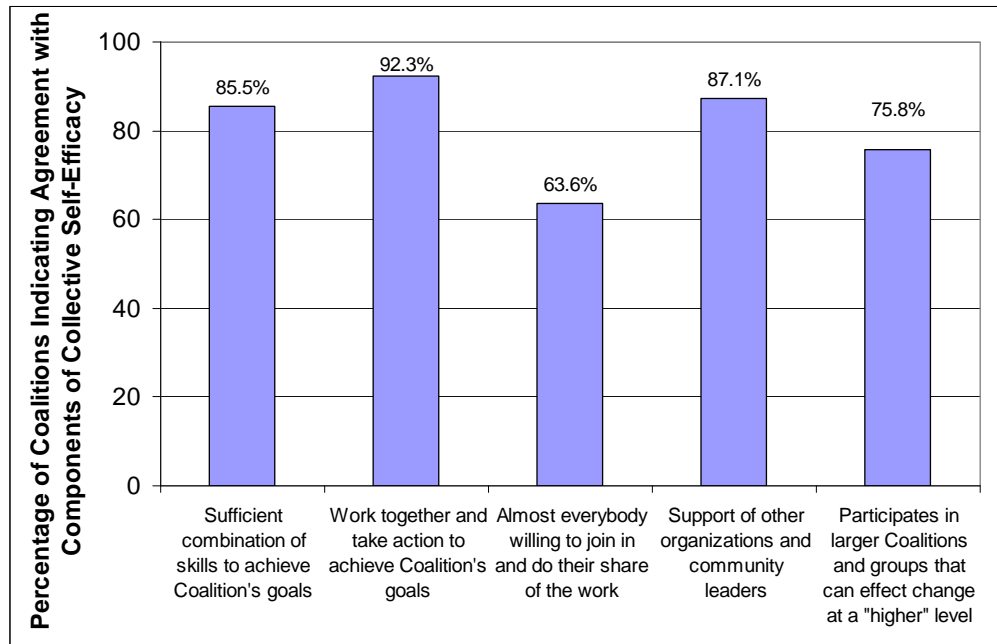


**Figure A-15.  Most Coalitions have a Strategic Plan That Uses the Strategic Prevention Framework: DFC Coalitions Status of and Use of the Strategic Prevention Framework in their Strategic Plan**
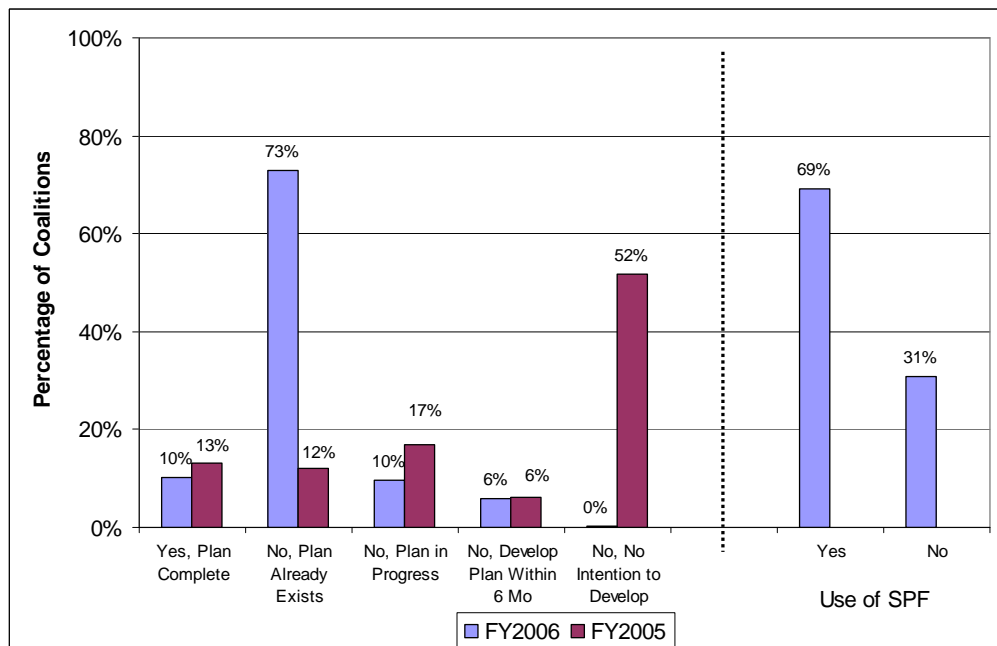
**Figure A-16. Few Coalitions Collecting Data on Long-Term Health Outcomes: Percentage of DFC Coalitions Collecting Data on Long-Term Health Outcomes**
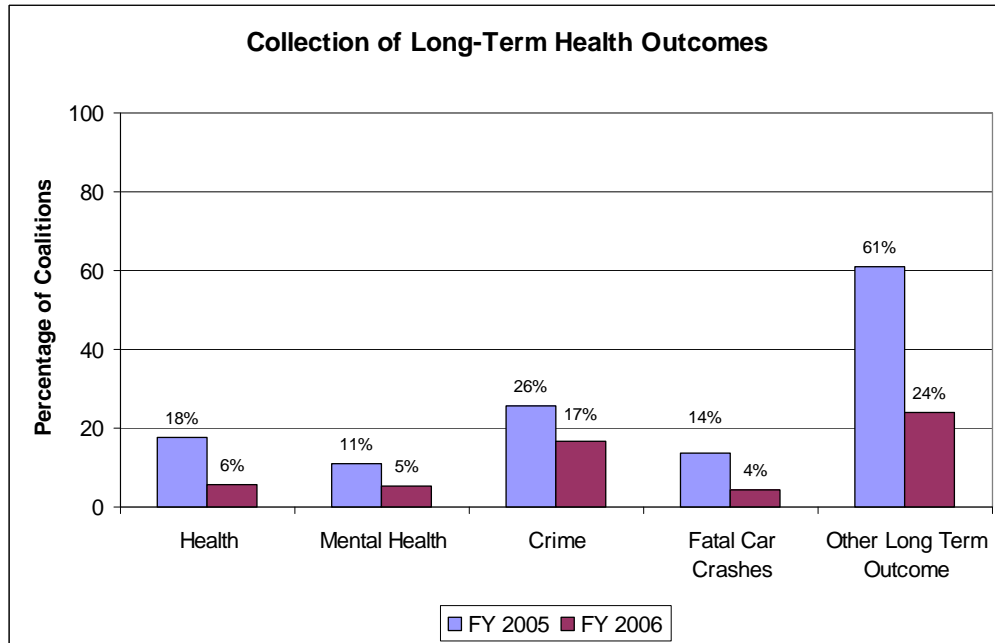


**Figure A-17. Coalitions Regularly Working with Community Leaders: Percentage of DFC Coalitions Identifying, Engaging, and Working With Community Leaders**
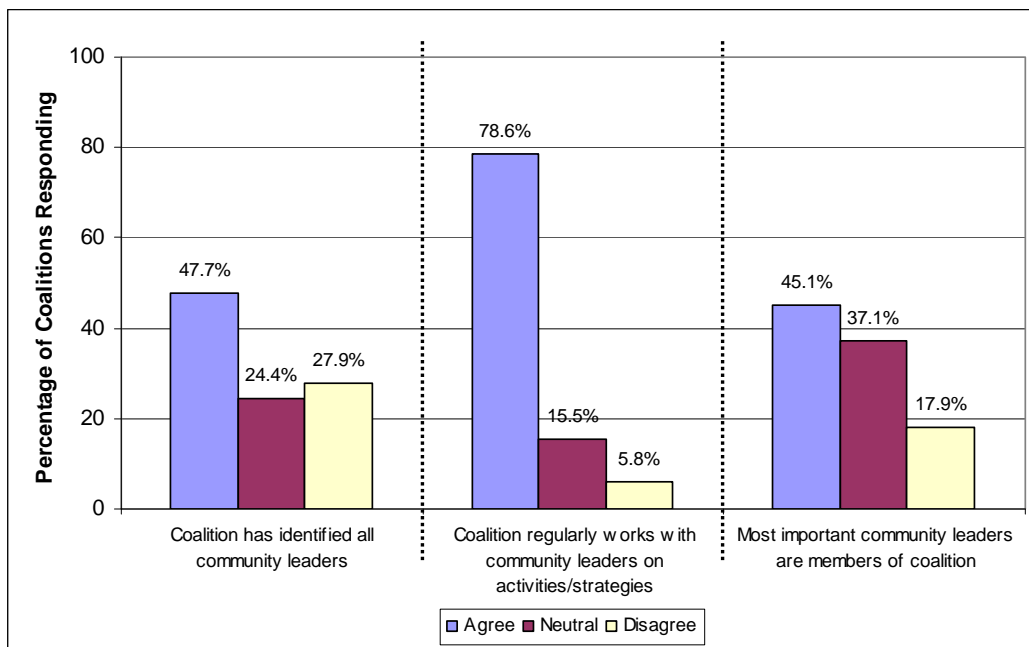
**Figure A-18.  Coalitions Are Using Assessment to Identify Community Needs: Percentage of DFC Coalitions that Reported Conducting Community Assessment Activities**
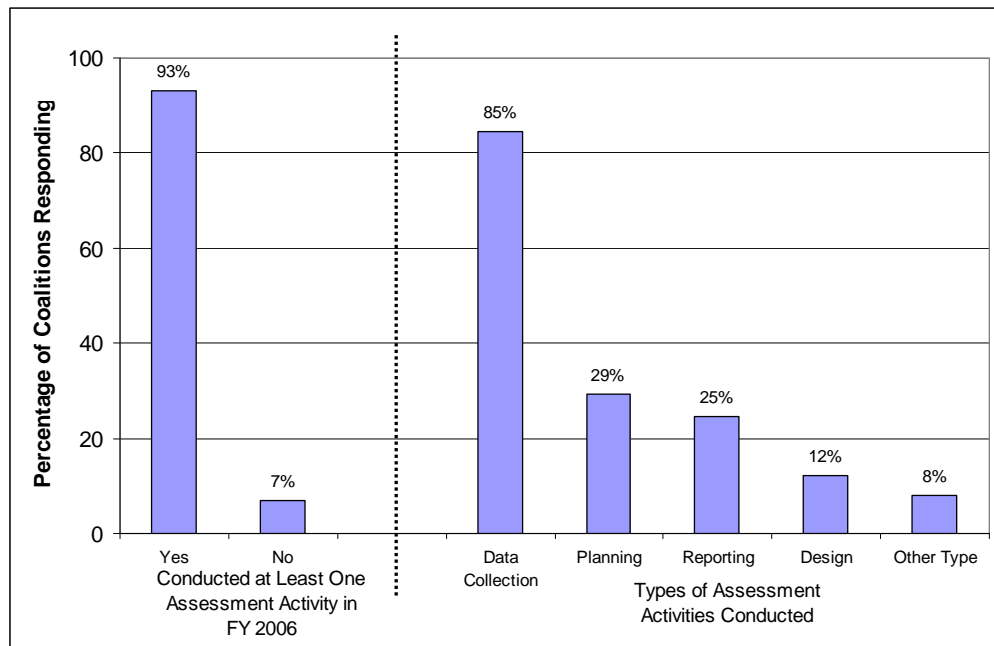


**Figure A-19.  Coalitions have on Average Seven Active Objectives: Number of Active Objectives per Coalition**
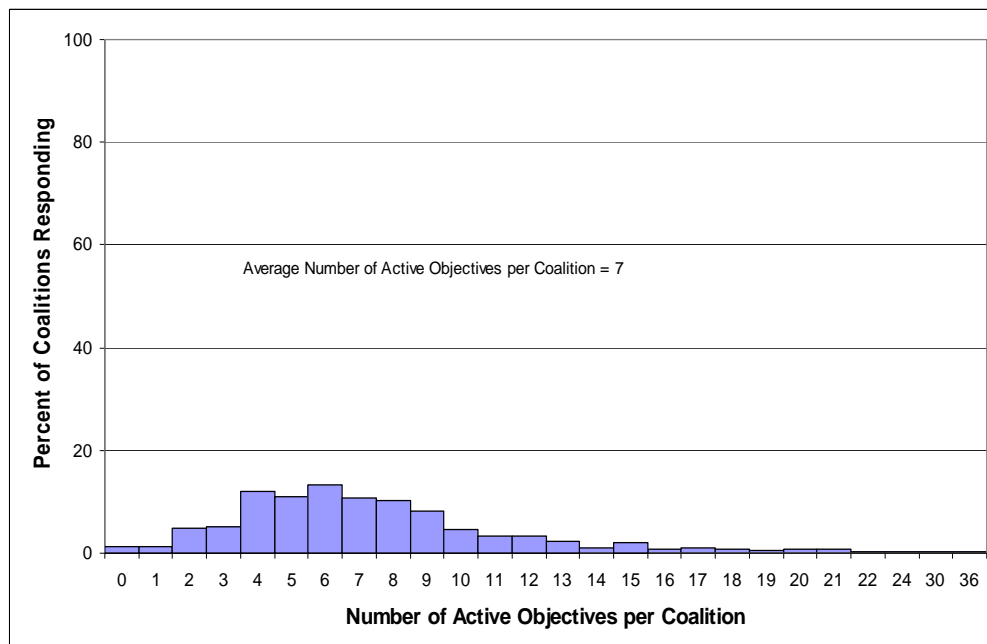
**Table A-2.    Significant (Positive) Trends in the Average Age of Onset and Past 30-Day Use Substance Abuse Outcomes Identified Among DFC Coalitions for: Substances and Outcomes Significantly Impacted by Grade and Year Among DFC Coalitions**

| Factors Included in Trend Regression Models | Significant Factors for Each Substance | | | Brief Interpretation of Model Results |
|---|---|---|---|---|
| | Alcohol | Tobacco | Marijuana | |
| **Average Age of Onset** | | | | |
| Grade | ✓ | | | There was a significant trend over time for all three substances. This trend does not vary by grade. There were significant differences between grades for alcohol. |
| Year Reported (trend) | ✓ | ✓ | ✓ | |
| Grade by Year Reported interaction term | | | | |
| **Past 30-Day Use** | | | | |
| Grade | ✓ | ✓ | ✓ | There was a significant trend over time for all three substances. This trend varies by grade for tobacco and marijuana, but not for alcohol. Differences between grades varied with time for tobacco and marijuana. |
| Year Reported (trend) | ✓ | ✓ | ✓ | |
| Grade by Year Reported interaction term | | ✓ | ✓ | |
| **Perception of Parental Disapproval** | | | | |
| Grade | ✓ | ✓ | ✓ | There was a significant trend over time for marijuana that varies by grade. There were significant differences by grade in the perception of parental disapproval. |
| Year Reported (trend) | | | | |
| Grade by Year Reported interaction term | | | ✓ | |
| **Perception of Risk** | | | | |
| Grade | ✓ | ✓ | ✓ | There was a significant trend over time for alcohol. This trend varied by grade. There was a significant difference between grades for tobacco and Marijuana. |
| Year Reported (trend) | | | | |
| Grade by Year Reported interaction term | ✓ | | | |

**Figure A-20.  Trends for Perception of Risk in DFC Target Communities Remain the Same: Perception of Risk Trends for DFC Coalitions**

**Perception of Risk: Alcohol**

- None of the trends were estimated to be significantly different than "no-trend."

- There were significant differences in the estimated trend lines by grade. The following grade combinations were significantly different:
  - 6 vs. 9, 10, 12;
  - 8 vs. 10, 12; and
  - 9 vs. 11.

**Perception of Risk: Tobacco**

- None of the trends were estimated to be significantly different than "no-trend."

- There was a significant difference between some of the grade levels:
  - Grade 7 was significantly higher than Grade 9;
  - Grade 9 was significantly lower than Grade 11.

**Perception of Risk: Marijuana**

- None of the trends were estimated to be significantly different than "no-trend."

- There were significant differences between some of the grade levels:
  - Grade 6 was significantly higher than Grades 8-12;
  - Grade 7 was significantly higher than Grades 8-12;
  - Grade 8 was significantly higher than Grades 9-12;
  - Grade 9 was significantly higher than Grades 10-12; and
  - Grade 10 was significantly higher than Grades 11-12.

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**Figure A-21.** **Trends for Perception of Parental Disapproval in DFC Target Communities Remain the Same: Perception of the Parental Disapproval Trends for DFC Coalitions**



**Perception of Parental Disapproval: Alcohol**

- None of the trends were estimated to be significantly different than "no-trend."

- There were significant differences between some of the grade levels. All grade levels were significantly different except for:
  - Grade 7 was not significantly different than Grade 8
  - Grade 10 was not significantly different than Grade 11.



**Perception of Parental Disapproval: Tobacco**

- None of the trends were estimated to be significantly different than "no-trend."

- There were significant differences between some of the grade levels. All grade levels were significantly different except for:
  - Grade 7 was not significantly different than Grade 8
  - Grade 10 was not significantly different than Grade 11.



**Perception of Parental Disapproval: Marijuana**

- None of the trends were estimated to be significantly different than "no-trend."

- There were significant differences between some of the grade levels. All grade levels were significantly different except for:
  - Grade 7 was not significantly different than Grade 8
  - Grade 9 was not significantly different than Grades 10 or 11
  - Grade 10 was not significantly different than Grade 11.

**Figure A-22.  Significant Decreases Over Time were Observed for Coalitions Past 30-Day Use: Past 30-Day Use Trends for DFC Coalitions**



**Past 30-Day Use:
Alcohol**

- There was a significant decreasing trend over time. This trend was not significantly different by grade.

- There were significant differences in grade as the past 30-day use for any grade was statistically different than any other grade. In particular, Grade 6 past 30-day use was significantly lower than Grade 7 past 30-day use, Grade 7 was lower than Grade 8, etc.

**Past 30-Day Use:
Tobacco**

- There was a significant decreasing trend over time, but the magnitude of this trend depends upon grade.

- The estimated decreasing trends were significantly different between Grade 6 and Grades 8-12. No other trends were significantly different.

- There is a significant difference in past 30-day use by grade. Every grade is significantly different than every other grade.

**Past 30-Day Use:
Marijuana**

- There was a significant decreasing trend over time, but the magnitude of this trend depends upon grade.

- The estimated decreasing trends were significantly different between Grade 6 and Grades 8-12 and between Grade 7 and Grade 10. No other trends were significantly different.

- There is a significant difference in past 30-day use by grade. Every grade is significantly different than every other grade with the exception of Grade 11 and Grade 12.

