New York State DSRIP Evaluation Plan

The Delivery System Reform Incentive Program (DSRIP), a component of the New York State Medicaid Redesign Team (MRT) Waiver Amendment, seeks to achieve the goals of transforming the health care safety net, improving health care quality, improving population health, reducing avoidable hospital use, and lowering health care costs. This Evaluation Plan, prepared as required by the Special Terms and Conditions (STC) and subject to CMS approval, describes the methods that will be used by the Independent Evaluator to assess the extent to which the New York State DSRIP achieved the intended goals and objectives of the program.[1]

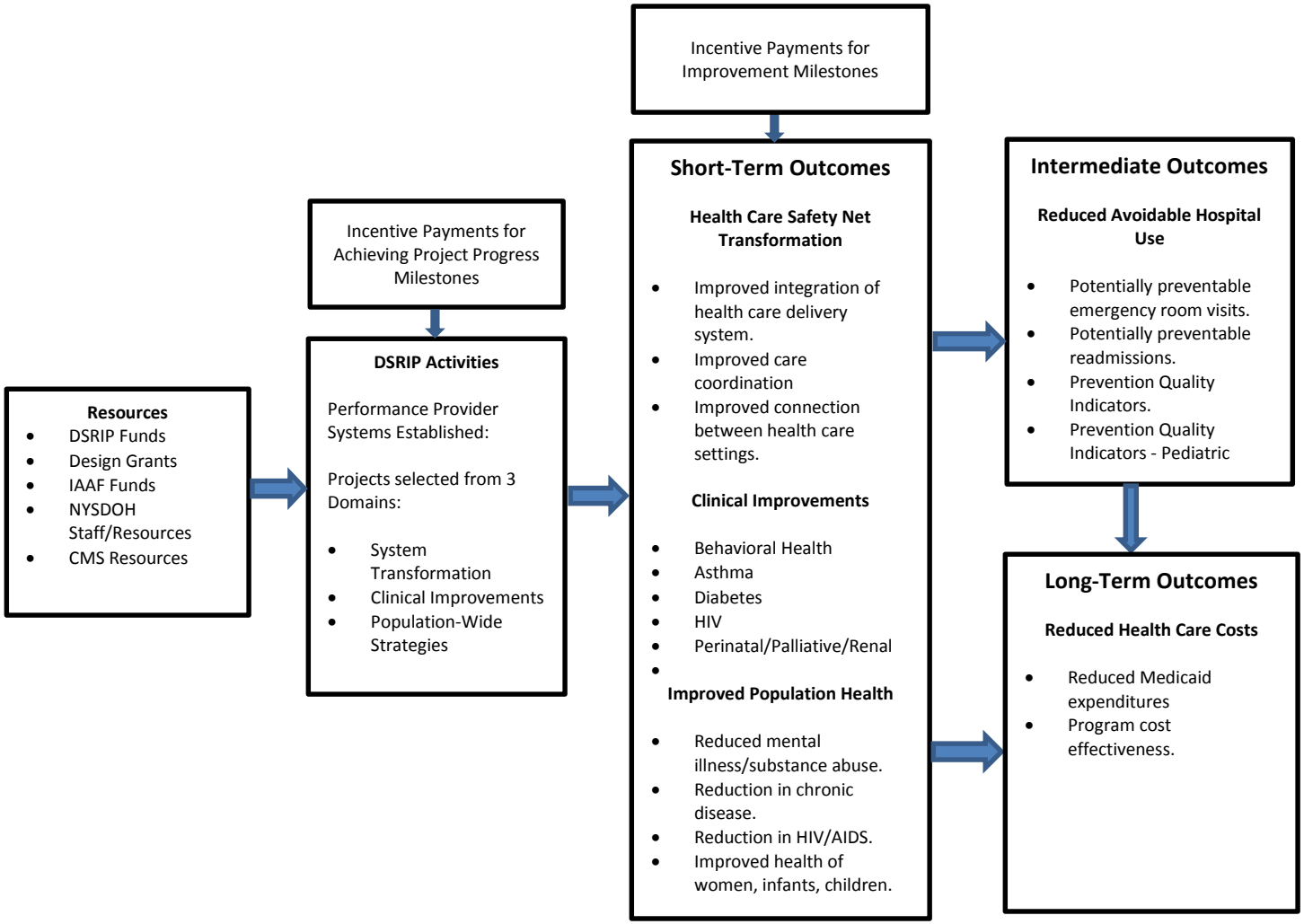
Figure 1 shows a logic model depicting the New York State DSRIP program, identifying the major program outcomes and providing a framework for the development of the evaluation. DSRIP is designed to achieve its goals and objectives through collaborations of health care providers termed Performing Provider Systems (PPS) that will create integrated systems to coordinate and provide care across the spectrum of settings to promote health and better outcomes while managing costs. Each PPS will be required to conduct a community assessment and will assume responsibility for a defined population to be served under DSRIP.

