



DEFENSE CENTERS OF EXCELLENCE

For Psychological Health & Traumatic Brain Injury

Analyzing Program Evaluation Data: Business Case and Cost Analyses

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[Video Introduction]

Capt. Thoumaian: Hello. My name is Captain Armen Thoumaian of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury or DCoE. Thank you for joining us for this episode of the DCoE Program Evaluation and Improvement webinar training series.

DCoE's Mission is to improve the lives of our nation's service members, families and veterans by advancing excellence in psychological health and traumatic brain injury prevention and care.

DCoE accomplishes that mission in coordination with its three Centers: Defense and Veterans Brain Injury Center, Deployment Health Clinical Center and National Center for Telehealth and Technology. Together, we produce a variety of trainings on subjects ranging from program evaluation to clinical care and prevention practices.

This training series is designed for program administrators and service leadership who are involved with or who plan to conduct program evaluation activities within the Defense Department's psychological health and traumatic brain injury programs. Our objective is to enhance the capability of these personnel to actively engage in program evaluation activities

and, ultimately, make program evaluation an inherent component of everyday program operations.

By supporting enhanced program evaluation capabilities across the Defense Department, this series contributes to DCoE's larger mission to improve the quality and effectiveness of the psychological health and traumatic brain injury prevention and care programs that serve our military members, their families and veterans.

On behalf of DCoE, thank you for participating in this training series.

[Slide 1]

Ms. Aguirre: Hello. My name is Carmina Aguirre. I provide contract support to the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury or DCoE. I will be your moderator for this presentation, the seventh episode in the 2015 DCoE Program Evaluation and Improvement webinar training series. The webinar is hosted using the Adobe Connect platform and the technical features are being handled by DCoE's webinar support team in Washington, D.C.

Today's topic is "Analyzing Program Evaluation Data: Business Case and Cost Analyses." Before we begin, let's review some details.

[Slide 2]

This presentation has been pre-recorded; however, there will be a live Question-and-Answer session at the end of the presentation.

Throughout the webinar, we encourage you to submit technical or content-related questions using the Question pod on your screen. Your questions will remain anonymous, and our presenters will respond to as many questions as possible during the Q-and-A.

At the bottom of the screen is the Chat pod. Please feel free to identify yourself to other attendees and to communicate with one another. Time is allotted at the end of the presentation to use the Chat pod for networking.

All audio is provided through the Adobe Connect platform; there is no separate audio dial-in line. Please note there may be delays at times as the connection catches up with the audio. Depending on your network security settings, there may also be some noticeable buffering delays.

Closed captioning is provided for today's event, and a transcript will be made available at a later date.

[Slide 3]

Webinar materials for this series are available in the Files pod at the bottom of the screen during the webinar. They are also posted in the Program Evaluation section of the DCoE website. Modules from the newly revised DCoE Program Evaluation Guide will be posted throughout the 2015 webinar series.

For information about other DCoE webinars and trainings, visit the Training section of the DCoE

website by following the link on slide 3.

[Slide 4]

We are pleased to offer continuing education credit for the 2015 Program Evaluation and Improvement webinar series. Instructions for obtaining continuing education through DCoE's collaboration with the Professional Education Services Group were made available during the registration process. Eligibility criteria for continuing education credit are presented on slide 4. In an effort to enhance the focus of individual webinar episodes, we have reduced the length of this and future episodes to one hour. As a consequence, please note that eligible participants will receive one hour of credit rather than an hour-and-a-half.

[Slide 5]

If you preregistered for the webinar and want to obtain CE certificates or a certificate of attendance, you must complete the online CE evaluation. After the webinar, please visit dcoe.cds.pesgce.com to complete the online CE evaluation and download your CE certificate or certificate of attendance. The CE evaluation will be open through June 30th, 2015.

[Slide 6]

This webinar was introduced by Captain Armen Thoumaian. Captain Thoumaian is the Deputy Chief of the Office of Integrated Services at DCoE. He is a Scientist Director in the Commissioned Corps of the U.S. Public Health Service with more than 30 years of experience in health and mental health program design and evaluation. In January 2012, Captain Thoumaian joined DCoE to help design and implement program evaluation and improvement efforts in the Defense Department. He holds a B.A. in psychology and sociology, an M.A. in general experimental psychology, and a Ph.D. in social welfare and social work. Captain Thoumaian has also completed a National Institute of Mental Health fellowship in Community Mental Health.

