National Outcome Evaluation Findings from the AIDS Education and Training Center Program

AETC Funding Year 2011-12

Report Prepared by the AETC National Evaluation Center
BACKGROUND
The AIDS Education and Training Center (AETC) Program is the training arm of the federal Ryan White HIV/AIDS Program. The AETC Program is a national network of HIV clinical and health care experts who provide locally based education, clinical consultation and technical assistance to healthcare professionals and organizations seeking to integrate high-quality, comprehensive care for those living with HIV, affected by HIV, or those at risk of HIV infection. HIV care is a complex, rapidly evolving field and ongoing, high-quality training and support rooted in the latest evidence-based research is essential for clinicians who care for people living with HIV (PLWH).

Given the emphasis on improving access to care and health outcomes for PLWH reflected in the National HIV/AIDS Strategy (NHAS) for the United States\(^1\), and the central role of HIV care providers in this effort, it is important to assess AETC efforts to strengthen the skill and practice behaviors of clinicians trained. This brief presents results from a national outcome evaluation conducted during AETC funding year period July 1, 2011 to June 30, 2012 (“2011-12”) to assess the effect of training on improvements in skills and implementation of newly acquired skills six weeks after attending an AETC training event.

METHODS
The AETCs are mandated to collect standardized data characterizing their training programs and participants (“Process data”) and data measuring the effects of trainings on participants (“Outcomes data”).

Process Data Methods
The AETCs submit process data files to the HIV/AIDS Bureau of the Health Resources and Services Administration (HRSA/HAB) on an annual basis. The two forms used by the AETCs to measure information on their training activities include the Event Record (ER) and the Participant Information Form (PIF). The ER contains information on each activity, such as topics covered, number of people trained, and funding source (the AETCs receive special funding from several federal sources). The PIF captures self-reported information from the individuals who attend an event — including their profession, primary role, employment setting, and the characteristics of the HIV-infected population they serve.

For this analysis, the national process datasets of 2011-12 were provided by HRSA/HAB to the AETC NEC. Participant information was linked to training event records using regional AETC codes, program ID, and local performance sites (LPSS). In 2011-12, AETCs delivered a total of 14,445 training events to 58,598 distinct trainees, of whom 13,190 were repeat trainees. Approximately 52% (n = 30,394) of trainees provided direct services to HIV-infected patients, 64% (n = 37,461) of trainees were priority provider types (physicians, physician assistants, advanced practice nurses, registered nurses, dentists and other dental professionals, and pharmacists; provider types generally prioritized for training by the AETCs because of their ability to impact clinical care. Non-priority providers, hereafter referred to as “other provider types,” include mental/behavioral health professionals, social workers, substance abuse professionals, and other non-clinical professionals), and 42% (n = 24,301) of trainees identified as racial/ethnic minorities (categorized as those self-reporting American Indian/American Native, Asian, Hispanic, Multiracial, Native Hawaiian/ Pacific Islander, and Black race; non-Hispanic White providers with only a single race indicated were categorized as non-minority providers).

Outcome Evaluation Methods
The AETCs collaboratively developed an instrument that measures improvements in and implementation of the following constructs: 1) patient assessment, 2) patient education, 3) interpretation and application of lab results, 4) prescribing and/or dispensing of medications, and 5) diagnostic skills. This outcome survey, the AETC Cross-Region Evaluation instrument version 3.0, included question branching to target skill improvement and implementation questions to trainees that provide direct services to HIV-infected patients (i.e., our entire sample is comprised of trainees that indicated they were direct HIV service providers on the survey). The evaluation questions on improvement and implementation were measured on a Likert-type 1-5 rating scale, from strongly disagree to strongly agree. Trainee email addresses were collected at the training and subsequently entered into an AETC data collection management system (Virtual Forum is used by 10 sites and a regional data collection system is used by 1). The system generated an email with a link to the survey six weeks after the training event. Although 2,530 clinical skills-building training events were eligible for this outcome evaluation, AETCs administered it across 398 eligible AETC training events. Among emails sent to participants, there was an estimated average response rate of 25%.