The DSRIP Strategies Menu and Metrics document, Attachment J, provides details regarding the specific delivery system improvement projects and associated metrics.[2] All DSRIP Performing Provider Systems will be responsible for achieving a set of core project progress metrics pertaining to overall program implementation (Domain 1). In addition, each PPS will be responsible for conducting a minimum of 5 and up to 10 projects chosen from a menu of options to address the needs of the population to be served. These projects are designed to facilitate the attainment of program goals and fall into 3 domains with associated metrics: system transformation projects (Domain 2); clinical improvement projects (Domain 3); and population-wide projects (Domain 4).

The broad goals of the New York State DSRIP evaluation are to 1) assess program effectiveness on a statewide level with respect to the MRT triple aim of improved care, better health, and reduced cost, and 2) obtain stakeholder feedback regarding the DSRIP program and the services provided. Toward these goals, the following objectives will be achieved:

1. Evaluate the extent to which Performing Provider Systems achieve health care system transformation.
2. Evaluate the extent to which health care quality is improved through clinical improvement in the treatment of selected diseases and conditions.
3. Evaluate the extent to which population health is improved as a result of implementation of the DSRIP initiative.
4. Assess the extent to which avoidable hospital use is reduced as a result of DSRIP.
5. Evaluate the impact of DSRIP on health care costs.
6. Obtain detailed information on the strengths and weaknesses of the DSRIP initiative at the implementation and operational stages from stakeholders' perspectives.

Figure 1. Delivery System Reform Incentive Payment Program (DSRIP) Logic Model



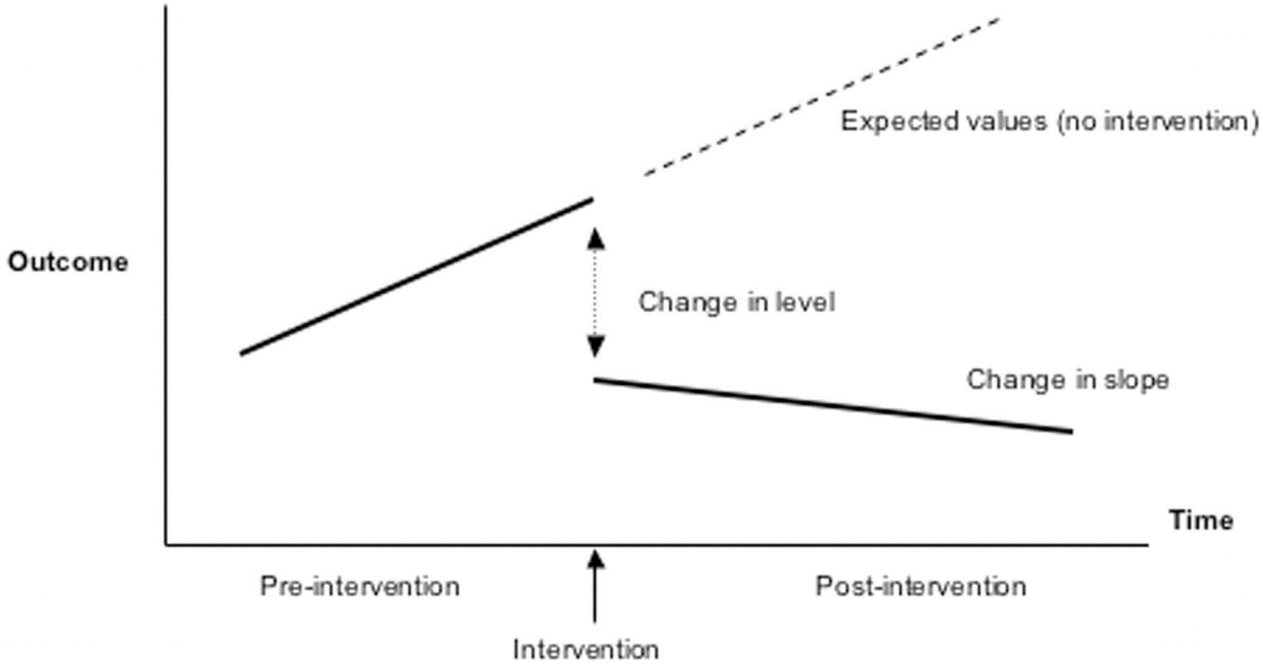
Method

Approach

Pre- and post-DSRIP comparisons will be made to assess change in health care system transformation, implementation of clinical improvements, population health, avoidable hospital use, and health care costs. For consistency in the use of metrics, as well as for their appropriateness for use in assessing the statewide impact of DSRIP, the evaluation will primarily employ the measures described in the DSRIP Strategies Menu and Metrics, Attachment J, in testing the hypotheses under each objective. Existing data available within the New York State Department of Health, described in a section to follow, will be used to calculate the measures.

