Priority Focus Areas

The Prevent HIV/STDs, Vaccine-Preventable Diseases and Healthcare-Associated Infections Action Plan contains three Focus Areas:

- **Focus Area 1:** Prevent HIV and STDs
- **Focus Area 2:** Prevent Vaccine-Preventable Diseases
- **Focus Area 3:** Prevent Health Care-Associated Infections

Defining the Problem

HIV/AIDS, sexually transmitted diseases (STDs) and hepatitis C (HCV) are significant public health concerns. New York State (NYS) remains at the epicenter of the HIV epidemic in the country, ranking first in the number of persons living with HIV/AIDS. By the end of 2010, approximately 129,000 New Yorkers were living with HIV or AIDS, with nearly 3,950 new diagnoses of HIV infection in 2010.[1] Furthermore, 123,122 New Yorkers had STDs, representing 70 percent of all communicable diseases reported Statewide in 2010.[2] The number or people with chronic or resolved cases of HCV in NYS exceeded 175,000 between 2001 and 2009. However, many of those with chronic HCV do not know they are infected, and recently it has been noted that more New Yorkers are dying from HCV than from HIV.

The same behaviors and community characteristics associated with HIV also place individuals and communities at risk for STDs and viral hepatitis. STDs increase the likelihood of HIV transmission and acquisition. Epidemiological data increasingly point to HIV, STDs and HCV as "syndemics," or infections which occur in similar groups of people with the same behavioral risk factors. Notably, in the United States in 2010, the leading cause of death among people with HIV was liver disease from co-infection with HCV.[3]

The impact of HIV, STDs and HCV is greater in some population groups. For instance, non-Whites have rates of infection that are several times higher than Whites. Prevention interventions, including those that affect underlying factors such as stigma and discrimination, are needed to address these historical inequities. People of color account for more than 75 percent of new HIV diagnoses and, for persons living with HIV, the racial/ethnic distribution is 21 percent White, 43 percent Black, 32 percent Hispanic, 1.2 percent Asian/Pacific Islander, 0.1 percent Native American and 2.8 percent more than one racial group. Data on race and ethnicity of people with STDs and HCV suggest significant disparities exist as well. Men who have sex with men, transgender persons and women of color continue to have much higher rates of these diseases than the general population. Though HIV among injection drug users has decreased steadily (due in large part to expanded access to sterile syringes), HCV among drug injectors is prevalent.

Multiple drug regimens exist for HIV, STDs and HCV, although some are more effective than others. A key approach to preventing more infections is to identify infected people as soon as possible and link them to care. The health of infected people will improve, and the likelihood they will transmit the infection to others will be reduced. Early initiation of antiretroviral medication is recommended for HIV and reduces through viral suppression the chances that HIV-positive persons will infect others. For bacterial STDs such as *Syphilis*, *Gonorrhea* and *Chlamydia*, infections can be cured, though Cephalosporin-resistant *Gonorrhea* is a growing concern. Many barriers prevent people from getting into care, as well as remaining compliant to a prescribed

[1] Unless otherwise noted, all NYS HIV/AIDS Surveillance data are from the NYSDOH AIDS Institute Bureau of HIV/AIDS Epidemiology.

[2] Unless otherwise noted, all NYS STD Surveillance Data are from the NYSDOH AIDS Institute Bureau of Sexually Transmitted Diseases Prevention and Epidemiology.

[3] Ly KN, Xing J, Klevens RM, Jiles RB, Ward JW, Holmberg SD. (2012) The increasing burden of mortality from viral hepatitis in the United States between 1999 and 2007. *Ann Intern Med* 156: 271-278.

regimen. More than half of all HCV infections are undiagnosed, mainly because the level of testing is low. After 30 years of awareness campaigns, 20 percent of HIV-infected people nationally are still undiagnosed and one-third of diagnoses are made so late that people are diagnosed with AIDS concurrently or within one year. In addition to the lack of better testing strategies, other barriers to care exist, including those with deep societal and historical roots such as poverty, lack of translation services, homelessness, and inadequate educational opportunities. These factors often result in people being at high risk for infection and unable to get appropriate preventive treatment and care. Minimal public transportation in many parts of the State and other obstacles faced by people with disabilities also present significant challenges. Widely available screening for all these diseases and improved access to care are major goals.

Community-driven prevention efforts must be maintained, including the widespread availability of prevention supplies such as sterile injection equipment, and male and female condoms. In addition, there is an important role for biomedical interventions such as HPV vaccination, pre-exposure prophylaxis for HIV, and anti-retrovirals to prevent mother-to-child transmission during childbirth. Continued investments in community-based strategies are needed to ensure the successful implementation of State Medicaid reform and the Federal Affordable Care Act. Sustained resources from federal, State and local sources will be necessary to support the activities described here.

Goals and Objectives for Action

Goal #1: Decrease HIV morbidity in New York State.

Objective 1.1: By December 31, 2017, reduce the newly diagnosed HIV case rate in New York by 25% to no more than 14.7 new diagnoses per 100,000. *(Data Source: NYS HIV Surveillance System)*

Goal #2: Increase early access to, and retention in, HIV care in New York State.

Objective 2.1: By December 31, 2017, increase the percentage of HIV-infected persons with a known diagnosis who are in care by 9% to 72%. *(Data Source: NYS HIV Surveillance System)*

Objective 2.2: By December 31, 2017, increase the percentage of HIV-infected persons with known diagnoses who are virally suppressed to 45%. *(Data Source: NYS HIV Surveillance System)*

Goal #3: Decrease STD morbidity in New York State.

Objective 3.1: By December 31, 2017, reduce the *Gonorrhea* case rate among persons aged 15-44 in New York by 10% to no more than 198 cases per 100,000 females and 257 cases per 100,000 males. *(Data Source: NYS STD Surveillance System)*

Objective 3.2: By December 31, 2017, reduce the *Chlamydia* case rate in New York among females aged 15-44 years by 10% to no more than 1,458 cases per 100,000 population. *(Data Source: NYS STD Surveillance System)*

Objective 3.3: By December 31, 2017, reduce the case rate of primary and secondary *Syphilis* by 10%, to no more than 10.1 cases per 100,000 for males and 0.4 cases per 100,000 for females. *(Data Source: NYS STD Surveillance System)*

Objective 3.4: By December 31, 2017, reduce the congenital *Syphilis* case rate by 10% to no more than 9.6 cases per 100,000 live births. *(Data Source: NYS STD Surveillance System)*

Goal #4: Decrease HIV and STD disparities in New York State.

Objective 4.1: By December 31, 2017, decrease the gap in rates of new HIV diagnoses by 25% between Whites and Blacks to 45.7 per 100,000 population, and between Whites and Hispanics to 22.3 per 100,000. *(Data Source: NYS HIV Surveillance System)*

Objective 4.2: By December 31, 2017, meet the National HIV/AIDS Strategy benchmarks for viral suppression among non-White racial and ethnic groups and men who have sex with men (MSM). *(Data Source: NYS HIV Surveillance System)*

Goal #5: Increase and coordinate Hepatitis C (HCV) prevention and treatment capacity in NYS.

Objective 5.1: By December 31, 2017, increase by 10% the percentage of New Yorkers reporting ever having been tested for HCV. *(Data Source: Behavioral Risk Factor Surveillance System)*

Objective 5.2: By December 31, 2017, increase the percentage of people that screen positive for HCV who also receive an HCV diagnostic test to 50%. *(NYS HCV Surveillance System)*

Objective 5.3: By December 31, 2017, increase the percentage of HCV diagnosed Medicaid recipients who are in care to 50%. *(Medicaid)*

Interventions for Action

Goal #1: Decrease HIV morbidity in New York State.	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Increase peer-led interventions around HIV care navigation, testing and other services.[4] • Launch educational campaigns to improve health literacy and patient participation in health care, especially among high-need populations, including Hispanics and lesbian, gay, bisexual and transgender (LGBT) groups.[5]
Clinical Interventions	
Long-Lasting Protective Interventions	
Changing the Context to Make Individuals' Decisions Healthy	• Design all HIV interventions to address at least two co-factors that drive the virus, such as homelessness, substance use, history of incarceration and mental health.[6] • Assure cultural competency training for providers, including gender identity and disability issues.[7] • Implement quality indicators for all parameters of treatment for all health plans operating in New York State. An example would be raising the percentage of HIV-positive patients seen in HIV primary care settings screened for STDs per clinical guidelines.[8]
Socioeconomic Factors	

* Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 100(4), 590-595.

