# PERFORMANCE MEASURES AND COSTS/ COST-BENEFIT ANALYSIS METHODOLOGY

Prepared for the Minnesota Department of Human Services

PERFORMANCE MEASURES AND COSTS/
COST-BENEFIT ANALYSIS METHODOLOGY

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## I. Executive Summary and Scope of Deliverable

Cost benefit analysis (CBA) is a structured, quantitative, data-driven methodology designed to help decision-makers determine whether to implement an initiative, commit to an investment, or pursue a course of action. To that end cost benefit analysis:

- ✓ Captures the one-time and recurring costs and benefits associated with multiple initiatives, investments or courses of action which often are "in competition" with one another for constrained financial and other resources; and

- ✓ Presents these costs and benefits in a standardized framework that facilitates the evaluation and comparison of multiple alternatives.

In this project CBA will be used to evaluate the merits of specific **business process engineering (BPR) initiatives** that would impact the following **in-scope functions**:

- **Health care program eligibility**: eligibility for Minnesota's public health care programs **(MHCPs)**, inclusive of the following **sub-functions**: intake, determination, communication with beneficiaries, maintenance of beneficiary cases post initial eligibility determination, and any related education and counseling.

- **Health plan enrollment**: an MHCP eligible's enrollment into a health plan or similar provider of services within the applicable MHCP, inclusive of any related education and counseling.

- Essential management and support functions associated with MHCP eligibility and health plan enrollment including but not limited to: strategic, tactical and operational planning; budgeting and budget management, performance management at all organizational levels, financial management including related reporting, information technology support, procurement and contract

administration, materials production and management, and professional development/training. At present the Department of Human Services (DHS) is responsible for a number of these functions as it provides critical support to the state-based and county-based "front-line" organizations involved in MHCP eligibility and health plan enrollment.

The evaluation of the merits of multiple BPR initiatives is at the heart of this project.

This report outlines the CBA methodology that Policy Studies, Inc. ("PSI"/"we") recommends for this project. Built into this methodology are our recommendations for how both costs and benefits will be captured and presented. These recommendations encompass the following:

1. **Benefit metrics** – the features of the in-scope functions which are expected to change in a measurable, substantial and beneficial way as a result of the BPR initiatives which will be proposed. When implemented these BPR initiatives will bring about the **optimal administrative structure** for performing these functions. In this report we include the set of benefit metrics presented to and agreed upon by this project's steering committee ("steering committee"). In the report we also discuss how we will gather information to project how these initiatives will impact the metrics;

2. **Cost models** – baseline ("as-is") cost models will be built that reflect the current state of the work activities across the different types of organizations that perform the in-scope functions (**"in-scope organizations"**). These cost models will be presented alongside **process models**. When viewed in concert these models will present a comprehensive picture of current and possible future operations. In this report we recommend the level of detail associated with the cost models, the extent to which the cost models will reflect process variations across the aforementioned

organizations, how we will model the impact of proposed BPR initiatives on how the costs of the in-scope functions are budgeted and how they will be borne by the different entities that fund them: the state of Minnesota, the federal government, Minnesota counties and similar units of government, and possibly private entities; and

3. **Cost-benefit models** – how projected cost and benefit data will be brought together in a comprehensible, easy-to-follow and compelling way that enables comparing the merits of different BPR initiatives and assessing the impact of implementing one or multiple initiatives.

## II. About Cost Benefit Analysis (CBA)

Ultimately CBA is about establishing whether to implement an initiative, commit to an investment, or pursue a course of action. In its most straightforward form, a cost-benefit analysis is built on the following:

- The value of benefits associated with a proposed initiative; and
- The costs associated with the initiative.

CBA is meant to be an unbiased input to decision making, i.e. one that does <u>not</u> incorporate political, legal, regulatory and other factors that cannot be quantified easily if at all or are otherwise beyond the control of the project's decision makers.

### *The language of CBA – key concept and terms*

The language of CBA is somewhat arcane but is nonetheless critical to building a sound cost-benefit model and to getting the most out of one:

- Benefits are **realized**, whereas costs are **incurred**;

- Benefits and costs are measured over a **planning horizon**, an agreed-upon period of time over which the merits of the initiative will be evaluated;

- Both benefits and costs can be **one-time** or **recurring;**

- Benefits can be easier to quantify – **"harder"** – or harder to quantify – **"softer"**. Softer benefits are sometimes referred to as "intangible" benefits; we do not recommend the use of the term "intangible" because of the connotation that this term has acquired (it suggests that these benefits cannot be measured or even achieved);

- Very often the benefits of an initiative are **quantifiable**. Whenever possible potential and actual benefits should be quantified as doing so can add credibility and weight to the CBA;

- While most benefits are quantifiable, benefits cannot always be **monetized**. Monetization of benefits is the assignment of a financial or monetary value to a benefit, which in turn enables direct comparison of the benefits of an initiative to its costs. Sometimes benefit monetization is based on assumptions or "rules of thumb" derived from past studies and attempt to assign value to, for instance, a constituent's life or an hour of his/her time. Monetization of these types of benefits is often challenged, and thus it must be pursued very selectively; and

- Generally both the costs and benefits of an initiative are **discounted** to account for the **time value of money**: all things being equal, it is always preferable to have a given amount of money <u>now</u> than in the future. Cash flows are discounted by reducing future benefits and costs by a **discount rate.** Often the discount rate is set to the interest an investment can earn if invested conservatively during the period in question, or to the

**cost of** borrowing **capital** for a particular investment. The discounted value of the **cash flow streams** – costs and monetized benefits – associated with an initiative is referred to as its **net present value**. The formula used for discounting is discussed in Appendix I.

*Key CBA outputs and statistics*

In any CBA the relative benefits and costs of an initiative are condensed and expressed as one of the following statistics:

- **Net present value (NPV)**: the value of an investment's future cash flows – monetized benefits less costs – minus initial expenditures. If this figure is greater than zero, the investment should be pursued unless an even better investment possibility – one with a greater NPV – exists;

- **Payback**: the time that it takes to "break even" on an investment based on the cumulative costs and monetized benefits associated with an initiative;

- **Internal rate of return (IRR)**: the hypothetical discount rate that makes an initiative yield a zero net present value. IRR is an alternative method of evaluating investments – an initiative with an IRR greater than the discount rate should be pursued; and

- **Benefit-cost ratio (BCR)**: the ratio of the monetized benefits of an initiative/investment relative to its costs.

Exhibit 1 illustrates how a CBA of the type we are proposing for this project would be presented in the form of a **CBA profile**. In this example the costs and benefits of the initiative are not discounted. How other important considerations associated with an initiative, such as the time to implement the

initiative, would be presented is also illustrated. These “other considerations” are discussed in Section VI of this report.

## EXHIBIT 1 – SAMPLE COST BENEFIT ANALYSIS (CBA) PROFILE

*Planning time horizon*

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | CUMULATIVE |
|---|---|---|---|---|---|---|
| **COSTS** | | | | | | |
| Implementation | 1,200,000 | 500,000 | | | | **1,700,000** |
| Recurring | | 300,000 | 400,000 | 400,000 | 400,000 | **1,500,000** |
| **BENEFITS - MONETIZED** | | | | | | |
| One-Time | | 800,000 | | | | **800,000** |
| Recurring | | 800,000 | 800,000 | 800,000 | 800,000 | **3,200,000** |

| **CBA Statistics** *not accounting for time value of money, i.e. no discounting of costs or benefits* | |
|---|---|
| Net benefit ($): | 800,000 |
| Payback/"break even" point: | 3 YEARS |
| Benefit-cost ratio: | 25% |

**BENEFITS OTHER QUANTIFIABLE**

| Metric | | Desired Outcome | Target/ Expected Value |
|---|---|---|---|
| 1 | Change in employee job satisfaction | + | *10%* |
| 2 | Change in usefulness/value of information on printed materials | + | *15%* |
| 3 | Change in time to process and apply premium payments | - | *-10 min.* |
| 4 | Change in mean call center abandonment rate | - | *- 5%* |

## OTHER CONSIDERATIONS

| | Least desirable (- to +) | Notes/Comments |
|---|---|---|
| 1. Time and effort to obtain approval for initiative | | |
| 2. Time and effort to implement initiative | | |
| 3. Time to "steady-state" operations | | |
| 4. Initiative's learning and disruption factor - staff | | |
| 5. Initiative's learning and disruption factor - constituents | | |

| | Most desirable (- to +) | Notes/Comments |
|---|---|---|
| 6. Initiative's salability - champion(s) within state/executive | | |
| 7. Initiative's salability - champion(s) within state/legislative | | |
| 8. Initiative's salability - champion(s) within county community | | |
| 9. Initiative's salability - champion(s) within advocacy community | | |

| | Least desirable (- to +) | Notes/Comments |
|---|---|---|
| 10. Initiative's politics index (+ = highly political) | | |

## III. General Assumptions

The following assumptions will apply to the cost-benefit analyses that will be built as part of this project:

1. **Planning horizon**: For the purposes of this project the planning horizon will be five (5) years, which is typical of analyses of this kind.

2. **(Cost) Inflation factor**: we will assume three (3) percent per year throughout the planning horizon. This should be in keeping with the inflation factor for the in-scope functions which is built into the plans and budgets of the in-scope organizations.

3. **Discount rate**: we will assume six (6) percent. This rate should be consistent with the rate used in budget projections and cost-benefit analyses built by the applicable state and local agencies.

4. **Useful life of IT and equipment** –five (5) years, under the assumption that all called-for preventive maintenance, repairs and upgrades are performed during that period. This useful life assumption is also consistent with the project's planning horizon.

5. **Workload/activity drivers –** we will build into our cost models the same projections for workload that will be used in or generated by process models including but not limited to:
   - Number of program eligibility applications processed
   - Number of constituents with whom the in-scope organizations interact/can interact during a period of time
   - Number of program beneficiaries in a county/region

- Number of residents in a county/region

For cost modeling purposes these figures will be collected from historical statistics, interviews with key staff supporting the in-scope functions, and the process models being developed for this project.

## IV. Benefit Modeling and Metrics

With the support and input of the steering committee, we have developed benefit metrics for this project. These metrics will be used to project the impact of the proposed BPR initiatives on the in-scope functions.

The metrics have been organized along four **benefit domains**; these domains are aligned with the goals of the BPR project:

1. To improve **administrative cost-effectiveness** by finding ways to use resources more effectively. The focus of this set of benefits is on the **direct and semi-direct costs** incurred by the organizations performing the in-scope functions. Direct and semi-direct costs will be defined and explained in more detail in a subsequent section.

2. To improve **customer service** by designing improved, simplified processes while reducing the burdens on the supporting systems. In the context of this project "customer service" encompasses the following:
   - ✓ A constituent's access to relevant information on and materials (applications, forms, etc.) related to the in-scope functions;

- ✓ The ease with which constituents can access state and county staff who can work with them on eligibility and enrollment matters;
- ✓ The quality of interactions between constituents and said staff, quality defined herein as characteristics of the constituent's experience with the staff that can be measured through surveys, focus groups and similar methods; and
- ✓ The time and effort associated with a constituent "navigating the system", collecting information, providing information, completing applications and forms, etc.

