



NORTHWEST AIDS EDUCATION AND TRAINING CENTER

HIV Testing

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Overview

- **Rationale for routine HIV screening**
- **Characteristics of different HIV tests**
- **What the future holds**



MMWRTM

Morbidity and Mortality Weekly Report

Recommendations and Reports

September 22, 2006 / Vol. 55 / No. RR-14

- All patients 13-64, in ***primary care*** settings, annual if high risk
- Voluntary testing, permission from patient required
 - Separate written consent should not be required
 - General consent for medical care is sufficient
 - Prevention counseling not required in conjunction with screening

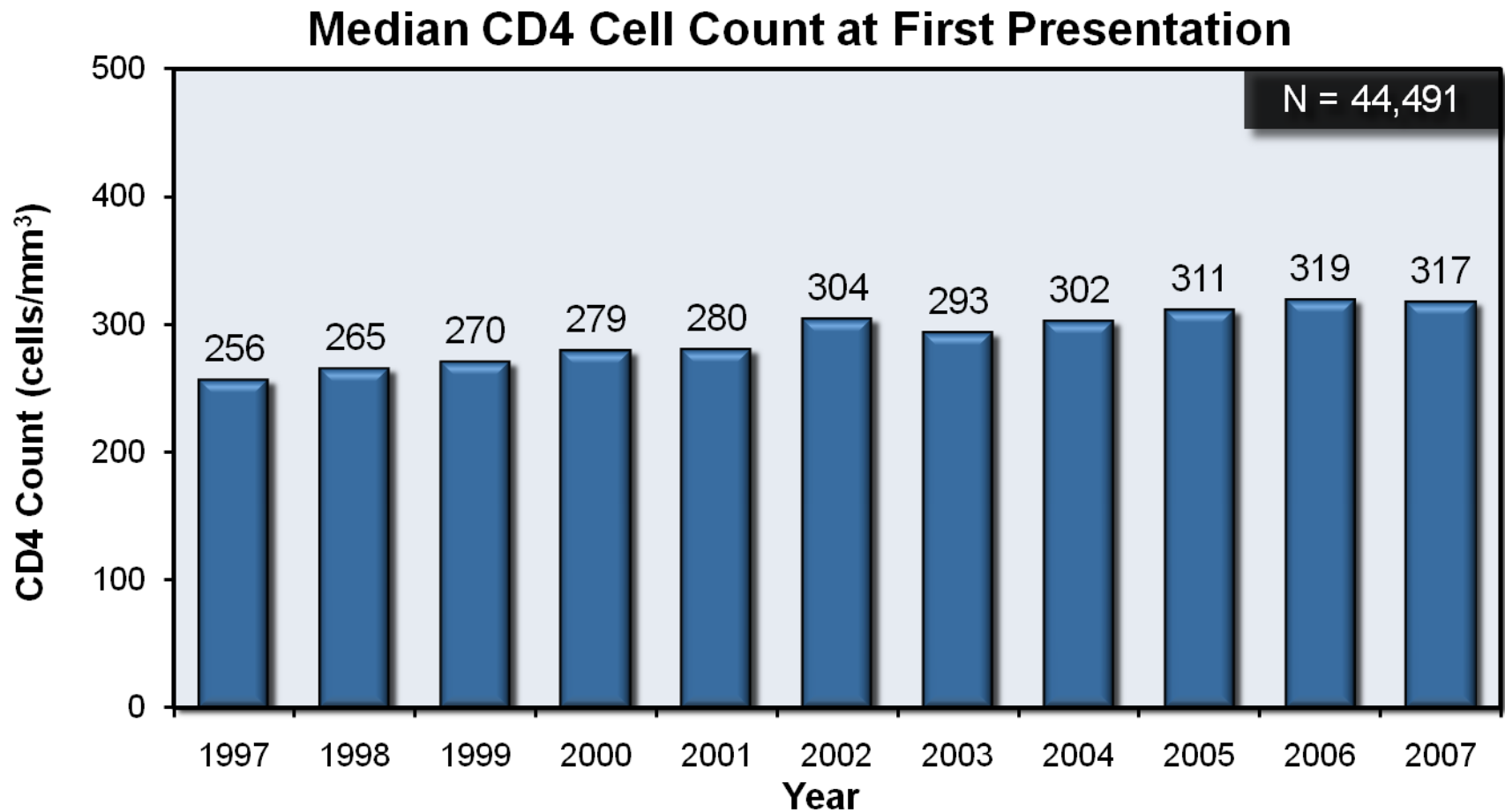
INSIDE: Continuing Education Examination

