DEFENSE CENTERS OF EXCELLENCE
For Psychological Health & Traumatic Brain Injury

Defense Centers of Excellence (DCoE)

for Psychological Health (PH) and Traumatic Brain Injury (TBI)

Guidance for Self-Evaluating Training and Education Programs

Training & Education Directorate

5 Nov 2010

1. Introduction and Purpose 3
2. Training & Education Directorate 3
3. Development of Measurable Learning Objectives 4
3.1 Target Participant Audience 5
4. Developing Metrics 6
5. Metrics of Training Effectiveness 9
6. Data Collection 11
6.1 Timing of Data Collection 12
6.2 Return on Investment 13
7. T&E Technical Assistance 14
8. Summary 15
Appendix A - Impact of Regulation on Metrics Selection 16
Appendix B - KSA Areas of Competence 17
Appendix C - Example Post-Training Evaluation Form 18
Appendix D - Federal, State and Accrediting Agencies 20

1. Introduction and Purpose

There is an identified need for program mangers to capture effectiveness information and leverage performance data to communicate program impact. A culture of evaluation across the Services will empower training programs to develop and implement improvement plans that will ultimately enhance care for Service Members and their families. Program staff and sponsors may initiate program evaluation for many reasons, including to:

- Determine the level of contribution the program is making and progress toward accomplishing its objectives;
- Focus on the results of the program and to identify the program's strengths and areas for improvement;
- Support an understanding of the program's target audience needs and plans to set priorities to develop or market programs in the future; and/or
- Document the program components and the impact to the organization and/or audience, which can assist in making future decisions about the programs.

In this paper, the Defense Center for Excellence (DCoE) Training & Education (T&E) Directorate presents an approach that programs may use to self-evaluate, including how to select and/or develop metrics to assess the impact of psychological health (PH) and traumatic brain injury (TBI) training and education initiatives. This approach also guides program staff and sponsors to first reflect on the program mission, vision, goals and objectives, and then to develop metrics to evaluate the degree to which the program meets its objectives. Data collection will measure the program's impact.

Technical assistance supporting the identification and development of self-evaluation plans may be available to programs from the T&E Directorate, and is further described in Section 7, T&E Technical Assistance.

2. Training & Education Directorate

The T&E Directorate's mission is to promote and improve PH and TBI outcomes by identifying, coordinating, supporting the development of, and disseminating effective training and education programs for a wide range of audiences, including healthcare providers, military leaders, Service Members and their families, communities, community leaders and others. Additionally, T&E aims to be a premier resource for organizations seeking to develop education/training programs related to PH and TBI and to assist organizations with improving their programs. In pursuit of this mission, the T&E Directorate has identified three high-level goals, to:

- Connect the Services with training and education resources,
- Support the Services in the development of quality training and education programs, and
- Provide the Services with technical assistance to enhance the quality of existing training and education programs.

The essential elements of any training program are the course content, the training method and the intended outcome. The content of training can be evaluated in terms of its accuracy, comprehensiveness, and suitability for the intended audience. Furthermore, training participants are expected to change their behavior as a result of learning the new material. There is an assumption that if these new behaviors are applied, results will follow. As numerous variables contribute to performance, program staff and sponsors may find it difficult to determine whether

the program produced the intended outcome, rather than another variable. Isolating the measurable effects of training and education is necessary, as discussed in the next sections. Moreover, many training and certification programs are required to maintain some degree of regulatory compliance, and considerations for developing metrics in these situations are offered in Appendix A.

3. Development of Measurable Learning Objectives

Programs that consider metric development during curriculum development can more easily link learning objectives with performance objectives. For example, developing learning objectives based upon areas of desired competence, using the Knowledge, Skills and Attitudes (KSA) model (further detailed below, with an example in Appendix B) can be helpful when selecting metrics to evaluate the impact of the program. Learning objectives identify what the learner will know and be able to do at end of the course or rotation. It will be important to link evaluations and examinations to specific learning objectives that are clear, direct, and measureable. Moreover, objectives could reflect different levels of learning: (1) Mastery objectives typically address minimum performance standards that must be mastered before advancing to the next level of training or practice and (2) Developmental objectives that are more complex and can be more variably demonstrated across types of disorders, patients, and settings.

Learning objectives specify both an observable behavior and the object of that behavior. The structure of a learning objective includes:

- An **action** word that identifies the performance to be demonstrated
- A **learning statement** that specifies what learning will be demonstrated
- A broad statement of the **criterion** or standard that is acceptable performance
- An indication of the **timing** of the desired behavior change

In order to most effectively evaluate a program's impact, evaluations and examinations should be linked to specific, clear, direct and measureable learning objectives. To this end, programs may consider developing learning objectives based upon the above areas of competence and the knowledge, skills and attitudes model. The tables below provides examples of learning objectives for each KSA for a family medicine residency program to recognize and treat a broad range of psychological health disorders.

Table 1 - Psychological Health KSA Example

Competencies	Learning Objective
Knowledge: *DSM-IV Multi-Axial Systems for Psychiatric Diagnosis in Adults and Children*	By the end of the 2 year course, the resident will be able to recognize and articulate the criteria DSM-IV Multi-Axial Systems for Psychiatric Diagnosis in Adults and Children
Skill: *Mental Status Exam*	By the end of the 2 year course, the resident will be able to administer and score the Mental Status Exam for adults and children.
Attitudes: *Awareness of stigma (from self and others)*	By the end of the 2 year course, the resident will respect the patients' dignity, privacy, and sensitivity in the delivery of behavioral healthcare.