Outcomes data for the analytic period were extracted from Virtual Forum or provided by region using an alternate data collection system. We combined evaluation outcome records to create a national dataset and appended event and trainee characteristics derived from the process datasets to the associated evaluation records using the regional AETC codes, program ID, LPS, and participant ID code as linking variables. For repeat trainees, the latest eligible record during the analytic period from 2011-12 was used for analyses. The five skill categories were distilled to three main outcomes of interest: 1) Patient Education, 2) Patient Assessment, and 3) Clinical Care Skills. Patient Education and Patient Assessment were measured directly by the corresponding survey questions; for the Clinical Care Skills category, survey question responses on lab interpretation, diagnostic, and medication management skills were combined. We categorized trainees who agreed or strongly agreed that they improved or implemented all three of those skills as having improvement or implementation of Clinical Care Skills. Chi-square tests were conducted to assess the relationship between skill improvement and implementation with the characteristics of trainees. Specifically, we compared the proportion of trainees who reported skill improvement (“agree” or “strongly agree” that skills improved because of training) and implementation of newly acquired skills (“agree” or "strongly agree" that they have used the skills they learned in the training) with:

1. Priority provider trainee types to other trainee types;
2. Racial/ethnic minorities to non-Hispanic White trainees; and
3. Repeat trainees (i.e., trainees who attended more than one training event during AETC funding year 2011-12) to non-repeat trainees.

Minority AIDS Initiative Evaluation Methods
The AETC network receives additional targeted funding to increase organizational capacity and expand HIV care services available in minority communities through the US Minority AIDS Initiative (MAI). We employed the same methods as described above to evaluate MAI-funded AETC trainings. We restricted the sample for this evaluation to MAI-funded training events and trainees who attended them. In 2011-12, AETCs delivered a total of 4,784 MAI-funded training events to 18,180 distinct trainees, of whom 4,834 were repeat trainees. Over 57% (n = 10,411) of these trainees provided direct services to HIV-infected patients, 54% (n = 9,790) of trainees were priority provider types, and 52% (n = 8,005) of trainees identified as racial/ethnic minorities. Follow-up surveys were emailed to trainees and our sample included 295 direct HIV service providers who attended at least one of 114 MAI-funded
AETC training events. An MAI-specific response rate was not available for this funding period; however, the overall response rate was approximately 25%.

OVERALL OUTCOME EVALUATION RESULTS
We first present findings from our analysis of the national AETC program, which includes all funding sources, and next present findings from MAI-funded AETC trainings delivered nationally. Ninety percent (799/885) of direct HIV service provider trainees reported agreeing or strongly agreeing that they had improved at least one of the five skills measured. Graph 1 illustrates the main bullet points below on self-reported skill improvement as a result of AETC training:

- 84% of all respondents reported IMPROVED PATIENT EDUCATION SKILLS
  - Minority HIV providers were more likely to report improved skills compared to their White provider counterparts (89% vs. 82%, respectively; p < 0.05).
  - Other provider types (e.g., mental/behavioral health professionals, social workers, substance abuse professionals, and other non-clinical professionals) were more likely to report improved skills compared to their priority provider counterparts (91% vs. 80%, respectively; p < 0.05).

- 76% of all respondents reported IMPROVED PATIENT ASSESSMENT SKILLS
  - Minority HIV providers were more likely to report improved skills compared to their White provider counterparts (84% vs. 72%, respectively; p < 0.05).
  - Other provider types were more likely to report improved skills compared to their priority provider counterparts (82% vs. 72%, respectively; p < 0.05).

- 44% of all respondents reported IMPROVED CLINICAL CARE SKILLS
  - Minority HIV providers were more likely to report improved skills compared to their White provider counterparts (54% vs. 39%, respectively; p < 0.05).
  - Priority provider types were more likely to report improved skills compared to their other provider counterparts (47% vs. 39%, respectively; p < 0.05).
Eighty-seven percent (758/873) of direct HIV service provider trainees reported agreeing or strongly agreeing that they had implemented at least one of the five skills measured. Graph 2 illustrates the main bullet points below on self-reported skill implementation as a result of AETC training:

- **81% of all respondents reported IMPLEMENTATION OF PATIENT EDUCATION SKILLS**
  - Minority HIV providers were more likely to report skills implementation compared to their White provider counterparts (86% vs. 77%, respectively; p < 0.05).
  - Other provider types were more likely to report skills implementation compared to their priority provider counterparts (89% vs. 75%, respectively; p < 0.05).

- **64% of all respondents reported IMPLEMENTATION OF PATIENT ASSESSMENT SKILLS**
  - Minority HIV providers were more likely to report skills implementation compared to their White provider counterparts (74% vs. 58%, respectively; p < 0.05).
  - Other provider types were more likely to report skills implementation compared to their priority provider counterparts (69% vs. 60%, respectively; p < 0.05).