**Figure A-23.   Significant Increases over Time in the Average Age of Onset, Were
Observed for Coalitions:  Average Age of Onset Trends for DFC Coalitions**
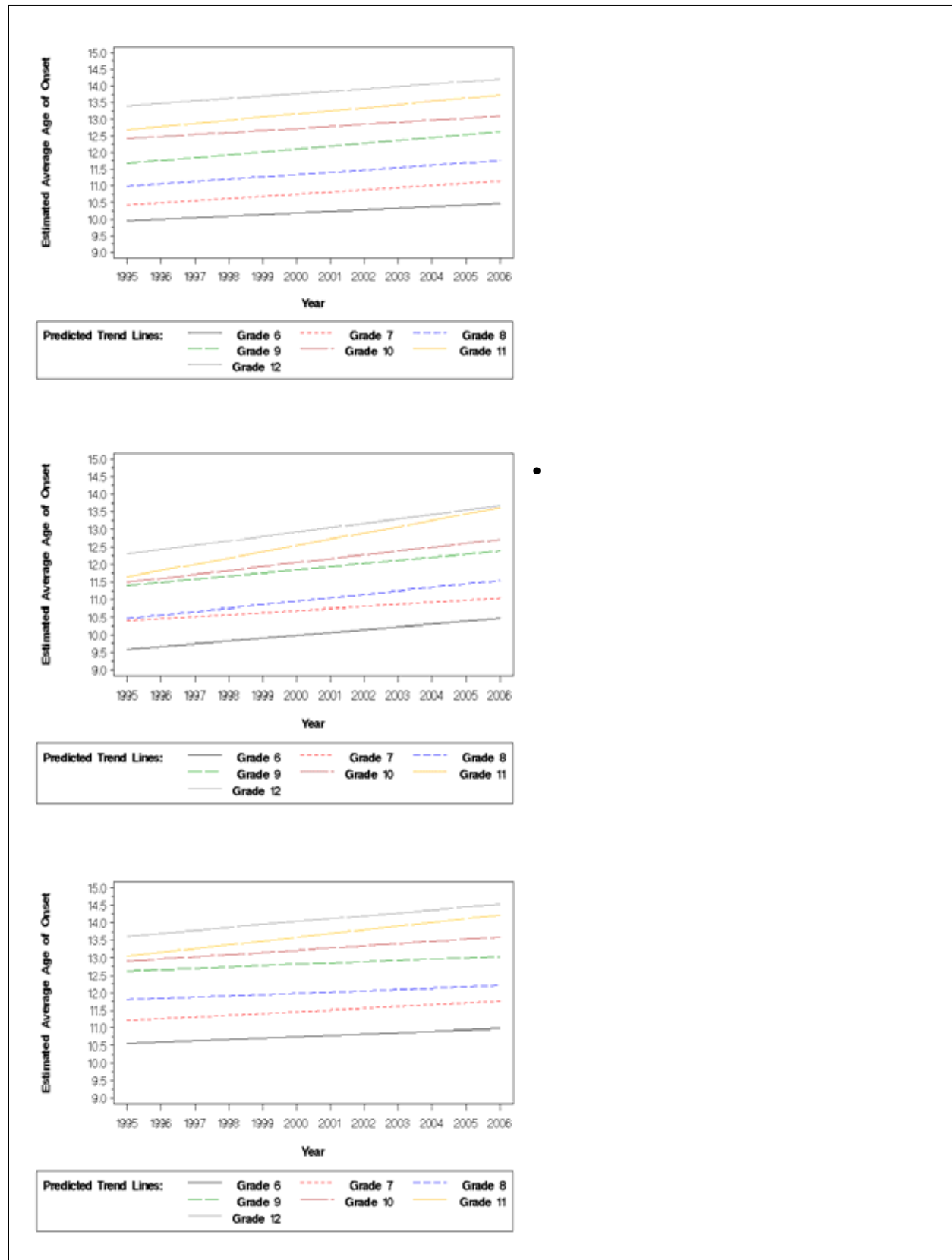
**Results Discussion A-1.        Summary of Table A-2 and Figures A-20 through A-23**

Figure A-20 through Figure A-23 summarize the estimated trend over time for each of the four core measures and substances. General observations from these figures and the results of the modeling **indicate that there have been statistically significant (positive) trends in substance abuse outcomes over time in communities targeted by DFC coalitions.** However, significant positive changes were not observed for every grade, core measure, and substance combination. Additionally, in many models the interaction term between year and grade was found to be statistically significant. Table A-2 identifies the factors that were determined to be significant in each model; grade, year reported, and the grade-year interaction. Generally, if the interaction term between year and grade is significant (i.e., p-value < 0.05), then the trend over time for a particular core measure and substance varies by grade level. If this term is not significant, then the trend is assumed to be the same for all grades. In this second case, a significant trend over time can be identified by examining the p-value associated with the grade effect. If this p-value is less than 0.05%, a significant trend over time can be assumed.

As illustrated in Figure A-20 through Figure A-23, most of the grade-specific estimated trend lines for the Average Age of Onset and Past 30-Day use generally were estimated to reflect 'positive" changes in communities targeted by DFC coalitions. That is, the grade-specific estimated trend lines for Average Age of Onset generally increase over time and the grade-specific estimated trend lines for Past 30-Day use would indicate that Past 30-Day Use has decreased over time. Not all of the trend lines for Perception of Risk and Perception of Parental Disapproval appear to reflect the same "positive" changes, though none of the estimated trend lines for either of these two core measures was found to be significant (i.e., these results would suggest that there haven't been significant increases in the percentage of youth perceiving alcohol, tobacco, and marijuana with similar interpretation for perception of parental disapproval). This is not necessarily surprising as there is significant variability in these two core measures reported by coalitions, much more so than the variability observed in either Past 30-Day Use or in the Average Age of Onset. This variability is somewhat mitigated through the use of the arcsine transformation, which has the impact of moving extreme values closer to the central cluster of all observations, but this transformation cannot totally mitigate the extreme degree of variability in these two measures. As a result, it is difficult to identify significant differences in the data through statistical modeling, though identified differences can be found if enough observations are included or if the differences are "large." Differences between grades can be identified as significant because these represent "large" differences while differences over time are not large enough to be identified as significant.

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**Table A-3.    Several Factors Identified As Significantly Related to Self-Reported Past 30-Day Use of Alcohol, Tobacco, or Marijuana: Factors Associated with Self-Reported Past 30-Day Use**

| Description of Factor | Significant Factors for Each Substance[a] | | | Description of the Relationship Between this Factor and Past 30 Day Use |
|---|---|---|---|---|
| | Alcohol | Tobacco | Marijuana | |
| Grade | ✓ | ✓ | ✓ | Use increases significantly for each higher grade |
| Number of Non-DFC core substances targeted by coalition | ✓ | | ✓ | Coalitions with Non-DFC target substances show less use than those with none |
| Number of community sectors with current representatives | | ✓ | | Use greater when there are more community sectors |
| Number of non-DFC sources of funding | | ✓ | | Use greater for coalitions with 1-4 sources than those with 5-8 sources |
| Average Number of Activities per Objective | ✓ | | ✓ | Use is lowest for coalitions reporting 0 or 1 activity per objective as opposed to higher numbers |
| Number of activities associated with building skills | | | ✓ | Increase of one activity is associated a 0.5% lower use |
| Comparison of Accomplishments to Barriers | | ✓ | | Coalitions with more barriers than accomplishments had higher use than coalitions with more or equal accomplishments to barriers |
| Outcome compliance; reported at least one measure for all 4 core measures | | | ✓ | Coalitions reporting measures for all (4 of 4) or some (1 to 4) core measures had lower use than coalitions reporting none |

a.    Factors indicated as significant were significant at the 90% confidence level (i.e., had p-values less than 0.1).

**Table A-4.    Strength of the Relationship Between Past 30-day Use of Alcohol and Characteristics, Activities, and Focus of Coalitions Where the Relationship was Found to be Statistically Significant**

Model: Past 30-day Use of Alcohol

| Key |
| --- |
| Top Line in each cell is the estimated odds ratio for higher past 30-day use between comparison level and reference level |
| Second Line in each cell is the confidence interval for the estimated odds ratio |

### Average Number of Activities per Objective

| Comparison Level \ Reference Level | 0-1 Activities | 1-3 Activities | 3-5 Activities | 5-8 Activities |
| --- | --- | --- | --- | --- |
| 1-3 Activities | 1.08 (0.97,1.20) | | | |
| 3-5 Activities | 1.09 (0.96,1.23) | 1.01 (0.91,1.12) | | |
| 5-8 Activities | **1.15 *** (1.01,1.31) | 1.06 (0.95,1.19) | 1.05 (0.94,1.19) | |
| >8 Activities | 1.05 (0.91,1.22) | 0.98 (0.86,1.12) | 0.97 (0.84,1.11) | 0.92 (0.79,1.07) |

\* Statistically significant difference between levels based on overall multiple comparison alpha of 0.1 (i.e., individual comparison at alpha of 0.01=0.1/10)

Coalition/report period records with values of "Unknown" were included in the model but these results are not shown

### Number of NON DFC Drug Categories

| Comparison Level \ Reference Level | None | 1-2 | 3-4 |
| --- | --- | --- | --- |
| 1-2 | 0.92 (0.84,1.01) | | |
| 3-4 | 0.97 (0.82,1.14) | 1.05 (0.89,1.24) | |
| 5-6 | **0.85 *** (0.77,0.94) | 0.92 (0.84,1.02) | 0.88 (0.74,1.04) |

\* Statistically significant difference between levels based on overall multiple comparison alpha of 0.1 (i.e., individual comparison at alpha of 0.0167=0.1/6)

Coalition/report period records with values of "Unknown" were included in the model but these results are not shown

### Grade

| Comparison Level \ Reference Level | Grade 6 | Grade 7 | Grade 8 | Grade 9 | Grade 10 | Grade 11 |
| --- | --- | --- | --- | --- | --- | --- |
| Grade 7 | **1.94 *** (1.83,2.07) | | | | | |
| Grade 8 | **3.42 *** (3.12,3.74) | **1.76 *** (1.65,1.88) | | | | |
| Grade 9 | **5.53 *** (4.95,6.19) | **2.85 *** (2.62,3.10) | **1.62 *** (1.53,1.72) | | | |
| Grade 10 | **7.66 *** (6.83,8.58) | **3.94 *** (3.61,4.29) | **2.24 *** (2.11,2.38) | **1.38 *** (1.34,1.43) | | |
| Grade 11 | **9.61 *** (8.41,10.98) | **4.94 *** (4.42,5.53) | **2.81 *** (2.58,3.07) | **1.74 *** (1.66,1.81) | **1.26 *** (1.20,1.31) | |
| Grade 12 | **11.85 *** (10.49,13.40) | **6.10 *** (5.54,6.71) | **3.47 *** (3.24,3.72) | **2.14 *** (2.07,2.22) | **1.55 *** (1.51,1.59) | **1.23 *** (1.18,1.29) |

\* Statistically significant difference between levels based on overall multiple comparison alpha of 0.2 (i.e., individual comparison at alpha of 0.0095=0.2/21)

**Results Discussion A-2.    Discussion of Factors Significantly Related to Past 30-Day Use of Alcohol**

The average number of implementation activities per objective was found to be statistically significant but the direction of the results is interesting. For most pairwise comparisons, the coalitions with higher numbers of activities exhibit higher risk of Past 30-Day Use than coalitions with fewer activities. With an overall confidence level of 90 percent for all ten possible pairwise comparisons, only the ratio of '5-8 activities' versus '0-1 activities' was individually statistically significant (odds ratio = 1.15, p-value=0.0062). It may be reasonable to discount this result because one statistically significant result in ten comparisons would not be unusual for multiple comparisons with overall 90 percent confidence even if there actually were no differences. However, a similar effect to this one was also seen in the completely separate model fit to marijuana use data. Other explanations could include that the number of activities is not necessarily a good indicator of the total effort expended or that coalitions that are reporting higher Past 30-Day Use are located in communities with significant substance abuse by youth and these coalitions naturally have more activities planned to address the high level of use compared to coalitions in communities with lower prevalence of use among youth.

The number of non-DFC Drug categories being targeted by DFC coalitions was found to be statistically significant. Those coalitions with '5-6' non-DFC drug categories displayed lower odds of higher alcohol use than coalitions with 4 or less non-DFC drug categories. With overall confidence level of 90 percent for all six possible pairwise comparisons, only the ratio of '5-6' non-DFC drug categories versus no ('None') non-DFC drug categories was individually statistically significant (odds ratio=0.85, p-value=0.0002). At first glance, these results may seem inconsistent since it might be reasonably expected that a coalition focusing solely on the DFC substances would have lower alcohol use than one that has also added non-DFC substances. However, this result may reflect association rather than causation in that only more mature coalitions with a successful record of DFC substance reduction would take on the additional activities associated with non DFC drugs. It should be noted that the result observed for alcohol use was very similar to that observed for marijuana use.

For the alcohol model, all pairwise comparisons of Past 30-Day Use by grade were statistically significant with overall confidence of 80 percent for all 21 comparisons simultaneously. Risk of higher alcohol use increased by an estimated odds ratio of 1.94 between 6th and 7th grade. Subsequent grade-to-grade odds ratios reduced for higher grades but still remained at 1.23 for the additional use risk of 12th grade compared to 11th grade.

**Table A-5.     Strength of the Relationship Between Past 30-day Use of Tobacco and Characteristics, Activities, and Focus of Coalitions Where the Relationship was Found to be Statistically Significant**

Model: Past 30-day Use of Tobacco

| Key |
| --- |
| Top Line in each cell is the estimated odds ratio for higher past 30-day use between comparison level and reference level |
| Second Line in each cell is the confidence interval for the estimated odds ratio |

Evaluation Challenge

| Reference Level / Comparison Level | More A than B | More B than A |
| --- | --- | --- |
| More Barriers than Accomplishments | **1.18** * (1.01,1.38) | |
| Equal or Missing Barriers and Accomplishments | 1.00 (0.90,1.12) | **0.85** * (0.74,0.98) |

* Statistically significant difference between levels based on overall multiple comparison
alpha of 0.1 (i.e., individual comparison at alpha of 0.0333=0.1/3)
Coalition/report period records with values of "Unknown" were included in the model but

Number of Current Sectors

| | | |
| --- | --- | --- |
| Addition of 1 Sector Impacts Use by and is statistically significant at alpha=0.1 | 1.021 | (1.010,1.033) |

Number of Non-DFC Funding Sources

| Reference Level / Comparison Level | None | 1-4 |
| --- | --- | --- |
| 1-4 | 1.16 (0.93,1.44) | |
| 5-8 | 1.00 (0.79,1.27) | **0.86** * (0.76,0.98) |

* Statistically significant difference between levels based on overall multiple comparison
alpha of 0.1 (i.e., individual comparison at alpha of 0.0333=0.1/3)
Coalition/report period records with values of "Unknown" were included in the model but

Grade

| Reference Level / Comparison Level | Grade 6 | Grade 7 | Grade 8 | Grade 9 | Grade 10 | Grade 11 |
| --- | --- | --- | --- | --- | --- | --- |
| Grade 7 | **2.02** * (1.71,2.40) | | | | | |
| Grade 8 | **3.05** * (2.63,3.53) | **1.51** * (1.26,1.80) | | | | |
| Grade 9 | **4.49** * (3.78,5.34) | **2.22** * (1.84,2.69) | **1.47** * (1.39,1.56) | | | |
| Grade 10 | **5.84** * (4.90,6.96) | **2.89** * (2.39,3.49) | **1.91** * (1.82,2.01) | **1.30** * (1.25,1.36) | | |
| Grade 11 | **7.07** * (5.86,8.54) | **3.50** * (2.86,4.27) | **2.32** * (2.16,2.48) | **1.57** * (1.50,1.65) | **1.21** * (1.16,1.26) | |
| Grade 12 | **8.57** * (7.10,10.34) | **4.24** * (3.49,5.15) | **2.81** * (2.63,3.00) | **1.91** * (1.82,2.00) | **1.47** * (1.41,1.53) | **1.21** * (1.16,1.27) |

* Statistically significant difference between levels based on overall multiple comparison alpha of 0.2 (i.e., individual comparison at alpha
of 0.0095=0.2/21)

**Results Discussion A-3.    Discussion of Factors Significantly Related to Past 30-Day Use of Tobacco**

The variable associated with the degree to which a coalition experienced challenges to evaluation activities compared to accomplishments was found to be statistically significant for tobacco use. Coalitions that experienced more barriers than accomplishments had statistically significantly higher odds of use (1.18, p-value=0.0248) than those experiencing more accomplishments than barriers, which is consistent with the concept that coalitions reporting more accomplishments than barriers having successfully navigated their way through many of the reported barriers. The coalitions with a neutral evaluation (i.e., equal or missing barriers and accomplishments) were also much better off than those with more barriers than accomplishments (odds ratio=0.85, p-value=0.0138).

The number of community sectors with current representatives was a significant indicator of Past 30-Day Use of tobacco. The relationship was that each additional sector was associated with an increase of 1.021 in the odds of use (p-value = 0.0019 for hypothesis that the relationship has no slope). This may be a reflection of the larger number of sectors required in coalition areas with higher risk.

The number of non-DFC funding sources was statistically significant. With only three levels evaluated (None, 1-4, and 5-8), only the individual comparison between 5-8 and 1-4 was individually statistically significant with the set of three comparisons at joint 90 percent confidence. Coalitions with 5-8 non-DFC funding sources exhibited lower tobacco use (odds ratio=0.86, p-value=0.0162) than those with 1-4 non-DFC funding sources. However, the fact that this result did not hold for other comparisons (e.g., '5-8' risk is not lower than 'None') does not suggest a very strong conclusion here.

For the tobacco model, all pairwise comparisons of Past 30-Day Use by grade were statistically significant with overall confidence of 80 percent for all 21 comparisons simultaneously. Risk of higher tobacco use increases by an estimated odds ratio of 2.02 between $6^{th}$ and $7^{th}$ grade. Subsequent grade-to-grade odds ratios reduce for higher grades but still remain at 1.21 for the additional use risk of $12^{th}$ grade compared to $11^{th}$ grade.

