Prepared for:
The Administration for Children and Families (ACF)

National Human Services Interoperability Architecture

Performance Reference Model

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Draft Issue

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1 BACKGROUND

1.1 The National Human Services Interoperability Architecture

The National Human Services Interoperability Architecture (NHSIA, pronounced niss'-e-a) is being developed for the Administration for Children and Families (ACF) as a framework to support common eligibility determination and information sharing across programs and agencies, improved delivery of services, prevention of fraud, and better outcomes for children and families. It will consist of business, information, security, and technology models to guide programs, states and localities in the efficient and effective delivery of services.

NHSIA is being developed using the architectural framework displayed in Figure 1-1 below. Each of the viewpoints in the diagram is described in a separate viewpoint description document and associated architectural artifacts. The subject of this document is the Performance Reference Model which is part of the Capability Viewpoint.

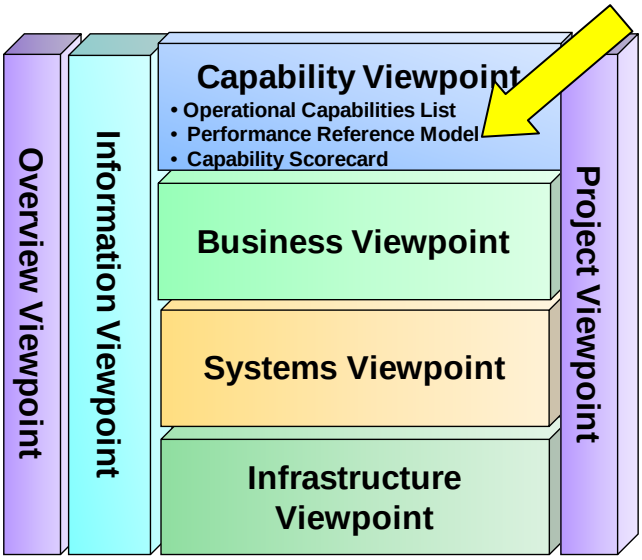

Figure 1-1. Architecture Viewpoints

1.2 NHSIA Capability Viewpoint

Within the NHSIA framework, **a capability is the ability to achieve a desired objective in the human services domain under specified standards and conditions**. The Capability Viewpoint describes the capabilities provided by the

human services "system of systems" at all levels of government and in private organizations that implement the architecture. Capabilities are defined independently of specific technologies to the extent possible. The Capability Viewpoint defines the new operational capabilities in high-level, user-oriented terms.

It is not the intent of NHSIA to define a comprehensive set of all capabilities required to provide human services. **NHSIA is focused on only those capabilities that require an interoperable environment in which data and services are effectively shared.** The NHSIA Capabilities List is a set of high-level capabilities (see Figure 1-2) described in terms easily understood by decision-makers and used to communicate a strategic vision. These capabilities are both defined at a high-level and described in more detail in the Capability Viewpoint Description document.

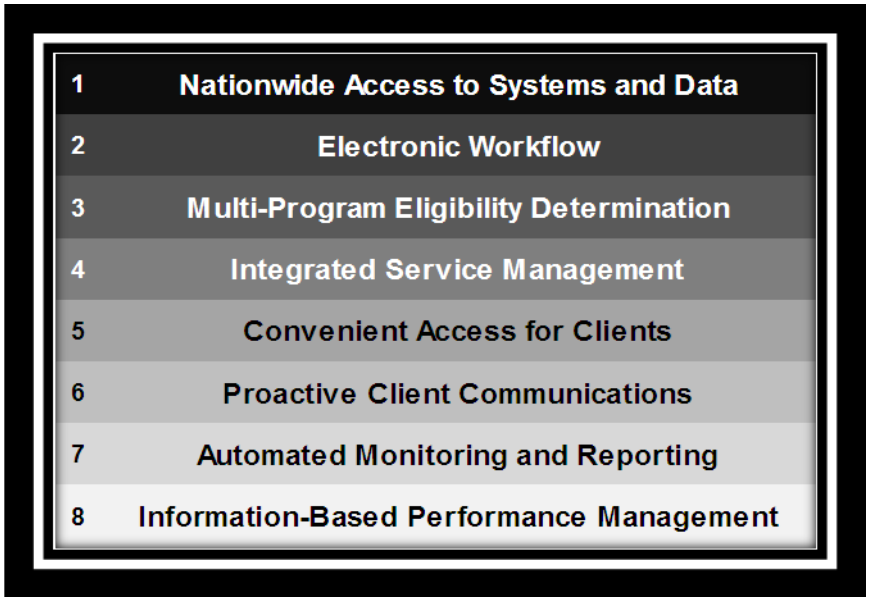

Figure 1-2. NHSIA High-Level Capabilities

2 DEVELOPING THE NHSIA PERFORMANCE REFERENCE MODEL

2.1 Overview

A Performance Reference Model (PRM) is a framework designed to articulate the cause and effect relationships among inputs, outputs and outcomes. The framework is based on a value chain—also called a program logic model. The objective is to create a "line of sight" so that project and program managers, as well as key decision-makers, can understand how and to what extent key inputs—and changes in inputs—enable progress in program outputs and outcomes.

For a human services agency, **the PRM displays the underlying logic for how value is created as inputs such as technological changes facilitate improvements in performance measurement, work processes and activities, and ultimately improved mission, business and customer results**. Ideally a PRM can help decision-makers identify performance improvement opportunities that span traditional organizational structures and boundaries, thus facilitating more efficient and effective attainment of strategic outcomes.

The NHSIA Performance Reference Model is based on the Federal Enterprise Architecture (FEA) Performance Reference Model as well as selected elements of the 2011-2012 Criteria for Performance Excellence developed by the Baldrige Performance Excellence Program in the National Institute of Standards and Technology. Each of these frameworks is described in the following sections.

2.2 Federal Enterprise Architecture Performance Reference Model

An important influence on the NHSIA Performance Reference Model is the Federal Enterprise Architecture (FEA) Performance Reference Model (see Figure 2-1).[1] This model was designed to provide a management tool that can be uniquely tailored by decision-makers for a specific department or agency environment. The underlying logic is that an agency's strategic planning process will establish specific objectives and programs to meet the needs of its citizen stakeholders. These programs are then implemented in order to deliver citizen services in a manner that enables the agency to achieve its desired performance objectives.

[1] Federal Enterprise Architecture (FEA) Consolidated Reference Model Document, Version 2.3. Washington, D.C.: Executive Office of the President of the United States, October 2007.

