

Professor Andrew Phillips

University College London Medical School

18-20 April 2012, The International Convention Centre, Birmingham

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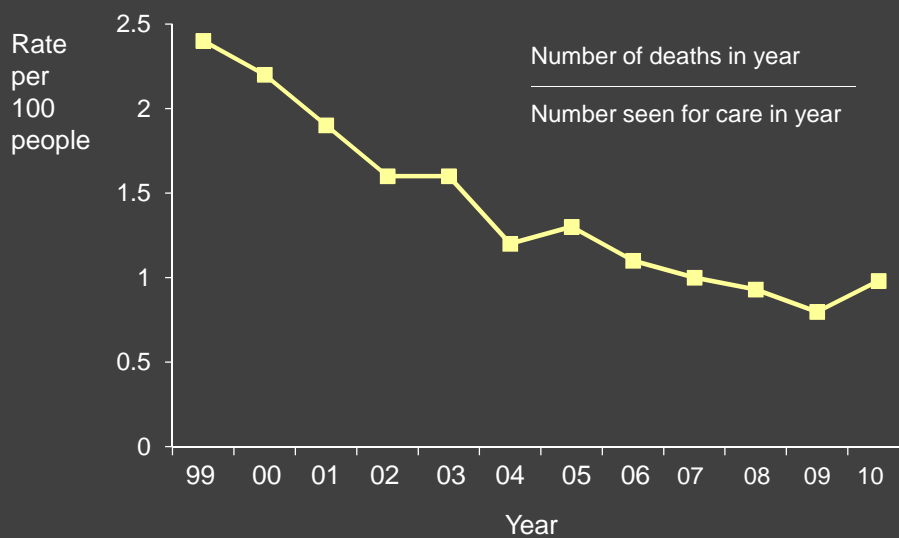
University College London Medical School

COMPETING INTEREST OF FINANCIAL VALUE > £1,000:	
Speaker Name	Statement
Professor Andrew Phillips:	Professor Phillips has done consultancy work for various companies including GSK Bio, Gilead, ViiV, BMS, J&J and is co-investigator on a grant for research from BMS.
Date	April 2012

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People with viral suppression on ART: what are the remaining serious disease risks due to HIV?

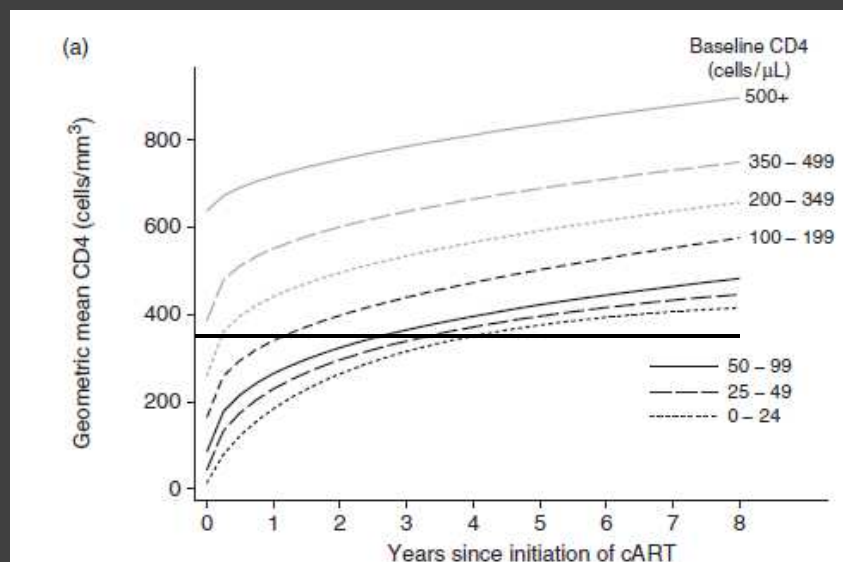
Trends in death rate in people with HIV: UK



Source: Health Protection Agency

Residual disease risk in people with viral suppression: Insufficient CD4 count recovery

CD4 count recovery on ART if fully virally suppressed



UK CHIV Study; Hughes et al, HIV Medicine 2010

Residual disease risk in people with viral suppression: inflammation and coagulation

Biomarker levels in SMART compared with HIV negative people in CARDIA and MESA studies

Table 3. Biomarkers Levels in SMART Study Participants Receiving Antiretroviral Therapy (ART) Who Had an HIV RNA Level \leq 400 Copies/mL and Percentage Differences in Levels Versus CARDIA and MESA Study Participants, as Cited in Table 2

Biomarker	Participants 33–44 years of age			Participants 45–76 years of age		
	No.	Median level (IQR)	% Diff. (<i>P</i>)	No.	Median level (IQR)	% Diff. (<i>P</i>)
hsCRP, μ g/mL	140	2.13 (0.77–5.20)	40.2 (<.001)	293	2.83 (1.07–6.80)	37.8 (<.001)
IL-6, pg/mL	139	1.89 (1.15–3.42)	39.0 (<.001)	291	2.64 (1.55–4.14)	60.1 (<.001)
D-dimer, μ g/mL	140	0.21 (0.15–0.46)	NA	293	0.29 (0.17–0.57)	49.1 (<.001)
Cystatin C, mg/dL	86	0.90 (0.78–0.97)	NA	130	1.00 (0.86–1.16)	20.9 (<.001)

Neuhaus et al, JID 2010

Residual disease risk in people with viral suppression: comparisons of people with high CD4 count with HIV negative populations