3. To increase **administrative flexibility**. As articulated by the steering committee, administrative flexibility would be achieved by:
   - ✓ Improving the ability of the in-scope organizations to manage unexpected changes in workload;
   - ✓ Improving the in-scope organizations' ability to expeditiously incorporate changes in laws, regulations, policies and procedures into their operations; and
   - ✓ Enabling the in-scope organizations to redirect constrained staff to more ***value-adding activities*** through the reduction of ***non-value-adding activities***. The steering committee identified activities it deemed as value-adding vs. non-value adding. The matrix of these activities – the "Process Value Matrix" – is included in this report as Appendix II.

4. To improve **program integrity** – to be accomplished by reducing eligibility determination errors, errors in case files (paper-based or electronic files), lost files, premium calculation errors, and the associated financial exposure (e.g. potential fines or disallowances by the Federal government).

The four benefit domains are illustrated in Exhibit 2. Representative metrics within each domain are included in the exhibit.

Benefit metrics may "bleed into" multiple benefit domains – this should be expected. The benefit domain structure serves primarily as a framework for facilitating discussions on metrics, particularly the initial identification and formulation of said metrics.

The **Benefit Metrics Profile (BMP)**, a worksheet with the complete set of benefit metrics proposed for this project, is included in this report as Appendix III. The BMP contains key characteristics for each metric:

- **Targets** associated with each metric, to the extent that they have already been defined for the project.
- Whether the metric lends itself to quantification and, if so, the method(s) of quantification associated with the metric.
- Whether the metric lends itself to monetization.

We have also included clarifying notes for select metrics.

EXHIBIT 2 – BENEFIT DOMAINS ASSOCIATED WITH THIS PROJECT (WITH SAMPLE METRICS)

**Administrative Costs**

***Sample*** *metrics:*

- Direct costs (function/process)
- Cost growth rate (inflation)
- Cost per unit of service

**Customer Service**

*Access to information and services, quality of customer interactions, cost of interactions to the customer*

- "Value adding" customer interactions
- Beneficiary satisfaction with process/ reduction of beneficiary complaints
- Paperwork completion time
- Usefulness of information on printed materials/Web site

**Administrative Flexibility**

***Sample*** *metrics:*

- Ability to handle significant changes in workload
- Ability for same staff to handle different types of cases
- Enable same level of staff (or lowel level of staff) to handle more or more complex cases

**Program Integrity**

- Eligibility determination error rate
- Duplicate cases/eligibles
- Exposure to PERM-related penalties

In facilitated sessions held with steering committee comments during April and May of 2007, the committee agreed on the following set of metrics which will be given priority in the cost-benefit analysis – when evaluating BPR initiatives the focus will be on how these initiatives impact the following benefit metrics:

1. Impact on overall **administrative structure costs (in-scope costs)**, where the highlighted term is defined as the costs incurred to perform the in-scope functions across all of the organizations involved in performing, managing or overseeing these functions. These organizations include the state's Department of Human Services (DHS), which bears a significant percentage of these costs in its budget, and the 80-plus entities that serve as the "front-end" to the in-scope functions across the state. As needed and if possible costs will be distinguished by program, e.g. MinnesotaCare-specific costs.
2. Impact on the growth rate of administrative structure costs
3. Impact on overall in-scope costs on a per case basis
4. Impact on the average cost and/or processing time: *application intake and review*
5. Impact on the average cost and/or processing time: *eligibility determination*
6. Impact on the average cost and/or processing time: *case maintenance*
7. Impact on the average cost and/or processing time: *health plan enrollment*

8. Impact on the average cost and/or processing time, certain resource-intensive processes within the eligibility determination sub-function: *long-term-care asset assessment*
9. Impact on the average cost and/or processing time, certain resource-intensive processes within the eligibility determination sub-function: *disability certification*
10. Impact on overall processing time - average and variability
11. Impact on the percentage of cases not processed timely
12. Impact on overall staff productivity and work capacity
13. Impact on constituent access to relevant information and materials
14. Impact on constituent access to appropriate staff
15. Time and effort associated with a constituent "navigating the system": determining what needs to be done to complete a transaction, collecting information, providing information, completing forms, etc.
16. Quality of interactions: constituent's experience with staff
17. Impact on the ability to manage unexpected changes in workload
18. Impact on the ability to incorporate changes in laws, regulations, policies and procedures into existing operations
19. Impact on the ability to redirect constrained staff to more *value-adding activities* (as defined by the Steering Committee; ref. Appendix II)
20. Impact on the ability to implement a variety of **case management models**: the degree to which a reengineered administrative structure for MHCPs could be leveraged to improve how other human services programs, such as income maintenance, are administered

21. Impact on premium calculation accuracy
22. Incidence of lost/misplaced files
23. Impact on eligibility determination accuracy and the associated financial exposure.

This list is by no means all-inclusive; it captures those metrics that the steering committee deemed most critical to determining whether the goals of the BPR project were achieved. Nevertheless all of the metrics included in the BMP are significant and should be incorporated into the methodology and tools for assessing the benefits realized by implementing select BPR initiatives. This methodology and tools will be addressed in the last deliverable of this project.

Additionally it should be noted that these metrics will be fleshed over the course of the data collection and as-is state modeling phases of the project. During that same period targets for these metrics will be formulated and discussed in steering committee forums. In this type of project the target development process is inherently iterative.

# V. Cost Modeling

## *Model underpinnings*

The cost modeling methodology being proposed for this project is based on cost models developed for government clients in Georgia, Iowa and Ohio. It was built to be consistent with relevant federal guidelines including the guidelines published in the following Office of Management and Budget (OMB) circulars:

- A-76: Performance of Commercial Activities
- A-87: Cost Principles for State, Local, and Indian Tribal Governments
- A-94: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

Adherence to these guidelines enhances the defensibility of these cost models, and it ensures that the models are being built using widely recognized concepts and terminology.

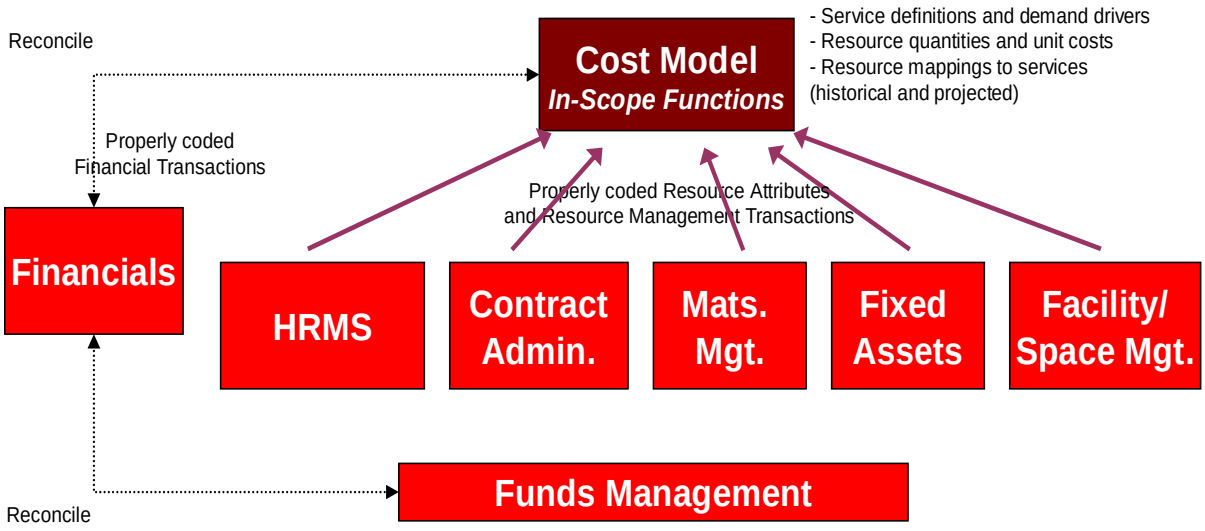
Additional information on these publications can be found in Appendix IV.

## *Cost modeling methodology*

Cost modeling is also referred to as costing or cost accounting. From a systems perspective the cost model is the "engine" that transforms data from financial accounting, human resources, asset management and other systems into relevant management information – the basis for data-driven decision making. The general approach to compiling data for a cost model is illustrated in Exhibit 3 (next page).

EXHIBIT 3 – GENERAL APPROACH TO BUILDING A COST MODEL

*Orange "boxes" represent data sources.*




Once the in-scope functions have been appropriately defined and modeled, the actual cost modeling exercise begins by selecting in-scope organizations for which cost models will be built – "**model organizations**". These organizations have been deemed to be representative of the various types of organizations

performing the in-scope functions in the state. For this project we have selected the following model organizations:

1. Hennepin County
2. Ramsey County
3. Steele County
4. Kittson County
5. Lincoln, Lyon and Murray Counties
6. MinnesotaCare Operations

Next, the organization's **in-scope resources** – the elements of the organization that are tied to, or consumed in, performing the in-scope functions - are grouped into the following **resource classes**:

1. **Manpower** – include employed staff and contracted labor. The **fully loaded cost** of a manpower resource includes: salaries and benefits, materials, equipment (IT, such as phones and desktop computers, and non-IT, such as workspace furniture) and software directly tied to an individual resource, travel when it is a requirement of the resource's job, and the costs of recruiting and training these resources.

2. **Information and Communications Technology (IT)** – information systems: business applications and the operating environments (hardware and software) these applications run on; call management systems; data and voice communications systems and infrastructure including telecommunications services. The fully loaded cost of these resources includes the cost of acquiring, maintaining and as needed upgrading these technologies, e.g. software maintenance contracts. It also includes the costs to operate the systems, including user administration, access management and network security management.

3. **Materials** – consumables and supplies including mass-printed documents such as forms, brochures, bulletins, etc.

4. **Equipment (non-IT)** – examples include furniture, storage devices such as filing cabinets, and imaging devices such as copiers. The fully loaded cost of these resources includes the cost of acquiring and maintaining the equipment, e.g. preventive maintenance contracts.

5. **Facilities** – in addition to acquisition and/or renting/leasing costs, the fully loaded cost of a facility includes the cost of utilities, facility upkeep/maintenance, environmental services, fire suppression systems, access management systems and security services.

6. **Transport/Shipping/Postage** – as part of our analysis we will estimate the impact of HealthMatch and other process automation tools on these costs.

7. **External Service Providers** – costs related to the outsourcing of an entire in-scope function or selected processes within one of these functions.

For a greater level of detail in the cost model, resources within a resource class can be organized into **resource sub-classes** using agreed-upon classification schemes. For instance, manpower resources can be sub-classified along job types.

Resources are also classified based on the nature of the work they are performing relative to the activities that are being studied. The classification scheme is as follows:

- **Direct resources**: resources that are essentially dedicated to any of the in-scope functions.

- **Semi-direct resources**: within the in-scope organizations, (1) management and administrative support resources and (2) resources that contribute time and effort to/support multiple functions or programs.