[Slide 7]

Presenters for this episode include Mr. Ihab Marcus and Mr. Carter Frank. Mr. Marcus is a research scientist who provides contract support to DCoE. Mr. Marcus has over 20 years of experience in project management in psychological health settings for both government and private clinical treatment centers. Mr. Marcus has worked with corporate clients on project management and software integration, provided services to the Department of Veterans Affairs, and teaches courses on project management at the college level. Mr. Marcus holds a master's degree in business administration and is a certified project management professional.

Our other presenter is Mr. Carter Frank. Mr. Frank is also a research scientist who provides contract support to DCoE. Mr. Frank has over 15 years of experience in program development and management at local, regional and national levels. The breadth of his 33-year career includes 11 years of military service, spans military and civilian environments, clinical and non-clinical mental health operations, training, human resource management, business development and government contracting. Mr. Frank holds a B.S. in mathematical sciences and master's degrees in counseling and management information systems. He is a licensed clinical professional counselor.

[Slide 8]

I am Carmina Aguirre, your moderator for today. I am also a research scientist who provides contract support to DCoE. I have over 14 years of experience within the Defense Department. My background includes executive leadership, psychological health, sexual assault prevention and response, and public affairs. In addition to supporting DCoE, I serve as Chief of Public Affairs in the Florida Air National Guard. I hold a B.A. in psychology and an M.A. in human services with a specialization in executive leadership.

[Slide 9]

This training presentation will provide guidance on ways programs can initiate a business case analysis process. In addition, it will discuss different ways a program can assess program costs and at a minimum determine cost per participant. Topics in this presentation will include an introduction to business case analysis, analyzing program costs, and common challenges that arise when programs use business case and cost analyses.

At the conclusion of this webinar, participants will be able to:

- Demonstrate knowledge of key concepts relevant to the use of business case and cost analyses in program evaluation
- Explain general strategies used to conduct business case analysis
- Initiate calculation of total program costs and costs per participant, and
- Select and implement strategies to address common challenges that programs face when analyzing cost information

[Slide 10]

As seen on slide 10, Captain Thoumaian will begin with an introduction to business case and cost analyses. Mr. Marcus will then discuss general strategies and concepts of Business Case Analysis, followed by Mr. Frank who will review program cost calculations and analyses before presenting strategies for overcoming common challenges. Captain Thoumaian will conclude with a summary of key takeaways. We will wrap up this webinar session by providing a list of references and resources, followed by an opportunity to provide anonymous feedback and a brief question-and-answer session with our presenters.

[Slide 11]

Thank you Ms. Aguirre. Business Case and Cost Analyses are the heart and soul of financial accountability practices and therefore, an important source of information for program evaluation efforts. The content in this portion of the presentation is intended to apply to a wide range of psychological health and traumatic brain injury program managers. For now, we begin with a general introduction to the importance and purpose of the Business Case Analysis process in guiding the effective use of resources.

[Slide 12]

While accomplishing the mission has always been the number one priority, an emphasis on cost-effective mission support has become the number two priority. A Secretary of Defense memorandum from December 2010 focused on cost considerations in DoD decision making and required that every new proposal or initiative must be accompanied by a cost estimate. The Department of the Army released a similar memorandum in January 2011 that focused on the

implementation of cost management practices and introduced guidance for the use of cost-related analytical approaches and tools to support resource-informed decision making.

In response to these initial directives, individual Service branches have institutionalized the use of cost management practices within the Financial Management and Comptroller functions at the Assistant Secretary level. In addition to the responsibility of defending their budgets to Congress and the American people, they are tasked to provide timely, accurate, and reliable financial information which enables leaders and managers to incorporate cost considerations into their decision making. Program evaluation practices are designed to support and sustain program leadership efforts in achieving the most cost-effective support for accomplishing the mission.

[Slide 13]

With ongoing budget challenges and an increasing emphasis on cost-effective solutions, military financial management groups have expanded their evaluation criteria for psychological health and traumatic brain injury program proposals. While mission support priorities, quality of care and access to care remain important, return on investment factors, availability of measurable performance data and other cost-related metrics are being evaluated as essential information for military decision makers.

