



Fatal and non-fatal AIDS and non-AIDS events in HIV-1 infected patients with high CD4 counts according to viral load strata

J Reekie, J Gatell, I Yust, E Bakowska, A Rachmanova, M Losso, M Krasnov, P Francioli, J Kowalska, A Mocroft
for the EuroSIDA study group

Background

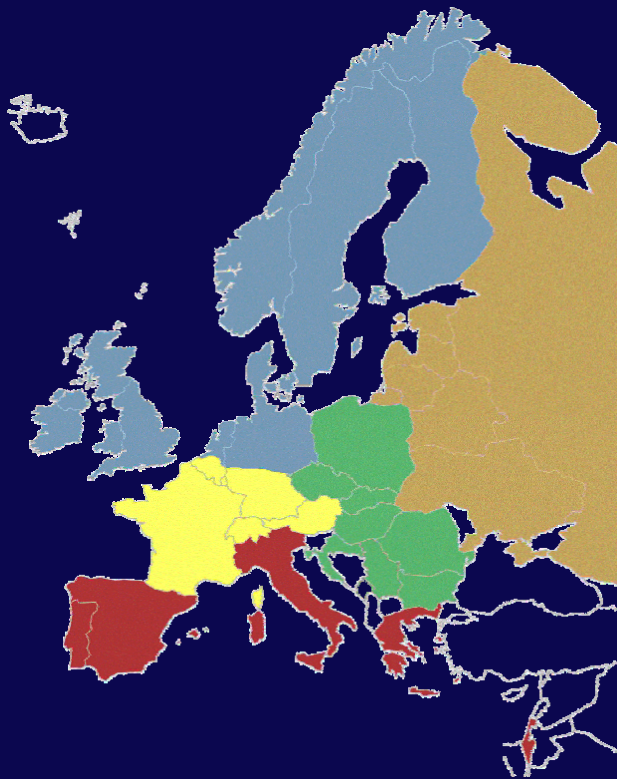
- Some non-AIDS defining illnesses associated with low CD4 count
- The development of both AIDS and non-AIDS defining illnesses in patients who are not immune compromised has not been fully investigated
- Uncontrolled HIV replication may be an independent risk factor associated with the occurrence of non-AIDS events

Aim

- In people with current CD4 count >350 cells/mm³, to compare between viral load strata the incidence of fatal and non-fatal AIDS and non-AIDS events

EuroSIDA

EuroSIDA is a large prospective cohort with **16597** patients from 33 European countries, Israel and Argentina.



AIDS defining events

Non-AIDS defining events

- Cardiovascular events
- Chronic Liver disease
- Pancreatitis
- End stage renal disease
- Non-AIDS defining malignancies (NADM)

Methods

A patient contributed person years at risk if their most recent CD4 count was $>350\text{cells/mm}^3$ in addition to a viral load measured in previous 6 months

Patients were eligible to contribute person years at risk from

- 1/1/1997 for **AIDS** events
- 1/1/2001 for **non-AIDS** events

Person years were split into three different viral load strata

- <500 copies/ml
- 500-10000 copies/ml
- ≥ 10000 copies/ml

Methods

- All fatal and non-fatal AIDS and non-AIDS events, occurring during the follow-up time were recorded
- Recurrences of the same diagnosis were excluded
- Incidence rates calculated per 100 PYFU
- Poisson regression analysis was used to investigate the relationship between viral load and clinical events after adjustment for confounding variables
- Possible confounding variables:
gender, ethnic origin, age, HIV exposure group, region of Europe, hepatitis B & C status, smoking status, hypertension, year of follow-up, on cART, prior AIDS, CD4 count

Follow-up characteristics

Fatal and non-fatal **AIDS** events (Total 43,524 PYFU)

Viral load categories
(% of follow-up)

		<500	500-10000	≥10000
Total PYFU	(% of total)	34676 (80%)	5315 (12%)	3533 (8%)
Gender	Male	77%	72%	75%
Ethnic origin	White	86%	88%	89%
HIV exposure group	Homosexual	48%	43%	47%
	IDU	17%	21%	19%
	Heterosexual	28%	30%	28%
On cART*		91%	62%	37%
CD4 count	<500	34%	49%	56%
	500-750	41%	38%	34%
	>750	25%	13%	10%