Once the in-scope resources have been identified, they are **mapped** to specific functions and processes. This mapping exercise occurs within the process modeling component of the project. Then, using the fully loaded costs associated with these resources, cost models for specific functions or processes within these functions are built as follows:

- Direct resources and costs are **attributed**: true of direct manpower; usually true with certain materials, transport/shipping/postage and external service providers.

- Semi-direct resources and costs are **associated**: a percentage of the cost of each of these resources would be *associated* with a particular function based on a generally accepted **cost association basis.** A cost association basis used often in cost modeling is the ratio of (A) the direct cost tied of a particular function to (B) the direct cost of all functions that utilize the semi-direct resource.

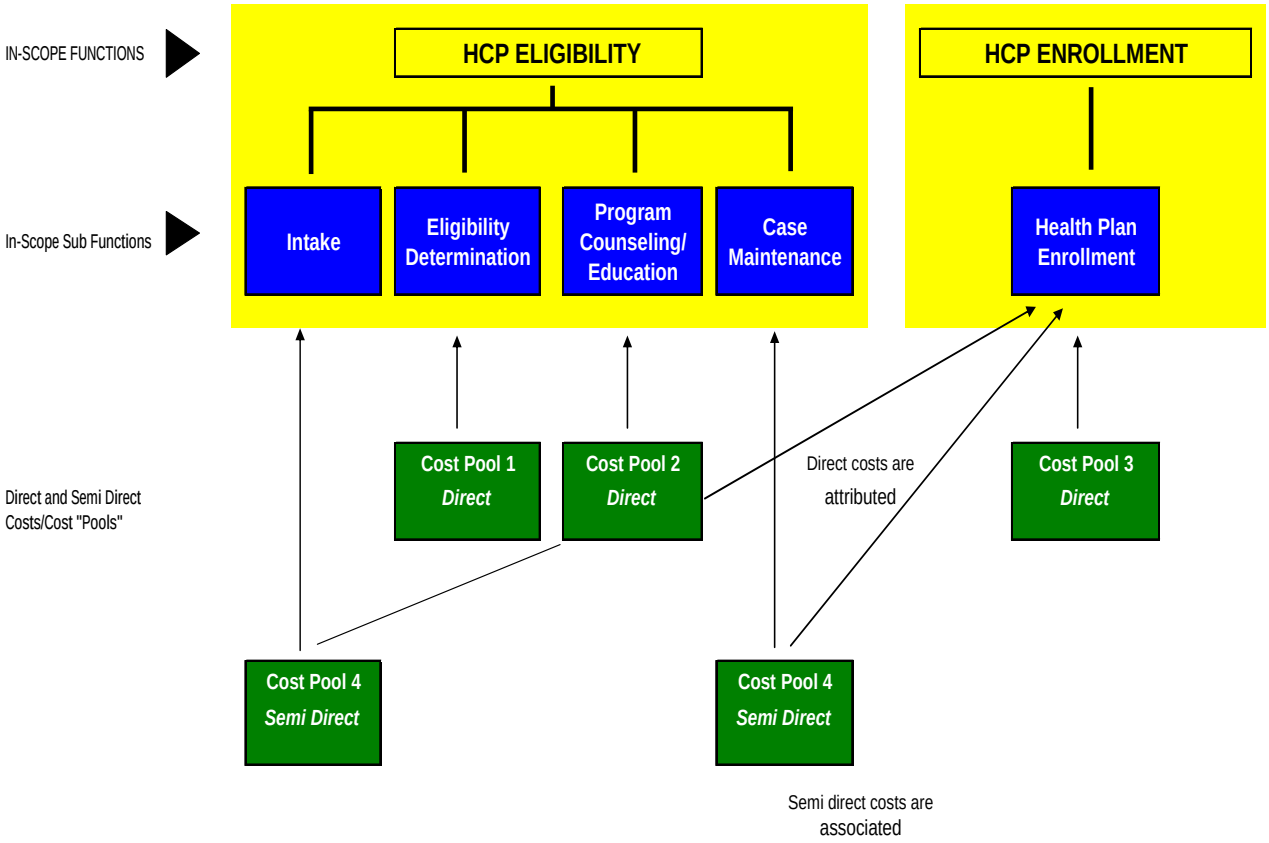
The cost modeling process is illustrated in Exhibit 4 (next page); the cost model templates proposed for this project are included in Appendix V. Note that:

- Cost models will be built for each year in the project's planning horizon
- The assumptions discussed in Section III of this report, as well as assumptions built into the process models, will be incorporated into the cost models;
- Cost models will be built for each model organization/**organization type** as agreed upon for process modeling purposes;

- At a minimum the cost models will be built for each in-scope function by **resource class**. If the level of detail that can be derived from the available source data supports it, the cost models will be built with greater granularity; e.g. manpower costs will be presented by manpower sub-class/job type, or the costs of the MHCP eligibility function will be broken down by sub-function (refer to Exhibit 4); and
- The cost models will be built by **budget entity** – this perspective on costs is distinct from the *fund source analysis* which will be addressed in the next section. Because of its potential impact on how certain functions are performed, and on who will perform the functions, it will be important to ascertain which entities are bearing the costs of certain key resources, e.g.

  the extent to which DHS may be covering the cost of employee training, IT services and printed materials for all of the local organizations performing the in-scope functions.

EXHIBIT 4 – COST MODELING PROCESS – GENERAL APPROACH




## *Financing (Fund Source) Analysis and Modeling*

In order to analyze the fund source mix – state, federal and other fund sources – associated with the in-scope functions we will collect information on how the costs of these functions are allocated for county, state and federal funding purposes. To that end we have requested copies of the budgets and **cost plans** of the model organizations. These documents should provide insight into the fund sources, including state and federal programs, which support the in-scope functions. If cost allocation plans are based on work sampling studies such as *random moment sampling*, we would also want to review the results of these studies.

The cost models will contain information about the breakdown of costs by fund source/program: state, federal, county/municipality and private (refer to Appendix V). Changes to the mix of funds associated with the in-scope functions resulting from the BPR initiatives will be modeled and presented. This will enable simulating the impact to certain funding streams of changes in the administrative structure.

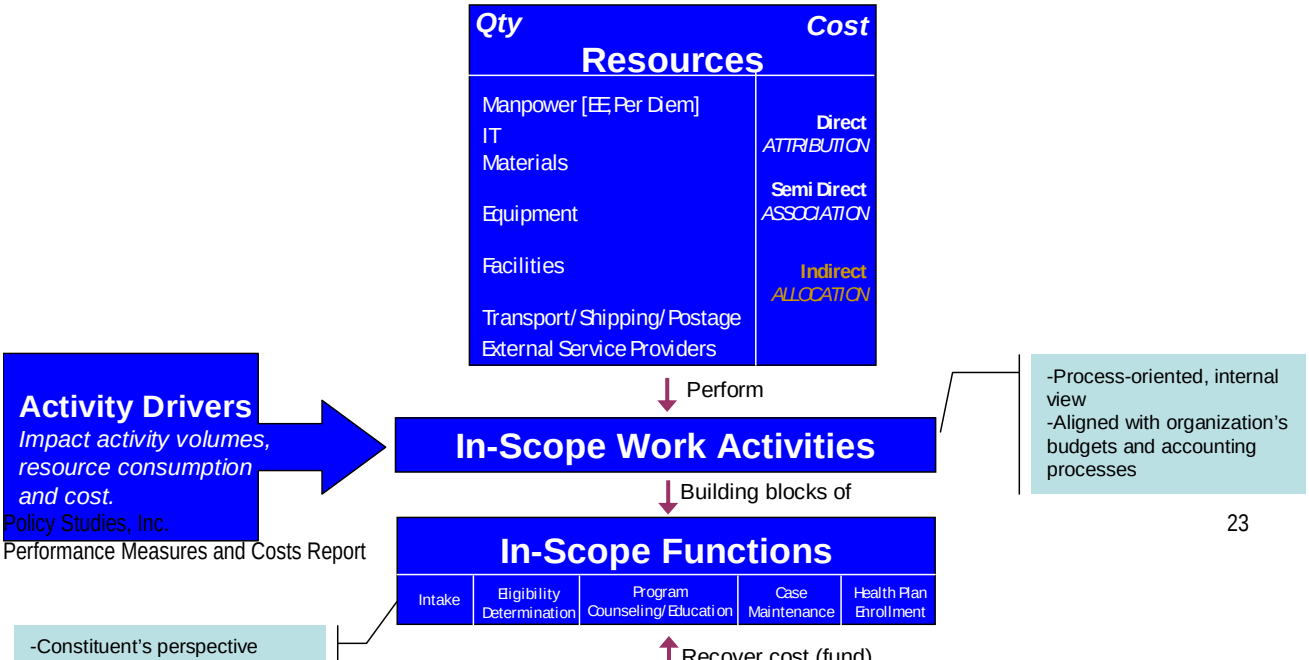
Ultimately the cost models will reflect:

- Projections of the volume and mix of work activities associated with the in-scope functions;
- Projected changes in workload/activity drivers;
- The mix of resources involved in performing the in-scope functions before and after factoring administrative structure changes;
- The fully loaded cost of these resources; and
- How all of these changes impact the mix of funds supporting the functions.

This comprehensive perspective of cost modeling is illustrated in Exhibit 5.

A key intent of this cost modeling process will be greater insight into what organizations are responsible for funding and contributing resources to the in-scope functions.

EXHIBIT 5- COMPREHENSIVE PERSPECTIVE ON COST MODELING



## VI. Cost-Benefit Modeling

The project's CBA team has partnered with the project's process modeling team to develop a methodology for modeling costs and benefits that is "joined at the hip" with the process analysis and modeling methodology to be used in this project. The teams have also partnered in the identification of benefit metrics, since these are directly related to the measurement of net benefits associated with a particular process design or system. Finally, the CBA team will utilize key outputs of the process modeling activities, as well as various research and data collection methods, to built cost-benefit models for current operations and the BPR initiatives.

Cost-benefit models will be built by bringing together key outputs of cost models and the estimated values of benefit metrics as compiled for the following scenarios:

- "Baseline"/"as-is": models that reflect no changes in the current in-scope functions or organizations;

- "As-is" with HealthMatch: assumes implementation of HealthMatch as currently envisioned; and

- "Optimal administrative structure": assumes implementation of one or more BPR initiatives. The impact of each of these BPR initiatives will be modeled. Each initiative will reflect use of HealthMatch and other information technologies, ideas for leveraging different organizations, and suggestions for simplifying and streamlining certain processes. As part of this exercise we will also build a "consolidated" scenario that looks at the composite impact of all of the recommended BPR initiatives.

An integral part of the CBA modeling process will be **sensitivity analysis**, the exploration of the impact on costs, benefits and funding mix of implementing – or not implementing – different combinations of BPR initiatives.

