

2013 Convention

new solutions for a new world

31 Oct - 1 Nov 2013

Sandton, Johannesburg

ACTUARIAL
SOCIETY
OF SOUTH AFRICA



Swiss Re's HIV Testing Survey, Insurability of HIV+ lives

Pierre Coetzee, Swiss Re

2013 Convention

31 Oct & 1 Nov

Agenda

1. Swiss Re's HIV Testing Survey

- Overview
- One-way analyses
- ASSA2008 / PGN105 comparisons
- CART analysis

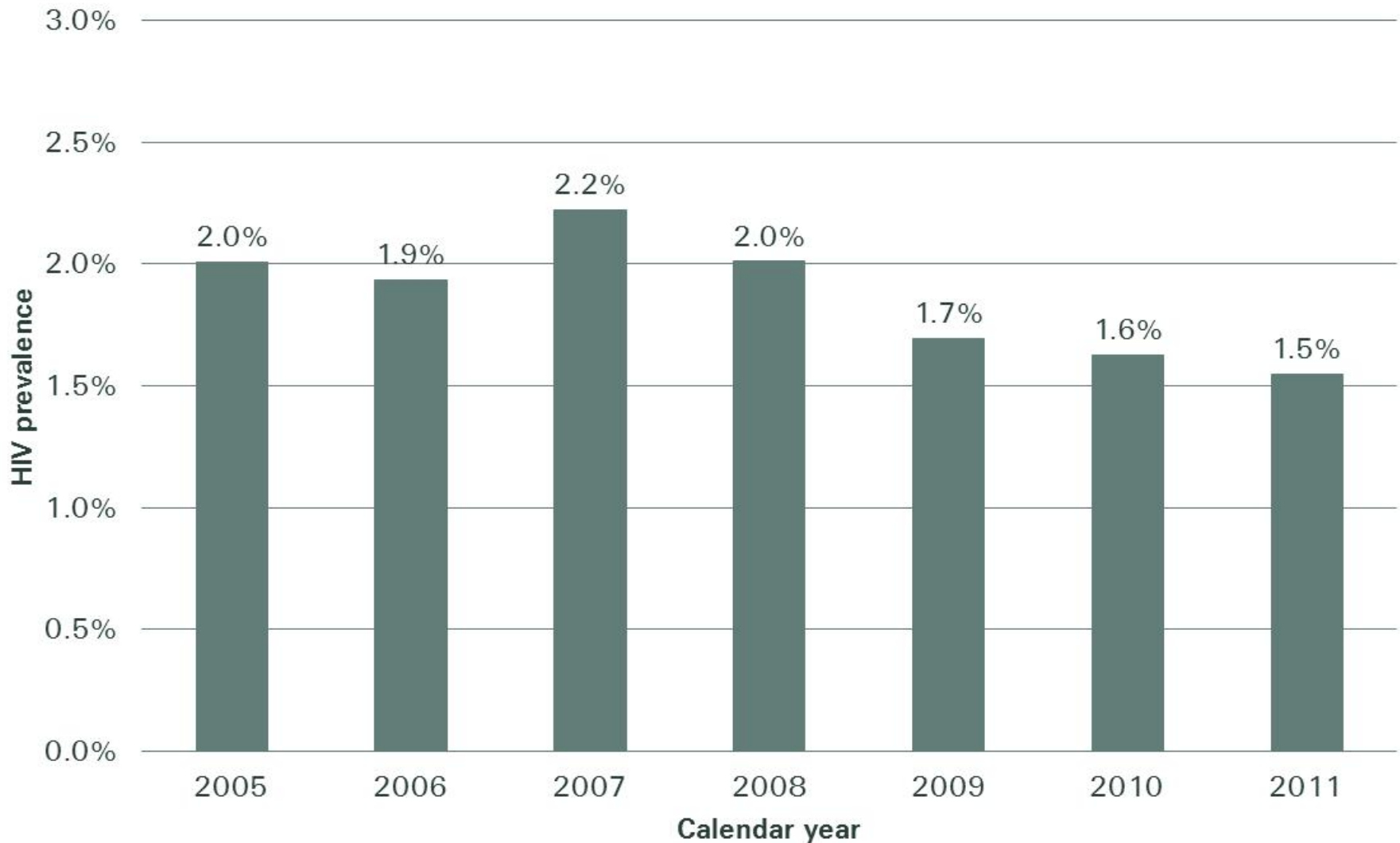
2. Insurability of HIV+ lives

