Contingency Tables

Contingency Table by Mutation Status

Characteristic*1*	Mutation Status		p-value*2*
	No Mutation, N = 277	Mutation, N = 28	
Age			<0.001
Over 50	201 (73%)	10 (36%)	
Under 50	76 (27%)	18 (64%)	
Estrogen Status			0.002
Negative	50 (18%)	12 (43%)	
Positive	86 (31%)	2 (7.1%)	
Unknown	141 (51%)	14 (50%)	
Tumor Stage			0.13
Stage 1	204 (74%)	18 (64%)	
Stage 2	60 (22%)	6 (21%)	
Unknown	13 (4.7%)	4 (14%)	
Lymph Node Invovlement			0.044
0	170 (61%)	11 (39%)	
>0	94 (34%)	16 (57%)	
Unknown	13 (4.7%)	1 (3.6%)	
Histology			0.074
Infiltrating ductal	227 (82%)	27 (96%)	
Medullary	4 (1.4%)	1 (3.6%)	
Other ductal	23 (8.3%)	0 (0%)	
Infiltrating lobular	23 (8.3%)	0 (0%)	
Chemotherapy			0.058
Not Had	175 (63%)	12 (43%)	
Had	78 (28%)	14 (50%)	
Unknown	24 (8.7%)	2 (7.1%)	
Tamoxifen			0.2
Not Had	96 (35%)	6 (21%)	
Had	147 (53%)	20 (71%)	
Unknown	34 (12%)	2 (7.1%)	
Dead to Breast Cancer (DOBC)			0.04
No Event	241 (87%)	20 (71%)	
Event	35 (13%)	8 (29%)	
Unknown	1	0	
Ipsilateral Recurrence (IBTR)			0.7
No Event	254 (92%)	25 (89%)	
Event	23 (8.3%)	3 (11%)	
Distant Recurrence (DR)			0.04
No Event	228 (82%)	18 (64%)	
Event	49 (18%)	10 (36%)	

Contingency Table by Age

Characteristic*1*	Age		p-value*2*
	Over 50, N = 211	Under 50, N = 94	
Mutation Status			<0.001
No Mutation	201 (95%)	76 (81%)	
Mutation	10 (4.7%)	18 (19%)	
Estrogen Status			<0.001
Negative	33 (16%)	29 (31%)	
Positive	73 (35%)	15 (16%)	
Unknown	105 (50%)	50 (53%)	
Tumor Stage			0.005
Stage 1	161 (76%)	61 (65%)	
Stage 2	44 (21%)	22 (23%)	
Unknown	6 (2.8%)	11 (12%)	
Lymph Node Invovlement			0.001
0	135 (64%)	46 (49%)	
>0	63 (30%)	47 (50%)	
Unknown	13 (6.2%)	1 (1.1%)	
Histology			0.9
Infiltrating ductal	173 (82%)	81 (86%)	
Medullary	4 (1.9%)	1 (1.1%)	
Other ductal	17 (8.1%)	6 (6.4%)	
Infiltrating lobular	17 (8.1%)	6 (6.4%)	
Chemotherapy			<0.001
Not Had	152 (72%)	35 (37%)	
Had	43 (20%)	49 (52%)	
Unknown	16 (7.6%)	10 (11%)	
Tamoxifen			<0.001
Not Had	90 (43%)	12 (13%)	
Had	100 (47%)	67 (71%)	
Unknown	21 (10.0%)	15 (16%)	
Dead to Breast Cancer (DOBC)			0.064
No Event	186 (89%)	75 (80%)	
Event	24 (11%)	19 (20%)	
Unknown	1	0	
Ipsilateral Recurrence (IBTR)			0.046
No Event	198 (94%)	81 (86%)	
Event	13 (6.2%)	13 (14%)	
Distant Recurrence (DR)			0.1
No Event	176 (83%)	70 (74%)	
Event	35 (17%)	24 (26%)	

Contralteral Recurrence (CR)			0.011
No Event	244 (88%)	19 (68%)	
Event	27 (9.7%)	8 (29%)	
Unknown	6 (2.2%)	1 (3.6%)	
Disease Free Survival (AD)			<0.001
No Event	196 (71%)	10 (36%)	
Event	81 (29%)	18 (64%)	
Overall Survival			0.13
No Event	218 (79%)	18 (64%)	
Event	59 (21%)	10 (36%)	

1 Statistics presented: n (%)
2 Statistical tests performed: chi-square test of independence; Fisher's exact test

Contralteral Recurrence (CR)			0.1
No Event	183 (87%)	80 (85%)	
Event	21 (10.0%)	14 (15%)	
Unknown	7 (3.3%)	0 (0%)	
Disease Free Survival (AD)			0.034
No Event	151 (72%)	55 (59%)	
Event	60 (28%)	39 (41%)	
Overall Survival			0.8
No Event	162 (77%)	74 (79%)	
Event	49 (23%)	20 (21%)	

1 Statistics presented: n (%)
2 Statistical tests performed: chi-square test of independence; Fisher's exact test

Contingency Table by Tumor Stage

Characteristic*1*	Tumor Stage		p-value*2*
	Stage 1, N = 222	**Stage 2, N = 66**	
Mutation Status			>0.9
No Mutation	204 (92%)	60 (91%)	
Mutation	18 (8.1%)	6 (9.1%)	
Age			0.4
Over 50	161 (73%)	44 (67%)	
Under 50	61 (27%)	22 (33%)	
Estrogen Status			0.4
Negative	44 (20%)	17 (26%)	
Positive	64 (29%)	21 (32%)	
Unknown	114 (51%)	28 (42%)	
Lymph Node Involvement			0.004
0	145 (65%)	30 (45%)	
>0	65 (29%)	34 (52%)	
Unknown	12 (5.4%)	2 (3.0%)	
Histology			>0.9
Infiltrating ductal	184 (83%)	54 (82%)	
Medullary	4 (1.8%)	1 (1.5%)	
Other ductal	18 (8.1%)	5 (7.6%)	
Infiltrating lobular	16 (7.2%)	6 (9.1%)	
Chemotherapy			0.074
Not Had	145 (65%)	36 (55%)	
Had	56 (25%)	26 (39%)	
Unknown	21 (9.5%)	4 (6.1%)	
Tamoxifen			0.4
Not Had	77 (35%)	21 (32%)	
Had	116 (52%)	40 (61%)	
Unknown	29 (13%)	5 (7.6%)	
Dead to Breast Cancer (DOBC)			<0.001

Contingency Table by Node Involvement

Characteristic*1*	Node Involvement		p-value*2*
	0, N = 181	**> 0, N = 110**	
Mutation Status			0.027
No Mutation	170 (94%)	94 (85%)	
Mutation	11 (6.1%)	16 (15%)	
Age			0.003
Over 50	135 (75%)	63 (57%)	
Under 50	46 (25%)	47 (43%)	
Estrogen Status			0.3
Negative	34 (19%)	26 (24%)	
Positive	49 (27%)	34 (31%)	
Unknown	98 (54%)	50 (45%)	
Tumor Stage			<0.001
Stage 1	145 (80%)	65 (59%)	
Stage 2	30 (17%)	34 (31%)	
Unknown	6 (3.3%)	11 (10%)	
Histology			0.8
Infiltrating ductal	149 (82%)	91 (83%)	
Medullary	3 (1.7%)	2 (1.8%)	
Other ductal	16 (8.8%)	7 (6.4%)	
Infiltrating lobular	13 (7.2%)	10 (9.1%)	
Chemotherapy			<0.001
Not Had	145 (80%)	29 (26%)	
Had	16 (8.8%)	75 (68%)	
Unknown	20 (11%)	6 (5.5%)	
Tamoxifen			0.008
Not Had	47 (26%)	48 (44%)	
Had	109 (60%)	51 (46%)	
Unknown	25 (14%)	11 (10%)	
Dead to Breast Cancer (DOBC)			<0.001

No Event	202 (91%)	48 (74%)	
Event	20 (9.0%)	17 (26%)	
Unknown	0	1	
Ipsilateral Recurrence (IBTR)			>0.9
No Event	202 (91%)	61 (92%)	
Event	20 (9.0%)	5 (7.6%)	
Distant Recurrence (DR)			0.002
No Event	191 (86%)	45 (68%)	
Event	31 (14%)	21 (32%)	
Contralateral Recurrence (CR)			0.6
No Event	188 (85%)	60 (91%)	
Event	28 (13%)	5 (7.6%)	
Unknown	6 (2.7%)	1 (1.5%)	
Disease Free Survival (AD)			0.076
No Event	159 (72%)	39 (59%)	
Event	63 (28%)	27 (41%)	
Overall Survival			0.017
No Event	181 (82%)	44 (67%)	
Event	41 (18%)	22 (33%)	