Guiding the entire PRM are the agency's strategic outcomes that represent broad policy priorities providing direction for government initiatives. For the Department of Health and Human Services, examples of these strategic outcomes include "Advance Scientific Knowledge and Innovation" and "Advance the Health, Safety, and Well-Being of the American People".

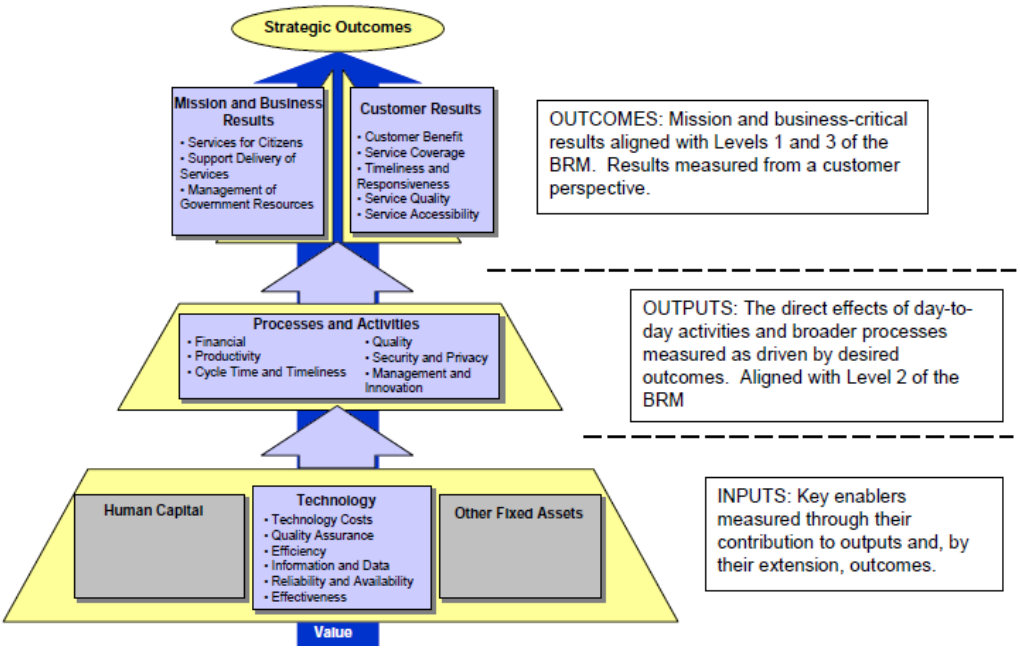

Figure 2-1. Federal Enterprise Architecture Performance Reference Model (BRM = Business Reference Model)

Following the FEA Performance Reference Model, we can refer to each of the boxes in Figure 2-1 as an important measurement area, and the attributes or characteristics (bulleted items) within each box as measurement categories. For example, the Mission and Business Results measurement area includes three measurement categories—services for citizens, supports for delivery of services, and management of government resources.

Within each program output and outcome measurement category are measurement groupings. For example, Figure 2-2 displays the measurement categories and measurement groupings for the Customer Results measurement area. Similarly, Figure 2-3 displays the measurement categories and measurement groupings for the Processes and Activities measurement area. Within each measurement grouping specific measurement indicators need to be developed by each agency and

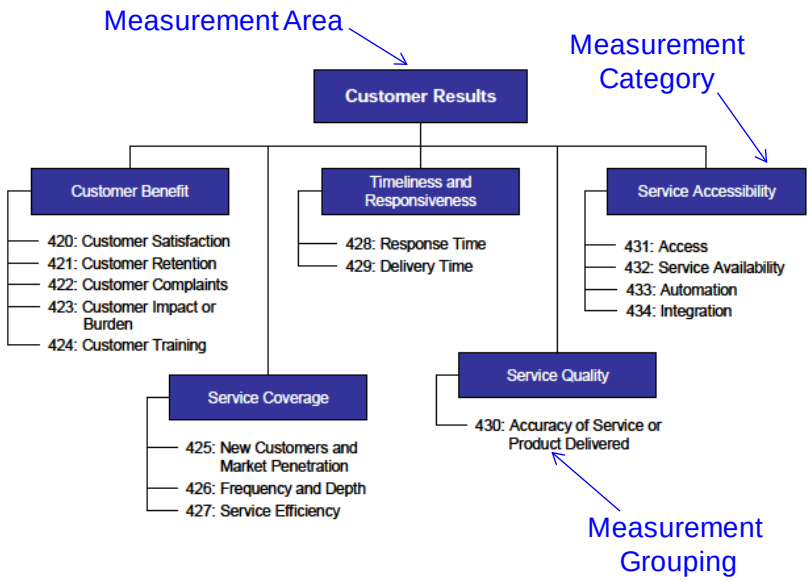

Figure 2-2. Measurement Categories and Measurement Groupings for the CUSTOMER RESULTS Measurement Area

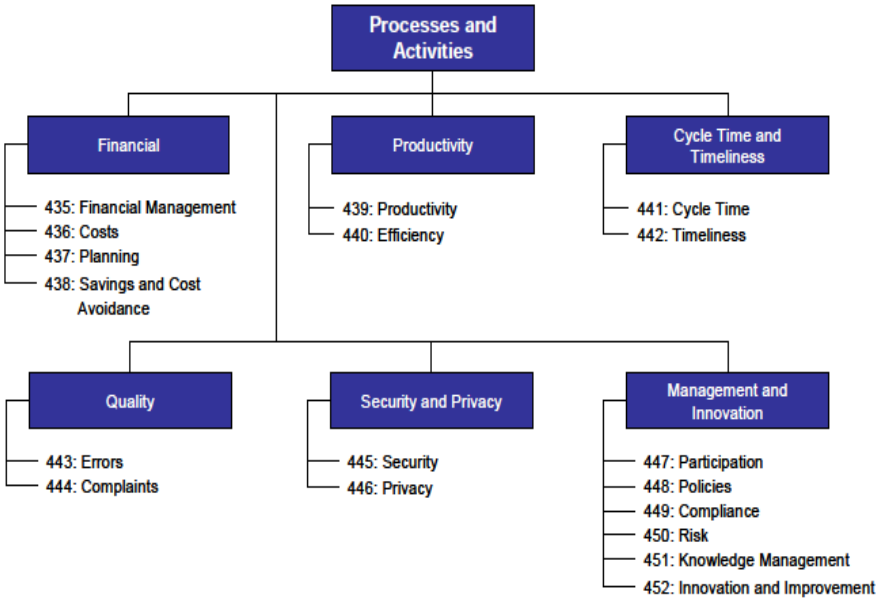

Figure 2-3. Measurement Categories and Measurement Groupings for the PROCESSES AND ACTIVITIES Measurement Area

program in order to assess agency and program performance. Examples from the customer satisfaction measurement grouping might include the number and/or percentage of clients who are satisfied with a specific program or service. Within the cycle time measurement grouping an example of a measurement indicator might be the average duration of time from receiving a complete client application to client enrollment in a specific agency program.

