Supplementary Table 1: Dynamic prediction using the multistate based on a Cox model including age and ELN risk group.

Predicted probabilities are given for patients with 65 years of age (median of the cohort) and intermediate (A and B) or unfavorable (C and D) ELN risk. State-associated predicted probability represents the probability for being in that specific state at the prediction time given that the patient is in the No-Allo-CR (i.e. event free and not transplanted, A and C) or Allo-CR (i.e. event free after transplantation, B and D) state at the landmark time.

A) ELN Intermediate / No Allo - CR

landmark time in month post CR1	prediction time in year post CR1	No Allo - CR	Allo - CR	No Allo - Relapse	No Allo - NRM	Allo - relapse	Allo - NRM
0	2	17%	26%	42%	4%	7%	5%
0	3	12%	23%	46%	5%	8%	6%
0	4	9%	22%	48%	6%	9%	6%
0	5	8%	21%	49%	6%	10%	6%
3	2	21%	21%	44%	3%	6%	4%
3	3	15%	19%	50%	4%	7%	5%
3	4	12%	18%	52%	5%	8%	5%
3	5	10%	18%	54%	6%	8%	5%
6	2	36%	5%	54%	4%	1%	1%
6	3	25%	4%	63%	6%	1%	1%
6	4	20%	4%	67%	8%	1%	1%
6	5	16%	4%	69%	8%	1%	1%
9	2	45%	2%	49%	4%	0%	0%
9	3	31%	2%	61%	6%	0%	0%
9	4	25%	2%	65%	8%	0%	0%
9	5	20%	2%	69%	9%	0%	0%
12	2	53%	1%	43%	3%	0%	0%
12	3	37%	1%	57%	6%	0%	0%
12	4	29%	1%	62%	8%	0%	0%
12	5	24%	1%	66%	9%	0%	0%

B) ELN Intermediate / Allo - CR

| landmark time in month post CR1	prediction time in year post CR1	No Allo - CR	Allo - CR	No Allo - Relapse	No Allo - NRM	Allo - relapse	Allo - NRM
0	2	NA	NA	NA	NA	NA	NA
0	3	NA	NA	NA	NA	NA	NA
0	4	NA	NA	NA	NA	NA	NA
0	5	NA	NA	NA	NA	NA	NA
3	2	0%	66%	0%	0%	19%	15%
3	3	0%	60%	0%	0%	23%	17%
3	4	0%	56%	0%	0%	26%	18%
3	5	0%	56%	0%	0%	26%	18%
6	2	0%	73%	0%	0%	16%	11%
6	3	0%	66%	0%	0%	20%	14%
6	4	0%	62%	0%	0%	23%	15%
6	5	0%	62%	0%	0%	24%	15%
9	2	0%	80%	0%	0%	12%	8%
9	3	0%	72%	0%	0%	16%	11%
9	4	0%	68%	0%	0%	20%	12%
9	5	0%	67%	0%	0%	21%	12%
12	2	0%	86%	0%	0%	10%	4%
12	3	0%	78%	0%	0%	14%	8%
12	4	0%	73%	0%	0%	18%	9%
12	5	0%	72%	0%	0%	19%	9%

C) ELN Unfavorable / No Allo - CR

landmark time in month post CR1	prediction time in year post CR1	No Allo - CR	Allo - CR	No Allo - Relapse	No Allo - NRM	Allo - relapse	Allo - NRM
0	2	5%	26%	41%	5%	13%	10%
0	3	3%	22%	43%	5%	16%	12%
0	4	2%	20%	44%	5%	17%	12%
0	5	1%	19%	44%	5%	18%	12%
3	2	8%	23%	46%	3%	12%	8%
3	3	4%	20%	49%	4%	14%	10%
3	4	3%	18%	49%	4%	15%	10%
3	5	2%	17%	50%	5%	15%	10%
6	2	18%	6%	67%	5%	2%	1%
6	3	10%	5%	74%	7%	2%	2%
6	4	7%	5%	76%	8%	3%	2%
6	5	5%	5%	78%	8%	3%	2%
9	2	26%	3%	65%	5%	1%	0%
9	3	14%	2%	75%	7%	1%	0%
9	4	10%	2%	79%	8%	1%	1%
9	5	7%	2%	81%	9%	1%	1%
12	2	35%	1%	60%	4%	0%	0%
12	3	19%	1%	73%	7%	0%	0%
12	4	13%	1%	78%	9%	0%	0%
12	5	9%	1%	81%	9%	0%	0%