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Goal #2: Increase early access to and retention in HIV care in New York State.	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Launch educational campaigns to teach patients how to navigate the recently re-designed Medicaid program and Affordable Care Act provisions.[1] • Empower people living with HIV/AIDS to help themselves and others around issues related to prevention and care.[1] • Educate patients to know their right to be offered HIV testing in hospital and primary care settings.[2, 3]
Clinical Interventions	• Maximize the use of the health home model to all eligible at-risk persons before they suffer severe health consequences.[4]
Long-Lasting Protective Interventions	• Introduce generic HIV drugs to the ADAP and Medicaid formularies as they come off patent between 2013 and 2017.[5]
Changing the Context to Make Individuals' Decisions Healthy	• Advocate for HIV testing rates as an eQARR measure and recommend that the National Committee for Quality Assurance *(*NCQA*)* add HIV testing to the list of HEDIS measures, or make the proportion of eligible patients screened for HIV a published quality indicator for all Article 28 facilities.[6] • Bolster linkage to care efforts and transitional planning through improved delivery of HIV/AIDS care information to newly diagnosed patients.[7] • Consider removing written consent provisions for HIV testing except for persons in the criminal justice system.[8]
Socioeconomic Factors	• Offer HIV services in settings that can assist with linkage to housing, nutrition, employment, and transportation services.[9] • Advocate for an insurance safety net that includes populations not currently covered under ACA (e.g., undocumented immigrants).[10] • Consider requiring HIV testing to be covered by all insurance programs without co-payments or deductibles.[11]

* Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health.* 100(4), 590-595.

[1] Hibbard, J., and Cunningham, P. (2008 October) How Engaged are Consumers in Their Health and Health Care, and Why does it Matter? *HSC Research Brief No. 8.*

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[3] Institute of Medicine. (2011 March) HIV Screening and Access to Care: Health Care System Capacity for Increased HIV Testing and Provision of Care.

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Interventions for Action

Goal #3: Decrease STD morbidity in New York State.	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Ensure that all students attending public and charter schools in New York receive comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education.[1] • Provide oversight to ensure school compliance with recommended comprehensive sexual health education.[2] • Promote interventions directed at high-risk individual patients, such as therapy for depression.[3] • Promote group or behavioral change strategies in conjunction with HIV/STD efforts.[4]
Clinical Interventions	
Long-Lasting Protective Interventions	
Changing the Context to Make Individuals' Decisions Healthy	• Assure that consent issues for minors are not a barrier to HPV vaccination.[5] • Develop STD diagnosis and treatment capacity in settings beyond government clinics.[6] clinics.[6] • Update STD statute to assure appropriate data-sharing between HIV and STD registries with providers of record, and between and within State and local health departments.[7] • Establish formal partnerships between schools and/or school clinics, and community-based organizations to deliver health education and support teacher training programs.[8]
Socioeconomic Factors	

* Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 2010; 100(4): 590-595.

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Interventions for Action

Goal #4: Decrease HIV and STD disparities in New York State.	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.[1] • Use social media and social network strategies to engage persons at risk. [2,]
Clinical Interventions	
Long-Lasting Protective Interventions	• Work with local police and prosecutors to end stop-and-frisk condom seizures and the introduction of the possession of condoms as evidence of prostitution and prostitution-related offenses.[3] • Revise and update provisions of the State STD statute around forced isolation, treatment and imprisonment to be consistent with current public health practice.[4]
Changing the Context to Make Individuals' Decisions Healthy	• Diversify funding for STD screening and treatment so providers can receive payment when and where an uninsured patient seeks treatment. [5] • Help public health professionals implement existing treatment guidelines by establishing systems such as computerized decision-making support or in-service on new intake. [6] • Increase scope of condom access programs.[7]
Socioeconomic Factors	• Increase the number and percentage of minority children who receive a quality education or, possibly, who graduate from high school.[8]
***** Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health.* 100(4), 590-595.	

[1] Brown, L., Trujillo, L., and Macintyre, K. (2001 Sept) "Interventions to Reduce HIV/AIDS Stigma: What Have We Learned?" *Tulane School of Public Health and Tropical Medicine*.

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Goal #5: Increase and coordinate Hepatitis C Virus (HCV) prevention and treatment capacity In New York State.	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Develop treatment literacy materials for HCV patients.[1] • Support social media and mass-marketing campaigns related to HCV.[2]
Clinical Interventions	• Expand HCV rapid testing, especially in HIV testing sites or where HIV testing is done routinely.[3] • Evaluate and support opportunities to integrate HCV diagnosis and treatment into primary care, HIV clinics, prison health services, syringe exchange programs and oral substitution-drug therapy programs.[4] • Make testing for HCV a routine part of primary care visits. [5] • Establish a network of liver scan and HCV viral load monitoring sites for referrals of chronically infected HCV patients.[6] • Develop an HCV data registry, similar to the HIV registry.[7] • Improve the HCV surveillance system.[7]
Long-Lasting Protective Interventions	• Remove age restrictions on the purchase of syringes without a prescription.[8]
Changing the Context to Make Individuals' Decisions Healthy	• Increase geographic coverage and participation in syringe exchange programs.[9] • Advocate for enhanced federal funding for a national safety net program including HCV.[10]
Socioeconomic Factors	
* Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 100(4), 590-595.	

[1] Ford, N., Singh, K., Cooke, G., Mills, E., von Schoen-Angerer, T., Kamarulzaman, A., and du Cros, P. (2012 March). Expanding Access to Treatment for Hepatitis C in Resource-Limited Settings: from HIV/AIDS. *Clinical Infectious Diseases*; Advance Access published.

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Change can be made across all sectors to improve health outcomes for people living with HIV/AIDS. Below are examples of how your sector can make a difference.

Health Care Delivery System

Goals #1-4: Decrease HIV and STD morbidity and disparities; increase early access to and retention in HIV care.

- Increase peer-led interventions around HIV care navigation, testing and other services.
- Launch educational campaigns to improve health literacy and patient participation in health care, especially among high-need populations, including Hispanics, and lesbian, gay, bisexual and transgender (LGBT) groups.
- Design all HIV interventions to address at least two co-factors that drive the virus, such as homelessness, substance use, history of incarceration and mental health.
- Assure cultural competency training for providers, including gender identity and disability issues.
- Implement quality indicators for all parameters of treatment for all health plans operating in New York State. An example would be raising the percentage of HIV-positive patients seen in HIV primary care settings who are screened for STDs per clinical guidelines.
- Launch educational campaigns to teach patients how to navigate the recently redesigned Medicaid program and Affordable Care Act provisions.
- Empower people living with HIV/AIDS to help themselves and others around issues related to prevention and care.
- Educate patients to know their right to be offered HIV testing in hospital and primary care settings.
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.
- Use social media and social network strategies to engage persons at risk.
- Revise and update provisions of the State STD statute around forced isolation, treatment and imprisonment to be consistent with current public health practice.
- Help public health professionals implement existing treatment guidelines by establishing systems such as computerized decision-making support or in-service on new intake.
- Increase scope of condom access programs.
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.
- Develop STD diagnosis and treatment capacity in settings beyond government clinics.
- Ensure that all students attending public and charter schools in New York State receive comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education.
- Provide oversight to ensure school compliance with recommended comprehensive sexual health education.
- Promote interventions directed at high-risk individual patient, such as therapy for depression.