- Background
- Insurability and assessment criteria

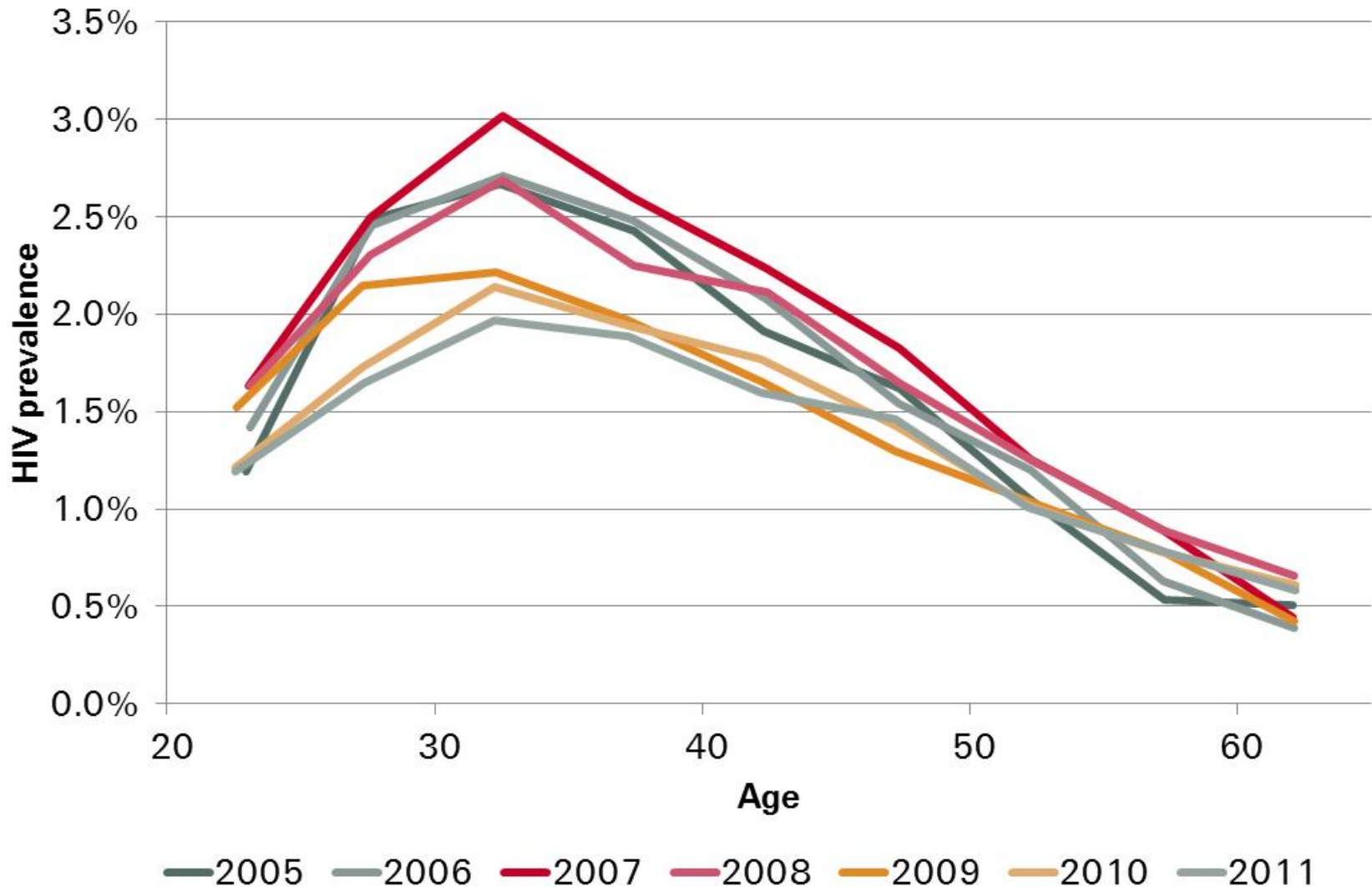
HIV Survey - Overview

- Survey analyses HIV prevalence from HIV tests conducted for life insurance
 - Covers period 2005 to 2011
 - Includes 8 of the largest insurers, 2 are new participants
 - 2.7m tests, 49k positives
- Various forms of bias should be noted
 - HIV status
 - Target market
 - Product design
 - Economic activity