[Slide 14]

Analyzing program costs is a necessary step towards evaluating the efficiency and effectiveness of a program's operations. For gathering information to support this analysis, the following core questions need to be considered:

- For the stakeholder, the core question to be addressed by this analysis is: Which is the most effective intervention to fund?
- For program administrators, the core question to be addressed by cost analysis is: How are program funds being spent?
- Other questions of interest are:
 - What types of analyses use cost measures?
 - How are costs quantified?, and
 - What are the average cost values per participant?

At the root of each of these core questions is the fundamental question: How can resources be used more effectively?

[Slide 15]

Slide 15 presents some of the benefits associated with analyzing program costs.

Cost evaluations help assess the gains and the costs to carrying out program operations. This is important because:

- First - Resources are scarce and stakeholders have to choose among viable alternatives. Analyzing program costs helps programs provide objective measures for stakeholders to use in making better informed decisions about funding. Moreover an objective cost analysis helps when making comparisons.
- Second - Often the best program choice to fund is not obvious when programs differ in terms of their services delivered, population addressed, and/or outcome metrics used.
- Third - Performing cost analyses produces a strong value proposition – a clear

statement comparing benefits with the costs and risks.

- Finally - Cost evaluations also help program administrators track how budgets are allocated across activities, and how well the program is functioning relative to its target goals and operating budget.

In short, cost analysis can help answer questions such as: Which program provides more “bang for the buck”? How are costs allocated across program activities? What level of additional resources may be required to fund an expansion of the program?

[Slide 16]

In an age of diminishing resources, it is helpful to understand how military leadership is deciding which alternative is the best. The table on slide 16 provides a comparison decision matrix that offers some insights.

The least complex decision is when the benefits are equal but the costs are unequal, thus yielding the least costly alternative, which is highlighted at the bottom of this slide in light blue. Whereas, the most complex decision is when costs are equal and identified benefits are equal, which is highlighted in the middle of this slide in light blue. This comparison requires additional analysis and some subjective reasoning that will consume more time and effort in the decision-making process.

The bottom line here is that costs and associated benefits are being given equal consideration in the decision-making process.

And now, Mr. Marcus will discuss general strategies and concepts for Business Case Analysis.

[Slide 17]

Thank you, Captain Thoumaian. Today I will discuss some commonly used Business Case Analysis tools and techniques. I will share a working definition of Business Case Analysis, explore some commonly used terms and tools, and provide some examples of the techniques being used.

[Slide 18]

Before tackling Business Case Analysis, or BCA, let's take a moment to describe some of the basic concepts associated with Business Case Analysis and the benefits of using a well thought out BCA approach in our respective roles.

Let's start with the working definition of Business Case Analysis. BCA is a decision support and planning tool that forecasts the likely financial results and other economic consequences of a course of action. The BCA asks what happens if a specific course of action is taken relative to other options being considered. This allows decision makers to make the best choice, which is in line with their stated goals and values. Keep in mind that the word values as used here is not limited to financial or quantifiable terms.

The results from a BCA can include (but are not limited to) cost savings or cost avoidance projections for one or more scenarios, financial metrics, and practical advice for management on minimizing costs and mitigating potential risks.

There is no single correct outline, format, or content list. Although the BCA can have many parts and procedures, the purpose of this briefing is to give a high-level overview of the process.

[Slide 19]

There are many benefits of using a Business Case Analysis. In addition to those on the slide, a BCA allows military organizations to address business-like questions, such as “Should a proposed action be funded?” “How can risks be minimized?” and “How much funding is needed to approve this course of action?” The BCA assists in answering these questions that include components of cost effectiveness while taking into consideration additional factors.

[Slide 20]

A good starting point in conducting a Business Case Analysis is to create an outline to give it a “framework.” This framework should include a broad overview of the decision being made and can be very detailed when needed. Some additional details to the outline in the slide could be clearly articulated goals, objectives, proposed actions and outcomes in the summary section. The purpose section states the subject, who will use the BCA, for what desired outcome, and what information is required. A BCA should include any assumptions, constraints, and methods, typically posed as different scenarios, which will be explored more in upcoming slides. Finally, conclusions and recommendations are based on the results of each BCA.

[Slide 21]

The building blocks for any successful Business Case Analysis start with a clearly defined Subject and Purpose. When considering the Subject at hand, most BCAs revolve around a proposed course of action or decision or meeting objectives addressed by the course of action. When considering the Purpose, a complete BCA answers the questions:

- Why is the case being built?
- Who will use it and for what purpose?, and
- What information is needed in order to meet that purpose?