### *Documenting Costs and Benefits*

The CBA team has submitted or will submit requests for information for collecting the following information:

1. Budget information – expense projections and fund sources – for the model organizations for the last three years, with clarifying notes on budgetary changes during that period. At a minimum the budget information should contain detail on projected expenditures by resource class (manpower, IT, materials, etc.), and ideally it would already be organized in that manner.

2. Cost allocation plans and related documents, including but not limited to work sampling studies.

Additionally, the CBA team will leverage information which has been or will be collected by the process modeling team, specifically:

3. Historical statistics on workload/activity drivers

4. Additional information on resource utilization by resource class/sub-class and function/sub-function gathered through process modeling interviews and site visits.

The CBA team will use the outputs of the process models that will be developed for the "as-is" scenario and for the modeled BPR initiatives.

Finally, the CBA team will conduct site visits and phone interviews with the six model organizations selected for process and cost modeling. The team has targeted the week of June 4, 2007 for these contacts. The primary goal of these contacts is to collect baseline info on the "softer" benefit metrics – metrics for which we will not be able to collect information from the process modeling activities because they do not lend themselves to that data collection method. We will also use these contacts to discuss and validate budget and cost data specific to the organization.

We propose to meet with the state project manager and with the steering committee on the discussion topics and questions for the site visits and phone interviews. These discussion topics and questions will reflect the priority given by the steering committee to specific benefit metrics (refer to Section IV). We will then finalize the topics and questions after reviewing observations gathered from the process modeling site visits; these site visits will be conducted the weeks of May 7 and May 14, 2007. In order to allow for appropriate preparation, the topics and questions for the CBA contacts will be finalized and communicated to the appropriate resources at least one week prior to the first scheduled contact.

## *BPR Considerations: Beyond Costs and Benefits*

In evaluating BPR initiatives there are considerations not tied to specific costs or benefits that may need to be factored into a cost-benefit analysis. The steering committee has agreed to incorporate the following considerations into the CBA methodology; additional work may be required to agree on the weights they will be given in the CBAs:

1. The time and effort that will be required to obtain approval for a particular initiative.

2. The time that will be required to implement the initiative and for operations to reach a "steady state" post implementation.

3. The effort that may be required to implement the initiative - the initiative's "implementation curve" :
   - Learning curve for staff;
   - Learning curve for constituents and MHCP enrollees;
   - The disruptive effect that the initiative may have on staff; and
   - The disruptive effect that the initiative may have on constituents and MHCP enrollees.

4. The initiative's salability - does the initiative have:
   - A sponsor/champion within DHS;
     A sponsor/champion within the Governor's office;
   - A sponsor/champion in the state legislature;
   - Support within the county community, e.g. a county association;
   - Support within the employee community including unions;
   - A positive perception among advocacy groups and the beneficiary community; and
   - A positive perception within the media.

5. The initiative's "politics index" – the extent to which the initiative may have political implications or, conversely, the extent to which politics may impact the design or implementation of the initiative.

### *Presenting Costs and Benefits*

We propose to present the results of each cost-benefit analysis using the format in Exhibit 1. We believe this succinct, visually-oriented approach to presenting costs and benefits –hereafter referred to as the **CBA Profile** – will be effective in conveying this information to various stakeholders. Depending on the audience, the detail in the CBA Profile will be expanded to enable "drilling down" into the effect of specific initiatives on a work activity, certain resources and certain costs. Additionally, the CBA Profile will include information on BPR considerations that are not tied to specific costs or benefits that are incorporated into the CBA as determined by the steering committee.

In addition to a CBA profile for each BPR initiative and the modeled combinations of these initiatives, we propose building "business case fact sheets" that summarize the key features of each initiative and its projected costs and benefits. A sample fact sheet from a previous project is included as Appendix VI.

# APPENDIX I. DISCOUNTED CASH FLOWS AND NET PRESENT VALUE

Net present value (NPV) is a quantitative method used to estimate the attractiveness of an investment opportunity. To calculate NPV, projections of future net cash flows – inflows (income/monetized benefits) less outflows (expenses/costs) – are **discounted** to account for the time value of money: the premise that an investor prefers to receive a set amount of money today rather than an equal amount in the future, all else being equal.

NPV is usually calculated in two steps; **Step 1** involves calculating the discounted cash flow (DCF) associated with the proposed investment:

$$DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \ldots + \frac{CF_n}{(1+r)^n}$$

CF = Cash Flow

r = discount rate

In the Step 1 formula:

- Each fraction represents a year in the planning horizon of the analysis, where n is the number of years in the planning horizon.
- Annual cash flows (CFs) are net: inflows less outflows.
- The discount rate ( r ) used in the formula can be the interest that the money originally invested would have earned if invested conservatively in securities such as stocks or bonds. Alternatively *r* can be the interest paid on monies borrowed for investment purposes.

**Step 2** takes the result of the Step 1 formula and factors in the upfront costs associated with the investment ($C_0$ in the following formula) to arrive at the investment's NPV:

$$NPV = DCF - C_0$$

If the NPV of the proposed investment is positive, it should be accepted. Conversely, if its NPV is negative the investment should probably be rejected on

the basis that future cash flows will not make up for the initial outlay associated with the investment.

## Performance Measures and Costs Report - APPENDIX II: PROCESS VALUE MATRIX

Based on internal discussions and Steering Committee meetings.

**Premise**

Value adding processes and customer interactions…

- Increase process performance and/or outcome predictability/certainty
- Reduce laboriousness
- Lead to "continuous engagement" with customers vs. discrete, "time stressed" interactions

| Value Adding Processes and Customer Interactions | |
|---|---|
| 1 | F&A investigations |
| 2 | Collateral contacts |
| 3 | Required verifications |
| 4 | Engage in greater discussion on benefits with clients - all SC members agreed with this |
| 5 | More education on how benefits are administered, especially in a managed care delivery system |
| 6 | More education on how to "navigate the environment" |
| 7 | Automation of more basic/straightforward processes so efforts can be concentrated on "problem cases" |

| Non-Value Adding Processes and Customer Interactions | |
|---|---|
| 1 | Manual verifications (where systems that should be accessible and have definitive verification info cannot be accessed) |
| 2 | Repopulation of forms/materials |
| 3 | Tracking down clients for application completeness issues |
| 4 | Back and forth re: verifying info in application |
| 5 | Paper handling that takes up time away from customers |
| 6 | Dealing with application status calls |
| 7 | Redundant requests for information (analogy: doctor's office) |
| 8 | Churning between/among programs |
| 9 | Interactions resulting from "too much info"/"irrelevant info" - amount of material applicants get, and the size of the app, were brought up |

***Minnesota Health Care Connect Project***

**Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)**

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics.**
**Many metrics classified under one domain "bleed into" other domains.**

| | | | | **OBJECTIVE (TARGET):** | Quantifiable? | Quantification Method | | Monetize? | NOTES/COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| **BENEFIT DOMAIN / BENEFIT METRIC:** | | | | *Specific, Measurable, Aggressive, Realistic, Time-Based* | | *Primary/ Used Most Often* | *Other* | | |
| **1 Administrative costs** | | | | ***Overarching objective: cost-effectiveness ("bang for the buck")*** | | | | | |
| ***FINANCIAL*** | 1.1 | | Overall costs (operating) | Reduce by x$ or y% by t | Yes | Budget/Acctg. Data Analysis | Process Modeling | Yes | Break out by organization/type of organization. Focus on direct and semi-direct costs (those that can be impacted directly by proposed initiatives). |
| | 1.2 | | Unit costs (operating) | Reduce by x$ or y% by t | Yes | Budget/Acctg. Data Analysis | Process Modeling | Yes | Define **unit** in the context of this project:<br>- (Weighted) eligibility application<br>- Enrollment transaction |
| | 1.3 | | (Operating) cost growth rate/inflation rate | Reduce by x% by t | Yes | Budget/Acctg. Data Analysis | Process Modeling | Yes | Will need to establish a "baseline" inflation rate. Factor in projected increase in eligibles or enrollees (by program, if necessary/applicable) |
| | 1.4 | | Direct and semi-direct (DSD) costs associated with a function/process, case type, organization type, resource type - drill down as needed | Reduce by x$ or y% by t | Yes | Budget/Acctg. Data Analysis | Process Modeling | Yes | |
| | | 1.4.1 | Particular **function/process**? | | | | | | |
| | | 1.4.2 | Particular **case type**? | | | | | | Define **case types** |
| | | 1.4.3 | Particular **resource type**? | | | | | | Resource types: Manpower, IT, Materials, Equipment, Facilities, External Service Providers |
| | 1.5 | | DSD costs associated with a particular *resource type:* | Reduce by x$ or y% by t | Yes | Budget/Acctg. Data Analysis | Process Modeling | Yes | |
| | | 1.5.1 | Manpower (fully-loaded including training, travel, etc.) | | | | | | |
| | | 1.5.2 | Information Technology (systems, infrastructure) | | | | | | |
| | | 1.5.3 | Materials/Supplies | | | | | | |
| | | 1.5.4 | Equipment (non-IT) | | | | | | |
| | | 1.5.5 | Facilities | | | | | | |
| | | 1.5.6 | External Service Providers | | | | | | |

*Project*

**Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)**

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics.**
**Many metrics classified under one domain "bleed into" other domains.**