An interrupted time series design[3] will be used in making pre-and post-DSRIP comparisons. This is a quasi-experimental design in which summary measures of the outcome variable are taken at equal time intervals over a period prior to program implementation (independent variable), followed by a series of measurements at the same intervals over a period following program implementation, as illustrated in Figure 2. This design has the advantage of minimizing the potential of maturational factors confounding the effects of the intervention by allowing the observation of trends prior to, and after, the intervention. Potential confounding due to historical effects are also minimized by this design in that such effects would be unlikely to occur contemporaneously with the intervention. If available and appropriate in terms of comparability to DSRIP participants, the state wide design will be augmented by the use of a control group on which measurements would be taken over the same time period in the absence of the program.

Figure 2. Pre- and Post-Intervention Comparison of Outcome Variable using Interrupted Time Series Design.



Segmented regression[4] will be used as the primary analytic strategy in the analysis of data under the interrupted time series design. This analysis enables the evaluation of changes in the level and trend in

the outcome variable, while controlling, as necessary, for such biases as secular trend, serial autocorrelation, and seasonal fluctuation in the outcome variable. As the unit of analysis in segmented regression is a summary measure (e.g., average quarterly per patient pharmacy cost), individual-level variables cannot be included in a segmented regression model. Stratification, or inclusion of population-level covariates in the model, will be approaches used where program outcomes may differ by recipient subgroups (e.g., sex, race).

For segmented regression analysis, it has been recommended that there be a minimum of 8 observation points both pre- and post-intervention for sufficient power to detect changes in level and trend.[5] Therefore, the majority of outcome measures will calculated in three month intervals over three years prior to the implantation of DSRIP, and again in the same manner following the implementation of DSRIP, for a total of 12 observation points both pre-and post-intervention. Some of the data sources to be used, however, will not be collected with sufficient frequency to allow quarterly measurement of the outcome variables derived from those sources. In such cases where the number of time points may be not be optimal, the use of alternative data sources containing the necessary information will be considered, as will the inclusion of additional pre-intervention data points to increase power to detect secular trends.

A set of measures described in the DSRIP Strategies Menu and Metrics, Attachment J, will be used to quantify facets of system transformation (Domain 2), quality of care through clinical improvements (Domain 3), and population health (Domain 4). To the extent possible and using existing data sources, these measures will be used for purposes of the DSRIP evaluation in assessing statewide outcomes, in addition to the program monitoring activity of determining incentive payments. The majority of these measures are well established with known measurement stewards (e.g., 3M, AHRQ), and are commonly used in health care quality improvement activities.

That the evaluation of the NYS DSRIP evaluation will involve the testing of a large number of hypotheses poses the problem of inflated type I error rate. The method to be adopted to address this issue will be the control of the false discovery rate (FDR),[6] defined as the expected proportion of errors (i.e., null hypotheses that are actually true) among a set of null hypotheses that have been rejected. In contrast to traditional Bonferroni methods, which adjust significance levels based on the number of tests, control of FDR makes adjustments in significance levels based on the number of null hypotheses expected to be true among a set of tests. Control of the FDR has been demonstrated to preserve more power to detect real effects than do traditional Bonferroni-type adjustments, as well as overcoming other interpretational problems associated with Bonferroni procedures.[7]

Though control of false discovery rate will be used as a means of statistically controlling the increased risk of type I error associated with conducting multiple test, the creation of composite measures will be considered as a means of reducing the number of individual outcome measures, and in turn, reducing the number of hypotheses to be tested. This would potentially be appropriate with a group of measures that relate to the same broad concept. Adopting the methodology used to create Prevention Quality Indicator composite measures, this would involve summing the numerators across a set of measures where the same population denominator can be applied.[8]

Objective 1: Evaluate the extent to which performing provider systems achieve health care system transformation.

All Performing Provider Systems will be required to select two projects under Domain 2, which focus on health care system transformation. Given the efforts under DSRIP to improve health care structure and delivery, it is hypothesized that, following the implementation of DSRIP:

- Integration of service delivery will increase.
- Increased care coordination will be demonstrated.
- Availability and use of primary care will increase.
- Access to health care will improve.
- Medicaid spending on ER and inpatient services will be reduced.
- Medicaid spending on primary care services will increase.

Pre- and post-DSRIP comparisons, on both the statewide and PPS levels, will be made on these outcome measures using the interrupted time series approach described above. The measures and associated data sources that will be used to test these hypotheses are shown in Table 1.

Table 1. System Transformation Outcome Variables and Measures

Outcome	Measure	Data Source
Integration of Service Delivery	Percent of eligible providers with participating agreements with RHIO's; meeting MU criteria and able to participate in bidirectional exchange	PPS Reporting
Care Coordination	CAHPS Measures – Care coordination with provider up-to-date about care received from other providers	CAHPS Survey Data
Availability and Use of Primary Care	Percent of PCP meeting PCMH (NCQA)/ Advanced Primary Care (SHIP)	PPS Reporting
	CAHPS measures including usual source of care patient loyalty (Is doctor/clinic named the place you usually go for care? How long have you gone to this doctor/clinic for care?)	CAHPS Survey Data
Access to Care	HEDIS Access/Availability of Care; Use of Services	Medicaid/Medicare Claims
	CAHPS Measures: - Getting Care Quickly (routine and urgent care appointments as soon as member thought needed) - Getting Care Needed (access to specialists and getting care member thought needed) - Access to Information After Hours Wait Time (days between call for appointment and getting appoint for urgent care)	CAHPS Survey Data

Medicaid Spending	Medicaid spending on ER and inpatient services	Medicaid Claims
	Medicaid spending on PC and community based behavioral health care	Medicaid Claims
Care Transitions	H-CAHPS – Care transition metrics	H-CAHPS Hospital Care Survey

Objective 2: Evaluate the extent to which health care quality is improved through clinical improvement in the treatment of selected diseases and conditions.