- Promote group or behavioral change strategies in conjunction with HIV/STD efforts.
- Assure that consent issues for minors are not a barrier to HPV vaccination.
- Update STD statute to assure appropriate data sharing between HIV and STD registries with providers of record, and between and within State and local health departments.
- Establish formal partnerships between schools and/or school clinics, and community-based organizations to deliver health education and support teacher training programs.

Goal #5: Increase and coordinate HCV prevention and treatment capacity.

- Develop treatment literacy materials for HCV patients.
- Support social media and mass marketing campaigns related to HCV.
- Expand HCV rapid testing, especially in HIV testing sites or where HIV testing is done routinely.
- Evaluate and support opportunities to integrate HCV diagnosis and treatment into primary care, HIV clinics, prison health services, syringe exchange programs and oral substitution-drug therapy programs.
- Make testing for HCV a routine part of primary care visits.
- Establish a network of liver scan and HCV viral load monitoring sites for referrals of chronically infected HCV patients.
- Develop an HCV data registry, similar to the HIV registry.
- Remove age restrictions on purchasing syringes without a prescription.
- Increase geographic coverage and participation in syringe exchange programs.
- Advocate for enhanced federal funding for a national safety net program, including HCV.

Employers, Businesses And Unions

Goal #3: Increase early access to and retention to HIV care.

- Consider requiring HIV testing to be covered by all insurance programs without co-payments or deductibles.

Media

Goals #1-4: Decrease HIV and STD morbidity and disparities, increase early access and retention to HIV care.

- Launch educational campaigns to improve health literacy and patient participation in health care, especially among high-need populations, including Hispanics, and lesbian, gay, bisexual and transgender (LGBT) groups.
- Launch educational campaigns to teach patients how to navigate the recently redesigned Medicaid program and Affordable Care Act provisions.
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.
- Use social media and social network strategies to engage persons at risk.

Community-Based Organizations

Goals #1-4: Decrease HIV and STD morbidity and disparities, increase early access and retention to HIV care.

- Increase peer-led interventions around HIV care navigation, testing and other services.

- Launch educational campaigns to improve health literacy and patient participation in health care, especially among high-need populations including, Hispanics, and lesbian, gay, bisexual and transgender (LGBT) groups.
- Assure cultural competency training for providers, including gender identity and disability issues.
- Launch educational campaigns to teach patients how to navigate the recently redesigned Medicaid program and Affordable Care Act provisions.
- Empower people living with HIV/AIDS to help themselves and others around issues related to prevention and care.
- Educate patients to know their right to be offered HIV testing in hospital and primary care settings.
- Maximize the use of the health home model to all eligible at-risk persons before they suffer severe health consequences.
- Advocate for HIV testing rates as an *eQARR* measure and recommend that the National Committee for Quality Assurance *(*NCQA*)* add HIV testing to the list of HEDIS measures, or make the proportion of eligible patients screened for HIV a published quality indicator for all Article 28 facilities.
- Bolster linkage to care efforts and transitional planning through improved delivery of HIV/AIDS care information to newly diagnosed patients.
- Consider removing written consent provisions for HIV testing except for persons in the criminal justice system.
- Offer HIV services in settings that can assist with linkage to housing, nutrition, employment, and transportation services.
- Advocate for an insurance safety net that includes populations not currently covered under the ACA (e.g. undocumented immigrants).
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.
- Use social media and social network strategies to engage persons at risk
- Work with local police and prosecutors to end stop-and-frisk condom seizures and the introduction of the possession of condoms as evidence of prostitution and prostitution-related offenses.
- Revise and update provisions of the State STD statute around forced isolation, treatment and imprisonment to be consistent with current public health practice.
- Help public health professionals implement existing treatment guidelines by establishing systems such as computerized decision-making support or in-service on new intake.
- Increase scope of condom access programs.
- Ensure that all students attending public and charter schools in New York receive comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education.
- Provide oversight to ensure school compliance with recommended comprehensive sexual health education.
- Promote interventions directed at high-risk individual patient, such as therapy for depression.
- Promote group or behavioral change strategies in conjunction with HIV/STD efforts.
- Assure that consent issues for minors are not a barrier to HPV vaccination.

- Update STD statute to assure appropriate data sharing between HIV and STD registries with providers of record, and between and within State and local health departments.
- Establish formal partnerships between schools and/or school clinics, and community-based organizations to deliver health education and support teacher training programs.

Goal #5: Increase and coordinate HCV prevention and treatment capacity.

- Develop treatment literacy materials for HCV patients.
- Expand HCV rapid testing, especially in HIV testing sites or where HIV testing is done routinely.
- Evaluate and support opportunities to integrate HCV diagnosis and treatment into primary care, HIV clinics, prison health services, syringe exchange programs and oral substitution-drug therapy programs.
- Make testing for HCV a routine part of primary care visits.
- Increase geographic coverage and participation in syringe exchange programs.
- Advocate for enhanced federal funding to develop a national safety net program that includes HCV.

Other Governmental Agencies

Goals #1, 2: Decrease HIV and STD morbidity and disparities

- Increase the number and percentage of minority children who receive a quality education, or possibly, who graduates from high school.

Governmental (G) and Non-Governmental (NG) Public Health

Goals #1-4: Decrease HIV and STD morbidity and disparities, increase early access and retention to HIV care.

- Increase peer-led interventions around HIV care navigation, testing and other services. (G) (NG)
- Launch educational campaigns to improve health literacy and patient participation in health care, especially among high-need populations, including Hispanics, and lesbian, gay, bisexual and transgender (LGBT) groups. (G) (NG)
- Ensure that all students attending public and charter schools in New York receive comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education. (G) (NG)
- Provide oversight to ensure school compliance with recommended comprehensive sexual health education. (G) (NG)
- Promote interventions directed at high-risk individual patients, such as therapy for depression. (G) (NG)
- Promote group or behavioral change strategies in conjunction with HIV/STD efforts. (G) (NG)
- Assure that consent issues for minors are not a barrier to HPV vaccination. (G) (NG)
- Update STD statute to assure appropriate data sharing between HIV and STD registries with providers of record, and between and within State and local health departments. (G) (NG)
- Design all HIV interventions to address at least two co-factors that drive the virus, such as homelessness, substance use, history of incarceration and mental health. (G)
- Assure cultural competency training for providers, including gender identity and disability issues. (G) (NG)
- Implement quality indicators for all parameters of treatment for all health plans operating in New York State. An example would be raising the percentage of HIV-positive patients seen in HIV primary care settings who are screened for STDs per clinical guidelines. (G)

- Launch educational campaigns to teach patients how to navigate the recently re-designed Medicaid program and Affordable Care Act provisions. (G) (NG)
- Empower people living with HIV/AIDS to help themselves and others around issues related to prevention and care. (G) (NG)
- Educate patients to know their right to be offered HIV testing in hospital and primary care settings. (G) (NG)
- Maximize the use of the health home model to all eligible at-risk persons before they suffer serious health consequences. (G) (NG)
- Introduce generic HIV drugs to the ADAP and Medicaid formularies as they come off patents between 2013 and 2017. (G)
- Advocate for HIV testing rates as an *eQARR* measure and recommend that the National Committee for Quality Assurance (NCQA) add HIV testing to the list of HEDIS measures, or make the proportion of eligible patients screened for HIV a published quality indicator for all Article 28 facilities. (G) (NG)
- Bolster linkage to care efforts and transitional planning through improved delivery of HIV/AIDS care information to newly diagnosed patients. (G) (NG)
- Consider removing written consent provisions for HIV testing except for persons in the criminal justice system. (G)
- Offer HIV services in settings that can assist with linkage to housing, nutrition, employment and transportation services. (G) (NG)
- Advocate for an insurance safety net that includes populations not currently covered under the ACA (e.g. undocumented migrants). (G) (NG)
- Use social media and social network strategies to engage persons at risk. (G) (NG)
- Revise and update provisions of the State STD statute around forced isolation, treatment and imprisonment to be consistent with current public health practice. (G)
- Help public health professionals implement existing treatment guidelines by establishing systems such as computerized decision-making support or in-service on new intake. (G)
- Increase scope of the condom access program.
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training (G) (NG)
- Develop STD diagnosis and treatment capacity in settings beyond government clinics. (G)
- Establish formal partnerships between schools and/or school clinics, and community-based organizations to deliver health education and support teacher training programs. (G) (NG)

Goal #5: Increase and coordinate HCV prevention and treatment capacity.

