

HIV/AIDS IN NEW YORK CITY BACKGROUND AND EPIDEMIOLOGY



HIV Epidemiology and Field Services Program
New York City Department of Health and Mental Hygiene



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<http://www1.nyc.gov/site/doh/data/data-sets/epi-surveillance-slide-sets.page>

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HIV/AIDS: THE BASICS(1)

- Acquired Immunodeficiency Syndrome (AIDS) is caused by the Human Immunodeficiency Virus (HIV)
- HIV is spread primarily through sexual contact with an infected person or by sharing needles and/or syringes with someone who is infected

HIV/AIDS: THE BASICS(2)

- Laboratory testing can confirm the presence of HIV or antibodies to HIV in a person's blood
- Persons who are infected with HIV are often asymptomatic, possibly for 10 years or longer
- The Centers for Disease Control and Prevention (CDC) define AIDS in an HIV-infected person as:
 - CD4 cell count is <200 cells per μL
 - CD4 cell count is $<14\%$ of total lymphocytes, if there is no corresponding CD4 cell count ≥ 200 cells per μL
 - Physician diagnosis of an AIDS-defining opportunistic illness (OI)

GENERAL EPIDEMIOLOGY: PREVALENCE

- **Prevalence:** the proportion of a population known to be living with HIV or AIDS, regardless of when they acquired their infection or were diagnosed
 - Prevalence is typically expressed as a percentage of the population at a point in time
- **PLWHA:** people living with HIV and/or AIDS

Prevalence provides a snapshot of the burden of illness or infection in a given population.

GENERAL EPIDEMIOLOGY: INCIDENCE AND NEW DIAGNOSES

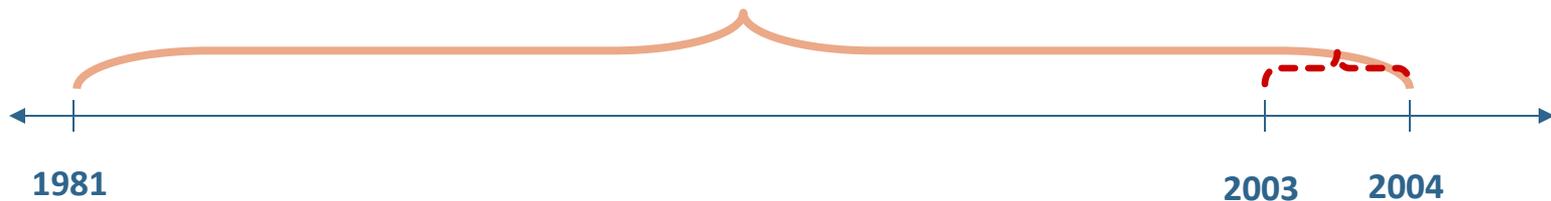
- **HIV incidence rate:** number of new HIV *infections* per time period of interest (e.g., month, year).
- **New HIV diagnosis rate:** number of new HIV *diagnoses* per time period of interest. A new diagnosis does not necessarily represent a new infection – a person may be infected with HIV many years before being diagnosed.

Accurately measuring HIV incidence can help us understand how HIV is spreading now and how to more effectively focus prevention efforts.

GENERAL EPIDEMIOLOGY: INCIDENCE VS PREVALENCE



Incidence = the number of new cases of HIV in a specified time period in a defined population.



Prevalence = the total number of living cases of HIV during a specified period in a given population.