**on cART defined as currently taking ≥3 antiretrovirals*

AIDS results

43,524 PYFU

379 AIDS events occurred

- 54 Pulmonary Tuberculosis
- 49 Oesophageal Candidiasis
- 46 Cervical Carcinoma
- 38 Non-Hodgkin's lymphoma
- 31 Herpes Simplex
- 27 Extra pulmonary Tuberculosis
- 26 Kaposi's Sarcoma
- 21 Pneumonia
- 14 Deaths

Non-AIDS results

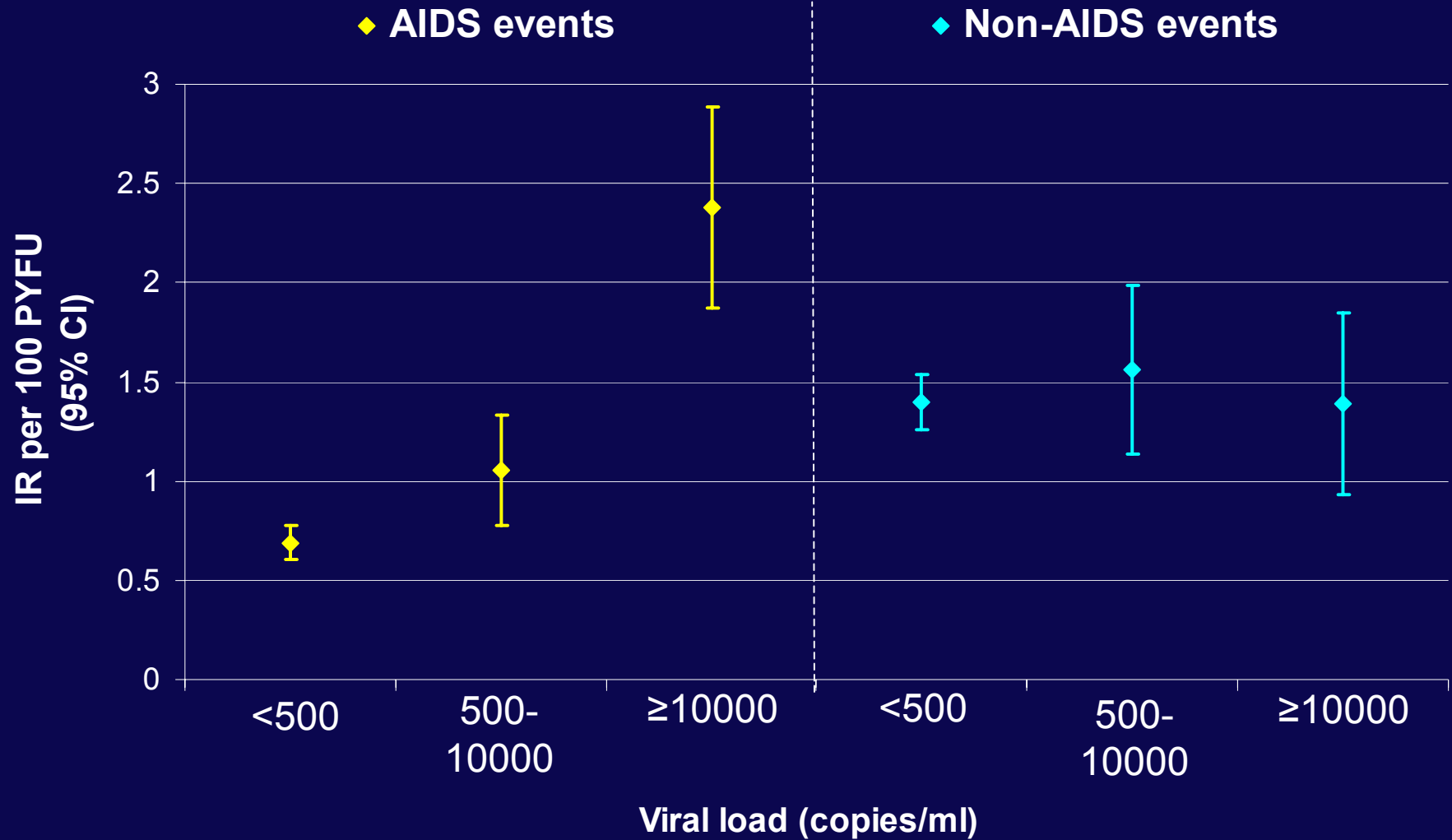
35,252 person years of follow-up

- 83% <500 copies/ml
- 10% 500-10000 copies/ml
- 7% ≥10000 copies/ml

476 non-AIDS events

- 176 Cardiovascular events
- 163 Non-AIDS defining malignancies
- 32 Liver related events
- 28 Pancreatitis
- 15 End stage renal disease
- 62 Deaths