Table 2 - Traumatic Brain Injury KSA Example

Competencies	Learning Objective
Knowledge: *TBI etiology and sequelae*	Knowledge of: • Anatomy of the scalp, skull and brain. • Physiology of cerebral perfusion and intracranial pressure. • Intracranial consequences of a head injury i.e. extradural, subdural, intracerebral haematoma, diffuse axonal injury, post concussion syndrome. • NICE(www.nice.org.uk) and SIGN (www.sign.ac.uk) guidelines.
Skill: *Assess the head injured patient using history, examination and appropriate investigation*	Able to stratify head injured patients, identify those who need CT/plain radiology, and identify those who need neurosurgical referral.
Attitudes: *Work effectively with multidisciplinary teams and across Hospital departments*	Optimize joint team working with Critical Care Neurosurgery and the Emergency Department for the seriously head injured patient.

3.1 Target Participant Audience

Programs may use different measurement tools based on the composition of the participant group. This information is helpful input to the development of evaluation metrics since effectiveness of a curriculum may vary depending upon audience requirements, demographics, time constraints, goals and life experiences. Examples of this consideration are included in the table below:

Table 3 - Measurement Variance Examples

Measurement Variance by Participant Audience	Examples
Time commitment may affect the evaluation process	▪ Busy clinicians are more likely to respond to a brief survey about the knowledge they have acquired and how they might apply it rather than to an extensive survey that reviews each learning objective.
Participant age group may determine selection measurement tool	▪ Children and adults have different comprehension abilities and analytical skills. For example, adults are typically able to provide responses to fixed-choice surveys or tests, whereas children should be interviewed with open-ended questions when providing feedback. If fixed choice questions are necessary, these should be paired with open-ended questions.[1]

[1] Wakefield, Hollida. (2006). Guidelines on investigatory interviewing of children: what is the consensus in the scientific community? *American Journal of Forensic Psychology*, *24*(3), 57-74.

Measurement Variance by Participant Audience	Examples
Levels or depth of training within an organization may vary according to the experience or position of participants and may determine the focus of the question's content	▪ Senior executive training may encompass reviewing overarching organizational strategy, roles and responsibilities and managerial competencies. ▪ Training for newly hired employees for low and mid-level positions may include discussion of different job descriptions, organizational policies and processes.
Different data collection methods for the same course content to appeal to different audiences	▪ Combining didactic instruction with experiential or application exercises may reinforce learning and appeal to a wider variety of learning styles. Therefore, aligning the instructional methods with an evaluation approach using multiple metrics types would yield both quantifiable (i.e., fixed choice questions) and qualitative (i.e., short, open-ended questions) data.

4. Developing Metrics

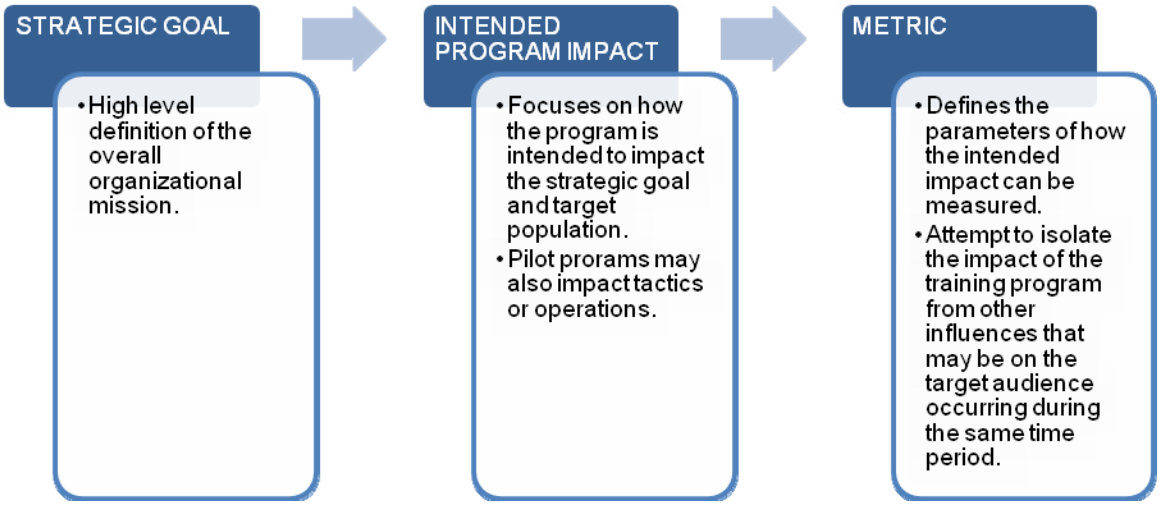
Metrics are measurements that are used to determine progress toward meeting certain strategic, operational or tactical program goals. Metrics support a program's ability to quantifiably answer the question of whether or not the program's goals and objectives have been met. In training programs, metrics provide the data to answer questions regarding the effectiveness and applicability of the training on the target audience. Metrics can be objective or subjective, but subjective metrics should always be backed up with objective data. They must be important and relevant to stakeholders, maintain scientific soundness (reliable and valid), and be feasible to achieve - including accessibility to required data.