**Table A-6.    Strength of the Relationship Between Past 30-day Use of Marijuana and Characteristics, Activities, and Focus of Coalitions Where the Relationship was Found to be Statistically Significant**

Model: Past 30-day Use of Marijuana

Key
Top Line in each cell is the estimated odds ratio for higher past 30-day use between comparison level
Second Line in each cell is the confidence interval for the

Average Number of Activities per Objective

| Comparison Level \ Reference Level | 0-1 Activities | 1-3 Activities | 3-5 Activities | 5-8 Activities |
|---|---|---|---|---|
| 1-3 Activities | 1.04 (0.93,1.16) | | | |
| 3-5 Activities | **1.18 *** (1.02,1.38) | 1.14 (0.99,1.32) | | |
| 5-8 Activities | 1.09 (0.91,1.31) | 1.05 (0.89,1.24) | 0.92 (0.76,1.12) | |
| >8 Activities | 1.02 (0.85,1.22) | 0.98 (0.84,1.15) | 0.86 (0.71,1.03) | 0.93 (0.76,1.13) |

* Statistically significant difference between levels based on overall multiple comparison alpha of 0.1 (i.e., individual comparison at alpha of 0.01=0.1/10)
Coalition/report period records with values of "Unknown" were included in the model but these results are not shown

Number of NON DFC Drug Categories

| Comparison Level \ Reference Level | None | 1-2 | 3-4 |
|---|---|---|---|
| 1-2 | **0.86 *** (0.77,0.95) | | |
| 3-4 | 0.93 (0.82,1.04) | 1.08 (0.97,1.20) | |
| 5-6 | **0.86 *** (0.76,0.97) | 1.00 (0.90,1.11) | 0.93 (0.82,1.05) |

* Statistically significant difference between levels based on overall multiple comparison alpha of 0.1 (i.e., individual comparison at alpha of 0.0167=0.1/6)
Coalition/report period records with values of "Unknown" were included in the model but these results are not shown

Outcome Compliance

| Comparison Level \ Reference Level | None | Some |
|---|---|---|
| Some Outcomes Provided | 0.56 (0.30,1.04) | |
| Outcomes for all four Core Measures were provided | **0.51 *** (0.27,0.95) | **0.91 *** (0.84,0.99) |

* Statistically significant difference between levels based on overall multiple comparison alpha of 0.1 (i.e., individual comparison at alpha of 0.0333=0.1/3)
Coalition/report period records with values of "Unknown" were included in the model but

Number of Activities Building Skills

| | | |
|---|---|---|
| Addition of 1 Activity Impacts Use by and is statistically significant at alpha=0.1 | 0.995 | (0.991,1.000) |

Grade

| Comparison Level \ Reference Level | Grade 6 | Grade 7 | Grade 8 | Grade 9 | Grade 10 | Grade 11 |
|---|---|---|---|---|---|---|
| Grade 7 | **1.78 *** (1.52,2.09) | | | | | |
| Grade 8 | **3.05 *** (2.42,3.83) | **1.71 *** (1.41,2.07) | | | | |
| Grade 9 | **5.35 *** (4.14,6.91) | **3.00 *** (2.47,3.65) | **1.76 *** (1.56,1.98) | | | |
| Grade 10 | **7.07 *** (5.50,9.11) | **3.97 *** (3.26,4.85) | **2.32 *** (2.14,2.52) | **1.32 *** (1.19,1.48) | | |
| Grade 11 | **8.38 *** (6.48,10.84) | **4.71 *** (3.87,5.73) | **2.75 *** (2.47,3.07) | **1.57 *** (1.41,1.75) | 1.18 (1.13,1.25) | |
| Grade 12 | **9.22 *** (7.14,11.92) | **5.18 *** (4.25,6.32) | **3.03 *** (2.74,3.35) | **1.73 *** (1.55,1.92) | **1.30 *** (1.25,1.35) | **1.10 *** (1.05,1.15) |

* Statistically significant difference between levels based on overall multiple comparison alpha of 0.2 (i.e., individual comparison at alpha of 0.0095=0.2/21)

### Results Discussion A-4.  Discussion of Factors Significantly Related to Past 30-Day Use of Marijuana

The average number of implementation activities per objective was found to be statistically significant but the direction of the results is potentially counterintuitive. For most pairwise comparisons, the coalitions with higher numbers of activities exhibited higher risk of Past 30-Day Use than coalitions with fewer activities. With an overall confidence level of 90 percent for all ten possible pairwise comparisons, only the ratio of 3-5 activities versus 0-1 activities was individually statistically significant (odds ratio = 1.18, p-value=0.0047). It may be reasonable to discount this result since one statistically significant result in ten comparisons would not be unusual for multiple comparisons with overall 90 percent confidence even if there actually were no differences. However, a similar effect to this one was also seen in the completely separate model fit to alcohol use data. One likely possibility is that the number of activities is not necessarily a good indicator of the total effort expended by coalitions on each activity (i.e., not all activities are equivalent). Alternatively, this result could suggest that coalitions with higher Past 30-Day Use were more active in addressing substance abuse than were coalitions that have a lower past-30 day use in their target community.

The number of non-DFC Drug Categories was found to be statistically significant. Coalitions with some non-DFC drug categories displayed lower odds of marijuana use than coalitions with no non DFC drug categories. With overall confidence level of 90 percent for all six possible pairwise comparisons, both the ratios of 5-6 non DFC drug categories (odds ratio=0.86, p-value=0.0032) and 1-2 non DFC drug categories (odds ratio=0.86, p-value=0.0005) versus no non-DFC drug categories were individually statistically significant. At first glance, these results may seem inconsistent since it might be reasonably expected that a coalition focusing solely on the DFC substances would have lower marijuana use than one that has also added non DFC substances. In fact, this result may reflect association rather than causation in that only more mature coalitions with a successful record of DFC substance reduction would take on the additional activities associated with non DFC drugs. It should be noted that the result observed for marijuana use was very similar to that observed for alcohol use.

The risk of marijuana use was estimated to be about half in coalitions that have reported for some (1-3) or all of the four core measures compared to those coalitions who have not reported for any of the four core measures. Among the three pairwise comparisons, the Past 30-Day Use risk for coalitions reporting all four core measures is 0.91 times (p-value = 0.0133) that of the coalitions reporting 1-3 measures and 0.51 times (p-value=0.0214) that of coalitions reporting no measures.

The number of activities related to the strategy of building skills ranged from 0 through 40 depending on the coalition. A regression relationship was statistically significant in showing addition of 1 activity corresponded to an average reduction of one half of one percent in marijuana use risk. The p-value for this slope was 0.0918.

All pairwise comparisons of Past 30-Day marijuana use by grade were statistically significant with overall confidence level of 80 percent for the 21 comparisons. Risk of higher marijuana use increased by an estimated odds ratio of 1.78 between 6th and 7th grade. Subsequent grade-to-grade odds ratios reduced for higher grades but still remained at 1.10 for the additional use risk of 12th grade compared to 11th grade.

**Table A-7.    Estimated, Model-Based Odds Ratios for Unconditional Analysis of Characteristics, Activities, and Focus of Coalitions Identified as Comprising the Set of Potential Explanatory Variables Considered for Developing a "Best-Fit" Past 30-Day Use Statistical Model**

| Description of Factor | Factor Level | Estimate of Comparison | | |
|---|---|---|---|---|
| | | Alcohol | Tobacco | Marijuana |
| * Factor only reported on in FY 2005<br>** Factor only reported on in FY 2006<br>Note 1:   If factor level is blank, the factor is a numeric variable and the estimate applies to the odds associated with a change of one unit<br>Note 2:   Bolded numbers indicate statistical significance. For numeric factors, this means that estimated odds ratio differs from 1 with 90% confidence. For categorical factors, the estimated odds ratios for any particular level are made relative to the reference level (denoted by "()"). The confidence level for all categorical comparisons is controlled at 90% so that each individual comparison is significant at 1-0.1/c where c is the number of comparisons made for the factor. A bolded result means that single comparison is significant at 100*(1-0.1/c) confidence.<br>Note 3:   Some of the categorical factors above included a level for "unknown." These data were fit in the models but their statistical significance is not examined in the table above.<br>Note 4:   Green shaded factors represent those that were selected to perform the multi-factor (conditional) analysis. | | | | |
| Grade | (Grade 6) | | | |
| | Grade 7 | **1.94** | **2.03** | **1.76** |
| | Grade 8 | **3.40** | **3.07** | **2.99** |
| | Grade 9 | **5.51** | **4.52** | **5.27** |
| | Grade 10 | **7.59** | **5.88** | **6.92** |
| | Grade 11 | **9.60** | **7.09** | **8.28** |
| | Grade 12 | **11.75** | **8.63** | **9.03** |
| Size of geographic area associated with the coalition's target community ("Small" was defined as: Citywide, Neighborhoods, school districts. "Medium" was defined by County, multiple cities, multiple school districts, reservations. "Large" was defined as multiple counties or statewide). | (Small) | | | |
| | Medium | | 1.14 | |
| | Large | | 1.17 | |
| Did the coalition have at least one active objective that targeted alcohol abuse? | (No) | | | |
| | Yes | 0.92 | | |
| Did the coalition have at least one active objective that targeted each of the three DFC core substances (alcohol, tobacco, marijuana)? | (No) | | | |
| | Yes | **0.89** | | |
| Did the coalition have at least one active objective that targeted depressants? | (No) | | | |
| | Yes | **0.90** | | 0.92 |
| Did the coalition have at least one active objective that targeted hallucinogens? | (No) | | | |
| | Yes | **0.89** | | 0.93 |
| Did the coalition have at least one active objective that targeted marijuana? | (No) | | | |
| | Yes | **0.91** | | **0.89** |
| Did the coalition have at least one active objective that targeted narcotics? | (No) | | | |
| | Yes | 0.88 | | **0.92** |
| Did the coalition have at least one active objective that targeted other substances being abused? | (No) | | | |
| | Yes | **0.92** | | **0.89** |
| Did the coalition have at least one active objective that targeted steroids? | (No) | | | |
| | Yes | 0.88 | | **0.89** |
| Did the coalition have at least one active objective that targeted stimulants? | (No) | | | |
| | Yes | 0.88 | | **0.88** |
| Did the coalition have at least one active objective that targeted tobacco? | (No) | | | |
| | Yes | **0.88** | | **0.90** |
| Degree to which coalitions reported encountering Barriers versus Accomplishments to conducting collaborative activities. | (Equal or Missing) | | | |
| | More Accomplishments than Barriers | | 1.00 | |
| | More Barriers than Accomplishments | | 0.86 | |
| * Capacity for Implementing Environmental Strategies | | | 1.27 | |
| * Coalition Synergy | | | **1.16** | |
| * Coalition Self-Efficacy | | **0.88** | | **0.89** |

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| Description of Factor | Factor Level | Estimate of Comparison | | |
|---|---|---|---|---|
| | | Alcohol | Tobacco | Marijuana |
| * Factor only reported on in FY 2005<br>** Factor only reported on in FY 2006<br>Note 1:  If factor level is blank, the factor is a numeric variable and the estimate applies to the odds associated with a change of one unit<br>Note 2:  Bolded numbers indicate statistical significance. For numeric factors, this means that estimated odds ratio differs from 1 with 90% confidence. For categorical factors, the estimated odds ratios for any particular level are made relative to the reference level (denoted by "()"). The confidence level for all categorical comparisons is controlled at 90% so that each individual comparison is significant at 1-0.1/c where c is the number of comparisons made for the factor. A bolded result means that single comparison is significant at 100*(1-0.1/c) confidence.<br>Note 3:  Some of the categorical factors above included a level for "unknown." These data were fit in the models but their statistical significance is not examined in the table above.<br>Note 4:   Green shaded factors represent those that were selected to perform the multi-factor (conditional) analysis. | | | | |
| * Cultural Competency | | | | **0.86** |
| * Distribution of Internal Capacities | | | | 0.91 |
| * Did the coalition report having a governing board | (No) | | | |
| | Yes | | **0.80** | |
| * Did the coalition report having established subcommittees | (Never) | | | |
| | Some | 0.90 | | |
| | Always | 0.79 | | |
| * Did the coalition report having written by laws/rules of operation | (No) | | | |
| | Yes | **0.84** | | |
| Percentage of funding from DFC grant | (1%-25%) | | | |
| | 26%-50% | | 1.08 | |
| | 51%-75% | | 0.91 | |
| | 76%-100% | | 0.92 | |
| Number of sectors with current members in the coalition (maximum of 13 sectors) | | | **1.02** | |
| Number of "non-DFC" sources of funding | (None) | | | |
| | 1-4 | | 1.19 | |
| | 5-8 | | 1.03 | |
| Size of the largest participating sector (active members) versus all others, reported as a percentage. | | | **0.79** | 1.20 |
| * Whether the coalition has a current organizational chart showing structure and relationships. | (Never) | | | |
| | Some | | 0.76 | |
| | Always | | 0.97 | |
| Reported status of the coalition's strategic plan. Variable indicates whether the coalition developed or updated a strategic plan. | (No) | | | |
| | Exists | | 1.01 | |
| | Yes | | 1.14 | |
| Average number of activities per objective | (0-1) | | | |
| | 1-3 | 1.07 | | 1.02 |
| | 3-5 | 1.10 | | **1.19** |
| | 5-8 | **1.19** | | 1.11 |
| | >8 | 1.04 | | 0.96 |
| Average achievement of coalition objectives | (Not at all) | | | |
| | Some or ½ | 1.05 | | |
| | > Mostly | **1.14** | | |
| Number of active Objectives | | 0.99 | | **0.99** |
| Number of non-DFC drug categories linked to at least one active objective | (None) | | | |
| | 1-2 | **0.90** | | **0.84** |
| | 3-4 | 0.94 | | 0.91 |
| | 5-6 | **0.83** | | **0.83** |
| ** Number of risk and protective factors coalition is working to improve as identified in community assessment. | (None) | | | |
| | 1-5 | | | 1.06 |
| | C-10 | | | 0.98 |
| | 11-15 | | | 1.12 |
| | >15 | | | 0.95 |
| Number of active objectives | (None) | | | |
| | 1-5 | 0.94 | | 0.84 |
| | C-10 | 0.91 | | 0.81 |
| | 11-15 | 0.93 | | 0.75 |
| | >15 | **0.91** | | 0.76 |
| Number of activities in the reporting period | | | 1.00 | **1.00** |
| Number of activities linked to the strategy of building skills/competencies. | | | | **0.99** |
| Number of activities linked to the strategy of changing institutional or governmental policies. | | | | **0.99** |
| Number of activities linked to the strategy of community education/increasing knowledge/raising awareness. | | | 1.00 | **1.00** |

| Description of Factor | Factor Level | Estimate of Comparison | | |
|---|---|---|---|---|
| | | Alcohol | Tobacco | Marijuana |
| * Factor only reported on in FY 2005<br>** Factor only reported on in FY 2006<br>Note 1:  If factor level is blank, the factor is a numeric variable and the estimate applies to the odds associated with a change of one unit<br>Note 2:  Bolded numbers indicate statistical significance. For numeric factors, this means that estimated odds ratio differs from 1 with 90% confidence. For categorical factors, the estimated odds ratios for any particular level are made relative to the reference level (denoted by "()"). The confidence level for all categorical comparisons is controlled at 90% so that each individual comparison is significant at 1-0.1/c where c is the number of comparisons made for the factor. A bolded result means that single comparison is significant at 100*(1-0.1/c) confidence.<br>Note 3:  Some of the categorical factors above included a level for "unknown." These data were fit in the models but their statistical significance is not examined in the table above.<br>Note 4:  Green shaded factors represent those that were selected to perform the multi-factor (conditional) analysis. | | | | |
| Number of activities linked to the strategy of increasing attention to enforcement and compliance | | | | **0.99** |
| Number of activities linked to the strategy of increasing involvement in drug free/healthy alternative activities | | **1.00** | | **0.99** |
| Number of activities linked to an "other" strategy. | | 1.00 | | 1.00 |
| Size of the geographical area represented by the reported outcome measure relative to the coalition's target community. | (Same) | | | |
| | Larger | | **0.65** | 0.92 |
| | Mixed | | 0.89 | **0.82** |
| | Smaller | | 1.05 | 1.05 |
| Whether the coalition provided information for all four core measures. | None | | | |
| | Some | 0.81 | | 0.64 |
| | Yes | 0.86 | | 0.59 |
| Degree to which coalitions reported encountering Barriers versus Accomplishments to conducting evaluation activities. | (Equal or Missing) | | | |
| | More Accomplishments than Barriers | | 1.01 | |
| | More Barriers than Accomplishments | | **1.20** | |
| Number of evaluation activities | (1-5) | | | |
| | C-10 | | 0.92 | |
| | 11-15 | | 1.01 | |
| | >15 | | **0.85** | |

**Table A-8.** **Estimated, Model-Based Odds Ratios for Conditional Analysis of Characteristics, Activities, and Focus of Coalitions Identified as Comprising the Set of Potential Explanatory Variables that Best-Fit Past 30-Day Use**

| Description of Factor | Factor Level | Estimate of Comparison | | |
|---|---|---|---|---|
| | | Alcohol | Tobacco | Marijuana |
| Note 1: If factor level is blank, the factor is a numeric variable and the estimate applies to the odds associated with a change of one unit | | | | |
| Note 2: Bolded numbers indicate statistical significance. For numeric factors, this means that estimated odds ratio differs from 1 with 90% confidence. For categorical factors, the estimated odds ratios for any particular level are made relative to the reference level (denoted by "()"). The confidence level for all categorical comparisons is controlled at 90% so that each individual comparison is significant at 1-0.1/c where c is the number of comparisons made for the factor. A bolded result means that single comparison is significant at 100*(1-0.1/c) confidence. | | | | |
| Note 3: Some of the categorical factors above included a level for "unknown." These data were fit in the models but their statistical significance is not examined in the table above. | | | | |
| Grade | (Grade 6) | | | |
| | Grade 7 | **1.94** | **2.02** | **1.78** |
| | Grade 8 | **3.42** | **3.05** | **3.05** |
| | Grade 9 | **5.53** | **4.49** | **5.35** |
| | Grade 10 | **7.66** | **5.84** | **7.07** |
| | Grade 11 | **9.61** | **7.07** | **8.38** |
| | Grade 12 | **11.85** | **8.57** | **9.22** |
| Number of sectors with current members in the coalition (maximum of 13 sectors) | | | **1.02** | |
| Number of "non-DFC" sources of funding | (None) | | | |
| | 1-4 | | 1.16 | |
| | 5-8 | | 1.00 | |
| Average number of activities per objective | (0-1) | | | |
| | 1-3 | 1.08 | | 1.04 |
| | 3-5 | 1.09 | | **1.18** |
| | 5-8 | **1.15** | | 1.09 |
| | >8 | 1.05 | | 1.02 |
| Number of non-DFC drug categories linked to at least one active objective | (None) | | | |
| | 1-2 | 0.92 | | **0.86** |
| | 3-4 | 0.97 | | 0.93 |
| | 5-6 | **0.85** | | **0.86** |
| Number of activities linked to the strategy of building skills/competencies. | | | | **1.00** |
| Whether the coalition provided information for all four core measures. | None | | | |
| | Some | | | **0.56** |
| | Yes | | | **0.51** |
| Degree to which coalitions reported encountering Barriers versus Accomplishments to conducting evaluation activities. | (Equal or Missing) | | | |
| | More Accomplishments than Barriers | | 1.00 | |
| | More Barriers than Accomplishments | | **1.17** | |

**Results Discussion A-5.       Comparison of Unconditional and Conditional Model Results**

The results in Tables A-2 through A-5 were based on selection of a "best" multi-factor (conditional) model based on the criteria described in Appendix C. A concern about this model was whether collinearity between model factors would lead to misleading results. To evaluate the potential that some of the counterintuitive results were artifacts of multicollinearity rather than real associations, the results from the conditional model for each substance were tabulated in exactly the same way as parameter estimates for the unconditional models summarized in A-6. The conditional model table is found in Table A-7. For all factors appearing in the final conditional models, the estimated odds ratios and determination of statistical significance should ideally have been similar to the results from the corresponding factor's unconditional (single factor) model, which would be indicative that a large degree of multicollinearity was not occurring in the "best" models. Comparing Tables A-6 and A-7, this close agreement is clearly evident. This supports the conclusion that the reported associations were not artifacts of the modeling process, but represent the estimated associations present in the reported Past 30-Day Use outcomes. However, it should be again noted that there were many variables that were not examined in this analysis due to a lack of information common to both FY 2005 and FY2006 and these factors might also have significant associations with Past 30-Day Use (see Table A-6).