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

Rationale for Routine HIV Screening

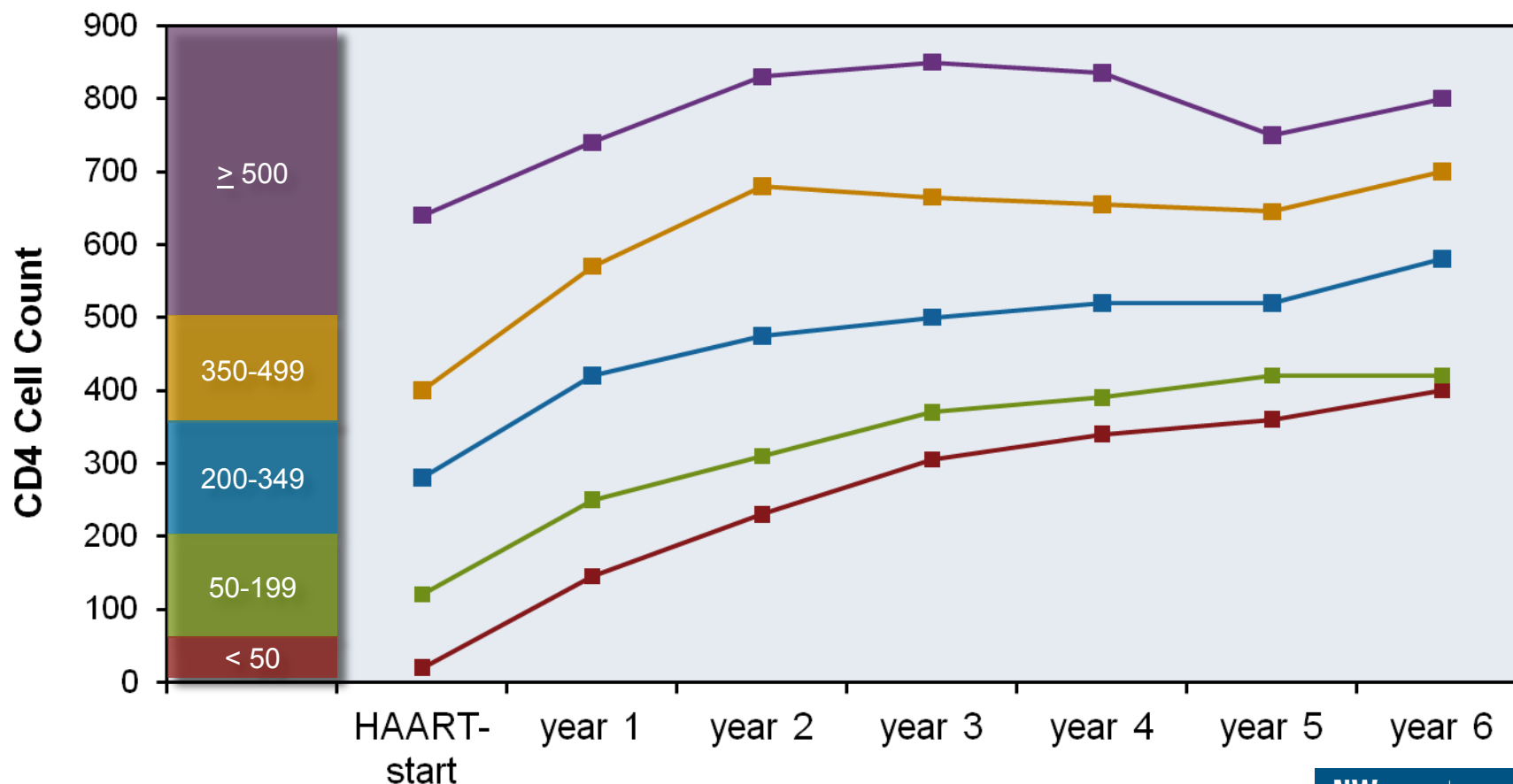
SUMMARY OF DATA

Rationale for Routine HIV Screening: Initial CD4 Cell Count (NA-ACCORD)



Rationale for Routine HIV Screening: Initial CD4 and Response to HAART

Median CD4+ cell count after Starting HAART (by baseline CD4+ category)



The rationale for routine HIV screening: HIV+ persons frequently seek care prior to diagnosis.