1 Statistics presented: n (%)
2 Statistical tests performed: chi-square test of independence; Fisher's exact test

No Event	166 (92%)	83 (76%)	
Event	15 (8.3%)	26 (24%)	
Unknown	0	1	
Ipsilateral Recurrence (IBTR)			0.8
No Event	166 (92%)	99 (90%)	
Event	15 (8.3%)	11 (10%)	
Distant Recurrence (DR)			<0.001
No Event	157 (87%)	77 (70%)	
Event	24 (13%)	33 (30%)	
Contralateral Recurrence (CR)			0.3
No Event	155 (86%)	98 (89%)	
Event	21 (12%)	12 (11%)	
Unknown	5 (2.8%)	0 (0%)	
Disease Free Survival (AD)			0.002
No Event	135 (75%)	62 (56%)	
Event	46 (25%)	48 (44%)	
Overall Survival			0.002
No Event	154 (85%)	76 (69%)	
Event	27 (15%)	34 (31%)	

1 Statistics presented: n (%)
2 Statistical tests performed: chi-square test of independence; Fisher's exact test

Contingency Table by Survival

Characteristic*1*	BC-Specific Survival		p-value*2*
	No Event, N = 261	Event, N = 43	
Mutation Status			0.04
No Mutation	241 (92%)	35 (81%)	
Mutation	20 (7.7%)	8 (19%)	
Age			0.064
Over 50	186 (71%)	24 (56%)	
Under 50	75 (29%)	19 (44%)	
Estrogen Status			0.6
Negative	51 (20%)	11 (26%)	
Positive	75 (29%)	13 (30%)	
Unknown	135 (52%)	19 (44%)	
Tumor Stage			<0.001
Stage 1	202 (77%)	20 (47%)	
Stage 2	48 (18%)	17 (40%)	
Unknown	11 (4.2%)	6 (14%)	
Lymph Node Invovlement			<0.001
0	166 (64%)	15 (35%)	
>0	83 (32%)	26 (60%)	
Unknown	12 (4.6%)	2 (4.7%)	
Histology			0.019

Contingency Table by Ipsilateral Recurrence

Characteristic*1*	Ipsilaeral Recurrence		p-value*2*
	No Event, N = 279	Event, N = 26	
Mutation Status			0.7
No Mutation	254 (91%)	23 (88%)	
Mutation	25 (9.0%)	3 (12%)	
Age			0.046
Over 50	198 (71%)	13 (50%)	
Under 50	81 (29%)	13 (50%)	
Estrogen Status			0.011
Negative	51 (18%)	11 (42%)	
Positive	84 (30%)	4 (15%)	
Unknown	144 (52%)	11 (42%)	
Tumor Stage			>0.9
Stage 1	202 (72%)	20 (77%)	
Stage 2	61 (22%)	5 (19%)	
Unknown	16 (5.7%)	1 (3.8%)	
Lymph Node Invovlement			0.7
0	166 (59%)	15 (58%)	
>0	99 (35%)	11 (42%)	
Unknown	14 (5.0%)	0 (0%)	
Histology			0.5

Infiltrating ductal	220 (84%)	33 (77%)	
Medullary	4 (1.5%)	1 (2.3%)	
Other ductal	22 (8.4%)	1 (2.3%)	
Infiltrating lobular	15 (5.7%)	8 (19%)	
Chemotherapy			<0.001
Not Had	170 (65%)	16 (37%)	
Had	66 (25%)	26 (60%)	
Unknown	25 (9.6%)	1 (2.3%)	
Tamoxifen			0.3
Not Had	86 (33%)	15 (35%)	
Had	141 (54%)	26 (60%)	
Unknown	34 (13%)	2 (4.7%)	
Ipsilateral Recurrence (IBTR)			0.4
No Event	240 (92%)	38 (88%)	
Event	21 (8.0%)	5 (12%)	
Distant Recurrence (DR)			<0.001
No Event	245 (94%)	0 (0%)	
Event	16 (6.1%)	43 (100%)	
Contralteral Recurrence (CR)			0.8
No Event	224 (86%)	39 (91%)	
Event	30 (11%)	4 (9.3%)	
Unknown	7 (2.7%)	0 (0%)	
Disease Free Survival (AD)			<0.001
No Event	206 (79%)	0 (0%)	
Event	55 (21%)	43 (100%)	
Overall Survival			<0.001
No Event	236 (90%)	0 (0%)	
Event	25 (9.6%)	43 (100%)	

1 Statistics presented: n (%)
2 Statistical tests performed: Fisher's exact test; chi-square test of independence

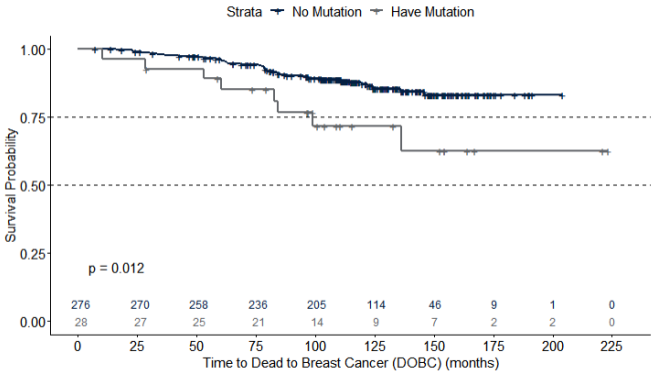
Infiltrating ductal	233 (84%)	21 (81%)	
Medullary	4 (1.4%)	1 (3.8%)	
Other ductal	22 (7.9%)	1 (3.8%)	
Infiltrating lobular	20 (7.2%)	3 (12%)	
Chemotherapy			0.5
Not Had	172 (62%)	15 (58%)	
Had	82 (29%)	10 (38%)	
Unknown	25 (9.0%)	1 (3.8%)	
Tamoxifen			0.2
Not Had	97 (35%)	5 (19%)	
Had	148 (53%)	19 (73%)	
Unknown	34 (12%)	2 (7.7%)	
Dead to Breast Cancer (DOBC)			0.4
No Event	240 (86%)	21 (81%)	
Event	38 (14%)	5 (19%)	
Unknown	1	0	
Distant Recurrence (DR)			0.005
No Event	231 (83%)	15 (58%)	
Event	48 (17%)	11 (42%)	
Contralteral Recurrence (CR)			0.7
No Event	241 (86%)	22 (85%)	
Event	31 (11%)	4 (15%)	
Unknown	7 (2.5%)	0 (0%)	
Disease Free Survival (AD)			<0.001
No Event	204 (73%)	2 (7.7%)	
Event	75 (27%)	24 (92%)	
Overall Survival			0.9
No Event	215 (77%)	21 (81%)	
Event	64 (23%)	5 (19%)	

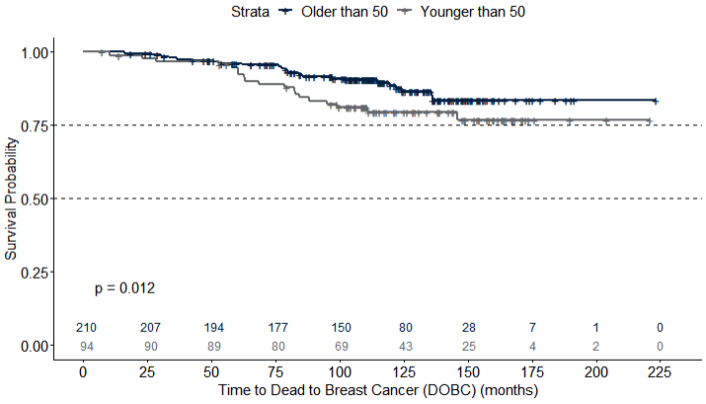
1 Statistics presented: n (%)

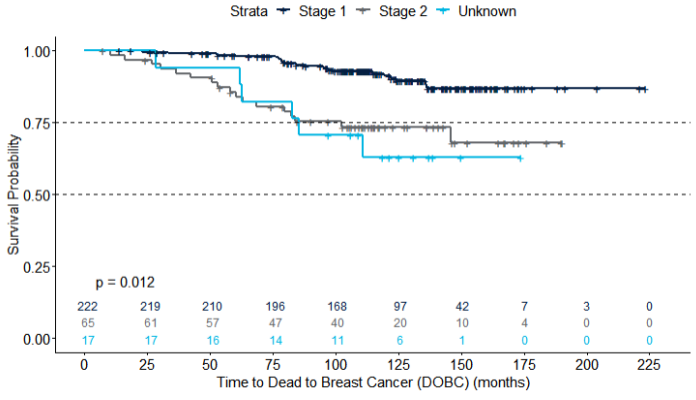
2 Statistical tests performed: Fisher's exact test; chi-square test of independence

