How To Not Only Survive but Thrive with HIV Infection

David Alain Wohl, MD
Associate Professor
University of North Carolina
AIDS Research and Treatment Center

Ingredients for Your Success

- You
- Your Health Care Provider
- Your Medication

You

- HIV is one of the toughest things you will have to deal with in your life.
- Are you *prepared*?
  - Emotionally
  - Physically
- Do you have the *support* you need?
  - Family
  - Partner
  - Environment (housing, food, child/elder care, freedom from negative influences and violence)
- Do you have the *information* you need?

You

- Fact: People living with HIV who do drugs or drink alcohol excessively DO NOT do as well as those who are substance-free.
- Before you put anything into your body ask yourself:
  - *Will this help or hurt me in my fight against HIV?*
- If it does not pass the test, pass on it.

You

- Surround yourself with the support you need.
  - Loving family and friends
  - Loving partner
  - Loving churches, synagogues, mosques

  - Try to confide in at least one trusted person
  - Be accepting of the fact that you may need help
- You are precious and worth love and support
- Make choices that are smart for you and your health

You

- Knowledge = Power, that is why you are here.

- Ask yourself if you are knowledgeable.
- Do you know what a T-cell count means? Viral load?
- Do you know ***your*** T-cell count and viral load?
- Learn the names of your medications.

- **Get a notebook, write important things down.**

- Want more info? Check out thebody.com, natap.org, positively aware, POZ and ask your doc…

Your Health Care Provider

- Is your health care provider prepared to lead you to long term successful living with HIV?

- Fact: Patients of HIV providers with more HIV experience do better than those who with less experienced providers.
  - Are they an expert at treating HIV?
  - What proportion of their practice is dedicated to HIV?
  - Do they have the social work, mental health and nursing support that makes your success more likely?
  - Do they explain things to you well?
  - Do you feel comfortable with her/him?

Your Health Care Provider

- You and your doctor are in a partnership.
- If you feel your doctor does not listen to you, be honest and tell them you want them to pay more attention to what you are saying?
- If you do not like your doctor or he/she will not listen to you or can not explain themselves adequately, respectfully find another.
- To find a doctor, call your AIDS Service Organization, ask friends who rave about their doc.