#1: Massachusetts

221 pts, median 5 visits prior to dx, 40% to ED/UCC

Liddicoat, J Gen Intern Med, 2004

#2: Denver

348 pts, 120 (34%) had sought care, 88% to ED/UCC

Jenkins, Sex Transm Dis, 2006

#3: South Carolina

4315 pts

1784 (41%) diagnosed “late” in infection

1302 (73%) had median 4 (1-132) outpt visits before dx

MMWR 2006

Earlier Diagnosis Has Benefits: Ignorance is Not Bliss

Living with HIV: 1.1M

New infections

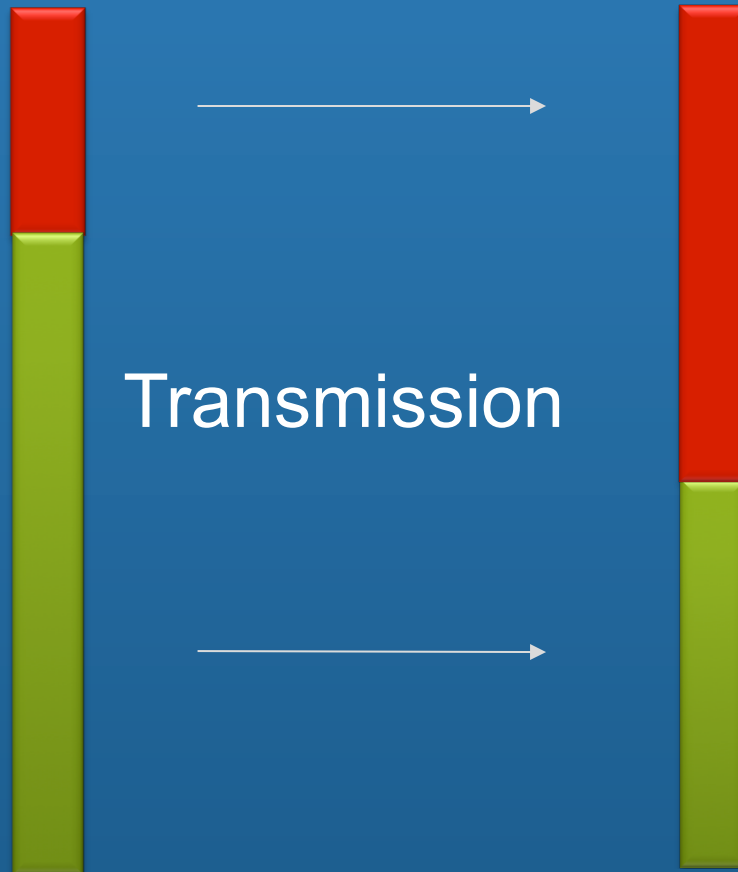
~21% unaware

54-70%

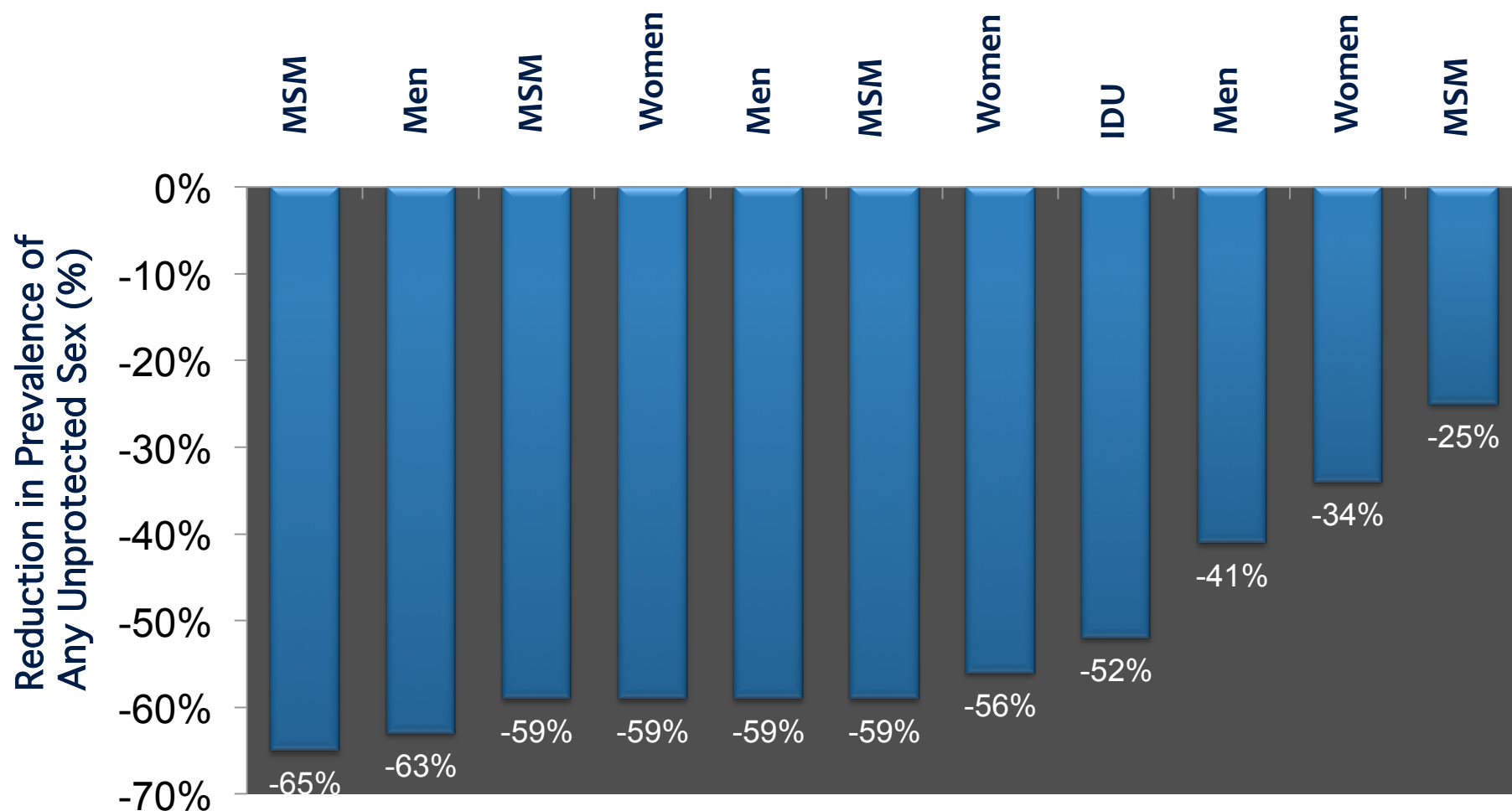
Transmission

~79% aware

30-46%



Knowledge of HIV status reduces high-risk behavior (meta-analysis 1986-2003)



Cost-effectiveness of Routine HIV Screening

Mammography	50-69 yo women	\$21,400/QALY
	40-49 yo women	\$105,000/QALY
HPV vaccine	12 yo girls	\$43,600/QALY
Colonoscopy (q10 yr)		\$9,309-22,672/ QALY
HIV screening outpts	1% prevalence	\$15,000/QALY
	0.1% prevalence	<\$50k

WA State: Revised Permanent Rules for HIV Testing, Counseling, and Partner Services



WSR 10-01-082 PERMANENT RULES, STATE BOARD OF HEALTH. EFFECTIVE JANUARY 15, 2010

- Obtain consent separately or with general consent for care
- Specifically inform verbally or in writing that a HIV test is included
- Offer an opportunity to ask questions and decline testing
- Notify the local health officer when a person tests positive in order to provide post-test counseling

