

# Starting Antiretroviral Therapy -Disease Staging



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# Factors Influencing Decision to Start ARV

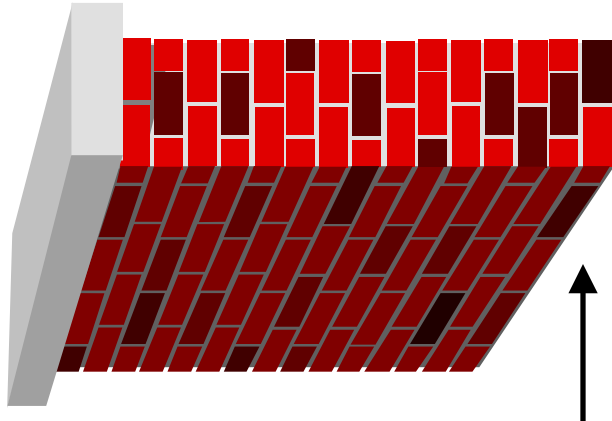
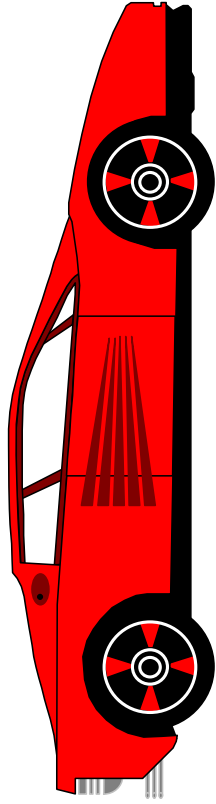
- Prolong quality and quantity of life
  - Long term benefits of ARV unknown
- versus*
- Recognition of long term side-effects
  - Frequency of long-term side effects unknown

# Disease Staging

- Identify those patients at highest risk
- Standardised stratification
- Using combinations of
  - Viral load
  - CD4
  - Clinical information

# Relationship between CD4 count & Viral Load

Viral load - "Speed"