D) ELN Unfavorable / Allo - CR

landmark time in month post CR1	prediction time in year post CR1	No Allo - CR	Allo - CR	No Allo - Relapse	No Allo - NRM	Allo - relapse	Allo - NRM
0	2	NA	NA	NA	NA	NA	NA
0	3	NA	NA	NA	NA	NA	NA
0	4	NA	NA	NA	NA	NA	NA
0	5	NA	NA	NA	NA	NA	NA
3	2	0%	50%	0%	0%	28%	22%
3	3	0%	42%	0%	0%	32%	25%
3	4	0%	38%	0%	0%	36%	26%
3	5	0%	38%	0%	0%	36%	26%
6	2	0%	60%	0%	0%	24%	16%
6	3	0%	50%	0%	0%	29%	21%
6	4	0%	46%	0%	0%	33%	21%
6	5	0%	45%	0%	0%	34%	21%
9	2	0%	69%	0%	0%	19%	12%
9	3	0%	58%	0%	0%	25%	17%
9	4	0%	53%	0%	0%	29%	18%
9	5	0%	51%	0%	0%	30%	18%
12	2	0%	78%	0%	0%	15%	7%
12	3	0%	66%	0%	0%	22%	12%
12	4	0%	60%	0%	0%	27%	13%
12	5	0%	58%	0%	0%	28%	13%

Supplementary table 2: Multivariate Cox model from the dynamic super landmark model

	Relapse			Non-Relapse Mortality		
	HR$	95%CI	p	HR$	95%CI	p
Allo-HSCT*						
no	1					
yes	0.29	(0.21 - 0.41)	<0.001	2.36	(1.26 - 4.45)	0.008
Age	1.04	(1.00 - 1.08)	0.068	1.00	(0.92 - 1.09)	0.928
ELN risk						
Intermediate	1			1		
Unfavorable	1.69	(1.26 - 2.25)	<0.001	1.05	(0.61 - 1.79)	0.861
N induction courses						
one	1			1		
two	1.38	(0.88 - 2.16)	0.166	0.30	(0.07 - 1.32)	0.111
Treatment period						
2007-10	1			1		
2011-13	1.05	(0.78 - 1.42)	0.746	0.67	(0.34 - 1.33)	0.251
2014-17	0.88	(0.65 - 1.19)	0.408	1.09	(0.59 - 2.00)	0.788
	Relapse-Free Survival			**Overall Survival**		
	HR	95%CI	p	HR	95%CI	p
Allo-HSCT*						
no						
yes	0.47	(0.36 - 0.62)	<0.001	0.54	(0.40 - 0.72)	<0.001
Age	1.03	(1.00 - 1.07)	0.082	1.04	(1.00 - 1.08)	0.073
ELN risk						
Intermediate	1			1		
Unfavorable	1.54	(1.19 - 1.98)	0.001	1.64	(1.24 - 2.16)	<0.001
N induction courses						
one	1			1		
two	1.06	(0.68 - 1.66)	0.784	1.12	(0.71 - 1.77)	0.629
Treatment period						
2007-10	1			1		
2011-13	0.98	(0.75 - 1.28)	0.877	1.00	(0.75 - 1.34)	0.995
2014-17	0.93	(0.72 - 1.22)	0.609	0.98	(0.73 - 1.30)	0.875