[Slide 22]

Like any good analysis effort or case study, there will be a data collection phase leading to the success of the Business Case Analysis. Much of the data needed may be readily available through program documents such as the examples shown on slide 22.

Also, due to the extensive amounts of data, information and documentation available, it is best to begin the information-gathering process as soon as possible. Consider making this a collaborative process and an opportunity to engage additional team members. Use the most recent data available as old data may be dated or obsolete. And finally, normalize or keep data consistent throughout the process, keeping units the same. For example, use dollars per hour or dollars per day, but not both.

[Slide 23]

When developing a Business Case Analysis, it is often helpful to use scenarios to help describe the identified courses of action in an effort to clarify the following questions:

- Which is the best course of action?
- Should we try just one solution or a combination of solutions?

Anticipating and comparing results of multiple scenarios allows the decision makers to make a well-informed choice. Finally, if the purpose of the BCA is to improve, reduce, or otherwise change something, it is often helpful to have a business-as-usual, or “do nothing” scenario.

[Slide 24]

The next few slides will discuss some analytic tools and techniques commonly used in BCAs. These are Return on Investment, or ROI, Cost-Benefit Analysis, and Make vs. Buy Analysis.

[Slide 25]

Return on Investment is a term commonly used when faced with a choice of where to spend, or allocate, funds. Organizations have used this term to determine the level of yield on funds which have been spent for goods, services, or objects over a set period of time.

For example, if one hundred dollars is invested in a fund that after a year has one-hundred ten dollars, the ROI is ten percent. If that fund instead has ninety five dollars at the end of that year, the ROI is negative five percent.

This example highlights that Return on Investment can be positive or negative, and is time bound. Please keep in mind that an ROI figure by itself is not a sufficient basis for choosing one action over another, as an ROI figure says nothing about uncertainty or risk. Return on Investment simply calculates an expected financial return.

[Slide 26]

Cost-Benefit Analysis is another BCA tool which incorporates and augments Return on Investment. The techniques associated with this tool expand on ROI by taking into account additional factors which may or may not be financial in nature. The overall Cost-Benefit Analysis process answers the age-old question, “Is the juice worth the squeeze?”

Objective Benefits include: Cost reductions, improvements in cycle time or material use, decreased maintenance time and faster return-to-duty times. In addition, objective benefits are usually quantifiable.

Subjective Benefits include: Improved service member’s satisfaction, improved team member’s morale, improved mission capability and improved quality of service. Also bear in mind that subjective benefits can be difficult to quantify.

Given the uniqueness of each analysis, positive and negative factors will be determined on a case-by-case basis. The techniques and ratios used to support these determinations will be discussed in more detail later in this presentation.

[Slide 27]

To demonstrate some of these principles, a case example will be used. In this example, fictitious “Program Sierra”¹ is conducting a Business Case Analysis regarding the hiring of an additional psychiatrist. The Cost-Benefit Analysis aspect of this decision is looking to identify if

¹ Program Sierra was formerly known as Program Echo.

the benefits of hiring this psychiatrist outweigh the additional salary expense and related costs. Once all the information has been collected and analyzed, the decision should be clear based on the relative benefits and costs.

To be clear, every situation will have its unique factors, costs, benefits, risks, etc. The Cost-Benefit Analysis process provides flexibility, in that it expands opportunities to make the best decision for a given set of circumstances. In light of the information presented, "Program Sierra" would likely choose to hire the new psychiatrist because the positive factors and benefits appear to outweigh the negative. However, since many of the factors are subjective, other teams may look at the same information and reach a different conclusion. This demonstrates the flexibility to incorporate and weigh priorities for each situation.

[Slide 28]

Another conventional Business Case Analysis tool is the Make vs Buy analysis. This tool is commonly used when an organization is considering expanding the suite of services being provided. Oftentimes, they are faced with cost-based decisions to determine if there is a financial advantage to develop the capability internally to provide a service, or purchase an existing service.

When conducting this analysis, it is important to consider the costs of not only producing the product or service in-house, but also the cost to be incurred by purchasing the product or service outright. Another important consideration to factor is the ability to produce the product or service. For example: "Is there proper space, materials and equipment which may be available for development?" In addition, there may be times when a hybrid approach is best suited for the situation.

[Slide 29]

Keeping in mind the variables needed to conduct the Make vs Buy analysis, there are two relatively simple formulas that are useful: Cost to Buy and Cost to Make. The less-costly solution is selected and the higher-cost solution is discarded. It is important to note additional costs and factors which may have an impact over the life of the service.