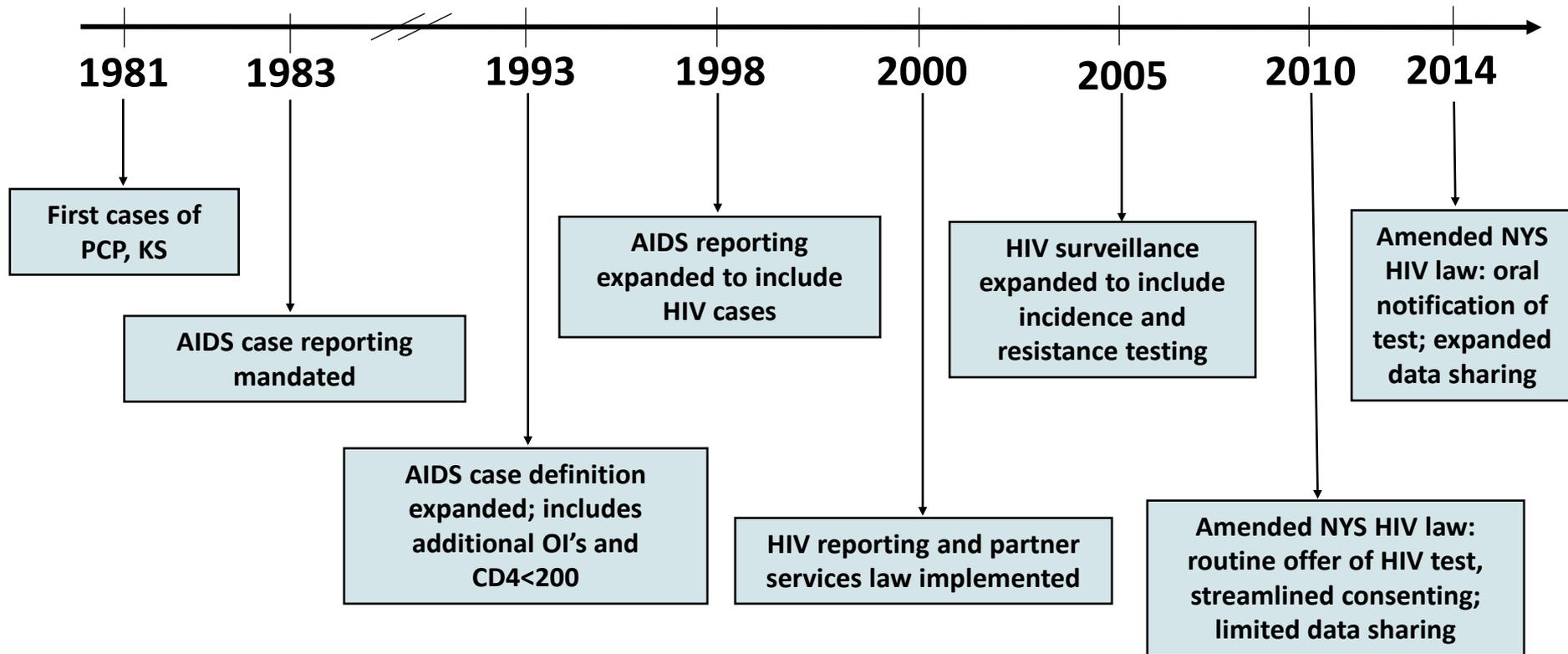
HIV/AIDS MORTALITY

- **HIV-related causes:**
 - Opportunistic illnesses
- **Non-HIV-related causes:**
 - Major cardiovascular disease
 - Non-AIDS-defining cancers
 - Accidents
 - Substance abuse
 - Other natural causes

WHAT IS SURVEILLANCE?

- **Public Health Surveillance** is the ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control.
- **Epidemiology** is the study of the distribution and determinants of health related states or events in specified populations, and the application of this study to the control of health problems.

EVOLUTION OF HIV SURVEILLANCE IN NYC



HIV SURVEILLANCE IN NYC

- **1981:** MMWR reports PCP and KS from Los Angeles and NYC; AIDS surveillance begins
- **1983:** New York State mandates named AIDS case reporting through an emergency amendment to section 24.1 of the state sanitary code
- **1998:** New York State mandates named HIV reporting through Public Health Law Article 21 Title III
- **June 1, 2000:** New York State implements reporting of HIV, detectable viral loads, and CD4<500
- **June 1, 2005:** New York State issues emergency regulations mandating reporting of *all* viral load and CD4 values
- **September 1, 2010:** New York State mandates the routine offer of HIV testing to all persons ages 13 to 64 receiving hospital or primary care services through Public Health Law 2010 Chapter 308
- **2013:** New York State expands laboratory test reporting requirements to include tests conducted as part of the Multi-Test Algorithm
- **2014:** New York State offers HIV testing with oral consent; limited surveillance data can be shared between health departments and health care providers

EARLY HIV/AIDS SURVEILLANCE IN NYC

NEW YORK SURVEILLANCE FIGURES

4-28-82

Men:

Disease	as 1 st Dx (March fig.)	Total Dx'd (Mar. fig.)
KS	82 (74)	87 (79)
PCP	53 (47)	70 (62)
Other OI*	18 (16)	44 (39)
Total	153 (137)	

Women:

PCP alone	2
PCP + other OI	3
Other OI	1
Total	6

Total cases NYC = 159
(Total reported to CDC = 323)

*OI is Opportunistic Infection.