$Cause specific HR. *Allo-HSCT was considered as categorical covariate (yes or no) according to transplantation status at each ladmark time
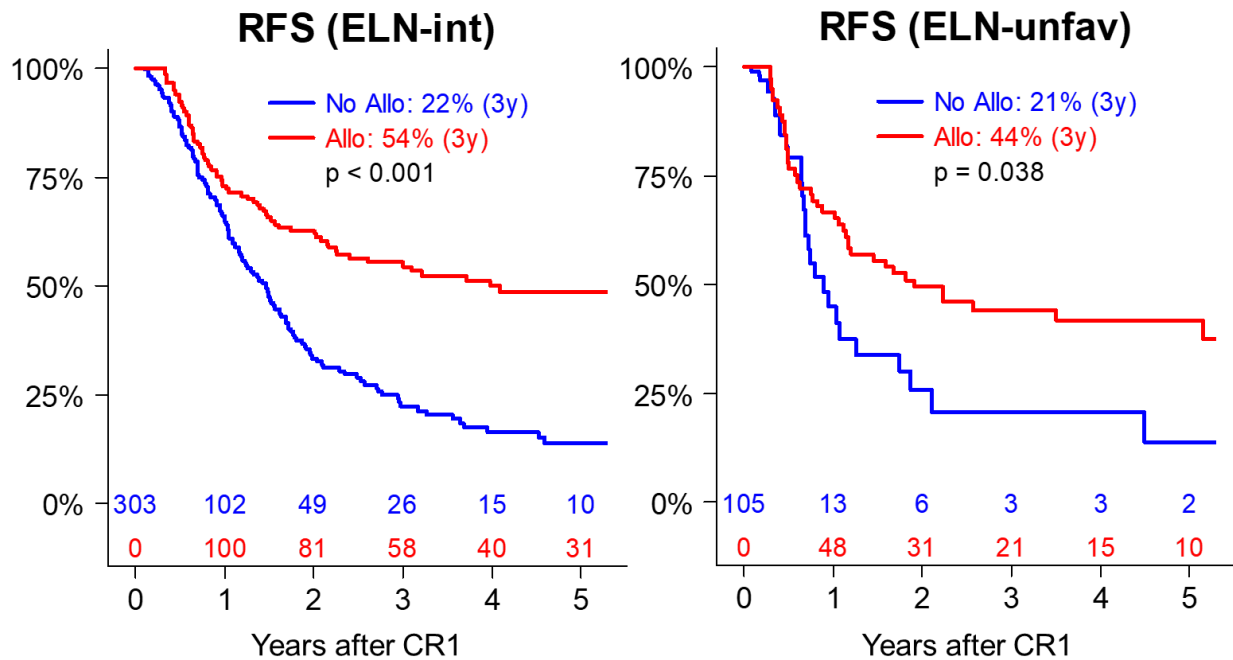
Supplementary Figure 1: Transplantation rates and causes of not proceeding to Allo-HSCT over years
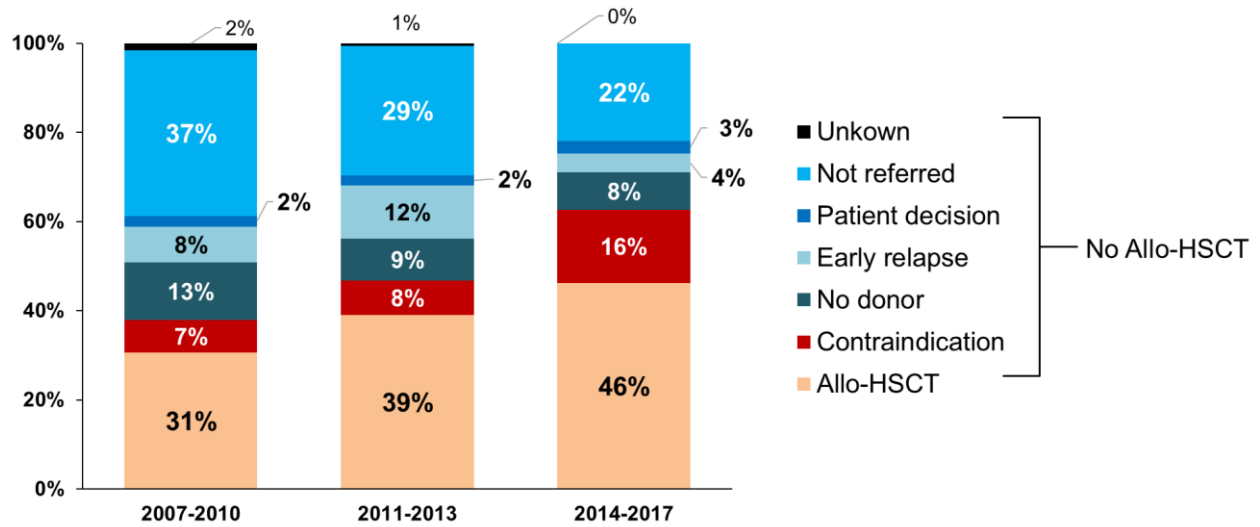