It is also helpful to measure various inputs so that the effects of changes over time in these inputs can be linked to changes in the performance outputs and program outcomes. With respect to inputs, the FEA Performance Reference Model focuses on technology and tries to create a framework conceptualizing how Information Technology (IT) investments can first be integrated into the strategic planning, performance objective setting and performance management processes, and then linked to the outputs of processes and program outcomes.

From this perspective the value of a Performance Reference Model in judging the value of an IT investment comes from the ability to identify specific measurement indicators in each of the relevant measurement areas to draw a "line of sight" from the IT initiative to the processes and activities it supports, and by extension, to the customer results and the mission and business results it is designed to enable or improve.

Most IT initiatives are designed to support or improve a specific process or set of processes and activities. It is in these areas where an initiative's effect on improved performance can be most accurately measured. At the same time, it is important to understand that many factors beyond an IT initiative's control also determine process performance and need to be taken into consideration. These other factors—such as human capital and other fixed assets—are not developed, however, within the FEA framework. It is also noted by the developers of the framework that the actual measurement indicators will be created by each of the agencies that utilize this approach in order to meet the agency's own specific requirements.

2.3 Baldrige Criteria for Performance Excellence

In order to develop a more complete model of organizational factors influencing program performance, selected elements of the 2011-2012 Baldrige Criteria for Performance Excellence were incorporated in the NHSIA Performance Reference

Model. These criteria were developed by the Baldrige Performance Excellence Program in the National Institute of Standards and Technology.[2] Within the Baldrige model:

> *"The term "performance excellence" refers to an integrated approach to organizational performance management that results in (1) delivery of ever-improving value to customers and stakeholders, contributing to organizational sustainability; (2) improvement of overall organizational effectiveness and capabilities; and (3) organizational and personal learning. The Baldrige Criteria for Performance Excellence provide a framework and an assessment tool for understanding organizational strengths and opportunities for improvement and thus for guiding planning efforts."*[3]

Figure 2.4 displays the categories of the Baldrige framework. The diagram is meant to emphasize how the basic elements are connected and integrated. At the top of the figure is the Organizational Profile which includes the factors that form the context for how the organization operates. These factors include the organization's environment and how it is changing, key working relationships, and strategic situation—including key strategic advantages and challenges. Also included within the Organizational Profile is the performance improvement system, including processes for evaluation, organizational learning and innovation.

The Leadership, Strategic Planning and Customer Focus categories are known as the "leadership triad," and are placed together to emphasize the importance of a leadership focus on strategy and customers. In high performing organizations, senior leaders guide and sustain the organization by emphasizing vision and values, creating an environment that facilitates performance improvement and workforce engagement. They communicate with and engage the entire workforce, and create a focus on action to accomplish the organization's objectives, improve its performance, and attain its vision.

[2] Baldrige Performance Excellence Program. 2011-2012 Criteria for Performance Excellence. Gaithersburg, MD: National Institute of Standards and Technology, United States Department of Commerce, 2011.

[3] Baldrige Performance Excellence Program. 2011-2012 Criteria for Performance Excellence. Gaithersburg, MD: National Institute of Standards and Technology, United States Department of Commerce, 2011, p. 61.

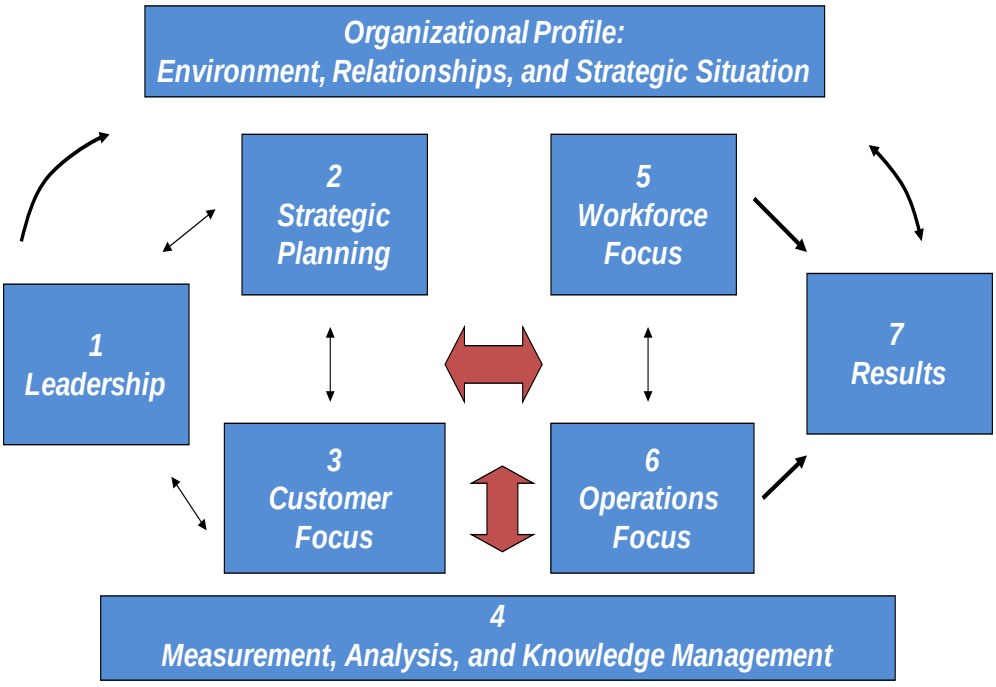

Figure 2-4. Baldrige Performance Excellence Program--2011-2012 Criteria for Performance Excellence

The Workforce Focus, Operations Focus and Results categories represent the results triad. The organization's workforce and key operational processes accomplish the work of the organization that yields overall performance results. The actions in every component of the model point toward Results—which are considered in a "balanced score card" composite of results in each of the dimensions of product and process effectiveness, customer-related performance, workforce-related performance, leadership and governance-related achievements, and financial and market oriented performance outcomes.