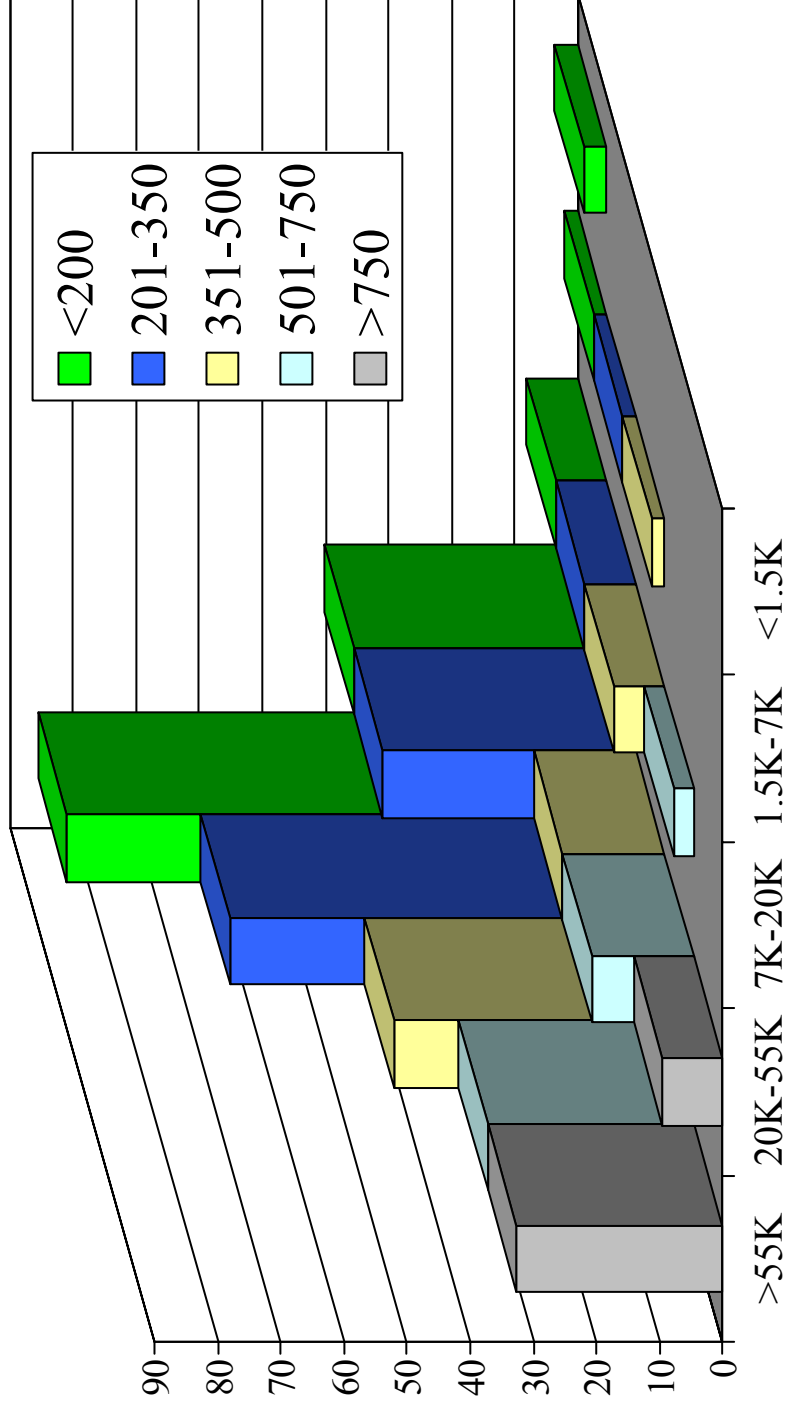


← CD4 →

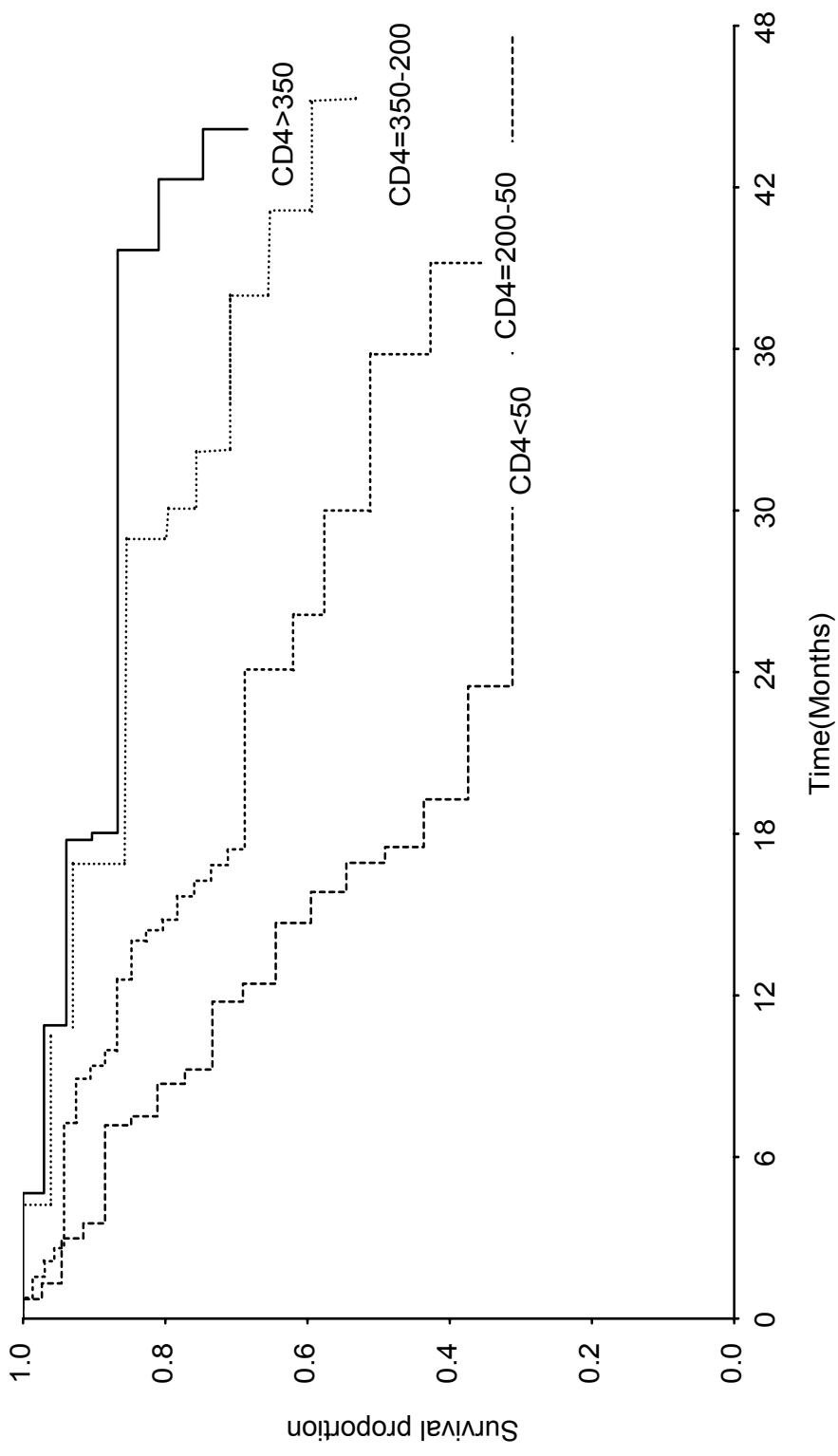
"Distance"