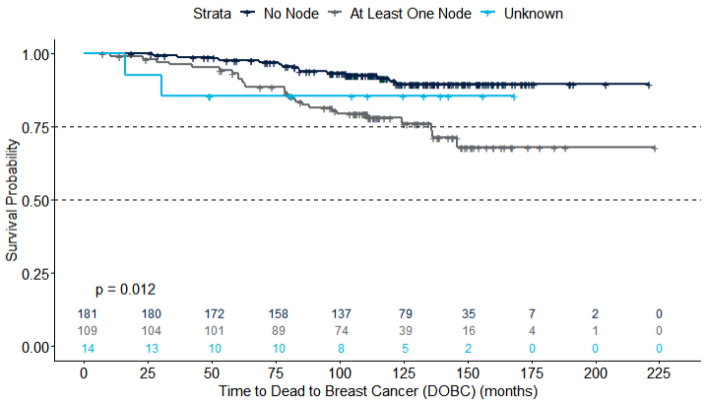
Kaplan Meier Curves

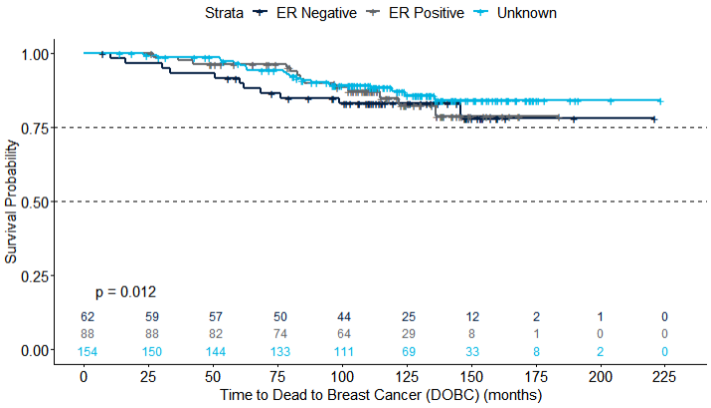
1. Breast Cancer-Specific Survival



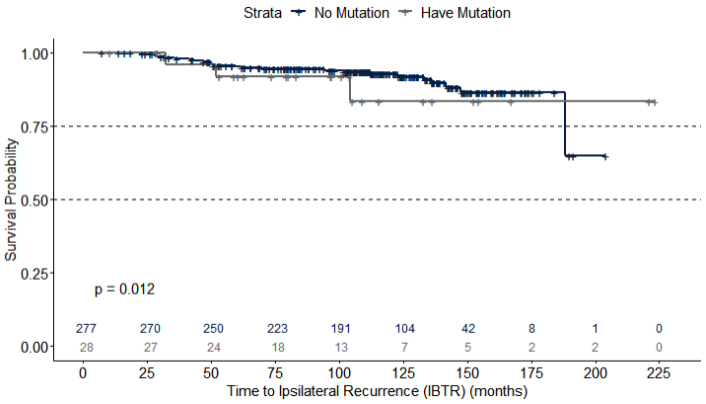


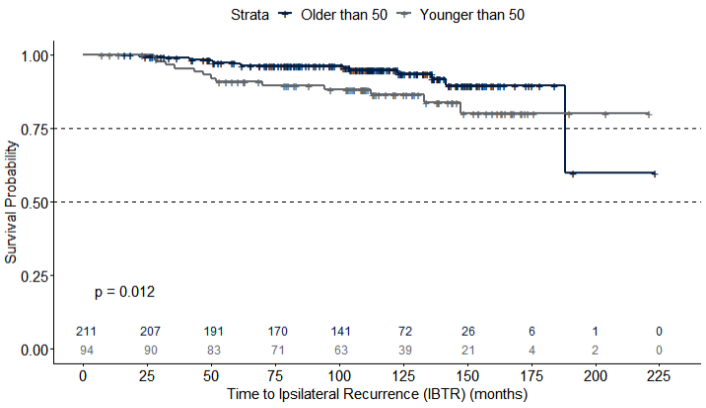




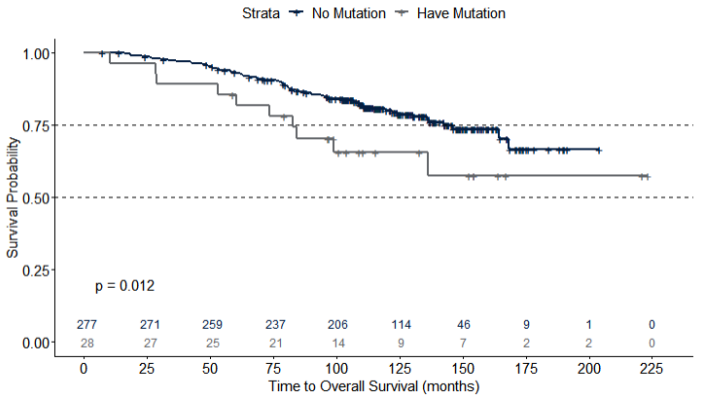


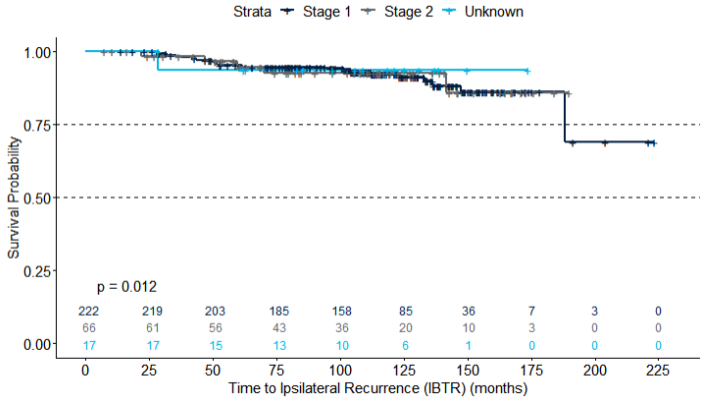
2. Ipsilateral Breast Tumor Recurrence

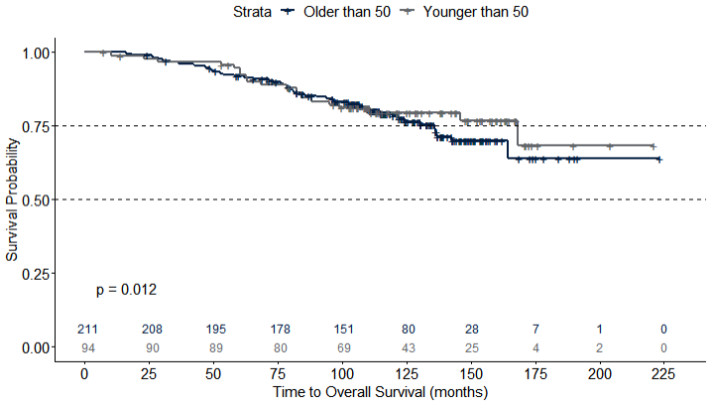


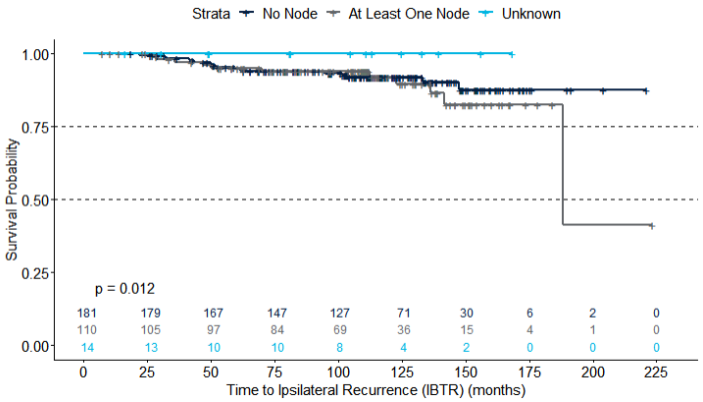


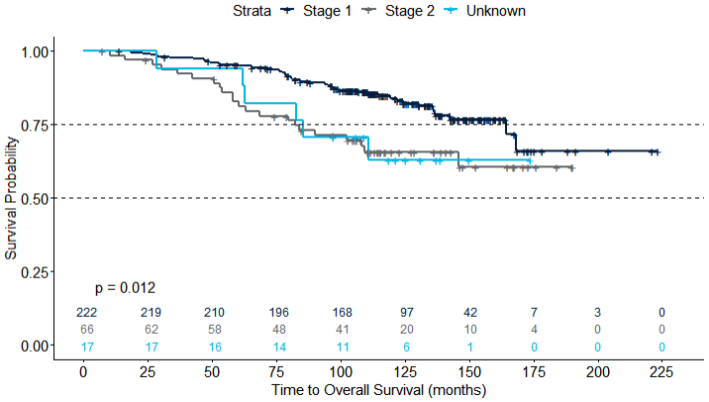
3. Overall Survival

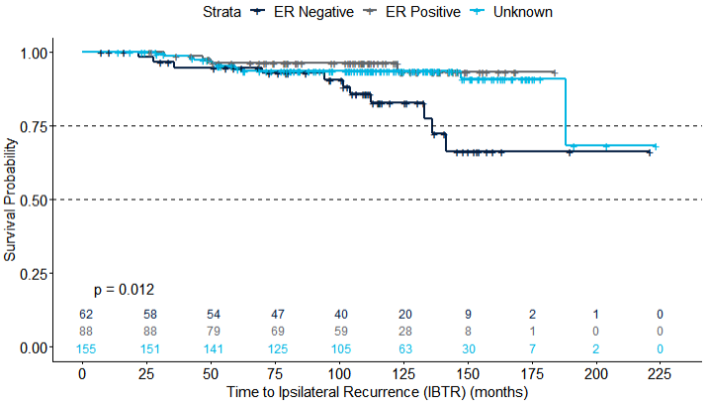


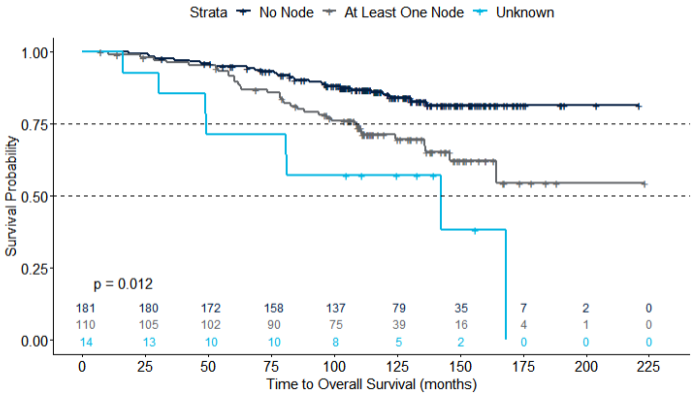