- Improve the HCV surveillance system. (G)
- Develop treatment literacy materials for HCV patients. (G) (NG)
- Support social media and mass-marketing campaigns related to HCV. (G)
- Expand HCV rapid testing, especially in HIV testing sites or where HIV testing is done routinely. (G) (NG)
- Evaluate and support opportunities to integrate HCV diagnosis and treatment into primary care, HIV clinics, prison health services, syringe exchange programs and oral substitution-drug therapy programs. (G) (NG)

- Make testing for HCV a routine part of primary care visits. (G)
- Establish a network of liver scan and HCV viral load monitoring sites for referrals of chronically infected HCV patients. (G)
- Develop an HCV data registry, similar to the HIV registry. (G)
- Remove age restrictions on the purchase of syringes without a prescription. (G)
- Increase geographic coverage and participation in syringe exchange programs. (G) (NG)
- Advocate for enhanced federal funding for a national safety net program, including HCV. (G) (NG)

Policymakers and Elected Officials

Goals #1-4: Decrease HIV and STD morbidity and disparities, increase early access and retention to HIV care.

- Consider requiring HIV testing to be covered by all insurance programs without co-payments or deductibles.
- Advocate for an insurance safety net that includes populations not currently covered under the ACA (e.g. undocumented immigrants.)
- Consider removing written consent provisions for HIV testing except for persons in the criminal justice system.
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.
- Diversify funding for STD screening and treatment so providers can receive payment when and where an uninsured patient seeks treatment.
- Increase scope of condom access programs.
- Work with local police and prosecutors to end stop-and-frisk condom seizures and the introduction of the possession of condoms as evidence of prostitution and prostitution-related offenses.
- Revise and update provisions of the State STD statute around forced isolation, treatment and imprisonment to be consistent with current public health practice.
- Increase the number or percentage of minority children who receive a quality education.
- Ensure that all students attending public and charter schools in New York receive comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education.
- Provide oversight to ensure school compliance with recommended comprehensive sexual health education.
- Promote group or behavioral change strategies in conjunction with HIV/STD efforts.
- Assure that consent issues for minors are not a barrier to HPV vaccination.
- Update STD statute to assure appropriate data sharing between HIV and STD registries with providers of record, and between and within State and local health departments.

Goal #5: Increase and coordinate HCV prevention and treatment capacity.

- Advocate for enhanced federal funding for a national safety net program, including HCV.
- Remove age restrictions on purchase of syringes without a prescription.
- Make testing for HCV a routine part of primary care visits.

Communities

Goal #1-4: Decrease HIV and STD morbidity and disparities; increase early access and retention to HIV care.

- Assure cultural competency training for providers, including gender identity and disability issues.

- Launch educational campaigns to teach patients how to navigate the recently re-designed Medicaid program and Affordable Care Act provisions.
- Empower people living with HIV/AIDS to help themselves and others around issues related to prevention and care.
- Educate patients to know their rights to be offered HIV testing in hospital and primary care settings.
- Bolster linkage to care efforts and transitional planning through improved delivery of HIV/AIDS care information to newly diagnosed patients.
- Offer HIV services in settings that can assist with linkage to housing, nutrition, employment, and transportation services..
- Advocate for an insurance safety net that includes populations not covered under the ACA (e.g. undocumented immigrants).
- Implement Statewide anti-stigma initiative across all individual and community levels with money and other resources.
- Use social media and social network strategies to engage persons at risk.
- Work with local police and prosecutors to end stop-and-frisk condom seizures and the introduction of the possession of condoms as evidence of prostitution and prostitution-related offenses.
- Revise and update provisions of the State STD statute around forced isolation, treatment and imprisonment to be consistent with current public health practice.
- Increase scope of condom access programs.
- Ensure that all students attending public and charter schools in New York State receive comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education.
- Provide oversight to ensure school compliance with recommended comprehensive sexual health education.
- Increase the number and percentage of minority children who receive a quality education, or possibly, who graduate from high school.
- Promote interventions directed at high-risk individual patient, such as therapy for depression.
- Promote group or behavioral change strategies in conjunction with HIV/STD efforts.
- Assure that consent issues for minors are not a barrier to HPV vaccination.
- Establish formal partnerships between schools and/or school clinics, and community-based organizations to deliver health education and support teacher training programs.

Goal #5: Increase and coordinate HCV prevention and treatment capacity.

- Develop treatment literacy materials for HCV patients.
- Evaluate and support opportunities to integrate HCV diagnosis and treatment into primary care, HIV clinics, prison health services, syringe exchange programs and oral substitution-drug therapy programs.
- Remove age restrictions on purchasing syringes without a prescription.
- Increase geographic coverage and participation in syringe exchange programs.
- Advocate for enhanced federal funding for a national safety net program, including HCV.

Philanthropy

Goals #1-4: Decrease HIV and STD morbidity and disparities, increase early access and retention to HIV care.

- Launch educational campaigns to improve health literacy and patient participation in health care, especially among high-need populations including, Hispanics and lesbian, gay, bisexual and transgender (LGBT) groups.

- Launch educational campaigns to teach patients how to navigate the recently re-designed Medicaid program and Affordable Care Act provisions.
- Educate patients to know their right to be offered HIV testing in hospital and primary care settings.
- Implement a Statewide anti-stigma initiative across all individual and community levels with money and other resources for social marketing and training.
- Diversify funding for STD screening and treatment so providers can receive payment when and where an uninsured patient seeks treatment.

Focus Area 2: Prevent Vaccine-Preventable Diseases Action Plan

Defining the Problem

Immunization is one of the most successful and safest public health strategies for preventing communicable diseases. High immunization rates have reduced vaccine-preventable disease (VPD) to extremely low levels in the United States. In New York State (NYS), high immunization levels are achieved by the time children reach school age and are supported by school entry laws. However, the immunization rates of very young children, 19-35 months of age, are still below the Healthy People 2020 goal of 80 percent. For vaccines recommended for adolescents, NYS has achieved the Healthy People 2020 goal only for Tdap, which is a school entry requirement for sixth grade elementary school. Parent education is needed to ensure that all children are immunized on schedule. Finally, *Pertussis*, influenza and disease caused by human papilloma virus (HPV) remain priorities for intervention because of their high prevalence, their levels of morbidity and mortality, and the opportunity for prevention through vaccination.

Goals and Objectives for Action

Goal #1: Improve childhood and adolescent immunization rates.

Objective 1.1: Increase the rates of immunization among 19-35 month olds with the 4:3:1:3:3:1:4 series (4 Tdap, 3 polio, 1 MMR, 3 Hep B, 3 Hib, 1 Varicella, 4 PCV13) by 23% to 80% or higher. *(Baseline: 65.1%, Year: 2011; Data Source: NIS; Data Availability: State, county (NYSIIS/CIR))*

Objective 1.2: Increase the three-dose HPV immunization rate among adolescent females, ages 13-17 years, by 45% to 50%. *(Baseline: 34.2%, Year: 2011; Data Source: NIS; Data Availability: State, county (NYSIIS/CIR))*

Objective 1.3: Identify and reduce disparities in vaccine coverage rates by race, geography (rural, suburban, urban) and socioeconomic status.