Metrics are essential to evaluating the effectiveness of a program's structure, process, and outcomes. More specifically, measures may address:

- Achievement of established objectives and desired outcomes;
- Implementation rate of evaluation feedback;
- Target audience and stakeholder satisfaction;
- Effectiveness/accuracy of data sources and collection methods (mix and associated results); and
- Quality of documentation (methods used, rationale, assumptions).

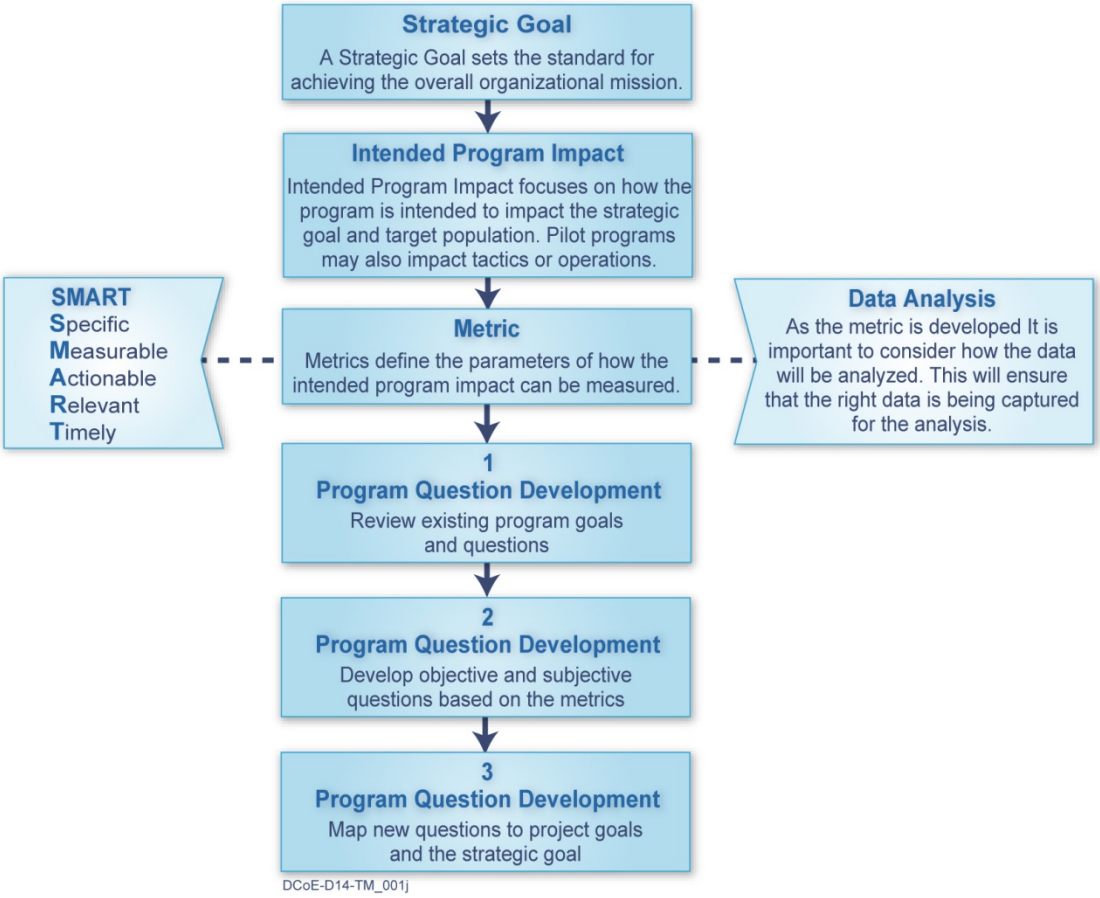
The logic of developing metrics starts with what the program's strategic goal is and what the intended impact of the program's contribution will be to that strategic goal. Note that the "intended program impact" is typically phrased in the form of a question (e.g., Did the program decrease behavioral health impairment?). Development and use of metrics is also an iterative process; as the program matures, program sponsors may consider adjusting measures based on the project's stage of development and the findings from previous evaluations.

Figure 1 - Metrics development logic continuum



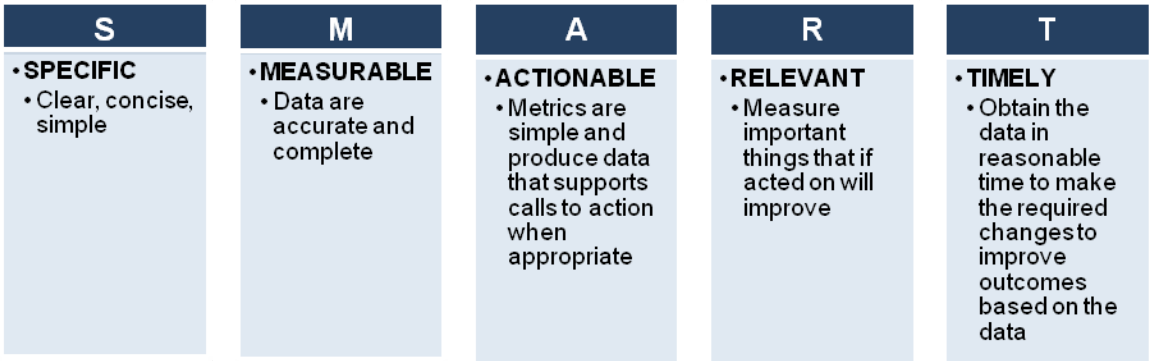
The figure below further illustrates an approach to the identification of metrics and their associated data-collection questions.

