

Fracture risk in HIV positive individuals: A cross-sectional study

Amardeep Basra², Manavi Joshi², Priyanka Saigal¹, Claire McCormick¹, Helen Webb¹, Mark Pakianathan¹

18th Annual Conference of the British HIV Association, Birmingham, 18-20 April 2012

SWAGNET 

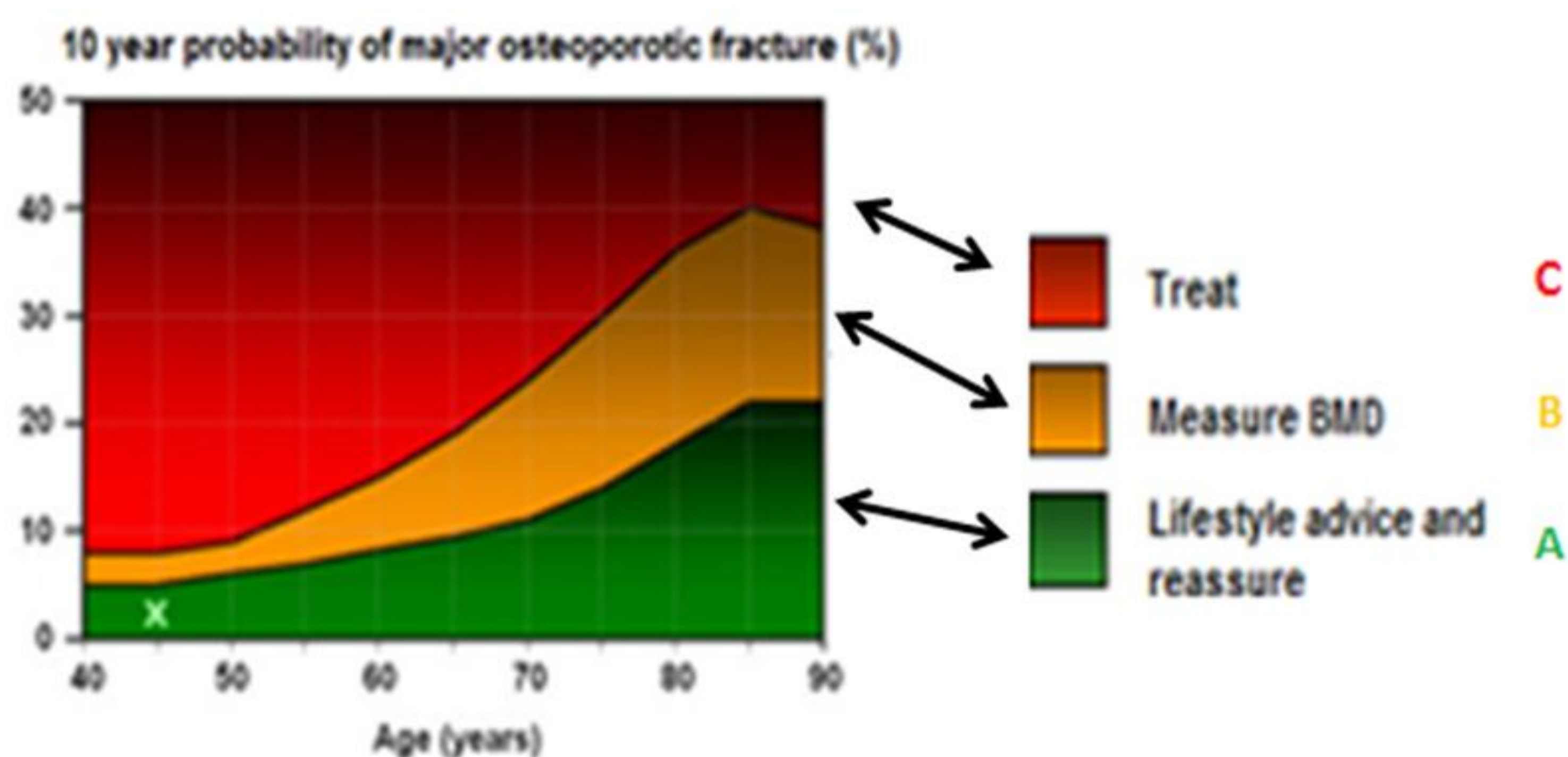
1. Courtyard Clinic, St Georges Hospital, Blackshaw Road, London, SW17 0QT
2. St George's University of London, Cranmer Terrace, London, SW17 0RE