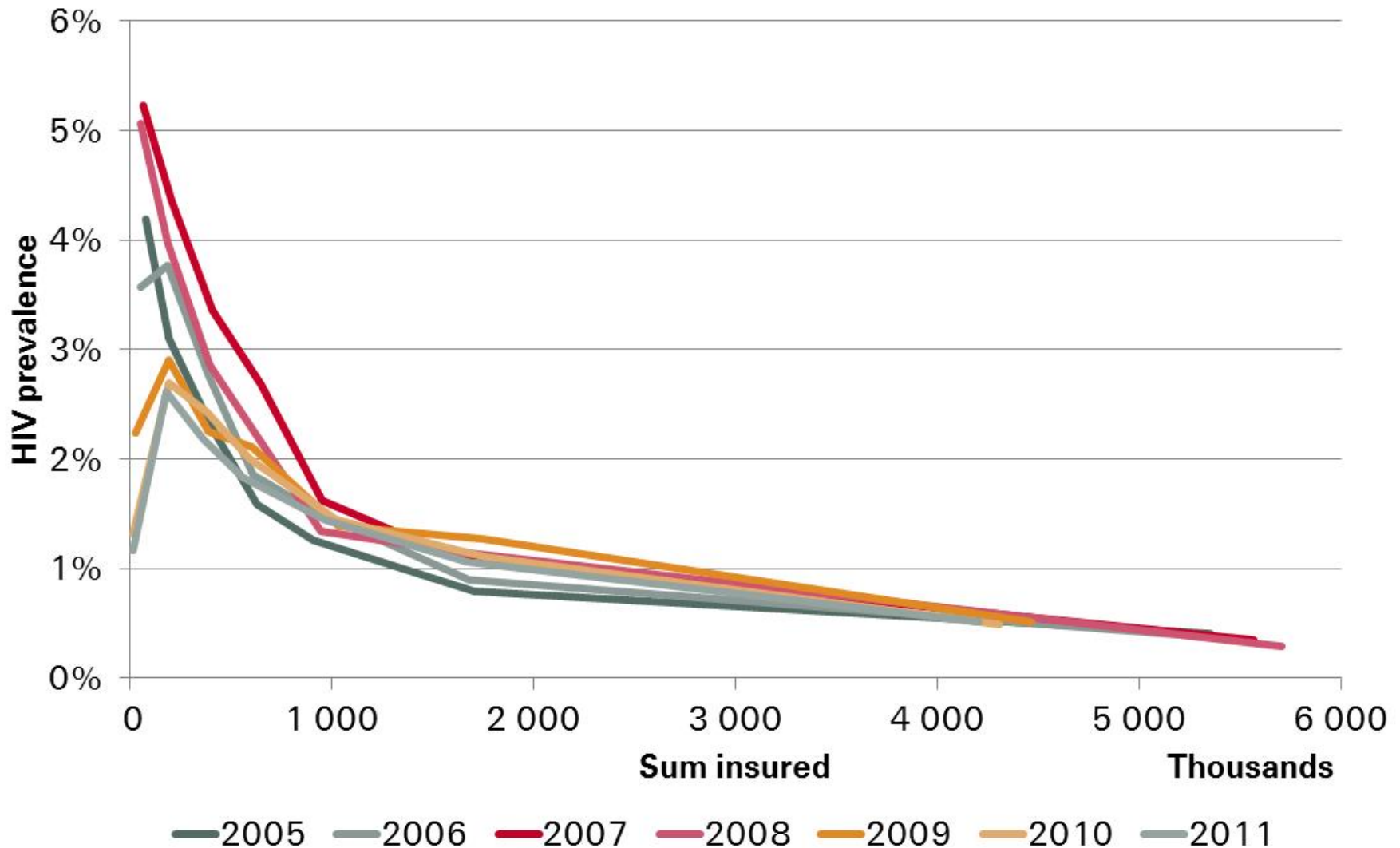
HIV prevalence by calendar year



HIV prevalence by age



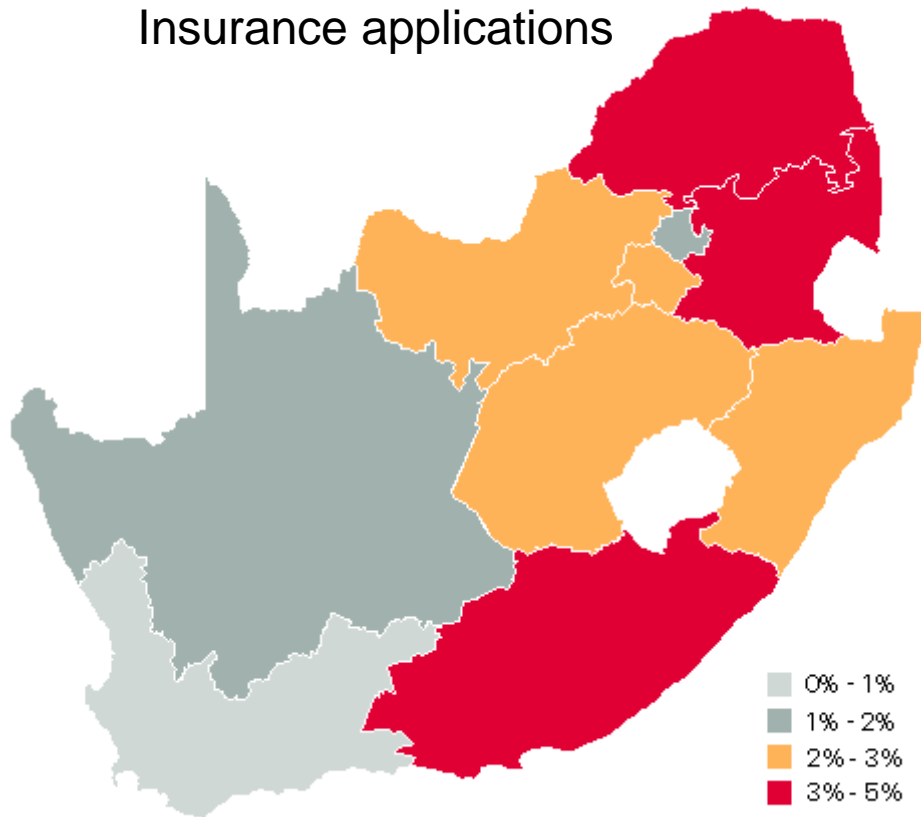
HIV prevalence by sum insured



HIV prevalence by province

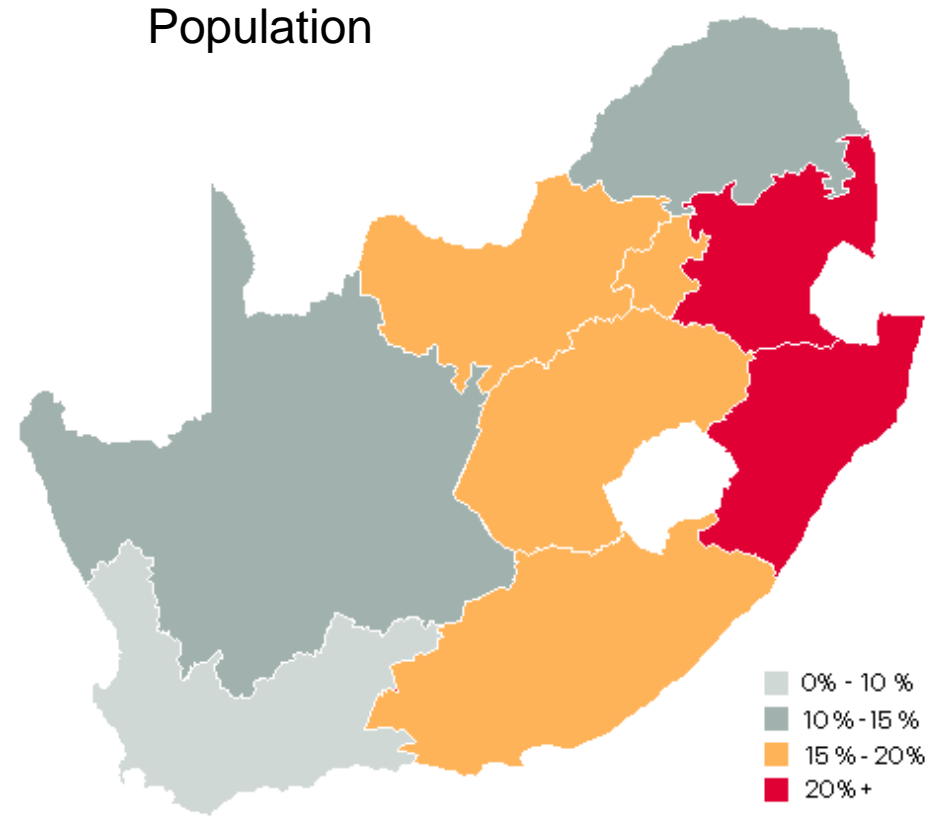
Swiss Re HIV Testing Survey

Insurance applications

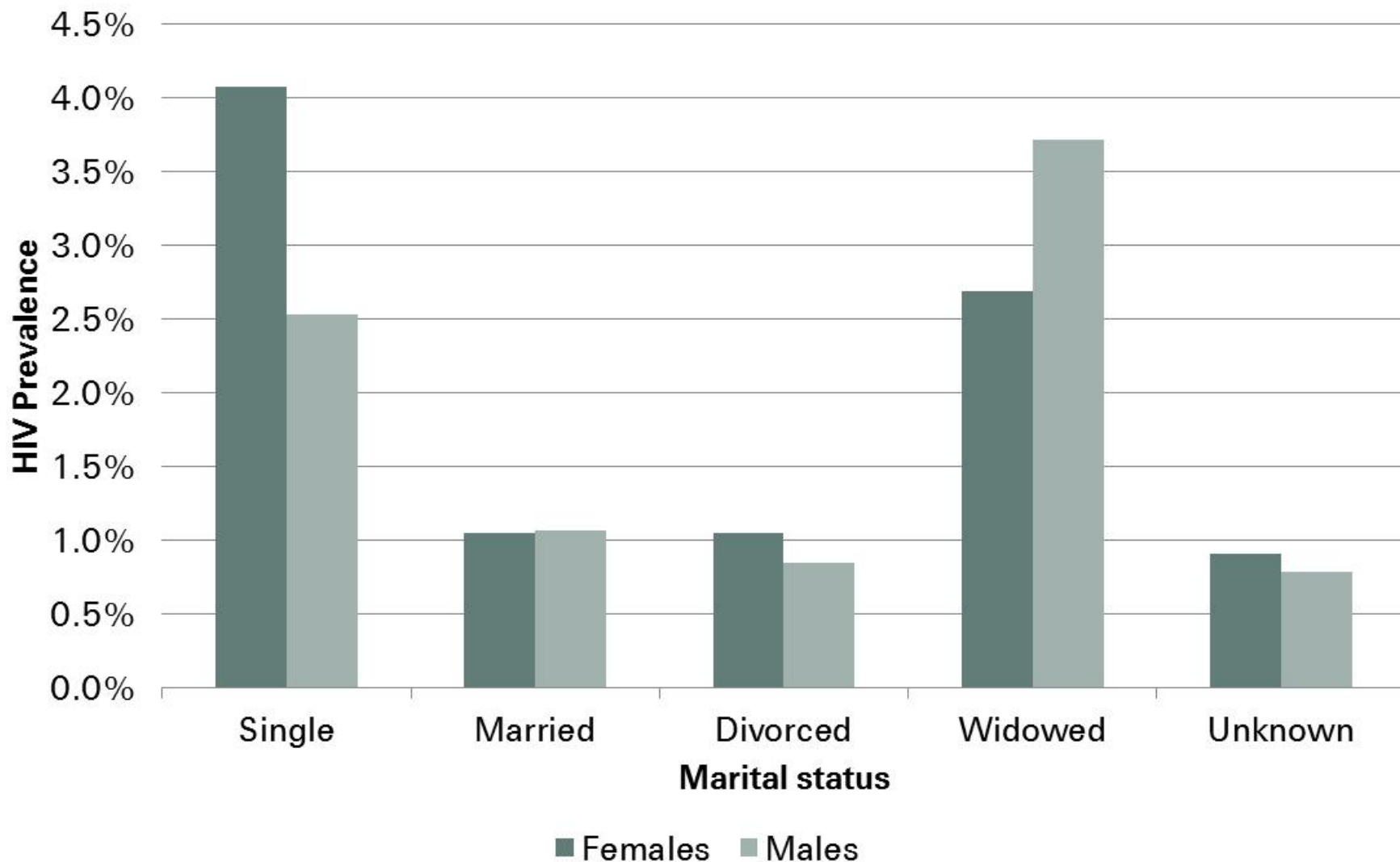


ASSA2008 adult prevalence

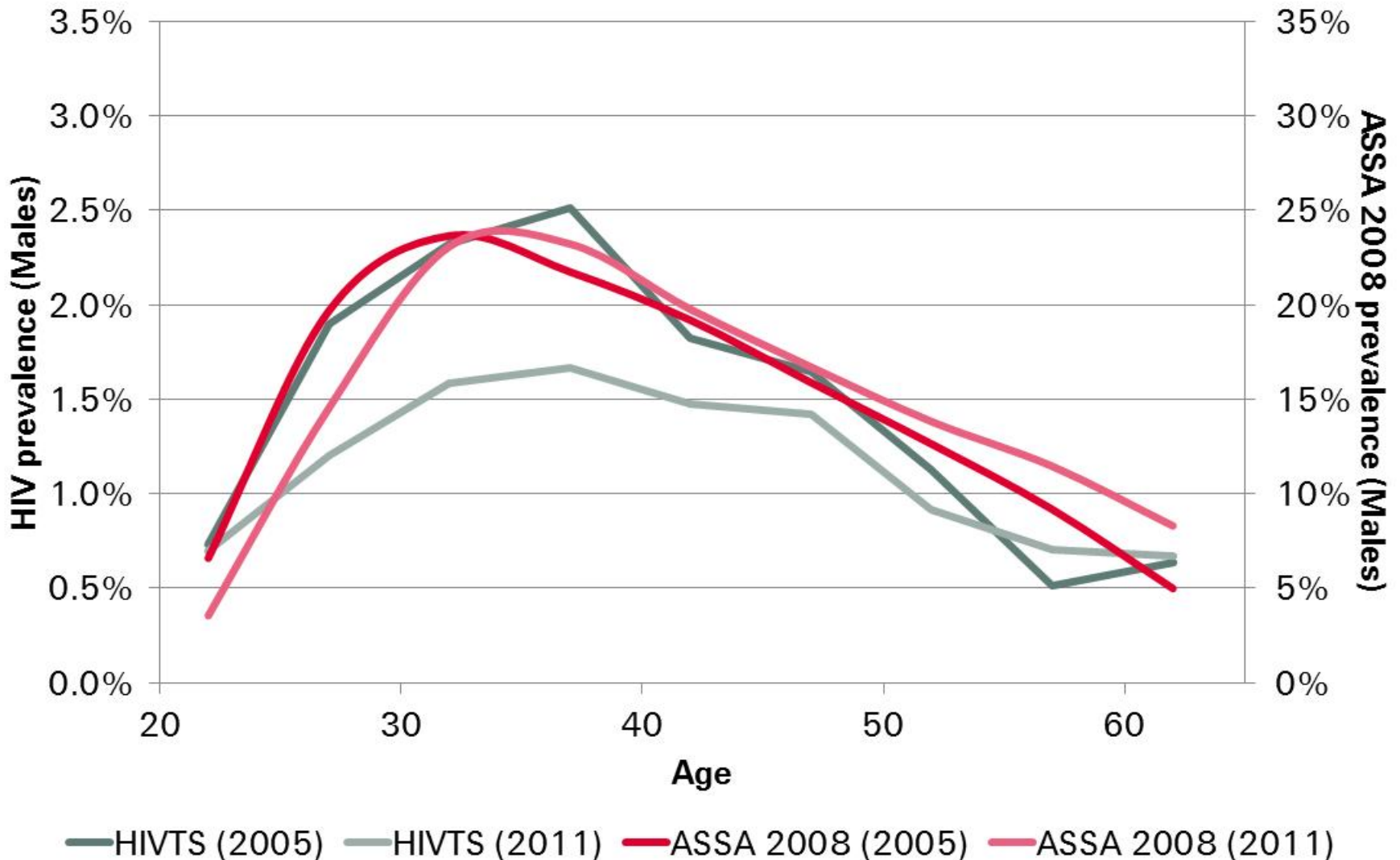
Population



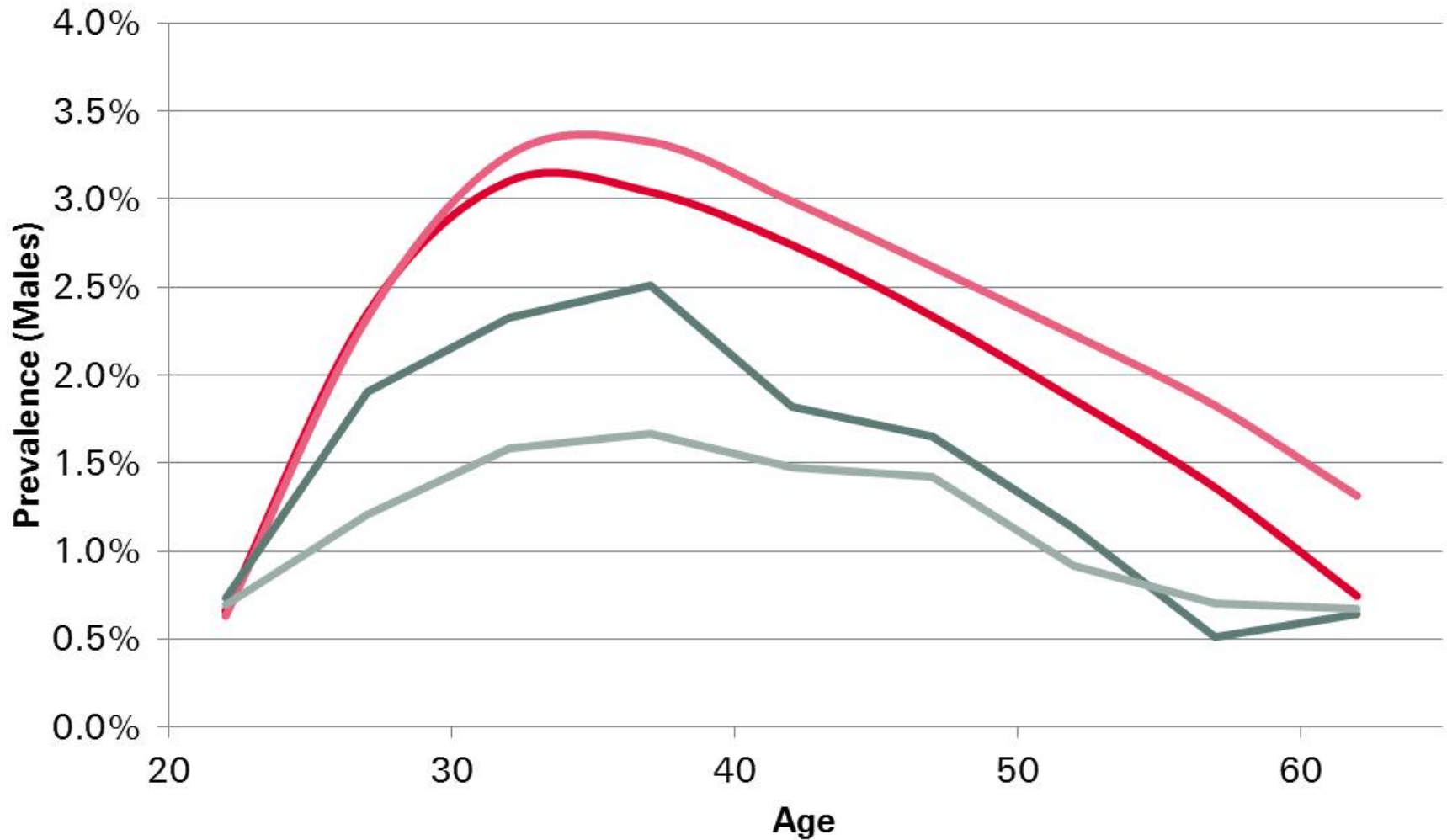
HIV prevalence by marital status, 2011



Comparison to ASSA 2008 model

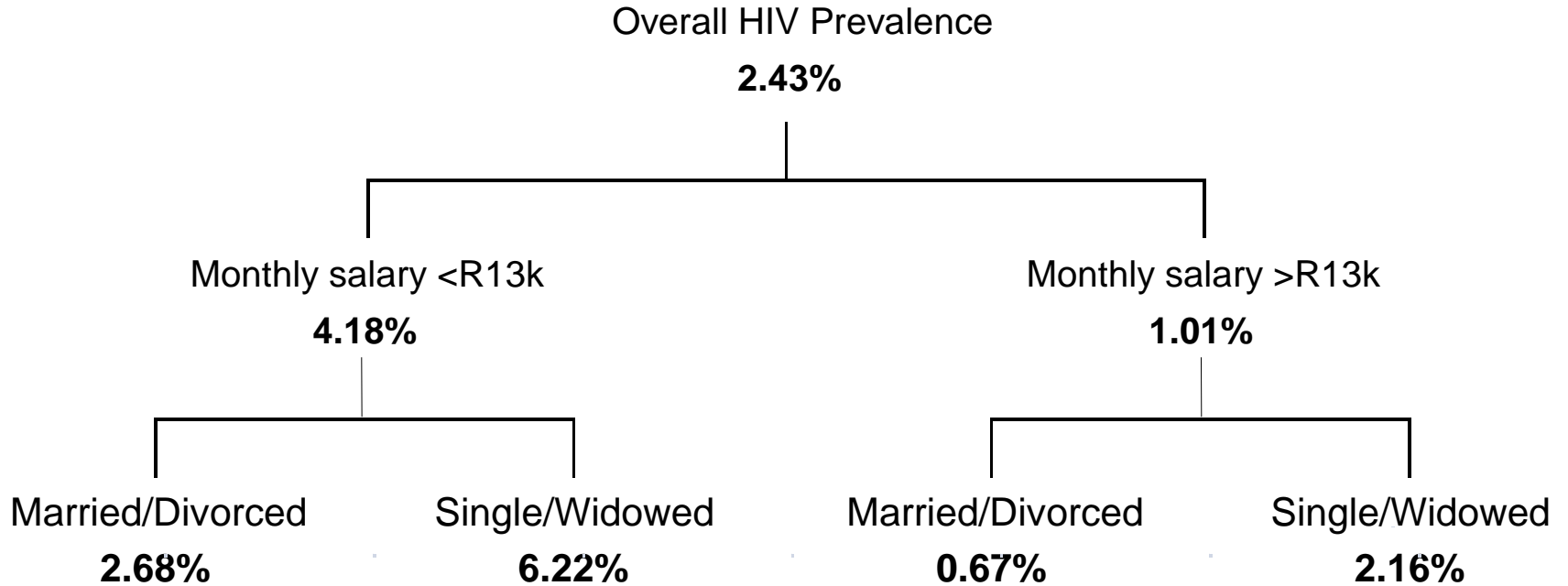


Comparison to PGN 105 model

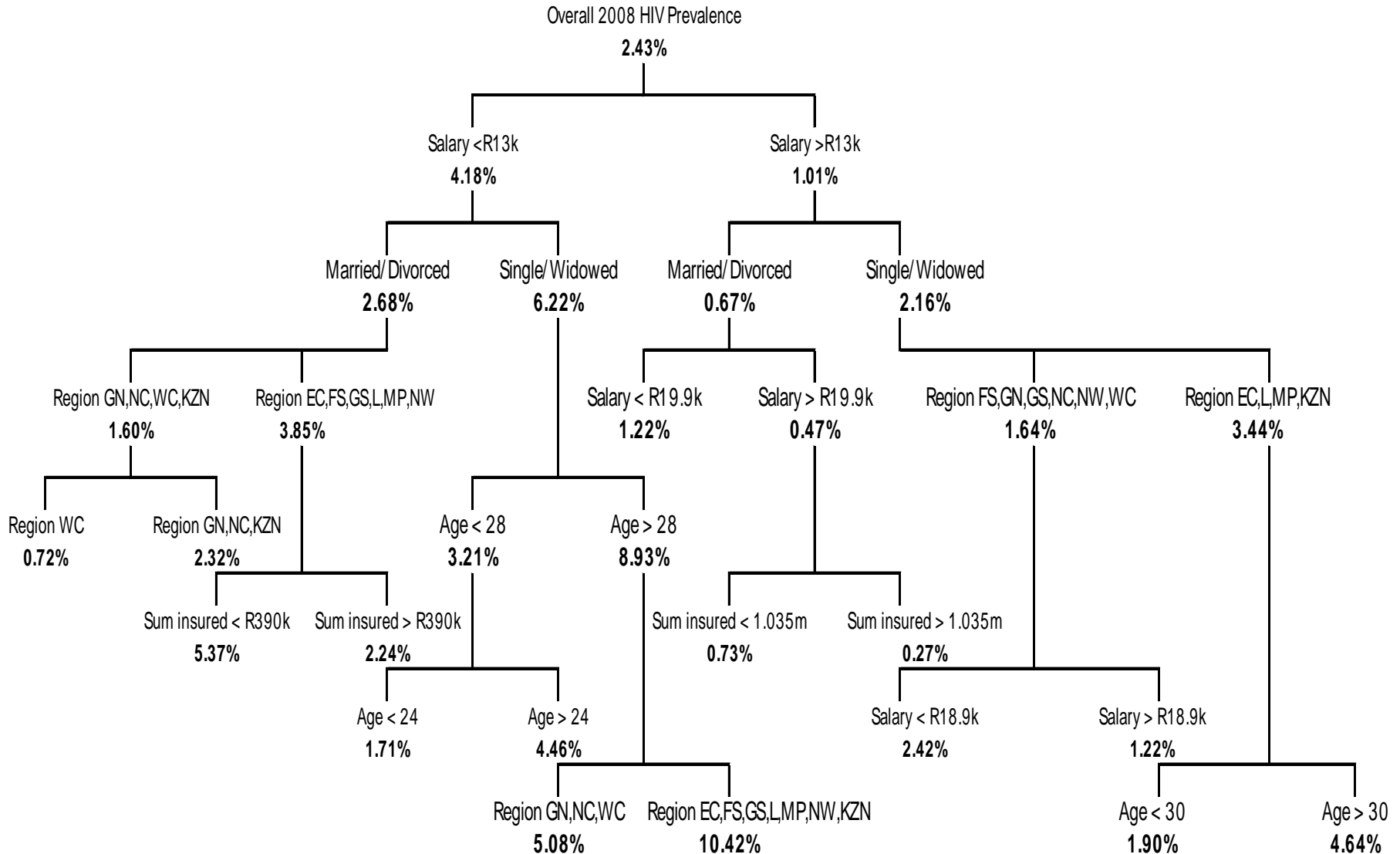


— PGN 105 AB1 (2005) — PGN 105 AB1 (2011) — HIVTS (2005) — HIVTS (2011)

Key differentiators in HIV prevalence



Key differentiators in HIV prevalence (Cont'd)