Figure 2 - Metrics development approach



During metric development, the application of SMART principles (identified in the left portion of the diagram above and further described in the diagram below) help to clearly define metrics that will be sufficiently robust to yield meaningful results from data. Once a metric is selected, detailed questions may be developed to assess the degree to which the Intended Program Impact was achieved. This step is designed to map the detail-level question back to the Intended Program Impact and the strategic goal and ensures that the right questions are asked. The questions are further divided into the quantitative - to collect hard facts such as reports and computer information and the qualitative - to collect information from users or program directors.

Figure 3 - SMART metrics development model



When developing metrics, the first step is to identify general program questions using the SMART criteria. Development of questions is critical to focusing the evaluation effort on the most relevant, available information that will allow identification of areas needing improvement and those areas that are meeting the program objectives. Development of a set of key questions that can be posed to any of an organization's programs is an important first step, followed by tailoring questions to the individual program to be evaluated. Key elements to consider include:

- Initial program strategic goals and objectives
- Target population
- Intended outcomes
- Scope of impact
- Objective or concept tested
- Measures of outcome(s)
- Changes made to initial concept/plan

When developing the specific questions, consider the following:

- **Did the training produce the expected outcomes?** The training may have produced something far different then was expected. Example: Training was delivered to increase behavioral health providers' knowledge of PTSD to aid them in identifying symptoms. However, diagnoses of PTSD by behavioral health providers who attended training increased significantly above the norms for this population. Further examination indicated these patients had TBI rather than PTSD.

- **How did the training support implementation of the program's goals?** Was the training content aligned with the overarching program goals? If the program's goals included training as an intervention to correct a performance problem or mitigate an identified risk, do follow-up efforts suggest that improvements have been made?
- **Did the training accomplish expected goals?** If the training did not accomplish the expected goals, then ask why. Were the project goals too vague or developed too quickly? Have they changed since previous trainings? Are other factors outside of the scope of the training impeding results? Example: Training was delivered on a new process that was expected to help providers improve patient access to care. However, because of the administrative paperwork required, it actually decreased the patient's access to care. Patients went elsewhere for care or did not seek care at all.

Programs may develop processes to continuously monitor and evaluate metrics, based on the relevance, accessibility, reliability and validity of data. Some organizations use performance-based training metrics for monitoring and evaluation or balanced scorecards. The balanced scorecard is a strategic planning and management system that is used to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals.[2] Metrics must yield accurate values and consistent outcomes (when variables are consistent) in order to maintain relevance and usefulness.

5. Metrics of Training Effectiveness

Training methods vary from didactic to experiential, and the most successful programs contain elements of both. Course content can be delivered prescriptively by the instructor or alternatively, the participants can be invited to engage in activities designed to aid discovery of relevant information. In order to effectively measure knowledge, skills and attitudes once a program has been delivered, it may be appropriate to apply multiple evaluation techniques, including general participation satisfaction feedback gathered through questionnaires or interviews and changes in knowledge, skills and/or attitudes.

Post-training surveys are often given to participants. However, there is both wide variation in the types of questions that can be asked, as well as the level of question detail and following the participants' application of the training material over time. Metrics of training effectiveness can be grouped into four levels, as outlined in Kirkpatrick's Four Level Model Level 1 - Participant satisfaction; Level 2 - Knowledge acquisition; Level 3 - Behavior change; and Level 4 - Organizational benefits.[3]

Level 1 - Participant Satisfaction

The first level measures the participants' reaction to various aspects of the training program, including satisfaction with the course. The participants' perception provides programs the opportunity to evaluate training effectiveness and improve future training programs. To obtain this feedback, programs can use in-class surveys or questionnaires, and participants' written or verbal reports during or post-training to gather quantifiable data on the training's design and delivery. Reliable scoring and measurements should be established to maximize assessment consistency. Satisfaction depends in part on whether the participant felt the training was

[2] What is the Balanced Scorecard. (n.d.) Active on October 10, 2010. http://www.quickmba.com/accounting/mgmt/balanced-scorecard/

[3] Kirkpatrick D. L. (1959, 1960). Techniques for evaluating training programs. "Journal of American Society of Training Directors", Vol 13: pp. 21 – 26, and Vol 14: pp. 28—32.

relevant to their current job or future positions in their career development plan. To improve the participants' experiences and maximize the training's benefit, programs can modify course design and delivery based on feedback obtained in previous sessions or pre-delivery review by a focus group. Embedded learning aides can be in the form of application exercises and activities throughout the course, as does a practical pace maintained by the course instructor with appropriate rest breaks. When analyzing questionnaire results, it is important to study trends in responses. High variability may indicate inconsistent delivery by instructors, confusing or incomplete content, or in the training environment itself.