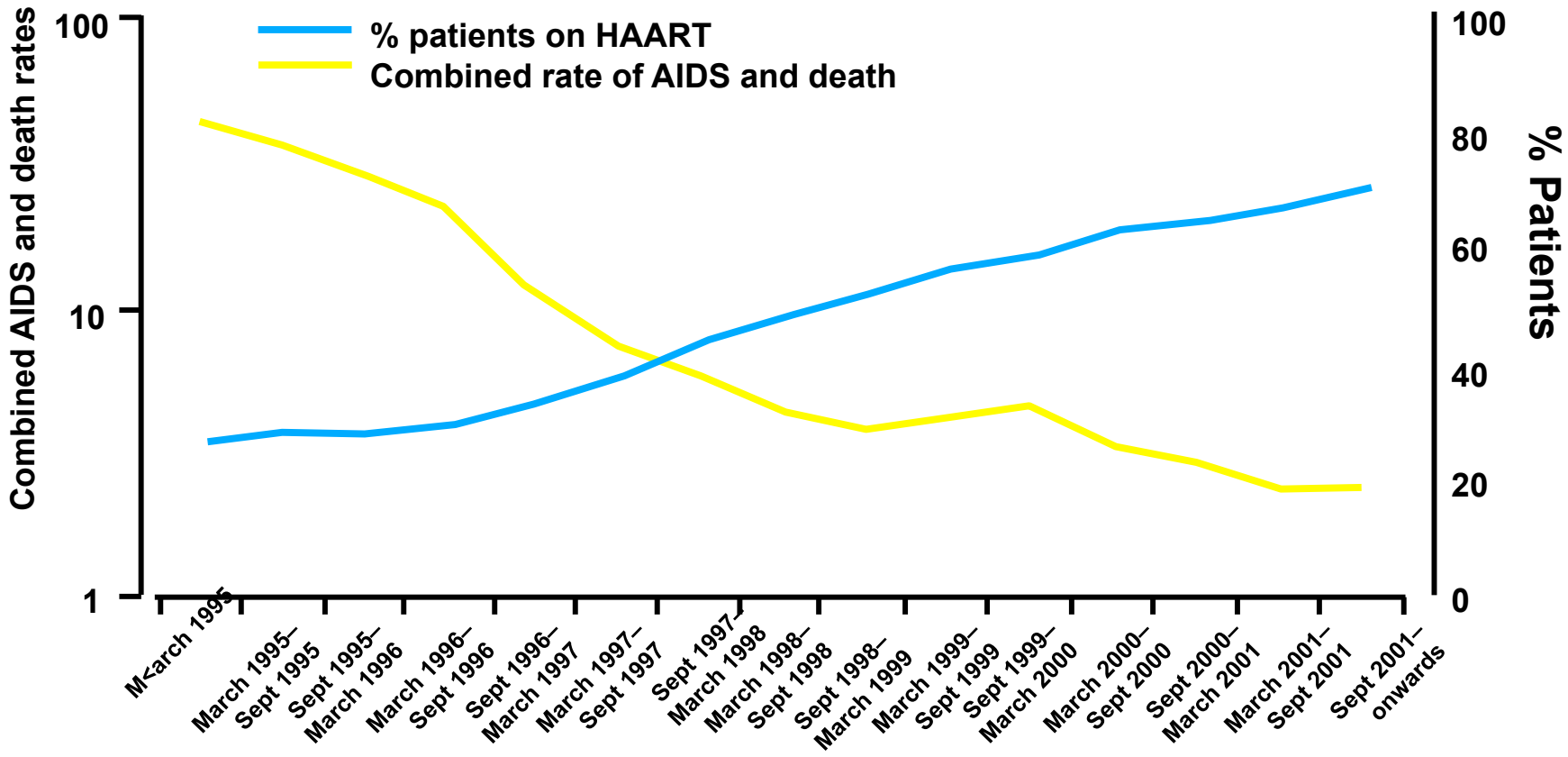
Your Medicines

- Taking medication every day forever is not easy but it is do-able.
- HIV medications today are very powerful and are becoming easier to take.
- There are myths and realities about HIV meds. Learn the truth. Do not be fooled by the well meaning but misinformed.
- Understand that the treatment of HIV is a young science. Things change. Don't get frustrated.

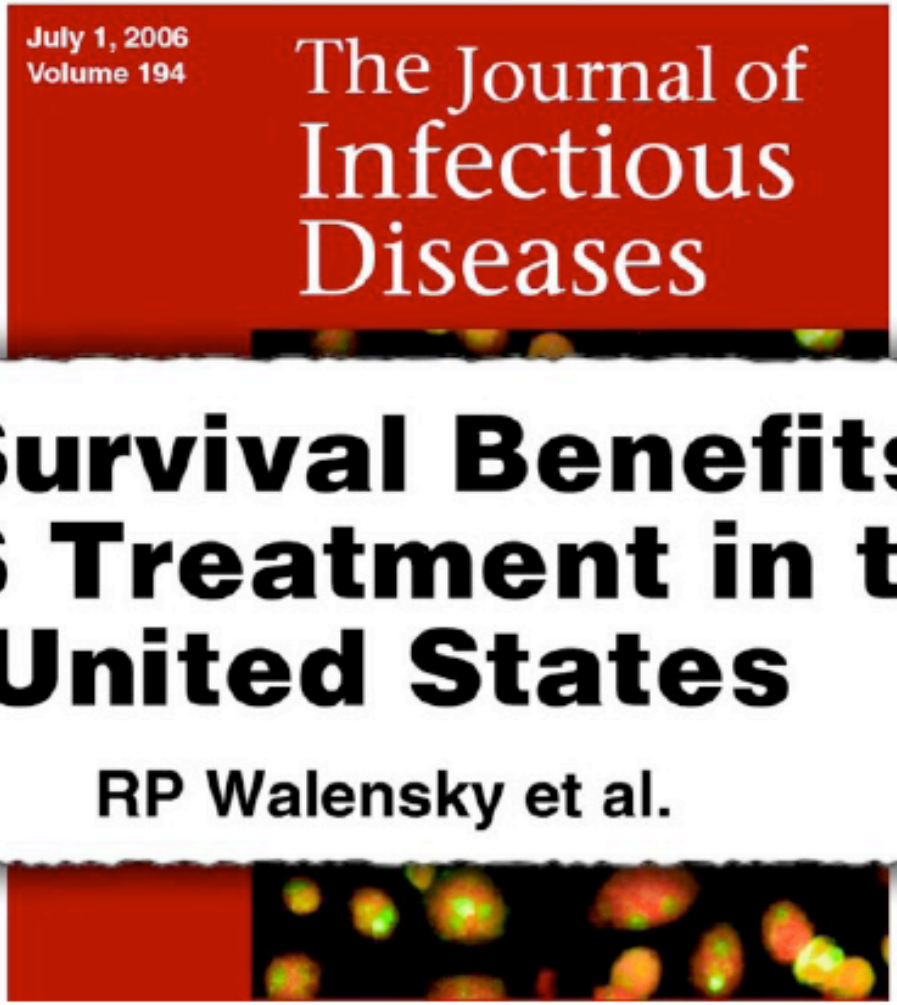
Your Medicines

- HIV medications work.

People with HIV are living longer and longer but only where HIV meds are available



AIDS Drugs Have Saved 3 Million Years of Life in the United States



Current Antiretroviral Medications

NRTI

- Abacavir ABC
- Didanosine DDI
- Emtricitabine FTC
- Lamivudine 3TC
- Stavudine D4T
- Zidovudine ZDV
- Tenofovir TDF

