

## Children’s Passport Planning Project: Cost Benefit Analysis

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## 1 Overview and Methodology

### Overview

As part of its approved State Systems Interoperability and Integration Grant application, the New York State Office of Children and Family Services (OCFS) proposed the completion of six (6) major tasks designed to encompass a planning project to support the future design, development and implementation (DDI) of a New York State Children's Passport (CP), an electronic record information technology (IT) system that will store multi-agency (State and Federal) data associated with youth in OCFS custody. The initial phase of this initiative will focus on creation of an interoperable electronic record aggregating health information for New York State's foster care (FC) population. To gather this data, OCFS will work with the NY Department of Health (DOH) to establish a bi-directional information sharing capability focused on the timely aggregation of Medicaid claims and encounter information as children enter foster care settings.

These tasks and associated deliverables include:

1. As-Is Assessment of the Business Processes, Data Sources and Technical Architecture Supporting the Foster Child (FC) Health Information Environment
2. Alternatives Analysis
3. Cost Benefit Analysis
4. Finalization and Justification of the Selected Alternative
5. Definition of Benefits to Other States
6. Monthly Progress and Final Project Reporting

This document presents deliverable 3, a *Cost Benefit Analysis (CBA)* designed to compare the costs and benefits associated with alternatives 2 and 3 detailed in deliverable 2 *Alternatives Analysis*. For each of these alternatives, estimated costs, projected qualitative and quantitative benefits and a breakeven analysis are presented to support deliverable 4 *Finalization and Justification of the Selected Alternative*.

Alternatives under consideration include:

1. Design, development and implementation of new child welfare and health business processes and supporting information technology systems to capture the most current foster care children's health information (alternative 2); and,
2. Integration and enhancement of existing child welfare and health business processes and supporting information technology systems to capture the most current foster care children's health information (alternative 3).

Please note that in the *Alternative Analysis* deliverable it was determined that alternative 1, enhancement of existing child welfare and health business processes and supporting information technology systems to capture the most current foster care children's health information with no multi-agency integration, failed to address the minimum Children's Passport system requirements. As a result, alternative 1 is not included in this *Cost Benefit Analysis*.

## Methodology

OCFS incorporated guidance provided by the Federal Department of Health and Human Services, Administration for Children and Families (DHHS-ACF) Feasibility Alternatives and Cost Benefit Analysis Guide located at [http://www.acf.hhs.gov/sites/default/files/ocse/feasibility\\_alternatives\\_and\\_cba\\_guide.pdf](http://www.acf.hhs.gov/sites/default/files/ocse/feasibility_alternatives_and_cba_guide.pdf) to develop this deliverable.

Qualitative and quantitative benefits associated with each alternative are identified and described along with estimated DDI costs and projected benefits over an eight (8) year period. Estimated costs are compared to projected quantitative benefits to complete a breakeven analysis to identify the most viable strategy. Analysis and summary of breakeven results will be used to support deliverable 4 *Finalization and Justification of the Selected Alternative*.

## **2 Alternative 2: Estimated DDI Costs and Projected Benefits**

### **2.1 Alternative 2 Overview**

Under this alternative new child welfare and health business processes will be defined and implemented along with new supporting information technology systems necessary to capture the most current foster care children's health information. A total of four concurrent systems development efforts across three organizational units (OCFS, the Office of Temporary and Disability Assistance (OTDA) and DOH) must be planned and coordinated. This alternative will **not** address the issue of multi-agency integration.

### **2.2 Summary of Alternatives Analysis**

While alternative 2 meets the minimum requirements of the Children's Passport system and the project's targeted outcomes, its technical feasibility is questionable.

While replacement business processes and IT systems will be based on new technology, operational silos will remain. The migration path from development to production will be highly complex and introduce a high level of risk. Based upon previous attempts to replace these systems, implementing this alternative will be costly and will take a minimum of five years.

While alternative 2 offers the latest technical innovations available, the potential to leverage other state's innovations and the opportunity to improve business processes, it will be very costly, take a longer time to market and will not fully address the issue of implementing data standards.

### **2.3 Alternative 2 Estimated DDI Costs**

Cost estimates for this alternative were extrapolated from a combination of historical data gleaned from previous initiatives attempted to replace these IT systems and experience with similar large scale system development efforts. They are presented by Federal Fiscal Year (FFY) and are limited to design, development and implementation (DDI) tasks.

Estimated DDI costs were derived as follows:

- MMIS replacement DDI cost estimates are based on procurement efforts completed over the last several years
- WMS replacement DDI costs are based on a combination of efforts to replace the system over the past 8 years and a comparison with the complexity of the MMIS effort. MMIS replacement DDI cost estimates were doubled to derive WMS replacement DDI cost estimates
- CONNECTIONS/CCRS replacement DDI cost estimates are based on recent efforts to migrate to a new technology platform
- MDW replacement DDI cost estimates are based upon historical data to implement the application over the past several years

Estimated operational costs will be addressed in subsequent Advance Planning Document (APD) submissions as required.