$$\text{Time to AIDS} = f \text{ CD4/VL}$$

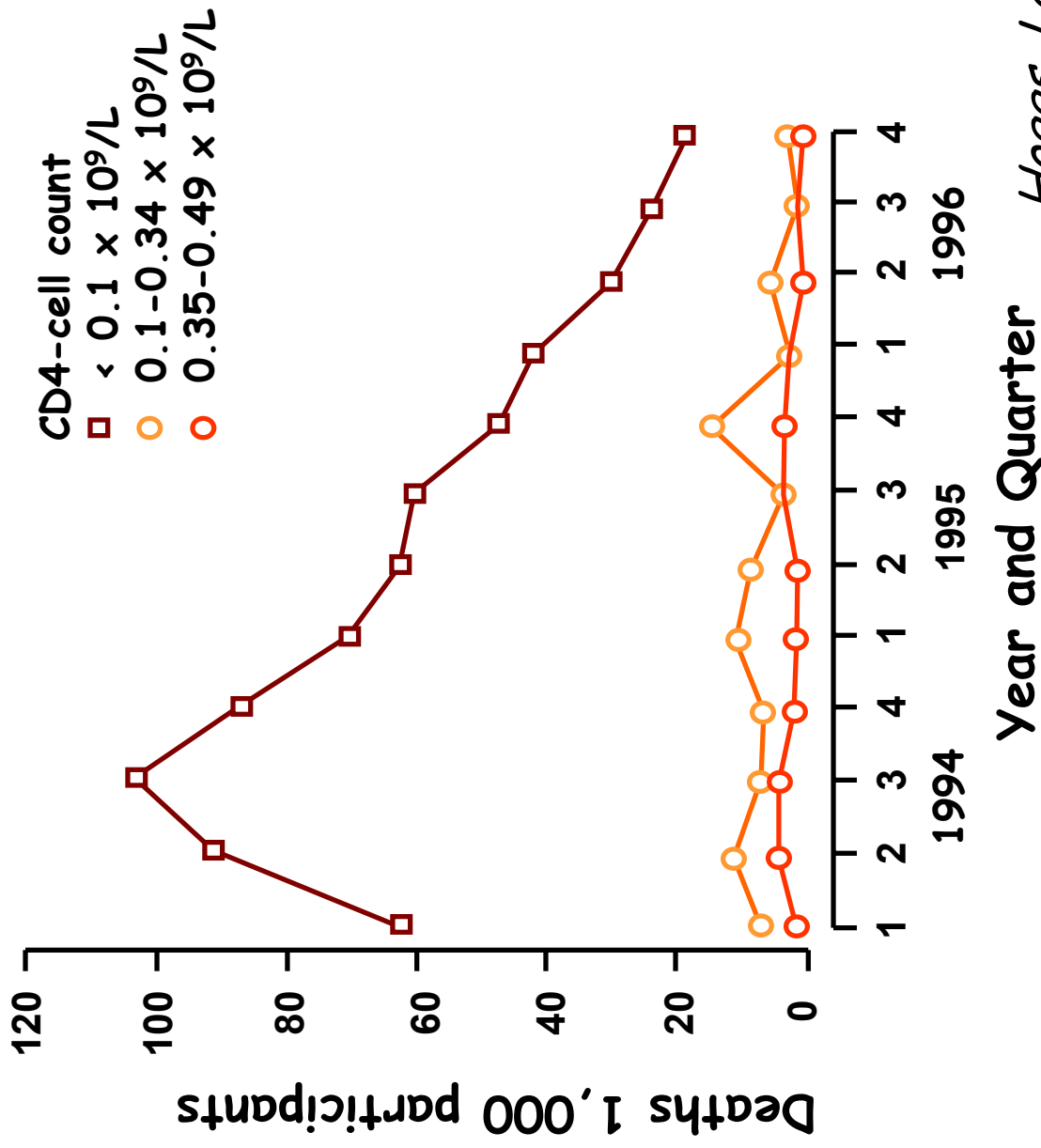
# Likelihood of Developing AIDS in 3 Years