Crude incidence rate per 100 PYFU



N events **239**

56

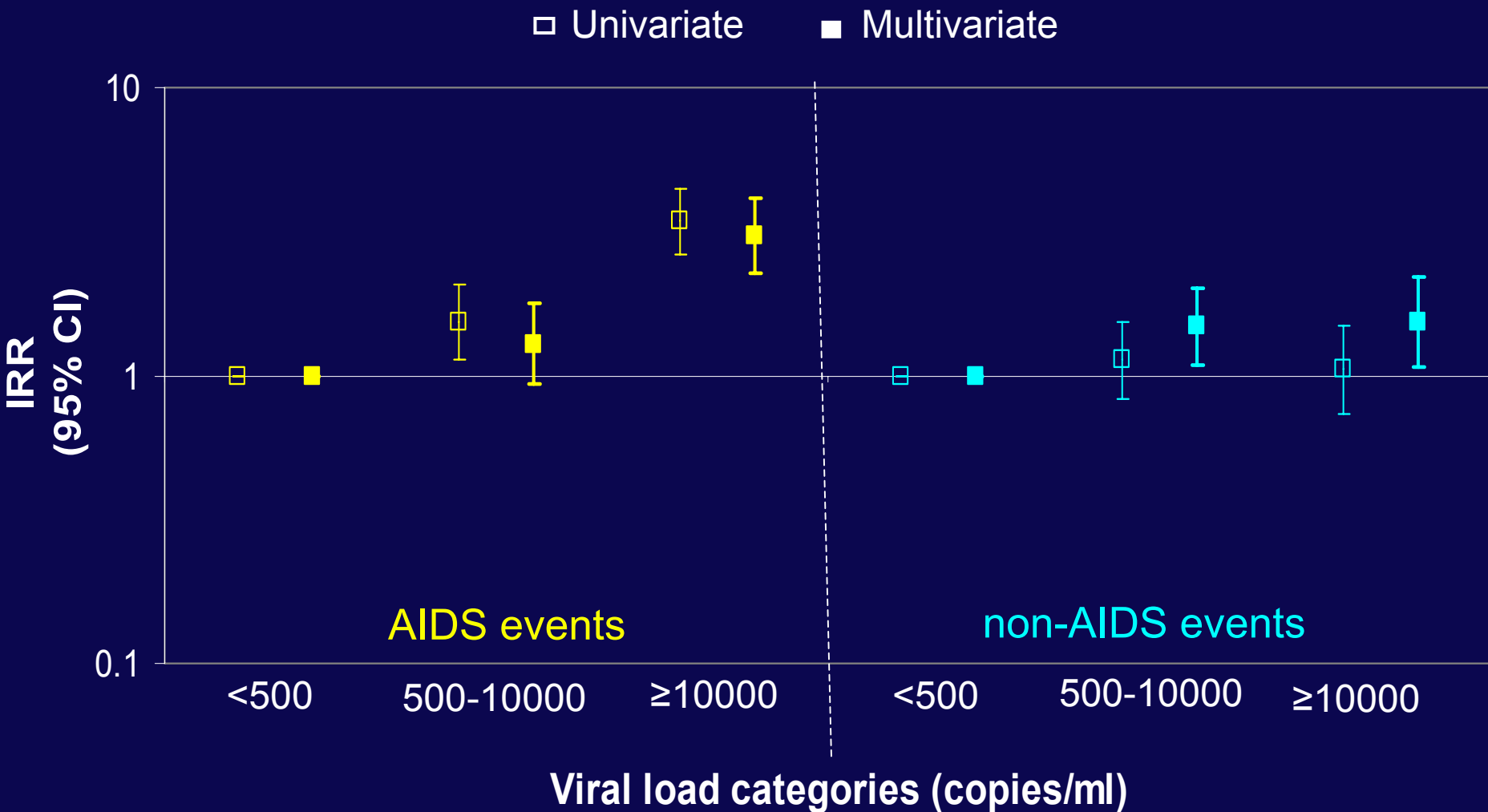