Measurement, Analysis, and Knowledge Management serve as the foundation for a performance management system because they are critical for managing and improving performance. The emphasis must be on the knowledge people within the organization need to do their work, improve products and services, and develop innovative solutions that add value for the customer and other stakeholders.

The central arrows in the diagram are "two-headed" in order to emphasize the importance of feedback in an effective performance management system. In general, the Baldrige Criteria provide a systems perspective that is used by many private and public-sector organizations as a self-assessment tool for managing and improving key processes in order to improve results from the perspectives of all stakeholders.

3 NHSIA Performance Reference Model

3.1 Overview

The NHSIA Performance Reference Model is summarized in Figure 3.1. The underlying logic is that with the guidance and support of its leaders, an agency through its strategic planning process establishes specific objectives and programs to meet the needs of its citizen stakeholders. These programs are designed and implemented by a trained and engaged workforce in order to deliver services to citizens and achieve desired agency performance objectives.

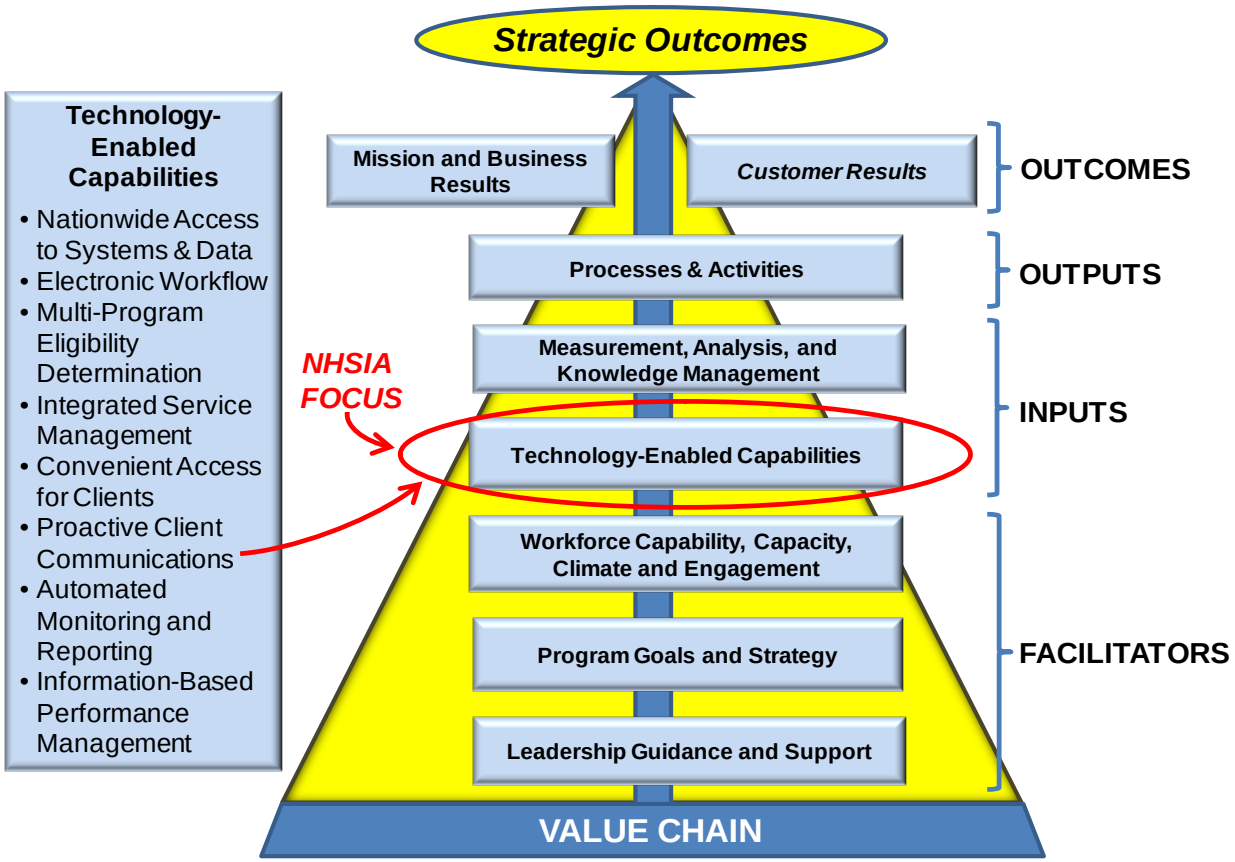

Figure 3-1. NHSIA Performance Reference Model Overview

The technology-enabled capabilities of NHSIA will facilitate more timely and accurate data collection and performance measurement, as well as more efficient and effective work processes and activities. Over time, these improvements are expected to facilitate better mission, business and customer results, thus helping an agency achieve its strategic outcomes.

Components of the model are discussed in the following sections and presented in more detail in Figure 3.2.