| | | | **BENEFIT DOMAIN / BENEFIT METRIC:** | **OBJECTIVE (TARGET):** *Specific, Measurable, Aggressive, Realistic, Time-Based* | Quantifiable? | Quantification Method: *Primary/ Used Most Often* | Quantification Method: *Other* | Monetize? | NOTES/COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| ***PRODUCTIVITY*** | 1.11 | | Eligibility determination process turnaround time, average - stratify by case type if applicable | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | Drill down into particular processes if applicable and of value. Option: set control limits and a target for process TAT only exceeding x n% of the time or less. Acknowledge that targets may vary by type of organization and case. |
| | 1.12 | | Eligibility determination process turnaround time, variability - stratify by case type if applicable | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | Option: set control limits and a target for process variability only exceeding x n% of the time or less. Acknowledge that targets may vary by type of organization and case. |
| | 1.13 | | Health plan enrollment process turnaround time, average - stratify by case type if applicable | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | Option: set control limits and a target for process TAT only exceeding x n% of the time or less |
| | 1.14 | | Health plan enrollment process turnaround time, variability - stratify by case type if applicable | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | Option: set control limits and a target for process variability only exceeding x n% of the time or less |
| | 1.15 | | Eligibility determination transaction volumes/throughput - stratify by case type if applicable | Increase potential throughput (work capacity) by x transactions/y% by t | Yes | Statistical Analysis | Process Modeling | | |
| | 1.16 | | Health plan enrollment transaction volumes/throughput - stratify by case type if applicable | Increase potential throughput (work capacity) by x transactions/y% by t | Yes | Statistical Analysis | Process Modeling | | |
| | 1.17 | | Time to "screen"/"triage" application | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | |
| | 1.18 | | Time to assemble case files - stratify by case type | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | |
| | 1.19 | | Time for processing and applying premium payments (MinnesotaCare) | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | |
| | 1.20 | | Redundant data entry | Reduce by x or y% by t | Yes | Process Modeling | | | |
| | 1.21 | | Data entry error rate | Reduce by x, y% or to z/100 transactions by t | Yes | Statistical Analysis | Usability Testing | | Would require a baseline - based on actual records or heuristics |
| | 1.22 | | Document imaging error rate | Reduce by x, y% or to z/100 transactions by t | Yes | Statistical Analysis | Usability Testing | | Would require a baseline - based on actual records or heuristics |
| | 1.23 | | Time to obtain verification and complete verifications (as needed) - average | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | As applicable stratify by type of case and/or organization. Goes to how this info is collected and the extent to which these processes can be system-enabled or, in some instances, automated. |
| | 1.24 | | Time to obtain verification and complete verifications (as needed) - variability | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | As applicable stratify by type of case and/or organization. Goes to how this info is collected and the extent to which these processes can be system-enabled or, in some instances, automated. |
| | 1.25 | | Time to complete documentation of a call/customer interaction - average | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | As applicable stratify by type of case, organization or interaction |
| | 1.26 | | Time to complete documentation of a call/customer interaction - variability | Reduce by x unit of time or y% by t | Yes | Statistical Analysis | Process Modeling | | As applicable stratify by type of case, organization or interaction |
| | 1.27 | | Staff utilization rate - stratify by organization or org unit (call center, service center, back office, etc.) | Increase by x%/ average y% +/- z% by t | Yes | Statistical Analysis | Process Modeling | | Goes to optimizing Manpower/External Service Provider resource use (scheduling, coverage). |
| | 1.28 | | (Weighted) case load per worker | Increase by x%/ average y% +/- z% by t | Yes | Statistical Analysis | Process Modeling | | Weighting cases would be required for this to be an effective metric. |
| | 1.29 | | Time to train new staff on function/process | Reduce time spent on these activities by x% or to y days by t | Yes | Statistical Analysis | | Yes | |
| | 1.30 | | Staff retention rate | Increase by x% / to y% by t | Yes | Statistical Analysis | | Yes | |

*Project*

**Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)**

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics. Many metrics classified under one domain "bleed into" other domains.**

| | | | | | Quantifiable? | Quantification Method | | Monetize? | |
|---|---|---|---|---|---|---|---|---|---|
| **BENEFIT DOMAIN / BENEFIT METRIC:** | | | | **OBJECTIVE (TARGET):** *Specific, Measurable, Aggressive, Realistic, Time-Based* | | *Primary/ Used Most Often* | *Other* | | NOTES/COMMENTS |
| **2 Customer service: access to information and services, quality of interactions, cost of services (to the customer)** | | | | | | | | | |
| | 2.1 | | Access to support resources - HCP eligibility/application | Increase total # of "access points" for certain info or transactions by t; increase # of access points in an area by t; reduce time to get to a (physical) access point in an area by t. | Yes | Tabulation; Geospatial Analysis | Process Modeling | | Support resources may be people or other resources, e.g. access to facilities, phone-based services or online services where self-help information may be obtained or where transactions may be completed. "No wrong door" philosophy. Define **access point** and **area** in the context of this project. |
| | 2.2 | | Access to support resources - health plan enrollment | " | Yes | Tabulation; Geospatial Analysis | Process Modeling | | " |
| | 2.3 | | "Value adding" time spent with bene/applicant | Increase by x unit of time or y% by t | Yes | Customer Interaction Monitoring | Process Modeling, Surveys | | Support ultimate goal of improving beneficiary quality of life. Define **value-adding activity** in the context of this project. |
| | 2.4 | | Quality of caseworker/call center staff interaction with bene/potential bene | | | | | | |
| | | 2.4.1 | Independent assessment of caseworker/call center staff interaction with bene/potential bene | Achieve x% quality score by t | Yes | Customer Interaction Monitoring | Surveys, Focus Groups | | Base on local entity stds or statewide stds agreed upon by steering committee |
| | | 2.4.2 | Beneficiary/potential beneficiary complaints (about in-scope processes) | Reduce by x, y% or to z/100 benes-potential benes by t | Yes | Evaluation of Complaints | Surveys, Focus Groups | | Base on local entity stds or statewide stds agreed upon by steering committee |
| | | 2.4.3 | Bene/potential bene satisfaction with elig. determination and health plan enrollment processes | Increase by x perc pts or y% by t | Yes | Surveys | Focus Groups | | Address bene perceptions of the process. |
| | 2.5 | | Time bene/potential bene spends in process - eligibility determination; stratify by case type if applicable | Reduce by x unit of time or y% by t | Yes | Surveys | Focus Groups | Yes | Agree on defensible heuristic for bene/potential bene salary and/or productivity (might focus on employed population for purposes of benefit monetization) |
| | 2.6 | | Time bene/potential bene spends in process - health plan enrollment; stratify by program, location | Reduce by x unit of time or y% by t | Yes | Surveys | Focus Groups | Yes | Agree on defensible heuristic for bene/potential bene salary and/or productivity (might focus on employed population for purposes of benefit monetization) |
| | 2.7 | | Eligibility determination form/paperwork completion time - stratify by case type | Reduce by x unit of time or y% by t | Yes | Usability Testing | Process Modeling, Surveys | Yes | Agree on defensible heuristic for bene/potential bene salary and/or productivity (might focus on employed population for purposes of benefit monetization). Time to complete paperwork standard subject to provision of minimum required data set. |
| | 2.8 | | Health plan enrollment form/paperwork completion time - stratify by program and/or case type | Reduce by x unit of time or y% by t | Yes | Usability Testing | Process Modeling, Surveys | Yes | Agree on defensible heuristic for bene/potential bene salary and/or productivity (might focus on employed population for purposes of benefit monetization). Time to complete paperwork standard subject to provision of minimum required data set. |
| | 2.9 | | Call center abandonment rate - stratify by call center/location | Reduce by x, y% or z perc. pts. by t | Yes | Call Mgt Sys Stats | | | Option: set control limits and a target for metric only exceeding x n% of the time or less |
| | 2.10 | | Call center time-to-answer - average; stratify by call center/location | Reduce by x or y% by t | Yes | Call Mgt Sys Stats | | | Option: set control limits and a target for metric only exceeding x n% of the time or less |
| | 2.11 | | Call center time-to-answer - variability; stratify by call center/location | Reduce by x or y% by t | Yes | Call Mgt Sys Stats | | | Option: set control limits and a target for process variability only exceeding x n% of the time or less |
| | 2.12 | | Call center call duration/handle time, average - stratify by organization and type of call | Reduce/increase (depends on type of call/interaction) by x or y% by t | Yes | Call Mgt Sys Stats | Statistical Analysis, Process Modeling, Surveys | | Will need to define **types of calls/interactions**. Option: set control limits and a target for metric only exceeding x n% of the time or less. Deal with perceptions ("how long should the interaction take?"). Recognize that interaction time is being impacted by increasing demographic diversity. |
| | 2.13 | | Call center call duration/handle time, variability - stratify by organization and type of call | Reduce by x or y% by t | Yes | Call Mgt Sys Stats | Statistical Analysis, Process Modeling, Surveys | | Will need to define **types of calls/interactions**. Option: set control limits and a target for metric only exceeding x n% of the time or less. Deal with perceptions ("how long should the interaction take?"). Recognize that interaction time is being affected by increasing demographic diversity. |
| | 2.14 | | Call center first-time resolution rate - stratify by call center/location and type of call | Increase by x perc pts or y% by t | Yes | Call Ctr Rep Documentation | Surveys, Focus Groups | | Will need to define **types of calls/interactions**. Option: set control limits and a target for metric only exceeding x n% of the time or less. Deal with perceptions ("how long should the interaction take?"). |
| | 2.15 | | Comprehensibility of correspondence and related materials being received by potential bene/bene | Increase % respondents that rate materials highly (drill down as needed) | Yes | Usability Testing | Surveys, Focus Groups | | |
| | 2.16 | | Comprehensibility of information on applicable Web sites | Increase % respondents that rate site highly (drill down as needed) | Yes | Usability Testing | Surveys, Focus Groups | | |

***Project***

**Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)**

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics.**
**Many metrics classified under one domain "bleed into" other domains.**

| | | | | Quantifiable? | Quantification Method | | Monetize? | NOTES/COMMENTS |
|---|---|---|---|---|---|---|---|---|
| **BENEFIT DOMAIN / BENEFIT METRIC:** | | | ***Specific, Measurable, Aggressive, Realistic, Time-Based*** | | ***Primary/ Used Most Often*** | ***Other*** | | |
| | 2.17 | Usefulness of information on printed materials | Increase % respondents that rate materials highly (drill down as needed) | Yes | Usability Testing | Surveys, Focus Groups | | Information review = meant to be independent of those developing/drafting materials |
| | 2.18 | Usefulness of information on applicable Web sites | Increase % respondents that rate site highly (drill down as needed) | Yes | Usability Testing | Surveys, Focus Groups | | Information review = meant to be independent of those developing/drafting materials |
| | 2.19 | Eligibility-related fair hearing requests - stratify by type of request | Reduce by #/x% (or to z/1,000 beneficiaries) by t | Yes | Statistical Analysis | | | |
| | 2.20 | Occurrence of HCP "welcome calls" | Increase by #/x% (or to z/1,000 beneficiaries) by t | Yes | Call Mgt Sys Stats | Surveys, Focus Groups | | |
| | 2.21 | Beneficiary understanding of the different HCPs, his/her basis for HCP eligibility, and the associated delivery systems | Increase by x% (or to z/1,000 beneficiaries) by t | Yes | Surveys, Tests | Focus Groups | | As in: "only z/1,000 survey respondents did not respond correctly to question x" in a survey. |
| | 2.22 | Beneficiary complaints re: eligibility and enrollment process (or satisfaction with said processes) | Complaints: reduce by x% (or to z/1,000 beneficiaries) by t | Yes | Surveys | Focus Groups | | |