All PPS's will be required to implement at least two projects from Domain 3 to achieve clinical improvements, one of which must be in the area of behavioral health, plus one of the following seven diseases or conditions: cardiovascular disease, diabetes, asthma, HIV, perinatal care, palliative care, and renal disease. Under this objective it is hypothesized that, through clinical improvements, health care quality for these conditions will show greater improvement on a state wide level over a three year period following the implementation of DSRIP as compared to a three year period prior to the implantation of DSRIP.

As all PPS's are required to develop a project to address behavioral health, the availability of a control group for inclusion in the interrupted time series design is not anticipated. Pre- and post-DSRIP comparisons in behavioral health care quality will, therefore, be conducted only on the state wide level. For all other diseases/conditions identified for clinical improvement under the DSRIP initiative, variation among PPS's is anticipated with respect to the diseases/conditions that will be addressed. Where appropriate, PPS's will be grouped according to whether or not a particular Domain 3 condition was selected, creating treatment and control groups. Segmented regression analysis will be used to test the hypothesis that, compared to PPS's not implementing a project to make clinical improvements for a particular condition (e.g., diabetes), PPS's that do select that condition will show a greater degree of improvement, following the implementation of DSRIP, in the quality of care for that condition. Such analyses would control for differences in PPS catchment populations and resources, as well as other interventions that may be ongoing in a PPS catchment area (e.g., NYSDOH Prevention Agenda activities). Comparisons to be made on the PPS level are contingent upon final selection of PPS's. Table 2 shows the measures and data sources to be used to test the predicted changes in care quality.

Table 2. Clinical Improvement Outcome Variables and Measures

Outcome	Measure Name	Source
Behavioral Health	Antidepressant Medication Management	Claims
	Diabetes Monitoring for People with Diabetes and Schizophrenia	Claims
	Diabetes Screening for People with Schizophrenia/BPD Using Antipsychotic Med.	Claims
	Cardiovascular Monitoring for People with CVD and Schizophrenia	Claims
	Follow-up care for Children Prescribed ADHD Medications	Claims
	Follow-up after Hospitalization for Mental Illness	Claims
	Screening for Clinical Depression and Follow-up	Medical Record

	Adherence to Antipsychotic Medications for People with Schizophrenia	Claims
	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (IET)	Claims
	PPR for SNF patients	Claims
	Percent of Long Stay Residents who have Depressive Symptoms	MDS 3.0
	PQI # 7 (Hypertension)	Claims
Cardiovascular Disease	PQI # 13 (Angina without procedure)	Claims
	Cholesterol Management for Patients with CV Conditions	Medical Record
	Controlling High Blood Pressure (Provider responsible for medical record reporting)	Medical Record
	Aspirin Discussion and Use	BRFSS
	Medical Assistance with Smoking Cessation	BRFSS
	Flu Shots for Adults Ages 50 – 64	BRFSS
	Health Literacy Items (Includes understanding of instructions to manage chronic condition, ability to carry out the instructions and instruction about when to return to the doctor if condition gets worse	BRFSS
Diabetes	PQI # 3 (DM long term complications)	Claims
	Comprehensive Diabetes Screening (HbA1c, lipid profile, dilated eye exam, nephropathy)	Medical Record
	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	Medical Record
	Comprehensive Diabetes Care - LDL-c Control (<100mg/dL)	Medical Record
	Flu Shots for Adults Ages 50 – 64	BRFSS
	Health Literacy Items (Includes understanding of instructions to manage chronic condition, ability to carry out the instructions and instruction about when to return to the doctor if condition gets worse)	BRFSS
Asthma	PQI # 15 Adult Asthma	Claims
	PDI # 14 Pediatric Asthma	Claims
	Asthma Medication Ratio	Claims
	Medication Management for People with Asthma	Claims
HIV/AIDS	HIV/AIDS Comprehensive Care : Engaged in Care	Claims
	HIV/AIDS Comprehensive Care : Viral Load Monitoring	Claims