Montana: SB350 – Revised HIV Testing Law



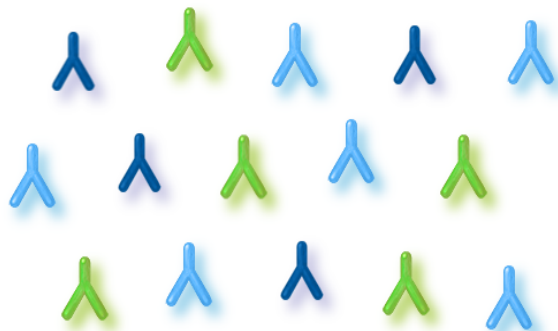
Sponsored by Kim Gillan, Signed by Governor April 24, 2009, EFFECTIVE October 1, 2009

- “Screening...must be considered routine and must be incorporated into the patient’s general informed consent for medical care”
- “Screening...must be voluntary and undertaken with the patient’s knowledge and understanding that HIV diagnostic testing is planned”
- “Patients must be informed orally or in writing that HIV diagnostic testing will be performed”
- “If the patient declines an HIV diagnostic test, this decision must be documented in the patient’s medical record”

Characteristics of Different HIV Tests

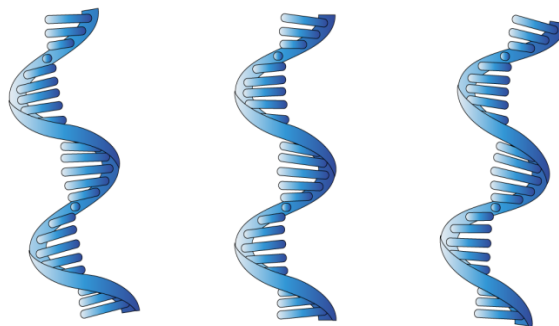
What are we testing for?