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**Table A-9.    ONDCP Has Achieved GPRA Goals: Evaluation Findings Relating to ONDCP's FY 2006 GPRA Goals, Objectives, and Measures**

| Goals and Objectives | Measure | FY 2005 Actual % of Coalitions | FY2006 | |
|---|---|---|---|---|
| | | | *Target Increase* | Actual % of Coalitions |
| **Goal 1: Improve Coalition Effectiveness** | | | | |
| **Objective 1.1: Enhance and Strengthen Coalition Infrastructure** | | | | |
| 1.1.1: Broader Citizen Participation | Percentage of members involved in substantive work | 61% | *5%* | 58% |
| 1.1.2 Improved Coalition Capabilities | Percentage of coalitions receiving training and/or technical assistance | 74% | *5%* | 76% |
| 1.1.3 Increased Collaboration | Percentage of coalitions reporting collaboration | 69% | *5%* | 97% |
| 1.1.4 Greater Use of Measurement and Evaluation Tools | Percentage of coalitions that collect long-term outcome data | No Comparable Data | *NA* | 34% |
| | Percentage of coalitions that review local data among those that collect long-term outcome data | No Comparable Data | *NA* | 83% |
| **Objective 1.2: Enhance Community Coalition Prevention Efforts** | | | | |
| 1.2.1 Decrease Risk Factors | Percentage of coalitions reporting a decrease (improvement) in at least one risk factor | 44% | *5%* | 48% |
| 1.2.2 Increase Protective Factors | Percentage of coalitions reporting an increase (improvement) in at least one protective factor | 58% | *5%* | 69% |
| 1.2.3 Improve Substance Abuse Indicators | Percentage of coalitions that report at least 5% improvement in past 30-day use of alcohol, tobacco, or marijuana among youth in at least one grade | 37% | *5%* | 30% |
| | Percentage of coalitions that report a positive increase in the age of initiation of alcohol tobacco, or marijuana in at least two grades. | 80% | *5%* | 93% |
| | Percentage of coalitions that report a positive increase in youth perception of risk from alcohol, tobacco, or marijuana in at least two grades | 86% | *5%* | 95% |
| | Percentage of coalitions that report a positive increase in youth perception of parental disapproval of the use of alcohol, tobacco, or marijuana in at least two grades | 86% | *5%* | 95% |

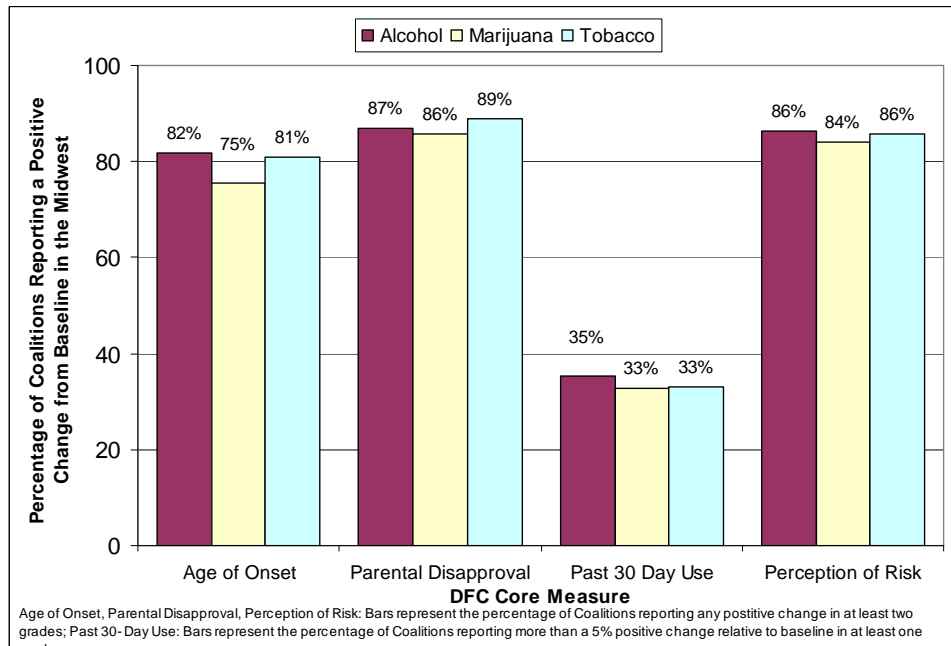**Figure A-24. Coalitions in the Northeast Report that Community Substance Abuse**
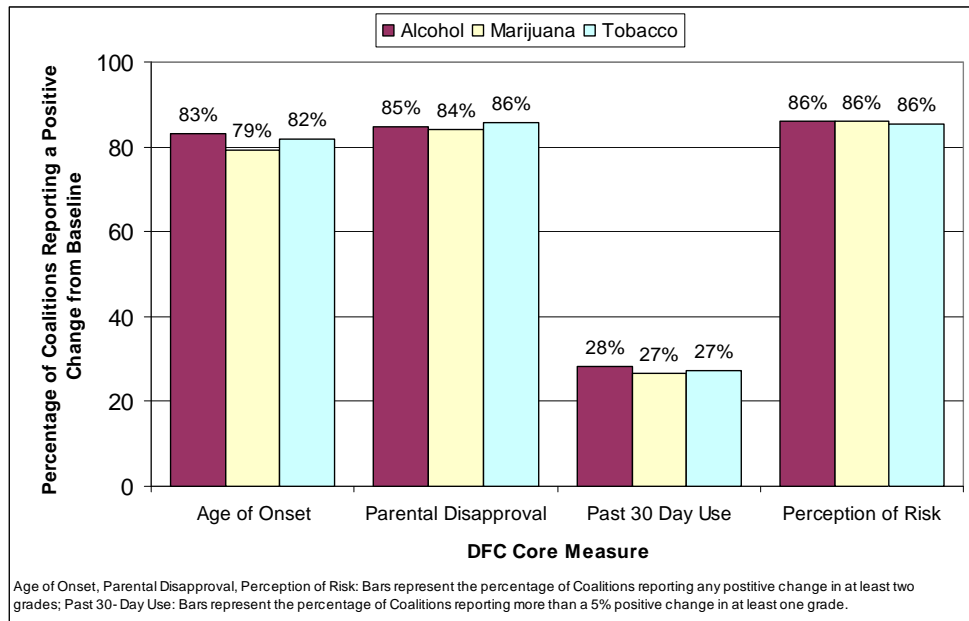


**Indicators are Improving: Percentage of DFC Coalitions that Positively Impacted the Four Core Measures in All Regions**
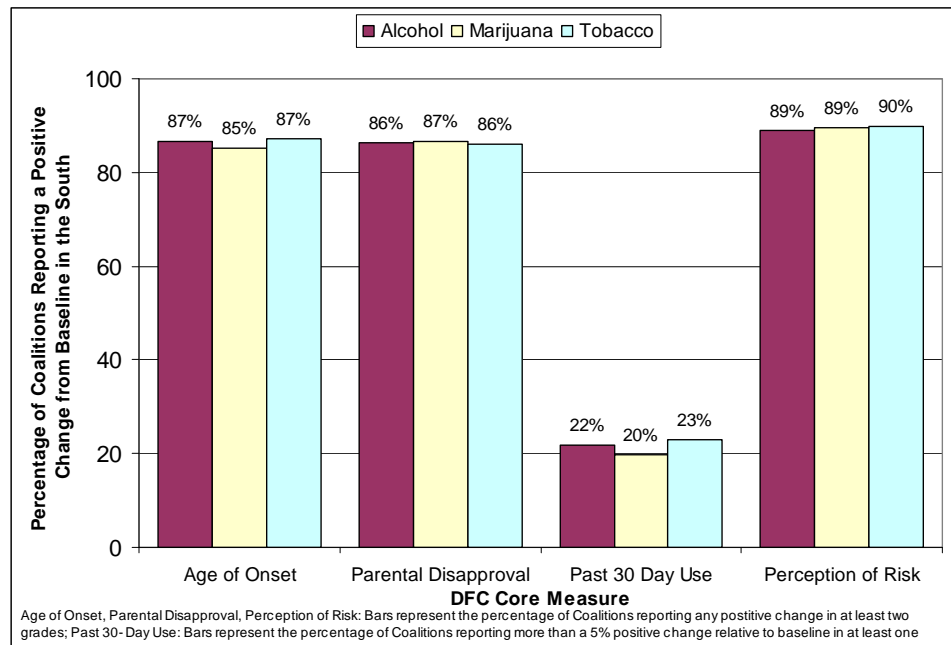
**Figure A-25. Coalitions in the Northeast Report that Community Substance Abuse Indicators are Improving: Percentage of DFC Coalitions that Positively Impacted the Four Core Measures in the Northeast**
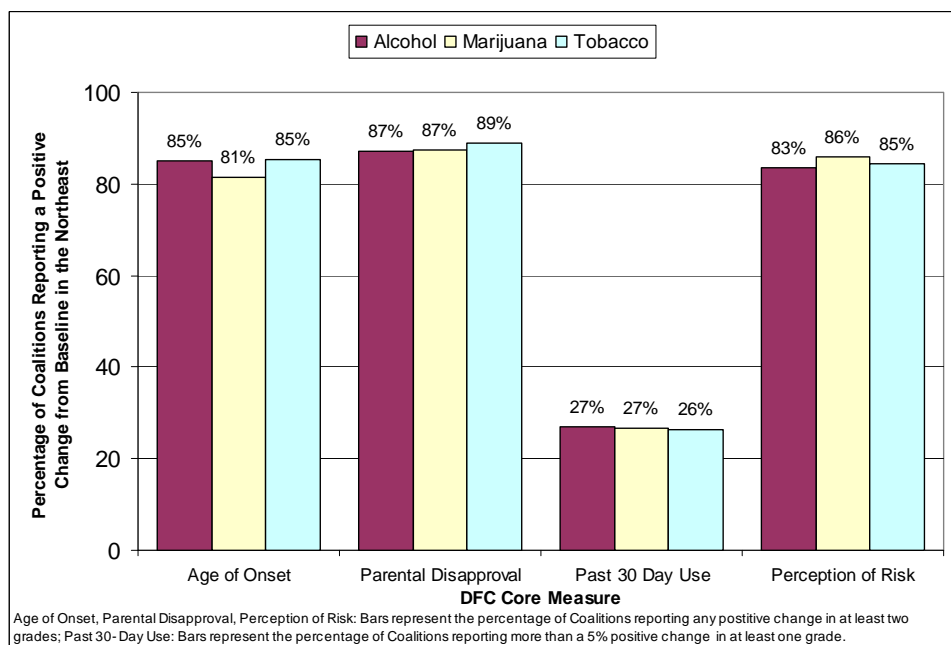
**Figure A-26.  Coalitions in the Northeast Report that Community Substance Abuse Indicators are Improving: Percentage of DFC Coalitions that Positively Impacted the Four Core Measures in the Midwest**



Age of Onset, Parental Disapproval, Perception of Risk: Bars represent the percentage of Coalitions reporting any postitive change in at least two grades; Past 30- Day Use: Bars represent the percentage of Coalitions reporting more than a 5% positive change relative to baseline in at least one

**Figure A-27.  Coalitions in the Northeast Report that Community Substance Abuse Indicators are Improving: Percentage of DFC Coalitions that Positively Impacted the Four Core Measures in the South**



Age of Onset, Parental Disapproval, Perception of Risk: Bars represent the percentage of Coalitions reporting any postitive change in at least two grades; Past 30- Day Use: Bars represent the percentage of Coalitions reporting more than a 5% positive change relative to baseline in at least one

**Figure A-28.  Coalitions in the Northeast Report that Community Substance Abuse Indicators are Improving: Percentage of DFC Coalitions that Positively Impacted the Four Core Measures in the West**
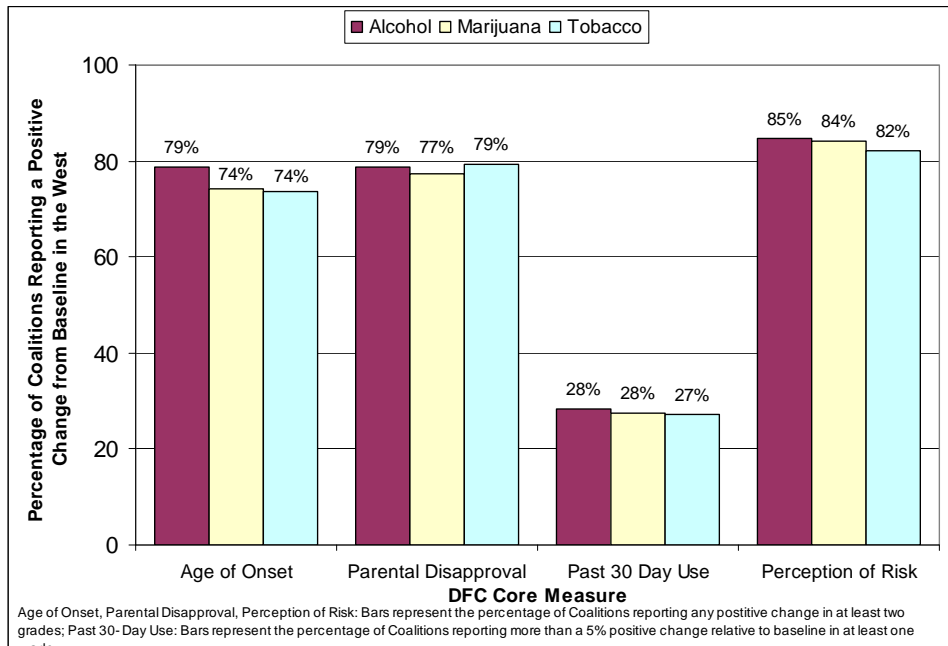
**Appendix B: Data Sources and Data Management Methodology**

A number of different sources of information were used to support the national evaluation effort. Regardless of the source, however, all information used in the analysis was based upon self-reported data and other factors provided by DFC grantees. There was a significant amount of data management and data processing that was required to review and format this information into a database suitable for statistical analysis. Additionally, the evaluation team conducted an extensive quality control/quality assurance review of all data that was used to support the preparation of this report. A brief summary of the sources of data, methodology for data management and data quality assessments, as well as the results of data reconciliation are provided in this section.

**B.1    Data Sources**

Six primary sources of information form the basis of the data used for this annual findings report. Again, all information available to the evaluation represents self-reported data by the Coalition Director, Assistant Director, or their designee. Some of this information was provided through the completion of questionnaires while other information was collected through the use of COMET (Coalition Online Management and Evaluation Tool) a web-based data management and reporting system developed by ONDCP. The following summarizes each source of information:

- **Annual Progress Report**: The annual progress report was designed specifically for the national evaluation to collect data on coalition process and capacity as well as basic coalition and contextual conditions that may affect coalition outcomes. The Annual Progress Report only contains data elements that are not expected to change throughout a particular year, but may change over several years. Information contained in this progress report is provided by coalitions with the completion of a "questionnaire" or survey-style document. This document was fielded to DFC coalitions in January 2006 and covered FY2005 in entirety (October 1, 2004 through September 30, 2005). Battelle fielded this survey in January 2006 as an MS-Word-based data collection instrument. This instrument has subsequently been administered as part of COMET. Approximately, 84% of DFC coalitions provided information via the Annual Progress Report.

- **Interim Progress Reports**: The interim quarterly progress report was an MS-Word based data collection instrument that Battelle fielded to capture information from coalitions prior to the development of ONDCP's on-line data collection system. One interim quarterly progress report was fielded to coalitions in January 2005, and another was fielded in May 2005. Combining these two interim progress reports provides the evaluation with information corresponding to the time period represented by the first one-half of FY2005 (October 1, 2004 through March 31, 2005). Of the DFC coalitions that were current grant recipients in FY2005, 99% provided at least one interim progress report. A third interim-progress report was fielded to a small subset of coalitions in August 2005. This report was only sent to those coalitions who had provided no outcome data or insufficient outcome data in their previously submitted reports. Outcome data provided in this third interim progress report is included in this Annual Findings Report. A fourth interim progress report to be distributed to all coalitions was planned for late 2005, however, due to OMB delays, ONDCP decided not to field this report. At the end of 2005, ONDCP made the decision, in agreement with SAMHSA, to modify grant reporting requirements from quarterly to semi-annually.

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- **COMET Semi-Annual Progress Reports**: In April of 2006, COMET was released for coalitions to use on a day-to-day basis to document activities, strategies, structure and characteristics, internal capacity, intended functions, immediate and intermediate outcomes, and substance abuse outcomes in the coalition's targeted community. Coalitions are required to submit a summary of this information on a semi-annual basis to their Project Officers. The first submission of these semi-annual reports was completed in May 2006, and represents activities and the current status of DFC coalitions during the first one-half of FY2006 (October 1, 2005 through March 31, 2006). Virtually all (99%) active coalitions provided information to support the evaluation through COMET.

- **Coalition Classification Tool (CCT)**: This questionnaire was fielded through COMET in February 2006, and covered FY2005. This instrument collected information on the coalition composition/structure, characteristics, capacity, functions, and activities for the purpose of classifying coalitions into different stages of development. Although a classification algorithm has not yet been developed, the data captured by this instrument contains much of the capacity related information on coalitions that will be needed to support the development of the algorithm.

- **Previous Evaluation Data**: Information on DFC core outcomes was collected by ONDCP prior to the initiation of the national evaluation. This data was collected in 2001 with coalitions providing historical information for 1999, though the actual reported dates for data collection of the outcome information range as far back as the early 1990s. This data is used as the baseline data for substance abuse outcomes in this report.

- **Mentoring Progress Reports**: A separate progress report was developed as a questionnaire-style document and distributed to those DFC grantees with mentoring grants. This information was collected from coalitions at the same time that the interim quarterly progress reports were being fielded. This information was used to assist ONDCP in the preparation of estimates for GPRA measures and is included in this report where GPRA-related measures are discussed.

Each of these sources of data represents different data collection activities and collects different information from coalitions. All of the data from each of these sources was compiled by Battelle into a single cohesive database. Elements from each coalition are linked through a unique coalition-specific identifier. All data is maintained in an SQL Server database that is stored in a restricted access server (both physical and cyber-restricted).

## B.2    Data Management Methodology

There was a substantial amount of data management and processing that was performed to make the data from the five sources useable for statistical analysis. In part due to the self-reported nature of the data, all of the data used in the evaluation was subjected to intensive quality assessment and data cleaning activities to resolve unusual or suspect outcome information. The most significant data cleaning activity related to the prior evaluation data was the resolution of missing or inconsistent information corresponding to the year that the coalition indicated as the year in which the outcome data was collected in their community (approximately 50% of the reported outcome cells). If missing, the year was set to either be 1999 or 2001 depending upon the reporting period. If inconsistent years were reported, such as reporting a year of data

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collection as "2003" when years of reporting beyond 2001 were not expected, then the year was reset to "2001."

Cleaning of the interim progress reports consisted of applying computer algorithms to the data to resolve inconsistent reporting of data elements, hand review of suspect cases, and the exclusion of a small number of cases that did not meet data quality criteria. The computer algorithms or functions were applied to every data element, with the exception of the substance abuse outcome data, to ensure internal consistency in the reported information. For example, if the coalition provided multiple responses when a "check only one" response was expected, a function was employed to select the first response for inclusion in the analysis database. Similarly, if the coalition indicated clearly inconsistent responses, their response for this item was set to missing (e.g., a coalition reporting that a trend for a protective/risk factor was both "improving" and "worsening"). More intensive cleaning procedures were employed to clean the reported substance abuse prevention outcome measures including the following:

- Removal of outcomes that were reported as 0% if the reported sample size was also 0.

- Individual manual review and resolution of cases where the reported outcome data percentage was greater than 100%. Most of these cases were resolved as inadvertent entry errors by coalitions, but some of the cases were set to missing.