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**Exhibit 2-1**

**Alternative 2 Estimated DDI Costs**

SUMMARY OF ESTIMATED DDI COSTS Alternative 2	Year 1 FFY 2014	Year 2 FFY 2015	Year 3 FFY 2015	Year 4 FFY 2016	Year 5 FFY 2017	TOTAL PROJECT
WMS Replacement	\$ 128,000,000	\$ 128,000,000	\$ 128,000,000	\$ 128,000,000	\$ 128,000,000	\$ 640,000,000
CONNECTIONS/CCRS Replacement	\$ 25,000,000	\$ 25,000,000	\$ -	\$ -	\$ -	\$ 50,000,000
MMIS Replacement	\$ 80,000,000	\$ 80,000,000	\$ 80,000,000	\$ 80,000,000	\$ -	\$ 320,000,000
MDW Replacement	\$ 75,000,000	\$ 75,000,000	\$ -	\$ -	\$ -	\$ 150,000,000
<b>TOTAL</b>	<b>\$ 308,000,000</b>	<b>\$ 308,000,000</b>	<b>\$ 208,000,000</b>	<b>\$ 208,000,000</b>	<b>\$ 128,000,000</b>	<b>\$ 1,160,000,000</b>

## 2.4 Alternative 2 Projected Benefits

Since children in foster care have more extensive, complex health care needs than their peers, they account for a somewhat higher share of public health spending. In order to improve health outcomes, it is also necessary to share health care information in a timely manner. Access to this information supports the care planning and coordination of services necessary to stabilize and improve the overall health of foster care children.

By developing and implementing an electronic capability such as the Children’s Passport to aggregate and provide access to health care information across multiple state agencies, we move closer to the reality of real-time coordination of care between health professional and other caretakers of the foster care population. This coordination capability will support the following qualitative and quantitative benefits.

**Exhibit 2-2**  
**Alternative 2 Projected Benefits**

Benefit Type	Benefit
Qualitative	<p><i>Program &amp; Policy</i></p> <ul style="list-style-type: none"> <li>• Supporting business processes across 3 organizational units will be analyzed and reengineered to more adequately support program operations</li> <li>• A common database structure will defined and developed, representing a wholesale redefinition of all impacted human service program data</li> <li>• New business processes and IT systems will support improved capture of foster care children’s health information</li> <li>• Despite the lack of full multi-agency integration of systems and health data, this alternative will facilitate and support, <u>to a limited extent</u>:                         <ul style="list-style-type: none"> <li>○ overall improvement of the quality of health care services provided to children in foster care</li> <li>○ New York State’s Medicaid Redesign Team (MRT) initiatives to transition foster care children covered by Medicaid to a Managed Care Model and the leveraging of care coordination capabilities facilitated by the Children’s Passport.</li> <li>○ improved State and Voluntary Agency (VA) oversight of service delivery and program administration for the foster care population and reduction of the administrative burden</li> <li>○ improved coordination of services via access to management data necessary to evaluate usage patterns and clinical outcomes</li> <li>○ prevention of dangerous drug interactions</li> <li>○ improved prescribing, monitoring and oversight of psychotropic medication use in the high-risk, high-cost population of children</li> </ul> </li> </ul>

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Benefit Type	Benefit
	<p style="padding-left: 40px;">in foster care</p> <ul style="list-style-type: none"> <li>○ improved insight into and monitoring of the use of psychotropic medications and polypharmacy</li> <li>○ the promotion of the meaningful use of electronic health records by New York State’s Medicaid providers and the Federal Electronic Health Record Incentive Program</li> </ul> <p><i>Information Technology</i></p> <ul style="list-style-type: none"> <li>● Provides the latest available technical innovations</li> <li>● Supports the potential to leverage other State’s innovations</li> </ul>
Quantitative	<ul style="list-style-type: none"> <li>● Reduction in placements in environments more restrictive than may be required</li> <li>● Reduction in the use of psychotropic medications</li> </ul>

Calculating Quantitative Benefits

Alternative 2 proposes the wholesale replacement of all related legacy systems and includes the development and implementation of a common database structure supporting OCFS, OTDA and DOH human services programs.

However, since this alternative does not directly address full multi-agency integration, it will support the following, projected quantitative benefits, to a limited extent:

- Reduction in placements in environments more restrictive than may be required
- Reduction in the use of psychotropic medications by the foster care population.