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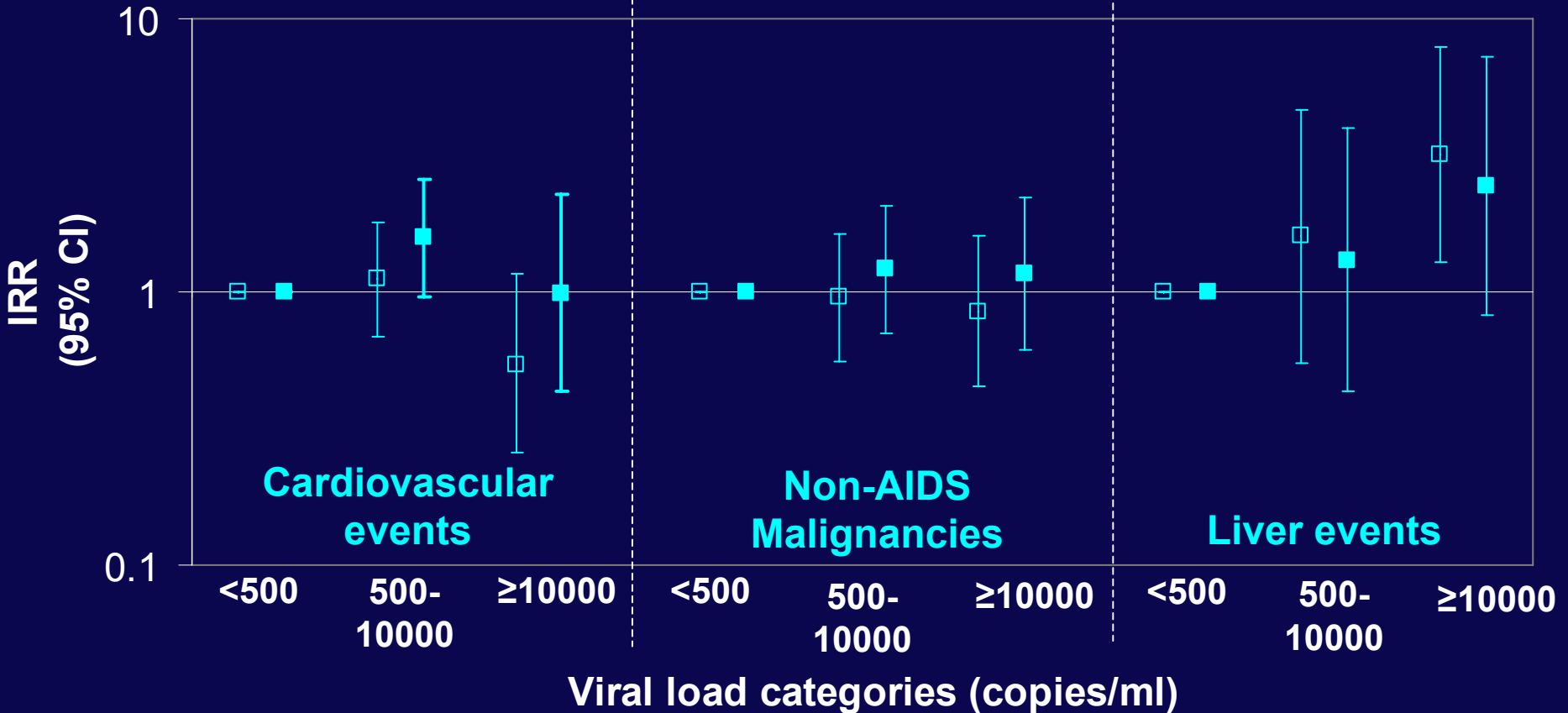
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35