NNRTI

- Delavirdine DLV
- Efavirenz EFV
- Nevirapine NVP
- Etravirine ETV

PI

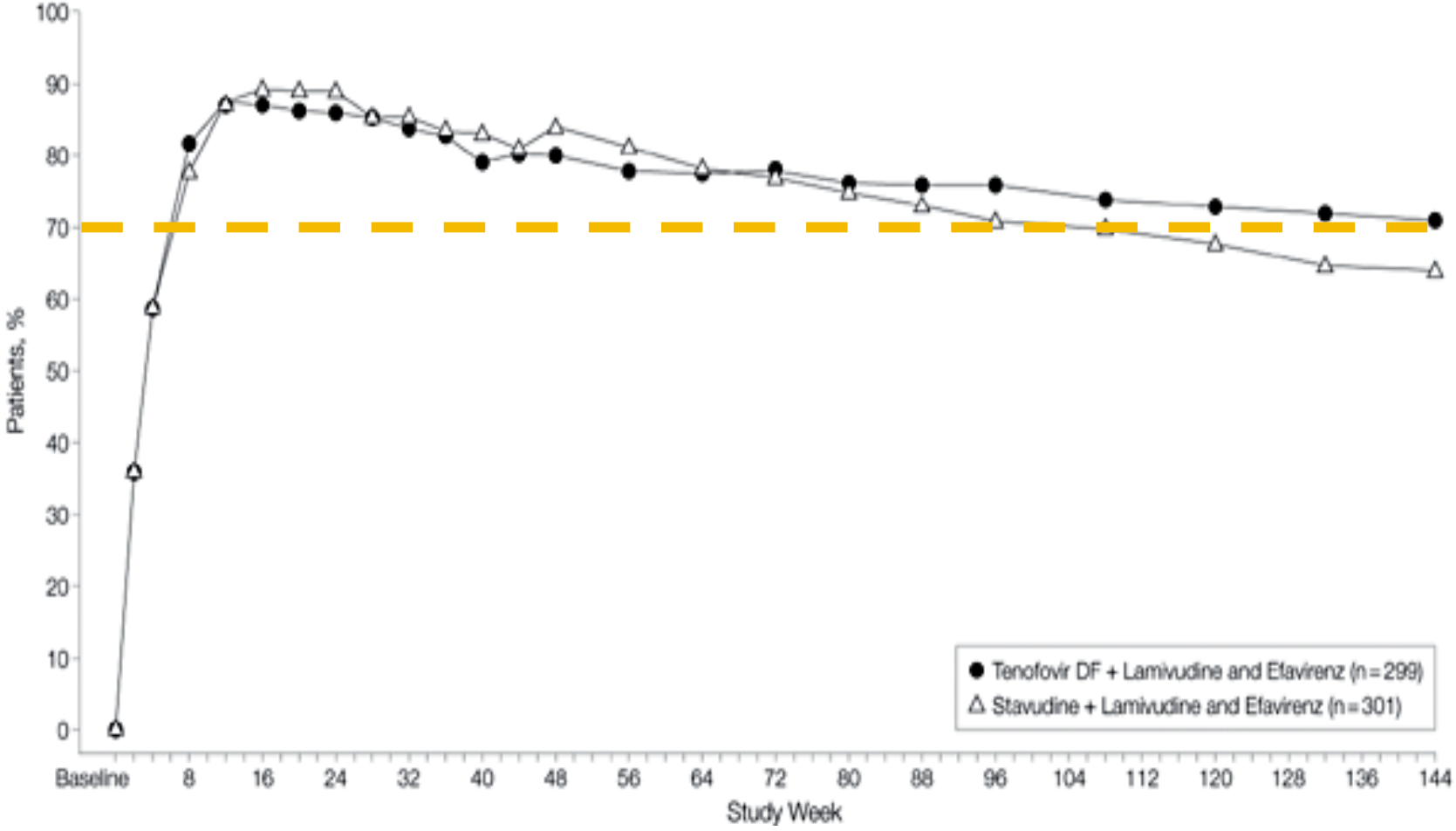
- Amprenavir APV
- Atazanavir ATV
- Darunavir DRV
- Fosamprenavir FPV
- Indinavir IDV
- Lopinavir LPV
- Nelfinavir NFV
- Ritonavir RTV
- Saquinavir SQV
- Tipranavir TPV

