

Implementation of a City-Wide Cohort of HIV-Infected Persons in Care in Washington DC: The DC Cohort

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Introduction

- In 2009, 16,721 people were living with HIV/AIDS in the District of Columbia (DC) for a prevalence rate of 3%.
- DC Cohort is one of four initial pillars of the Partnership for AIDS Progress (PFAP) between the National Institutes of Health and the DC Department of Health (DC DOH).
- DC Cohort was developed in partnership with 12 major HIV providers, NIH, and the DC DOH.
- The goal of the DC Cohort is to create a comprehensive database of HIV-infected patients receiving care in DC in order to monitor and improve HIV treatment programs and quality of care city-wide.

Methods

- Study Methods:
 - Conducted a feasibility assessment focused on major academic, community and federal clinics in 2009.
 - Obtained informed consent from eligible clinic patients.
 - Abstracted demographic, clinical, and laboratory data on consenting patients from clinic electronic medical records and entered data into a central database (Discovere).
- Analysis Methods:
 - Included data from the eight DC Cohort clinical sites that began enrollment in 2011.
 - Used descriptive statistics to characterize enrollment patterns and participant characteristics for participants enrolled through December 31, 2011.
 - Calculated Chi-square and Wilcoxon rank sum tests to compare refusal and participant characteristics.

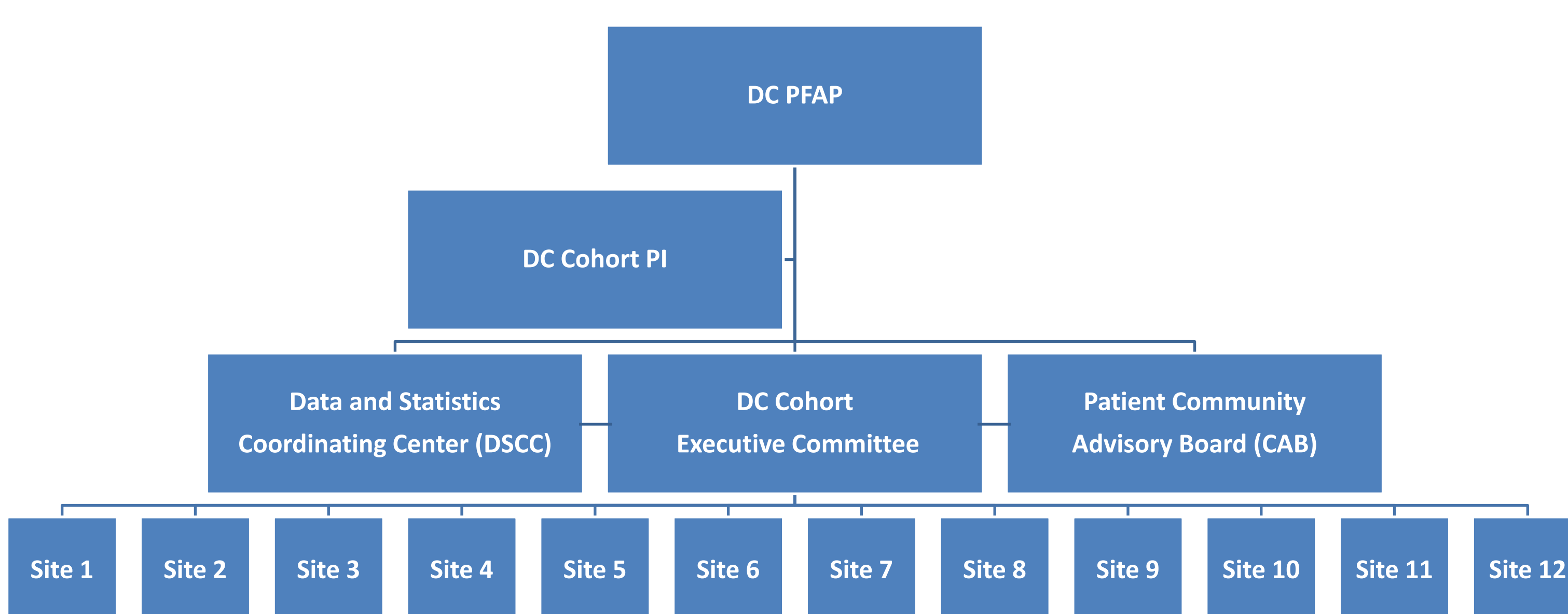
Results

Table 1. Results of 2009 Feasibility Assessment: DC Clinic Sites by HIV Population and Electronic Medical Record (EMR) Status