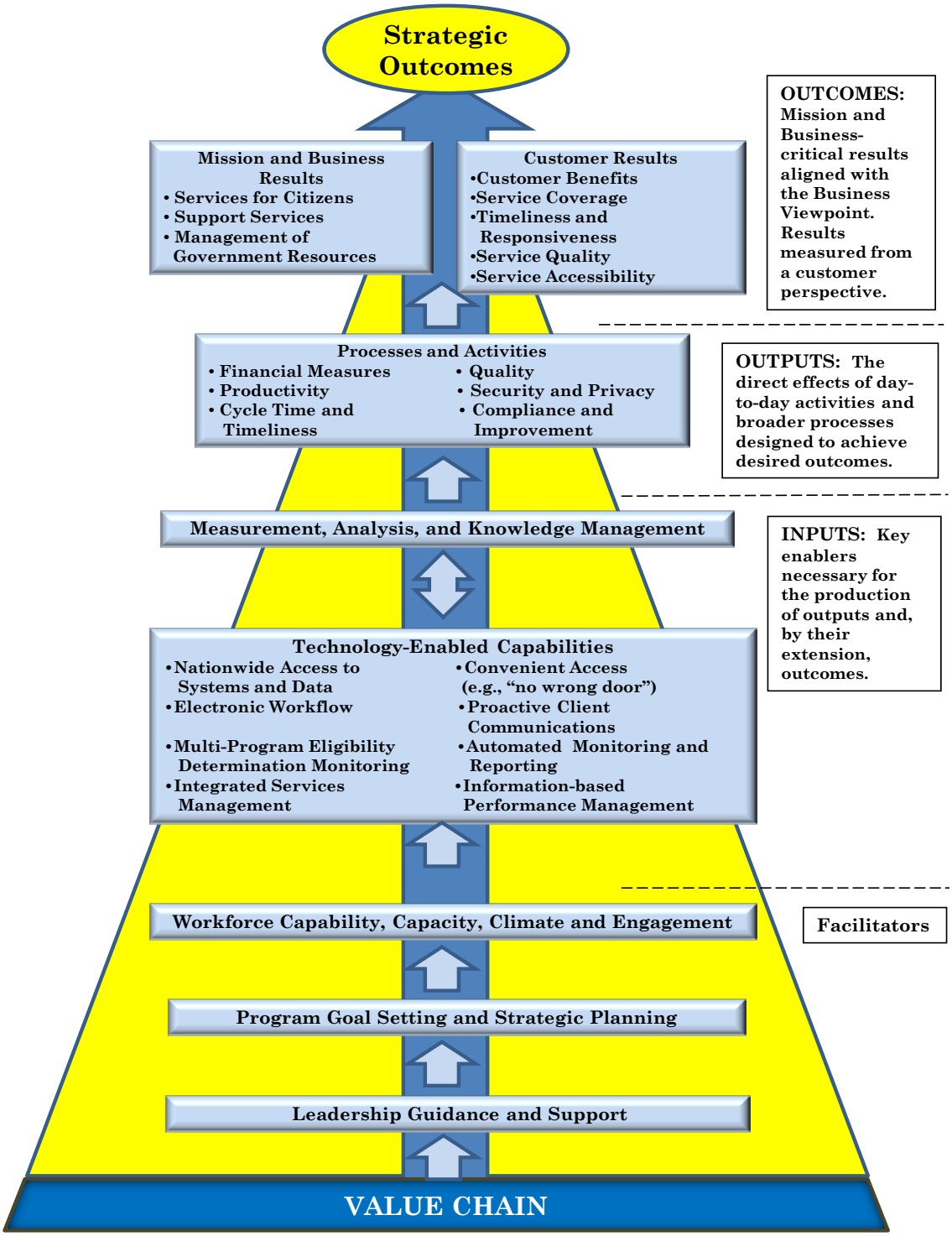

Figure 3-2. National Human Services Interoperability Architecture Performance Reference Model

3.2 Leadership as a Key Driver

In high performing organizations, as the Baldrige criteria emphasize, senior leaders help guide the organization by emphasizing vision and values, as well as creating an environment that facilitates performance improvement and workforce engagement. Senior leaders communicate with and engage the entire workforce, and create a focus on action to accomplish the organization's objectives, improve its performance and attain its vision. For an organization to be sustainable, the vision, goals and objectives must balance the needs and expectations of various types of clients/customers and other key stakeholders.

To ensure their success, senior leaders must also guide, or at least support, critical organizational change efforts. During site visits to State agencies that have made significant progress in interoperability initiatives, the NHSIA project staff heard repeatedly that senior agency leadership had been critical to the success of innovative efforts. Organizational leadership will be a key factor in promoting the adoption and implementation of all aspects of the NSHIA approach, including the tailoring of various aspects of the model to the circumstances and requirements of each specific agency.

3.3 Program Goal Setting and Strategic Planning

Goal setting and strategic planning are the processes through which organizations establish long range and shorter-term goals and objectives and develop plans for how to accomplish these, including ensuring availability of the necessary financial and skilled human resources that will be required. It is also important to develop methodologies for evaluating the extent to which strategies are actually executed and the degree to which goals and objectives are attained.

An organization's strategic plan will guide capital expenditures, technology development and/or acquisition, supplier development, and often new partnerships or collaborations. The adoption and implementation of an approach informed by NHSIA to create an organizational interoperable environment in which data and services are effectively shared will require that this approach be integrated into an agency's goal setting and strategic planning processes.

3.4 Workforce Capability, Capacity, Climate and Engagement

The adoption and implementation of approaches consistent with NHSIA may require additional workforce capabilities such as new computer skills or higher level abilities in the interpretation and utilization of program data. Depending on the

current stage of workforce responsibilities, development needs may also include increased skill levels regarding: information sharing; communication; problem solving through team approaches; process analysis in order to improve performance through simplification, reduction of waste and cycle times, and other strategies; as well as priority setting based on strategic alignment and/or return on investment methodologies.

The adoption of approaches such as NHSIA that are based on the sharing of data and services is likely to also require the efforts of leadership to ensure a supportive workforce climate and high levels of workforce engagement. A number of studies have shown that high levels of workforce engagement have a positive impact on organizational performance. These studies suggest that workforce engagement is associated with work settings in which workers believe they are performing meaningful tasks, have clear organizational directions and accountability, and have a work environment perceived as safe, trusting, effective and cooperative.[4]

3.5 Technology-Enabled Capabilities

The capabilities enabled by the NHSIA approach are described in the Capability Viewpoint and have been summarized in a previous section of this document. As stated previously, NHSIA is focused on only those capabilities that require an interoperable environment in which data and services are effectively shared. It is believed that the technology-enabled capabilities of NHSIA will facilitate more timely and more accurate data collection which will permit more reliable and valid performance measurement. The technology-enabled capabilities, such as electronic workflow, should increase the efficiency and effectiveness of work processes and other activities. In turn, these process improvements are expected to facilitate better mission, business and customer results, which will help an agency achieve its strategic outcomes.

3.6 Measurement, Analysis, and Knowledge Management

High performing organizations effectively measure and analyze their performance on a variety of dimensions and then utilize this information to improve their processes and outcomes. Central to the effective use of such data and information in organizational planning and performance improvements are their availability, quality and timeliness. The technology-enabled capabilities of NHSIA should result in more efficient and timely collection of data for the construction of performance

[4] Baldrige Performance Excellence Program. 2011-2012 Criteria for Performance Excellence. Gaithersburg, MD: National Institute of Standards and Technology, United States Department of Commerce, 2011, p. 43.

measurements. These need to focus on key results that reflect a balance among the needs and expectations of important stakeholders. A balanced composite of measurements/indicators can be utilized to communicate short-term and longer-term priorities, monitor actual performance, and provide a clear focus for improving results.