Goal #2: Educate all parents about the importance of immunizations.

Objective 2.1: Identify and reduce vaccine hesitancy. Identify and reduce racial and geographic (rural, suburban, urban) disparities. *(Baseline: Private school student medical exemptions, 0.167% and religious exemptions 1.265%, public school medical exemptions 0.095% and religious exemptions 0.305%; Year: School year 2011-2012; Data Source: NYSDOH School Survey; Data Availability: Statewide)*

Goal #3: Decrease the burden of Pertussis disease.

Objective 3.1: Increase Tdap immunization rates. Increase Tdap rates among adolescents to 95% or higher. *(Baseline rate 2011: 88.5% NYS, 87% NYC, 89.5 Upstate, Source: NIS; Data Availability: State, county (NYSIIS/CIR)).*

- Increase the number of hospitals that offer Tdap to families and caregivers of newborns (including post-partum mothers).

- Increase the number of doses given by hospitals to families and caregivers of newborns (including post-partum mothers).
- Increase the number of adult providers, including OB/GYNs, who offer Tdap.
- Identify and reduce disparities in vaccine coverage rates by race, geography (rural, suburban, urban) and socioeconomic status.

Goal #4: Decrease the burden of influenza disease.

Objective 4.1: Increase influenza immunization rates. Increase influenza immunization rates of adults aged 65 years and older by 10% to 66.2%. *(Baseline: 60.2%; Year: 2010; Data Source: BRFSS and Expanded BRFSS; Data Availability: State, county)*

- Increase the number of hospitals that offer influenza vaccine to families and caregivers of newborns (including post-partum mothers).
- Increase the number of doses given by hospitals to families and caregivers of newborns (including post-partum mothers).
- Increase the number of doses given by hospitals to adults aged 65 years and older.
- Increase the number of health care personnel vaccinated with influenza vaccine each year.
- Increase the number of providers who offer influenza vaccine to adults.
- Identify and reduce disparities in vaccine coverage rates by race, geography (rural, suburban, urban) and socioeconomic status.

Objective 4.2: Increase pneumococcal immunization rates of adults aged 65 years and older by 10% to 71.7% to prevent secondary pneumococcal infection. (*Baseline: 65.2%, Year: 2010; Data Source: BRFSS and Expanded BRFSS; Data Availability: State, county*)

- Increase the number of doses given by hospitals to adults aged 65 years and older.
- Increase the number of providers who offer pneumococcal vaccine to adults.
- Identify and reduce disparities in vaccine coverage rates by race, geography (rural, suburban, urban) and socioeconomic status.

Goal #5: Decrease the burden of disease caused by human papillomavirus.

Objective 5.1: Increase HPV immunization rates. Increase the three-dose HPV immunization rate among adolescent females, ages 13-17 years, by 45% to 50%. *(Baseline: 34.2%, Year: 2011; Data Source: NIS; Data Availability: State, county (NYSIIS))*

- Increase the number of providers who offer HPV vaccine.
- Identify and reduce disparities in vaccine coverage rates by race, geography (rural, suburban, urban) and socioeconomic status.

Goal #6: Increase adult immunization rates

Objective 6.1: Increase Tdap immunization rates in adults, as in *Objective 3.1.*

Objective 6.2: Increase influenza immunization rates in adults, as in *Objective 4.1.*

Objective 6.3: Increase pneumococcal immunization rates in adults, as in *Objective 4.2.*

Objective 6.4: Increase HPV immunization rates in adults, as in *Objective 5.1.*

Objective 6.5: Identify and reduce disparities in vaccine coverage rates by race, geography (rural, suburban, urban) and socioeconomic status.

Interventions for Action

Goal #1: Improve Childhood and Adolescent Immunization Rates	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates. • Ensure and enforce strong immunization requirements for school entry. • Reach out proactively to media outlets to educate them on immunization.
Clinical Interventions	• Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity. • Provide immunizations for adolescents in schools. • Consider alternate distribution methods for vaccines to ensure that health care providers have adequate supply. • Ensure that hospitals offer vaccinations to families of newborns.
Long-Lasting Protective Interventions	• Provide immunizations for adolescents in schools. • Improve the ability to exchange immunization information between the New York State Immunization Information System/city-wide Immunization Registry (NYSIIS/CIR) and electronic health records. • Increase adult immunization rates.
Changing the Context to Make Individuals' Decisions Healthy	• Ensure and enforce strong immunization requirements for school entry. • Improve the ability to exchange immunization information between the New York State Immunization Information System/city-wide Immunization Registry (NYSIIS/CIR) and electronic health records. • Ensure immunization coverage by insurers. • Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity.
Socioeconomic Factors	• Investigate, research and work to eliminate disparities in vaccination rates.

* Frieden T. (2010) "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 100(4): 590-595.

Interventions for Action

Goal #2: Educate all parents about the importance of Immunizations	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Improve efforts to educate patients, parents, children and schools about immunization. • Reach out proactively to media outlets to educate them on immunization.
Clinical Interventions	• Provide educational materials to patients, parents and schools about the importance of immunization. • Work to increase the number of adults vaccinated during health care visits. • Offer immunizations in the birthing hospital to parents, caregivers and families of newborns.
Long-Lasting Protective Interventions	• Ensure that laws are implemented requiring hospitals to offer vaccinations to parents, caregivers and families of newborns. • Monitor the number of providers who immunize pregnant women and to other adults in routine health care settings.
Changing the Context to Make Individuals' Decisions Healthy	• Ensure strong immunization requirements for school entry. • Analyze exemption rates by school and publish results by county. • Reach out proactively to media outlets to educate them on immunization.
Socioeconomic Factors	• Investigate, research and work eliminate disparities in vaccination rates by race, geography (rural, suburban, urban) and socioeconomic status.

* Frieden T. (2010) "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health.* 100(4): 590-595.

Interventions for Action

Goal #3: Decrease the burden of Pertussis disease	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Educate parents, patients, health care providers and schools about the importance of vaccination against *Pertussis*.
Clinical Interventions	
Long-Lasting Protective Interventions	• Enhance vaccination of adults with Tdap.
Changing the Context to Make Individuals' Decisions Healthy	• Ensure that the law requiring hospitals to offer Tdap to families and caregivers of newborns is implemented and enforced.
Socioeconomic Factors	• Investigate, research and work eliminate disparities in vaccination rates by race, geography (rural, suburban, urban) and socioeconomic status.

* Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 100(4): 590-595

Interventions for Action

Goal #4: Decrease the Burden of Influenza Disease	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	
Clinical Interventions	
Long-Lasting Protective Interventions	• Consider alternate distribution methods for influenza vaccine to ensure that health care providers have adequate supplies. • Provide immunizations for adolescents in schools. • Enhance vaccination of adults with influenza vaccine. • Enhance vaccination of adults with influenza vaccine.
Changing the Context to Make Individuals' Decisions Healthy	• Ensure that law requiring hospitals to offer influenza vaccine to families of newborns is implemented and enforced.
Socioeconomic Factors	• Investigate, research and work to eliminate disparities in vaccination rates by race, geography (rural, suburban, urban) and socioeconomic status.

* Frieden T. (2010). "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 100(4): 590-595

Interventions for Action

Goal #5: Decrease the burden of disease caused by human papillomavirus (HPV)	
Levels of Health Impact Pyramid*	**Interventions**
Counseling and Education	• Educate the public and providers on the importance of HPV vaccine.
Clinical Interventions	
Long-Lasting Protective Interventions	• Enhance vaccination of adults with HPV vaccine. • Make HPV vaccine available in family planning, STD treatment and other primary care settings.
Changing the Context to Make Individuals' Decisions Healthy	• Ensure that insurance coverage and reimbursement of HPV vaccine is adequate.
Socioeconomic Factors	• Investigate, research and work eliminate disparities in vaccination rates by race, geography (rural, suburban, urban) and socioeconomic status.