Make vs Buy Analyses are often used in manufacturing or software development, but could be very relevant in psychological health and traumatic brain injury programs. Some examples of the associated factors could be:

- Volume of patients expected
- Fixed Costs of Making: would include labor, materials, and relevant overhead costs
- Per unit Costs of Making: could be overhead costs associated to each new patient
- Fixed Costs of Buying: would be any associated costs of purchasing the service or product outright, and finally
- An example of per unit Costs of Buying could be software licenses for each staff member

[Slide 30]

Let's look at an example of how to apply the Make vs Buy analysis. Referring again to our fictitious "Program Sierra," the team at "Program Sierra" is in need of new scheduling software which they expect will improve the level of service they can provide their clients. The decision at hand is whether they should use their talented team of programmers to develop the software

internally, or purchase an off the shelf solution. When all factors are considered, and the costs are calculated, the team can make a decision which way to proceed. In this example, it costs ten thousand dollars less to develop this software, so that is the recommended course of action.

And now, Mr. Frank will review program cost calculations and analyses followed by presenting strategies for overcoming common challenges.

[Slide 31]

Thank you, Mr. Marcus. Today I will discuss some fundamental aspects of analyzing a program's costs. My discussion will reference the benefits to conducting cost analysis, define some frequently used terms, provide an overview of the most popular types of cost analyses and present the basics to conducting an analysis.

Let's begin with defining the key term "Cost."

[Slide 32]

The term cost can have different meanings depending on the context in which it is used. When conducting cost evaluations, Cost refers to the value of resources used to deliver services.

The "value of resources used," means that cost measures should capture the value of all goods and services used to conduct program operations. In particular, cost measures should include both the actual amount of funds spent on resources and the value of resources used but not paid for by the program.

When gathering cost information, it is helpful to think of program operations in terms of the general resource categories needed to deliver services. For example, consider that a program may define the relevant resource categories to include the following;

- Labor, which includes the total salaries, wages, and benefits paid to employees for time spent performing program activities. Examples include administrative staff and program personnel. Timesheets will help quantify the amount and value of an employee's time spent on multiple activities within the program.
- Contracted services, which include the costs for program activities provided by entities outside the program such as external consultants, data warehousing, or physician services.
- Building and facilities costs, which include rental payments or mortgage payments, building maintenance, and operating costs such as utilities, taxes, insurance and cleaning staff.
- Materials and supplies, which includes the costs for equipment to support program activities like computers, phones, and printers, and finally,
- Donated resources, or resources not spent out of the program's budget, but which are still a part of the program's health intervention costs. These resources are valued at the amount of dollars the program would have needed to spend had they not been available for free use. Two common examples include donated facilities and volunteer labor. In the case of a program using a building free of charge, the value of this building could be estimated from current real estate values on monthly rents in the surrounding area. In the case of volunteer labor, the value of volunteer labor could be estimated from market salary or average salary figures.

In an effort to gather valid and useful cost information, it is recommended that program cost

information be captured through bills, receipts, contracts, wages paid, and value estimates. When collecting information for contracted resources, quantify costs using actual expenditures rather than budgeted line items because budgets may not reflect the amount of monies actually spent. For donated resources, the value of resources donated but not paid for out of the program's budget should be included in cost measures. Costs can be quantified as the expenditure the program would have incurred to secure the resource had it not been donated.

[Slide 33]

In today's military economic climate, a major emphasis has been placed on not only reducing and/or streamlining costs, but also getting the most value out of every dollar spent. To that end, there are two main cost-analysis techniques that can be used to evaluate the efficiency and fiscal merits of programs. Those two are cost-effectiveness, and cost-benefit analysis.

[Slide 34]

The two cost analysis techniques are summarized for your convenience on the slide 34. As can be seen from the table, these analysis techniques differ only in how they consider the outcome measure. For cost-effectiveness analysis, outcome measures are considered in discrete, non-monetary units such as life-years gained or reduced days depressed. For cost-benefit analysis, the non-monetary units are converted to dollar-values to determine the outcome measure used.

[Slide 35]

Cost-effectiveness analysis is: an economic evaluation technique that examines the costs and outcomes of alternative intervention strategies.

This method evaluates the tradeoff between the health benefits and costs of one intervention relative to an alternative intervention. It is important to note that to enable a comparison, the outcomes from both programs must be captured using the same scale and metrics.