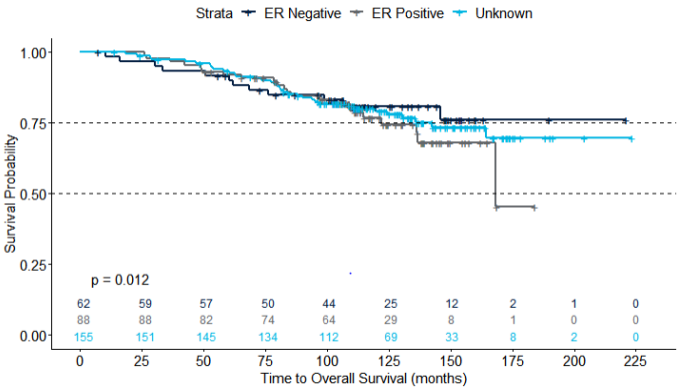


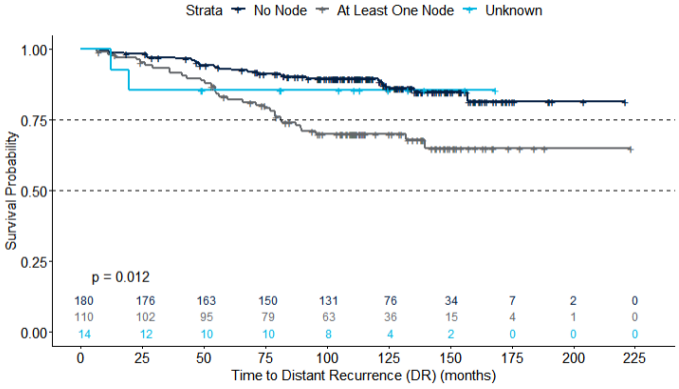




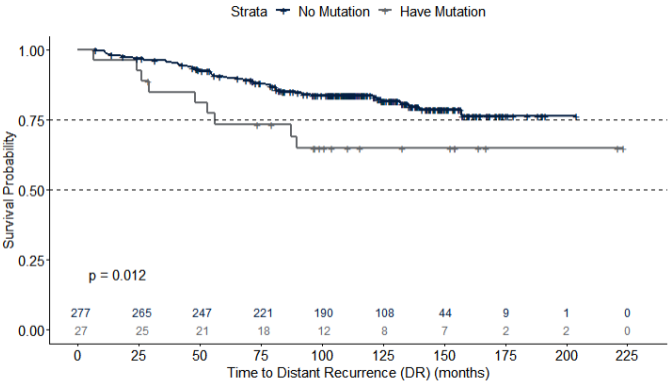


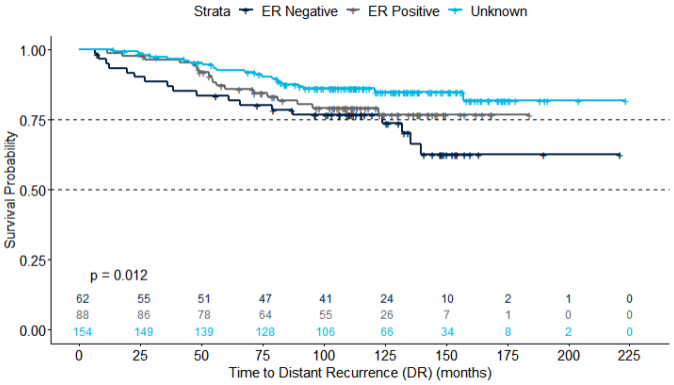


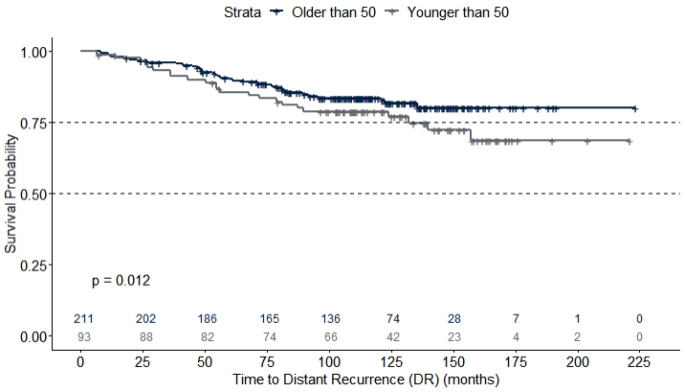




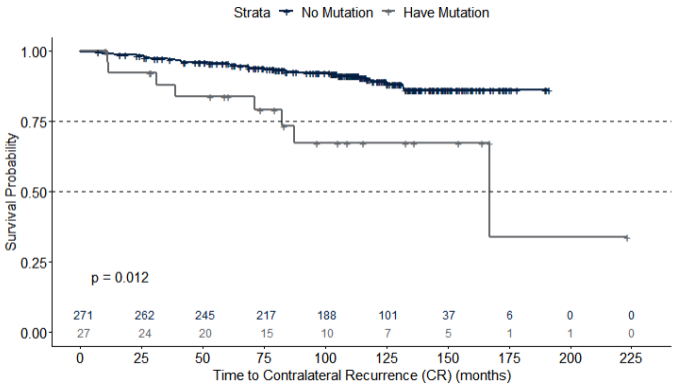
4. Distant Tumor Recurrence

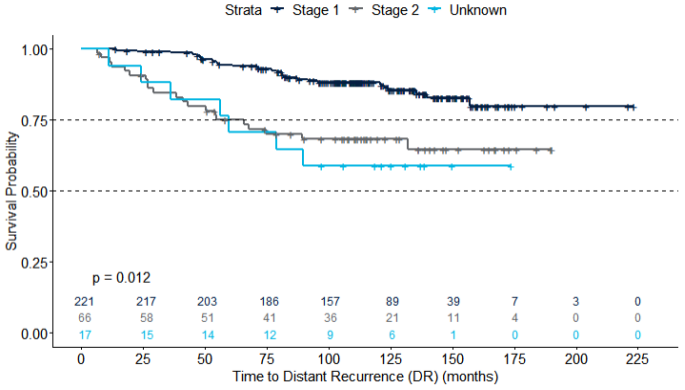


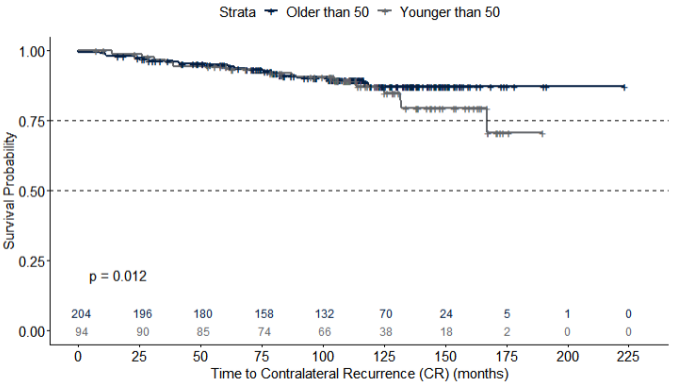


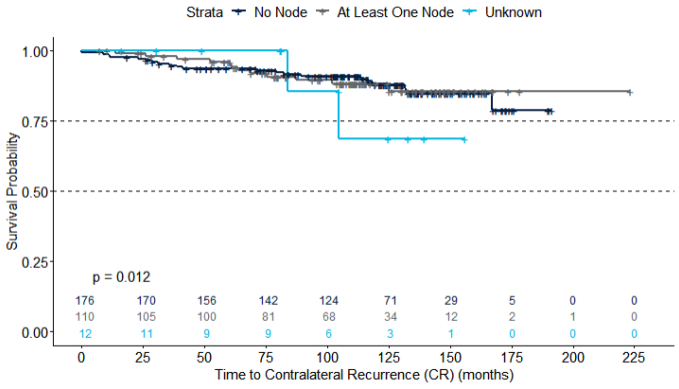


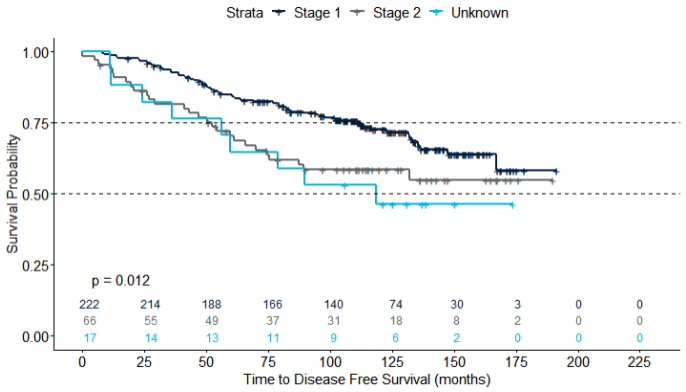
5. Contralateral Tumor Recurrence

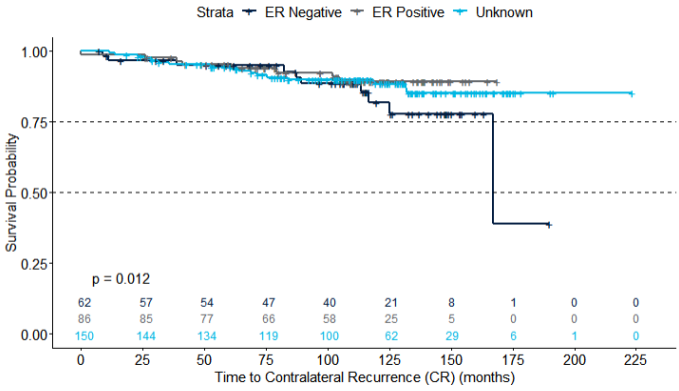


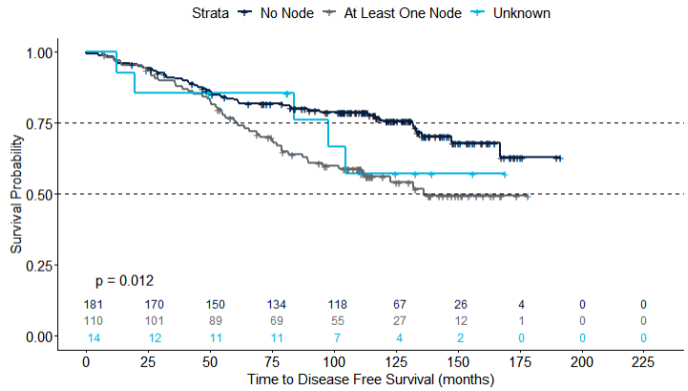




