

# Using Web-based Patient Vignettes to Measure HIV Clinical Training Effectiveness

Janet Myers, PhD, MPH, Oliver Bacon, MD, MPH, Richard Vezina, MPH, and Jack Rodnick, MD  
AETC National Evaluation Center and the Center for HIV Information  
University of California, San Francisco

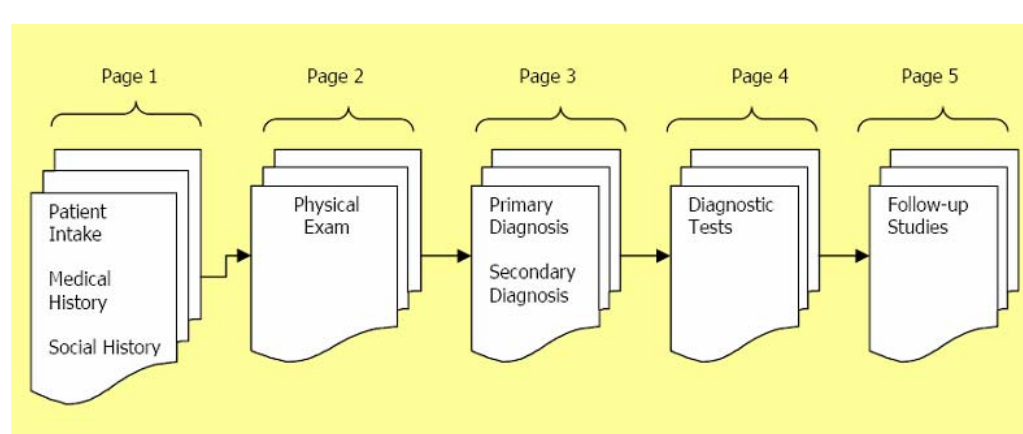
## Rationale

- The AIDS Education and Training Centers National Evaluation Center (AETC NEC) aims to increase the capacity of HIV training providers in the US to measure the outcomes of their training activities, specifically as they relate to changing the clinical practice behavior of the health care professionals trained.
- In order to measure the effectiveness of intensive, hands-on clinical training activities, the AETC NEC has developed a set of HIV clinical vignettes and an on-line tool to administer them to trainees.
- Based on methods developed, validated, and tested by John Peabody\* to measure the quality of care, we have adapted the clinical vignette approach to a longitudinal strategy.
- Each student takes one vignette before training (baseline), one immediately after training (measuring knowledge uptake) and one after the trainee has had a chance to apply training content (measuring learning).

\*Peabody JW, Luck J, Glassman P, Dresselhaus TR, Lee M. Comparison of vignettes, standardized patients, and chart abstraction: a prospective validation study of 3 methods for measuring quality. JAMA. 2000 Apr 5;283(13):1715-22.

## Anatomy of a Vignette

- To test diagnosis and evaluation skills, each vignette is divided into logical segments, consisting of different areas of a clinical evaluation. One or more of these sections may be grouped together to form a 'page' of the vignette.