	HIV/AIDS Comprehensive Care : Syphilis Screening	Claims
	Cervical Cancer Screening	Claims
	Chlamydia Screening	Claims
	Medical Assistance with Smoking Cessation	BRFSS
	Viral Load Suppression	Medical Record
Perinatal Care	PQI # 9 Low Birth Weight	Claims
	Prenatal and Postpartum Care—Timeliness and Postpartum Visits	Medical Record
	Frequency of Ongoing Prenatal Care	Medical Record
	Well Care Visits in the first 15 months	Claims
	Childhood Immunization Status	Medical Record
	Lead Screening in Children	Medical Record
	PC-01 Early Elective Deliveries	Vital Records
Palliative Care	Risk-adjusted percentage of members who remained stable or demonstrated improvement in pain.	UAS
	Risk-adjusted percentage of members who had severe or more intense daily pain	UAS
	Risk-adjusted percentage of members whose pain was not controlled.	UAS
	Advanced Directives – Talked about Appointing for Health Decisions	UAS
	Depressive Feelings - percentage of members who experienced some depression feeling	UAS
Renal Care	Comprehensive Diabetes Screening (HbA1c, lipid profile, dilated eye exam, nephropathy)	Medical Record
	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	Medical Record
	Comprehensive Diabetes Care - LDL-c control (<100mg/dL)	Medical Record
	Annual Monitoring for Patients on Persistent Medications – ACE/ARB	Claims
	Controlling High Blood Pressure	Medical Record
	Flu Vaccine 18-64	

	Medical Assistance with Smoking and Tobacco Use Cessation	

Objective 3: Evaluate the extent to which population health is improved as a result of implementation of the DSRIP initiative.

Population wide measures (Domain 4) are shown in Table 3. With respect to impact on population health, it is hypothesized that, on a state wide level, DSIRP implementation will result in:

- Lower percentage of premature deaths.
- Increased percentage of adults aged 18-64 years with health insurance.
- Increased age-adjusted percentage of adults aged 18 years and older who have a regular health care provider.

Additionally, all PPS's must select one project under Domain 4 dedicated to improving population-wide health (Domain 4) in one of four areas:

- Preventing chronic disease.
- Preventing HIV and STD's.
- Promoting healthy women, infants, and children.
- Promoting mental health and preventing substance abuse.

On a state wide level, improvements in the above four areas will again be observed following the implementation of DSRIP as compared to pre-implementation of DSRIP. Given expected variation among PPS's in the population-wide projects that will be selected, PPS level analyses will also be conducted. As described previously, and if appropriate, PPS's will be grouped on the basis of having selected a particular population-wide project (e.g., chronic disease prevention), creating a treatment and control group. For each of these 4 areas, it is hypothesized that (compared to PPS's that did not select that particular population heath area) PPS's that selected a project to address that area will show a greater degree of improvement in that area over a three year period following the implementation of DSRIP.

Also shown in Table 3, racial and ethnic disparities will also be addressed with respect to premature deaths, newly diagnosed cases of HIV, preterm births, and infants exclusively breastfed while in the hospital. Disparities will be measured as ratios on these outcome measures by race/ethnicity. These ratios will treated as additional outcome at the state wide levels with the prediction that these ratios will show improvement (i.e., will be reduced) as a result of DSRIP implementation.

Table 3. Population-Wide Variables and Measures

Outcome	Measure Name	Data Source
Improve Health Status and Reduce Health Disparities	Percentage of premature death (before age 65 years)	NYS NYSDOH Vital Statistics

(required for all projects)		
	Ratio of Black non-Hispanics to White non-Hispanics	
	Ratio of Hispanics to White non-Hispanics	
	Percentage of adults with health insurance - Aged 18-64 years	US Census
	Age-adjusted percentage of adults who have a regular health care provider - Aged 18+ years	BRFSS
Prevent Chronic Diseases	Percentage of adults who are obese	BRFSS
	Percentage of children and adolescents who are obese	BRFSS
	Percentage of cigarette smoking among adults	BRFSS
	Percentage of adults who receive a colorectal cancer screening based on the most recent guidelines - Aged 50-75 years	BRFSS
	Asthma emergency department visit rate per 10,000	SPARCS
	Asthma emergency department visit rate per 10,000 - Aged 0-4 years	SPARCS
	Age-adjusted heart attack hospitalization rate per 10,000	SPARCS
	Rate of hospitalizations for short-term complications of diabetes per 10,000 - Aged 6-17 years	SPARCS
	Rate of hospitalizations for short-term complications of diabetes per 10,000 - Aged 18+ years	SPARCS

Prevent HIV/STDs	Newly diagnosed HIV case rate per 100,000	NYS HIV Surveillance System
	Difference in rates (Black and White) of new HIV diagnoses	
	Difference in rates (Hispanic and White) of new HIV diagnoses	
	Gonorrhea case rate per 100,000 women - Aged 15-44 years	NYS STD
		Surveillance System
	Gonorrhea case rate per 100,000 men - Aged 15-44 years	NYS STD Surveillance System
	Chlamydia case rate per 100,000 women - Aged 15-44 years	NYS STD Surveillance System
	Primary and secondary syphilis case rate per 100,000 males	NYS STD Surveillance System
	Primary and secondary syphilis case rate per 100,000 females	NYS STD Surveillance System
Promote Healthy Women, Infants, and Children	Percentage of preterm births	NYS NYSDOH Vital Statistics
	Ratio of Black non-Hispanics to White non-Hispanics	
	Ratio of Hispanics to White non-Hispanics	
	Ratio of Medicaid births to non-Medicaid births	
	Percentage of infants exclusively breastfed in the hospital	NYS NYSDOH Vital Statistics
	Ratio of Black non-Hispanics to White non-Hispanics	
	Ratio of Hispanics to White non-Hispanics	
	Ratio of Medicaid births to non-Medicaid births	
	Maternal mortality rate per 100,000 births	NYS NYSDOH Vital Statistics
	Percentage of children with any kind of health insurance - Aged under 19 years	U.S. Census Bureau, Small Area Health Insurance Estimates