* Frieden T. (2010) "A Framework for Public Health Action: The Health Impact Pyramid". *American Journal of Public Health*. 100(4): 590-595

Change can be made across all sectors to prevent vaccine-preventable diseases. Below are examples of how your sector can make a difference.

Health Care Delivery System

Goal #1: Improve childhood/adolescent vaccination rates.

- Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are available at every opportunity.
    - Audit and provide feedback on practices' rates and rank practices within their county, city and Statewide.
    - Maximize the use of NYSIIS and the CIR to provide feedback to practices.
    - Promote use of reminder and recall systems in practices.
    - Ensure children receive all vaccines for which they are eligible at each encounter. Avoid missed opportunities.
    - Promote use of standing orders where possible.
    - Promote knowledge of evidence-based medical exemptions.
- Improve the ability to exchange immunization information between NYSIIS/CIR and electronic health records.
    - Work to influence EHR vendors to enable data exchange between NYSIIS/CIR and their products.

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.
    - Disseminate materials that address misconceptions.
    - Address adult hesitancy, especially for influenza vaccine and for health care workers.

Goal #3: Decrease the burden of Pertussis.

- Ensure that laws are implemented and enforced requiring hospitals to offer Tdap to families of newborns.
    - Survey and monitor the number of hospitals that offer Tdap to families and caregivers of newborns.
    - Survey number of Tdap doses that hospitals administer to families and caregivers of newborns.
- Enhance vaccination of adults with Tdap.
    - Survey and monitor the number of adult providers that vaccinate with Tdap.
    - Support vaccination of family members with Tdap in pediatricians' office and hospitals.
- Educate parents, patients, health care providers and schools about the importance of vaccination against *Pertussis*.

Goal #4: Decrease burden of influenza.

- Ensure vaccination of adults with influenza vaccine.
    - Support vaccination of family members with influenza vaccine in all types of health provider offices.

- Provide influenza immunizations for adolescents in schools.

Goal #5: Decrease the burden of HPV.

- Educate the public and providers on the importance of HPV vaccine.
  - Educate the public and providers on the safety of HPV vaccine.
  - Educate the public and patients on the misconceptions surrounding HPV vaccine.
- Make HPV vaccine available in family planning, STD treatment and other relevant care settings.
- Enhance vaccination of adults with HPV vaccine.
- Ensure that insurance coverage and reimbursement of HPV vaccine is adequate.

Goal #6 Increase adult immunization rates

Employers, Businesses and Unions

Goal #4: Decrease the burden of influenza.

- Enhance vaccination of adults with influenza vaccine.

Goal #5: Decrease the burden of HPV.

- Educate the public and providers on the importance of HPV vaccine.
- Ensure that insurance coverage and reimbursement of HPV vaccine is adequate.

Goal #6: Increase adult immunization rates.

Media

Goal #2: Educate all parents about the importance of immunizations.

- Improve current efforts to educate patients, parents, children and schools about immunization and the importance of vaccination against *Pertussis*.
  - Disseminate materials to assist health providers to speak with patients and families.
  - Disseminate materials to the media to alert them to misconceptions that were disseminated in the past.
  - Provide education and support to health providers regarding vaccine information; and address parental hesitancy.
  - Educate providers about evidence-based medical exemptions.
  - Address adult hesitancy, especially for influenza vaccine and for health care workers.

Goal #3: Decrease the burden of Pertussis.

- Work with organizations that can influence the media to proactively educate media outlets on immunization.
  - Educate parents and patients regarding *Pertussis* disease and how best to prevent it.
  - Educate new parents in hospitals.
  - Educate health care personnel in all settings.

Goal #5: Decrease burden of HPV

- Educate the public and providers on the importance of HPV vaccine.

Academia

Goal #1: Improve childhood and adolescent vaccination rates.

- Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity.
- Investigate, research and work to eliminate disparities in vaccination rates.

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.
  - Develop materials to assist health care providers in speaking with patients and families.
  - Develop materials that address misconceptions.
  - Develop education on vaccine information to address adult and parental hesitancy.

Goal #6: Increase adult immunization rates.

Community-Based Organizations

Goal #1: Improve childhood/adolescent vaccination rates.

- Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity.

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.
- Reach out proactively to media outlets to educate them on immunization.

***Goal #3: Decrease burden of Pertussis*.**

- Educate parents, patients, health care providers and schools about the importance of vaccination against *Pertussis*.

Goal #4: Decrease burden of influenza.

- Enhance vaccination of adults with influenza vaccine.

Goal #5: Decrease burden of HPV.

- Educate the public and providers on the importance of HPV vaccine.

Goal #6: Improve adult immunization rates.

Other Governmental Agencies

Goal #1: Improve childhood/adolescent vaccination rates.

- Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity.
- Ensure and enforce strong immunization requirements for school entry.
- Ensure immunization coverage through State and Federal law.
  - Expand insurance law to include adequate reimbursement for immunizations and administration fees.
  - Monitor implementation of the Affordable Care Act.

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.

- Ensure and enforce strong immunization requirements for school entry.

Goal #3: Decrease burden of Pertussis.

- Enhance vaccination of adults with Tdap.
  - Survey and monitor the number of adult providers that vaccinate with Tdap.
  - Support vaccination of family members with Tdap in pediatricians' offices and birthing hospitals.
  - Include adults in the mandate for reporting to NYSIIS/CIR.
  - Monitor that vaccines are covered for adults through the Affordable Care Act.

Goal #4: Decrease burden of influenza.

- Provide immunizations for adolescents in schools.

Goal #5: Decrease the burden of disease caused by HPV

- Educate the public and providers on the importance of HPV vaccine.
- Make HPV vaccine available in family planning, STD treatment and other care settings.
- Ensure that coverage and reimbursement of HPV vaccine is adequate.

Governmental Public Health

Goal #1: Improve childhood/adolescent vaccination rates.

- Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity.
- Ensure and enforce strong immunization requirements for school entry.
- Improve the ability to exchange immunization information between NYSIIS/CIR and electronic medical records.
- Ensure immunization coverage through State and Federal law; ensure coverage and reimbursement of HPV vaccine is adequate.
- Investigate, research and work to eliminate disparities in vaccination rates.

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.
- Analyze exemption rates by school and publish results by county.
- Reach out proactively to media outlets to educate them on immunization.

Goal #3: Decrease burden of Pertussis.

- Ensure that laws are implemented and enforced requiring hospitals to offer Tdap to families of newborns.
- Enhance vaccination of adults with Tdap vaccine.
- Educate parents, patients, health care providers and schools about the importance of vaccination against *Pertussis*.

Goal #4: Decrease burden of influenza.

- Ensure that laws are implemented and enforced requiring hospitals to offer influenza to families of newborns.

- Survey and monitor the number of hospitals that offer influenza vaccine to families and caregivers of newborns.
- Survey and monitor the number of doses of influenza vaccine that hospitals administer to families and caregivers of newborns.

- Enhance vaccination of adults with influenza vaccine.
  - Survey and monitor the number of adult providers who vaccinate with influenza vaccine.
  - Survey and monitor the number of providers who vaccinate pregnant women against influenza.
  - Support the vaccination of family members with influenza vaccine in all health care settings.
  - Include adults in the mandate for reporting to NYSIIS/CIR.
  - Monitor that vaccines are covered for adults through the Affordable Care Act.
  - Monitor and survey the number of pharmacists who offer influenza vaccine.
- Provide influenza immunizations for adolescents in schools.
- Survey and monitor influenza immunization rates for health care personnel in hospitals and long-term care facilities.
- Consider alternate distribution methods for influenza vaccine to ensure that health care providers have adequate supply.

Goal #5: Decrease the burden of disease caused by HPV.

- Educate the public and providers on the importance of HPV vaccine.
- Make HPV vaccine available in family planning, STD treatment and other care settings.

Goal #6: Improve adult immunization rates.