Cost-effectiveness analysis summarizes the value of a program into a single measure that reports cost per unit of health benefit. In other words, cost-effectiveness analysis quantifies a program's costs in dollars and quantifies a program's outcomes in nonmonetary units such as "reduced instances of suicidal ideation," "increased days of exercise," or "life years gained."

In cost-effectiveness analysis, a ratio is computed that reports the difference between the cost of the intervention and the cost of the alternative in the numerator and the difference between the health outcome of the intervention and the health outcome of the alternative in the denominator. This ratio answers the question: what is the extra cost to get the extra effectiveness.

[Slide 36]

The second cost analysis technique is cost-benefit analysis.

Cost-benefit analysis is a technique that expresses the program's costs and benefits entirely in dollar terms. This technique supports the cost benefit analysis process previously discussed in the BCA portion of this webinar. However, the ratio equation shown on this slide represents the culmination of the more tedious and foundational work of determining the values associated with identified benefits.

Cost-benefit analysis is more complicated to apply to mental health care than cost-effectiveness analysis because it requires attaching dollar values to outcomes that are not directly measured in dollars, for example, sense of community or depression.

It is recommended that caution be exercised when using cost-benefit analysis to address health care questions, because it involves placing dollar values on quality of life improvements. This is a controversial issue in health discussions. Placing dollar values on an individual's quality of life could bias effectiveness conclusions away from programs benefitting the elderly or the young and towards individuals who make more money and thus have higher market productivity values.

[Slide 37]

Collecting accurate cost data is at the heart of every useful cost analysis. For program administrators considering collecting their own cost data, instituting a standard repeatable process to gather cost information is highly recommended. This recommendation includes the following steps to quantify program cost information:

- First—List the main activities the program performs. Note that after completing the program logic model, as described in a previous webinar, the program administrator will have a clear sense of the activities and services the program delivers, therefore this information will be easily available.
- Second—List the resource categories used to support each program activity. More specifically, review each resource category, such as labor, contracted services, building and facilities, materials and supplies, and donated resources, then determine whether it supports that particular program activity.
- Third—Assess the data available from existing sources such as timesheets, payroll accounts, bills and contracts.
- Fourth—Collect and document the activity costs on a worksheet. Create a standard template to record program resources used by program services delivered. An example is provided on the next slide.
- Fifth—Compute average cost values. Once program cost information is recorded on the cost worksheet, it is straightforward to compute average cost values by activity and overall.

Knowing the cost of each activity helps answer the questions about the total cost of the program and the costs of specific activities.

[Slide 38]

It is useful to develop a cost worksheet to help organize and standardize the process of recording program cost information. A review of the example cost worksheet on slide 38 outlines the recommended information that should be included:

- A title: such as “Total Program Costs”
- The program name, such as “Program Sierra,” a reintegration training program
- The time period that costs represent
- The cost components and resources categories
- The program activities and services provided, and
- Total values

In the best case scenario, costs should be listed by the resource activity and program service.

For example, note that the worksheet illustrates how the total expenditures on materials and supplies were allocated across the four key program activities. This provides a simple way for program administrators to compute summary values for each activity and each resource category.

For this sample program, the cost sheet shows the following:

- This program spent over 169 thousand dollars on labor costs, and almost half of this amount came from administrative costs
- That the largest value of donated resources was allocated to educational activities, and
- The most expensive resources were labor and facilities costs and the most expensive activities were education and administrative

[Slide 39]

After collecting and recording program cost information, average values can be computed to address per unit questions. Slide 39 provides a sample worksheet to record average program costs. The number of program participants has been added with the cost per participant just below it on the worksheet. Cost per participant is recorded as the ratio of the total cost values from the cost worksheet divided by the participant count.

In this example, the cost to this program for delivering education services to one thousand participants is \$132.90 per participant.

In summary, it is clear that once cost values have been recorded, it is a straightforward exercise to compute average values by participant for each key activity and overall.

[Slide 40]

The effective use of business case and cost analysis practices is vital to verifying program effectiveness in resource constrained environments. Therefore, it is important to be aware of some of the more common challenges that arise, how they can potentially be addressed, and what resources are available for support.

[Slide 41]

On slide 41 are questions reflecting a few of the more common concerns that have been expressed in our interactions and trainings with program managers and service leadership. The answers to these questions follow on slides 42 through 44.