Supplementary Figure 2: Impact of Allo-HSCT on RFS in intermediate-1 (left panel) and intermediate-2 (right panel) ELN risk group
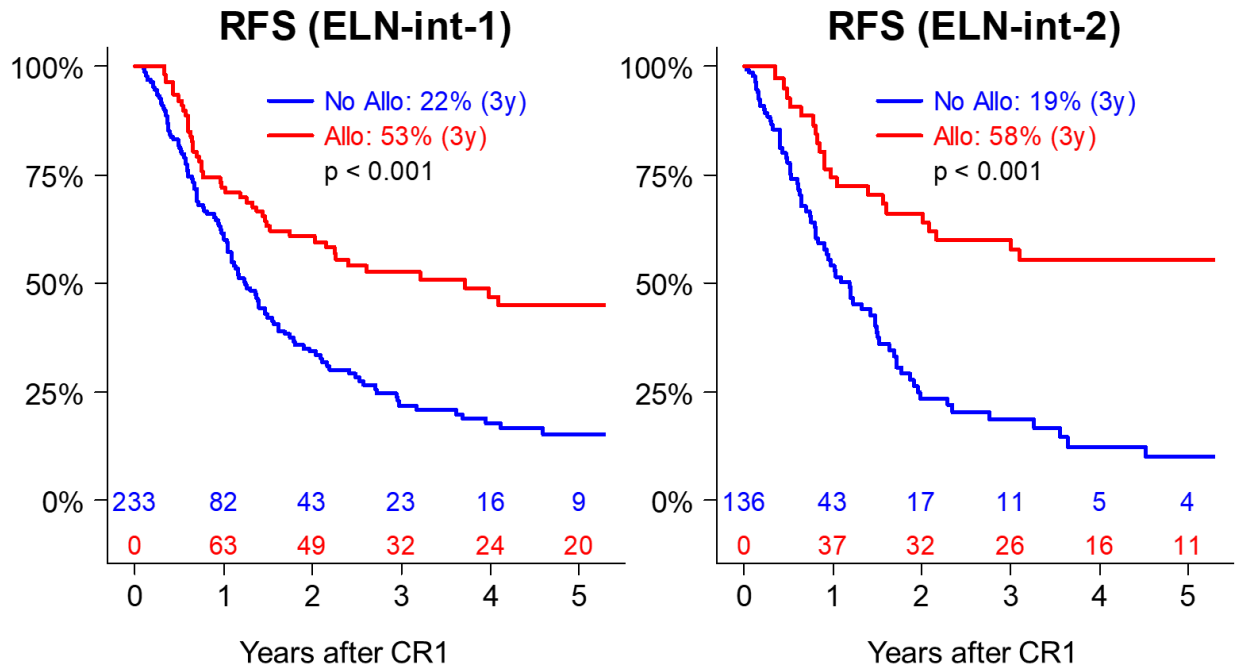
Supplementary Figure 3: Impact of Allo-HSCT on RFS in ELN intermediate (left panel) and unfavorable (right panel) risk subgroups, after exclusion of patients who did not undergo Allo-HSCT because of contraindication or early AML relapse.