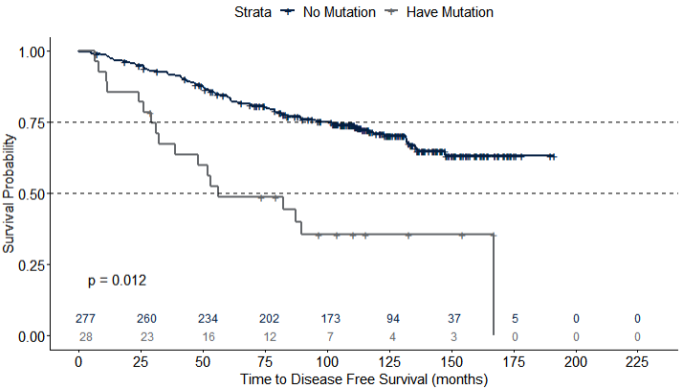


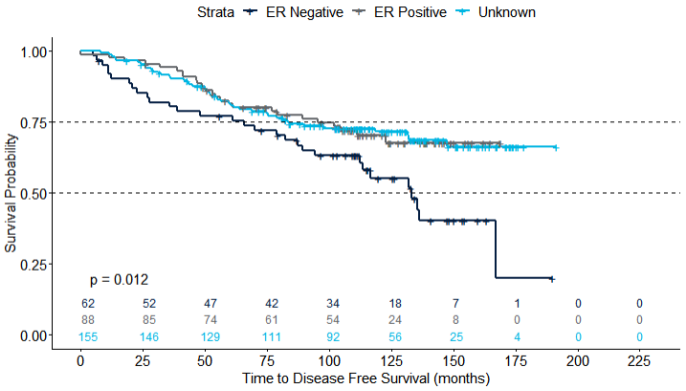


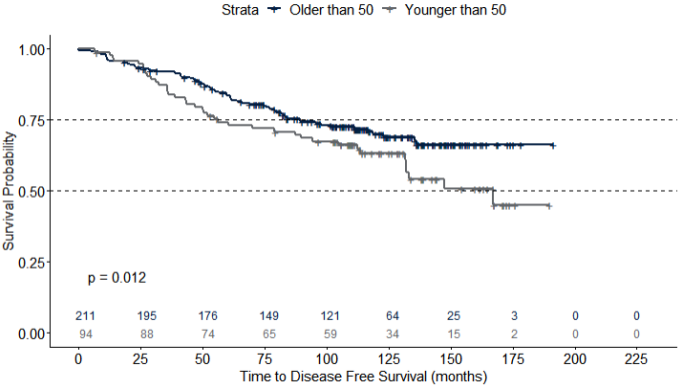




6. Disease-Free Survival







Cox Models:

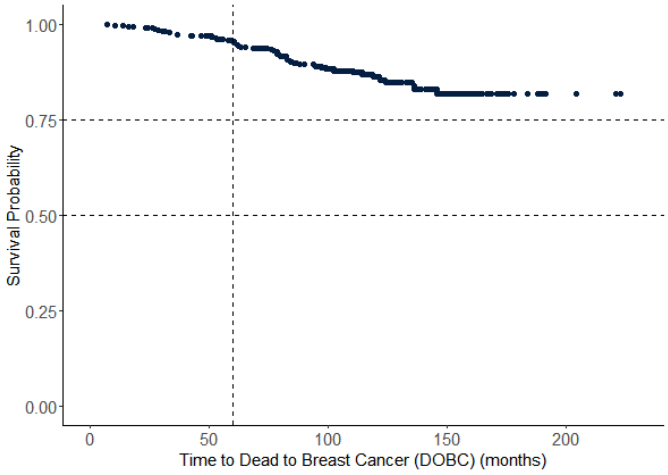
Univariate Analysis

Breast Cancer-Specific Survival

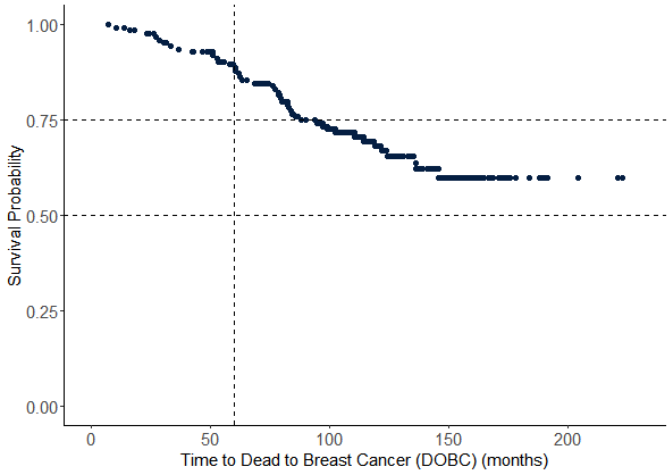
1. Mutation Status

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 304, number of events= 43
   (1 observation deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.9499    2.5855   0.3924 2.421   0.0155 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.585     0.3868     1.198     5.578