HOW DO WE COLLECT HIV SURVEILLANCE DATA IN NYC?

- Electronic reporting of laboratory tests
- Direct reports by physicians (via the Provider Report Form, or PRF)
- Active field surveillance
- Matching with registries
- Interstate de-duplication activities
- Studies

EVENTS REPORTABLE BY NYC LABORATORIES

- As of June 1, 2005:
 - All positive Western Blot results
 - All viral load results, both detectable and undetectable
 - All CD4 test results
 - All viral nucleoside sequence results
- As of late 2013:
 - Tests conducted under the multi-test algorithm
 - Screening EIA (positive only), HIV 1/2 differentiation assay (positive and negative), qualitative RNA test (positive and negative)

EVENTS REPORTABLE BY NYC PROVIDERS

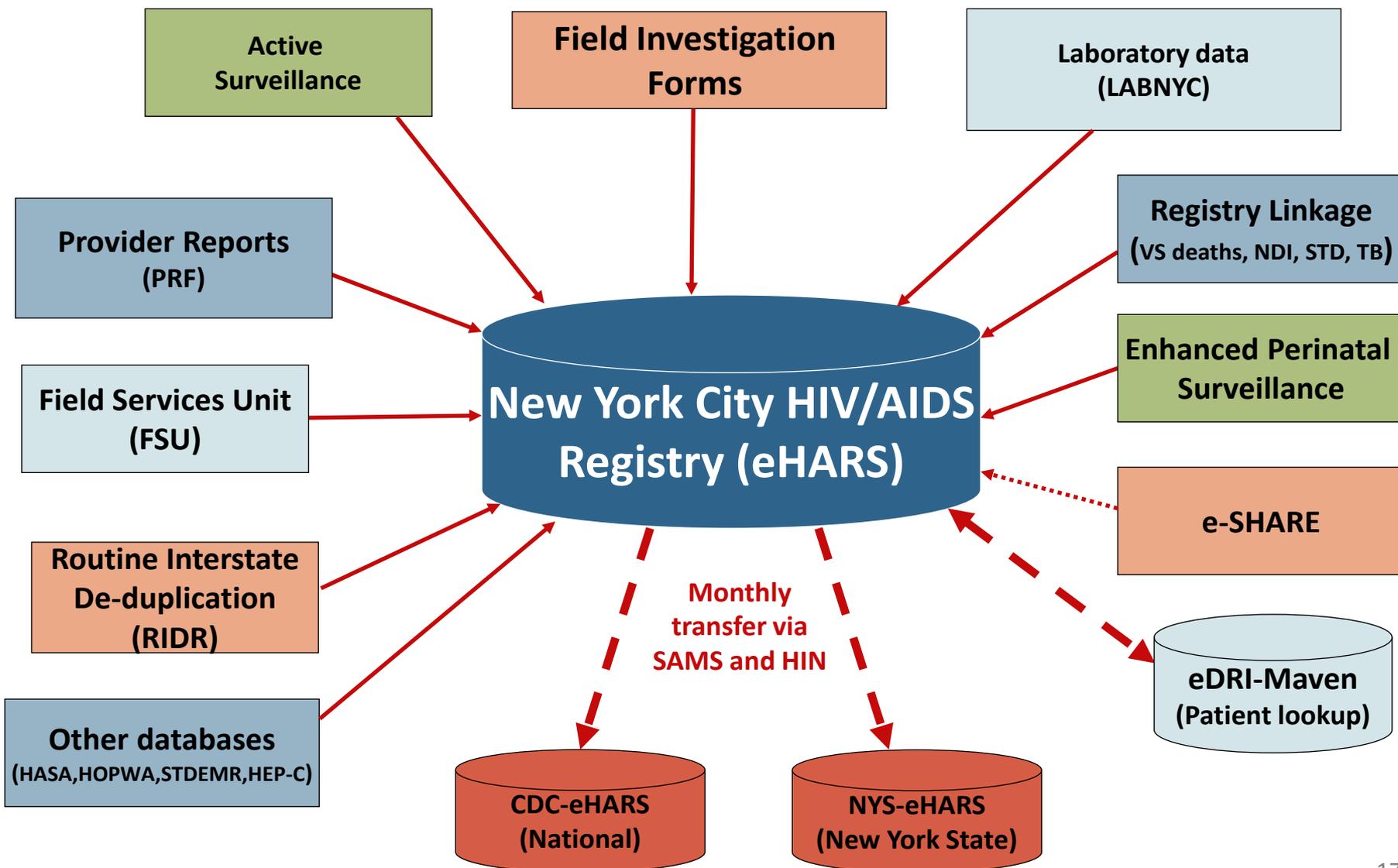
- **New diagnosis of HIV** (acute HIV infection or first report of an HIV antibody positive test result)
- **New diagnosis of AIDS** (CD4<200 or opportunistic infection)
- Patient with previously diagnosed HIV or AIDS during their first visit to a provider