	Adolescent pregnancy rate per 1,000 females - Aged 15-17 years	NYS NYSDOH Vital Statistics
	Ratio of Black non-Hispanics to White non-Hispanics	
	Ratio of Hispanics to White non-Hispanics	
	Percentage of unintended pregnancy among live births	Pregnancy Risk Assessment Monitoring System
	Ratio of Black non-Hispanics to White non-Hispanics	
	Ratio of Hispanics to White non-Hispanics	
	Ratio of Medicaid births to non-Medicaid births	
	Percentage of women with health coverage - Aged 18-64 years	U.S. Census Bureau Small Area Health Insurance Estimates
	Percentage of live births that occur within 24 months of a previous pregnancy	NYS NYSDOH Vital Statistics
Promote Mental Health and Prevention Substance Abuse	Age-adjusted percentage of adults with poor mental health for 14 or more days in the last month	BRFSS
	Age-adjusted percentage of adult binge drinking during the past month	BRFSS
	Age-adjusted suicide death rate per 100,000	NYS NYSDOH Vital Statistics

Objective 4: Assess the extent to which avoidable hospital use is reduced as a result of DSRIP.

The goal of reducing avoidable hospital use is central to the DSRIP initiative, and is an expected result of implementing the DSRIP components of health care system transformation, clinical improvements, and population-wide health improvement strategies. It is hypothesized that, compared to pre-DSRIP implementation, avoidable hospital use will be reduced following the implementation of DSRIP on four established measures:

- Potentially preventable ER visits.
- Potentially preventable hospital re-admissions.
- Potentially preventable hospitalizations for ambulatory care sensitive conditions (PQI composite measure).

- Potentially preventable hospitalizations for ambulatory care sensitive conditions-Pediatric (PDI composite measure.

Using Medicaid and Medicare (in the case of those dually eligible), measures will be calculated as the number of events on a per member per month basis (PMPM) in three month intervals over three years prior to the implementation of DSRIP. Given that reduced hospital use is in large part dependent on the shorter term DSRIP achievement of health care system transformation, clinical improvements, and improvements in population health, it is anticipated that DSRIP effects on avoidable hospital use would be delayed, i.e., some amount of time would pass following the implementation of DSRIP before reductions in avoidable hospital use would be observed. One way to account for lagged effects in segmented regression analysis is to exclude outcome measurement points during the expected delay period.[9] Adopting this approach, and estimating six months of DSRIP implementation before reductions in avoidable hospital use would be observed, the three-month observation would be omitted and the first post-DSRIP PMPM measurement of avoidable hospital use on each of the four measures would be taken nine months following the implementation of DSRIP (capturing avoidable hospital usage over the previous three months). PMPM avoidable hospital visits will continue to be measured in three months intervals from that point forward.

Objective 5: Evaluate the impact of DSRIP on health care costs.

Consistent with the MRT triple aim of better care, better health, and at lower cost, a goal of the DSRIP initiative is to reduce Medicaid expenditures as a result of DSRIP implementation through payment reform based on positive health outcomes, as opposed to services delivered. It is therefore predicted that slowed growth or reduction of Medicaid expenditures will be observed on a state wide level in the three years following the implementation of DSRIP compared to three years prior to DSRIP.

Using Medicaid claims data, total Medicaid expenditures, including both capitation and fee for service, will be calculated on a PMPM basis in six month intervals over three years prior to the implementation of DSRIP. Like avoidable hospital use described above, reduction in Medicaid costs are a longer-term outcome, dependent upon shorter term DSRIP health care improvements, including the achievement of reduced avoidable hospital use. Given the expected lag in the effect of DSRIP on Medicaid expenditures, post-DSRIP measurement points will be handled in the same manner as for avoidable hospital use, with the first post-DSRIP PMPM calculation of Medicaid expenditures taken one year following the implementation of DSRIP, capturing the expenditures over the previous 6 months. Even though the expected reduction in avoidable hospital use would precede reduction in cost (Figure 1), the lag in DSRIP effect on cost is not expected to be longer than that expected for avoidable hospital use. This is because reductions in avoidable hospital use would likely have an immediate impact on Medicaid expenditures. As with the avoidable hospital use measures, PMPM Medicaid expenditures will continue to be measured in six months intervals for three years from that point forward.