Non-Governmental Public Health

Goal #1: Improve childhood/adolescent vaccination rates.

- Disseminate and work to implement best practices in immunization to change the practice context and ensure that immunizations are given at every opportunity.

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.
- Reach out proactively to media outlets to educate them on immunization proactively.

Goal #3: Decrease burden of Pertussis.

- Educate parents, patients, health care providers, and schools about the importance of vaccination against *Pertussis*.

Goal #4: Decrease burden of influenza.

- Enhance vaccination of adults with influenza vaccine.

Goal #5: Decrease burden of HPV.

- Educate the public and providers on the importance of HPV vaccine.

Goal #6: Improve adult immunization rates.

Policymakers and Elected Officials

Goal #1: Improve childhood/adolescent vaccination rates.

- Ensure and enforce strong immunization requirements for school entry.
- Ensure immunization insurance coverage through State and federal law.

Goal #3: Ensure that laws are implemented and enforced requiring hospitals to offer Tdap to families of newborns.

Goal #4: Decrease burden of influenza.

- Ensure that laws are implemented and enforced requiring hospitals to offer influenza vaccine to families of newborns.

Goal #5: Decrease burden of HPV.

- Educate the public and providers on the importance of HPV vaccine.
- Ensure that coverage and reimbursement of HPV vaccine is adequate.
    - Monitor that vaccines are covered for adults through the Affordable Care Act.

Goal #6: Improve adult immunization rates.

Communities

Goal #2: Educate all parents about the importance of immunizations.

- Improve efforts to educate patients, parents, children and schools about immunization and the importance of low exemption rates.

Goal #5: Decrease burden of HPV.

- Educate the public and providers on the importance of HPV vaccine

Philanthropy

Defining the Problem

According to the federal Centers for Disease Control and Prevention (CDC), in 2002 there were an estimated 1.7 million health care-associated infections and 99,000 deaths from those infections.[1] A recent CDC report estimated the annual medical costs of health care-associated infections in U.S. hospitals to be between $28 billion and $45 billion, adjusted to 2007 dollars.[2]

Since 2005, New York State Public Health Law § 2819 has required acute care hospitals to report selected hospital-acquired infections to NYSDOH. Reporting these infections allows NYSDOH to determine which hospitals need help to implement practices to decrease infection rates, and it allows hospitals themselves to identify areas of potential improvement. Also the general public can use publicly reported infection rates to help make decisions about where they will seek medical care.

Many health care-associated infections are preventable. Since 2007, there has been a 41 percent reduction in central line associated bloodstream infections (CLABSIs), in NYS intensive care units; this means 669 fewer infections, and between 80-167 fewer deaths in 2011 than there would have been had the 2007 rates persisted. Additionally, the reduction in CLABSI rates resulted in savings of $12 billion to 48 million from 2008-2011. Similarly, there has been a 13 percent reduction in surgical site infections (SSIs) in certain selected procedures (colon, hip replacement, and coronary artery bypass graft) since 2007, which has resulted in reduced morbidity and mortality, and savings of $9 million to $27 million. *Clostridium difficile* infection (CDI) rates were publicly reported for the first time in 2010. The 2011 rates did not show a decrease yet, although the interpretation of the data is complicated by the fact that many hospitals have switched to more sensitive testing methods that would be expected to identify more infections.

Currently, health care-associated infections of concern at the national level include *CDIs*, multidrug-resistant organisms (MDROs), CLABSIs, catheter-associated urinary tract infections (CAUTIs), SSIs and ventilator-associated conditions. NYS hospitals have been reducing SSIs for several years; it is unclear how much additional improvement is feasible for currently reported procedures. Ventilator-associated conditions, such as pneumonia, are difficult to measure because of challenges related to definitions and diagnosis. Therefore, the goals of this Action Plan will focus on CDIs, MDROs, and device-associated infections (CLABSIs and CAUTIs).

In 2011, there were more than 10,300 hospital-onset CDIs in New York State. Assuming an attributable mortality rate of approximately 10 percent,[3] more than 1,000 patients who developed CDI, while hospitalized, hospitalized, died from CDI in 2011. A reduction of these infections by 30 percent over five years is closely aligned with the U.S. Department of Health and Human Services (HHS) Action Plan,[4] and would result in 600

[1]Klevens RM, Edwards JR, Horan TC. Gaynes RP, Pollack DA, Cardo DM. (2002) Estimating health care-associated infections and deaths in U.S. hospitals, *Public Health Reports,* 122:160-166.
[2]Scott RD. The direct medical costs of healthcare-associated infections in U.S. hospitals and the benefits of prevention. Centers for Disease Control and Prevention. Division of Healthcare Quality Promotion, Atlanta GA. March 2009. Report CS200891-A.
[3]Wenisch JM, Schmid D, Tucek G, Kuo H-W, Allerberger F, Michl V, Tesik P, et al. (2012) A prospective cohort study on hospital mortality due to *Clostridium difficile* infection. *Infection,* 40: 479-484
[4]U.S. Department of Health and Human Services. http://www.hhs.gov/ash/initiatives/hai/actionplan/

[4]U.S. Department of Health and Human Services. http://www.hhs.gov/ash/initiatives/hai/actionplan/

fewer infections and 60 lives saved in the first year. Additionally, there were almost 3,000 CDIs, occurred shortly after hospital admissions. Because it is difficult to determine whether these infections were acquired during the hospital admissions or from other exposures, a lesser reduction, such as 15 percent, would be more feasible.

There are few data on rates of infection from MDROs in NYS hospitals. The Federal Centers for Medicare and Medicaid Services (CMS) has requested that hospitals report methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections as part of reimbursement incentives, which means data from NYS hospitals for this particular MDRO will soon be available. The HHS Action Plan[4] called for a 25 percent reduction in this type of infection from 2009-2013; however, data from NYS hospitals are not available for that time-period. Because some MRSA bloodstream infections are associated with CLABSIs, and CLABSI rates have markedly decreased in NYS over the past four years, it is unclear whether a 25 percent reduction is feasible in the future. Therefore, a ten percent reduction was chosen as the NYS goal.

There is no mandated surveillance of gram-negative MDROs in NYS hospitals. These infections include organisms for which treatment options are extremely limited, such as cephalosporin- or carbapenem resistant Klebsiella species and carbapenem resistant *E.coli*. Because baseline rates are not known, it is not possible to define an appropriate reduction; surveillance must be instituted first.

NYS hospitals are making good progress in decreasing CLABSIs in intensive care unit (ICU) patients. The problem of CLABSIs outside ICUs is starting to be addressed through Partnership for Patients, a program funded by the Affordable Care Act in which HHS works with public or private partners, such as hospitals and hospital associations, to improve the quality and safety of health care. The Partnership for Patients' goal is to reduce CLABSIs by 50 percent, a reasonable objective for NYS non-ICU settings. Regarding CAUTIs, hospitals are reporting ICU CAUTIs to CMS, and non-ICU CAUTIs are being addressed by Partnership for Patients with a goal of a 40 percent reduction. CAUTIs may be reduced either by reducing usage of catheters or by reducing rates in catheterized patients. Non-ICU areas are the focus of this objective because there may be a greater potential for reductions because this is a new area of focus.

Goals and Objectives for Action

Goal #1: Reduce Clostridium difficile (C. difficile) infections (CDIs).

Objective 1.1: (Core Tracking Indicator): By December 31, 2017, reduce hospital-onset CDIs by 30% to 5.94 new cases per10,000 patient days. *(Baseline: 8.48 new cases per10,000 patient days; Year: 2011; Data Source: National Healthcare Safety Network (NHSN))*

Objective 1.2: **(Core Tracking Indicator):** By December 31, 2017, reduce community-onset health care facility-associated CDIs by 15 percent to 2.05 new cases per10,000 patient days. *(Baseline: 2.41 new cases per 10,000 patient days; Year: 2011; Data Source: NHSN)*

Goal #2: Reduce infections caused by multidrug-resistant organisms.