Level 2 - Knowledge Acquisition

This level measures learning by assessing knowledge acquisition, improved skills and attitude change. Pre-test and post-test questionnaires provide real-time feedback of course content and delivery. The results can be compared to determine what the participants already knew prior to training, and what they learned during the training. Using comparable peer groups that have not yet received training can effectively measure the learning. Statistical analysis of this data is essential in determining significant increase in knowledge acquisition and in whole, the training program's effectiveness.

Level 3 - Behavior Change

Behavior change refers to the degree to which training participants apply what they learned when they return to their job. Assessments can measure specific significant performance indicators and performance settings. Over time, performance may be documented and tracked through observations made by the employer and the participants' immediate supervisors. Longitudinal observations and interviews can be used to assess behavior change, as well as its relevance and sustainability in the workplace. At appropriate intervals, participants may be evaluated and compared to peer groups who have not yet received training to measure behavior change variables attributed to training.

Level 4 - Organizational Benefits

The training program is responsible for identifying and establishing program objectives prior to the training event. Measuring the organizational goals and targeted outcomes that occur as the result of the training is the final measurement of a training program's effectiveness, and assesses impact from four perspectives: financial, customer, internal, and innovation and learning.[4]

- Financial perspective demonstrates return on investment in terms of financial gains, savings, or outcome for the training program's investment.
- The customer perspective describes the program's reputation with current and prospective beneficiaries (i.e. participant benefit).
- Internal perspective pertains to improved working environment as a result of the training (i.e. improvement within the organization).
- Innovation and learning measures the training program's ability to establish and support an educational platform that fosters change and individual growth.

[4] Kaplan, R. S. and D. P. Norton. 2001. The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment. Boston, MA: Harvard Business School Press.

6. Data Collection

Collection of data is central to the evaluation process. In some cases, collecting pre- and post-training data can yield even more valuable insight into program effectiveness than post-training data alone, and is discussed further later in this section. Collection methods may include surveys, on-the-job observation, interviews, focus groups, application exercises/assignments, and performance monitoring or contracts. It is critical that the appropriate method for data collection is selected and again, supports alignment with the overall program objectives. Isolating the effects of training (versus other influencing factors on a participant's behavior) can be challenging, but must be addressed prior to collection of data so that only essential information is collected. An example post-course evaluation form is provided in Appendix C.

Training can be evaluated most effectively by collecting a mix of both qualitative and/or quantitative data, each of which has its own benefits and limitations. For a comprehensive evaluation, programs may consider elements of each, as they yield different types of information. The following table illustrates the fundamental differences between qualitative and quantitative data. The criteria show how qualitative and quantitative studies can overlap to produce a more conclusive outcome.[5]

Table 4 - Qualitative vs. Quantitative Data Criteria

Criteria	Qualitative	Quantitative
Purpose	▪ To understand and interpret social interactions ▪ Inductive process ▪ Identify patterns, features and themes	▪ To test hypotheses - look at cause and effect and make predictions ▪ Deductive process ▪ Identify statistical relationships
Data Collection Methods	▪ Focus groups ▪ Interviews ▪ Surveys with open-ended responses ▪ Observation	▪ Surveys with fixed choice answers ▪ Statistical tests ▪ Tests with fixed choice answers
Approach	▪ Subjective	▪ Objective
Scientific Method	▪ Hypothesis is generated after data has been collected	▪ Proposed hypothesis is tested with collected data

[5] Barnes, Jeffery, et al. Generalizability and Transferability. Writing@CSU. Colorado State University Department of English. 2005.Active on October 7, 2010. http://writing.colostate.edu/guides/research/gentrans/; Web. Active on October 7, 2010. http://www.orau.gov/cdcynergy/demo/Content/phase05/phase05_step03_deeper_qualitative_and_quantitative.htm; and University Library. Xavier University. Qualitative vs. Quantitative Research. 2007. Active on October 7, 2010. http://www.xavier.edu/library/help/qualitative_quantitative.pdf

Criteria	Qualitative	Quantitative
Limitations	▪ May focus too closely on individual results rather than interpreting larger findings and relationships	▪ May force data into categories where it might not belong in order to prove theory

6.1 Timing of Data Collection

Pre-testing in advance of participating in training allows evaluators to measure knowledge acquisition and training effectiveness. Post-testing measures the knowledge of participants after instructional activities have been completed.

To collect pre-testing data, programs may use interviews, questionnaires, surveys, observation, or focus groups; this method is previously described in Level 2 (Knowledge acquisition) of the Kirkpatrick Model in section 5. During post-testing, programs can apply relevant data collection methods, and use the results to compare participant knowledge acquisition and overall training effectiveness. Similarly, intermittent surveys over time can be used to measure long-term knowledge retention, or behavior change observed in the workplace. This longitudinal method of measuring training effectiveness is previously discussed in Level 3 (Behavior change) of the Kirkpatrick Model in section 5.

Using pre-tests, course designers can identify knowledge gaps and tailor training content to address those gaps. Trainers encourage participants to share how they apply learned knowledge by using discussion groups, social networks, or surveys. Some training leads to certification that requires continued testing to ensure these vital skills have been learned and retained. An example of this is basic life support or advanced cardiac life support certification, which requires regular renewal intervals. It is helpful to know in advance what the ultimate application of the training effort will be.