- Manual review of suspect values for age of onset. If the age of onset appeared to be unreasonable for a particular grade, then this case was reviewed. For example, a reported age of onset among 6th graders for marijuana of less than 6 years of age or more than 12 years of age was considered to be unusual and was hand verified/resolved. Generally, these cases either resolved to missing values as it was clear the coalition was reporting a percentage not an age of onset, or were left as reported.

- Manual review and resolution of cases where the coalition reported a text character where a numeric outcome was expected. For example, a coalition may have reported "forty-five percent" when "45%" was expected. These cases were set to a number if possible.

Cleaning of the COMET data while time-consuming, was less intensive because the on-line system includes "built-in" checks to maintain consistency and integrity in the data. Because COMET was designed to be an ongoing system with the ability for coalitions to change entries on a daily basis, there was a need to determine which elements in COMET would be considered to be part of the FY2006 reporting period. We employed combinations of the following four general inclusion criteria to identify the records appropriate for the FY2006 reporting period:

1. **Most Recent Record**: Include the most recent record in the COMET database occurring prior to the submission deadline.

2. **Activity During Reporting Period**: Include these records if there was any activity during the reporting period, regardless of the activity or whether the record was initiated prior to the designated reporting period. For example, a data collection activity that was begun in 2003, but completed in FY2006 would have been considered to have had activity during the reporting period and would have been included in the FY2006 information.

3.  **Occurred Within Reporting Period**: Only include these records if the Start and End dates (if available) occur within the Reporting Period.

4.  **Removal of Duplicate Outcomes**: Exact duplicates of outcome information were provided by many coalitions between the FY2005 and FY2006 reporting periods. The duplicative outcomes were excluded from the analysis.

Generally, most of the static "question-like" data elements fall under the first criteria (e.g., funding contributions, whether technical assistance was received, etc.), while objectives and activities were covered by the second and third criteria.

Particular attention was paid to assessing the quality of reported outcome information as it forms the basis of much of the analysis conducted for the national evaluation. Significant variation in the reported outcomes was observed between and even within coalitions. Some of this variability was attributed to the use of inappropriate surveying techniques by coalitions and were excluded from the analysis. In particular, all outcomes where the reported number of youth surveyed by the coalition corresponding to the outcome was not provided or was fewer than twenty (20) youth were excluded from all statistical analyses. The threshold of twenty was selected as it represents the minimum number of youth needed to ensure that the reported percentage was not an artifact of a small sample and that the reported percentage was significantly greater than zero. However, the criteria of having 20 youth included in the sample does not guarantee that the reported sample is representative of youth in the coalition's targeted community, merely that the percentage can be determined statistically to be significantly different than zero. Further, in most communities a sample size of 20 youth would not be sufficient to ensure representativeness of the survey results but rather a more appropriate sample size would be at least five to six times this number of youth (100-120 youth). However, because the data is self-collected and reported, it must be assumed that representativeness has been achieved, even if the sample sizes are less than 100-120 youth. Significant variation in the reported outcomes remains even after extensive review and cleaning of this data. This extreme variation creates a masking effect, making it difficult to identify factors significantly related to 30-day drug use or to identify significant trends in the outcome measures over time difficult.

As a result of the data assessment and cleaning, 31% of the reported outcomes corresponding to the FY2005 reporting period and 8% of reported outcomes in the FY2006 reporting period were excluded from the analysis. The resulting database includes 12,544 outcomes reported during the pre-evaluation data collection, 19,977 unique outcomes reported during the FY2005 reporting period, and 26,272 unique outcomes reported during the FY2006 reporting period[1].

The final data management methods were to develop a comprehensive SQL database that contains information from all sources and includes a relational structure that enables linking between the various sources of data. In particular, the information from the interim progress reports and the semi-annual progress reports from COMET needed to be reconciled and combined. The first step in this process was to determine which set of data from COMET was appropriate to use for analysis, the transactional-level data or the progress report data. Because of several factors, some of which are outlined below, it was decided to use the transactional-level data from the COMET interface.

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[1] Note that outcomes reported in a given reporting period may represent data that was collected prior to the reporting period. For example, coalitions may have reported outcomes during the FY2005 reporting period that were collected in 1999, or some other prior year.

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Some of the arguments for the use of the transactional-level data included:

- The progress report data was missing a large amount of activity data. The inclusion criteria applied to the activity data was not what was ultimately required for analysis. Only activities with a start date within the progress report were included in the progress report activity table, therefore no planned activities were included and also no completed activities were included if their start date was not within the reporting period.

- The objective data was missing for more than 100 coalitions in the progress report data.

- The progress report data did not include any data entered by coalitions who were still "Active" in the system but had not yet submitted their progress report.

- In the progress report data, several text variables were stored as comma-delimited strings. These variables were not usable as formatted and would be required to be parsed. The transactional data contained these data in a usable format.

- The table structure of the progress report data would require the data to be separated into a table structure similar to that of the transactional level data.

For future releases of COMET data, it would be recommended that the progress report tables be structured similarly to the transactional level tables.

In subsequent steps, additional data manipulation, editing and cleaning was performed as part of the process involve in combining data into a common database.  The following describes the significant data manipulations and decisions that were utilized to develop this analysis database.

- **Exclusion of of Third Interim Progress Report Except for Outcome Data:** The majority of the data from the third interim progress report was not included in the final analysis dataset. This was to ensure that data from report period one (FY 2005) and report period two (FY 2006) spanned the same duration. The data from the first two interim progress reports encompasses the time frame of October 1, 2004 through March 31, 2005. This is equivalent to the time frame of reporting for the Semi-Annual report data in report period two which was October 1, 2005 through March 31, 2006. The addition of the third interim progress report would have created two different interval lengths for the report periods. Additionally, many of the activities of coalitions collected through the third interim progress report represent a time period that is inconsistent with the reporting for other coalitions (i.e., those that were not asked to complete the third interim progress report). However, one main focus of the third interim quarterly progress report data collection instrument was to enhance the amount of reported substance abuse prevention outcome measure data. If a coalition had not previously reported information on the core measures this data was included in the database and considered to be reflective of the year in which the data was reported to be collected.

- **Additional Cleaning of COMET Data:** In the Semi-Annual Progress Report data, there were a significant number of test records and orphaned "child" records that were deleted from the data. Because the child records could not be joined to their corresponding master table, they needed to be deleted from the data to ensure clean data joins for data manipulation. These data included Objective Factor IDs not included the Assessment

Factor Trends table, Factor Codes in Assessment Factor Trends not in the Index table or Custom Type table, and other orphaned child records.

Outcome data that represented exact duplication between multiple years were removed from the analysis files. For example, many coalitions reported outcomes in FY2005 and reported these same outcomes again in FY2006. In these cases, only one set of outcomes were retained for analysis. These outcomes were assigned to the reporting period that they were first reported in, but were analyzed using the year that the data was collected as the time-dependent variable.

- **Restructuring Data for Consistency:** The outcome measures collected prior to this evaluation, interim progress reports, and COMET semi-annual progress reports were collected through different mechanisms and needed to be manipulated into a consistent data format for analysis. The interim progress reports were also collected using different data collection instruments. All three data sources were manipulated to be in the same format for analysis purposes. The data from the interim progress reports were combined across reporting periods to create a single composite variable for the entire evaluation period. For example, coalitions were asked to indicate the components of the assessment process that they conducted in each quarter. Regardless of the quarter, if a coalition indicated that they had conducted "Planning" activities, then they were considered to have conducted "Planning" activities for the evaluation period. Inconsistencies from quarter-to-quarter were resolved by creating additional response levels for the composite variable. For example, coalitions were asked "…did collaboration to prevent substance abuse among your members…Increase, Decrease, or Stay the Same within the quarter?" A coalition could indicate that collaboration increased during the first quarter, but decreased in the second quarter. In this situation, the composite variable was set to a new level "mixed."

  For the challenges and barriers data to be summarized, it was first necessary to manually review all challenges and barriers text entered into the interim progress reports to determine how many challenges and barriers each coalition encountered. The text was parsed and categorized as one or more challenges or barriers so that it could be formatted similarly to the format of the COMET semi-annual progress report data. This step had to be completed for all challenges and barriers for Capacity, Evaluation, Implementation and Planning.

  In all cases, all data were mapped to a database structure that was designed to facilitate the analysis of the data collected. To ensure continuity, both the interim progress report data and the COMET semi-annual report data had to be checked on a variable-by-variable basis to determine that both sets of data were coded consistently. Whenever possible, it was decided to recode the interim progress report data to match the COMET semi-annual progress report data. For each section of the interim progress report and COMET semi-annual progress report data, a summary table was created with one record per coalition per report period.

  **Assessment Data**

  To fit the analysis data structure, both the interim progress report data and the COMET semi-annual report data needed to be transformed in some fashion. For the Assessment Community Needs data, the geographical area, targeted substances and targeted age

groups were transformed. The data collected via the interim progress reports were directly mapped to the analysis data.

For the assessment activities data, the COMET semi-annual report data were in a form to be directly mapped to the analysis database structure. The interim progress report data for assessment activities was created by inserting records based on the coalition's response to question 2.2 from the data collection instrument. For each response selected, an activity was added to the assessment activities table.

To incorporate the assessment risk and protective factor data into the analysis summary table, various calculated variables were created including a count of records by records by assessment factor type, assessment factor domain and assessment factor trend. The data from the interim progress report data was derived from the responses to question 2.3.

To create a summary of the assessment information, a several variables that contained count of activities and counts of risk or protective factors were created.

**Capacity Data**

The capacity data required a considerable amount of manipulation and processing. For the interim progress report, the coalitions were required to state the number of applicable activities but were not required to list the activities. It was required to insert the number of records as indicated in the interim progress report. This approach was also used for the capacity assistance information. Some coalitions entered very large numbers for amount capacity assistance received, it was decided to allow a maximum of eight trainings per coalition.

The capacity funding data from the COMET semi-annual progress report data was transposed to create variables for each funding sector for funding source, percent of funding supplied by that source and funding source budget. The funding budget for the interim progress reports were derived solely from the first fielding of the interim progress report. Funding budgets were not collected in subsequent interim progress report data collection instruments. Also, a major validation issue for the funding data included coalitions providing more or less than one hundred percent of sources for funding. In cases where funding sources percent did not sum to 100%, they were manually reviewed for any obvious entry errors. When no obvious entry errors were found the funding percents were scaled to sum to 100% based on their initial values.

**Planning Data**

For the planning goals and objectives data, the goals and objectives information from COMET first needed to be combined into one table. Several variables had to be transformed, including the objective substance and objective targeted age. The planning goals and objectives data also required recoding of its environmental strategies information based on the categories used in the implementation activities data. Like the implementation activities table, this recoding was done after the data from the interim progress reports and the COMET semi-annual progress reports were already mapped.

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The summary analysis table produced from the planning data included all information from the planning goals and objective and the strategic plan information. Other calculated variables were created based on the challenges and barriers encountered by the coalitions.

**Implementation Data**

For the implementation activities data, the COMET semi-annual report data were in a form to be directly mapped to the analysis database structure. The interim progress report data for implementation activities was created by inserting records based on the coalition's responses to sections b through g for objective numbers one through eight from the data collection instrument. Each one of these iterations had the potential for up to six activities each. For each response selected, an activity was added to the assessment activities table. In the interim progress report data collection instrument, the ability to enter either text or numeric information in the number of people reached variable was also problematic. A parser application was written to decipher data that contained numeric words (e.g., "one million", "seventy-five"). It also removed any commas within the numeric data to produce a numeric variable consistent with the data collected in the COMET semi-annual progress report interface.

When all activities were mapped to the implementation activities table, it was then necessary to recode the environmental strategy information. Because the COMET system is very flexible, many coalitions chose to hand type custom responses rather than use the drop down values provided in the interface. To ensure that all the environmental strategy data was correctly coded, the custom types were individually read and interpreted into six categories:

- Building Skills/Competencies
- Changing Institutional or Governmental Policies
- Community Education/Increasing Knowledge/Raising Awareness
- Increased Involvement in Drug-free/Healthy Alternative Activities
- Increasing Attention to Enforcement and Compliance
- Other Prevention Activity

Any records with a missing environmental strategy was coded to a seventh category designating "Unknown." All implementation activity records were recoded to these categories.

The summary analysis table produced from the implementation table consists entirely of calculated variables like number of challenges, number of barriers, etc.

**Evaluation Data**

Outcome information was combined across the three interim progress reports with the most current outcome information taking precedence. This integration of outcome measures was performed separately for each combination of core measure, drug, and grade/gender outcome cells. For example, if the coalition reported past 30 day use, Alcohol, for 6th graders in the first interim progress report but not for any other grades but then provided information for grades 7-12 in the second interim progress report, this

coalition was considered to have contributed information for all grades 6-12 in the final analysis dataset. Alternatively, if the coalition had also supplied information for $6^{th}$ graders in the second interim progress report, then only information from the second interim progress report would have been included in the analysis dataset.
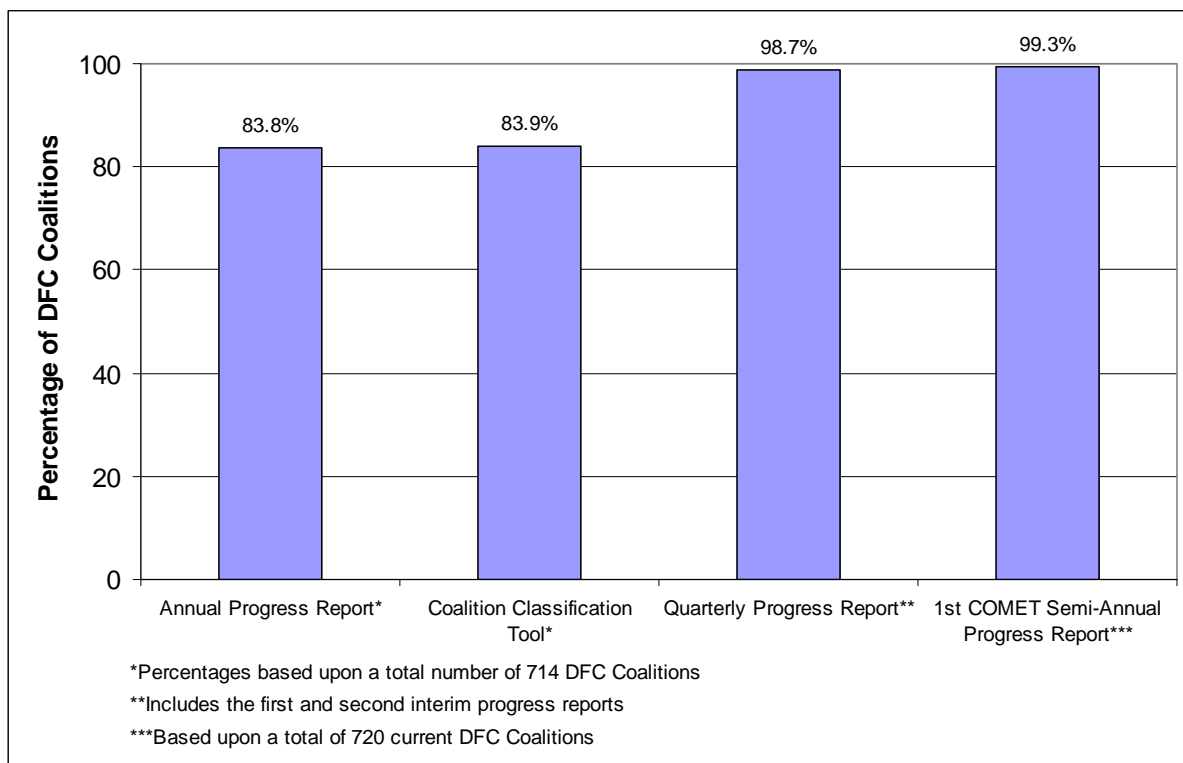
Outcome information from the COMET semi-annual progress report were in the general table format required for analysis. The outcome measure data from Caliber and from the interim progress reports were transformed to fit this data structure.

To create a summary table of evaluation data, the outcome measure data was transformed to create one outcome variable and one outcome size variable per substance/drug/grade combination. Also, the activities data and the challenges and barriers data were summarized by calculated variables containing counts of records.

### B.2.1   Reporting by Coalitions In Support of the National Evaluation

Figure B-1 summarizes the percentage of coalitions providing at least some data for each data collection instrument.  Reporting for the interim and semi-annual progress reports was generally better than reporting for the CCT or Annual progress report.  However, among current DFC coalitions, there are only 422 coalitions (58.6%) that have provided at least some data from all four evaluation data sources where historical information on DFC core measures were collected prior to this evaluation.  Investing longer term trends, therefore, are not possible for nearly one-half of the DFC coalitions.

**Figure B-1.    The Majority of DFC Coalitions Provided Information to Support the National Evaluation**



*Percentages based upon a total number of 714 DFC Coalitions

**Includes the first and second interim progress reports

***Based upon a total of 720 current DFC Coalitions

Every DFC coalition is required to submit information on ONDCP's four outcome core measures. More specifically, the terms and conditions of their grant specifies that:

> *"Grantee must collect, on a biennial basis, the following data on youth consistent with the geographic area served by the coalition: (1) age of onset of any drug (including alcohol, marijuana and tobacco); (2) frequency of drug use in the past 30 days (including alcohol, marijuana and tobacco); (3) perception of risk or harm; and (4) perception of disapproval of use by adults (including alcohol, marijuana and tobacco), or other measures as identified by ONDCP. The grantee should report on youth in at least three grades. The size of the data collection must be sufficient to provide an accurate and meaningful statistical representation of the geographic area served by the coalition for each of the three DFC substances (alcohol, tobacco, and marijuana)."*

Therefore, every DFC coalition is required to supply information on the four core measures at least every two years. Reporting of these core measures by DFC coalitions is summarized in Figure B-2. Two different compliance metrics are presented: (1) the percentage of coalitions that were in complete compliance with the terms and conditions of their grant as described above; and (2) the percentage of coalitions that were in compliance with the terms and conditions of their grant with the exception that they may have provided information for less than three grades within each core measure.