Projections for these quantitative have been developed by examining New York State specific data as well as data provided by the Wraparound Milwaukee<sup>1</sup> and Texas Health Passport<sup>2</sup> programs.

**Reduction in Placements in Environments More Restrictive than May Be Required**

Wraparound Milwaukee is a managed care program serving the needs of children and adolescents experiencing severe mental health issues. Electronic records are used to integrate medical and mental health information. These records can be accessed by the program’s network of child psychiatrists and primary health care providers. Common access to this information has resulted in improvements in the coordination of care, including a 78.6% reduction in the rate of residential treatment for children and youth in care.

<sup>1</sup> B. Morrow, *Electronic Information Exchange: Elements that Matter for Children in Foster Care* (Santa Monica, CA: The Children’s Partnership, 2013) 4.

<sup>2</sup> GAO, *Foster Care State Practices for Assessing Health Needs, Facilitating Service Delivery, and Monitoring Children’s Care* (GAO-0926) (Washington, DC: US Government Accountability Office, 2009) 33.

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In order to project similar quantitative benefits for the New York State (NYS) foster care population, the following calculations were completed:

Step 1: Calculate the total annual cost of care for NYS's foster care population using the institutional payment type

- 1,075,655 total institutional days in care in 2010<sup>3</sup>
- \$302.20 average cost per day for the institutional payment type<sup>4</sup>
  
- 1,075,655 days in care X \$302.20 average cost per day = \$325,062,941 - total annual cost of care for NYS's foster care population using the institutional payment type

Step 2: Apply the Wraparound Milwaukee rate of reduction of 78.6%

- \$325,062,941 total annual cost X 78.6% = \$255,499,472 projected annual savings

Step 3: Calculate 50% of this total

To account for differences in program structure and time required to glean the full benefit associated with access to electronic health information, 50% of the projected annual savings is ascribed as a quantitative benefit.

- \$255,499,471 projected annual savings X 50% = \$127,749,736 projected annual savings ascribed as a quantitative benefit

### **Reduction in the Use of Psychotropic Medications**

To project a quantitative benefit for a reduction in the use of psychotropic medications for the New York State (NYS) foster care population, results from the Texas STAR Health Program were evaluated. As part of this program, Texas has implemented the nation's most extensive web-based health record system, the Health Passport, to serve its population of approximately 30,000 children and youth in foster care. (Please note that Texas data has been used since their foster care population is close to NYS's population of 20,000+ children and youth in foster care).

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<sup>3</sup> [http://nysccc.org/wp-content/uploads/Maps\\_New\\_York\\_State\\_2010.pdf](http://nysccc.org/wp-content/uploads/Maps_New_York_State_2010.pdf) (19)

<sup>4</sup> [www.ocfs.state.ny.us/main/rates/FosterCareRates/1112\\_RATE\\_CHART \(Foster Care\) July 1 2011 - June 30 2012.pdf](http://www.ocfs.state.ny.us/main/rates/FosterCareRates/1112_RATE_CHART_(Foster_Care)_July_1_2011_-_June_30_2012.pdf)

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According to GAO Report 122705<sup>5</sup>, Texas spent \$194,952,105 in 2008 to provide psychotropic medications to its non-foster care and foster care populations. Approximately 36% of this total covers the Texas foster care population or an annual expenditure of \$70,182,758.

As a result of implementing their Health Passport, Texas officials reported a 20% decrease in foster care psychotropic drug use<sup>6</sup>.

Using Texas Health Passport data, a 20% reduction in a total annual expenditure results in the following projected annual savings:

Step 1: Apply the Texas Health Passport rate of reduction of 20%

- \$70,182,758 X 20% = \$14,036,552 annual reduction in expenditures on psychotropic medications for children in foster care

Step 3: Calculate 50% of this total

To account for differences in program structure and time required to glean the full benefit associated with access to electronic health information, 50% of the projected annual savings is ascribed as a quantitative benefit.

- \$14,036,552 projected annual savings X 50% = \$7,018,276 projected annual savings ascribed as a quantitative benefit

Exhibit 2-3 summarizes alternative 2 projected quantitative benefits. Please note that these benefits cannot be ascribed until year 6 when all DDI work is projected for completion.

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<sup>5</sup> <http://www.gao.gov/new.items/d12270t.pdf>, 35.

<sup>6</sup> B. Morrow, *Electronic Information Exchange: Elements that Matter for Children in Foster Care* (Santa Monica, CA: The Children's Partnership, 2013) 4.