Using the same questions on pre- and post-tests yield biased results, as the participant has already been exposed to the question, and potentially, the answer.[6] Therefore, when assessing post-training effectiveness, it is recommended that a different set of questions be used in order to more accurately test retention of learning. Furthermore, program staff or sponsors may follow-up with a post-test after an extended period of time has passed to assess long-term behavior change and knowledge retention. The timeframe for these post-training tests should be determined during the course development, and based on the expected application of the knowledge and level of detail desired from the post-training evaluation. Depending on the type of data needed, collection can take a few days or a few months (and/or be spaced at specific intervals - weeks, months or years post-training). Furthermore, a realistic approach to data collection timing and required resources is essential.

Regardless of data collection timing, isolating the effects of training is the most important and difficult, aspect of training evaluation. Many factors can influence performance data following training.[7] To limit such influence, evaluators may implement the following strategies:

- **Control group**: One group receives training, while a similar group does not receive

[6] Thalheimer, Wil. (2007). *Measuring Learning results: Creating fair and valid assessments by considering findings from fundamental learning* research A Work-Learning Research Publication. Active on October 10, 2010 http://www.work-learning.com/Catalog/Documents/Measuring_Learning_Results_April_2007wlr.pdf

[7] Phillips, J. Return on Investment in training and performance improvement programs. Gulf Publishing Company. 1997

training. Performance between the two groups is assessed.

- **Performance forecasting**: Improvement due to other variables is projected, assuming no training. This is compared to actual results.
- **Self-appraisal**: Participants estimate the amount of improvement attributed to the training. Arguably a more objective method is to ask supervisors of participants or senior management to estimate the amount of improvement attributed to the training.
- **Expert appraisal**: Subject Matter Experts are asked to estimate the impact of training based on previous experience. Experts must be familiar with the type of training, participant group and training environment.

None of these methods are exact, which is why isolating the effects of training is so difficult.

6.2 Return on Investment

Many organizations measure the effectiveness of their training program by how many employees are trained in a given time period.[8] Three out of four chief learning officers (CLO) measure the efficiency of training — how well it resonates with employees in terms of timing, content and other perceptive logistics.[9] Senior leaders often relate fixed training costs (operational costs, salary, equipment, licenses, etc) to direct money saved or value gained. Given these drivers, data collected in Level 4 of the Kirkpatrick model can be converted into monetary values and compared with program costs. Programs can select from several strategies based on the type of data and situation. Using multiple strategies and taking the median or mean of monetary value may increase accuracy.

- **Output data**: Output increases can be converted to monetary value based on their unit contribution to cost reduction. For example, output may be defined as the number of patients treated during a given period.
- **Cost of quality**: Quality improvements are converted to cost savings. Increased diagnostic accuracy can translate to better treatment outcomes and fewer doctor visits.
- **Time saved**: If providers can accomplish tasks in less time, this savings can be calculated using the employee's wages and benefits.
- **Historical costs**: When available, organizational cost data can be used to define improvement value. Some of this information may exist with research or trade organizations.
- **Internal & external experts**: Experts can estimate value for an improvement based on prior experience. For example, the cost of litigation for medical mistakes may provide a basis of estimation.
- **Participants, participant supervisors, senior managers**: Participants can estimate value of the improvement to themselves or the organization.

When assessing the program cost, the following cost components may be applicable:

- **Needs assessment** often prorated over the life of a program.

[8] Return on Investment for Customized Training. http://coned.howardcc.edu/business_and_workforce_development/customized_training/ROI_for_customized_training.html . Active on October 14, 2010.
[9] Ibid.

- **Design and development of the program or purchase of the program**, often prorated over the life of a program.
- **Training delivery:**
  - **Program materials** provided to each participant. The marginal cost of each participant should be considered.
  - **Instructor/facilitator fees**, including preparation and delivery time. If the instructor is in-house, the amount of time spent divided by the instructor's annual wages and benefits can provide a close estimate.
  - **Facilities** for the training programs. If an in-house facility is used, a portion of the rent and operational expenses can provide an estimate.
  - **Travel, lodging and meal costs** for participants and instructors, if applicable.
  - **Salaries and benefits** of in-house training participants.
- **Administrative and overhead costs** of the training functions, allocated to participant.
- **Costs of evaluation**

To determine ROI, divide the value of net program benefits by program costs and multiply by 100. A 100% return on investment means the value of the program equaled the investment. Although the aforementioned costs can often be converted to monetary value, some data is more difficult to quantify. Therefore, if the conversion is too subjective due to missing quantifiable data, a description of the intangible benefit of the training should be included. Intangible benefits may include:

- Increased quality of work
- Increased job satisfaction
- Improved teamwork
- Increased employee retention
- Reduced grievances and absenteeism
- Reduced conflicts

By incorporating both the tangible and intangible benefits of training and education, a program can produce a more complete and thorough evaluation of their individualized trainings and forecast their needs, strengths, and opportunities for growth.

7. T&E Technical Assistance

Recognizing that programs may not have resources available to measure performance and disseminate effectiveness information, the T&E Directorate may provide technical assistance and guidance to appropriate resources available by request of the program or Service and may include:

- Identification and establishment standardized assessment guidelines for relevant metrics for training and education program performance monitoring;
- Preparing programs for changes that may affect program processes, administration, or operations;
- Planning program expansion to new audiences, new formats, etc.;
- Identifying promising practices that, if evaluated, could become best practices; and/or
- Addressing program questions regarding other areas for improvement.