Univariate and multivariate incidence rate ratios



Univariate and multivariate incidence rate ratios for specific non-AIDS events



N Events 150 19 7 138 15 10 22 4 6

Conclusion

In patients with a CD4 count > 350 cells/mm³

- An increased incidence of **AIDS** events was found in patients with uncontrolled viral replication
- A slightly increased incidence of **non-AIDS** events was found with high viral replication
 - No difference observed between moderate and high viral replication
 - Despite adjustment, there could remain confounding in the association between viral load and outcome
 - Non-AIDS events are a very heterogeneous group
 - Limited number of other specific non-AIDS events to form clear conclusions

The EuroSIDA Study Group

The multi-centre study group of EuroSIDA (national coordinators in parenthesis).

Argentina: (M Losso), C Elias, Hospital JM Ramos Mejia, Buenos Aires. **Austria:** (N Vetter), Pulmologisches Zentrum der Stadt Wien, Vienna; R Zangerle, Medical University Innsbruck, Innsbruck. **Belarus:** (I Karpov), A Vassilenko, Belarus State Medical University, Minsk, VM Mitsura, Gomel State Medical University, Gomel; O Suetnov, Regional AIDS Centre, Svetlogorsk. **Belgium:** (N Clumeck), S De Wit, M Delforge, Saint-Pierre Hospital, Brussels; R Colebunders, Institute of Tropical Medicine, Antwerp; L Vandekerckhove, University Ziekenhuis Gent, Gent. **Bosnia-Herzegovina:** (V Hadziosmanovic), Klinicki Centar Univerziteta Sarajevo, Sarajevo. **Bulgaria:** (K Kostov), Infectious Diseases Hospital, Sofia. **Croatia:** (J Begovac), University Hospital of Infectious Diseases, Zagreb. **Czech Republic:** (L Machala), H Rozsypal, Faculty Hospital Bulovka, Prague; D Sedlacek, Charles University Hospital, Plzen. **Denmark:** (J Nielsen), G Kronborg, T Benfield, M Larsen, Hvidovre Hospital, Copenhagen; J Gerstoft, T Katzenstein, A-B E Hansen, P Skinhøj, Rigshospitalet, Copenhagen; C Pedersen, O D Larsen, Odense University Hospital, Odense, L Ostergaard, Skejby Hospital, Aarhus. **Estonia:** (K Zilmer), West-Tallinn Central Hospital, Tallinn; Jelena Smidt, Nakkusosakond Sisekliinik, Kohtla-Järve. **Finland:** (M Ristola), Helsinki University Central Hospital, Helsinki. **France:** (C Katlama), Hôpital de la Pitié-Salpêtrière, Paris; J-P Viard, Hôpital Necker-Enfants Malades, Paris; P-M Girard, Hospital Saint-Antoine, Paris; JM Livrozet, Hôpital Edouard Herriot, Lyon; P Vanhems, University Claude Bernard, Lyon; C Pradier, Hôpital de l'Archet, Nice; F Dabis, D Neau, Unité INSERM, Bordeaux. **Germany:** (J Rockstroh), Universitäts Klinik Bonn; R Schmidt, Medizinische Hochschule Hannover; J van Lunzen, O Degen, University Medical Center Hamburg-Eppendorf, Infectious Diseases Unit, Hamburg; HJ Stellbrink, IPM Study Center, Hamburg; S Staszewski, JW Goethe University Hospital, Frankfurt; J Bogner, Medizinische Poliklinik, Munich; G. Fätkenheuer, Universität Köln, Cologne. **Greece:** (J Kosmidis), P Gargalianos, G Xylomenos, Y Perdios, Athens General Hospital; G Panos, A Filandras, E Karabatsaki, 1st IKA Hospital; H Sambatakou, Ippokratene Genereal Hospital, Athens. **Hungary:** (D Banhegyi), Szent László Hospital, Budapest. **Ireland:** (F Mulcahy), St. James's Hospital, Dublin. **Israel:** (I Yust), D Turner, M Burke, Ichilov Hospital, Tel Aviv; S Pollack, G Hassoun, Rambam Medical Center, Haifa; S Maayan, Hadassah University Hospital, Jerusalem. **Italy:** (A Chiesi), Istituto Superiore di Sanità, Rome; R Esposito, I Mazeu, C Mussini, Università Modena, Modena; C Arici, Ospedale Riuniti, Bergamo; R Pristera, Ospedale Generale Regionale, Bolzano; F Mazzotta, A Gabbuti, Ospedale S Maria Annunziata, Firenze; V Vullo, M Lichtner, University di Roma la Sapienza, Rome; A Chirianni, E Montesarchio, M Gargiulo, Presidio Ospedaliero AD Cotugno, Monaldi Hospital, Napoli; G Antonucci, F Iacomi, P Narciso, C