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**Exhibit 2-3**  
**Summary of Alternative 2 Projected Quantitative Benefits**

Description	Year 1 FFY 2014	Year 2 FFY 2015	Year 3 FFY 2016	Year 4 FFY 2017	Year 5 FFY 2018	Year 6 FFY 2019	Year 7 FFY 2020	Year 8 FFY 2021	Totals
<b>1: Reduce Days in Care/Payment Type = Institution</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 127,749,736	\$ 127,749,736	\$ 127,749,736	\$ 383,249,208
<b>2: Reduce Psychotropic Medication Costs</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,018,276	\$ 7,018,276	\$ 7,018,276	\$ 21,054,828
<b>Totals:</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 134,768,012	\$ 134,768,012	\$ 134,768,012	\$ 404,304,036

### **3 Alternative 3: Estimated DDI Costs and Projected Benefits**

#### **3.1 Alternative 3 Overview**

Under this alternative existing child welfare and health business processes and supporting IT systems will be enhanced to capture the most current foster care children's health information and will be fully integrated across all impacted agencies. It will leverage the work completed implementing the Children's Passport for the Juvenile Justice population as well as work completed as part of the State's Enterprise Architecture Program, Master Person Services Index (MPI) initiative.

#### **3.2 Summary of Alternatives Analysis**

Alternative 3 meets the minimum requirements of Children's Passport system objectives and the project's targeted outcomes. It is technically feasible and promotes the implementation of enhancements to legacy systems that will be fully integrated across OCFS, OTDA and DOH, meeting envisioned user requirements and system objectives.

It is operationally feasible and will present minimal impacts to the operational pattern and resources of OCFS, OTDA and DOH. It is financially feasible, promoting an incremental investment in new technologies while not impacting ongoing legacy operations.

Alternative 3 provides a shorter time to market, the latest technical innovations available, an opportunity to leverage existing applicable functionality (e.g., Children's Passport for the JJ population and the MPI initiatives), an opportunity to enhance technical architecture (e.g., Service Oriented architecture (SOA) and Enterprise Service Bus (ESB)), an opportunity to standardize data sources (i.e., X12 standards), and an opportunity to integrate data silos (e.g., initial integration: child welfare and Medicaid/health data).

While part of the proposed technology solution will remain in the legacy technical architecture and staff with skills in new technologies may be required, this alternative remains viable.

### 3.3 Alternative 3 Estimated DDI Costs

Cost estimates for this alternative were based on historical data gleaned from previous initiatives completed to enhance the CONNECTIONS Child Welfare system and experience with similar large scale system development efforts. Please note that the scope of cost estimates is limited to design, development and implementation (DDI) tasks. Estimated operational costs will be addressed in subsequent Advance Planning Document submissions as required.

**Exhibit 3-1**  
**Summary of Alternative 3 Estimated DDI Costs**

SUMMARY OF ESTIMATED DDI COSTS Alternative 3	Year 1 FFY 2014	Year 2 FFY 2015	Year 3 FFY 2015	Year 4 FFY 2016	Year 5 FFY 2017	TOTAL PROJECT
CONNECTIONS Enhancements	\$ 14,000,000	\$ 14,000,000	\$ -	\$ -	\$ -	\$ 28,000,000

### 3.4 Alternative 3 Projected Benefits

This alternative proposes the DDI of a Children’s Passport system that will support a vastly improved foster care children’s health care coordination capability. This capability will support the following qualitative and quantitative benefits.

**Exhibit 3-2**  
**Alternative 3 Projected Benefits**

Benefit Type	Benefit
Qualitative	<p><i>Program and Policy</i></p> <ul style="list-style-type: none"> <li>• Facilitates overall improvement of the quality of health care services provided to children in foster care</li> <li>• Supports New York State’s Medicaid Redesign Team (MRT) initiatives to transition foster care children covered by Medicaid to a Managed Care Model and leverages the care coordination capabilities facilitated by the Children’s Passport.</li> <li>• Supports State and Voluntary Agency (VA) oversight of service delivery and program administration for the foster care population and reduces the administrative burden</li> <li>• Supports prevention of dangerous drug interactions</li> <li>• Facilitates coordination of services and provides management data to evaluate usage patterns and clinical outcomes</li> <li>• Supports improvements in prescribing, monitoring, and oversight of psychotropic medication use in the high-risk, high-cost population of children in foster care</li> <li>• Supports improved insight into and monitoring of the use of psychotropic medications and polypharmacy</li> <li>• Supports the promotion of the meaningful use of electronic health records by New York State’s Medicaid providers and the Federal Electronic Health Record Incentive Program</li> </ul> <p><i>Information Technology</i></p> <ul style="list-style-type: none"> <li>• Provides the latest technical innovations available, supporting a path to the eventual upgrade of the overall technical architecture</li> <li>• Provides the opportunity to leverage existing applicable functionality of the Children’s Passport for the Juvenile Justice population and the Master Person Index initiative</li> <li>• Provides Service Oriented Architecture (SOA) and Enterprise Service Bus (ESB) features easily leveraged to support related initiatives</li> <li>• Provides the opportunity to standardize data sources (i.e., X12 standards)</li> </ul>