# Cape Town Cohort Survival by CD4+ T lymphocyte count



# AIDS-Related Deaths, British Columbia



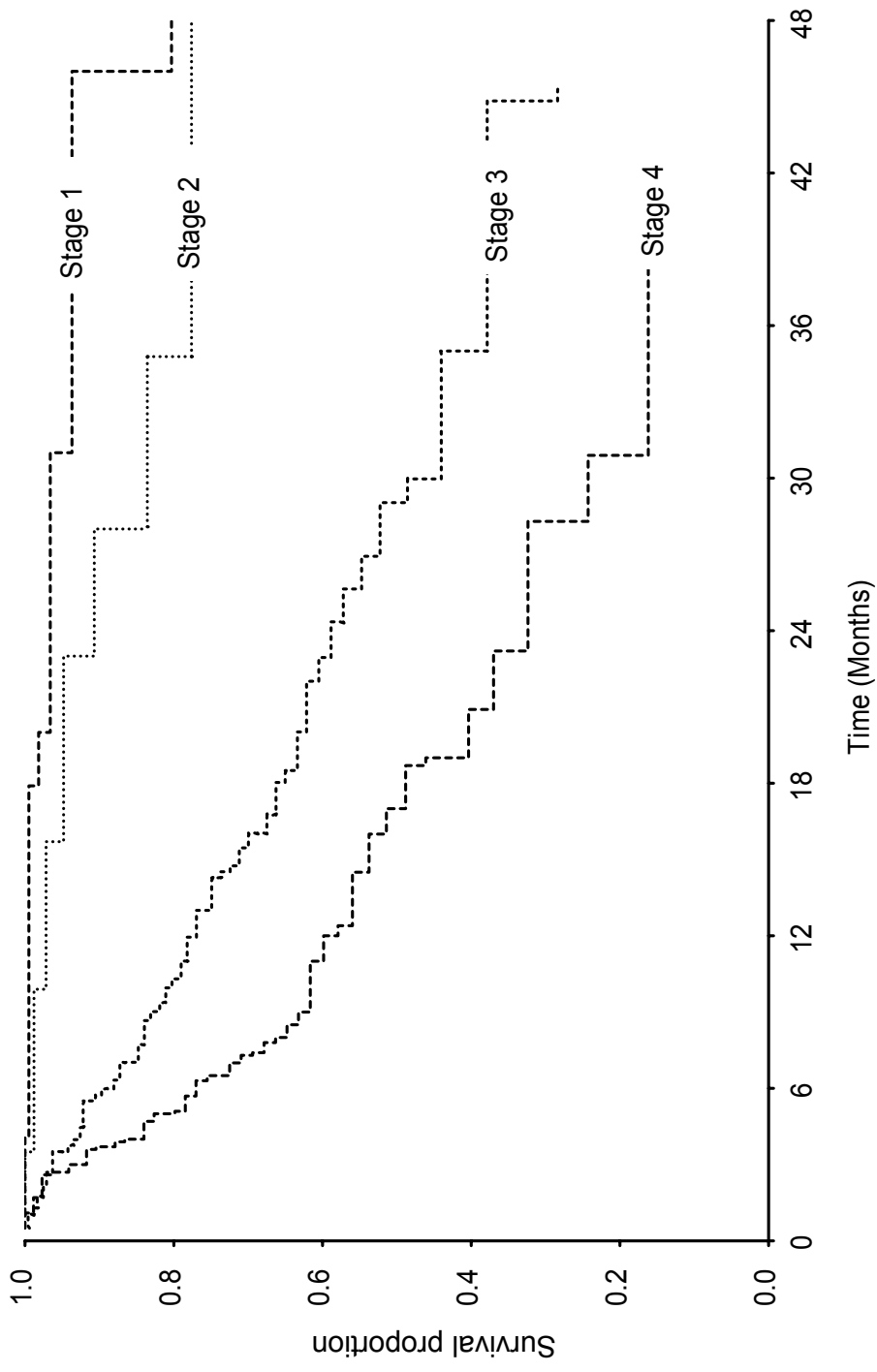