Entry Inhibitor

- Enfuvirtide T-20
- Marviroc MVC

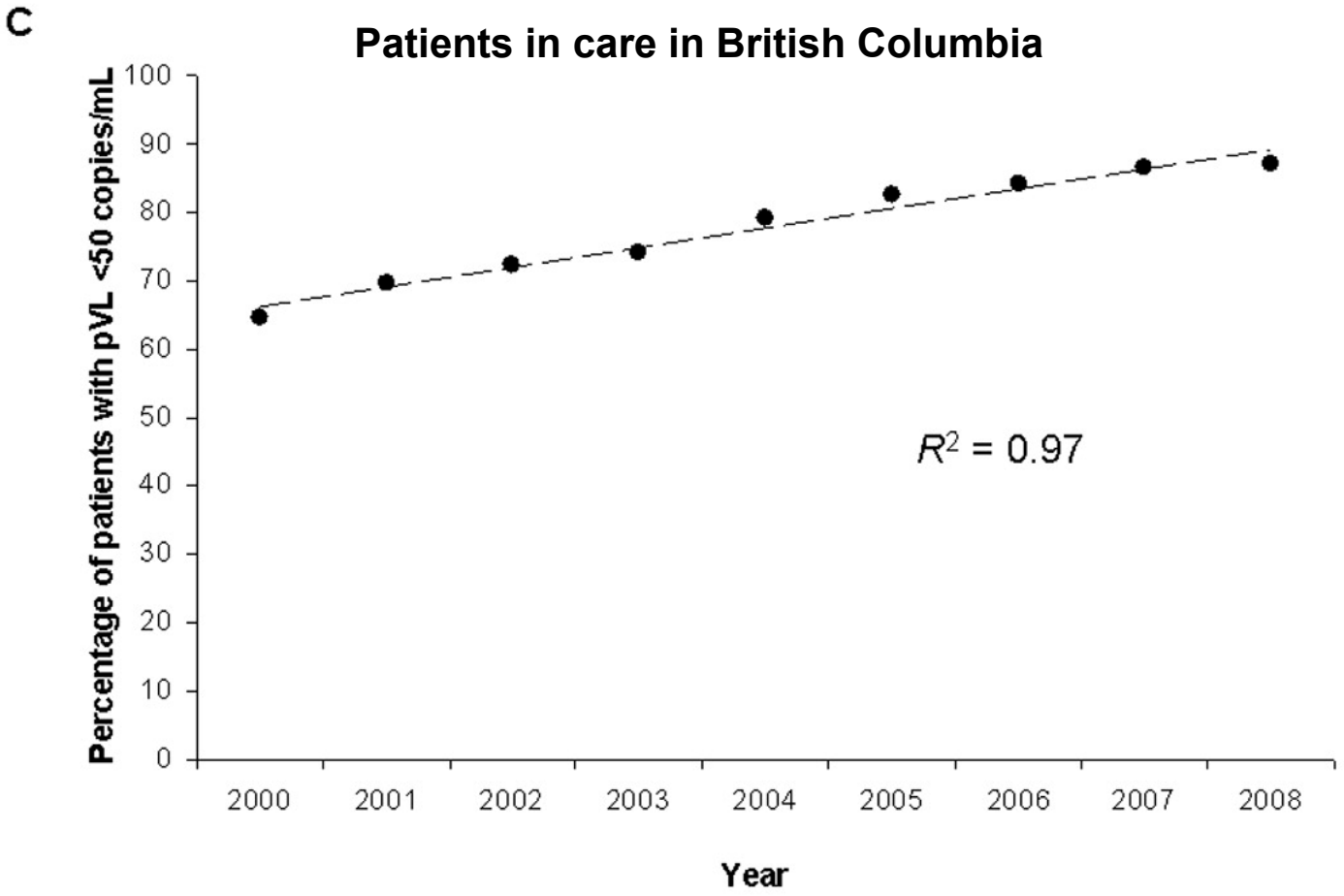
Integrase Inhibitor

- Raltegravir RAL



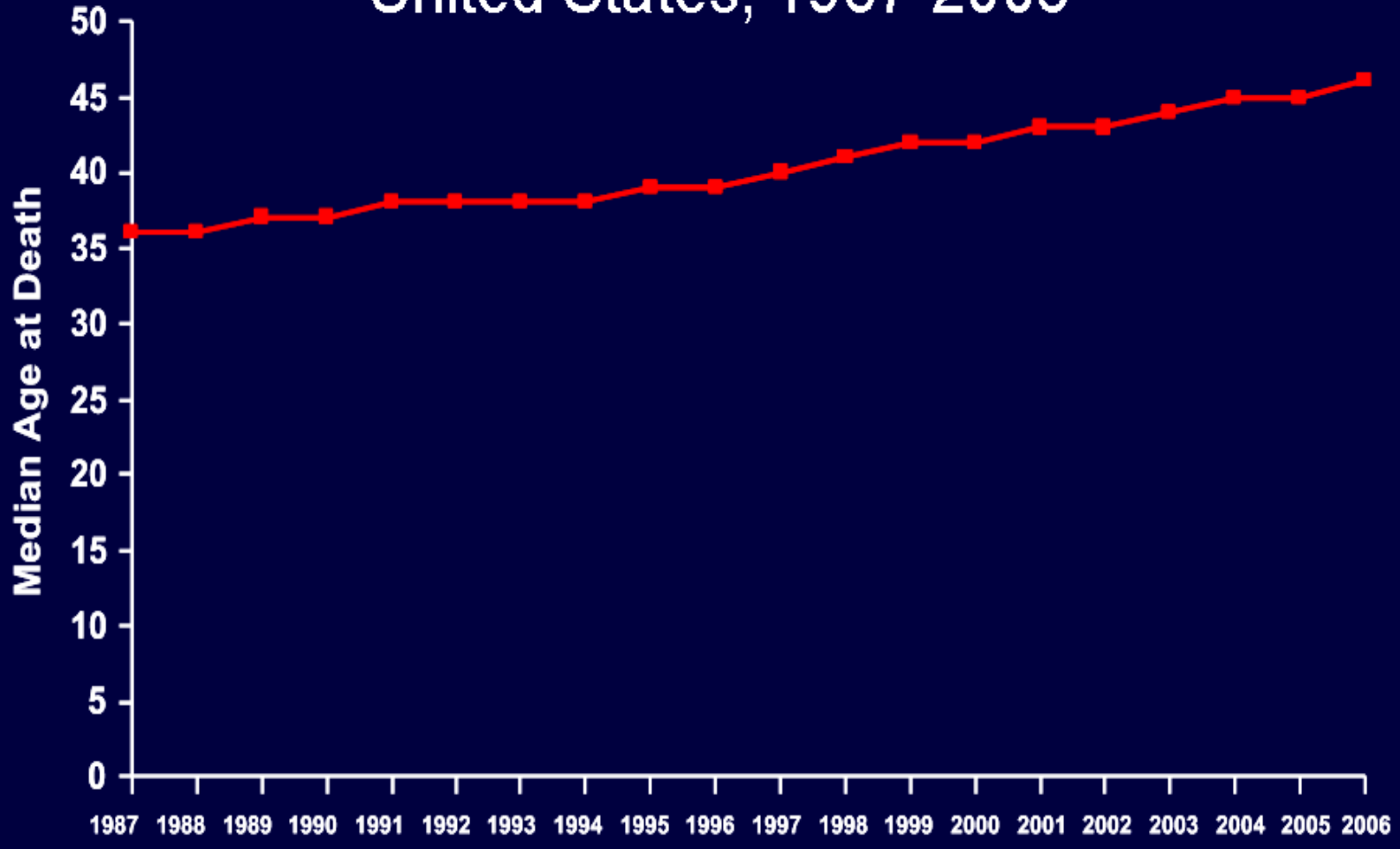
Gallant, J. E. et al. JAMA 2004;292:191-201.