BACKGROUND

- Adult HIV+ individuals commonly have a reduced bone mineral density (BMD) and the prevalence of fractures and osteoporosis is increasing.¹
- Guidelines recommend a DEXA scan should be considered in patients if they have one or more risk factors².

METHODS

- 1199 HIV+ individuals attending the Courtyard clinic at St Georges Hospital underwent annual health review assessments, including bone health and 10 year fracture risk assessment (FRAX score).
- Excluded were those under the age of 40 and those with missing data for whom a FRAX score could not be calculated.
- Depending on a particular FRAX score, individuals were classified into the 3 management categories (Lifestyle advice and reassurance (A), Measure BMD (B) and Treat (C)).



ELIGIBILITY AND DEMOGRAPHICS

- 669/1999 (55.8%) patients were eligible for assessment
- 49% (331) of patients were black African, 37% (245) white British, 6% (43) black Caribbean, 3% (17) other/mixed, 2% (13) Indian/Pakistani/Bangladeshi, 2% (12) other Asian/oriental and 1% (8) black other
- 415 (62%) were male and 254 (38%) were female

Table 1 FRAX categories and Clinical Variables

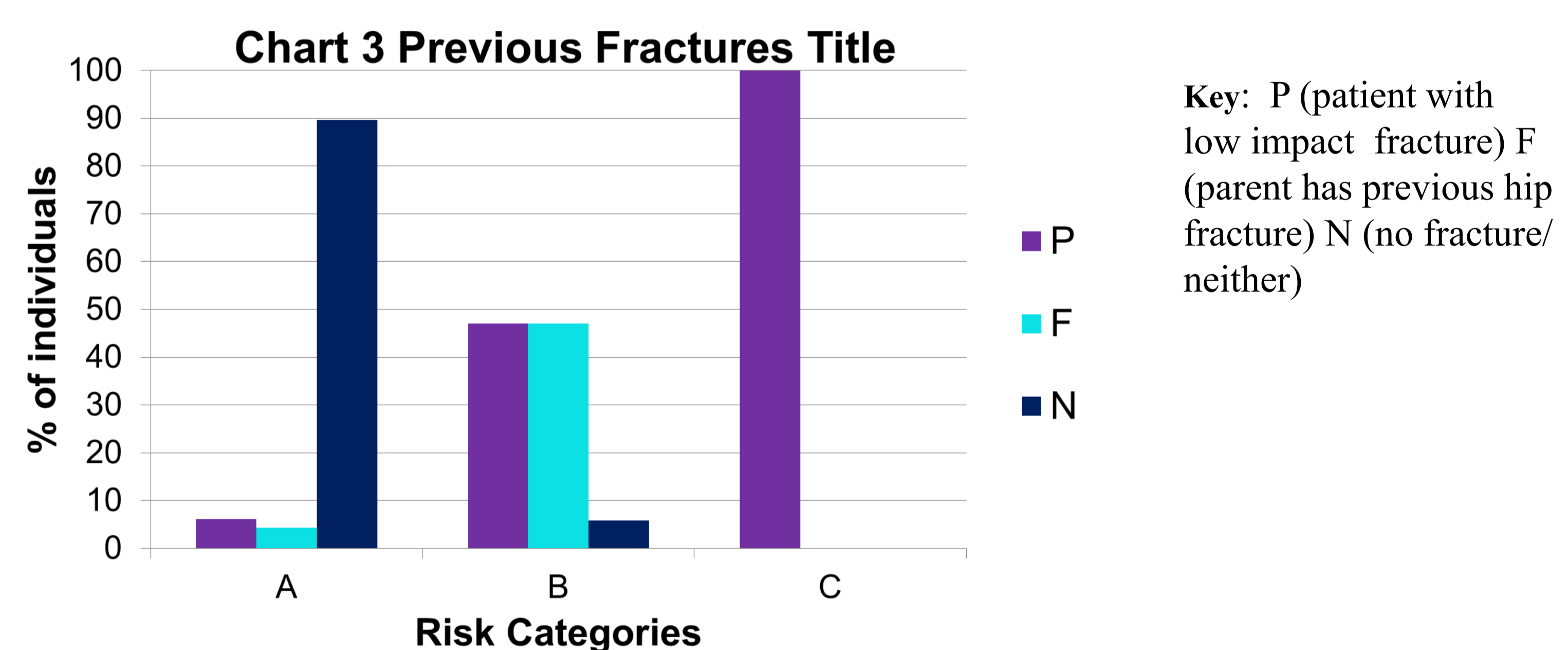
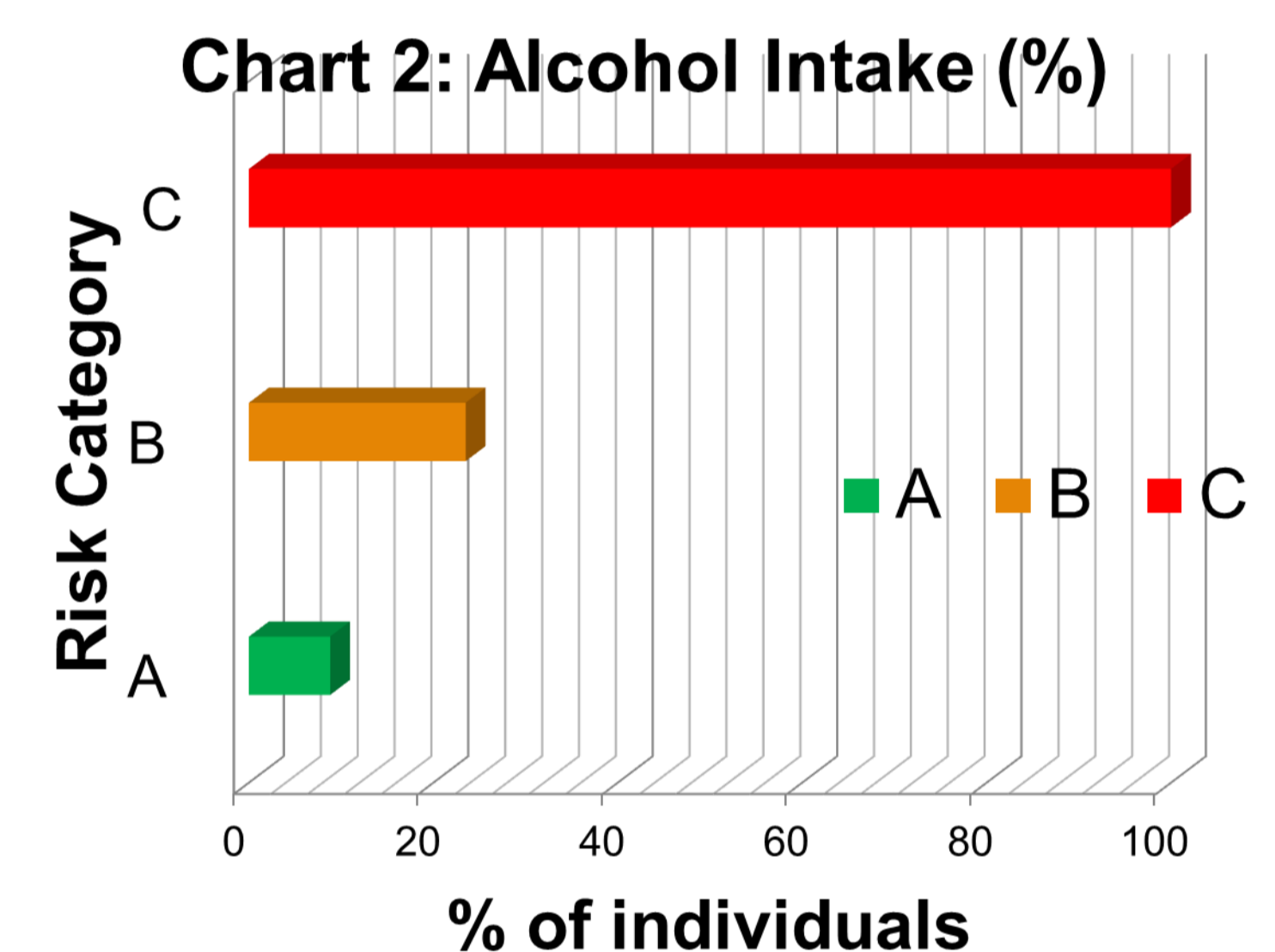
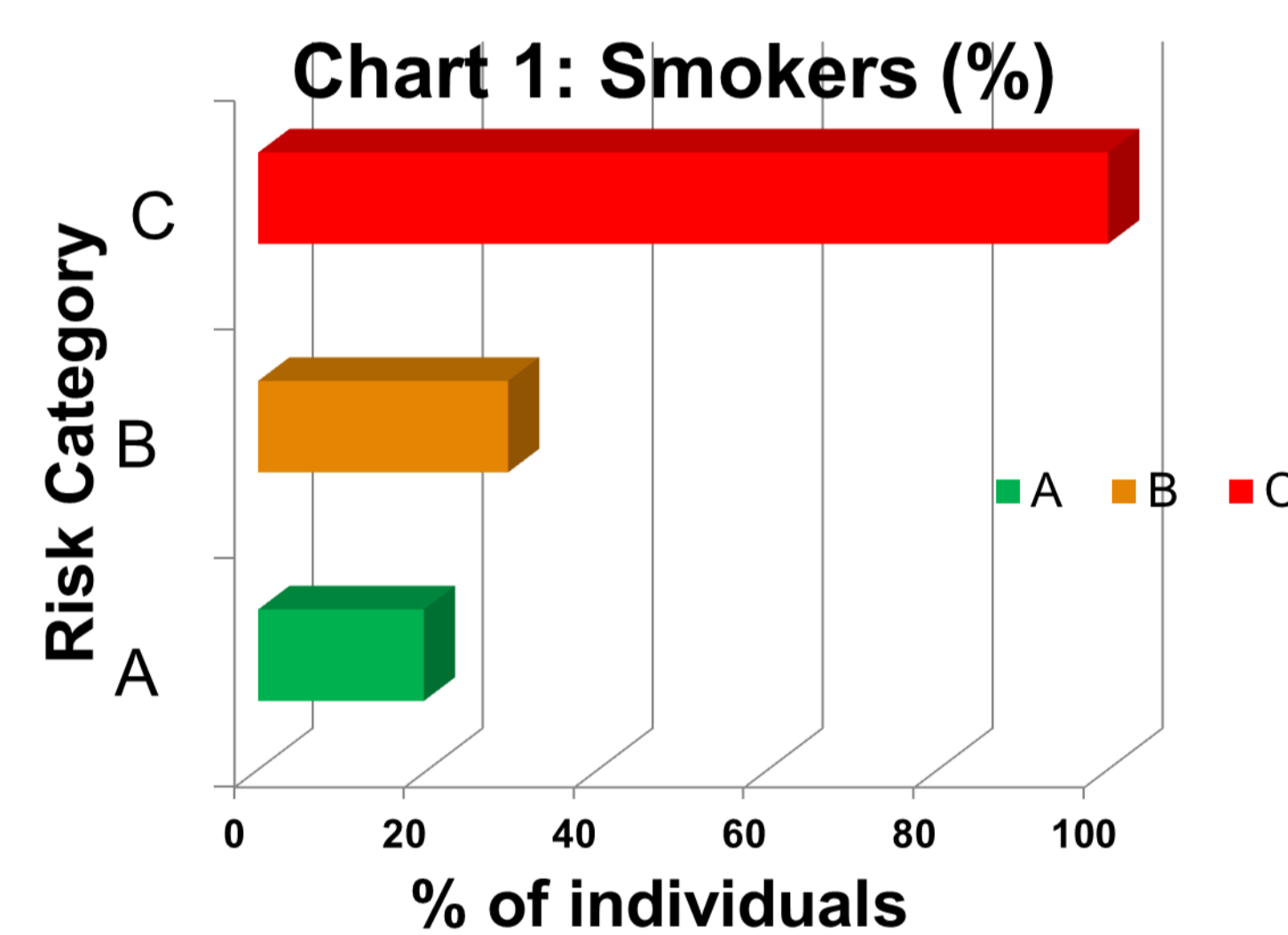
Clinical Variables	FRAX Category		
	A n = 651	B n = 17	C n = 1
FRAX - mean (%)	3.6	7.8	13.0
BMI - mean	27.6	27.2	21.07
Age - mean (yrs)	49.6	50.6	54
Alcohol intake (>3U/weeks) (%)	8.8	23.5	100
Smokers (%)	19.5	29.4	100
Glucocorticoid use (%)	6.0	17.6	0
Rheumatoid arthritis (%)	3.2	5.9	100