Assessment of the effect of DSRIP on health care cost will also include an analysis of cost effectiveness[10, 11] with respect to avoidable hospital use, as this outcome is central to the DSRIP initiative. The intention of these analyses is to assess value for the money by weighing additional expenditures incurred in the operation of DSRIP against reduction in avoidable hospital use, in a comparison of avoidable hospital use and cost before and after the implantation of DSRIP. Cost-effectiveness ratios, or CER's (change in cost divided by the change in outcome) will be used to express the dollar amount per unit reduction in avoidable hospital use. This information will then be compared to the average cost of an avoidable hospital use event (e.g., an avoidable hospital admission) to determine if additional expenditures

incurred under DSRIP (e.g., incentive payments) are offset by savings through avoidable hospital use. This analysis will be conducted on all four measures of avoidable hospital use. Other analyses around cost effectiveness that may be useful would be to compare DSRIP cost effectiveness among subgroups, e.g., cost effectiveness comparisons across Medicaid recipients' health status.

Objective 6: Obtain detailed information on DSRIP implementation, successes, and challenges from stakeholders' perspectives.

Qualitative methods will be used to obtain stakeholders' perceptions of the DSRIP initiative at both the development and implementation stage of DSRIP, and at the operational stage of the initiative.

For qualitative analysis at both the implementation and operational phases of DSRIP, key informant interviews, focus groups, Web-based surveys, and analysis of planning documents and program materials will be methods used to obtain feedback from DSRIP stakeholders, along with appropriate background information. Survey and interview protocols will be approved by New York State Department of Health IRB, and all evaluation staff involved in data collection will receiving training on the handling and storage of confidential information.

During the developmental stage of DSRIP initiative, stakeholder feedback will be gathered regarding the following questions:

- What positive outcomes are expected as the result of DSRIP?
- What difficulties were encountered in getting a PPS approved?
- What additional information would have been helpful in the application process?
- What were some obstacles in forming partnerships between providers participating in a PPS?
- What difficulties were encountered in developing and implementing a PPS?
- How was rapid-cycle evaluation used in developing PPS projects?
- How did the learning collaboratives support system change?
- What were some of the earliest improvements in health care delivery that were made as a result of DSRIP?
- What difficulties were encountered in gathering the necessary data about the PPS?
- How was DSRIP initially received by the community?

Key informant interviews will be conducted with members of PPS leadership, as well as NYSDOH staff involved in the development and implementation of DSRIP. Interviews will be semi-structured such that questions to be asked will be uniform across participants, while at the same time allowing for follow-up questions to probe for more in-depth responses. Responses will be reviewed and coded independently by at least two evaluation staff members to identify major themes. Modifications in the interview questions will be made as necessary based on responses obtained on early interviews. Survey data will be analyzed using statistical software in the case of closed-ended questions, or for open-ended questions that can be coded into categories. Open-ended questions that may elicit more complex responses will be analyzed in the same manner as the key informant data.

To obtain information from a broader group of PPS staff, a web-based survey will be constructed and administered to selected individuals involved in the administrative, clinical, and financial operations of the PPS's contracted under DSRIP. Informed in part by the key informant interviews, the Web-based

surveys will obtain detailed information on collaboration with other providers within a PPS, patient enrollment, financial arrangements between providers participating in a PPS, patient receptivity to PPS care configuration, and recommendations for program modification.

Qualitative analysis for the operational stage of the DSRIP initiative will emphasize program functioning and outcomes as perceived by program stakeholders. The questions to be addressed include:

- What care improvements have been most notable?
- Which sub-populations saw the most improvement?
- What difficulties were encountered in operating a PPS?
- What were the notable partnerships that were formed in implementing a PPS?
- How was the PPS received by the community?
- What are the reactions of Medicaid enrollees to DSRIP?
- What intended PPS goals were not achieved, and why?

Key informant interviews will be conducted with members of PPS leadership, NYSDOH staff involved in the operation of DSRIP, as well as PPS clinical, administrative, and financial staff. A Web-based survey will also be developed to obtain additional information on DSRIP outcomes from stakeholder perspectives. Again, the content of this survey will be based on, in part, by the information obtained from the key informant interviews. Analysis of these data will be conducted in the same manner as described above.

Data Sources

Evaluation objectives 1-5 will involve the use of a number of existing data sources that are maintained by the New York State Department of Health. These data will be available for use by the Independent Evaluator as an agent of the Department, in accordance with public health law and/or under the appropriate data use agreements.

Medicaid Claims

This database contains billing records for health care services, including pharmacy, for approximately 5.7 million individuals enrolled in Medicaid in a given year. Also included are data on Medicaid enrollment status, diagnoses and provider associated with the billed services. The Medicaid claims database is updated on a monthly basis to include additional claims and modifications to existing claims.

Medicare Claims

For the approximately 15% of Medicaid enrollees who are dually eligible for Medicare, Medicare claims will be used to ensure data completeness, as many of the services received by this group will be paid by Medicare and thus not appear in the Medicaid database. Medicare claims contains billing records for health care services, including pharmacy services, along with data on diagnoses and provider information. Medicare data are received by the New York State Department of Health on an annual basis, under a care coordination data use agreement with CMS. Medicare Part D data are received on a monthly basis.