RFS (ELN-int)

No Allo: 22% (3y)
Allo: 54% (3y)
p < 0.001

303	102	49	26	15	10
0	100	81	58	40	31

Years after CR1

RFS (ELN-unfav)

No Allo: 21% (3y)
Allo: 44% (3y)
p = 0.038

|					
105	13	6	3	3	2
0	48	31	21	15	10

Years after CR1

Supplementary Figure 4: Simon Makuch plots of RFS (left panel) and OS (right panel) considering Allo-HSCT as time dependent variable in a 6-month landmark analysis.
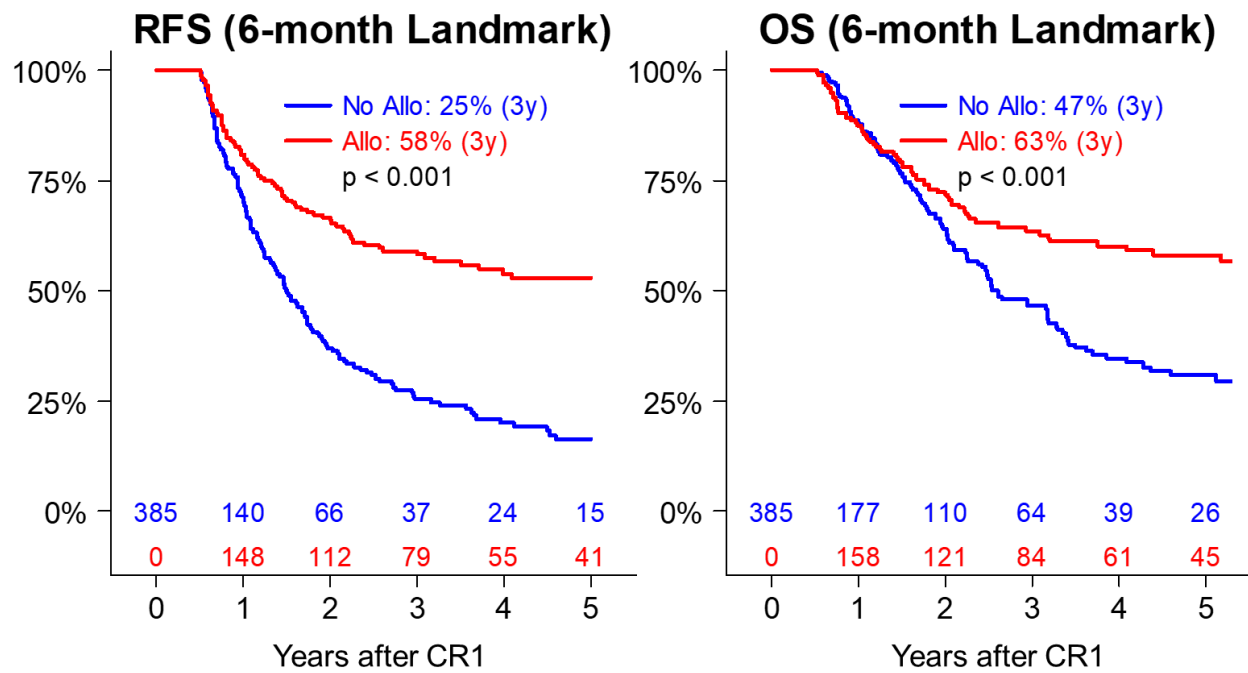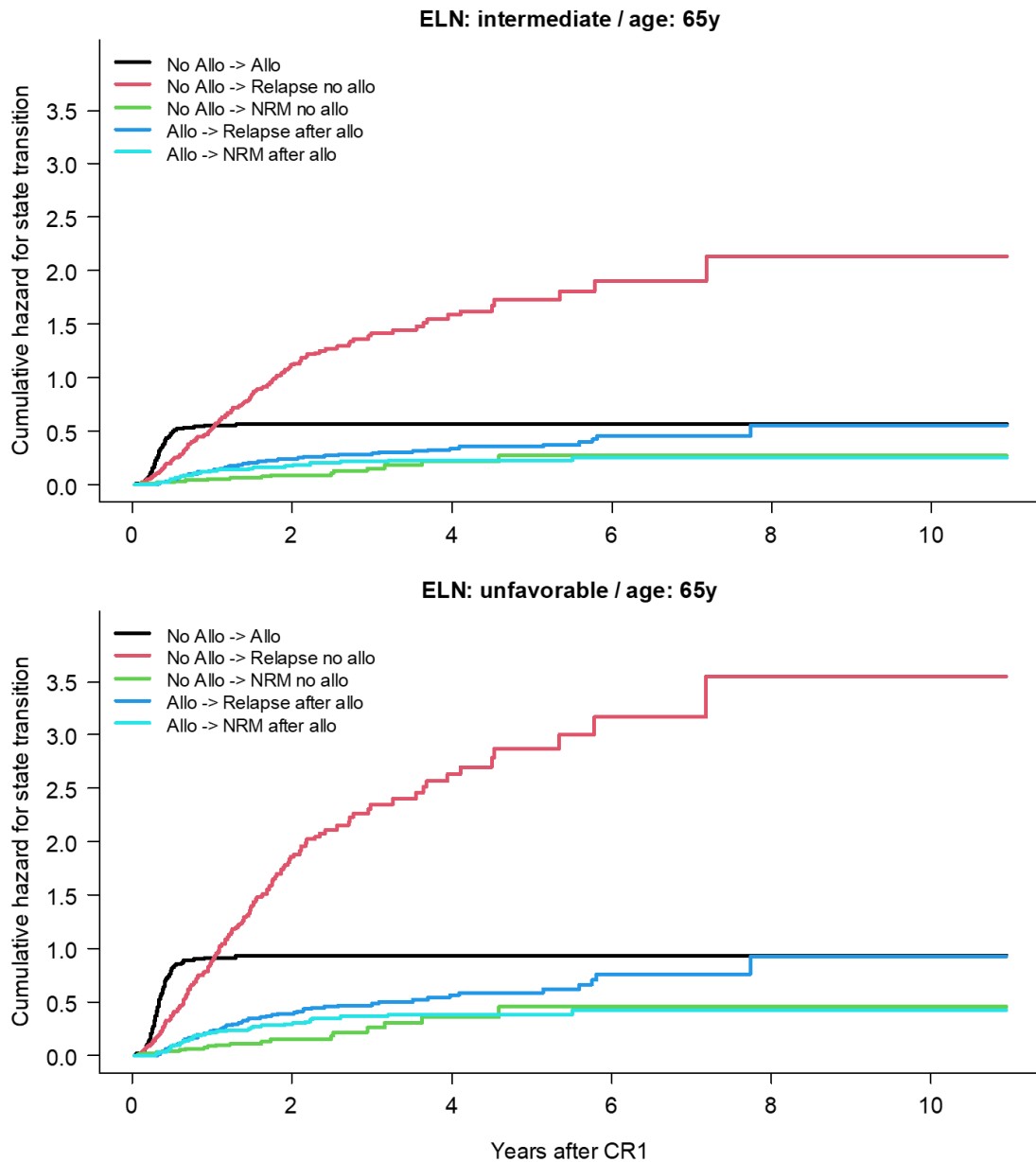
Supplementary Figure 5: Censoring distribution.