Antiretroviral Therapy is Highly Successful in Suppressing Viremia



Gill et al CID Jan 2010

Median Age at Death due to HIV Disease United States, 1987-2006



Note: For comparison with data for 1999 and later years, data for 1987–1998 were modified to account for *ICD-10* rules instead of *ICD-9* rules.

Therapy is Easier, more Potent, and less Toxic

Can we afford it?

ADAP Waiting List, as of March 25, 2010

AIDS Drug Assistance Programs (ADAPs) to improve access to care for persons living with HIV/AIDS.
The waiting list are people waiting to be part of the program, at this point they receive no help due to budget cuts.

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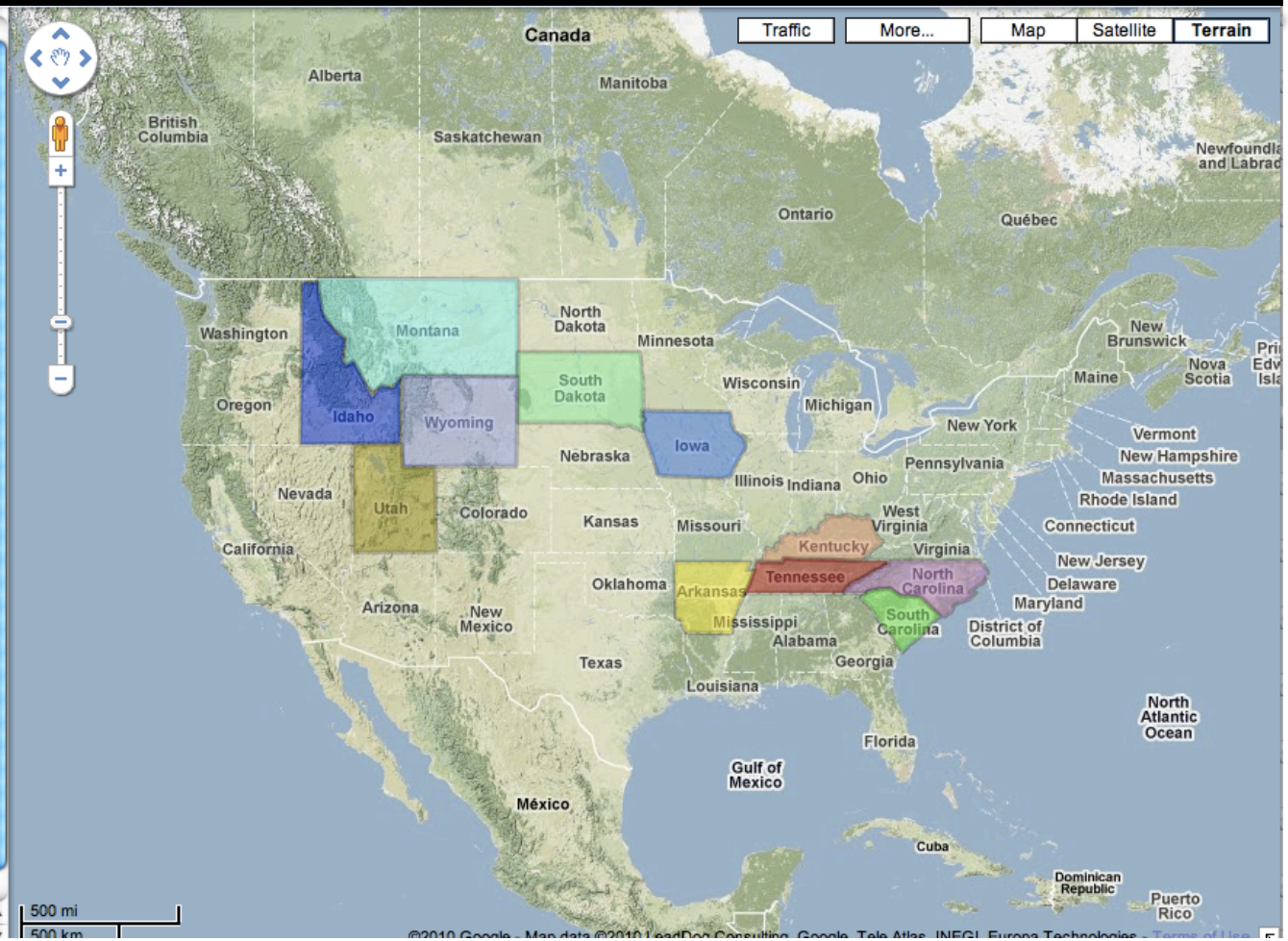
- North Carolina: 270 people
- South Carolina: 15 people



When to Start

DHHS 2009

- When to Start:
  - ART should be initiated in all patients with a history of an AIDS-defining illness or with a CD4 count <350 cells/mm^3 (AI).
  - ART should also be initiated, regardless of CD4 count, in patients with the following conditions: pregnancy (AI), HIV- associated nephropathy (AII), and hepatitis B virus (HBV) coinfection when treatment of HBV is indicated (AIII).
  - ART is recommended for patients with CD4 counts bet 350 and 500 cells/mm^3. The Panel was divided on the **strength** of this recommendation: 55% voted for strong recommendation (A) and 45% voted for moderate recommendation (B) (A/B-II).
  - For patients with CD4 counts >500 cells/mm^3, the Panel was evenly divided: 50% favor starting ART at this stage of HIV disease (B); 50% view initiating ART at this stage as optional (C) (B/C-III).