Hoggs, Lancet 1997



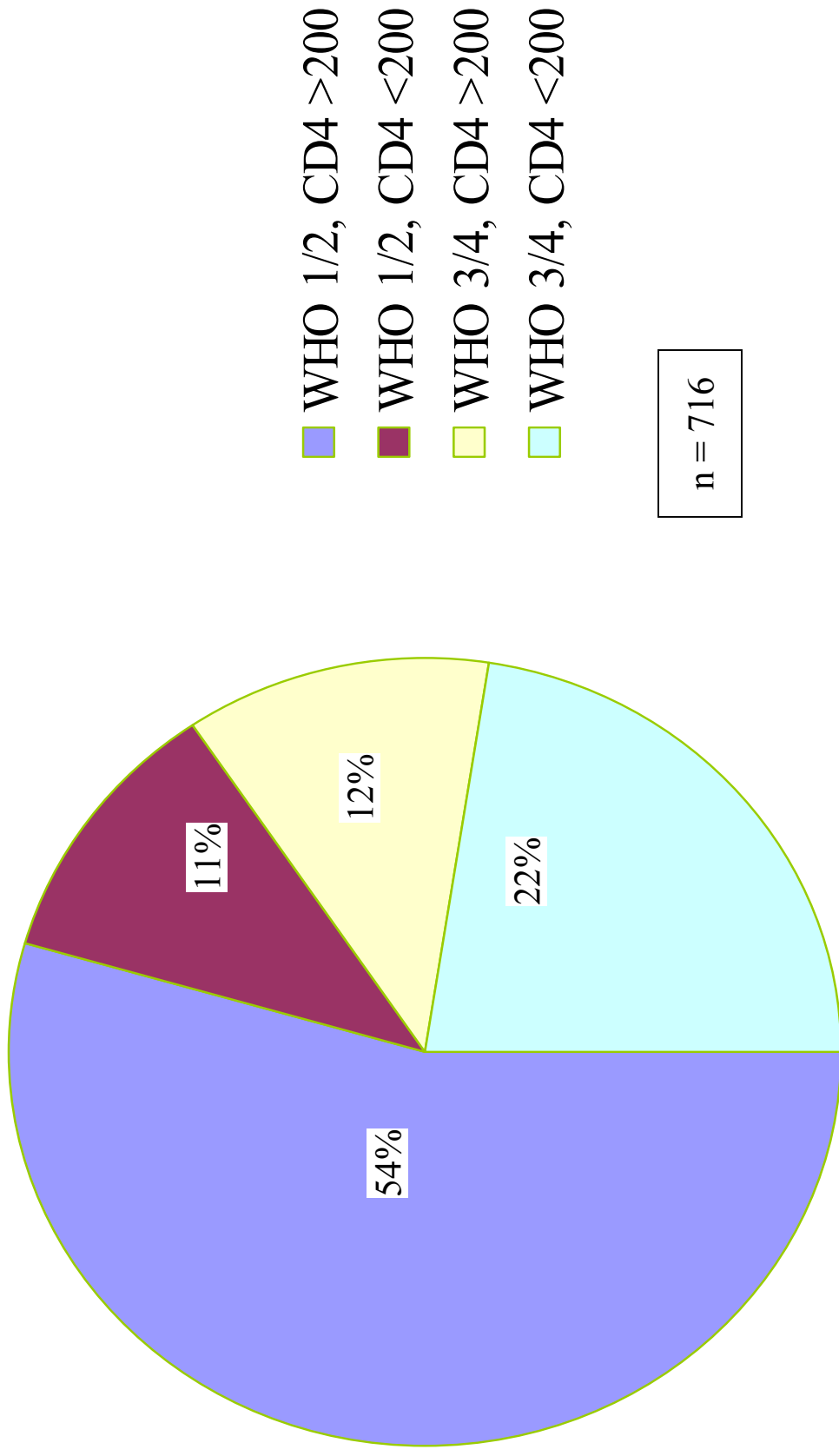
# WHO Clinical Staging

- WHO 1 - Asymptomatic
- WHO 2 - Mild symptoms