Statewide Planning and Research Cooperative System (SPARCS)

The Statewide Planning and Research Cooperative System (SPARCS) is a comprehensive data reporting system established in 1979 as a result of cooperation between the health care industry and government. Initially created to collect information on discharges from hospitals, SPARCS currently collects, on a

monthly basis, patient level detail on patient characteristics, diagnoses and treatments, services, and charges for every hospital discharge, ambulatory surgery patient, and emergency department admission in New York State.

Minimum Data Set (MDS)

MDS 2.0 and 3.0 data consist of federally mandated assessments collected at regular intervals on all nursing home residents in New York State. Assessment data collected include diseases and conditions, nutritional status, resident physical and cognitive functioning (e.g., activities of daily living), medications received, and nursing home admission source and discharge disposition. These data have been shown to be adequately reliable and are widely used in research, and are available to the New York State Department of Health under data use agreement with CMS.

Consumer Assessment of Healthcare Providers and Systems (CAHPS®)

The Clinician & Group version of the CAHPS® survey will be administered annually during the DSRIP demonstration period and will serve as the data source for selected outcome measures. The survey is administered by both mail and telephone, and assesses patients' experiences with health care providers and office staff. This includes information on patient experience over the last twelve months including most recent visit to provider, ease of getting an appointment, and wait times while in the office.

New York State Vital Statistics

Birth and death certificate data are maintained by New York State, with New York City Department of Health and Mental Hygiene and the New York State Department of Health comprising two separate jurisdictions in the reporting of birth and death records. NYSDOH has the responsibility for annual statewide reporting of vital statistics governed by the terms of a memorandum of understanding between the two jurisdictions. Birth records contain information such as maternal medical risk factors, prenatal care received, infant birth date, birth weight, and infant diseases/conditions including congenital malformations. Death certificate data include date of death, underlying and multiple cause of death, decedent demographics, county of residence, and county of death.

Extended Behavioral Risk Factor Surveillance System (eBRFSS)

The Expanded Risk Factor Surveillance System (Expanded BRFSS) augments the CDC Behavioral Risk Factor Surveillance System (BRFSS), which is conducted annually in New York State. Expanded BRFSS is a random-digit-dialed telephone survey among adults 18 years of age and older representative of the non-institutionalized civilian population with landline telephones or cell phones living in New York State. The goal of Expanded BRFSS is to collect county-specific data on preventive health practices, risk behaviors, injuries and preventable chronic and infectious diseases. Topics assessed by the Expanded BRFSS include tobacco use, physical inactivity, diet, use of cancer screening services, and other factors linked to the leading causes of morbidity and mortality. The 2013-2014 eBRFSS survey will be used as the baseline for DSRIP for measures derived from these data, and contains a question to identify Medicaid respondents. Repeat eBRFSS surveys to be used in support of the DSRIP evaluation will be conducted in 2016-2017, and again in 2019-2020.

New York State HIV/AIDS Case Surveillance Registry

The New York State HIV/AIDS Case Surveillance Registry contains information on new cases of HIV and AIDS, as well as persons living with HIV or AIDS. Data include date of diagnosis, HIV exposure category,

county of residence at diagnosis, and whether or not diagnosis was made while individual was incarcerated.

Uniform Assessment System (UAS)
The Uniform Assessment System contains assessment data on individuals receiving home or community-based long term care (e.g., adult day health care, long term home health care). Data include patient functional status, health status, cognitive functioning, and care preferences.

US Census
US census data are publicly available from the US Census Bureau, and contain estimates of population size, and data on population characteristics. The latter include housing status, income, employment status, educational level, and health insurance coverage. US census data are gathered on an ongoing basis from a number of surveys including the Decennial Census, the American Community Survey, and the Economic Census.

Selection of Independent Evaluator

The procurement process to contract with an independent entity to conduct the evaluation is anticipated to begin in November 2014. In a competitive bidding process, a Request for Proposals (RFP) will be developed and issued by NYSDOH. This RFP will describe the scope of work, the major tasks, and contract deliverables, with a bidder's conference to be held to address questions from potential bidders. Proposals received will undergo review by a panel of NYSDOH staff, using a scoring system developed for this RFP. Applicants will be evaluated on the basis of related work experience, staffing level and expertise, environment and resources, and data analytic capacity. It is expected that a contract will be finalized and work to begin by September 2016.

Evaluation Timeline

- Aug. 14, 2014: Submit draft of evaluation plan to CMS.
- Sept. 14, 2014: Receive feedback from CMS on evaluation plan.
- Oct. 14, 2014: Submit revised evaluation plan to CMS.
- November 2014: Begin procurement process for independent evaluator.
- Fall 2016: Independent evaluator begins work.
- March 31, 2019: Interim evaluation report due to CMS.
- June 30, 2020: Preliminary summative evaluation report due to CMS.
- December 28, 2020: Final summative evaluation report due to CMS.

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