[Slide 42]

How do I translate business case analysis terms and concepts for stakeholders in military settings?

One of the first steps to improving the communication of private industry Business Case Analysis concepts in military settings is to ensure the BCA terminology is understood by the stakeholders. For example, the term “investment” becomes “costs,” “profits” become “cost savings” or “cost avoidance,” and “returns” become “cost-effective benefits.”

Business Case Analysis concepts provide a logical framework that effectively incorporates cost-analysis efforts into the decision making process. Military decision makers benefit from side-by-

side comparisons and underlying justifications to assist them in determining the best courses of action, particularly when new programs or proposals are being considered.

Modifications and changes are commonplace among emerging and existing programs. In light of that reality, Business Case Analysis practices can be very useful to program administrators when a project or program considers changes within operational and organizational processes.

[Slide 43]

On slide 43, what should I do if I am unable to obtain information about all of the financial aspects of my program?

Evaluators recognize that collecting accurate, highly detailed information about program costs can be quite burdensome. In general, we recommend collecting the most accurate and precise data needed to answer evaluation questions. Recall that accuracy is the degree to which measured values reflect the true value, whereas precision reflects the degree to which measured values are similar to one another.

This may not seem very intuitive, but if pinpoint accuracy is not feasible, with existing resources, then focusing on precision over accuracy is preferred. The reason for this preference is that precise measurement of costs, such as practical approximations for labor categories, can be reproduced and compared over time.

Donated resources, such as labor provided by service members and civilian Defense Department employees, are a common feature of psychological health and traumatic brain injury programs. These resources are not generally reflected in program budgets and expenditures. However, it may be possible to produce estimates of these expenditures by using published pay scales containing average salaries by service branch or rank.

Finally, be aware that some costs may be difficult to determine for military programs, because they are funded from multiple sources, or because complex procedures are required to obtain information about costs.

[Slide 44]

Another common question is, how do I work with hard-to-quantify benefits?

One of the more challenging aspects of working with psychological health and traumatic brain injury programs is determining how to quantify the benefits and outcomes of program services. As a general rule, cost-related analyses should start with first identifying the focus of key stakeholders and what they will get for the incurred costs. To that end, both tangible and intangible benefits will need to be considered.

While tangible benefits such as improvements in cycle time and positive impacts on readiness are easier to individually quantify, determining the costs factors associated with those benefits will require additional cost-related analyses. For example, what is the cost associated with having only 90% of personnel available for the mission versus having 98% of personnel ready and available for the mission? Quantifying these costs can be a challenge, and will require additional time and expertise.

However, even subjective, intangible benefits such as satisfaction, morale, mission capacity and

quality of care are often quantifiable using the different types of qualitative data analysis techniques presented and discussed in previous webinars.

Now, Captain Thoumaian will provide some concluding statements.
[Slide 45]

Thank you, Mr. Marcus, Mr. Frank, and Ms. Aguirre.

You've heard a great deal today about business case and cost-related analyses, which are essential to building a culture of effectiveness in the Defense Department's system of prevention and care for psychological health and traumatic brain injuries.

[Slide 46]

One key takeaway from this webinar is that Business Case Analysis and cost analyses support program leadership efforts in achieving DoD requirements for cost-effective mission support. The timely availability of accurate and reliable financial information enables leaders and managers to incorporate cost considerations into their decision-making process.

Another key takeaway is that business case analysis strategies can be used to provide evidence and support for a program's effectiveness, which remains critical to a program's survival and to ensuring that service members receive the best possible prevention and care. Ongoing budget challenges create a competitive environment where only the most cost effective solutions will survive.

A third key takeaway is the analysis of program costs can be used to guide program improvement decisions. By analyzing program costs, it is possible to identify opportunities to enhance program effectiveness and efficiencies. Cost analysis efforts strengthen the sustainability of the program, which ultimately results in better support for service members in carrying out their important missions.

I hope you will continue to attend these training presentations and also consult the Program Evaluation Guide and other resource materials on the DCoE website.

Now, back to Ms. Aguirre.

[Slides 47-51]

Thank you Captain Thoumaian. There is a great deal of useful and practical information available to programs on business case and cost-related analyses, which can be used to support program efforts in demonstrating the most cost-effective courses of action to their stakeholders. On slides 48 through 51, we provide a list of relevant references and resources that we think may be useful.

[END]