**Figure B-2.    70% of DFC Coalitions are not in Compliance with the Terms and Conditions of their Grant with Respect to Reporting DFC Core Measures**
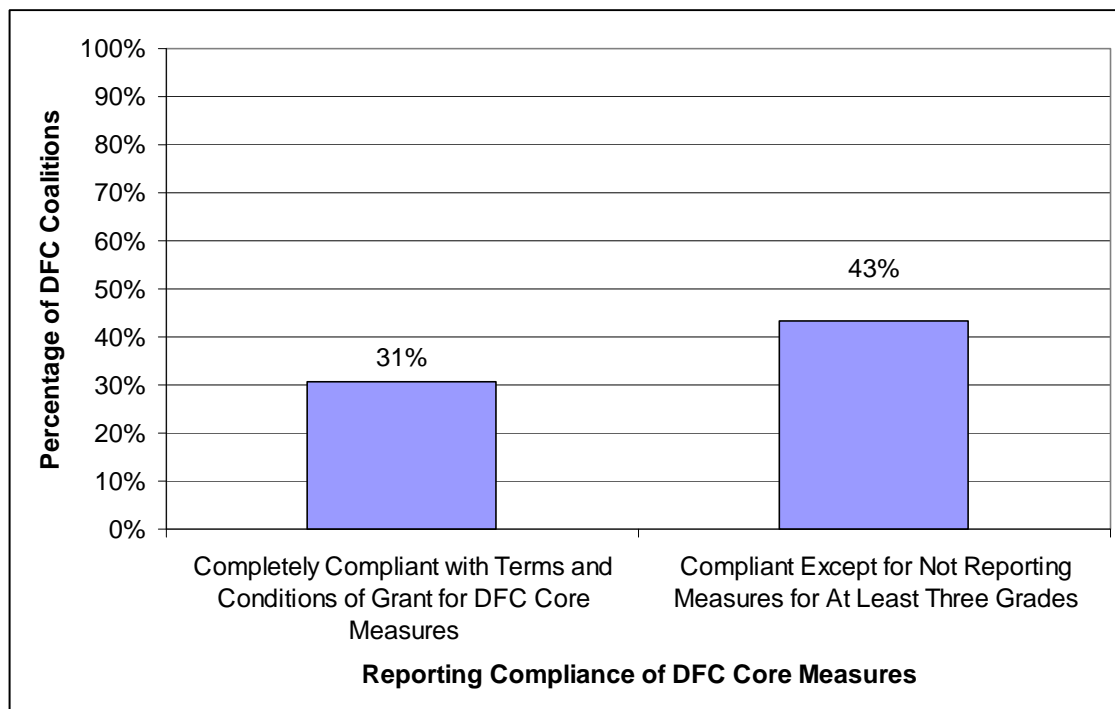
## B.2.2 Understanding the Quality of the Reported Core Measures

Having outcome data is important for the evaluation. However, having reliable and accurate outcome information is absolutely critical. The findings in this report are largely based upon the self-reported outcomes. As with any self-reported information, some variation and inaccuracies in the outcome information is to be expected. However, one key question is the degree to which the variability and inaccuracies exist in the self-reported outcome information and what measures can be taken to reduce this variability. This section provides an assessment of the quality, including the variability, in the reported outcomes.

A detailed examination of every reported outcome variable was conducted as part of the data management process.  Based upon this examination, we conclude that:

- For both FY2005 and FY2006 and for all three substances, there is very large variability in both the Perception of Risk and the Perception of Parental Disapproval outcomes. For example, in the plot for Perception of Risk, Alcohol, the whiskers essentially reach from 0% to 100%, which is indicative of extreme variability. There is much less variability in Past 30-day Use and Average Age of Onset.

- There are many extreme observations in each report outcome measure. That is, there are many outcomes that are much lower or much higher than the central distribution of outcomes for a particular substance, measure, and grade/gender. Each of these observations represents statistical anomalies and may be unreliable or unrealistic measurements (e.g., collected using a non-random sample, collected with too few samples, errors, and false reports, etc.).

- The central tendencies (means and medians) for each grade-specific measure are generally close, which implies that the distributions are roughly symmetrical, which helps to create robust tests for significance for both reporting periods.

- For Average Age of Onset and Past 30-day Use there is an apparent trend in grade that can be observed by connecting the means in each box plot. This trend is in the direction expected. However, the overlap in the whiskers from grade-to-grade would indicate that this trend will be difficult to identify as significant because of the degree to which the reported outcomes overlap from grade-to-grade. Trends in the other two outcomes are even more difficult to identify.

A formal statistical outlier test was conducted separately for each core outcome measure. This test was conducted by transforming the reported percentages to a normal approximation and then fitting an "intercept" only model to the transformed outcomes. The studentized residuals were then compared to a student t-distribution critical value. Values exceeding the t-statistic critical value are considered to be potential outliers. Table B-1 summarizes the number and percentage of reported outcomes that were identified as "extreme" through this test and as such are considered to be potential outliers. This test was performed using the arcsine transformation for the percentages since this transformation is more robust to outlying observations and was therefore used in the statistical analyses.

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**Table B-1.**    **Formal Statistical Test Indicates that Transformed Outcome Measures Still Include a Significant Number and Percent of Outlying (Extreme) Outcomes Reducing the Ability to Identify Significant Evaluation Findings.**

| Substance | Core Measure | 6th Grade | 7th Grade | 8th Grade | 9th Grade | 10th Grade | 11th Grade | 12th Grade |
|---|---|---|---|---|---|---|---|---|
| Alcohol | Perception of Risk | 0 (0.0%) | 1 (0.3%) | 0 (0.0%) | 1 (0.3%) | 0 (0.0%) | 1 (0.3%) | 0 (0.0%) |
| | Perception of Parental Disapproval | 6 (1.6%) | 5 (2.2%) | 6 (1.1%) | 1 (0.3%) | 3 (0.6%) | 2 (0.6%) | 2 (0.4%) |
| | Past 30-Day Use | 4 (0.9%) | 2 (0.7%) | 1 (0.1%) | 5 (1.3%) | 6 (0.9%) | 5 (1.2%) | 5 (0.8%) |
| | Age of Onset | 2 (0.7%) | 1 (0.5%) | 1 (0.2%) | 0 (0.0%) | 2 (0.5%) | 0 (0.0%) | 0 (0.0%) |
| Marijuana | Perception of Risk | 1 (0.2%) | 3 (1.1%) | 1 (0.2%) | 2 (0.6%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
| | Perception of Parental Disapproval | 8 (2.3%) | 6 (2.8%) | 10 (1.8%) | 6 (2.2%) | 5 (1.0%) | 9 (3.0%) | 5 (1.1%) |
| | Past 30-Day Use | 6 (1.7%) | 5 (1.8%) | 4 (0.6%) | 5 (1.3%) | 3 (0.5%) | 6 (1.5%) | 4 (0.7%) |
| | Age of Onset | 4 (1.6%) | 1 (0.6%) | 0 (0.0%) | 2 (0.8%) | 2 (0.4%) | 2 (0.7%) | 2 (0.4%) |
| Tobacco | Perception of Risk | 1 (0.2%) | 5 (1.8%) | 3 (0.5%) | 3 (0.9%) | 2 (0.4%) | 2 (0.6%) | 2 (0.4%) |
| | Perception of Parental Disapproval | 7 (2.1%) | 5 (2.4%) | 10 (1.9%) | 6 (2.3%) | 4 (0.9%) | 6 (2.1%) | 3 (0.7%) |
| | Past 30-Day Use | 5 (1.2%) | 5 (1.7%) | 4 (0.6%) | 5 (1.3%) | 5 (0.8%) | 6 (1.5%) | 5 (0.8%) |
| | Age of Onset | 4 (1.4%) | 1 (0.5%) | 2 (0.4%) | 1 (0.4%) | 2 (0.4%) | 0 (0.0%) | 1 (0.2%) |
| Total | | 48 (1.1%) | 40 (1.3%) | 42 (0.6%) | 37 (1.0%) | 34 (0.5%) | 39 (1.0%) | 29 (0.5%) |

For both the Interim Progress Report Data and the Semi-Annual Progress Report Data, validation rules were employed to remove unreliable data from the reported substance abuse prevention outcome measures including the following:

- Removal of outcomes that were reported as 0% if the reported sample size was also 0.

- Removal of outcomes that were reported if the reported sample size was missing.

- Removal of outcomes that were reported if the reported sample size was less than 20.

- Removal of Age of Onset outcomes where the average age of onset was either less than six or greater than 19.

Figure B-3 summarizes the percent of invalid/unreliable outcome measure data from both FY2005 and FY2006. A similar trend representing improved reporting can be observed in Table B-2, which summarizes the percentage of outcomes by core measure and substance provided in FY2005 and FY2006.

**Figure B-3.    Reporting of Unreliable or Non-Usable Outcome Measures Has Decreased Following the Implementation of the COMET System**
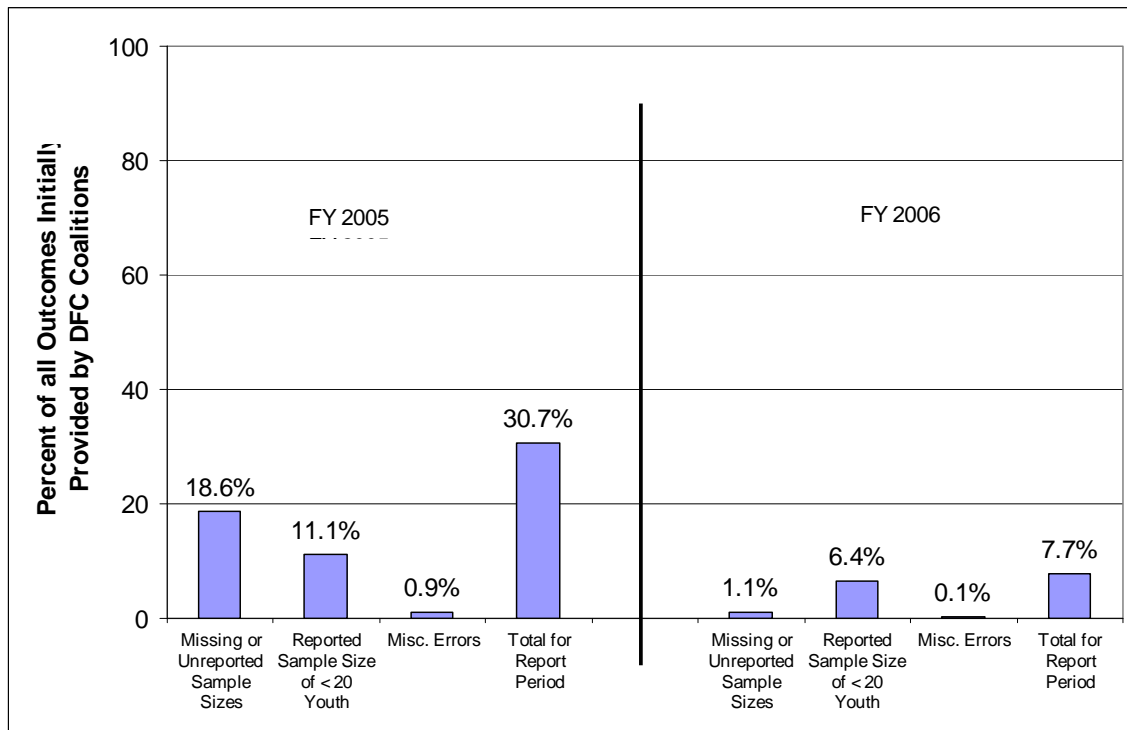


**Table B-2.    Reporting of Valid Outcomes Has Improved with the Launching of COMET, But is Still less than One-Half of the Initially Reported Data.**

| Core Measure | FY 2005 October 1, 2004 - March 31, 2005 | | | FY 2006 October 1, 2005 - March 31, 2006 | | |
|---|---|---|---|---|---|---|
| | Alcohol | Tobacco | Marijuana | Alcohol | Tobacco | Marijuana |
| Past 30 Day Use | 37.1% | 34.5% | 32.7% | 50.5% | 49.8% | 48.0% |
| Perception of Risk | 32.6% | 31.0% | 31.4% | 45.3% | 44.1% | 44.9% |
| Parental Disapproval | 27.3% | 24.7% | 25.3% | 41.0% | 38.4% | 40.1% |
| Age of Onset | 20.0% | 19.8% | 18.8% | 40.1% | 38.5% | 37.0% |

**Geographical Area of Reported Outcomes**

Coalitions were asked to identify the geographical area that the reported outcomes represented in relation to the area targeted by the coalition. Collection of this information revealed (Figure B-4) that a significant percentage of the self-reported outcome measures were for geographical areas other than those specifically targeted by the DFC coalition.

**Figure B-4.    A Majority of Reported Outcomes were for Geographical Areas Other than Those Specifically Targeted by DFC Coalitions or Not Identified.**
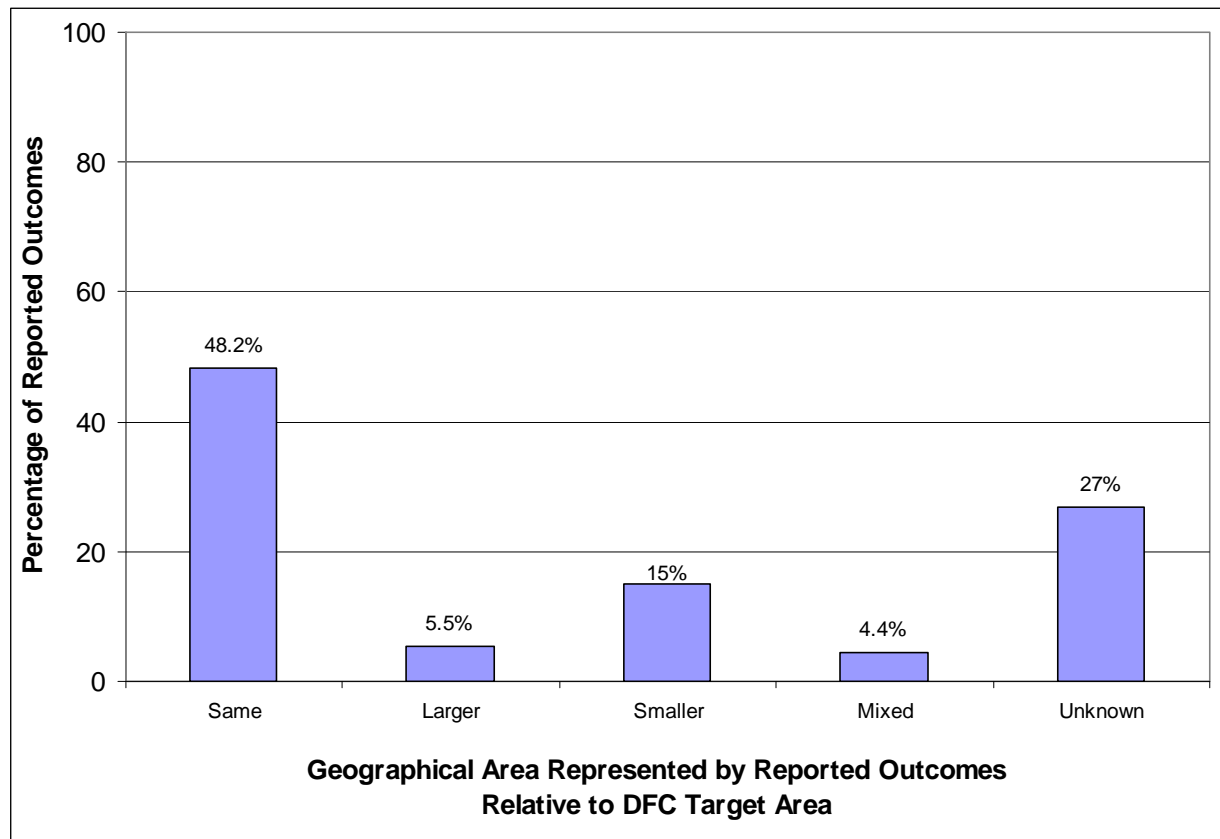
**Sources of Outcome Data**

Figure B-5 summarizes the percentage of reported outcomes with their corresponding data sources from which the outcome data is derived. Although there are a variety of different sources, information from existing data sources dominate.

**Figure B-5.    The Vast Majority of DFC Coalitions Rely Upon Existing Survey Sources for Core Measure Information with State Surveys, YRBS, CTC, PRIDE, MTF, and ATOD Accounting for 94% of All Reported Outcomes on Past-30 Day Use**
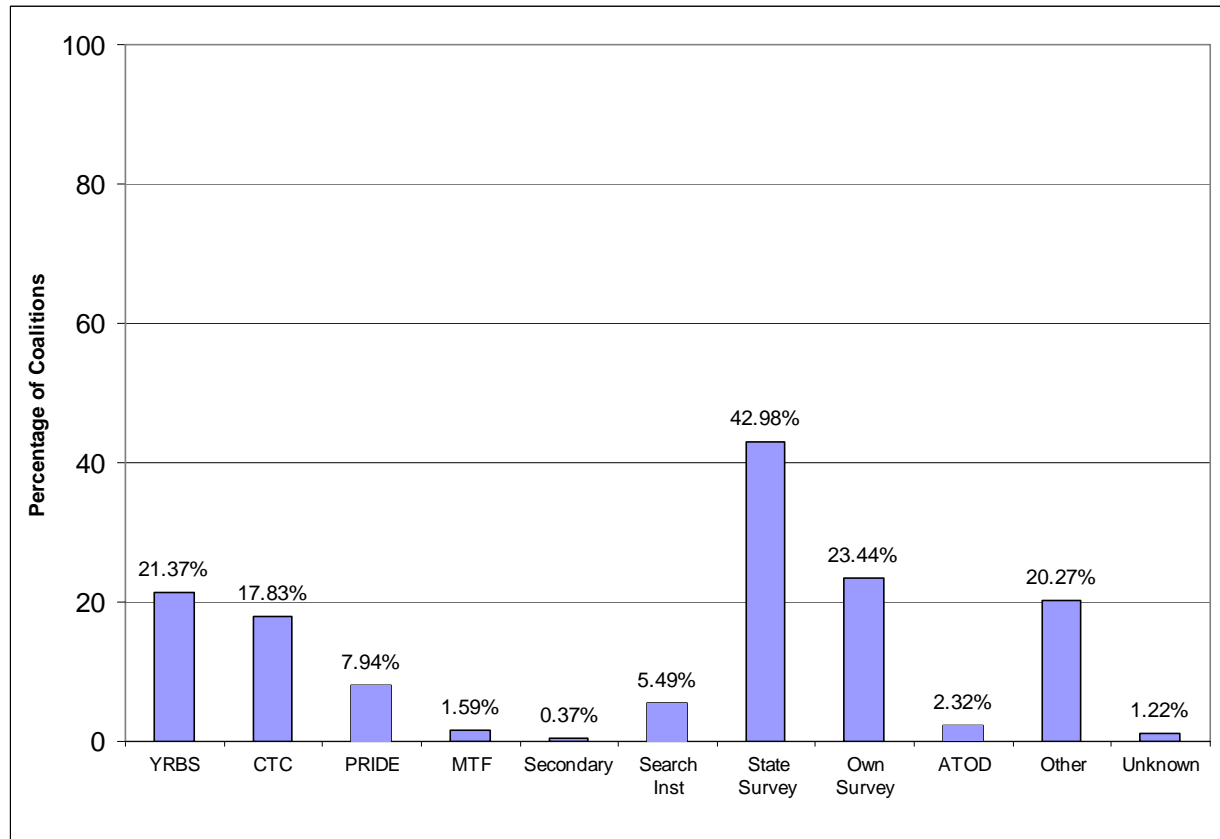
**Outcome Data Collection Date**

For the majority of valid outcome data reported (approximately 75%), the coalition provided data that was collected either during the reporting period (38% of reported outcome data) or within 12 months of the reporting period (37% of reported outcome data).