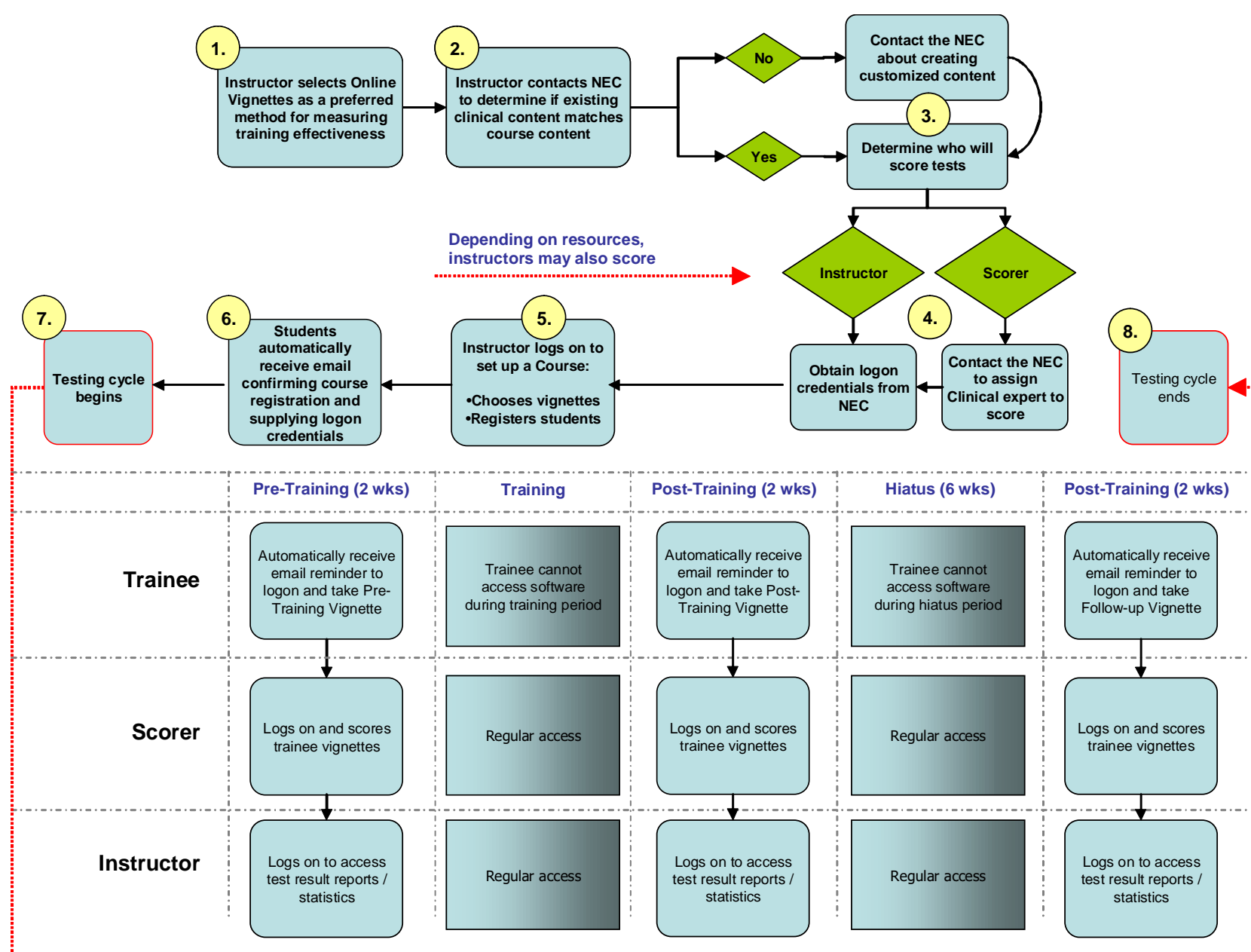
## Clinical Content Currently Available

- Currently, twelve HIV vignettes are available. The available vignettes address topics commonly covered in US AETC training, including:
  - Presenting Issues (initiating treatment and treating opportunistic infections)
  - Treating Advanced HIV (salvage therapy and resistance testing)
  - Behavioral Counseling (adherence counseling and prevention counseling for HIV patients)
- Instructors can choose a subset to match the content of their course.

Symptomatic new infection.	Patient on ART transferring care to your clinic with detectable viral load, HCV.
HIV/HBV positive IVDU patient in rehab with chronic asymptomatic HIV infection and 200-300 CD4 cells.	Pregnant woman with new diagnosis of HIV infection.
Patient with 200 CD4 cells and with a rash two weeks after starting Efavirenz/AZT/3TC.	Male patient on ART asking for Viagra prescription.
Newly-diagnosed HIV+ man with a cough, HA, and fever.	Emergency Department nurse with a needlestick.
55-yr-old male patient on PI-based ART who now has detectable viral load of 890 copies with preserved CD4 count.	Woman from Honduras with AIDS, who has started ART, and now presents with a fever, cough, malaise, weight loss, abdominal bloating.
Patient doing well on ART but with high triglycerides, glucose intolerance.	Patient with AIDS and altered mental status.