To request technical assistance from the T&E Directorate, please contact 301-295-2751 and describe the purpose of the effectiveness visit, key challenges and any steps already taken to self-evaluate.

8. Summary

To properly evaluate training requires consideration of training purpose, the intention for use of evaluation data, the stakeholders of the evaluation results, the data collection timing and process, and the overall evaluation methodology. Self-evaluation is the first step to building a culture of evaluation within a program. The T&E Directorate encourages organizations to leverage evaluation findings to improve programs, curriculums, and training methodologies, showcase program successes through marketing activities, and support the funding requests they submit. These various activities become possible when the organization values metrics and the results that are generated from the interpretation of the data. Data results should focus on improving services on behalf of the mission of the organization, rather than "proving its worth". Creating a culture of evaluation is the most effective way to accomplish this very important goal.

Appendix A - Impact of Regulation on Metrics Selection

Health care organizations are subject to a multitude of regulations from the federal and state governments that promote safety and ensure legal, compliance and quality services. Agencies, such as accrediting bodies, require voluntary participation, but provide important rating or certification of quality.[10] It is important to understand the impact governing bodies on education in health care especially since certain ratings, such as The Joint Commission (TJC) accreditation is a requirement, to secure federal funding and maintain various educational activities.

By law, before services are provided to the public, health care organizations must ensure that their employees meet the appropriate continuing education for maintenance of licensure, credentialing, or certification. For example, health care facilities may offer Continuing Medical Education classes (CMEs) if accredited by the Accreditation Council for Continuing Medical Education (ACCME). Reports and metrics are required annually for the privilege to provide continuing education classes.

Another type of educational metrics assesses program quality. Credentialing bodies, such as the Accreditation Council for Graduate Medical Education (ACGME) require an annual evaluation for ACGME-accredited residency and fellowship programs submitted by the teaching faculty. The results of this evaluation must be used to improve the program. If deficiencies are identified, a written plan of action must be generated to document initiatives to improve program performance. Another credentialing organization that requires educational metrics to be maintained by health care facilities is The Joint Commission. It has multiple metrics dealing with the general education topics of staff and patient education. Ideally, measures should follow the accepted frameworks established by organizations such as the National Committee on Quality Assurance (NCQA), The Joint Commission (TJC), Foundation for Accountability (FACCT), the Institute of Medicine (IOM), the U.S. Department of Health & Human Services (DHHS), and the Performance Measures Coordinating Council, to name a few.

Abbreviated lists of Federal, State and Accrediting Agencies can be found in Appendix D. The Federal List includes some of those departments that monitor or regulate healthcare entities and practitioners. The State List suggests several of the state-level departments that govern health care practice within that jurisdiction. The Accrediting Agencies list provides a grouping of organizations that sanction various groups of practitioners.

[10] Lockwood, Wanda (2009). What are health care regulatory agencies? eHow December 1, 2009. active on October 11, 2010. http://www.ehow.com/about_5187634_health-care-regulatory-agencies_.html

Appendix B - KSA Areas of Competence

Psychological Health Curriculum Example	
Knowledge	• DSM-IV Multi-Axial Systems for Psychiatric Diagnosis in Adults and Children • Screening, assessment, and management of PH disorders • Pharmacological management for PH disorders • Interaction of the mind and body in wellness and manifestation of psychological concerns and stressors • Awareness of community resources • Violence prevention and deployment family support
Skills	• Interpersonal and communication skills related to PH diagnosis and management • Obtaining effective PH history • Formulate appropriate differential diagnoses of PH issues and concerns • Ability to use appropriate screening measures to identify PH concerns • Recognize patients with suicidal thoughts or plans • Demonstrate effective physician-patient interaction skills • Problem solving and ability to make decisions based on incomplete or ambiguous data
Attitudes	• Willingness to address and manage psychological issues within clinic • Awareness of stigma (from self and others) • Work cooperatively with other health care workers and community resources in the delivery of PH care • Respect the patients' dignity, privacy, and confidentiality in the delivery of PH care • Leadership and self-motivation • Flexibility • Tolerance for frustration, ambiguity, persistence • Effectively interact with patients, peers and other healthcare workers from different backgrounds • Professionalism

Appendix C - Example Post-Training Evaluation Form

The sample forms below provide general questioning examples that can be used for a post-training course evaluation. When developing a participant satisfaction (Level 1) post-training questionnaire, it is important to align questions with the overarching course objectives to evaluate if the participants experienced the course in the manner intended. Consider adding/removing questions based on time allotted for the course, content covered, and understanding of participant learning/feedback preference.

Directions: Please use the following scale to indicate the extent to which you agree with the statements below:

1	2	3	4	5	n/a
Not at all	**A little**	**Somewhat**	**For the most part**	**Very much so**	**Not applicable**

ABOUT ME . . .

I was personally interested in taking this education program	**1**	**2**	**3**	**4**	**5**	**n/a**
I had the necessary prerequisite knowledge for completing this program	**1**	**2**	**3**	**4**	**5**	**n/a**
This program was offered at the right time in my career	**1**	**2**	**3**	**4**	**5**	**n/a**

METHODS AND MATERIALS . . .