Objective 2.1: By December 31, 2017, reduce hospital-onset methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections by 10%. *(Baseline: Not available; Data Source: NHSN)*

Objective 2.2: By December 31, 2017, institute surveillance of hospital-onset multidrug-resistant Gram-negative bacterial infections and decrease infection rates. *(Baseline: Not available; Data Source: NHSN)*

Goal #3: Reduce device-associated infections.

Objective 3.1: By December 31, 2017, reduce non-ICU central line-associated blood stream infections (CLABSIs) by 50%. *(Baseline: Not available; Data Source: NHSN)*

Objective 3.2: By December 31, 2017, reduce non-ICU catheter-associated urinary tract infections (CAUTIs) by 40%. *(Baseline: Not available; Data Source: NHSN)*

Changes can be made across all sectors to improve health outcomes for people with health care associated infections. Below are evidence-based and best-practice examples of how your sector can make a difference.

Health Care Delivery System

Goal #1: Reduce C. difficile infections (CDIs).

- Educate patients and visitors about the importance of handwashing.
- Encourage patients to speak up about health care personnel's handwashing.
- Institute formal quality improvement programs to reduce infections.
- Offer training on CDI prevention for health care personnel.
- Ensure adequate cleaning and disinfection of patient care rooms and medical equipment.
- Dedicate medical equipment to individual patients with CDIs when possible.
- Consider using sporicidal disinfectants in health care facilities when possible.
- Use hypochlorite-based disinfectants where endemic rates are high.
- Place patients with CDIs in private rooms when possible or cohort CDI patients.
- Monitor and enforce hand hygiene and contact precaution adherence by health care personnel.
- Ensure health care personnel wear gowns and gloves when entering rooms of patients with CDIs.
- Continue contact precautions at least until diarrhea ceases in patients with CDIs.
- Use laboratory testing methods with high sensitivity to detect CDIs.
- Institute antimicrobial stewardship programs that might decrease patients' exposure to antibiotics.
- Where feasible, incorporate building design elements that may reduce transmission of CDIs, such as private rooms and private bathrooms.
- Ensure administrative support and commitment of resources to *C. difficile* prevention efforts.

Goal #2: Reduce infections caused by multidrug-resistant organisms (MDROs).

- Ensure that sinks and alcohol-based hand rub are readily available for patients, visitors and health care personnel.
- Implement focused educational efforts for hospital staff to improve their understanding of MDRO transmission.
- Institute formal quality improvement programs to reduce infections.
- Educate environmental services staff about MDROs and the importance of disinfection.
- Keep health care personnel informed about changes in MDRO transmission rates.
- Provide reports to clinicians summarizing the prevalence of resistance among clinical isolates by disseminating anti-biograms.
- Institute observation and feedback programs to educate health care personnel about hand hygiene adherence and isolation precautions.

- Institute management protocols of vascular and urinary catheters and the prevention of respiratory infections in ventilated patients.
- Place colonized or MDRO-infected patients in private rooms whenever possible.
- Monitor and enforce hand hygiene and adherence to isolation precautions.
- Monitor adherence to environmental cleaning and disinfection protocols.
- Use tiered or stepwise implementation of aggressive measures to control MDRO outbreaks.
- In outbreak situations, consider use of molecular techniques to verify and understand transmission, and monitor interventions.
- Consider the use of active surveillance cultures to detect patients colonized with MDROs.
- Ensure administrative support and commitment of resources to MDRO prevention efforts.
- Implement computer alerts to ensure colonized or MDRO-infected patients are identified rapidly.
- Institute antimicrobial stewardship programs that might decrease patients' exposure to antibiotics and reduce or slow the development of resistance.
- Implement surveillance for MDROs, using CDC's National Healthcare Safety Network to define the baseline and detect changes.
- Institute increased cleaning and disinfection of frequently touched surfaces.
- Maintain adequate staffing levels for the acuity of care.

Goal #3: Reduce device-associated infections.

- Educate health care personnel about indications for central venous catheter use and the procedures for insertion and maintenance.
- Ensure that appropriate hand hygiene is performed before central venous catheter insertion and maintenance, and provide immediate feedback if appropriate hand hygiene is not performed.
- Provide recurrent education to staff on proper insertion and maintenance practices for urinary catheters.
- Institute formal quality improvement programs to reduce infections.
- Provide feedback to personnel on the proportion of urinary catheters meeting usage indications and proper maintenance.
- Ensure that personnel inserting or caring for central venous catheters adhere to insertion and maintenance procedures.
- In adults, avoid use of the femoral vein whenever possible.
- Assess the need daily for central venous catheters and remove them once their use is not essential.
- Use maximal sterile barrier precautions when inserting central venous catheters.
- Use *chlorhexidine* with alcohol to prepare skin before central venous catheter insertion if there are no contraindications.
- Consider using *chlorhexidine* for daily skin cleansing.
- If CLABSI rates are not decreasing despite comprehensive interventions, consider use of antimicrobial or antiseptic impregnated catheters and cuffs.

- Avoid use of urinary catheters for incontinence.
- If CAUTI rates are not decreasing despite interventions, consider use of antimicrobial or antiseptic impregnated catheters.
- Assess the need daily for urinary catheters and remove them once they are no longer needed.
- Use checklists and bundles to improve adherence to central venous catheter best practices.
- Ensure staff have the authority to stop non-emergent central venous catheter insertions if proper protocols are not followed.
- Encourage nursing staff to notify physicians when central venous catheters are no longer necessary.
- Monitor adherence to indications for urinary catheter use.
- Monitor appropriate removal of urinary catheter postoperatively, preferably within 24 hours.

Media

Goal #1: Reduce C. difficile infections.

- Publicize the dangers of overuse and improper use of antibiotics; advise patients to take antibiotics only as prescribed by a physician.

Academia

Goal #1: Reduce C. difficile infections.

- Offer training on CDI prevention.

Goal #2: Reduce infections caused by MDROs.

- During outbreaks, consider use of molecular techniques to verify and understand transmission.

Other Governmental Agencies

Goal #1: Reduce C. difficile infections.

- Ensure adequate resources for hospitals' infection prevention efforts.

Goal #2: Reduce infections caused by MDROs.

- Ensure adequate reimbursement for hospitals' infection prevention efforts.
- Improved education and better availability of health insurance may improve overall health and decrease the need for extensive outpatient care or hospitalizations, thereby reducing the opportunities for healthcare associated infections to occur.

Goal #3: Reduce device-associated infections.

- Ensure adequate resources for hospitals' infection prevention efforts.
- Improve education and make health insurance readily available to improve overall health and decrease the need for extensive outpatient care or hospitalizations, which would reducing the chances for health care-associated infections to occur.

Governmental (G) and Non-Governmental (NG) Public Health

Goal #1: Reduce C. difficile infections.

- Offer training on CDI prevention.

Goal #2: Reduce infections caused by MDROs.

- Implement focused educational efforts for health care personnel to improve understanding of MDRO transmission.

- Use tiered or stepwise implementation of aggressive measures to control outbreaks of MDROs.
- During outbreaks, consider use of molecular techniques to verify and understand transmission.

Policymakers and Elected Officials

Goal #1: Reduce C. difficile infections.

- Improve education and make health insurance readily available to decrease need for extensive outpatient care or hospitalizations, reducing chances for these infections to occur.

Goal #2: Reduce infections caused by MDROs.

- Improve education and make health insurance readily available to decrease need for extensive outpatient care or hospitalizations, reducing chances for these infections to occur.

Goal #3: Reduce device-associated infections.

- Ensure adequate resources for hospitals' infection prevention efforts.
- Improve education and make health insurance readily available to decrease need for extensive outpatient care or hospitalizations, reducing the chances for these infections to occur.

Philanthropy

Goal #1: Reduce C. difficile infections.

- Offer training on CDI prevention.