3.7 Processes and Activities

The processes and activities measurement area contains the measurement categories and groupings of indicators that are designed to assess multiple dimensions of the performance of key business processes. NHSIA business processes, as described in the Business Viewpoint Description, include Client Management, Eligibility and Enrollment, Provider Management, Service Management, and Performance Management. Each business process includes a number of sub-processes. Client Management, for example, includes the processes for establishing the client information to be shared, managing shared client information, and managing client communications as well as other sub-processes necessary for managing a client in a shared services environment.

Each of these business processes and sub-processes can be measured on a variety of dimensions in order to assess and then improve performance. Following the FEA Performance Reference Model, we have included six dimensions on which performance of each business process can be assessed. These are displayed in Figure 2-3 and are described in Table 3-1 below. As NHSIA-enabled capabilities are developed within an organizational system, it will be important to examine the direct effects on the day-to-day activities and the broader work processes that are designed to achieve program outcomes. For example, does the implementation of processes designed for managing shared client information result in greater productivity and/or improved timeliness of services?

Table 3-1. Processes and Activities Measurement Area

Measurement Categories	Description of Measurement Categories
Financial Measures	Financial performance, including direct and indirect total and per unit costs of producing products and services; costs saved or avoided.
Productivity	The amount of work accomplished per relevant unit of time and resources applied.
Cycle Time and Timeliness	The amount of time required to produce a product or service.
Quality	Error (defect) rates and complaints related to a product or service.
Security and Privacy	The extent to which security is improved and privacy addressed.
Compliance and Improvement[5]	Compliance with applicable requirements and standards (including fraud detection); capabilities in risk mitigation; continuous improvement

3.8 Mission and Business Results

This measurement area is designed to capture the extent to which the programs are implemented and services delivered that are included in an agency's strategic plan. The first measurement category includes Services for Citizens, with measurement groupings for each type of service/product delivered by the agency. A second measurement category includes support services such as internal risk management, legislative relations, regulatory development, and budgeting.

The third measurement category includes the Management of Government Resources. The FEA Performance Reference Model includes in this category the management of functions related to administration, finance, human resources,

[5] This measurement category has been adapted from the "Management and Innovation" measurement category that is included in the Federal Enterprise Architecture Performance Reference Model. Changes have been made in order to minimize overlap with other measurement areas.

supply chain, information and technology. In the NHSIA framework we will emphasize Return on Investment, including Social Return on Investment as key performance measurement groupings. A White Paper is currently being developed that examines strategies for assessing the impact on ROI and SROI of adopting practices consistent with NHSIA.

3.9 Customer Results

The Customer Results measurement area is designed to capture how well an agency or specific process within an agency is serving its customers. Following the FEA Performance Reference Model, results are measured from the external customer perspective with respect to five dimensions. These Measurement Categories are displayed in Figure 2-2 and described in Table 3-2 below.

Table 3-2. Customer Results Measurement Area

Measurement Categories	Description of Measurement Categories
Customer Benefit	Customer satisfaction levels and tangible impacts to customers as a result of the products or services provided.
Service Coverage	Extent to which the target customer population is being served and customers are using products and services.
Timeliness and Responsiveness	Length of time to respond to customer inquiries and requests, and time required to deliver products or services.
Service Quality	Quality from the customer's perspective; accuracy of responses to customer inquiries and requests.
Service Accessibility	Availability of products and services to customers and the extent to which self-service options and automation are utilized.

3.10 The Value of a Performance Reference Model

In summary, a Performance Reference Model displays the underlying "program logic" for how key inputs, such as technology and technological changes, facilitate improvements in performance measurement and analysis; work processes; mission, business, and customer results; and ultimately the achievement of an agency's strategic outcomes. The PRM suggests measurement areas, categories and groupings for which agency- and program-specific performance indicators need to be developed. The impact of implementing the capabilities facilitated by NHSIA must be demonstrated by assessing the degree of improvement in specific input, output and program outcome performance indicators.

4 Utilizing the NHSIA Performance Reference Model

4.1 Overview

During the first year of the NHSIA project we examined the "as-is" situation regarding measurement indicators utilized by selected programs in the Administration for Children and Families (ACF). We also examined the information systems and data bases that are currently utilized to collect information for these performance indicators. In addition, we examined the measurement indicators used by ACF sponsored programs in selected states, counties and cities that have developed dashboards at the state, county or city level for these programs. This document and associated artifacts have been prepared as a first step in analyzing the "as-is" situation for these performance measurement and monitoring systems. The artifacts are summarized in Table 4-1.

Table 4-1. Performance Reference Model Major Artifacts

Artifact	Form & Description
NHSIA Performance Reference Model Document	Form: A word document and associated appendices.
	Description: For strategic planners at all levels of government. Includes a framework designed to articulate the impact of NHSIA on key work processes, program results and agency strategic outcomes.

Artifact	Form & Description
Performance Indicators Used by Selected ACF Programs	Form: Tabular description of performance indicators. See Appendix C of this document.
	Description: A table describing the performance indicators used by 7 ACF programs, including the data elements utilized, how the measures are defined, and the source(s) of each data element.
Information Systems and Data Bases Utilized by Selected ACF Programs	Form: Tabular description of 10 information systems and data bases. See Appendix B of this document.
	Description: A table displaying the characteristics of 10 information systems and data bases used to construct performance indicators for selected ACF programs.
Performance Indicators Used in Selected State, County and City Dashboards	Form: Tabular description of performance measures. See Appendix D of this document.
	Description: A table describing the performance measurement indicators and data sources utilized for ACF sponsored programs in dashboards by 17 state, county and city programs.
	Description: For decision-makers at all levels of government. Includes a methodology for assessing the Social Return on Investment for agencies implementing NHSIA or key components of NHSIA.