- WHO 3 - PTB, OC, OHL, Wt loss < 10%
- WHO 4 - AIDS

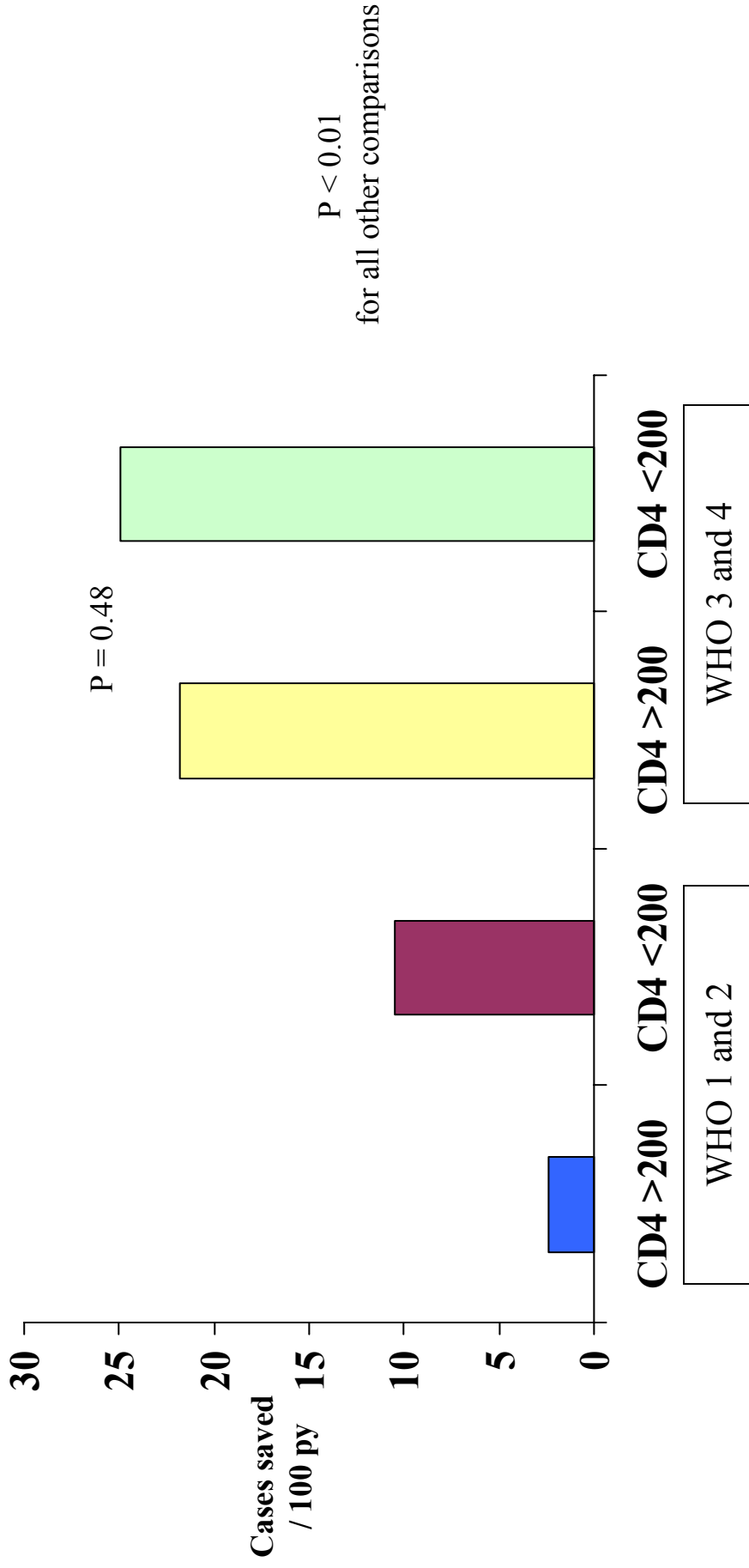
# Cape Town Cohort Survival by Clinical Stage