HIV Antibodies



Most Common Rapid Test
for
Established Infection

HIV-1 RNA



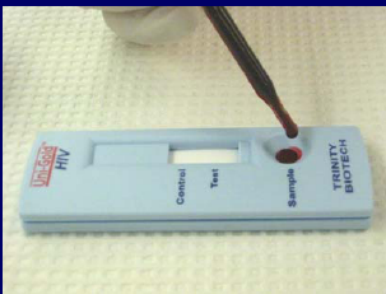
Used for Acute HIV and
Indeterminate WB

HIV p24 Antigen



Used in 4th Gen EIA

Rapid Testing – Many Available Options



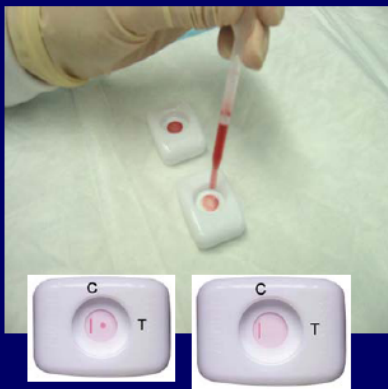
Uni-Gold Recombigen



Multispot HIV-1/HIV-2



Clearview Complete HIV 1/2



Reveal G3



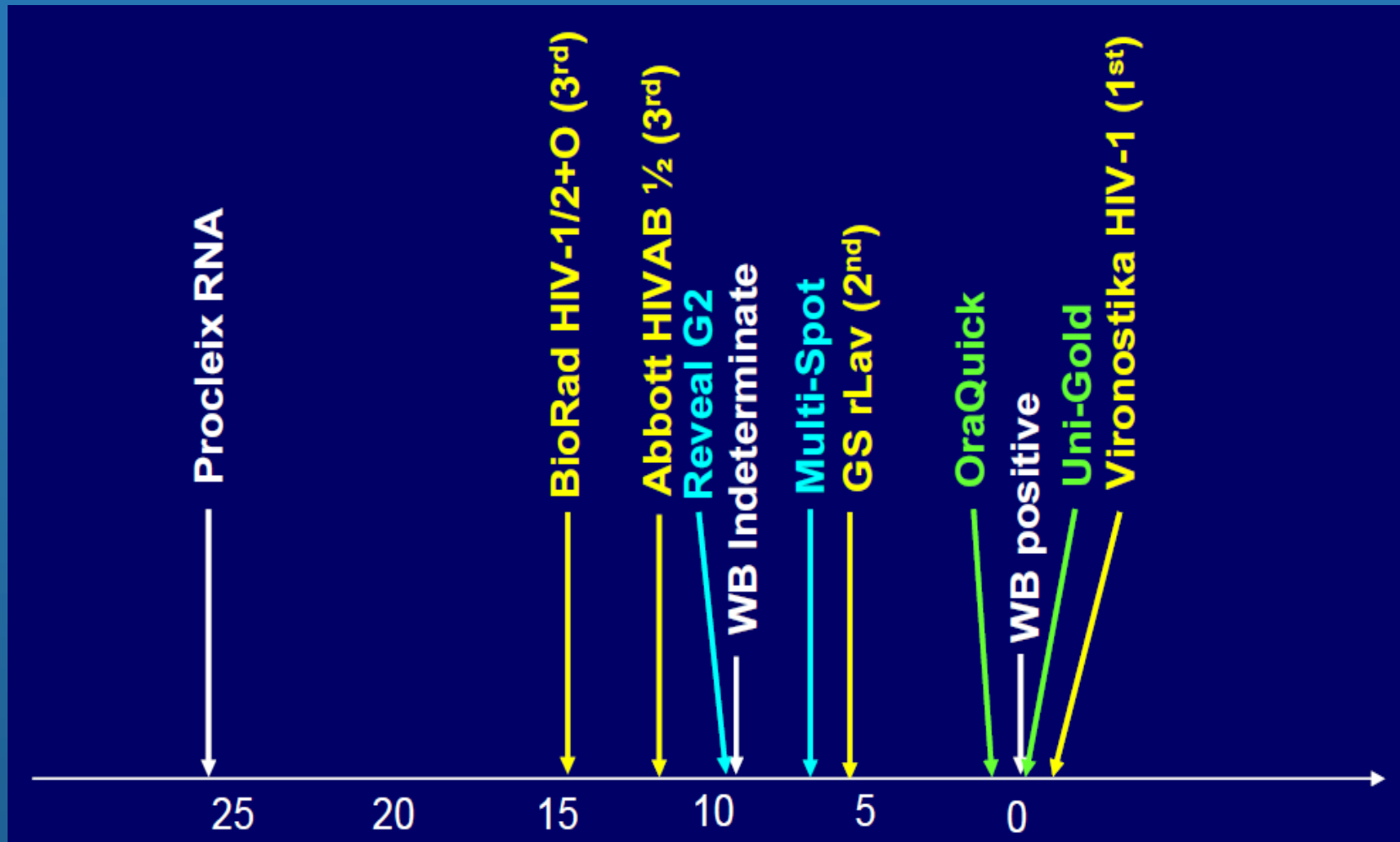
OraQuick Advance



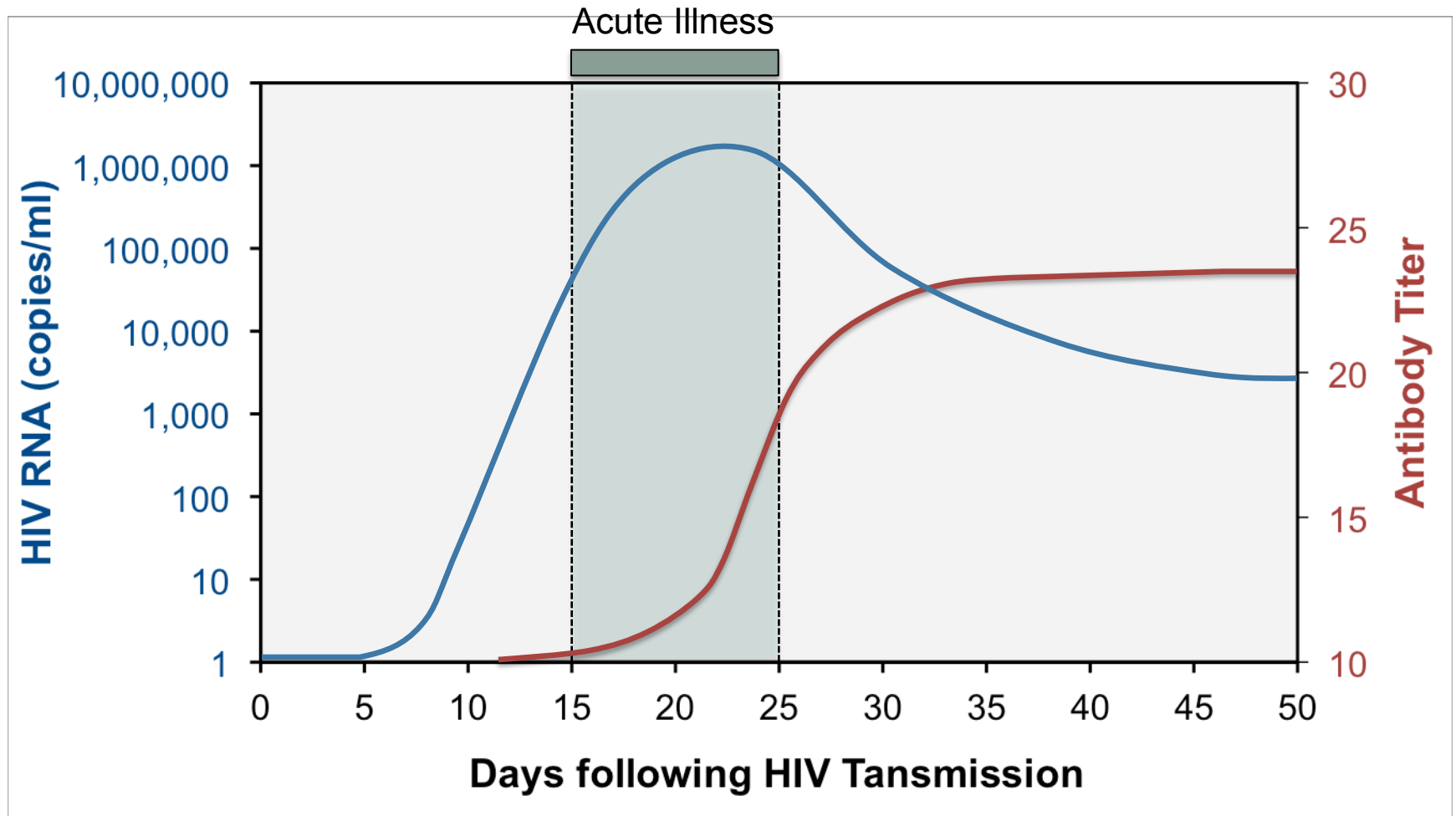
Clearview HIV 1/2 Stat Pak



Days before Western blot positive when 50% of Specimens are Reactive



Acute (Primary) HIV: Symptomatic Disease



Symptomatic Disease Often Precedes Positive Antibody Test

Symptoms of Acute HIV Infection

Approximately
50-90% of
Individuals
Experience ≥ 1
Symptoms ~ 2
Weeks Post
HIV
Acquisition

Fever

Fatigue

Sore Throat

Muscle & Joint Aches

Night Sweats

Headaches

Diarrhea

Rash



4th Generation Antigen-Antibody Assays

Author/ Journal	RCT Locale(s)	N	% Detected	Median (range) RNA of Not Detected
Stekler CID 2009	PHSKC	16	94%	16,300
Pandori J Clin Microbiol 2009	SF DPH	35	80%	6373 (1,177-14,062)
Patel Arch Int Med 2010	STD clinics FL, LA, NY	27	85%	6961 (1827-21,548)

All studies used the Abbott ARCHITECT HIV Ag/Ab Combo Assay

The Future: New HIV Tests

- 1) HOME HIV TESTING (SUBMITTED TO FDA)
- 2) INSTI (CLIA-WAIVER PENDING)
- 3) DETERMINE AG/AB COMBO ASSAY

The Future: Proposed HIV Diagnostic Algorithm

Proposed alternative three-test algorithm