The case for starting HIV meds sooner rather than later

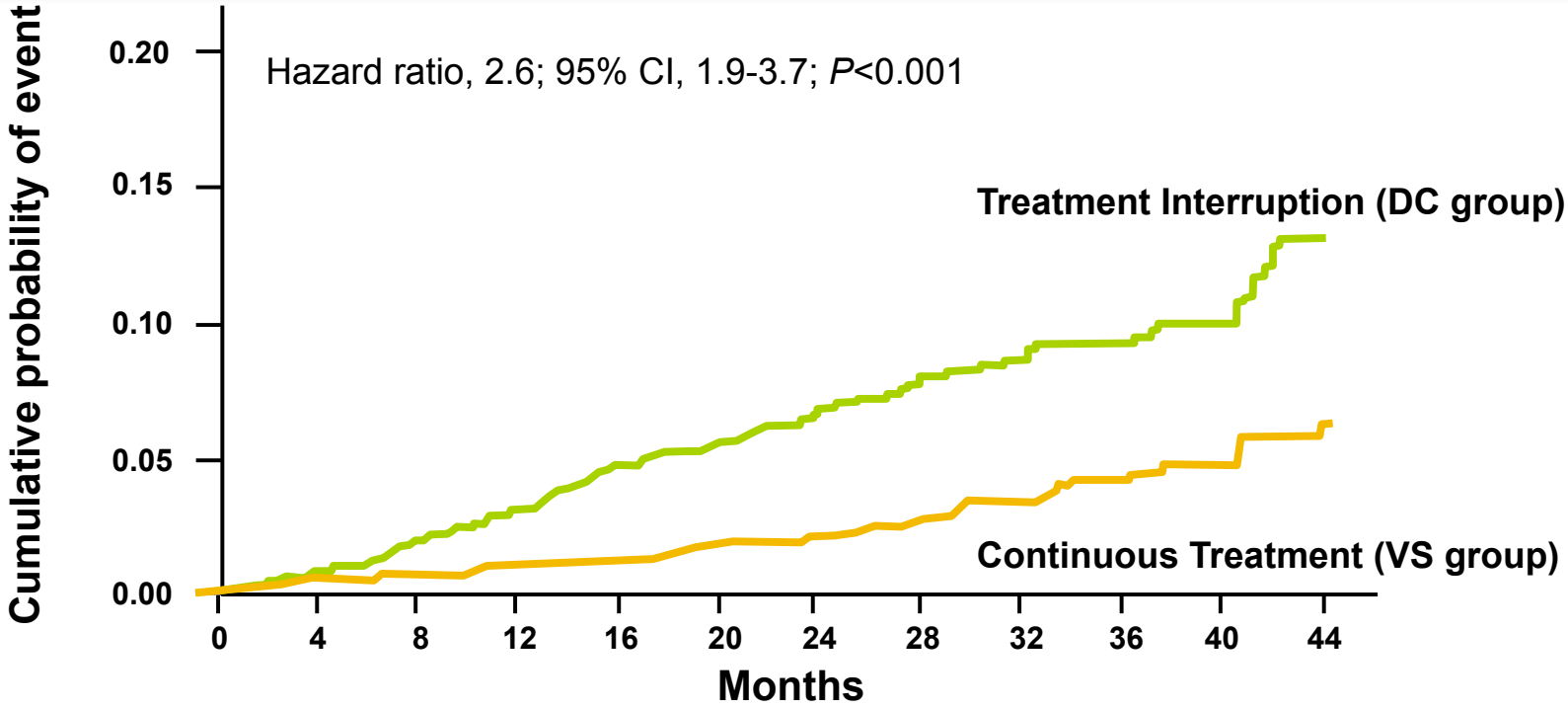
- Some studies suggest those with lower CD_4 cell counts at greater risk of heart disease, cancers and dementia
- No study shows more harm with early start of HIV medications
- Bad things are generally rarer among those with more normal CD_4 cell counts
- Therapy is easier and better tolerated
- Treatment can also reduce infectiousness

SMART Study

- >5500 HIV+ people, most on HAART
  - Continue meds until CD4 >350 then stop and restart at 250 or
  - Stay on meds

- Results:
  - More heart attacks, kidney disease, liver disease and death among those stopping their HIV meds!
  - People who did poorly had higher levels of inflammatory and clotting factors in their blood

Treatment Interruption Associated With Higher Rates of AIDS-related OI or Death (Any Cause)



No. at Risk												
Drug conservation (DC)	2720	2074	1666	1301	1040	870	689	540	444	372	280	162
Viral suppression (VS)	2752	2081	1695	1310	1077	906	724	572	474	388	288	173