Concordance= 0.554  (se = 0.03 )
Likelihood ratio test= 4.77  on 1 df,   p=0.03
Wald test            = 5.86  on 1 df,   p=0.02
Score (logrank) test = 6.31  on 1 df,   p=0.01
```

Baseline Survival Probability



All Risks Survival Probability

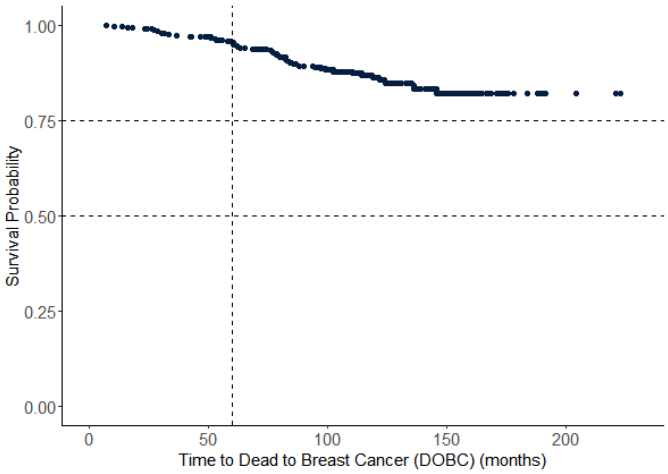


2. Age of Diagnosis

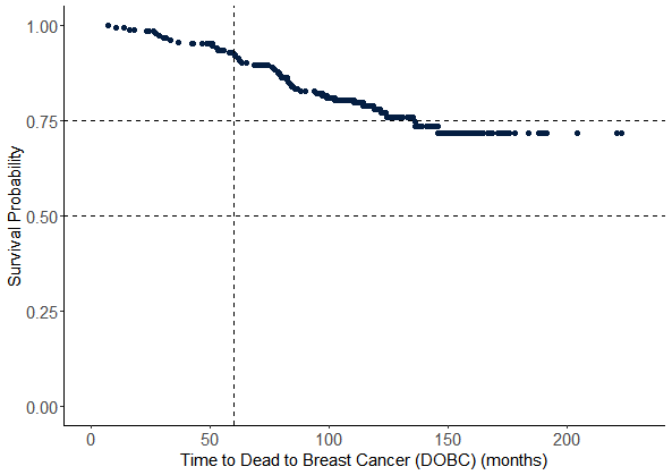
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 304, number of events= 43
   (1 observation deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.5206    1.6830   0.3076 1.692   0.0906 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.683     0.5942     0.921     3.075

Concordance= 0.573  (se = 0.039 )
Likelihood ratio test= 2.78  on 1 df,   p=0.1
Wald test            = 2.86  on 1 df,   p=0.09
Score (logrank) test = 2.93  on 1 df,   p=0.09
```

Baseline Survival Probability



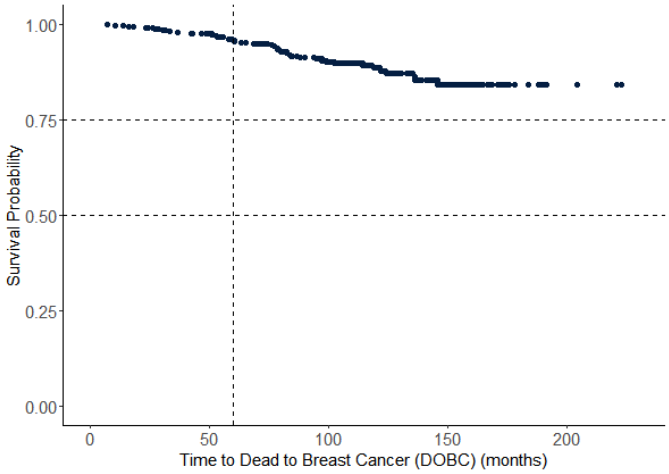
All Risks Survival Probability



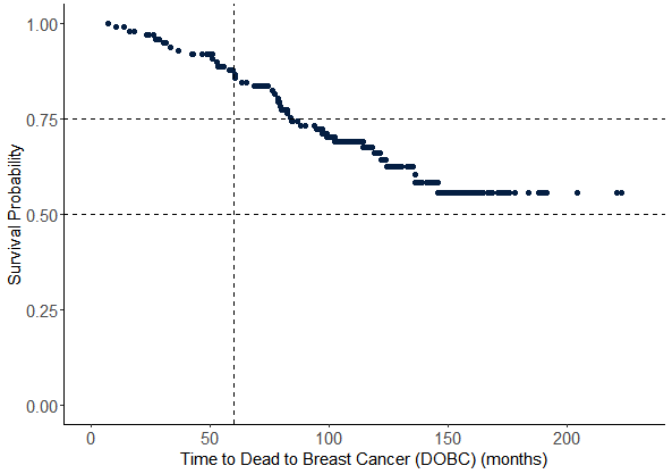
3. Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 37
   (18 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 1.2341    3.4354   0.3302 3.737 0.000186 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     3.435     0.2911     1.798     6.562

Concordance= 0.654  (se = 0.042 )
Likelihood ratio test= 12.78  on 1 df,   p=4e-04
Wald test            = 13.97  on 1 df,   p=2e-04
Score (logrank) test = 15.82  on 1 df,   p=7e-05
```

Baseline Survival Probability



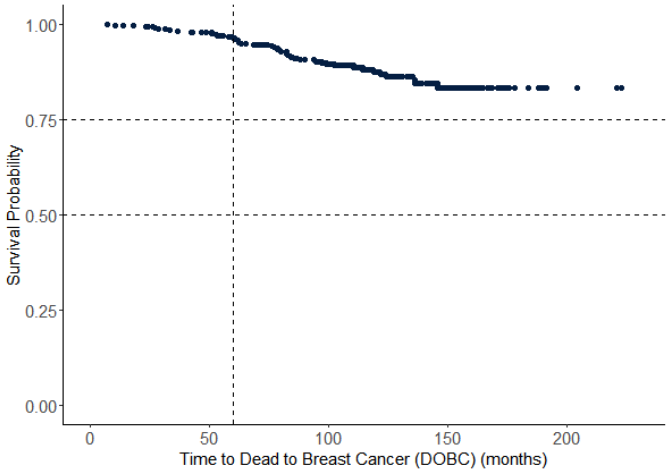
All Risks Survival Probability



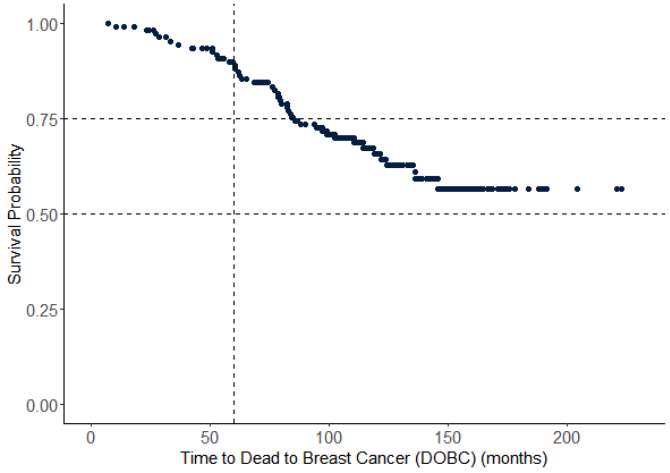
4. Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 41
   (15 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 1.1431    3.1365   0.3244 3.524 0.000425 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     3.136     0.3188     1.661     5.923

Concordance= 0.638  (se = 0.039 )
Likelihood ratio test= 13.05  on 1 df,   p=3e-04
Wald test            = 12.42  on 1 df,   p=4e-04
Score (logrank) test = 13.82  on 1 df,   p=2e-04
```

