INTEGRATING HIV AND HCV TESTING

NASTAD

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES

HIV TEST PERFORMANCE

FIGURE 1: LABORATORY MARKERS OF HIV INFECTION

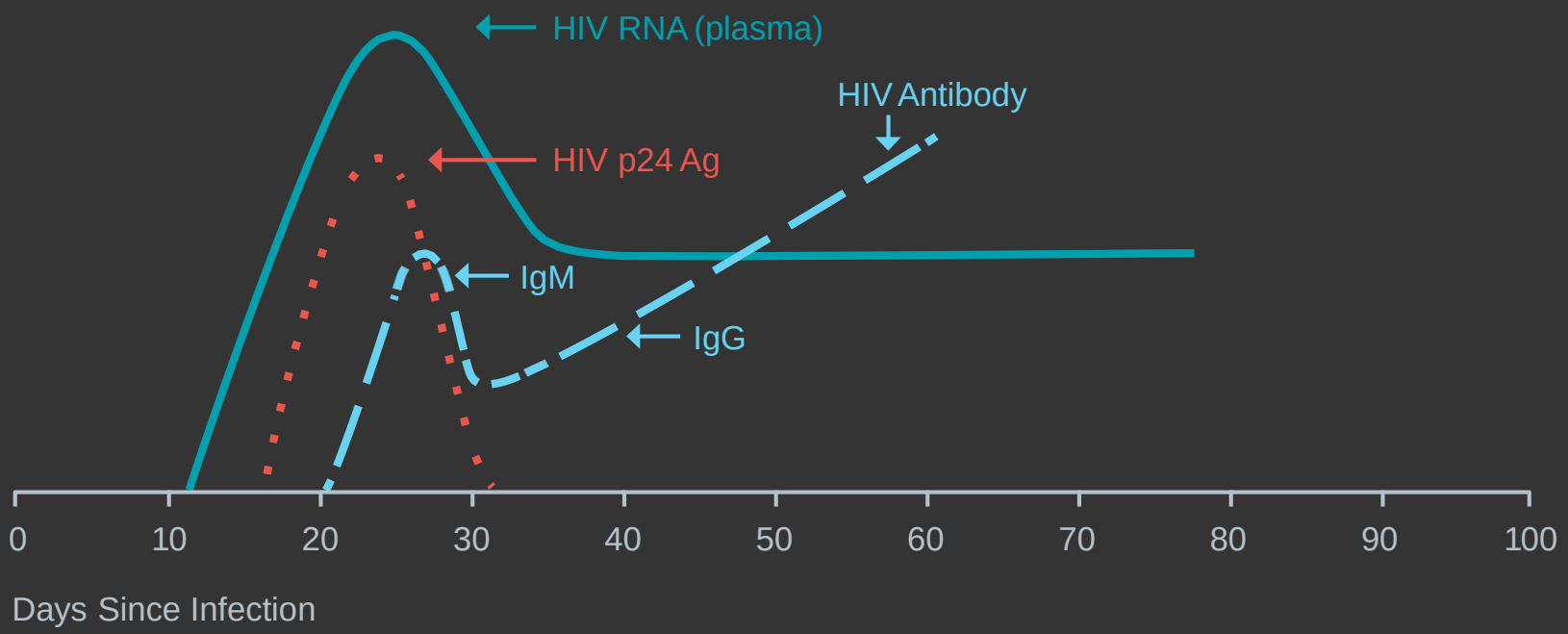

Figure adapted from Delaney et al., CID 2017:64 and provided by M. Owen, NCHHSTP, CDC.

HIV TEST PERFORMANCE

HIV TESTS: MEDIAN WINDOW PERIOD IN DAYS BASED ON PLASMA

	Laboratory-Based Tests	POC Rapid Tests
Ag/Ab	17.8	19.2
IgM/IgG	23.1	29.3
IgG	30.6	31.1

Test sensitivity is **highest** when used with **plasma and serum samples**. Test sensitivity is **lower** with **whole blood**. Test sensitivity is **lowest** when used on **oral fluid**.