*Project*

**Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)**

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics. Many metrics classified under one domain "bleed into" other domains.**

| | | OBJECTIVE (TARGET): | Quantifiable? | Quantification Method | | Monetize? | NOTES/COMMENTS |
|---|---|---|---|---|---|---|---|
| **BENEFIT DOMAIN / BENEFIT METRIC:** | | *Specific, Measurable, Aggressive, Realistic, Time-Based* | | *Primary/ Used Most Often* | *Other* | | |
| **3 Administrative flexibility** | | | | | | | **Achieved through: (1) elimination of "non-value-adding" activities, (2) P&P changes - might require changes in laws and/or regs, (3) system enablement or rules-based automation of certain functions, (4) improved collaboration and workflow technologies, (5) workforce transformation** |
| 3.1 | Ability to handle significant changes in workload | | | | | | For a set complement of staff or by enabling variable staffing. Possible (but imperfect) proxy measure: use of overtime (hours or $). **Another proxy measure: time to make system and organizational changes.** Example scenarios: pandemic, natural disaster. |
| 3.2 | Ability for the same personnel to handle different types of cases | | | | | | Explore different scenarios for this as part of "optimal admin structure" modeling. |
| 3.3 | Ability for constrained staff to work on more complex and/or time-consuming cases | | | | | | Explore different scenarios for this as part of "optimal admin structure" modeling. |
| 3.4 | Time to train new staff on function/process | Reduce time spent on these activities by x% or to y days by t | Yes | Statistical Analysis | | | |
| 3.5 | Enable same level of staff (or lower level of staff) to handle more or more complex cases | | | | | | Explore different scenarios for this as part of "optimal admin structure" modeling. |
| 3.6 | "Non-value-adding" activities, as defined during process modeling activities | Reduce time spent on these activities by x% by t | Yes | Work Sampling, Time-Motion Studies | Process Modeling, Surveys | | Enables staff redirection to more value-adding activities |
| 3.7 | "Value-adding" activities, as defined during process modeling activities | Increase time spent on these activities by x% by t | Yes | Work Sampling, Time-Motion Studies | Process Modeling, Surveys | | Enables staff redirection to more value-adding activities |
| 3.8 | Eligibility determination transactions by intake or processing method - stratify by organization, case type | | Yes | Statistical Analysis | | | |
| 3.9 | Health plan enrollment transactions by intake or processing method - stratify by organization, program and/or case type | | Yes | Statistical Analysis | | | |
| | | | | | | | |
| **4 Program integrity** | | | | | | | |
| 4.1 | Accuracy of eligibility determination process (Eligibility determination error rate) | Improve by x%/y perc pts or achieve y% by t | Yes | Statistical Analysis | | | |
| 4.2 | Duplicate cases/eligibles | Reduce by n, x% or to n instances/# by t | Yes | Statistical Analysis | | | |
| 4.3 | Duplicate health plan enrollments | Reduce by n, x% or to n instances/# by t | Yes | Statistical Analysis | | | |
| 4.4 | Downstream accuracy of claims payment - accuracy as influenced by correct eligibility determination | Reduce inappropriate pmts by n$, x% or to n instances/# by t | Yes (difficult) | Statistical Analysis | | | |
| 4.5 | Exposure to PERM-related fines/penalties | Reduce prob. of fines/penalties/expected amount of penalty | Yes (risk asst.) | Risk Modeling | | Yes | MN = '06 PERM review state. |
| 4.6 | Accuracy of premium calculation (MNCARE) | Reduce #, % or $ value of incorrect premiums (#/%/$) by t | Yes | Statistical Analysis | | Possibly | Would advise against monetizing this potential benefit ("apples and oranges"). |
| 4.7 | Timeliness of premium collection (MNCARE) | Increase by x%, or to y% of the time within z days, by t | Yes | Statistical Analysis | | Possibly | Alternative: set control limits and set a target for process TAT only exceeding x n% of the time or less |
| 4.8 | Adherence to DRA proof-of-citizenship requirements | | Yes | | | | |
| 4.9 | Unwarranted eligibility lapses | Reduce by #/x% by t | Yes | Statistical Analysis | | | |
| 4.10 | Denials for failure to provide/collect information as prescribed | Reduce by #/x% by t | Yes | Statistical Analysis | | | |
| 4.11 | "Serial" applications | Reduce by #/x% by t | Yes | Statistical Analysis | | | Define in the context of this project. |
| 4.12 | Error rate in key data elements: Residential Address, Income, Household Composition | Reduce by #/x% by t | Yes | Statistical Analysis | | | Different from data entry error rate. Even post-verification. |

***Project***

**Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)**

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics.**
**Many metrics classified under one domain "bleed into" other domains.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **OBJECTIVE (TARGET):** | Quantifiable? | Quantification Method | | Monetize? | NOTES/COMMENTS |
| **BENEFIT DOMAIN / BENEFIT METRIC:** | | | | *Specific, Measurable, Aggressive, Realistic, Time-Based* | | *Primary/ Used Most Often* | *Other* | | |
| | 4.13 | Lost paper files | | Reduce by #/x% by t | Yes | Statistical Analysis | | | Conversion to electronic filing/document management would impact this metric. |
| | | | | | | | | | |
| | | | | | | | | | |

***Project***

## Performance Measures and Costs Report - APPENDIX III: BENEFIT METRICS PROFILE (BMP)

**Important Note: Classification of metrics along "domains" is meant to facilitate "thinking through" all of the possible metrics.**
**Many metrics classified under one domain "bleed into" other domains.**

| | | | | | Quantifiable? | Quantification Method | | Monetize? | |
|---|---|---|---|---|---|---|---|---|---|
| **BENEFIT DOMAIN / BENEFIT METRIC:** | | | | **OBJECTIVE (TARGET):** *Specific, Measurable, Aggressive, Realistic, Time-Based* | | *Primary/ Used Most Often* | *Other* | | |
| **Other metrics** | | | | | | | | | **Many of these may be "operations management" or "resource management" metrics rather than benefit metrics** |
| | 1 | | Case referrals | Increase accuracy of referrals; reduce or eliminate "referrals" (if 'referral' = physical transfer/handoff of a file) | Yes | Statistical Analysis | Process Modeling | | Can impact customer service ("one stop shop"). How would workflow tech and rules-based automation affect this? - would the concept of a "referral" go away? How often does it happen and under what circumstances? |
| | 2 | | Outgoing correspondence generation time | | Yes | Statistical Analysis | Process Modeling | | |
| | 3 | | Outgoing correspondence processing accuracy | | Yes | Statistical Analysis | Surveys | | |
| | | - | Right person | | | | | | |
| | | - | Right time | | | | | | |
| | | - | Right information given circumstances of the potential bene/bene | | | | | | |
| | 4 | | Incoming correspondence processing time | | | | | | |
| | 5 | | Returned mail processing time | | | | | | |
| | 6 | | Incoming correspondence processing accuracy | | | | | | |
| | | - | Right person | | | | | | |
| | | - | Right program (for case processing purposes) | | | | | | |
| | | - | Right case type (for case processing purposes) | | | | | | |
| | 7 | | Time to process and apply premium payments (MinnesotaCare) | | | | | | |
| | 8 | | Call center volumes - average and distribution; stratify by case type, call center/location | | | | | | More of a resource management metric unless objective is to increase program capacity/bandwidth |
| | 9 | | Call center calls by call type (driver) - average and variability by report period | | | | | | |
| | 10 | | Call center calls by call type (driver) - average and variability by report period | | | | | | |
| | 11 | | Accuracy of information on printed materials | | | Information Review | | | Information review = meant to be independent of individuals developing/drafting materials |
| | 12 | | Accuracy of information on applicable Web sites | | | Information Review | | | Information review = meant to be independent of individuals developing/drafting materials |
| | 13 | | Number of requested verifications | | | | | | |
| | 14 | | Job satisfaction | | | | | | |

# APPENDIX IV. COST-BENEFIT MODELING: RELEVANT FEDERAL PUBLICATIONS

The cost modeling methodology being proposed for this project is based on cost models developed consistent with relevant federal guidelines including the guidelines published in the following Office of Management and Budget (OMB) circulars:

- A-76: Performance of Commercial Activities
- A-87: Cost Principles for State, Local, and Indian Tribal Governments
- A-94: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

Adherence to these guidelines enhances the defensibility of these cost models, and it ensures that the models are being built using widely recognized concepts and terminology.

All of the referenced circulars can be accessed at OMB's Web site:

## OMB CIRCULAR A-76: Performance of Commercial Activities

This circular's primary purpose is to establish federal policy for the competition of commercial activities (procurement of services). As part of establishing policy it addresses developing "government cost estimates for standard and streamlined competitions". These cost estimates should use standardized factors for inflation, tax rates, useful life and disposal values, cost of capital/discount rate, wage rates, fringe benefits, retirement benefits, etc. A sample of these factors is shown below (source:

**Table of Standard A-76 Costing Factors**

| Title | Originating Source | Category of Cost | Factor[1] |
|---|---|---|---|
| Casualty Insurance Cost Factor | OMB Transmittal Memoranda | Non-pay | 0.5% |
| Civilian Position Full Fringe Benefit Cost Factor | OMB Transmittal Memoranda | Pay | 36.45% |
| Contract Administration Cost Factors and Allowable Grades | OMB Circular A-76 | Pay | Figure C6. |
| Conversion Differential | OMB Circular A-76 | Non-pay | 10% or $10 million |
| Cost of Capital Cost Factors | OMB Circular A-94, Discount Rates to be Used in Evaluating Time-Distributed Costs and Benefits (Appendix C) | Non-pay | Depends Upon Capital Asset |
| Insurance and Health Benefit Cost Factor | OMB Transmittal Memoranda | Pay | 6.7% |
| Federal Insurance Contribution Act (FICA) Cost Factor[2] | Social Security Administration | Pay | 7.65% |
| Federal Wage System (FWS) Pay Schedules | Civilian Personnel Management Service Wage and Salary Division | Pay | Multiple Wages |
| Foreign Country Operations & Maintenance Inflation Cost Factors | Local Determination | Non-pay | Depends Upon Location |
| Fuels Inflation Cost Factors | Office of the Under Secretary of Defense (Comptroller), National Defense Budget Estimates for the FYxx Budget (Green Book) | Non-pay | Depends Upon Fiscal Year |
| Full-Time, Part-Time & Temporary Annual Productive Hours for Civilian Positions | OMB Circular A-76 | Not Applicable | 1,776 Hours |
| General Schedule (GS) Pay Schedules | OPM Office of Compensation Administration | Pay | Multiple Salaries |
| Intermittent Annual Productive Hours for Civilian Positions | OMB Circular A-76 | Not Applicable | 2,007 Hours |
| Labor Inflation Cost Factors for Civilian Positions | OMB Transmittal Memoranda | Pay | Depends Upon Fiscal Year |
| Labor Inflation Cost Factors for Military/Uniformed Services Positions | OMB Transmittal Memoranda | Pay | Dependent Upon Fiscal Year |

| | | | |
|---|---|---|---|
| Medicare Benefit Cost Factor | Social Security Administration | Pay | 1.45% |
| Military/Uniformed Services Composite Pay Rates | Military Departments: Office of the Under Secretary of Defense (Comptroller) FYxx Department of Defense Reimbursable Rates Tab K (All Services) Other Uniformed Services: Dependent Upon Agency Comptroller Determination | Pay | Depends Upon Uniformed Service and Fiscal Year |
| Miscellaneous Fringe Benefit Cost Factor | OMB Transmittal Memoranda | Pay | 1.7% |
| Non-Appropriated Fund Pay Schedules | Civilian Personnel Management Service Wage and Salary Division | Pay | Multiple Wages |
| Old Age and Survivors Death Insurance Maximum Taxable Earnings (salary limit) | Social Security Administration | Pay | $87,000 |
| Old Age and Survivors Death Insurance Cost Factor | Social Security Administration | Pay | 6.2% |
| Operations & Maintenance Inflation Cost Factors | Office of Management and Budget Transmittal Memoranda | Non-pay | Depends Upon Fiscal Year |
| Overhead Factor | OMB Circular A-76 | Pay and Non-pay | 12% |
| Personnel Liability Insurance Cost Factor | OMB Transmittal Memoranda | Pay | 0.7% |
| Other One-Time Conversion Cost Factor | OMB Circular A-76 | Non-pay | 1% |
| Severance Pay One-Time Conversion Cost Factor | OMB Circular A-76 | Pay | 4% |
| Special Class Retirement Cost Factor (Law Enforcement & Fire Protection) | OMB Transmittal Memoranda | Pay | 39.8% |
| Special Class Retirement Cost Factor (Air Traffic Control) | OMB Transmittal Memoranda | Pay | 37.6% |
| Standard Civilian Retirement Benefit Cost Factor | OMB Transmittal Memoranda | Pay | 26.6% |
| Tax Rates | Internal Revenue Service Statistics of Income Division Statistics of Income Corporation | Non-pay | Depends Upon Industry Grouping in Source |

| | | | |
|---|---|---|---|
| | Sourcebook and North American Industry Classification System | | Document |
| Useful Life and Disposal Values | OMB Transmittal Memoranda | Non-pay | Depends Upon the Capital Asset |

[1] The factors listed in this column are factors in effect on December 2005. Agencies should refer to the COMPARE website at www.compareA76.com for the updated COMPARE master tables and other updated information.
[2] For social security (i.e., Old Age and Survivors Death Insurance and Medicare).