Insurability of HIV+ lives

Background

- HIV has become a chronic disease in many areas of the world
 - HAART and prevention of infections have reduced mortality
- Until now, only one insurer offered standard life cover
 - Payout conditional on proof of adherence to treatment
- Another insurer offers life cover, but health must be managed
 - With the insurer's assistance
 - Insurer receives ongoing information to monitor adherence
- Policies that require adherence don't offer peace of mind
 - Different interpretations of adherence, result in disputes
 - Claim can be rejected or claim amount reduced if adherence not proved

HIV+ lives can now buy normal cover

Recent study in Europe concluded
>50% of HIV+ lives insurable

- Collaborative analysis of cohort studies
- Estimates relative mortality from six months after starting ART
- Covers adult patients from Europe
 - Not infected via injection drug use
 - Not tested positive for Hepatitis C
 - Started triple ART between 1996 – 2008

Insurability of HIV positive people treated with antiretroviral therapy in Europe: collaborative analysis of HIV cohort studies

Writing committee for the Antiretroviral Cohort Collaboration, Josee Kaulich-Bartz, Wayne Dam, Margaret T. May, Bruno Lederberger, Urs Widmer, Andrew N. Phillips, Sophie Grabar, Amanda Mocroft, Josep Vilaro, Ard van sigham, Santiago Moreno, François Dabis, Antonella D'Arminio Monforte, Ramon Teira, Suzanne M. Ingle and Jonathan A.C. Sterne

Objective: To increase equitable access to life insurance for HIV-positive individuals by identifying subgroups with lower relative mortality.

Design: Collaborative analysis of cohort studies.