Viassi, M Zaccarelli, Istituto Nazionale Malattie Infettive Lazzaro Spallanzani, Rome; A Lazzarin, R Finazzi, Ospedale San Raffaele, Milan; M Galli, A Ridolfo, Osp. L. Sacco, Milan; A d'Arminio Monforte, Istituto Di Clinica Malattie Infettive e Tropicale, Milan. **Latvia:** (B Rozentale), I Zeltina, Infectology Centre of Latvia, Riga. **Lithuania:** (S Chaplinskas), Lithuanian AIDS Centre, Vilnius. **Luxembourg:** (R Hemmer), T Staub, Centre Hospitalier, Luxembourg. **Netherlands:** (P Reiss), Academisch Medisch Centrum bij de Universiteit van Amsterdam, Amsterdam. **Norway:** (V Ormaasen), A Maeland, J Bruun, Ullevål Hospital, Oslo. **Poland:** (B Knysz) J Gasiorowski, Medical University, Wrocław; A Horban, E Bakowska, Centrum Diagnostyki i Terapii AIDS, Warsaw; A Grzeszczuk, R Flisiak, Medical University, Białystok; A Boron-Kaczmarek, M Pynka, M Parczewski, Medical University, Szczecin; M Beniowski, E Mularska, Osrodek Diagnostyki i Terapii AIDS, Chorzow; H Trocha, Medical University, Gdansk; E Jablonowska, E Malolepsza, K Wojcik, Wojewodzki Szpital Specjalistyczny, Lodz. **Portugal:** (F Antunes), E Valadas, Hospital Santa Maria, Lisbon; K Mansinho, Hospital de Egas Moniz, Lisbon; F Maltez, Hospital Curry Cabral, Lisbon. **Romania:** (D Duiculescu), Spitalul de Boli Infectioase si Tropicale: Dr. Victor Babes, Bucarest. **Russia:** (A Rakhmanova), Medical Academy Botkin Hospital, St Petersburg; E Vinogradova, St Petersburg AIDS Centre, St Peterburg; S Buzunova, Novgorod Centre for AIDS, Novgorod. **Serbia:** (D Jevtovic), The Institute for Infectious and Tropical Diseases, Belgrade. **Slovakia:** (M Mokráš), D Staneková, Dérer Hospital, Bratislava. **Slovenia:** (J Tomazic), University Clinical Centre Ljubljana, Ljubljana. **Spain:** (J González-Lahoz), V Soriano, P Labarga, J Medrano, Hospital Carlos III, Madrid; S Moreno, Hospital Ramon y Cajal, Madrid; B Clotet, A Jou, R Paredes, C Tural, J Puig, I Bravo, Hospital Germans Trias i Pujol, Badalona; JM Gatell, JM Miró, Hospital Clinic i Provincial, Barcelona; P Domingo, M Gutierrez, G Mateo, MA Sambeat, Hospital Sant Pau, Barcelona. **Sweden:** (A Karlsson), Venhaelsan-Sodersjukhuset, Stockholm; L Flamholz, Malmö University Hospital, Malmö. **Switzerland:** (B Ledergerber), R Weber, University Hospital, Zürich; P Francioli, M Cavassini, Centre Hospitalier Universitaire Vaudois, Lausanne; B Hirschel, E Boffi, Hospital Cantonal Universitaire de Geneve, Geneve; H Furrer, Inselspital Bern, Bern; M Battegay, L Elzi, University Hospital Basel. **Ukraine:** (E Kravchenko), N Chentsova, Kiev Centre for AIDS, Kiev; G Kutsyna, Luhansk State Medical University; Luhansk; S Servitskiy, Odessa Region AIDS Center, Odessa; M Krasnov, Kharkov State Medical University, Kharkov. **United Kingdom:** (S Barton), St. Stephen's Clinic, Chelsea and Westminster Hospital, London; AM Johnson, D Mercey, Royal Free and University College London Medical School, London (University College Campus); A Phillips, MA Johnson, A Mccroft, Royal Free and University College Medical School, London (Royal Free Campus); M Murphy, Medical College of Saint Bartholomew's Hospital, London; J Weber, G Scullard, Imperial College School of Medicine at St. Mary's, London; M Fisher, Royal Sussex County Hospital, Brighton; C Leen, Western General Hospital, Edinburgh.

Virology group: B Clotet, R Paredes (Central Coordinators) plus ad hoc virologists from participating sites in the EuroSIDA Study.

Steering Committee: F Antunes, B Clotet, D Duiculescu, J Gatell, B Gazzard, A Horban, A Karlsson, C Katlama, B Ledergerber (Chair), A D'Arminio Montforte, A Phillips, A Rakhmanova, P Reiss (Vice-Chair), J Rockstroh

Coordinating Centre Staff: J Lundgren (project leader), O Kirk, A Mccroft, N Friis-Møller, A Cozzi-Lepri, W Bannister, M Ellefson, A Borch, D Podlekareva, J Kjær, L Peters, J Reekie, J Kowalska,