Comparison of death rate in HIV positive and HIV negative people: FRAM

469 HIV infected, 280 sero-negative controls

Hazard ratio*

Overall	3.4 (95% CI: 1.35, 8.5); p = 0.009
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Current CD4 > 350	2.3 (95% CI: 0.78 - 6.9); p = 0.13
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*adjusted for cardiovascular risk factors

Cockerham et al; JAIDS 2011

Myocardial Infarction rates compared with general population: Kaiser-Permanente database

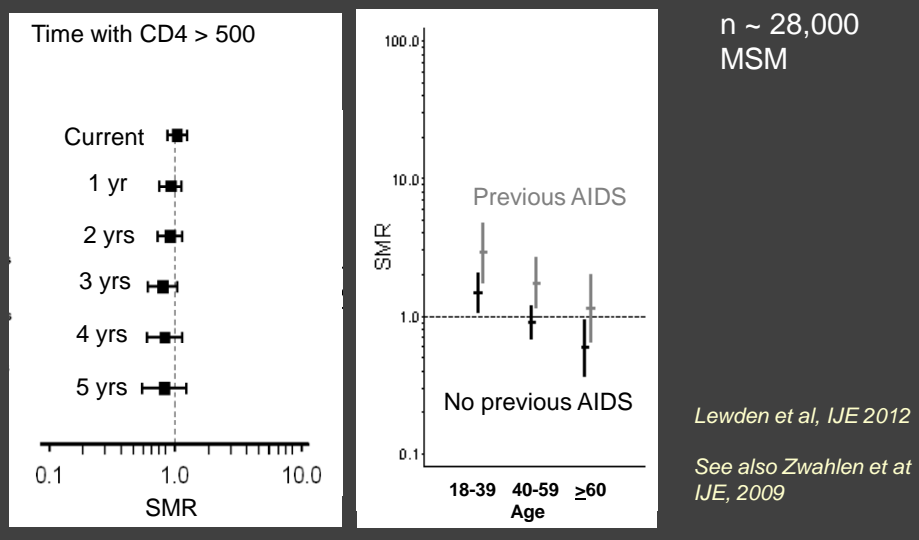
HIV +ve: 90,961

HIV -ve: 1,133,444

	Relative rate	95% CI	p-value
MI overall	1.4	1.3 - 1.7	<0.001
CHD overall	1.2	1.1 - 1.4	<0.001
CD4 > 500, on ART	0.9	0.8 - 1.1	0.38
CD4 > 500, not on ART	1.3	0.9 - 1.9	0.19

Klein et al; CROI 2011

Death rate in ART-experienced MSM with CD4 count > 500, compared with the general population



SMR in non-IDU in SMART and ESPRIT control groups compared with the general population

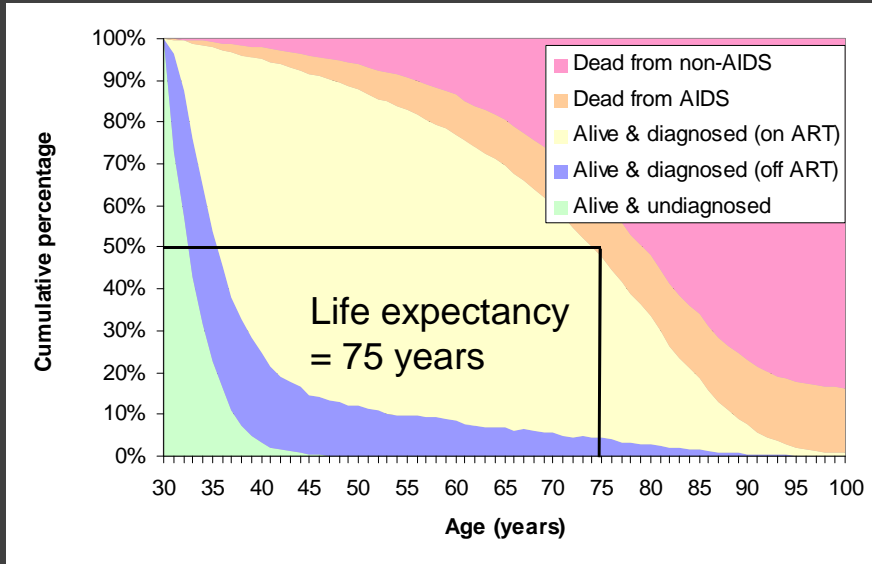
- Viral load < 400 and CD4 count > 350 in past 6 months

	CD4 350-499	CD4 \geq 500
Person-yrs	3,729	8,628
Observed deaths	28	34
Expected deaths	15.9	34.0
SMR (95% CI)	1.77 (1.17-2.55)	1.00 (0.69-1.40)

Rodger et al, CROI 2012

Life expectancy according
to residual mortality risk

Projected life expectancy of man infected age 30



Nakagawa et al, AIDS

Life expectancy according to residual non-AIDS mortality risk

Fold risk of non-AIDS death	Life expectancy
1.0	78.5
1.5	75.0
2.0	69.1
3.0	65.7

Nakagawa et al, unpublished

Conclusions

In people with viral suppression, the main residual risks relate to continued sub-normal levels of CD4 count and raised levels of inflammation and coagulation biomarkers.

In people with CD4 count > 500 and without raised levels of IL-6 or d-dimer any residual risk appears to be very low.

Investigation of new interventions to reduce inflammation and coagulation is warranted.

Acknowledgements

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