Methods: We estimated relative mortality from six months after starting ART, compared with the insured population in each country, among adult patients from European cohorts participating in the ART Cohort Collaboration (ART-CC) who were not infected via injection drug use, had not tested positive for Hepatitis C, and started triple ART between 1996–2008. We used Poisson models for mortality, with the expected number of deaths according to age, sex and country specified as offset.

Results: 1236 deaths were recorded in 34680 patients followed for 17 4906 person-years. Relative mortality was lower in patients with higher CD4 count and lower HIV-1 RNA six months after starting ART, without prior AIDS, who were older, and who started ART after 2000. Compared to insured HIV negative lives, estimated relative mortality of patients aged 20–39 from France, Italy, UK, Spain and Switzerland, who started ART after 2000 had 6-month CD4 count ≥ 350 cells/mm³ and HIV-1 RNA $< 10^4$ copies/ml and without prior AIDS was 45%. The proportion of exposure time with relative mortality below 300%, 400%, 500% and 600% was 28%, 43%, 61% and 64% respectively, suggesting that >50% of patients (those with lower relative mortality) could be insurable.

Conclusions: The continuing long-term effectiveness of ART implies that life insurance with sufficiently long duration to cover a mortgage is feasible for many HIV positive people successfully treated with ART for >6 months.

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AIDS 2013, 27:000–000

Keywords: antiretroviral therapy, cohort study, HIV, insurability, life tables

Introduction

Since its introduction in 1996, improvements to combination antiretroviral therapy (ART) such as new

regimens [1] and one pill per day co-formulations [2] have led to improved prognosis and better adherence to treatment [3]. Rates of mortality among HIV positive people have declined sufficiently dramatically [4,5] to

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Insurability / Assessment Criteria

- No history of AIDS
- Viral load undetectable (on HAART > 6 months)
- Hepatitis C negative
- No other rateable CV impairment
- No other impairment with +100% loading or higher
- No other relevant co-morbidity
- Compliant with treatment (on HAART > 6 months)

Age 30-34 Years on HAART	CD4+ count	
	350-499	500+
<1	+150%	+150%
≥1 but <5	+250%	+150%
≥5 but <10	+550%	+250%
10+	Decline	+450%

Questions?