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Benefit Type	Benefit
	<ul style="list-style-type: none"> <li>Provides the opportunity to integrate data silos, with an initial integration of child welfare and Medicaid claims/health data</li> </ul>
Quantitative	<ul style="list-style-type: none"> <li>Shorter time to market saves DDI costs</li> <li>Shorter time to market also brings quantitative benefits to fruition 4 years earlier thereby dramatically improving the cost benefit ratio</li> <li>Reduction in placements in environments more restrictive than may be required</li> <li>Reduction in the use of psychotropic medications</li> </ul>

Calculating Quantitative Benefits

Alternative 3 proposes the enhancement of legacy systems with full multi-agency integration and will fully support the following quantitative benefits:

- Reduction in placements in environments more restrictive than may be required
- Reduction in the use of psychotropic medications by the foster care population.

Projections for these quantitative have been developed by examining New York State specific data as well as data provided by the Wraparound Milwaukee<sup>7</sup> and Texas Health Passport<sup>8</sup> programs.

**Reduction in Placements in Environments More Restrictive than May Be Required**

Wraparound Milwaukee is a managed care program serving the needs of children and adolescents experiencing severe mental health issues. Electronic records are used to integrate medical and mental health information. These records can be accessed by the program's network of child psychiatrists and primary health care providers. Common access to this information has resulted in improvements in the coordination of care, including a 78.6% reduction in the rate of residential treatment for children and youth in care.

In order to project similar quantitative benefits for the New York State (NYS) foster care population, the following calculations were completed:

Step 1: Calculate the total annual cost of care for NYS's foster care population using the institutional payment type

- 1,075,655 total institutional days in care in 2010<sup>9</sup>
- \$302.20 average cost per day for the institutional payment type<sup>10</sup>

<sup>7</sup> B. Morrow, *Electronic Information Exchange: Elements that Matter for Children in Foster Care* (Santa Monica, CA: The Children's Partnership, 2013) 4.

<sup>8</sup> GAO, *Foster Care State Practices for Assessing Health Needs, Facilitating Service Delivery, and Monitoring Children's Care (GAO-0926)* (Washington, DC: US Government Accountability Office, 2009) 33.

<sup>9</sup> [http://nysccc.org/wp-content/uploads/Maps\\_New\\_York\\_State\\_2010.pdf](http://nysccc.org/wp-content/uploads/Maps_New_York_State_2010.pdf) (19)

- 1,075,655 days in care X \$302.20 average cost per day = \$325,062,941 - total annual cost of care for NYS's foster care population using the institutional payment type

Step 2: Apply the Wraparound Milwaukee rate of reduction of 78.6%

- \$325,062,941 total annual cost X 78.6% = \$255,499,472 projected annual savings

Step 3: Calculate 50% of this total

To account for differences in program structure and time required to glean the full benefit associated with access to electronic health information, 50% of the projected annual savings is ascribed as a quantitative benefit.

- \$255,499,471 projected annual savings X 50% = \$127,749,736 projected annual savings ascribed as a quantitative benefit

### **Reduction in the Use of Psychotropic Medications**

To project a quantitative benefit for a reduction in the use of psychotropic medications for the New York State (NYS) foster care population, results from the Texas STAR Health Program were evaluated. As part of its program, Texas has implemented the nation's most extensive web-based health record system, the Health Passport, to serve its population of approximately 30,000 children and youth in foster care. (Please note that Texas data has been used since their foster care population is close to the NYS population 20,000+ children and youth in foster care).

According to GAO Report 122705<sup>11</sup>, Texas spent \$194,952,105 in 2008 to provide psychotropic medications to its non-foster care and foster care populations. Approximately 36% of this total covers the Texas foster care population or an annual expenditure of \$70,182,758. As a result implementing their Health Passport, Texas officials reported a 20% decrease in foster care psychotropic drug use<sup>12</sup>.

Using Texas Health Passport data, a 20% reduction in a total annual expenditure results in the following projected annual savings:

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<sup>10</sup> [www.ocfs.state.ny.us/main/rates/FosterCareRates/1112RATECHART\(FosterCare\)July12011-June302012.pdf](http://www.ocfs.state.ny.us/main/rates/FosterCareRates/1112RATECHART(FosterCare)July12011-June302012.pdf)

<sup>11</sup> <http://www.gao.gov/new.items/d12270t.pdf>, 35.

<sup>12</sup> B. Morrow, *Electronic Information Exchange: Elements that Matter for Children in Foster Care* (Santa Monica, CA: The Children's Partnership, 2013) 4.