Plotted as a reverse Kaplan-Meier curve for patients with no event for RFS at last contact.

Censoring distribution
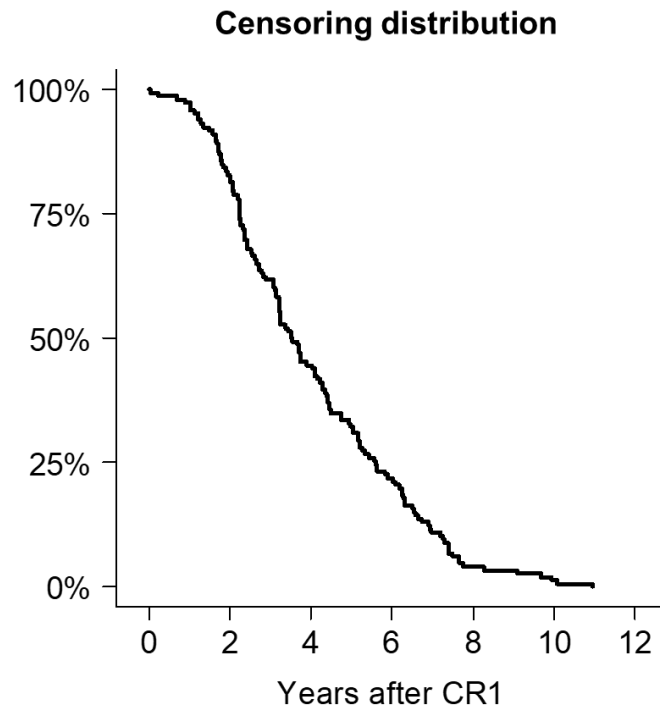
Supplementary Figure 6: Cumulative hazard for state transition of the multistate model.

Predictions are given for a patient of 65 years of age and intermediate (upper panel) or unfavorable (lower panel) ELN risk AML.

Supplementary Figure 7: Dynamic landmarking.

Distribution of current values of the "Allo" variable (red: Allo=yes; blue: Allo=no) among patients at risk of event for RFS at each landmark time (every month from CR1 up to 5 years).