**Figure B-6.   The Majority of Valid Outcome Measures were Collected within the Past Three Years (2004, 2005, or 2006)**
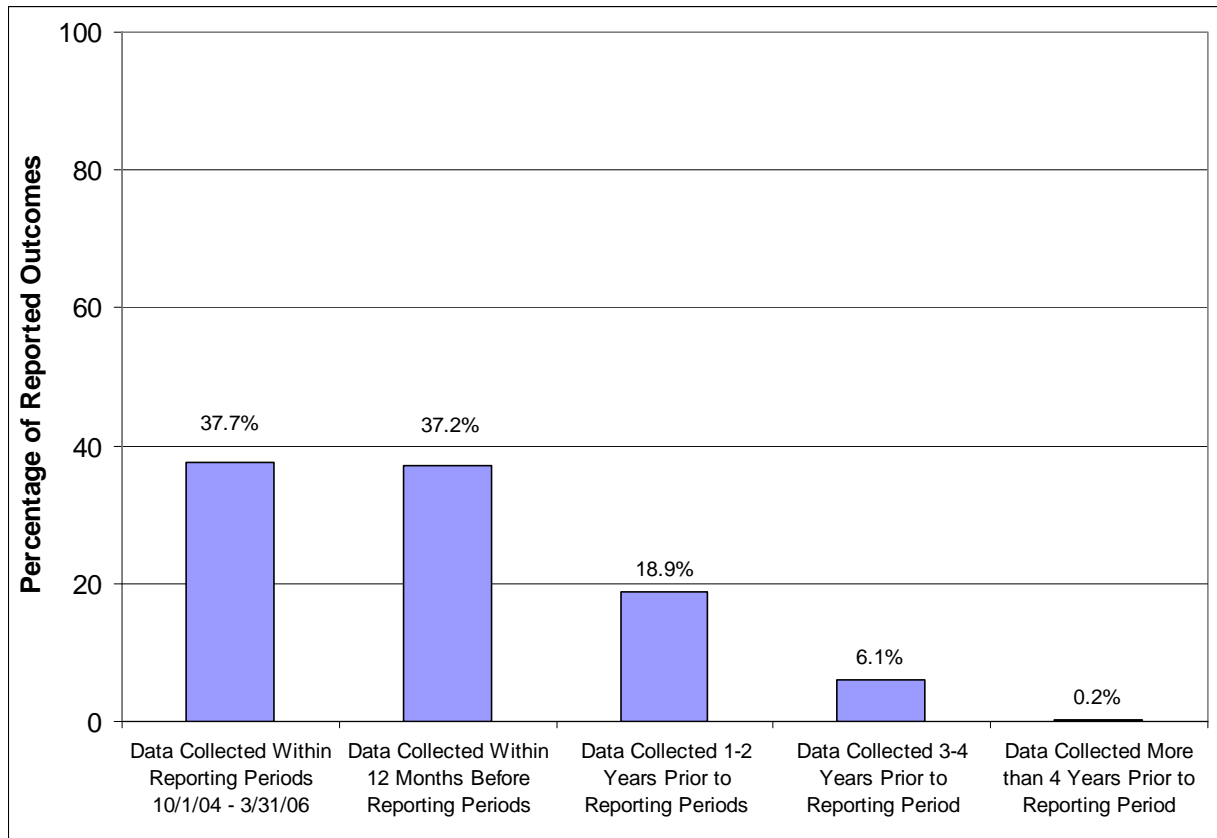
**Appendix C: Statistical Methodology**

The modeling of substance abuse outcomes has two purposes for this evaluation. First, these models will be used to evaluate trends in substance abuse outcomes, both within the DFC coalitions and to national published trends from external sources. Second, these models will help to identify factors that are significant predictors of Past 30-Day substance abuse.

## C.1 Trends in Substance Abuse Outcomes Among DFC Coalitions

One important question for ONDCP is to understand and asses trends in substance abuse outcomes in the communities targeted by their grantees. This chapter describes the methodology and results for examining trends in substance abuse outcomes in communities targeted by DFC coalitions through the use of longitudinal regression models. Again, the objective for this analysis is to determine if there has been a significant (positive) trend in substance abuse outcomes from baseline.

A separate longitudinal regression model was fit for each core measure and substance combination. These models included factors for year, grade, and the interaction effect between these two factors. An additional factor corresponding to the coalition was included as a random effect, which accounts for the fact that these outcomes represent repeated observations from the same coalitions over time (i.e., there is an inherent clustering of the outcomes). Testing and identification of significant trends over time were conducted by examining the estimated model parameters that correspond to the slope of the regression curve (i.e., the estimated parameter corresponding to the year by grade interaction term). A statistical transformation consisting of an arcsine transformation of the reported outcomes was employed for past 30-day use, perception of risk, and youth perception of parental disapproval to stabilize the variance and to ensure that the model residuals are reasonably normally distributed. Traditional logistic regression models could not be fit because data collected prior to the initialization of the evaluation did not include information regarding the number of youth represented by each reported percentage (i.e., no "n's" were reported). Thus, each outcome was modeled directly (following the arcsine transformation for the three core measures), which gives equal weight to every observation. While this increases the effect of extreme observations or "outliers," this impact has also been somewhat mitigated through the arcsine transformation.

Similar methodology was employed to estimate trend lines that facilitate a comparison of trends among DFC coalitions to published results. National estimates for the 2002-2005 NSDUH were obtained through on-line analysis of the published YRBS data hosted at *www.icpsr.umich.edu/cgi-bin/SDA/SAMHDA/hsda?samhda+04373-0001*. Due to a methodological change in 2002, NSDUH estimates from years prior to 2002 are not directly comparable to current NSDUH estimates and are therefore not included in the figure. YRBS estimates were obtained from YRBS Annual Reports.

## C.2 Factors That Are Associated with Alcohol, Tobacco, and Marijuana Use by Youth in the Past 30 Days

Through the COMET Semi-Annual progress reports, the annual and interim progress reports, and previous evaluation data, a large amount of data have been reported by DFC Coalitions regarding Past 30-Day Use of the DFC substances. A statistical analysis was performed to identify the coalition factors were most closely associated with differences in FY2005 and FY2006 Past 30-

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Day Use and to quantify these observed effects. However, before initiating this analysis, it was recognized that large portions of the Past 30 Day-Use data applied to a time period prior to FY2005. Therefore, the first step in the analysis process was to replace any missing FY2005 and FY2006 Past 30-Day Use data with imputed values. The imputed values were derived from the actual years' data that were available and the observed relationships of past 30 day-use over time. The imputation procedure is discussed in detail in Section C.2.1.

A comprehensive set of coalition operating characteristics were identified for FY 2005 and 2006 from the progress reports submitted during these periods. Statistical models were then fit with the response of the past 30 day use data and predictors from among these coalition operating characteristics.  The following documents the methodology utilized to conduct this analysis.

## C.2.1 Imputed Past 30-Day Use Data for FY2005 and 2006

Coalitions in the program have provided data for the Past 30-Day Use of alcohol, tobacco, and marijuana. This data is in the form of proportions of survey respondents reporting use of the target substances over the previous 30 days. To appropriately examine the coalition operating factors significantly related to Past 30-Day Use, it was critical to use statistics reflecting the program reporting periods of interest; FY 2005 (October 1, 2004 – September 30, 2005) and FY 2006 (October 1, 2005 – September 30, 2006). Not all coalitions reported prevalence estimates for Past 30-Day Use that were based upon data collected during these report periods and many DFC coalitions that did report prevalence estimates, indicated that the data used to derive the estimates were from surveys and data collection activities conducted prior to FY 2005.

One option in this instance would have been to remove all historic data and only perform the final statistical analysis on those observations from 2005 and 2006. This restriction would have resulted in many coalitions not being included in the statistical modeling, which could have introduced a significant bias in the results if coalitions that have "current" estimates are systematically different than coalitions that have only "historical" estimates. Another option, and one that was adopted for this analysis, was to impute current prevalence estimates using historical trends in the prevalence estimates. However, the imputed values were weighted by the inverse of the ratio of their prediction variance to the prediction variance of the observed values. As such, predicted values were weighted less than observed values with this weight becoming smaller as the uncertainty of the prediction grew. In this manner, the final statistical analysis was performed with data from all coalitions that had reported prevalence data but without placing undo confidence in observations derived from historic data.

### *C.2.1.1 Methodology for Imputing Missing Values and Calculating Weights*

Prevalence information for Past 30-Day Use collected prior to the national evaluation did not include a sample size so these values were assumed to have represented adequately large sample sizes. The Past 30-Day Use outcomes were transformed by the arcsine of the square root of the reported percentage of youth. This transformation provides for more nearly uniform variance throughout the range of the response, an assumption important to the linear models that will subsequently be fit to the data.

The data were separated into categories by substance (alcohol, tobacco, and marijuana), grade ($6^{th}$-$12^{th}$), and coalition. The number of data records was tabulated for each of these combinations, after which the following modeling was performed:

- If there were three or more observations for a particular substance, grade, and coalition combination, a linear regression was fit to the transformed use data as a function of the date the data were collected. From this regression, the expected results and estimated prediction variances ($s^2_{pred3+}$) were calculated at the midpoints of FY2005 and FY2006 (i.e., April 1 in each case).

- For substance, grade, and coalition combinations with less than three points, it was not possible to estimate both a regression slope and a model variance. To develop predictions for these coalitions, the entire set of transformed use data were separated into the three substances and linear models with random intercepts for each coalition were fit to produce slope estimates by grade and date for each substance. This statistical model is more general because it assumes a common slope of use versus date for each substance and grade combination. However, it does take advantage of the available use data (even if only one measurement) to identify differences in results by coalition. From this model, expected results and estimated prediction variances ($s^2_{pred(1-2)}$) were determined at the midpoints of FY 2005 and FY2006 for each substance, grade, and coalition not covered by an individual model decribed above. Additionally, these models were used to identify a representative residual variance ($s^2_{res}$) of all data for each substance.

The modeled and predicted Past 30-Day Use observations were combined so that only one data value was assigned for FY2005 and FY2006 separately for a given combination of substance, grade, and coalition. Additionally, a weight was assigned to each final value. The selection of these values and the corresponding weights were determined as follows:

- If there was a measured value with a collection date in FY 2005 or FY 2006, the actual reported value for Past 30-Day Use was used in the statistical analysis. The weights for these observations were set to 1.

- If there were no reported Past 30-Day Use outcomes in FY 2005 or FY 2006, but the substance, grade, and coalition combination had at least three historical data points, the predicted value for the fiscal year from an individual linear model fit for that coalition was used. The weight was calculated as $s^2_{res} /(s^2_{pred3+} + s^2_{res})$, where $s^2_{pred3+}$ is the prediction error variance for that one particular substance, grade, and coalition.

- If there were no reported Past 30-Day Use outcomes in FY 2005 or FY 2006 and the substance, grade, and coalition combination had only one or two data points, the predicted value for the fiscal year from the more general linear model fit to all historical outcomes (i.e., the common slope model) was used. The weight was calculated as $s^2_{res} /(s^2_{pred(1-2)} + s^2_{res})$.

All transformed proportions were returned to their original units. Predicted values from the models had no associated sample size. For these cases, a sample size (by substance and grade) was assigned based on the average among coalitions that did have observed sample sizes.

The final result of this process was that a separate Past 30-Day Use outcome was established for each substance, coalition, and grade in each of the two reporting periods; FY2005 and FY2006. In addition to the outcome, each observation had a corresponding sample size and weight.

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### *C.2.1.2 Accessing the Accuracy of the Imputation Process*

The methodology of Section C.2.1.1 produced predicted results for each substance, grade, and coalition at each of FY2005 and FY2006 whether or not a measured value was available. This fact provided a means to evaluate the appropriateness of the imputation methodology. For each combination of substance, grade, coalition, and year for which both an observed and a predicted value were available, the two measurements were plotted against each other. Alcohol, Tobacco, and Marijuana observed versus model predicted values are shown in Figures C-5, C- 6, and C-7, respectively. Each graph has a diagonal line to show equality between observed and predicted values. If points are clustered closely around this line, it provides evidence that the model prediction is consistent with the observed data. Important to the current analysis, this may be interpreted as a positive indication that the model predicted values imputed for missing observed data are reasonable.

From the plots, it appears the imputation technique was appropriate from the perspective of matching the known results in most cases. It was noted that there are a number of cases where the observed data for tobacco and marijuana (and to a lesser extent alcohol) fall significantly above the line, indicating that the model predictions were significantly less than the actual observed values. These observations generally corresponded to very high use levels (especially for tobacco and marijuana), which upon further investigation seemed likely to represent extreme observations in the original reported Past 30-Day Use rather than any inadequacy of the prediction models. Regardless, the number of such points is still quite small relative to the total number of observations.
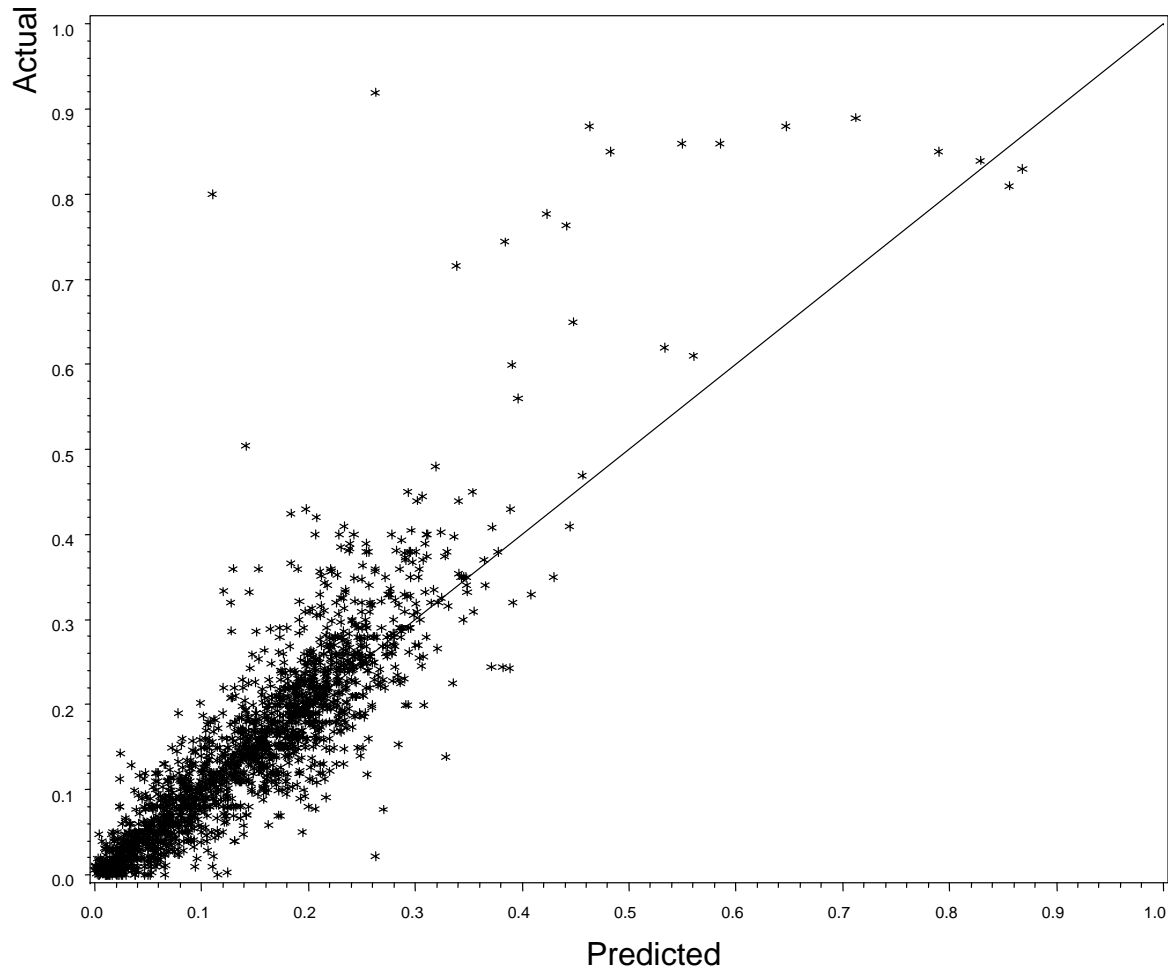
**Figure C-5.     Imputed Outcomes for Past 30-Day Use for Alcohol are Comparable to Actual Reported Outcomes.**
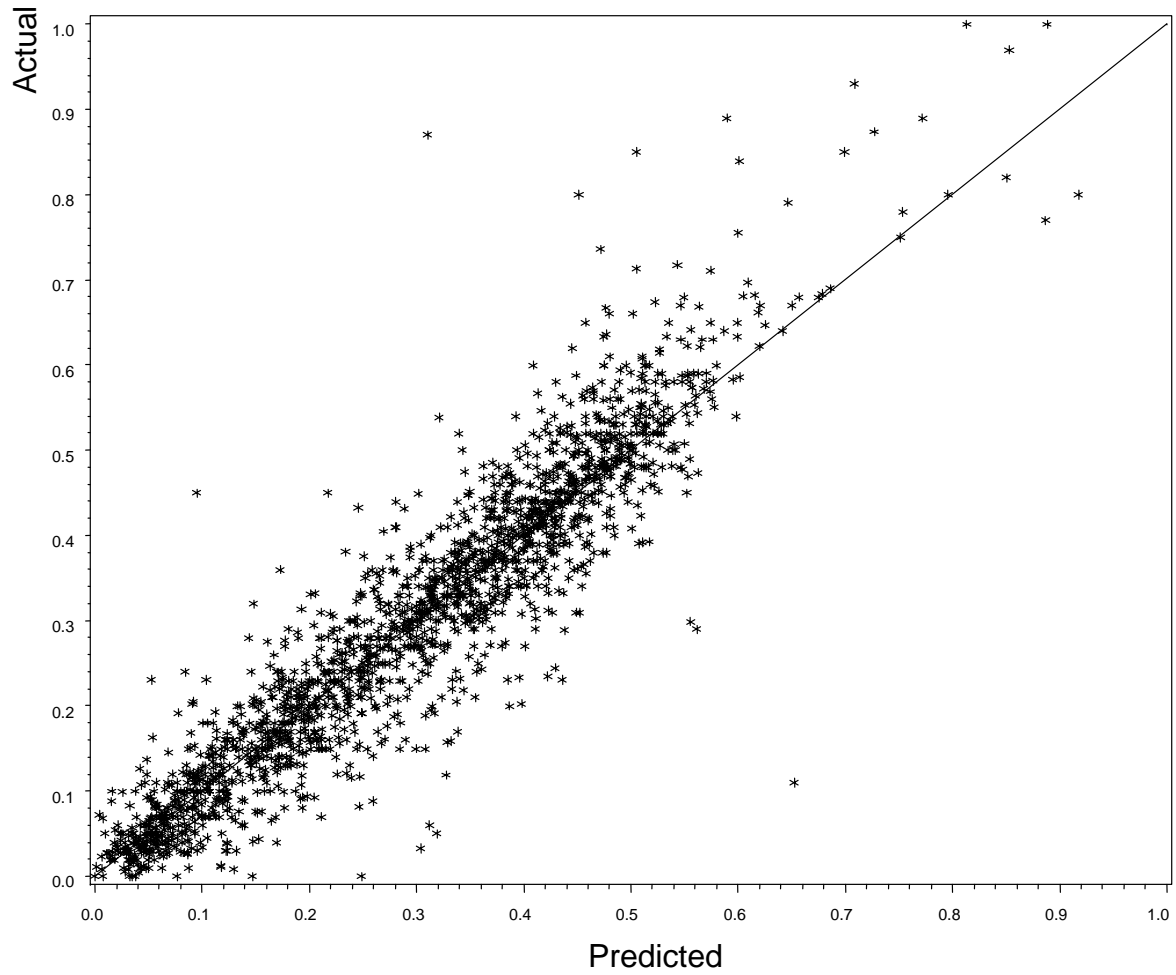
**Figure C-6    Imputed Outcomes for Past 30-Day Use for Tobacco are Comparable to Actual Reported Outcomes.**
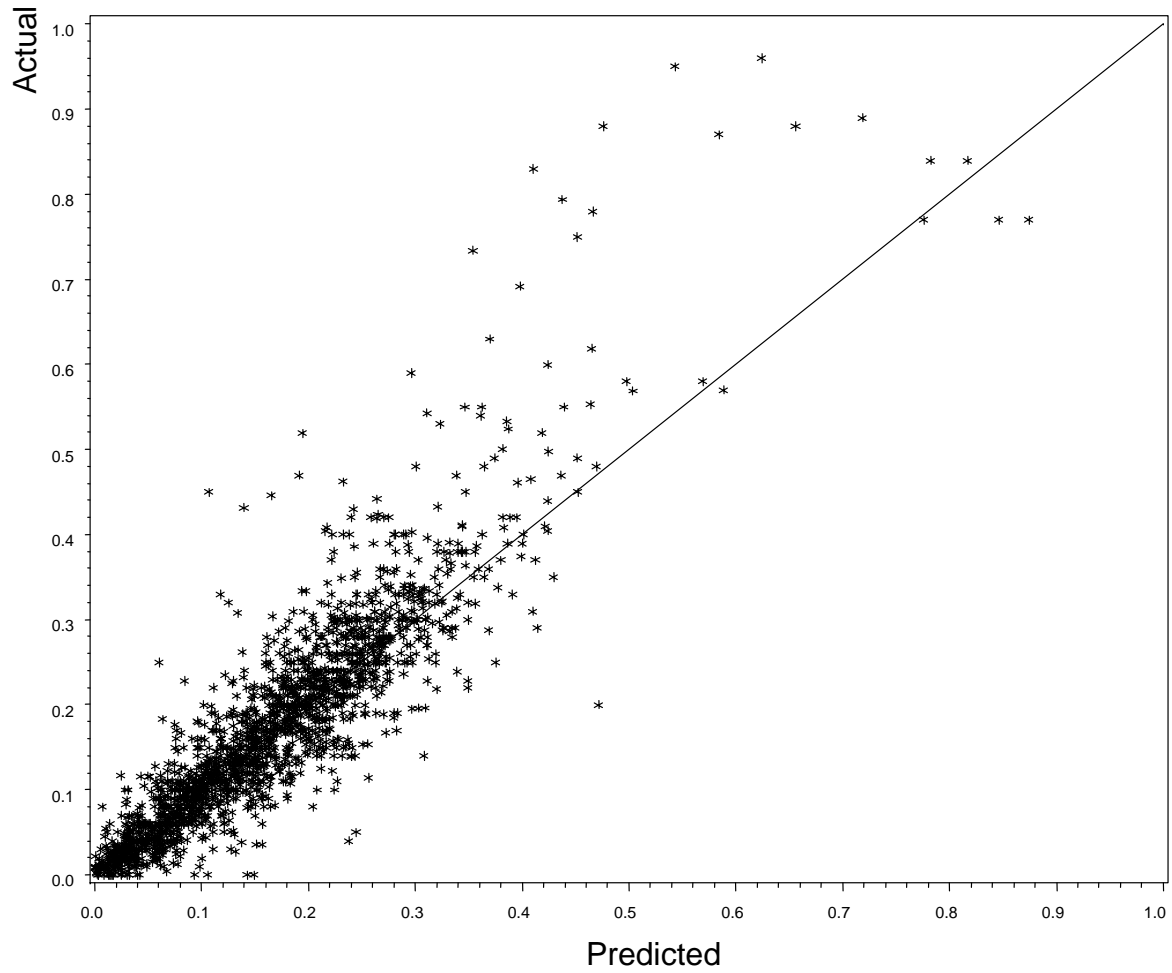
**Figure C-7     Imputed Outcomes for Past 30-Day Use for Marijuana are Comparable to Actual Reported Outcomes.**