Step 1: Apply the Texas Health Passport rate of reduction of 20%

- $\$70,182,758 \times 20\% = \$14,036,552$  annual reduction in expenditures on psychotropic medications for children in foster care

Step 3: Calculate 50% of this total

To account for differences in program structure and time required to glean the full benefit associated with access to electronic health information, 50% of the projected annual savings is ascribed as a quantitative benefit.

- $\$14,036,552$  projected annual savings  $\times 50\% =$   $\$7,018,276$  projected annual savings ascribed as a quantitative benefit

Exhibit 3-3 summarizes alternative 3 projected quantitative benefits. Please note that benefits are realized beginning in year 3 when CONNECTIONS enhancements are projected for completion.

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**Exhibit 3-3**  
**Summary of Alternative 3 Projected Quantitative Benefits**

Description	Year 1 FFY 2014	Year 2 FFY 2015	Year 3 FFY 2016	Year 4 FFY 2017	Year 5 FFY 2018	Year 6 FFY 2019	Year 7 FFY 2020	Year 8 FFY 2021	Totals
<b>1: Reduce Days in Care/Payment Type = Institution</b>	\$ -	\$ -	\$ 127,749,736	\$ 127,749,736	\$ 127,749,736	\$ 127,749,736	\$ 127,749,736	\$ 127,749,736	<b>\$ 766,498,416</b>
<b>2: Reduce Psychotropic Medication Costs</b>	\$ -	\$ -	\$ 7,018,276	\$ 7,018,276	\$ 7,018,276	\$ 7,018,276	\$ 7,018,276	\$ 7,018,276	<b>\$ 42,109,656</b>
<b>Totals:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 134,768,012</b>	<b>\$ 808,608,072</b>					

#### **4 Breakeven Analysis and Summary**

This section summarizes the estimated DDI costs and projected system benefits associated with each alternative in the following exhibits: *Exhibit 4-1 Alternative 2 Cost Benefit Profile*, *Exhibit 4-2 Alternative 2 Breakeven Analysis*, *Exhibit 4-3 Alternative 3 Cost Benefit Profile*, and *Exhibit 4-4 Alternative 3 Breakeven Analysis*.

A present value factoring has been applied to the total costs and benefits to achieve a total present value of costs that was compared to the total present value benefits.

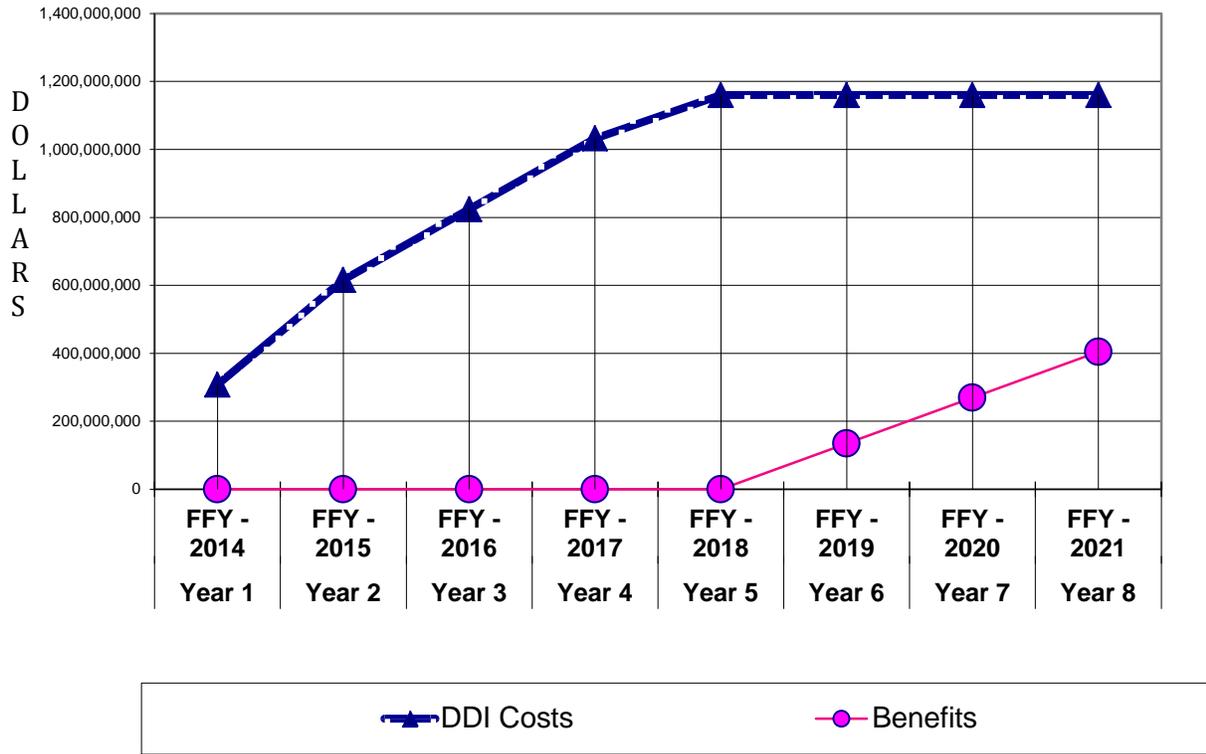
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**Exhibit 4-1**  
**Alternative 2 DDI Cost Benefit Profile**