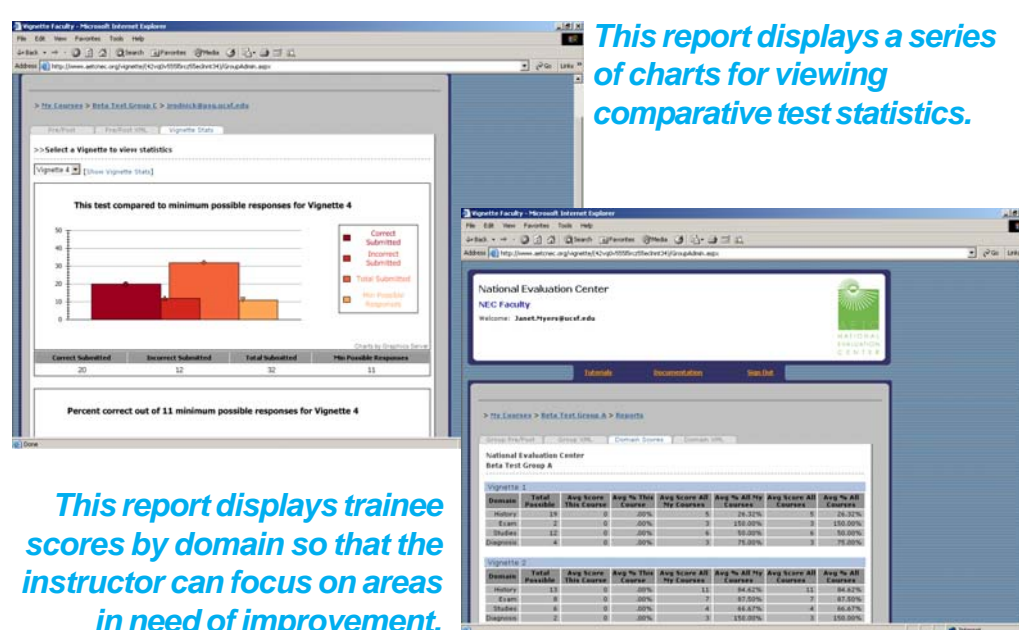
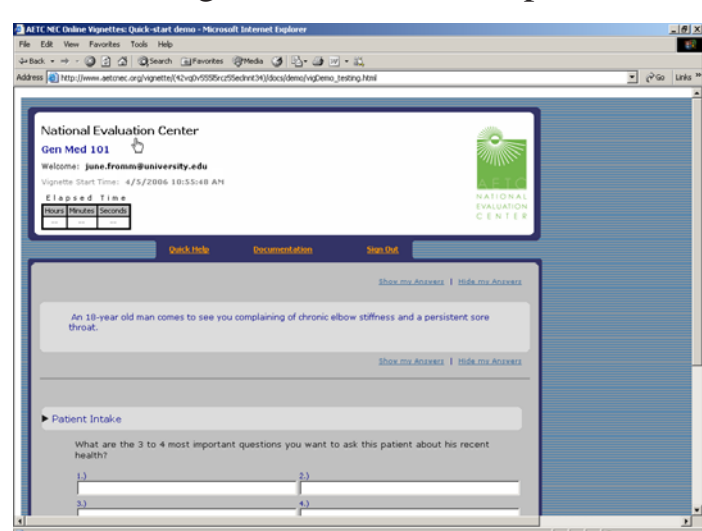
## Advantages

- Vignettes can be developed once, but used to measure the effectiveness of unlimited trainings.
- Baseline scores provide information upon which instructors can tailor training.
- Trainees receive feedback on their knowledge uptake and learning.



## The On-Line Tool

- Vignettes are administered through a website. Web hosting allows us to reach geographically diverse trainees, allows us to score vignettes centrally and facilitates rapid feedback to instructors and trainees.
- To reduce test-taking bias, trainees are assigned vignettes randomly and do not complete the same vignette twice. Each trainee completes one vignette in advance of a comprehensive HIV clinical training and a different vignette after the training.
- Features of the on-line tool include easily administered clinical vignettes, scoring tools, automated reports and statistics.



## Scoring

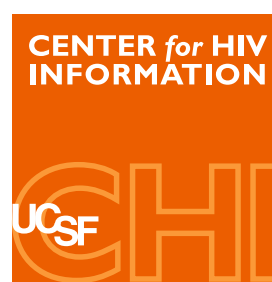
- Vignettes are scored by an expert, either the instructor teaching the course or a clinical expert with mastery of the material.
- While manual scoring is currently necessary, the system is storing correct responses that will ultimately become the unabridged set of answers that will auto-score the tests.
- Vignette scores are calibrated (0-40) to allow the same number of points and contribute equally to a total score.
- Instructors receive an aggregate (group) score for each vignette and the average total score for trainees before training and after the training. Each trainee is provided with their individual scores on each vignette after the training.

## Lessons Learned

- Compared to other methods of measuring training effectiveness, vignettes require fewer resources to develop and use.
- Vignettes are easily tailored to different learning objectives.
- Vignettes provide useful feedback to instructors and trainees.
- Web hosting improves access and is a timely and cost-effective alternative to pen-and-paper testing.

## To View a Demonstration

- To view a demonstration of how a trainee would take an online vignette, go to: [www.aetccnc.org](http://www.aetccnc.org) and click "demo."
- The directions for the "trainee" role are shown in the demo.
- Passwords to be "instructor" or "scorer" make demos available for these roles and are available from the AETC NEC.



University of California  
San Francisco

AIDS Research Institute