Baseline Survival Probability



All Risks Survival Probability

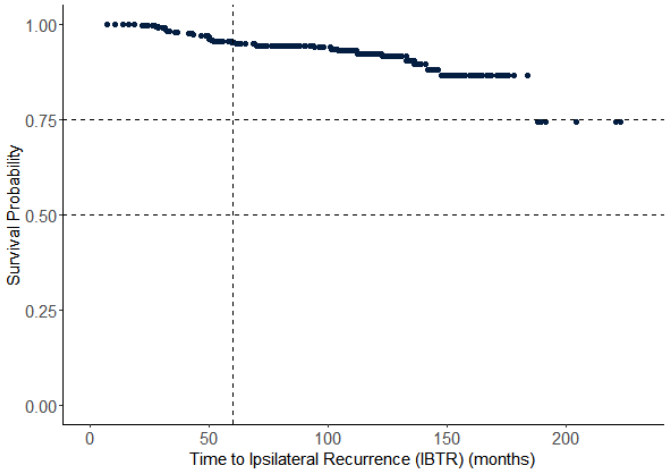


Ipsilateral Breast Tumor Recurrence

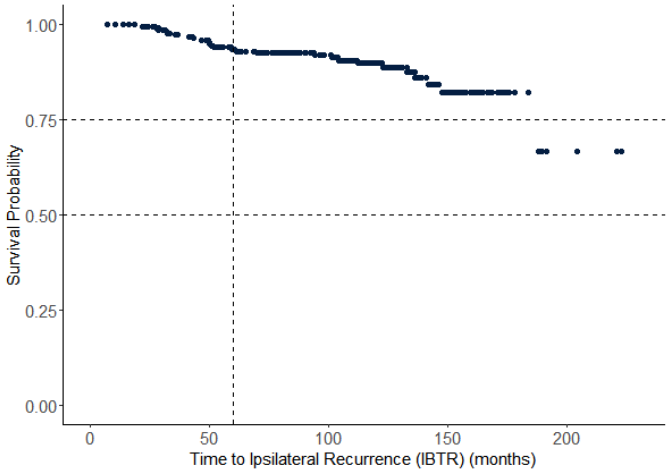
1. Mutation Status

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 26

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.3075    1.3600   0.6249 0.492    0.623

         exp(coef) exp(-coef) lower .95 upper .95
Variable      1.36     0.7353    0.3996     4.629

Concordance= 0.526  (se = 0.036 )
Likelihood ratio test= 0.22  on 1 df,   p=0.6
Wald test            = 0.24  on 1 df,   p=0.6
Score (logrank) test = 0.24  on 1 df,   p=0.6
```

Baseline Survival Probability



All Risks Survival Probability

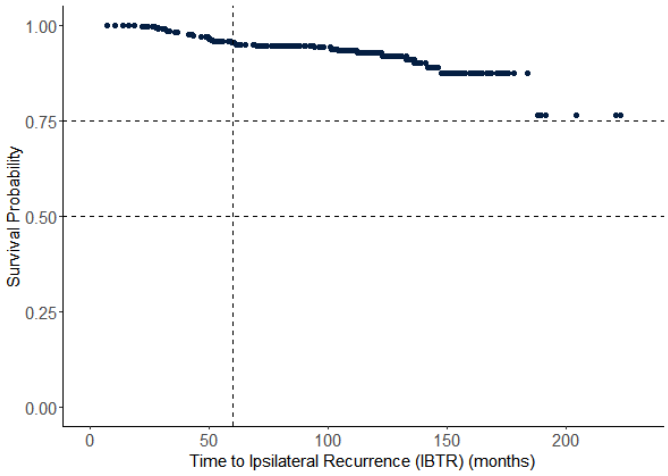


2. Age of Diagnosis

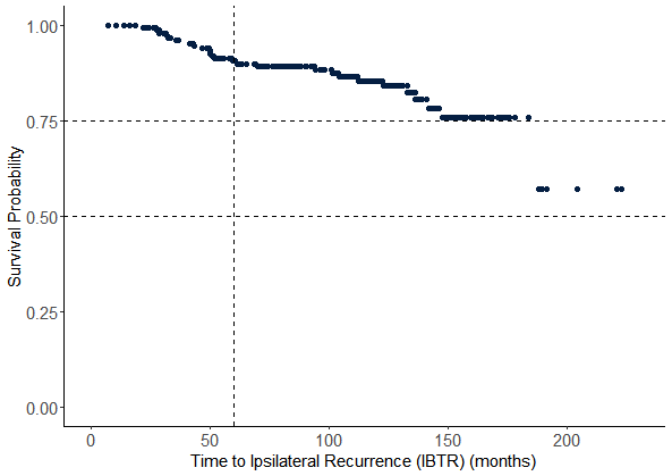
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 26

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.7386    2.0930   0.3944 1.873   0.0611 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.093     0.4778    0.9663     4.534

Concordance= 0.616  (se = 0.053 )
Likelihood ratio test= 3.43  on 1 df,   p=0.06
Wald test            = 3.51  on 1 df,   p=0.06
```

```
Score (logrank) test = 3.66  on 1 df,   p=0.06
```

Baseline Survival Probability



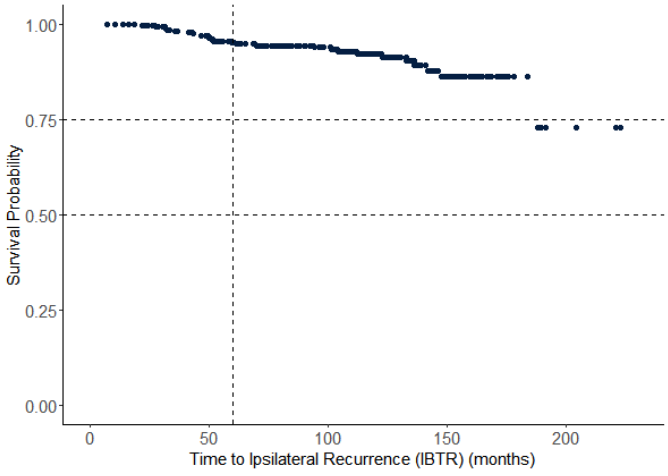
All Risks Survival Probability



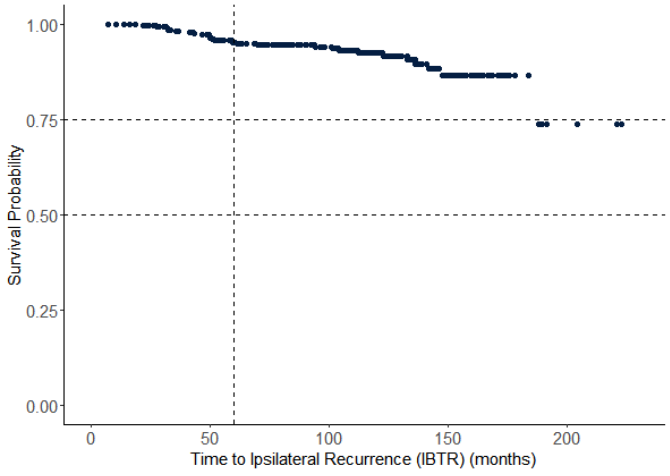
3. Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 25
   (17 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable -0.03353   0.96703  0.50035 -0.067    0.947

         exp(coef) exp(-coef) lower .95 upper .95
Variable     0.967      1.034    0.3627     2.578

Concordance= 0.496  (se = 0.046 )
Likelihood ratio test= 0  on 1 df,   p=0.9
Wald test            = 0  on 1 df,   p=0.9
Score (logrank) test = 0  on 1 df,   p=0.9
```

Baseline Survival Probability



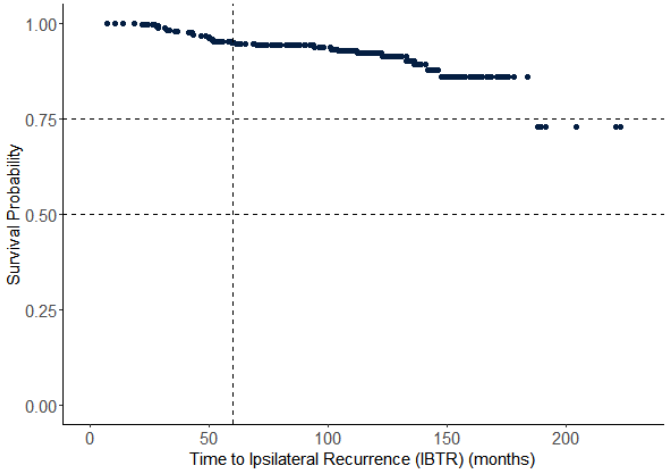
All Risks Survival Probability



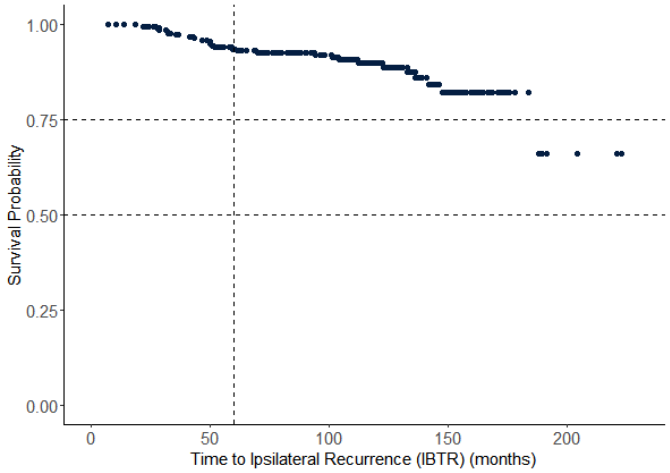
4. Node Inovlvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 25
   (17 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable -0.03353   0.96703  0.50035 -0.067    0.947

         exp(coef) exp(-coef) lower .95 upper .95
Variable     0.967      1.034    0.3627     2.578

Concordance= 0.496  (se = 0.046 )
Likelihood ratio test= 0  on 1 df,   p=0.9
Wald test            = 0  on 1 df,   p=0.9
Score (logrank) test = 0  on 1 df,   p=0.9
```