My experience in this course met the objectives that were set for it	**1**	**2**	**3**	**4**	**5**	**n/a**
The program content and materials were current	**1**	**2**	**3**	**4**	**5**	**n/a**
There was sufficient opportunity to practice what was taught	**1**	**2**	**3**	**4**	**5**	**n/a**
There was adequate time for questions and discussion	**1**	**2**	**3**	**4**	**5**	**n/a**
The use of media/technology contributed to my learning	**1**	**2**	**3**	**4**	**5**	**n/a**
The level of detail in this program was appropriate	**1**	**2**	**3**	**4**	**5**	**n/a**

RELEVANCE AND EFFECTIVENESS . . .

This program was relevant to my responsibilities	**1**	**2**	**3**	**4**	**5**	**n/a**
This program helped increase my knowledge and/or skills	**1**	**2**	**3**	**4**	**5**	**n/a**
I will be able to perform my responsibilities better as a result of completing this program	**1**	**2**	**3**	**4**	**5**	**n/a**

FACILITIES AND SERVICES . . .

The food served at the program was good	**1**	**2**	**3**	**4**	**5**	**n/a**
My accommodations were adequate	**1**	**2**	**3**	**4**	**5**	**n/a**
The meeting room(s) was (were) appropriate for this program	**1**	**2**	**3**	**4**	**5**	**n/a**

OVERALL RATINGS . . .

Overall, the facilities were effective	**1**	**2**	**3**	**4**	**5**	**n/a**

Overall, the instructor(s) was (were) effective [Please respond to specific items about the instructor(s) below]	**1**	**2**	**3**	**4**	**5**	**n/a**
Overall, the program was effective	**1**	**2**	**3**	**4**	**5**	**n/a**

Directions: Please use the following scale to indicate the extent to which you agree with the statements below:

1	2	3	4	5	n/a
Not at all	**A little**	**Somewhat**	**For the most part**	**Very much so**	**Not applicable**

INSTRUCTOR A [INSERT NAME HERE]

Instructor A was knowledgeable of the program content	**1**	**2**	**3**	**4**	**5**	**n/a**
Instructor A made effective use of examples and/or illustrations	**1**	**2**	**3**	**4**	**5**	**n/a**
Instructor A responded effectively to participant questions	**1**	**2**	**3**	**4**	**5**	**n/a**
Overall, Instructor A was effective	**1**	**2**	**3**	**4**	**5**	**n/a**

INSTRUCTOR B [INSERT NAME HERE]

Instructor B was knowledgeable of the program content	**1**	**2**	**3**	**4**	**5**	**n/a**
Instructor B made effective use of examples and/or illustrations	**1**	**2**	**3**	**4**	**5**	**n/a**
Instructor B responded effectively to participant questions	**1**	**2**	**3**	**4**	**5**	**n/a**
Overall, Instructor B was effective	**1**	**2**	**3**	**4**	**5**	**n/a**

INSTRUCTOR C [INSERT NAME HERE]

Instructor C was knowledgeable of the program content	**1**	**2**	**3**	**4**	**5**	**n/a**
Instructor C made effective use of examples and/or illustrations	**1**	**2**	**3**	**4**	**5**	**n/a**
Instructor C responded effectively to participant questions	**1**	**2**	**3**	**4**	**5**	**n/a**
Overall, Instructor C was effective	**1**	**2**	**3**	**4**	**5**	**n/a**

Additional Comments:

1) Please provide any comments you have about any of the instructors.

2) What do you feel were the most and least valuable aspects of this program?

3) What recommendations do you have for enhancing this program?

4) What other comments do you have?

Appendix D - Federal, State and Accrediting Agencies

Federal

- The Food & Drug Administration (FDA)
  http://www.fda.gov/
- U.S. Department of Health & Human Services
  - Agency for Healthcare Research and Quality
    http://www.ahrq.gov/
  - Quality (AHRQ)
    http://www.ahrq.gov/
  - The Centers for Medicare & Medicaid Services (CMS)
    http://www.cms.gov/
- The Centers for Disease Control & Prevention (CDC)
  http://www.cdc.gov/
- U.S. Department of Labor Occupational Safety & Health Administration (OSHA)
  http://www.osha.gov/
- Military Health System
  http://www.health.mil
- Health Affairs Policies and Guidelines
  http://www.health.mil/About_MHS/HA_Policies_Guidelines.aspx
- U.S. Army Medical Department Quality Management
  https://www.qmo.amedd.army.mil/

State (search state-specific Web sites)

- Department of Health Services
- State Board of Nursing
- Medical Board
- Insurance Commissioner
- Department of Consumer Affairs

Accrediting Agencies

- The Joint Commission (TJC)
  http://www.jointcommission.org/
- The National Committee for Quality Assurance (NCQA)
- http://www.ncqa.org/
- The Accreditation Commission for Healthcare (ACHC)
  http://www.achc.org/
- The Accreditation Council for Graduate Medical Education
  http://www.acgme.org/acWebsite/home/home.asp
- Accreditation Council for Continuing Medical Education (ACCME)
  http://www.accme.org/
- American Nurses Credentialing Center
  http://www.nursecredentialing.org
- Commission on Accreditation of Ambulance Services (CAAS)
  http://www.caas.org/
- American Board of Medical Specialties (ABMS)
  http://www.abms.org/
- American Board of Physician Specialties
  http://www.abpsus.org/index.html-
- American Heart Association
  http://www.heart.org/HEARTORG