SYSTEMS LIFE DDI COST PROFILE									
Description	Year 1 FFY - 2014	Year 2 FFY - 2015	Year 3 FFY - 2016	Year 4 FFY - 2017	Year 5 FFY - 2018	Year 6 FFY - 2019	Year 7 FFY - 2020	Year 8 FFY - 2021	Total
Total DDI Costs	308,000,000	308,000,000	208,000,000	208,000,000	128,000,000	0	0	0	1,160,000,000
Present Value Factor	1.0000	0.9667	0.9035	0.8444	0.7891	0.7375	0.6893	0.6442	n/a
<b>Total Present Value DDI Costs</b>	<b>308,000,000</b>	<b>297,743,600</b>	<b>187,928,000</b>	<b>175,635,200</b>	<b>101,004,800</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,070,311,600</b>
SYSTEMS LIFE BENEFITS PROFILE									
Description	Year 1 FFY - 2014	Year 2 FFY - 2015	Year 3 FFY - 2016	Year 4 FFY - 2017	Year 5 FFY - 2018	Year 6 FFY - 2019	Year 7 FFY - 2020	Year 8 FFY - 2021	Total
Total Benefits	0	0	0	0	0	134,768,012	134,768,012	134,768,012	404,304,036
Present Value Factor	1.0000	0.9667	0.9035	0.8444	0.7891	0.7375	0.6893	0.6442	n/a
<b>Total Present Value Benefits</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>99,391,409</b>	<b>92,895,591</b>	<b>86,817,553</b>	<b>279,104,553</b>
CUMULATIVE BENEFIT/COST PROFILE									
Description	Year 1 FFY - 2014	Year 2 FFY - 2015	Year 3 FFY - 2016	Year 4 FFY - 2017	Year 5 FFY - 2018	Year 6 FFY - 2019	Year 7 FFY - 2020	Year 8 FFY - 2021	Total
Cumulative Total Benefits	0	0	0	0	0	134,768,012	269,536,024	404,304,036	n/a
Cumulative Total DDI Costs	308,000,000	616,000,000	824,000,000	1,032,000,000	1,160,000,000	1,160,000,000	1,160,000,000	1,160,000,000	n/a

*Exhibit 4-2 Alternative 2 Breakeven Analysis* compares the DDI costs to the benefits to identify the breakeven point.

**Exhibit 4-2**  
**Alternative 2 Breakeven Analysis**



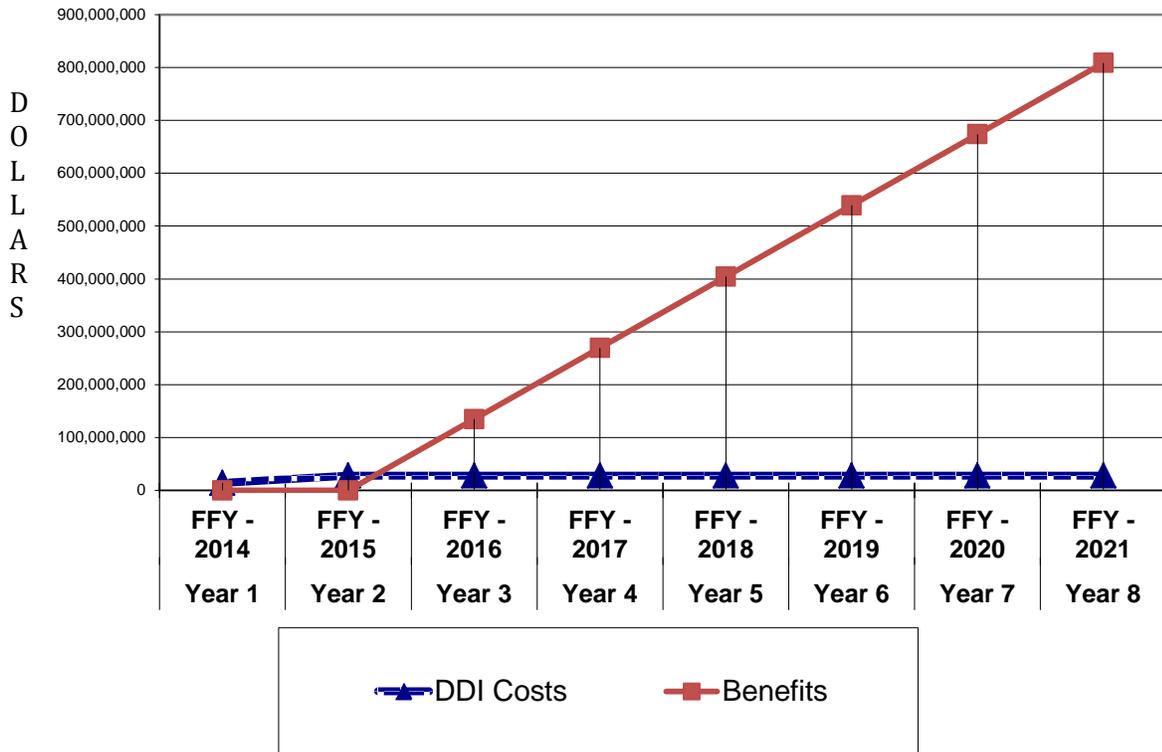
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES (OCFS)  
 STATE SYSTEMS INTEROPERABILITY AND INTEGRATION PROJECT GRANT # 90FQ0005  
 CHILDREN'S PASSPORT PLANNING PROJECT: TASK 3: COST BENEFIT ANALYSIS