HCV TEST PERFORMANCE

FIGURE 2: LABORATORY MARKERS OF HCV INFECTION

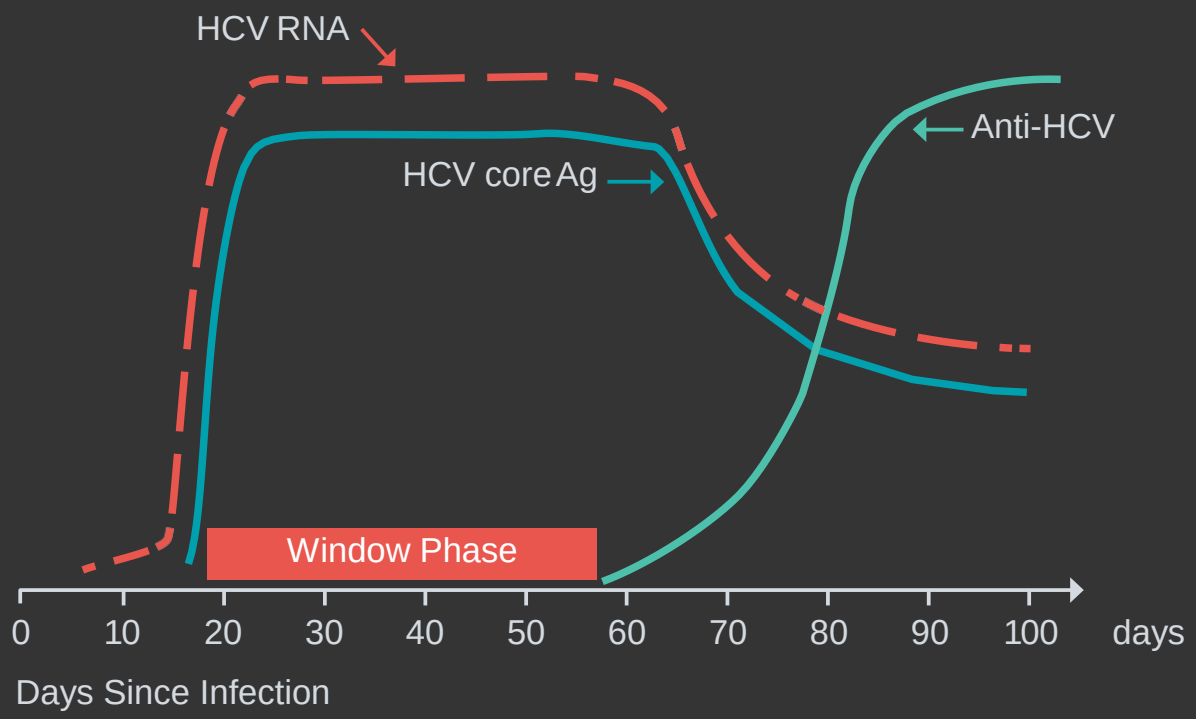

Figure provided by S. Kamili, DVH, CDC.

TESTING STRATEGIES

Laboratory-Based Testing

Specimen sent to laboratory for testing

Sequence of tests performed

- Laboratory Testing for the Diagnosis of HIV Infection
- Testing for HCV Infection: An Update of Guidance for Clinicians and Laboratorians

Earlier detection than possible with POC

Point-of-Care Rapid Testing

Testing where client receives services

Various supplemental testing methods

COMPARISON OF TESTING STRATEGIES

Comparison Categories	Laboratory-Based Testing (using CDC-recommended serum/plasma algorithms)		Point-of-Care Rapid Testing (using CLIA-waived tests)	
	HIV	HCV	HIV	HCV
Window period	2-3 weeks	8–11 weeks	3-5 weeks	8–11 weeks
Detect acute infection	✓ Yes	✓ Yes	✗ No	✓ Yes
Final results	From a single specimen		Negative results from single specimen; Positive results second specimen	
Testing for multiple infections	✓ Yes, multiple tests may be performed on single specimen		✗ No, additional specimens needed for other tests	
Timeframe for delivering results	Several hours to days to final		Negative results delivered same visit/day. Positive results, several hours to days to final	
FDA-approved specimen types	Serum or plasma		Whole blood, serum, or oral mucosal transudate (HIV only)	
Specimen collection	Venipuncture		Varies by test (venipuncture, finger stick, or oral fluid).	
Quality assurance	Limited QA assurance by providers.		Extensive QA by testing providers	

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SELECTING A TESTING STRATEGY

Population-Level Factors

- HIV and HCV Prevalence
- HIV and HCV Incidence
- HIV-2 prevalence
- Co-morbidity of HIV and HCV, and/or with other conditions such as STDs and hepatitis B virus (HBV)

Client-Level Factors

- Likelihood of acute HIV infection
- Likelihood of current HCV infection
- Likelihood that clients will return for results/linkage
- Understanding of the accuracy tests
- Acceptability of the testing strategy
- Appropriateness and relevance to client needs
- Cost to client for testing and treatment
- Readiness to engage in treatment
- Access to treatment

Program-Level Factors

- Staff capabilities to conduct testing
- Staff perceptions and attitudes about strategy
- Feasibility of introducing strategy into existing workflow
- Laboratory capacity to implement required tests, including CDC-recommended testing algorithms
- Delivery of related prevention and treatment services such as HIV PrEP