# Number of patients stratified by WHO stage and CD4 count



# Number of cases of tuberculosis prevented per 100 patient years stratified by CD4 count and WHO stage



Cost of CD4 count: ZAR 400.00

# National Guidelines

Stratification by viral load/CD4/clinical signs

- Viral load
  - 1996 USA-Consider all measurable viral loads
  - 2000 Brazil- Dual v Triple Rx
  - 2001 UK-Stratify risk of 200-350 group
- CD4-cell counts
  - 1996 USA >500
  - 2000 Brazil >350
  - 2001 UK >200

# Brazil ARV Therapy for Naïve Asymptomatic Patients (2000)

CD4	VIRAL LOAD	RECOMMENDATION	THERAPY
Not available	Not available	Defer	
>500	Regardless	Defer	
350 < 500	< 30.000	Consider	Triple or double
	> 30.000	Consider	Triple
< 350	Regardless	Treat	Triple

# Southern Africa HIV Clinicians Society Treatment Guidelines

DEGREE OF RISK	VIRAL LOAD & CD4 LYMPHOCYTE CELL COUNT
<p style="text-align: center;"><b>HIGH</b></p>	<p style="text-align: center;"> <b>Viral Load &gt; 100 000 copies/mL</b>  <b>CD4<sup>+</sup> count &lt; 350/μL</b>  <b>OR</b>  <b>Two consecutive CD4<sup>+</sup> cell counts &lt; 200/uL, irrespective of viral load</b>  <b>OR</b>  <b>SIGNIFICANT CLINICAL FEATURES# (see below)</b> </p>
<p style="text-align: center;"><b>MODERATE</b></p>	<p style="text-align: center;"> <b>Viral Load 10 000 – 100 000 copies/mL</b>  <b>CD4<sup>+</sup> count 350 – 500/μL</b> </p>
<p style="text-align: center;"><b>LOW</b></p>	<p style="text-align: center;"> <b>Viral Load &lt; 10 000 copies/mL</b>  <b>CD4<sup>+</sup> count &gt; 500/μL</b> </p>

#SIGNIFICANT CLINICAL FEATURES INCLUDE:

- The presence of any AIDS-defining condition (including current or recent active pulmonary tuberculosis)  
OR
- Significant symptoms, such as: oral thrush, with no other obvious cause; oral hairy leucoplakia; recurrent or refractory vulvovaginal candidiasis; recurrent herpes zoster; Recurrent severe bacterial infections; chronic unexplained fever (lasting more than 1 month); involuntary weight loss (more than 10% of usual body weight); Chronic unexplained diarrhoea > 1 month;

