

**Table 2:** Estimated parameters of the mixed effects models fitted separately on each of the four mammographic density measures but including both Cumulus (left MLO) and ImageJ-based (left-right MLO mean) values; control women only.

		Percent density (%)	Dense Area (cm <sup>2</sup> )	Non-dense area, log scale (cm <sup>2</sup> )	Breast Area, log scale (cm <sup>2</sup> )
Fixed affect parameters		Coefficient <sup>a</sup> (95% CI)	Coefficient <sup>a</sup> (95% CI)	Coefficient <sup>a</sup> (95% CI)	Coefficient <sup>a</sup> (95% CI)
Intercept		33.44 (31.06, 35.83)	40.69 (37.63, 43.75)	4.41 (4.33, 4.49)	4.86 (4.81, 4.91)
Age centred at age 45 yrs	Linear term	-0.45 (-0.70, -0.19)	-0.20 (-0.55, 0.14)	0.03 (0.03, 0.04)	0.02 (0.01, 0.02)
	Quadratic term			0.00 (-0.01, 0.01)	
Variables influencing the mean level					
Methods	Cumulus (left MLO)	referent		referent	referent
	ImageJ-based (left-right MLO mean)	2.54 (2.07, 3.00)		0.00 (-0.01, 0.01)	0.00 (-0.01, 0.04)
BMI	16-21	4.42 (2.48, 6.35)	0.13 (-2.5, 2.75)	-0.15 (-0.2, -0.1)	-0.07 (-0.1, -0.04)
(kg/m <sup>2</sup> )	22-24	referent	Referent	referent	referent
	25-29	-5.32 (-6.78, -3.86)	-2.67 (-4.66, -0.69)	0.14 (0.1, 0.18)	0.06 (0.04, 0.08)
	30-40	-8.98 (-11.45, -6.51)	-3.29 (-6.59, 0.01)	0.25 (0.18, 0.32)	0.13 (0.09, 0.16)
Menopause	Pre-	referent	referent	referent	referent
	Post-	-0.75 (-2.36, 0.87)	-1.55 (-3.75, 0.65)	0.01 (-0.03, 0.05)	
Reader	1	referent	referent	referent	referent
	2	0.88 (-2.2, 3.95)	2.62 (-1.31, 6.55)	0.00 (-0.11, 0.11)	0.01 (-0.06, 0.08)
	3	0.82 (-2.52, 4.17)	0.25 (-4.02, 4.52)	-0.06 (-0.18, 0.06)	-0.03 (-0.1, 0.05)
Variables influencing the rate of change					
Method	Cumulus (left MLO)			referent	referent
	ImageJ-based (left-right MLO mean)			-0.01 (-0.02, -0.01)	-0.01 (-0.02, -0.01)
Menopause	Pre-	referent	referent	referent	
	Post-	-0.49 (-0.82, -0.15)	-0.72 (-1.19, -0.25)	0.01 (0, 0.02)	
Reader	1	referent	referent		
	2	-0.57 (-0.91, -0.22)	-0.76 (-1.23, -0.29)		
	3	-0.35 (-0.73, 0.02)	-0.48 (-1.00, 0.04)		
Random effects parameters					
	SD slope	0.89 (0.74, 1.06)	1.21 (1.01, 1.45)	0.03 (0.02, 0.03)	0.02 (0.01, 0.02)
	SD intercept	13.4 (12.44, 14.49)	17.07 (15.85, 18.39)	0.48 (0.44, 0.51)	0.32 (0.3, 0.34)
	Correlation	-0.1 (-0.26, 0.07)	-0.19 (-0.35, 0.02)	-0.12 (-0.26, 0.03)	0.01 (-0.12, 0.15)
Residuals by method	SD for Cumulus	9.10 (8.67, 9.55)	13.77 (13.16, 14.42)	0.17 (0.16, 0.18)	0.08 (0.08, 0.08)
	SD for ImageJ	7.65 (7.29, 8.03)	10.09 (9.62, 10.58)	0.23 (0.22, 0.24)	0.11 (0.11, 0.12)
	LRT <sup>b</sup>	0.0002	<0.0001	<0.0001	<0.0001

BMI: body mass index (kg/m<sup>2</sup>); CI: confidence interval; MLO: medio-lateral oblique view; SD standard deviation; SE: standard error

<sup>a</sup> BMI and reader indicators were included as *a priori* confounders, other predictors were identified by backward selection if p value <0.05.

<sup>b</sup> Likelihood ratio test (LRT) for the equality of the residual SDs of the two methods