4.2 Administration for Children and Families Performance Indicators

The Administration for Children and Families (ACF), within the U.S. Department of Health and Human Services (HHS), is responsible for federal programs that address the needs of vulnerable children and families throughout the U.S. In general, ACF programs aim to support the goals and objectives associated with HHS Strategic Goal 3: "Advance the Health, Safety, and Well-Being of the American People." (See Appendix A to this document.) ACF programs also provide support for three of the HHS Secretary's priorities, including "Promote Early

Childhood Health and Development, Implement the Recovery Act, and Ensure Program Integrity and Responsible Stewardship.[6]

ACF is required by the Government Performance and Results Act of 1993 to develop an annual performance plan that covers each program activity. Performance goals and annual targets have been developed by ACF programs for each of the strategic goals and objectives. The mission of the ACF performance management system is to measure the extent to which ACF programs are accomplishing their annual performance goals and objectives. Figure 4.1 displays an example from the *Administration for Children and Families FY 2012 Online Performance Appendix.*

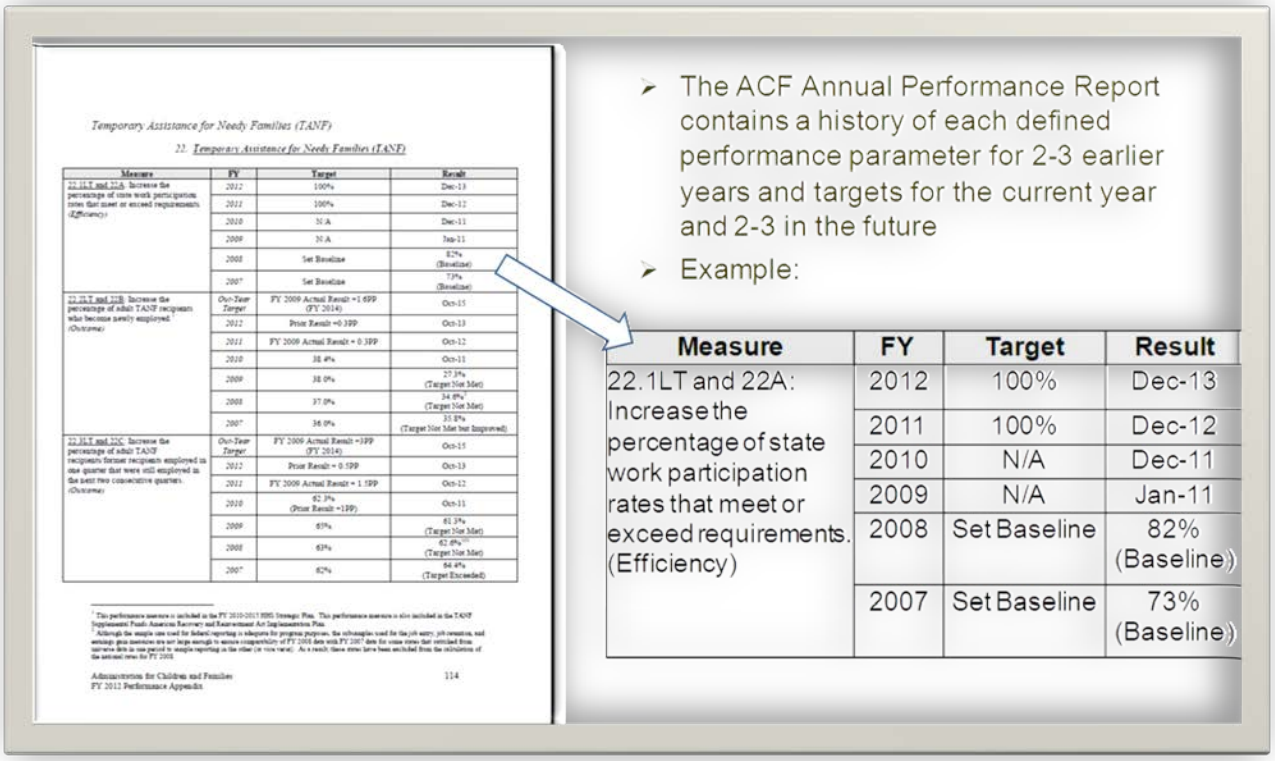

Figure 4-1. The ACF FY 2012 Online Performance Appendix: Example of a TANF Indicator

As stated in the ACF Performance Plans and Reports Overview:

[6] U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation. "ACF Performance Plans and Reports Overview." Available at http://www.acf.hhs.gov/programs/opre/acf_perfplan/ann_per/ann_per_overview.html

> *"This process begins with choosing realistic performance measures or indicators to assess progress; they will be included in the annual performance plan submitted with the President's budget request each year. These measures will be used to assess how well ACF had met its goals for the previous year. Specific performance targets identified in the annual performance plan will be used to project what incremental progress ACF hopes to make from year to year in achieving its strategic goals and objectives."*

As part of the "as-is" situation analysis, we examined the performance indicators currently utilized for selected ACF programs, including the following:

Table 4-2. ACF Programs Selected for the As-Is Analysis of Performance Indicators

Administration for Children and Families Selected Programs
1. Low Income Home Energy Assistance Program (LIHEAP)
2. Child Care and Development Block Grant (CCDBG)
3. Child Abuse Prevention and Treatment Act (CAPTA) State Grants, Community-Based Child Abuse Prevention (CBCAP)
4. Child Welfare Services, Promoting Safe and Stable Families (PSSF), Foster Care
5. Adoption Opportunities, Adoption Incentives, Adoption Assistance
6. Child Support Enforcement
7. Temporary Assistance for Needy Families (TANF)

For each performance indicator we examined how the measure is defined, the data elements utilized, and the current source of each data element. This information is displayed in Appendix C of this document.

We also examined the information systems and data bases that are currently used to construct the performance indicators for these selected ACF programs. The information systems and data bases examined are displayed in Table 4-3 below.

Table 4-3. Major Information Systems and Data Bases Utilized by Selected Programs in the Administration for Children and Families

Information System or Data Base
1. Adoption and Foster Care Analysis System (AFCARS)
2. Automated Child Support Enforcement system (ACSES)
3. Children's Bureau Database on Child and Family Services Reviews (CFSR)
4. Low Income Home Energy Assistance Program (LIHEAP)
5. National Child Abuse and Neglect Data System (NCANDS)
6. Office of Child Care Information System (OCCIS)
7. Public Assistance Reporting Information System (PARIS)
8. Quality Ratings and Improvement Systems (QRIS)
9. Statewide Automated Child Welfare Information Systems (SACWIS)
10.Temporary Assistance for Needy Families (TANF) database

For each of these information systems and data bases we tried to address the questions outlined in Table 4-4 below. The responses to these questions and the sources of our information are displayed in Appendix B to this document.

Table 4-4. Characteristics of Major Information Systems and Data Bases Utilized by Selected Programs in the Administration for Children and Families

Information System or Data Base
1. Who are the users?
2. What program(s) does the information system support?
3. How was the information system conceived/funded?
4. What are the main functions of the information system?
5. Who manages the information system?
6. What are the interfaces of the information system and its users? (inputs/outputs)
7. How do the data generated by the information system support performance indicators/metrics?
8. Are the information interfaces based on any information standards?
9. What technologies are utilized?
10. What is the status of the system/data base? Are any upgrades planned? If yes, what is planned and what is the time frame?
11. Observations and lessons learned

Many States, as well as some cities and counties, construct and utilize performance indicators for their ACF-funded programs that are in addition to those indicators they report in response to Federal requirements. As part of the "as-is" situation analysis, we examined the performance indicators reported by 17 selected States, counties and cities as part of their performance dashboards. We also examined the sources of information that are currently utilized to construct these indicators. This information is displayed in Appendix D of this document.