# British HIV Association Treatment Guidelines 2001

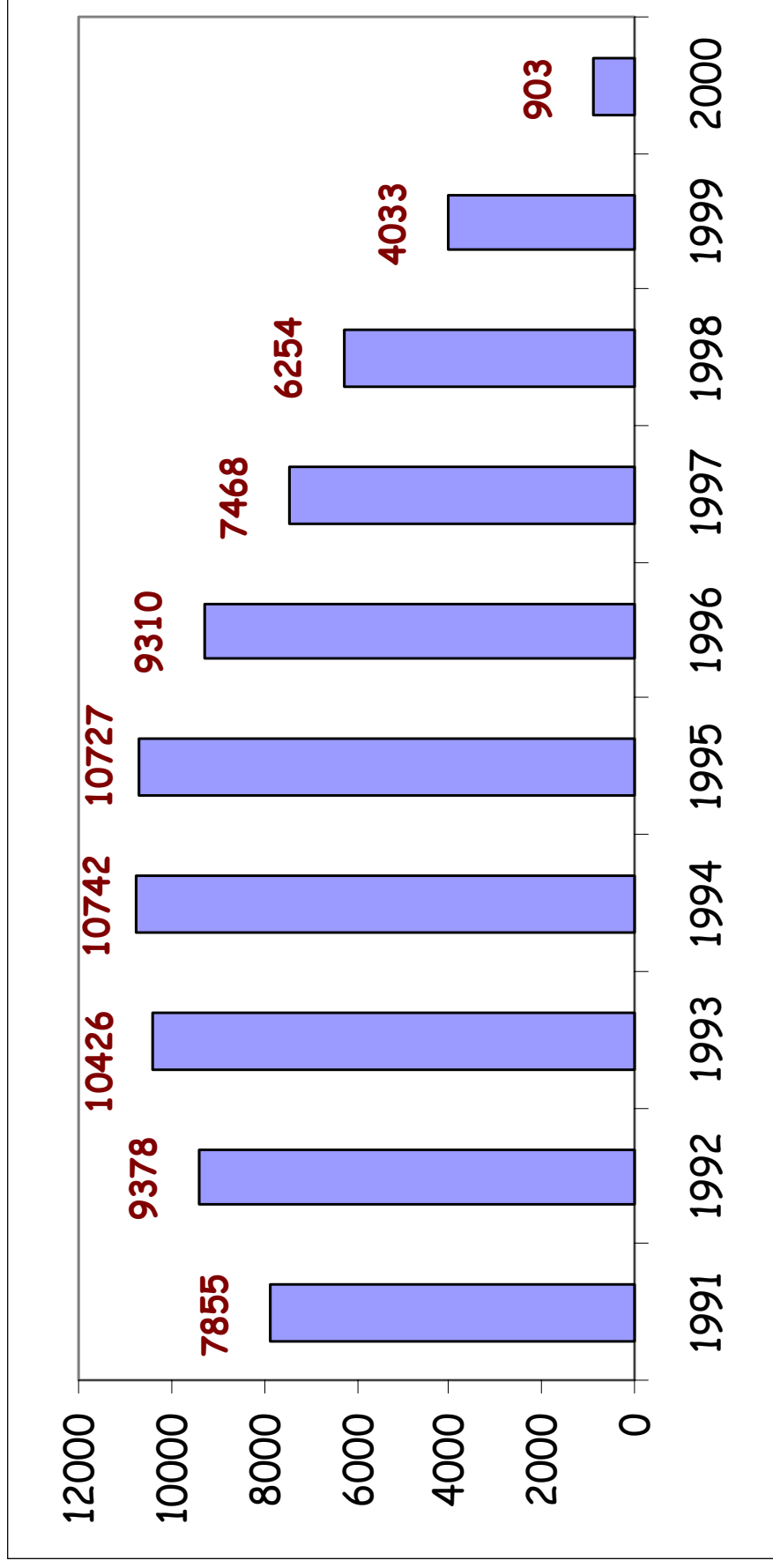
## Established HIV infection

- CD4  $>350$  cells/ul      Defer treatment
- CD4 200-350 cells/ul      Consider treatment\*
- CD4  $<200$       Treat

## Serious HIV related illness or AIDS-Treat

\* Depending on viral load, rate of CD4 decline, symptoms and patients wishes

# AIDS-Related Deaths, Brazil 1991-2000



# What can we learn from these Different National Guidelines

- The biggest impact on mortality and morbidity is achieved by treating symptomatic and low CD4<200
- We need accurate evaluation of long-term benefits & side effects of our therapies
- New more tolerable therapy needed