Clinic	Estimated Number of HIV Patients Cared for as of June 2009	EMR System and Year of Implementation
Carl Vogel Center	170	eCW*, 2012
CNMC, Adolescent Clinic	170	eCW, 2009
CNMC, Pediatric Clinic	145	eCW, 2013***
Georgetown University	900	Centricity, 2008
George Washington University	800	Touchworks, 2004
Family and Medical Counseling Service	750	eCW, 2008
Howard University	500	Touchworks, 2009
La Clinica del Pueblo	120	eCW, 2008
Unity Health Care	3,000	eCW, 2009
Veterans Affairs Medical Center	950	Vista-CPRS**, 1994
Washington Hospital Center	1,200	Centricity, 1997
Whitman Walker Health	3,100	eCW, 2008

CNMC: Children's National Medical Center; *eCW: e Clinical Works; ** VISTA Computerized Patient Record System; *** To be implemented

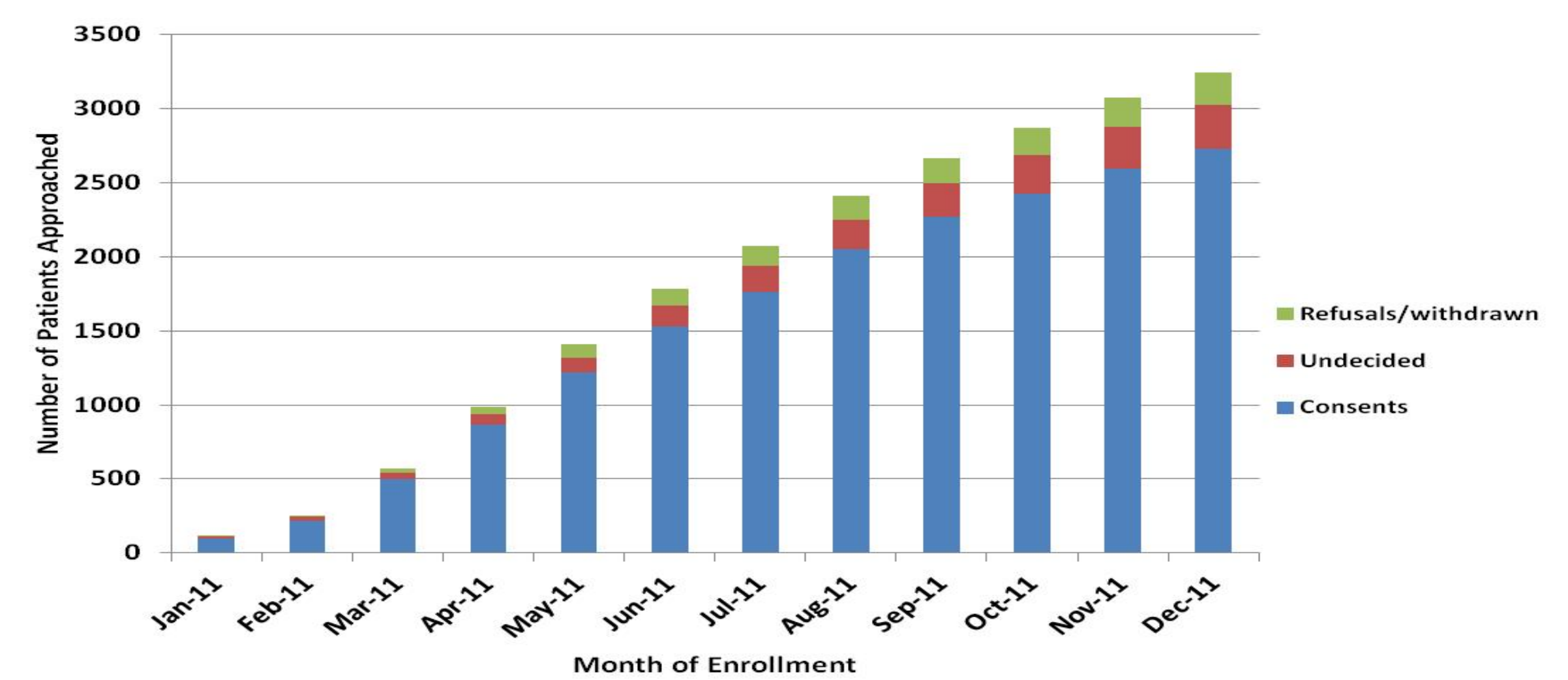
Figure 1. DC Cohort Organizational Chart



- Feasibility study found that between 10-15,000 patients cared for at the 12 initial sites.
- Received feedback from providers, patients, and community regarding study design.
- Patient Community Advisory Board (CAB) formed and provided input on study design and recruitment materials.
- Data and Statistics Coordinating Center (DSCC) formed consisting of George Washington University and Cerner Corporation staff.
- Executive Committee formed with representation including Site PIs, GWU, Cerner Corporation, NIH, and DC DOH representatives and ad hoc members from Patient CAB.