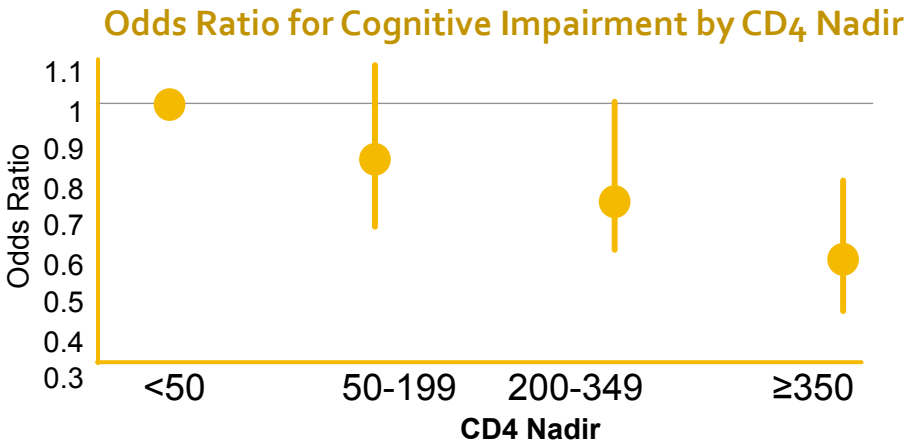
The Strategies for Management of Antiretroviral Therapy (SMART) Study Group. *N Engl J Med*. 2006;355:2283-2296.

Nadir CD_4 cell count: How low can you go?

- Nadir means lowest
- Nadir CD_4 cell count found to be linked with dementia and artery stiffness (both are bad)
- Lower you start meds, the lower your peak CD_4 count

Neurocognitive Disorders Associated with Nadir CD4 Counts

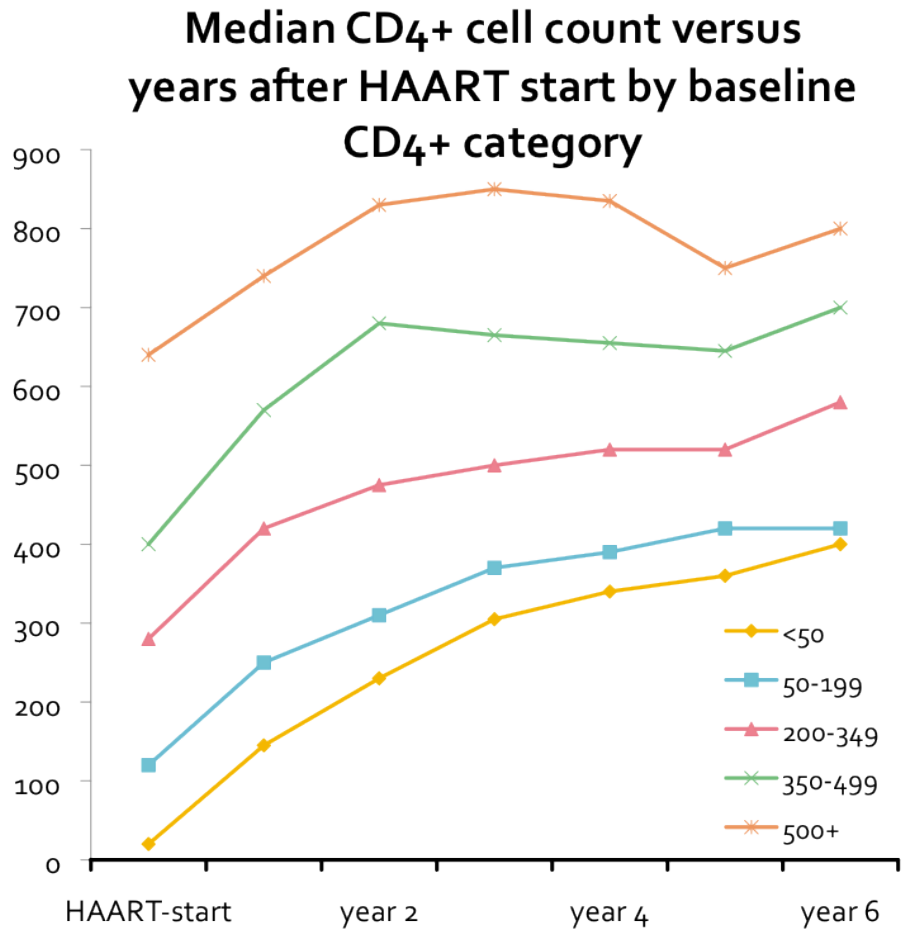
- Multicenter cohort study of 1526 HIV+ patients
- Complex testing consistent with defined criteria used to determine HAND
  - 603 had HAND (without a substantial confounder); 726 not impaired
  - Most with HAND (n=428) were asymptomatic and only a few (n=27) had frank dementia
- Multivariate analysis: Higher CD4 nadir associated with lower risk of HAND



Ellis R, et al. 17th CROI; San Francisco, CA; February 16-19, 2010. Abst. 429.

CD4 at Initiation of ARV Therapy Predicts Extent of CD4 Recovery

- 1,378 Patients at 10 US Clinics followed From 1996-2007
- Median Peak CD4 was progressively higher for specific CD4 strata (*P*<0.001)
- Multivariate analysis: Increased mortality with CD4 <50 (HR=4.6) and CD4 50-199 (HR=2.6) compared to 350 cells/mm^3
- Lower BL CD4 at initiation also associated with increased risk of death from non-AIDS-related causes



Palella F, et al. 17th CROI; San Francisco, CA; February 16-19, 2010. Abst. 983.