## OMB CIRCULAR A-87: Cost Principles for State, Local, and Indian Tribal Governments

This Circular establishes principles and standards for determining costs for Federal "awards" carried out through grants, cost reimbursement contracts, and other agreements with State and local governments and federally-recognized Indian tribal governments (governmental units). Of particular importance to this project is how in this circular the Federal government establishes guidelines for:

- Costs that are allowable for Federal reimbursement, along with the conditions when these costs are allowable
- Costs that are not allowable for Federal reimbursement, including but not limited to:
  - Advertising except when incurred for specific purposes (personnel recruitment, procurement of goods and services, etc.)
  - Public relations except when incurred to "keep the public informed on matters of public concern"
  - Alcoholic beverages
  - Bad debts
  - Donated services
  - Entertainment
  - Fines and penalties, except when incurred as a result of compliance with specific provisions of the Federal program

or written instructions by the applicable federal agency authorizing such payments in advance.

- Fund raising and investment management
- General government expenses: only to the extent that these can be allocated to an applicable program or function through the *central services cost allocation* method which is also outlined in the circular.
- Idle facilities and idle capacity except when needed to meet workload fluctuations
- Lobbying including costs of membership in organizations substantially engaged in lobbying

- Treatment of costs as "direct" vs. "indirect" for Federal reimbursement purposes:
  - Direct costs are those that can be identified specifically with a particular final *cost objective* (program/function). Typical direct costs chargeable to Federal programs are employee compensation, cost of materials, equipment and other approved capital expenditures, and travel expenses specific to the project,
  - Indirect costs are costs incurred for a common or joint purpose benefiting more than one cost objective, and (b) not easily assignable to the applicable cost objectives without effort disproportionate to the results achieved.

The circular also discusses approaches to dealing with "indirect costs" (some of these costs are treated as "semi direct" costs in our cost modeling methodology):

"Where employees work on multiple activities or cost objectives, a distribution of their salaries or wages will be supported by personnel activity reports or equivalent documentation… unless a statistical sampling system… or other substitute system has been approved by the cognizant Federal agency".

## OMB CIRCULAR A-94: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

This circular is to the Federal government what this Report is to this project: it describes general principles, terminology and the high-level methodology for conducting cost-benefit analysis associated with Federal programs. Key topics in this circular (all of these are addressed in more detail in our report) include:

- Net Present Value and Related Outcome Measures
- Elements of Benefit-Cost Analysis
- Identifying and Measuring Benefits and Costs
- Treatment of Inflation
- Discount Rate Policy
- Treatment of Uncertainty
- Sensitivity Analysis

***Project***

**Performance Measures and Costs Report - APPENDIX V: COST MODEL TEMPLATE**

General Notes

- Post-attribution of direct costs to in-scope functions based on random moment sampling or some other agreed-upon, defensible methodology
- Will need funding by supported program (ideally) or weighted funding distribution - Fed (by title/fund source if appropriate); State (by title/fund source if appropriate);
  County/Local (by fund source if appropriate)
- Tied to workload/activity drivers

**IN-SCOPE FUNCTION(S)/PROCESS(ES):** **PROJECT YEAR:**

**GENERAL OBSERVATIONS**

**IN-SCOPE ORGANIZATIONS/ORGANIZATION TYPES:**

| | Org 1/Org Type 1 | | Org 2/Org Type 2 | | Org 3/Org Type 3 | | Org 4/Org Type 4 | | Org 5/Org Type 5 | | Org 6/Org Type 6 | | TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | ***DHS Budget*** |
| **WORK CAPACITY INFORMATION** | | | | | | | | | | | | | |
| **Manpower (Full-Time Equivalents)** | | | | | | | | | | | | | |
| Manpower sub-class 1 | | | | | | | | | | | | | |
| Manpower sub-class 2 | | | | | | | | | | | | | |
| Manpower sub-class 3 | | | | | | | | | | | | | |
| Manpower sub-class 4 | | | | | | | | | | | | | |
| Manpower sub-class 5 | | | | | | | | | | | | | |
| **RECURRING DIRECT AND SEMI-DIRECT COSTS ($)** | | | | | | | | | | | | | |
| **Manpower** | | | | | | | | | | | | | |
| Manpower sub-class 1 | | | | | | | | | | | | | |
| Manpower sub-class 2 | | | | | | | | | | | | | |
| Manpower sub-class 3 | | | | | | | | | | | | | |
| Manpower sub-class 4 | | | | | | | | | | | | | |
| Manpower sub-class 5 | | | | | | | | | | | | | |
| **IT** | | | | | | | | | | | | | |
| IT sub-class 1 | | | | | | | | | | | | | |
| IT sub-class 2 | | | | | | | | | | | | | |
| IT sub-class 3 | | | | | | | | | | | | | |
| IT sub-class 4 | | | | | | | | | | | | | |
| IT sub-class 5 | | | | | | | | | | | | | |
| **Materials** | | | | | | | | | | | | | |
| Materials sub-class 1 | | | | | | | | | | | | | |
| Materials sub-class 2 | | | | | | | | | | | | | |
| Materials sub-class 3 | | | | | | | | | | | | | |
| Materials sub-class 4 | | | | | | | | | | | | | |

| IN-SCOPE FUNCTION(S)/PROCESS(ES): | | | | | | | | | PROJECT YEAR: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL OBSERVATIONS** | | | | | | | | | | | | | | |
| | | **IN-SCOPE ORGANIZATIONS/ORGANIZATION TYPES:** | | | | | | | | | | | | |
| | | Org 1/Org Type 1 | | Org 2/Org Type 2 | | Org 3/Org Type 3 | | Org 4/Org Type 4 | | Org 5/Org Type 5 | | Org 6/Org Type 6 | | **TOT** |
| | | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | ***DHS Budget*** |
| **Equipment** | | | | | | | | | | | | | | |
| | Equipment sub-class 1 | | | | | | | | | | | | | |
| | Equipment sub-class 2 | | | | | | | | | | | | | |
| | Equipment sub-class 3 | | | | | | | | | | | | | |
| **Facilities** | | | | | | | | | | | | | | |
| | Facilities sub-class 1 | | | | | | | | | | | | | |
| | Facilities sub-class 2 | | | | | | | | | | | | | |
| | Facilities sub-class 3 | | | | | | | | | | | | | |
| **Transport/Shipping/Postage** | | | | | | | | | | | | | | |
| | Transport/Shipping/Postage sub-class 1 | | | | | | | | | | | | | |
| | Transport/Shipping/Postage sub-class 2 | | | | | | | | | | | | | |
| | Transport/Shipping/Postage sub-class 3 | | | | | | | | | | | | | |
| **External Service Providers** | | | | | | | | | | | | | | |
| | ESP sub-class 1 | | | | | | | | | | | | | |
| | ESP sub-class 2 | | | | | | | | | | | | | |
| | ESP sub-class 3 | | | | | | | | | | | | | |
| | ESP sub-class 4 | | | | | | | | | | | | | |
| **TOTALS** | | | | | | | | | | | | | | |

| IN-SCOPE FUNCTION(S)/PROCESS(ES): | | | | | | | | | | PROJECT YEAR: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL OBSERVATIONS** | | | | | | | | | | | | | | |
| | | **IN-SCOPE ORGANIZATIONS/ORGANIZATION TYPES:** | | | | | | | | | | | | |
| | | Org 1/Org Type 1 | | Org 2/Org Type 2 | | Org 3/Org Type 3 | | Org 4/Org Type 4 | | Org 5/Org Type 5 | | Org 6/Org Type 6 | | **TOT** |
| | | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | ***DHS Budget*** |
| **TOTALS** | | | | | | | | | | | | | | |
| **FUNDING MIX** | | | | | | | | | | | | | | |
| FEDERAL | Fund Source 1 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| FEDERAL | Fund Source 2 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| FEDERAL | Fund Source 3 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| STATE | Fund Source 4 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| STATE | Fund Source 5 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| STATE | Fund Source 6 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| COUNTY/LOCAL | Fund Source 7 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| COUNTY/LOCAL | Fund Source 8 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| PRIVATE | Fund Source 9 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| PRIVATE | Fund Source 10 | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| | Amount | | | | | | | | | | | | | |
| **Summary by funding entity:** | | | | | | | | | | | | | | |
| FEDERAL | $ | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| STATE | $ | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| COUNTY/LOCAL | $ | | | | | | | | | | | | | |
| | % | | | | | | | | | | | | | |
| PRIVATE | $ | | | | | | | | | | | | | |

| IN-SCOPE FUNCTION(S)/PROCESS(ES): | | | | | | | | | PROJECT YEAR: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL OBSERVATIONS** | | | | | | | | | | | | | |
| | **IN-SCOPE ORGANIZATIONS/ORGANIZATION TYPES:** | | | | | | | | | | | | |
| | Org 1/Org Type 1 | | Org 2/Org Type 2 | | Org 3/Org Type 3 | | Org 4/Org Type 4 | | Org 5/Org Type 5 | | Org 6/Org Type 6 | | **TOT** |
| | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | *DHS Budget* | *Local Budget* | ***DHS Budget*** |
| % | | | | | | | | | | | | | |

***Minnesota Health Care Connect Project***

**Performance Measures and Costs Repor**

General Notes

- Post-attribution of direct costs to in-scope functio
- Will need funding by supported program (ideally)
  County/Local (by fund source if appropriate)
- Tied to workload/activity drivers