**Exhibit 4-3:**

**Alternative 3 DDI Cost Benefit Profile**

<b>SYSTEMS LIFE DDI COST PROFILE</b>									
Description	Year 1 FFY - 2014	Year 2 FFY - 2015	Year 3 FFY - 2016	Year 4 FFY - 2017	Year 5 FFY - 2018	Year 6 FFY - 2019	Year 7 FFY - 2020	Year 8 FFY - 2021	Total
Total Costs	14,000,000	14,000,000	0	0	0	0	0	0	28,000,000
Present Value Factor	1.0000	0.9667	0.9035	0.8444	0.7891	0.7375	0.6893	0.6442	n/a
<b>Total Present Value Costs</b>	<b>14,000,000</b>	<b>13,533,800</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27,533,800</b>
<b>SYSTEMS LIFE BENEFITS PROFILE</b>									
Description	Year 1 FFY - 2014	Year 2 FFY - 2015	Year 3 FFY - 2016	Year 4 FFY - 2017	Year 5 FFY - 2018	Year 6 FFY - 2019	Year 7 FFY - 2020	Year 8 FFY - 2021	Total
Total Benefits	0	0	134,768,012	134,768,012	134,768,012	134,768,012	134,768,012	134,768,012	808,608,072
Present Value Factor	1.0000	0.9667	0.9035	0.8444	0.7891	0.7375	0.6893	0.6442	n/a
<b>Total Present Value Benefits</b>	<b>0</b>	<b>0</b>	<b>121,762,899</b>	<b>113,798,109</b>	<b>106,345,438</b>	<b>99,391,409</b>	<b>92,895,591</b>	<b>86,817,553</b>	<b>621,010,999</b>
<b>CUMULATIVE BENEFIT/COST PROFILE</b>									
Description	Year 1 FFY - 2014	Year 2 FFY - 2015	Year 3 FFY - 2016	Year 4 FFY - 2017	Year 5 FFY - 2018	Year 6 FFY - 2019	Year 7 FFY - 2020	Year 8 FFY - 2021	Total
Cumulative Total Benefits	0	0	134,768,012	269,536,024	404,304,036	539,072,048	673,840,060	808,608,072	n/a
Cumulative Total Costs	14,000,000	28,000,000	28,000,000	28,000,000	28,000,000	28,000,000	28,000,000	28,000,000	n/a

**Exhibit 4-4:**  
**Alternative 3 Breakeven Analysis**



## Summary

Using present value figures **alternative 2** estimated DDI costs total **\$1,070,311,600** whereas benefits total **\$279,104,553**. Based upon this analysis, this alternative fails to reach a breakeven point, with a benefits-to-costs ratio of **.26**.

Using present value figures **alternative 3** estimated DDI costs total **\$27,533,800** whereas benefits total **\$621,010,999**. The breakeven point for this alternative occurs in the first quarter of year 3, FFY 2016. Based upon this analysis, this alternative benefits-to-costs ratio for alternative 3 is **22.55**.

Every dollar invested in alternative 3 will generate \$22.55 in benefits. From a cost benefit standpoint this ratio represents a positive outcome that demonstrates that this alternative represents a prudent investment on the part of New York State and our Federal partners.