5 Implementation of the NHSIA Performance Reference Model

5.1 Observations on Variability among the Indicators

Through our investigation of the federal, state and county performance indicators used to evaluate seven ACF human services programs, we found great variability in the metrics across programs. At the federal level, each program's goal setting and strategic planning has greatly influenced selection of performance indicators. For example, TANF's mission states that the program was designed to assist needy families in achieving self-sufficiency. The program has established four goals in order to achieve greater self-sufficiency among the nation's families: assist needy families so that children can be cared for in their own homes, reduce the dependency of needy parents by promoting job preparation, work and marriage, prevent out-of-wedlock pregnancies, and encourage the formation and maintenance of two parent families. In accordance with these goals, TANF federal performance indicators are aimed at assessing the degree to which individual states have met these goals. For example, one performance indicator is the degree of change in the percentage of adult TANF recipients/former recipients employed in one quarter who are still employed during the next two consecutive quarters. This performance indicator can be considered within the measurement area of customer results, and further within the measurement category of customer benefit.

In contrast, LIHEAP's mission is to assist low income households in meeting their immediate home energy needs. In addition, the program is specifically targeted at families with the lowest incomes that pay a high proportion of household income on home energy. The following performance indicator reflects the program's attempts to target specific families: increase recipiency targeting index score for LIHEAP households having at least one member 60+. Although also within the customer results measurement area, LIHEAP performance indicators focus on service accessibility in contrast to the TANF performance indicators, which center on customer benefit.

In addition to differences in measurement categories, these two performance indicators also illustrate variation in the complexity of measures and the processes required to assess performance. Using the LIHEAP performance indicator discussed above as an example, the recipiency targeting index score is calculated by determining the percentage of LIHEAP recipient households that have a member above the age of 60, which is determined by the LIHEAP Household Report. This percentage is then divided by the percentage of LIHEAP-income eligible households that have a member above the age of 60, as determined by the Census Bureau's Annual Social and Economic Supplement. The LIHEAP Household Report is

submitted by each US state and territory indicating households applying for and receiving LIHEAP assistance. In order to calculate the TANF performance indicator discussed above, information from the National Directory of New Hires is used to determine the earnings of current and former TANF recipients in the first and third quarters. The amount of current and former program recipient tracking required in order to determine earnings for both current and former TANF recipients is substantial and far exceeds the amount of tracking required for construction of the LIHEAP performance indicators.

5.2 Integration with Other Viewpoints

In order to account for the variability in measurement areas, measurement categories and the complexity and stage of development of performance indicators across programs, effective implementation of the performance reference model requires integration of the capability, business, systems and information viewpoints within the NHSIA. Described in great detail elsewhere, the business, systems, and information viewpoints are essential to creating an architecture capable of effective performance measurement and management.

The business viewpoint provides a description of the processes that characterize human services operations, including but not limited to the stakeholders involved, activities and actions, information flow and the interaction among the processes. This viewpoint describes the activities and inputs/outputs involved in the services identified in the systems viewpoints, and the information exchanges identified in the information viewpoint. The NHSIA Business Model focuses on a variety of different specific business areas, including performance management. This business area further includes compliance management, performance evaluation, and reporting. These focus areas evaluate necessity and appropriateness of care, quality of care, fraud and abuse, erroneous payments, administrative abuses, impact evaluation, program monitoring, process evaluations and cost evaluations.

The systems viewpoint describes the top-down IT services, information, and data required in order to meet the needs of the business processes laid out by the business viewpoint. This viewpoint is organized into a systems reference model containing four layers: access, applications, shared services, and infrastructure. The model provides a guide for the architecture structure around interoperable and reusable elements. The applications layer includes high-level applications that support multiple human services domains, agencies and programs, and includes program management applications that support multiple programs. These applications may include partner management, performance monitoring, and others.

The information viewpoint describes the information requirements for the NHSIA architecture, drawing largely from the standards described by the National Information Exchange Model (NIEM), as governed by the Department of Homeland Security. Among other objectives, the information viewpoint is intended to define the conceptual data model (CDM) to support the business viewpoint. The CDM defines requirements for information exchange messages as well as the content of critical data structures.

As stated previously, it is the intent of NHSIA to focus on the technology-enabled capabilities supporting an interoperable environment, one of which is information-based performance management. Integration of each of these viewpoints provides human services agencies with the entire scope of the processes and information involved in information-based performance measurement and management. By thinking through the business processes, IT systems, and information requirements, agencies will be able to more effectively measure and manage performance across programs in order to meet the goals and objectives specifically identified for these programs.

5.3 Future Directions

Implementation of NHSIA is expected to influence an agency's strategic outcomes in a variety of different ways. For example, in addition to information-based performance management, another important technology-enabled capability described in the Capability Viewpoint is convenient access or ("no wrong door") single entry point systems that provide a single access portal to needed services. This type of coordinated eligibility determination and program enrollment is particularly targeted toward individuals and families in need of multiple services. Although still in its infancy, "no wrong door" pilot programs have been implemented across the U.S. Such programs encourage agencies to communicate, cooperate, exchange data and information, integrate and restructure services, and consolidate efforts to achieve common goals.

Previous studies have suggested that pilot "no wrong door" programs can have a significant, positive impact on the outputs and outcomes produced by national, state and local agency programs. These studies suggest that "no wrong door services" can be cost-effective; improve patient, family and provider experiences; decrease family caregiving burden; maintain or improve functional well-being, independence and community participation; and maintain or improve health status.[7] As NHSIA is

[7] Navigant Consulting, "Best Practices and Emerging Trends in Case Management." Texas Case Management Optimization. Texas Health and Human Services

implemented to facilitate the sharing of information and services across programs and agencies, the Performance Reference Model can help guide decision-makers in the selection of appropriate indicators for monitoring the impact of these enhanced capabilities on program performance.

Commission. Undated. Accessed at
http://www.hhsc.state.tx.us/about_hhsc/reports/CaseManagement_BestPractices.pdf

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