**IN-SCOPE FUNCTION(S)/PROCESS(ES):**

**GENERAL OBSERVATIONS**

| | | **ALS** | Notes/ |
|---|---|---|---|
| | | ***Local Budgets*** | Comments |
| **WORK CAPACITY INFORMATION** | | | |
| **Manpower (Full-Time Equivalents)** | | | |
| | Manpower sub-class 1 | | |
| | Manpower sub-class 2 | | |
| | Manpower sub-class 3 | | |
| | Manpower sub-class 4 | | |
| | Manpower sub-class 5 | | |
| **RECURRING DIRECT AND SEMI-DIRECT CO** | | | |
| **Manpower** | | | Includes prof. development/training, work-related travel, manpower-specific materials, eqpt. and IT. |
| | Manpower sub-class 1 | | |
| | Manpower sub-class 2 | | |
| | Manpower sub-class 3 | | |
| | Manpower sub-class 4 | | |
| | Manpower sub-class 5 | | |
| **IT** | | | Includes life cycle management costs: prev. mtce., programmed upgrades to h/w and s/w |
| | IT sub-class 1 | | |
| | IT sub-class 2 | | |
| | IT sub-class 3 | | |
| | IT sub-class 4 | | |
| | IT sub-class 5 | | |
| **Materials** | | | |
| | Materials sub-class 1 | | |
| | Materials sub-class 2 | | |
| | Materials sub-class 3 | | |
| | Materials sub-class 4 | | |

| | | | |
|---|---|---|---|
| **IN-SCOPE FUNCTION(S)/PROCESS(ES):** | | | |
| **GENERAL OBSERVATIONS** | | | |
| | | **ALS** | Notes/ |
| | | ***Local Budgets*** | Comments |
| **Equipment** | | | |
| | Equipment sub-class 1 | | |
| | Equipment sub-class 2 | | |
| | Equipment sub-class 3 | | |
| **Facilities** | | | |
| | Facilities sub-class 1 | | |
| | Facilities sub-class 2 | | |
| | Facilities sub-class 3 | | |
| **Transport/Shipping/Postage** | | | |
| | Transport/Shipping/Postage sub-class 1 | | |
| | Transport/Shipping/Postage sub-class 2 | | |
| | Transport/Shipping/Postage sub-class 3 | | |
| **External Service Providers** | | | |
| | ESP sub-class 1 | | |
| | ESP sub-class 2 | | |
| | ESP sub-class 3 | | |
| | ESP sub-class 4 | | |
| | | | |
| **TOTALS** | | | |
| | | | |
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|---|---|---|---|---|
| **IN-SCOPE FUNCTION(S)/PROCESS(ES):** | | | | |
| **GENERAL OBSERVATIONS** | | | | |
| | | | **ALS** | Notes/ |
| | | | ***Local Budgets*** | Comments |
| **TOTALS** | | | | |
| **FUNDING MIX** | | | | |
| | FEDERAL | Fund Source 1 | | |
| | | % | | |
| | | Amount | | |
| | FEDERAL | Fund Source 2 | | |
| | | % | | |
| | | Amount | | |
| | FEDERAL | Fund Source 3 | | |
| | | % | | |
| | | Amount | | |
| | STATE | Fund Source 4 | | |
| | | % | | |
| | | Amount | | |
| | STATE | Fund Source 5 | | |
| | | % | | |
| | | Amount | | |
| | STATE | Fund Source 6 | | |
| | | % | | |
| | | Amount | | |
| | COUNTY/LOCAL | Fund Source 7 | | |
| | | % | | |
| | | Amount | | |
| | COUNTY/LOCAL | Fund Source 8 | | |
| | | % | | |
| | | Amount | | |
| | PRIVATE | Fund Source 9 | | |
| | | % | | |
| | | Amount | | |
| | PRIVATE | Fund Source 10 | | |
| | | % | | |
| | | Amount | | |
| **Summary by funding entity:** | | | | |
| | FEDERAL | $ | | |
| | | % | | |
| | STATE | $ | | |
| | | % | | |
| | COUNTY/LOCAL | $ | | |
| | | % | | |
| | PRIVATE | $ | | |

| | | | |
|---|---|---|---|
| **IN-SCOPE FUNCTION(S)/PROCESS(ES):** | | | |
| **GENERAL OBSERVATIONS** | | | |
| | | **ALS** | Notes/ |
| | | ***Local Budgets*** | Comments |
| | % | | |

# APPENDIX VI - Health System Physician Information Network (PPIN)

*Business Case Assessment - Executive Summary/Fact Sheet*

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The Physician Information Network (PPIN) is an *Intranet*-based set of applications designed to provide a multitude of communications capabilities to physicians. These communication capabilities include

- Physician to Physician: for referrals, readings and consults, exchange of patient care information, discussion forums and electronic mail.
- Physician to Care Facility: for pre-admissions activities and the online availability and retrieval of ADT data and procedure (lab, diagnostic imaging) results; eventually, for ad-hoc access to static documents such as hospital policies and procedures.
- Physician to Ancillary Service Provider: connectivity to reference labs; over time, for connecting physicians to remote diagnostic services, pharmacies and transcription services.
- Physician to Health Plan/Payer: for referral authorizations, verification of enrollment and eligibility Information and management of claims with select payers; over time, for managing claims with the health system's Managed Care Organization (MCO).
- Connectivity to the Internet: access to medical reference services and other tools available on the Internet.

The figure below illustrates the modes of communications that will be enabled by PPIN. PPIN will revolutionize the way in which communications are conducted with payers and within the health system. As a result, significant productivity and other gains will be realized; these benefits are documented in a later section of this document.

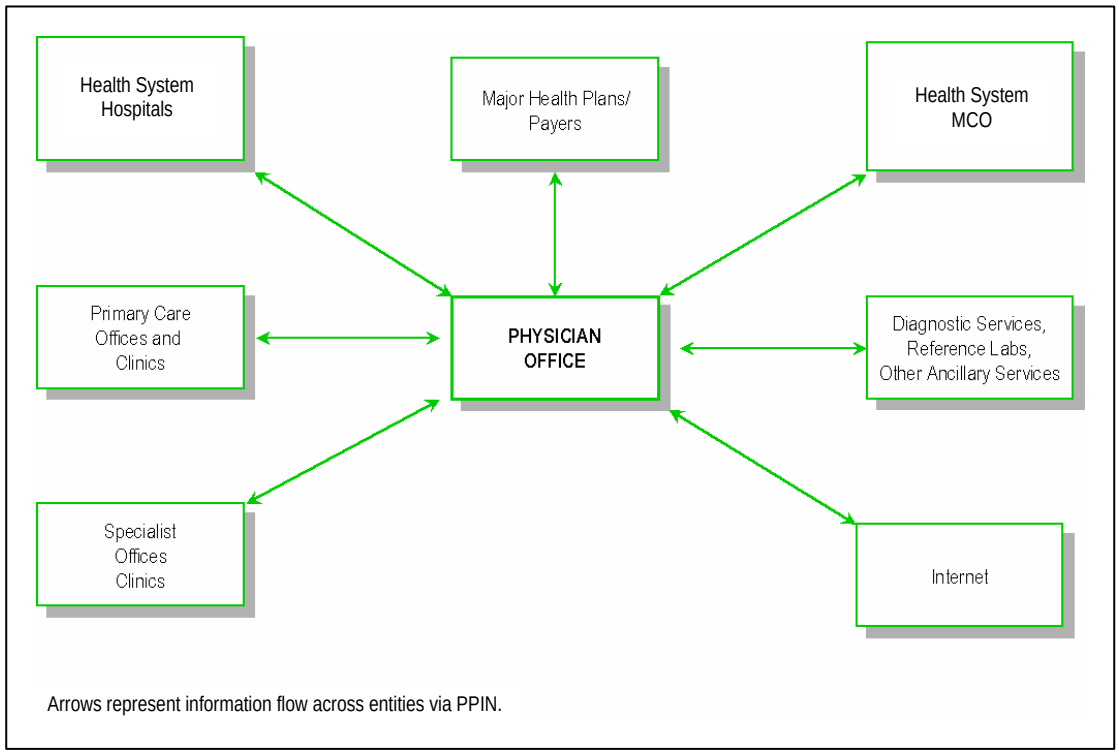


*Figure: Representation of Communications Capabilities of the Physician Information Network (PPIN).*

The following is a summary of the Business Case Assessment originally presented in xxx and modified in yyy.

# APPENDIX VI - Health System Physician Information Network (PPIN)

*Business Case Assessment - Executive Summary/Fact Sheet*

## Methodology and Assumptions

In order to develop a compelling business case for PPIN, between xxx and yyy the Health System's Information Systems division compiled analyses, research papers and articles from a number of respected publications and organizations such as VHA, the Healthcare Information Management and Systems Society (HIMSS), the Health Care Advisory Board and the Department of Health and Human Services (HHS). Additionally, in-depth interviews were conducted with physician leaders from the health system. Finally, focus groups were held with representatives from Lab, Diagnostic Imaging, Medical Records, Registration/Admissions and Information Systems departments from several organizations within the health system.

High level, very conservative cost estimates were developed based primarily on preliminary vendor estimates. Benefit estimates, also very conservative, were developed through models that assumed certain key administrative functions would be impacted by implementing PPIN.

## Net Benefit Assessment

Various qualitative benefits should be realized from implementation of PPIN, including but not limited to:

- Enhanced quality of care: from reduced referral and consult turnaround times, the ready availability of consolidated patient data from disparate sources, ubiquitous access to medical knowledge resources and reduced time dedicated to administrative activities.
- Reduced risk potential: by facilitating exchange of information among care providers and expanding their knowledge by providing them with access to Internet based information resources.
- Enhanced clinician satisfaction: from improved access to patient-centric information and a reduction in administrative work often complicated by paperwork and delays in communications with payers, hospitals and other physicians.
- Enhanced patient satisfaction: from an improved service experience resulting from streamlined processes, less paperwork, reduced probability of duplicative procedures and improved management of claims.

Significant quantitative benefits can also be expected. Assuming 500 physician adopters across all participating organizations, over the next five years meaningful labor and material savings can be derived from the redesign of the following functions:

1. Referral Authorization: through the automation of this process with some of the largest payers and the health system's MCO.
2. Physician to Physician Consultation: by providing more robust, asynchronous multimedia communications.
3. Practice to Health Plan Ad-Hoc Contact: for updates on member eligibility, etc.
4. Physician Office to Hospital Communications: for the retrieval of ADT data, test results, etc.

The estimated non-discounted benefit per physician per year derived from the reengineering of these functions is over $10,000. Of this, approximately *$500* is a direct benefit to hospitals as labor intensive, paper-based processes are replaced with PPIN and its built-in capabilities to furnish physicians with hospital generated information without any human intervention. The health system's MCO will also derive benefit from the application; these have not been calculated.

The combined physician specific and hospital specific benefits of PPIN aggregate to approximately $21 million in discounted benefit over five years.

Turning to cost statistics, over the next two years the cost of developing PPIN is estimated at approximately $2 million. Additionally, to access and use PPIN the adopting physicians will incur an approximate cost of $130 per month. Once the cost of labor and services associated with implementation and support of the product is factored, the discounted aggregate cost of PPIN over five years is projected at approx. $10 million.

Thus, the projected discounted net benefit over five years associated with PPIN is over $11 million. This makes PPIN an extremely attractive investment proposition for the health system.