REFERENCES

- Post, F, McCloskey, E, Compston, J, Bowman, C, Hay, P, Johnson, M, Mallon, P, Peters, B, samarawickrama, A, Tudor-Williams, G. Prevention of bone loss and management of fracture risk in HIV Future Science Group 2011 6(6) : 1-14
- EACS) Europeans AIDS Clinical Society. Guidelines 2011[Online Document] [Cited: December 2011] Available for: [URLhttp://www.europeanaidscinicalsociety.org/images/stories/EACS-Pdf/eacsguidelines-v6_english.pdf](http://www.europeanaidscinicalsociety.org/images/stories/EACS-Pdf/eacsguidelines-v6_english.pdf)
- Roseninge, M, Gedela, K, Copas, A, Wilkinson, A, Sheehy, C, Bano, G, P. Hay, Pakianathan, M, Sadiq. Tenofovir-Linked Hyperparathyroidism Is Independently Associated With the Presence of Vitamin D Deficiency J Acquir Immune Defic Syndr 2009; 54 (5): 496-499

RESULTS

- The mean age and BMI of those in categories A and B was similar. The average age was 3.4% higher in the patient in category C than the mean age in Category B. The BMI was 6.13% lower in category C than Category B.
- As Chart 1 and 2 show those in a higher risk category are more likely to be smokers and drink more than 3 units of alcohol per week.
- In Category A 39/651 (6.0%) had taken glucocorticoids compared with 3/17 (17.6%) in Category B.
- In Category A 21/651 (3.2%), in Category B 1/17 (5.9%) and 1/1 in Category C (100%) had a diagnosis of rheumatoid arthritis
- In Category A 40/651 (6.1%), in Category B 8/17 (47.1%) and in Category C 1/1(100%) had a previous low impact fracture.



DISCUSSION

- Only 18/669 (2.7%) were identified as higher risk of fracture in this patient cohort. The true risk may however be higher as this study did take into account:
 - The effects on antiviral drugs such as tenofovir and protease inhibitors. Therefore the effect of treatment needs further analysis in this population cohort
 - Period of time since diagnosis with HIV
 - Other causes of osteopenia including vitamin D and testosterone deficiency which are not uncommon in this patient cohort
- Follow up of outcomes in patients identified at higher risk will need to be undertaken to establish the effectiveness of screening of this population.

Please note data on the published abstract over estimated FRAX risk as all fractures sustained in adulthood were included in the initial calculation)

ACKNOWLEDGEMENTS

With many thanks to all the HIV nursing team who collected the data and the HIV reception staff