Results(cont'd)

Figure 2. DC Cohort Cumulative Enrollment through December 31, 2011



- Through December 2011, 3,219 patients were asked to participate, of whom 2,718 consented (84.6%), 206 refused (6.4%), 4 withdrew (0.1%) and 295 (9.2%) were undecided.
- Patients declining to participate were significantly less likely to be Non-Hispanic White (10.7% vs. 17.8%, $p < 0.001$), and significantly less likely to have publicly-funded insurance (56.1% vs. 66.5%, $p < 0.001$).

Table 2. Demographic and Clinical Characteristics of DC Cohort Participants, January – December 2011*

Characteristic	N	Enrolled Participants %**
Total	2,718	
Age		
Median (IQR)		49.1 (40.4, 56.5)
Sex at birth		
Female	591	21.7
Male	2,127	78.3
Race/ethnicity		
Non-Hispanic black	1,987	73.1
Non-Hispanic white	484	17.8
Hispanic	78	2.9
Other	169	6.2
Insurance		
Public	1,807	66.5
Private	788	29.0
Other	61	2.2
Unknown	62	2.3
State of Residence		
DC	1,798	66.2
MD	640	23.5
VA	208	7.7
WV	26	1.0
Other	46	1.7
Housing status		
Permanent	2,313	85.1
Temporary	233	8.6
Homeless	24	0.9
Other	1	0.0
Unknown	147	5.4
Employment status		
Employed	875	32.2
Unemployed	720	26.5
Retired	113	4.2
Other	74	2.7
Unknown	936	34.4
Mode of HIV transmission		
MSM	1,113	40.9
Heterosexual contact	806	29.7
IDU	269	9.9
MSM/IDU	40	1.5
Transfusion/coagulation	36	1.3
Disorder	25	0.9
Perinatal	19	0.7
Other	19	0.7
Unknown	410	15.1
Clinical status		
HIV	1,587	58.4
AIDS	1,131	41.6
Nadir CD4 count (cells/μl)		
< 50	435	16.0
50 – 199	678	24.9
200 – 349	677	24.9
350 – 499	442	16.3
\geq 500	408	15.0
Unknown	78	2.9
Median (IQR)		244 (99, 403)
Baseline CD4 count (cells/μl)		
< 50	44	1.6
50 – 199	201	7.4
200 – 349	383	14.1
350 – 499	535	19.7
\geq 500	1,334	49.1
Unknown	221	8.1
Median (IQR)		524 (348, 721)
Baseline viral load (copies/ml)		
0 – 399	2,026	74.5
400 – 999	69	2.5
1,000 – 9,999	144	5.3
10,000 – 49,999	124	4.6
50,000 – 99,999	54	2.0
\geq 100,000	80	2.9
Unknown	221	8.1
Median (IQR)		u^{***} (u, 117)
Baseline ARV status		
Experienced	2,294	84.4
Naive	170	6.3
Unknown	254	9.3

* Patients consented by 1/1/11-12/31/11. Characteristics are documented as of consent date. LHA and viral load measurements were the closest lab values \leq 6 months of consent date. ** Percentages were calculated excluding 'unknowns' where applicable. *** U: Undetectable viral load.

Conclusions

- DC Cohort represents a unique collaboration of academic, community, and government HIV care providers, the DC Department of Health, and the National Institutes of Health.
- Demographic characteristics of this cohort are consistent with the city-wide HIV epidemic and provide a unique profile of HIV outpatient care in DC.
 - Majority male, black, older, and infected through male to male sexual contact
 - Majority HIV (not AIDS) cases, treatment experienced, and virally suppressed
- DC Cohort will provide a comprehensive portrait of outpatient HIV care and treatment outcomes for more than 12,000 persons in a major U.S. city with a severe HIV epidemic.
- Next steps include launching the study at the remaining clinical sites, development and implementation of electronic data transfers, and matching of the Cohort database with Department of Health surveillance databases in order to improve completeness of HIV/AIDS information.
- As the DC Cohort expands enrollment, further analyses will facilitate the examination of the impact of public health programs designed to manage and control the District's epidemic.