## C.2.2 Determining Factors Related to Past 30 Day Use

A primary goal of this evaluation was to determine if there were specific factors of the DFC support program that are related to Past 30-Day Use of DFC substances, and if so, to quantify the magnitude of these associations. The sources for candidate factors were general characteristics of the coalitions and specific plans, activities, and objectives of the coalitions. These were self-reported data related to the management tools and progress reporting in FY2005 and FY2006.

In Section C.2.2.1, analysis results are shown where factors are examined individually. In Section C.2.2.2, analysis results are shown for a "best" model that explains the observed variability of the use statistics as a function of multiple factors. Each type of analysis adds to the total understanding of the evaluation. In both sections, statistical models known as generalized linear mixed models are fit to the data. Separate models are fit to each substance. Since the results of Past 30-Day Use are represented as a proportion and all observations have an associated sample size (either actual or estimated), a logistic regression model was utilized for all models. All models followed the same general form:

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$$y = \mathrm{logit}(p) = \ln\frac{p}{1-p} = \mu + \beta X + \varepsilon$$

In these analyses, the *X* vector includes either one or more factors of interest as well as two covariates. From initial analysis, it was determined that results are strongly related to the grade level (i.e., higher observed use for higher grades). Hence, these two factors were included as fixed effects in every model run.

The error term captures random variability about the model. For these analyses, we expect that results may vary depending on the coalition reporting them and the period for which they apply (i.e., FY2005 or FY2006). Because we are not interested in making inferences about the results for a particular coalition or time period, these sources of variability are treated as a random component of the error. One final element of these models was to account for model overdispersion through use of marginal variance-covariance estimates and a "sandwich" estimator, which provides additional robustness when the data are inherently highly variable and the actual nature of the correlation between observations reported by the same coalition are not known.

### C.2.2.1 Unconditional Analysis of Factors of Interest

Information from progress reports and the Coalition Classification Tool data for FY2005 as well as the COMET data for FY2006 were examined to determine the aspects of Assessment, Capacity, Planning, Implementation, and Evaluation that could be coded into variables that might be explanatory of Past 30-Day Use. This exercise produced a set of 62 program factors. Some of these were numerical measurements (mostly integer counts), some were binomial (e.g., yes or no), and some were categorical factors. The categorical factors were mostly ordinal (i.e., some order implied such as smaller to larger).

To perform an initial analysis of potential factors of interest, each of the 62 candidate program factors was fit separately to an alcohol, tobacco, and marijuana model as described in Section C.2.2. Those factors whose p-value for the overall F-test of statistical significance showed a value of 0.2 or lower were considered to be potentially associated with Past 30-Day Use data and were considered for further analysis. Table C-6 shows results for the 43 factors that met this criterion. The table shows the estimated odds ratios for higher Past 30-Day Use of each observed level of categorical factors compared to a reference level with statistical significance denoted by bolding of the results. The odds ratios are also shown for numeric factors, interpreted as the odds of higher past 30 day-use for a one unit increase in the factor. Table C-6 also contains unconditional analysis results for grade, which were generated from a model run with only these two fixed effects in the model.

### C.2.2.2 Conditional Analysis of Factors of Interest

It is desirable to build a single model for each substance that most completely explains the variability seen in the Past 30-Day Use proportion data as a function of factors of interest as discussed in Section C.2.2.1. Producing such a model presents some challenges in this analysis.

> **Challenge 1**: Building a regression model with multiple predictor variables usually involves either sequentially adding or removing variables from a model and checking the change in overall model fit at each step to determine whether the candidate variable should be left in or removed as well as perhaps reevaluating other variables already in the

model. For a generalized linear mixed model of the form used in this analysis, no generally accepted standard process for performing this procedure exists.

**Challenge 2**: For any stepwise process that is defined, the fact that there are up to 43 candidate factors for the model means that the number of sequential models that could be considered (i.e., every ordering of 43 separate variables = 43! or $6\times10^{52}$) is beyond the computing capacity available for this analysis.

**Challenge 3**: Many of the factors identified in Section C.2.2.1 are highly correlated with each other. If models are constructed that contain these highly correlated variables, a phenomenon known as multicollinearity exists. This effect can lead to misleading results both in the magnitude (and direction) of influence of factors.

To overcome these challenges, the following modeling procedures were used:

**Approach to Address Challenge 1**: A stepwise regression approach was defined to start with a base model consisting of just the fixed grade and outcome source effects (which remain in the model regardless of what else happens) and then adding variables to the model sequentially. If the p-value for the F-test of a new variable in the model was greater than 0.1, the variable was not added to the model, the existing model remained, and the next variable in order was considered. If the p-value for the F-test of the new variable was less than or equal to 0.1, this factor was added to the model. Also, any previously included variable whose F-test p-value has increased above 0.1 was permanently removed from the model. This approach resulted in just one pass through the potential predictor variables. At the end of the stepwise process, the overall model adequacy was measured by the model statistic of Generalized Chi-Square divided by degrees of freedom.

**Approach to Address Challenge 2**: To address the unmanageably large number of possible models that could be examined in this stepwise approach (i.e., every possible sequential ordering of the variables of interest), a subset of 1000 randomly selected variable orders was produced and run through the model for each substance. The final model was then selected from among the 1000 separate run results. After completion of the stepwise analysis, the 1000 runs only produced 10 unique models for alcohol, 22 for tobacco, and 20 for marijuana.

**Approach to Address Challenge 3**: Multicollinearity was addressed both before and after performing the modeling. First, some variables from among those identified in Section 6.2.2.1 above were known by definition to be highly related (e.g., Target_alcohol, Target_tobacco, Target_marijuana, and Target_all_DFCdrugs). In these cases, the collinear variables were reduced to just one variable (e.g., Target_all_DFCdrugs). In other cases, the collinearity was more subtle, may have involved more than two factors, and may not have had a clear indication of which variables to include and which to exclude. In these cases, all variables were allowed in the stepwise modeling. However, a best model from among the 1000 runs described above was selected to avoid cases with serious collinearity. This collinearity was evaluated in two ways: (1) large changes in model coefficients (especially switching signs) from one run to another were taken as a sign of collinearity and (2) the coefficients for the final proposed multi-factor models were compared to those of the single factor

models documented in C.2.2.1 with consistency being interpreted as a strong sign of no collinearity.

Of the 43 potential variables defined in Section C.2.2.1 as potentially explanatory of Past 30-Day Use, 22 of them were removed before performing the stepwise procedure of the 1000 runs per substance as described above. These removals were partly a result of multi-collinearity but there were also a number of variables that were not considered because they were only measured in one or the other of the two reporting periods for this evaluation (e.g., all factors extracted from the CCT were only associated with FY 2005).

The selection of a final model from among the 1000 produced for each substance in this evaluation ended up balancing several different factors:

- Selection of a model that exhibited a good overall model fit in the form of a low Generalized Chi Square divided by Degrees of Freedom;

- Selection of a model in total that resulted more frequently and in a model whose significant factors appeared most frequently across all models;

- Selection of a model with apparently mutually independent (i.e., not collinear) variables.

## C.3 Analysis of the "Most Successful" Coalitions

The approach to assessing and comparing the characteristics of coalitions that are the "most successful" to all other coalitions was conducted using standard descriptive statistics, as well as trend lines as described in Section C.2.  In a general sense, we define the "most successful" coalitions to be those coalitions that reported the largest positive changes in one or more substance abuse outcomes in their target communities.  However, appropriately identifying these coalitions requires more than a simple comparison of baseline to current past 30-day use as every coalition has a unique baseline level.

Our approach for identifying the most successful coalitions was to statistical compare the estimated *rates* of decline in past 30-day use for each coalition to the average rate of decline in past 30-day use estimated over all DFC coalitions. That is, we identified those coalitions that had annual rates of decline in past 30-day use that were significantly greater than the "average" DFC coalition. Implementing this methodology involved fitting a trend line using linear regression on the arcsine transformed outcomes as described in Section C.1 for each substance to characterize the average rate of decline in past 30-day use per year across all DFC coalitions.  However, a single trend was estimated for all grades combined (i.e., a year by grade interaction was not included in this model).  In the context of this regression line, the estimated beta parameter associated with the year that the outcome measure was reported represents the estimated rate of decline over time averaged over all DFC coalitions.  A one-sided 95% confidence interval for the estimated beta coefficient was calculated using the standard normal theory methods.  Next, separate linear regression trend lines were fit for each DFC coalition to derive coalition-specific estimates of the annual rates of decline. Coalitions where the individual estimated rates of decline exceeded the upper limit of the one-sided confidence interval for the average rate of decline over all DFC coalitions were considered to have rates of decline that were significantly different than the "average" DFC coalition and were subsequently characterized as the "most successful" coalitions.

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As separate regression models were estimated for each substance, it was possible for any given coalition to be identified as a "most successful" coalition from one, two, or all three of the individual substance models. Regardless, any coalition that was identified in at least one substance as having individual rates of decline higher than the average rate for all coalitions were considered to be a most successful coalition. Ultimately, 52 unique coalitions were identified as most successful coalitions with 29 of these coalitions identified by only one substance, 14 identified in two substances, and 9 identified in all three substances.

Statistical analysis to compare the characteristics of the most successful coalitions (e.g., goal attainment, involvement of key community leaders, true collaborative efforts, etc.) to other DFC coalitions were conducted on two types of variables. First, composite variables were created by averaging responses across several characteristics. For example, an average "task" score was created by averaging over the 15 sub-items in the Coalition Classification Tool related to the ability of the coalition to conduct specific tasks. In every case, the original variables that were averaged were based upon the same Likert-type scale. Because it is possible that true differences can be masked by compositing, we also examined differences for each individual characteristic.

Two types of statistical techniques were employed to identify significant differences between the most successful coalitions and all other DFC coalitions. First, t-tests were utilized to compare the scored values for a characteristic of interest. The use of a t-test for Likert scale characteristics assumes that the Likert scale is a surrogate for an unobserved underlying continuous variable whose value characterizes the coalition's attributes and opinions. This technique is commonly utilized to assess five-point Likert scales and researchers have demonstrated that these tests can be appropriate and yield meaningful results, even in the case of severe departures from the assumption of intervalness[2]. Still, other researchers[3] point out that an additional criteria is that the responses do not "clump" onto the extreme ends of the Likert scale for a given comparison group (e.g., 50% of most successful coalitions indicating strong disagreement while the other 50% of most successful coalitions indicate strong agreement). Frequency analyses of each characteristic indicates that this assumption is reasonable. Characteristics where the one-sided p-value was less than 5% (i.e., 95% confidence tests) were considered to indicate statistical significance.

The use of t-tests for Likert-type characteristics where the number of response categories is relatively small (e.g., 'always,' 'sometimes,' 'never') can also lead to misleading results as there is more opportunity for the discrete nature of the Likert data to unduly influence the test statistics. Therefore, for these characteristics, we conducted the analysis using a Chi-Square test statistic based upon a cross-classification table. This test statistic does not assume ordinality of the response categories compares the distribution of responses across all categories between the most successful and the remaining coalitions. Because no assumptions are made, Chi-Square tests are generally less able to identify significant differences than are t-tests. Therefore, lack of significance should not be interpreted to mean that a significant relationship does not exist. Rather tests that were not identified as significant indicate that the statistical test procedure cannot identify a significant relationship with the amount of data available.

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[2] Jaccard, J., Wan, C. (1996). 'LISREL Approaches to Interaction Effects in Multiple Regression," Thousand Oaks, CA: Sage Publications.
[3] Clason, D., Dormondy, T. "Analyzing Data Measured by Individual Likert-Type Items," Journal of Agricultural Education, Volume 35, No. 4.

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**Table A-8.    Significant Differences Between Successful and Other DFC Coalitions**

| Question | Scale | Successful Coalitions | | Other DFC Coalitions | | |
|---|---|---|---|---|---|---|
| | | **Mean** | **StdErr** | **Mean** | **StdErr** | **p-value** |
| Coalitions self-rated ability to use evaluation to inform their coordination of prevention programs/ services | Five point Likert scale (from primarily learning to mastery) | 3.25 | 0.128 | 2.97 | 0.045 | 0.023 |
| Impact of internal conflicts on the Coalition (Conflict transformation) | Five point Likert scale (from a lot worse off to a lot better off) | 3.89 | 0.158 | 3.6 | 0.036 | 0.041 |
| Coalition has staff representative of the demographic and cultural diversity in community | Five point Likert scale (from strongly disagree to strongly agree) | 4.06 | 0.143 | 3.76 | 0.043 | 0.026 |
| Coalition decision making ability | Composite score of five Likert scale questions about coalition's ability to make decisions (from strongly disagree to strongly agree) | 2.51 | 0.045 | 2.44 | 0.013 | 0.049 |
| Coalition objective attainment | Likert 1 to 5 (from not complete the objective to exceeded objective) | 3.32 | 0.211 | 2.87 | 0.044 | 0.021 |
| Number of evaluation activities conducted by coalition | Count of the number of activities | 3.88 | 0.445 | 4.72 | 0.194 | 0.043 |
| Number of collaborative activities conducted by coalition | Count of the number of activities | 5.77 | 0.732 | 8.06 | 0.473 | 0.005 |
| Question | Scale | Successful Coalitions | | Other DFC Coalitions | | |
| | | **%** | **n** | **%** | **n** | **p-value** |
| Coalition reviews and uses local outcome data for program planning purposes | Yes or No | 100% | 36 | 90.6% | 455 | 0.05 |
| Coalition experienced conflicts caused by personal differences | Yes or No | 13.9% | 5 | 34.5% | 194 | 0.01 |
| Coalition experienced conflicts causes by turf issues | Yes or No | 11.1% | 4 | 29.5% | 166 | 0.02 |

**Table A-9.      Significant Differences Between Most Successful and Other DFC Coalitions**

| Question | Scale | Most Successful Coalitions | | Other DFC Coalitions | | p-value |
|---|---|---|---|---|---|---|
| | | Mean | StdErr | Mean | StdErr | |
| Coalition has a developmental plan for continued leadership | Five point Likert scale (from strongly disagree to strongly agree) | 3.89 | 0.227 | 3.48 | 0.041 | 0.046 |
| Coalition has planned to use primarily evidence-based strategies | Five point Likert scale (from strongly disagree to strongly agree) | 4.28 | 0.158 | 3.96 | 0.034 | 0.033 |
| Coalitions self-rated ability to conduct assessment activities to inform their intermediary or community support | Five point Likert scale (from primarily learning to mastery) | 3.17 | 0.202 | 2.74 | 0.041 | 0.027 |
| Number of evaluation activities conducted by the coalition | Count of the number of activities | 3.28 | 0.523 | 4.71 | 0.189 | 0.009 |
| Coalitions self-reported confidence that they can develop new leaders | Five point Likert scale (from not confident to very confident) | 3.72 | 0.177 | 3.4 | 0.037 | 0.048 |
| Question | Scale | Most Successful Coalitions | | Other DFC Coalitions | | p-value |
| | | % | N | % | N | |
| Coalition experienced conflicts causes by turf issues | Yes or No | 0.0% | 0 | 29.3% | 170 | 0.007 |
| Coalition reviews and uses local outcome data for program planning purposes | Yes or No | 100% | 36 | 90.6% | 455 | 0.05 |

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