Discordant Couples

ART and HIV-1 transmission

	Linked HIV-1 infection	Person Years	Rate	95% CI
No ART initiated	102	4558	2.24	(1.84-2.72)
After ART initiation	1	273	0.37	(0.09-2.04)

Unadjusted Relative Risk = 0.17 (95% CI 0.004, 0.94) , p = 0.037

Adjusted* Relative Risk = 0.08 (95% CI 0.002, 0.57), p = 0.004

* For time on study and CD4 count

Arguments for waiting

- Unknown long term side effects of HIV meds
- Cost
- Take the drugs wrong and can get resistance
- Maybe no real health benefit if CD_4 is still normal

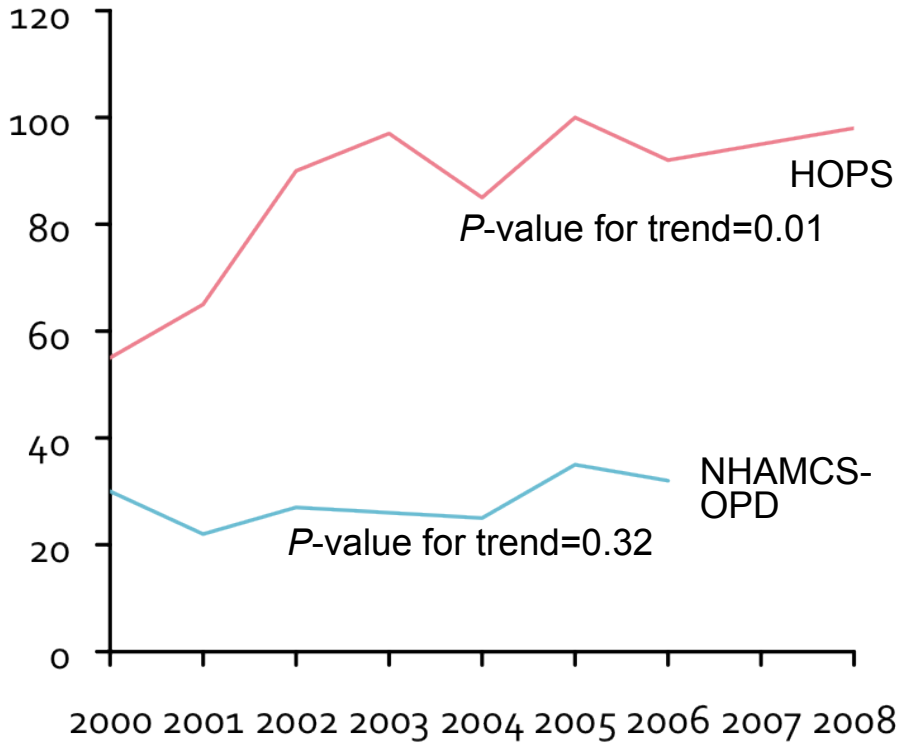
Side Effects

- HIV meds themselves may contribute to heart disease (abacavir?, protease inhibitors)
- Some HIV drugs can cause kidney problems (tenofovir, atazanavir?)
- HIV may contribute to bone loss but certain HIV medications may cause more loss (tenofovir)

Increased Fracture Rate in HIV Outpatient Study Patients (HOPS)

- Comparison of HOPS cohort (N=8,456) vs National Hospital Discharge Survey and National Hospital Ambulatory Medical Care
  Survey (NHAMCS)
  - Adjusted for age and gender
- HOPS: 276 Fractures during median 4.8 yrs follow-up
  - Risk factors for fractures
    - Age >47
    - Nadir CD_4+ count <200
    - HCV co-infection
    - Diabetes
    - Substance use
- Conclusion: Fracture rates are higher in HIV infected population and rate is increasing with age

Gender-adjusted rates of fracture among adults aged 25-54 years



Dao C, et al. 17th CROI; San Francisco, CA; February 16-19, 2010. Abst. 128.

What to Start

- Regimens
  - Preferred
  - Alternative
  - Acceptable
  - Do not use

What to Start

- Change to Preferred *Regimens* rather than Preferred *Drugs* within a class
  - **Efavirenz+tenofovir+emtricitabine (AI)**
  - **Ritonavir-boosted atazanavir+tenofovir+emtricitabine(AI)**
  - **Ritonavir-boosted darunavir + tenofovir + emtricitabine (AI)**
  - **Raltegravir+tenofovir+emtricitabine (AI)**

  - **For pregnant women: Ritonavir+lopinavir+ZDV+3TC (AI)**

Checklist

Condition	Test
Heart disease	Fasting lipid panel
Diabetes	Fasting glucose *Oral glucose tolerance test in those with fat changes
Osteopenia/porosis	DEXA scan
Kidney disease	Creatinine GFR calculation
Dementia	Neuroppsychological testing if symptoms develop
Cancers	PAP smear Mammogram Colonoscopy PSA Anal PAP

Conclusions

- HAART has many obvious benefits
  - Increases disease free survival
  - Protects against AIDS and non-AIDS events
  - May reduce inflammation and associated diseases
  - Likely reduces risk of transmission
- But also limitations
  - Toxicity
  - Resistance
  - Cost

Conclusions

- DHHS Guidelines
  - Provide recommendations based on data and expert interpretation
  - Have swung toward earlier initiation of therapy
  - Recommend regimens based on efficacy, safety and convenience

- Despite these benefits we are challenged to provide HIV care for all who need it.

Summary

- Want to grow old?
  - You need to take care of yourself and not give up when the inevitable obstacles arise
  - Your doctor needs to know what he/she is doing and have your interests at heart
  - Your medications, when the time comes for therapy, need to be chosen carefully, accepted by you and then monitored for response and problems
  - Be proactive. Ask you doctor to check your lipids, glucose, bone density, cancer screening tests
  - Stay up to date

Thank you