Providers are required by New York State Law to report cases on the New York State Provider Report Form (PRF) within 14 days of an HIV/AIDS-related event.

FIELD SURVEILLANCE

- Routine collection and investigation of HIV data from more than 3,500 NYC facilities, including 75 hospitals, 590 free-standing clinics and 2,680 private medical practices
- Abstraction and collection methods include:
 - reviewing medical records
 - interviewing providers and patients
 - reviewing administrative databases
 - actively seeking new cases within hospitals and clinics and through private physicians
- Field staff also conduct investigations necessary to complete, verify, or correct data on PLWHA in NYC

INTEGRATION OF HIV/AIDS SURVEILLANCE DATA SOURCES



AUTHORIZATION FOR SURVEILLANCE

- Named reporting of HIV and AIDS by diagnostic providers is required and codified in:
 - New York State Sanitary Code Section 24.1 and Article 21, Title III
 - New York City Health Code, Section 11.05
- The NYC DOHMH is authorized by the New York State Department of Health to conduct HIV/AIDS surveillance in NYC

CONFIDENTIALITY: NEW YORK STATE LAW

- New York State Public Health Law Article 27F, Section 2782, protects confidential HIV-related information and defines the limits of disclosure
- Section 2783 provides for civil penalties for violation of 2782 in the case of willful disclosure of protected information

CONFIDENTIALITY: NEW YORK CITY LAW

- New York City Public Health Code Section 11.05 protects confidential HIV-related information and provides penalties for disclosure

CONFIDENTIALITY: FEDERAL LAW

- The Health Insurance Portability and Accountability Act (HIPAA) defines all information contained on a medical record as protected health information
- Informed consent required for any access to PHI other than by a person providing direct clinical care or *conducting legally mandated surveillance*

CONFIDENTIALITY IN THE HIV EPIDEMIOLOGY AND FIELD SERVICES PROGRAM

All of the laws just mentioned, PLUS:

- Confidentiality pledge
- Physical security of office
- Electronic security of data and documents
- Presentation of data in the aggregate, never by name or small groups

HOW TO FIND OUR DATA

- Our program publishes annual surveillance reports and slide sets, as well as special supplemental reports during the year.
 - Annual reports: <http://www1.nyc.gov/site/doh/data/data-sets/hiv-aids-surveillance-and-epidemiology-reports.page>
 - Slide sets: <http://www1.nyc.gov/site/doh/data/data-sets/epi-surveillance-slide-sets.page>
- Tables presenting annual data by gender, race, age, transmission category, borough and UHF neighborhood are also available: <http://www1.nyc.gov/site/doh/data/data-sets/hiv-aids-annual-surveillance-statistics.page>.
- Reports and tables are posted on the NYC DOHMH website: <http://www1.nyc.gov/site/doh/data/data-sets/aids-hiv-epidemiology-and-field-services.page>
- To receive an electronic copy of a report, email us at hivreport@health.nyc.gov.

Thanks to >150 members of the HIV Epidemiology and Field Services Program staff for these data.