- **44% of all respondents reported IMPLEMENTATION OF CLINICAL CARE SKILLS**
  - Minority HIV providers were more likely to report skills implementation compared to their White provider counterparts (52% vs. 38%, respectively; p < 0.05).
  - Repeat trainees were more likely to report skills implementation compared to their non-repeat trainee counterparts (48% vs. 40%, respectively; p < 0.05).
MINORITY AIDS INITIATIVE OUTCOME EVALUATION RESULTS

Eighty-nine percent (221/249) of direct HIV service provider trainees attending MAI-funded AETC training, hereafter referred to as “MAI respondents,” reported agreeing or strongly agreeing that they had improved at least one of the five skills measured. Graph 3 illustrates the main bullet points below on self-reported skill improvement as a result of MAI-funded AETC training:

- **87%** of MAI respondents reported **IMPROVED PATIENT EDUCATION SKILLS**
  - Minority HIV providers were more likely to report improved skills compared to their White provider counterparts (94% vs. 82%, respectively; p < 0.05).
  - Other provider types were more likely to report improved skills compared to their priority provider counterparts (91% vs. 83%, respectively; p < 0.05).
- **77%** of MAI respondents reported **IMPROVED PATIENT ASSESSMENT SKILLS**
  - Minority HIV providers were more likely to report improved skills compared to their White counterparts (84% vs. 70%, respectively; p < 0.05).
- **48%** of MAI respondents reported **IMPROVED CLINICAL CARE SKILLS**
  - Priority provider types were more likely to report improved skills compared to their other provider type counterparts (55% vs. 41%, respectively; approaching significance at p = 0.054).
Eighty-seven percent (212/244) of direct HIV service provider trainees attending MAI-funded AETC training reported agreeing or strongly agreeing that they had implemented at least one of the five skills measured. Graph 4 illustrates the main bullet points below on self-reported skill implementation as a result of AETC training:

- **83% of MAI respondents reported IMPLEMENTATION OF PATIENT EDUCATION SKILLS**
  - Minority HIV providers were more likely to report skills implementation compared to their White provider counterparts (89% vs. 78%, respectively; p < 0.05).
  - Other provider types were more likely to report skills implementation compared to their priority provider counterparts (88% vs. 76%, respectively; p < 0.05).

- **68% of MAI respondents reported IMPLEMENTATION OF PATIENT ASSESSMENT SKILLS**
  - Minority HIV providers were more likely to report skills implementation compared to their White provider counterparts (77% vs. 61%, respectively; p < 0.05).

- **45% of MAI respondents reported IMPLEMENTATION OF CLINICAL CARE SKILLS**
  - Minority HIV providers were more likely to report skills implementation compared to their White provider counterparts (54% vs. 36%, respectively; p < 0.05).
Graph 4. Skill Implementation Self-Reported by HIV Providers (N = 295) as a Result of MAI-funded AETC Training

SUMMARY OF OVERALL FINDINGS
In 2011-12, the national AETC network delivered 14,445 training events, of which 4,784 were focused on MAI capacity-building programming, to increase HIV providers’ knowledge and capacity in alignment with the key goals of NHAS (to reduce new HIV infections, increase access to care and improve health outcomes, and reduce HIV-related disparities for PLWH). HIV programs, such as the national AETC program, support the goals of NHAS by training and educating clinicians on various topics of HIV care and treatment in an effort to strengthen and develop the HIV workforce and achieve optimal health outcomes for PLWH. Our findings indicate the AETC Program is having an impact on the development of the HIV workforce by building the skills of HIV service providers to deliver high quality care to people living with HIV.

The majority of AETC trainees reported improvements in skills and implementation of newly acquired skills 6 weeks after training. Among our entire sample, 90% of direct HIV service provider trainees reported agreeing or strongly agreeing that they had improved at least one of the five clinical skills measured; 80% reported agreeing or strongly agreeing that they had implemented at least one of the five clinical skills measured. Among our MAI sample, 89% of direct HIV service provider trainees attending MAI-funded AETC training reported agreeing or strongly agreeing that they had improved at least one of the five clinical skills measured; 87% reported agreeing or strongly agreeing that they had implemented at least one of the five clinical skills measured.

Key Overall Findings
- Our analyses indicate the strongest levels of both improvement and implementation were observed for patient education skills, meaning more direct HIV service providers are educating their HIV-infected patients on clinical matters as a result of AETC training and education.
- Minority HIV providers reported gaining the most benefits from AETC training, regardless of
funding source, as they reported statistically significant improvements in skills and implementation of newly acquired skills across the majority of our outcomes of interest.

- **Other types of HIV providers** - those outside of the priority provider group, such as mental/behavioral health professionals, social workers, substance abuse professionals, and other non-clinical professionals - also reported statistically significant improvements in skills and implementation of newly acquired skills across many of our outcomes of interest.