Baseline Survival Probability



All Risks Survival Probability



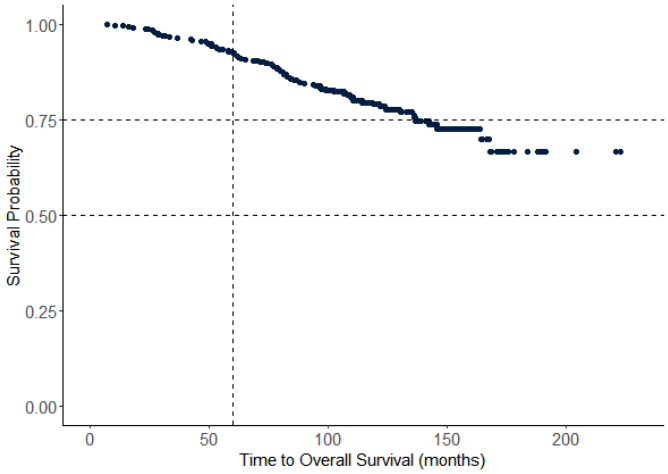
Overall Survival

1. Mutation Status

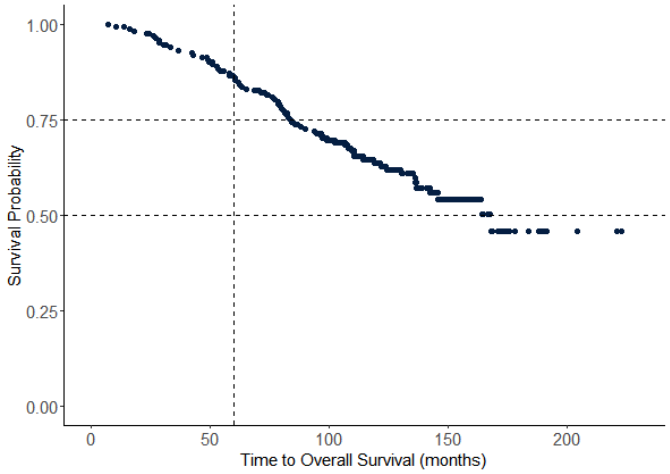
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 69

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.6468    1.9094   0.3424 1.889   0.0589 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.909     0.5237     0.976     3.736

Concordance= 0.538  (se = 0.023 )
Likelihood ratio test= 3.06  on 1 df,   p=0.08
```

```
Wald test            = 3.57  on 1 df,   p=0.06
Score (logrank) test = 3.69  on 1 df,   p=0.05
```

Baseline Survival Probability



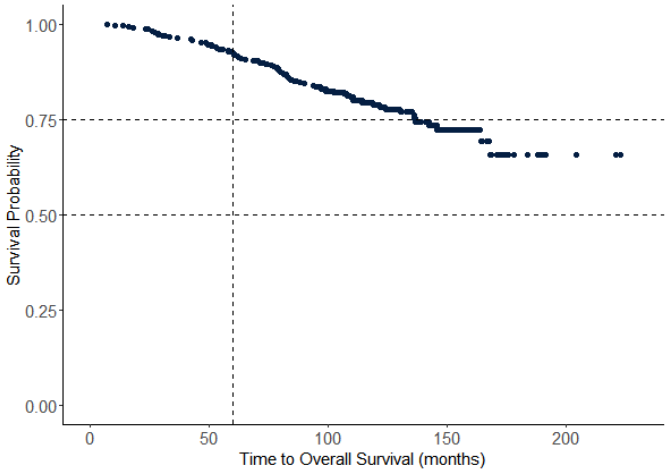
All Risks Survival Probability



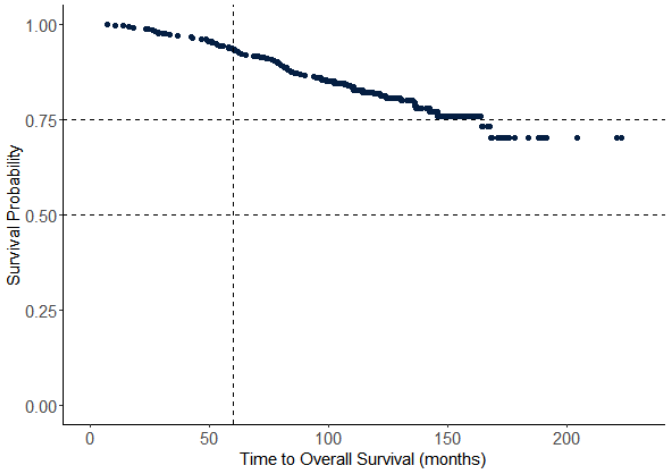
2. Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 69

            coef exp(coef) se(coef)      z Pr(>|z|)
Variable -0.1644    0.8484   0.2663 -0.617    0.537

         exp(coef) exp(-coef) lower .95 upper .95
Variable    0.8484      1.179    0.5035      1.43

Concordance= 0.508  (se = 0.029 )
Likelihood ratio test= 0.39  on 1 df,   p=0.5
Wald test            = 0.38  on 1 df,   p=0.5
Score (logrank) test = 0.38  on 1 df,   p=0.5
```

Baseline Survival Probability



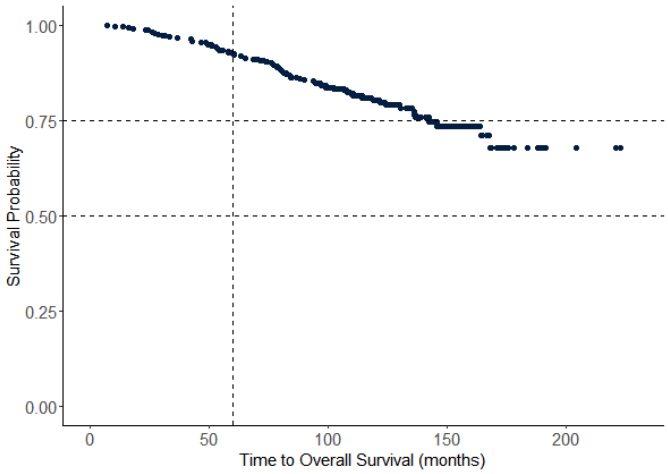
All Risks Survival Probability



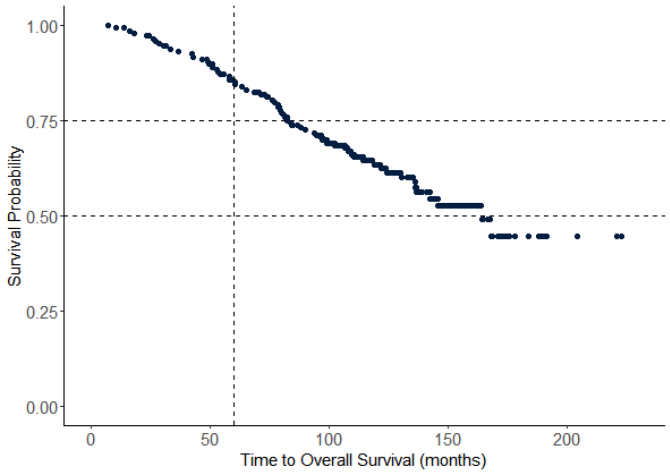
3. Tumor Stage

```
Call:
coxph(formula = Surv(rv$TIME, rv$EVENT) ~ Variable, data = Data)

  n= 288, number of events= 63
   (17 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.7328    2.0809   0.2651 2.764   0.0057 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.081     0.4806     1.238     3.499

Concordance= 0.593  (se = 0.032 )
Likelihood ratio test= 6.99  on 1 df,   p=0.008
Wald test            = 7.64  on 1 df,   p=0.006
Score (logrank) test = 7.98  on 1 df,   p=0.005
```

Baseline Survival Probability



All Risks Survival Probability

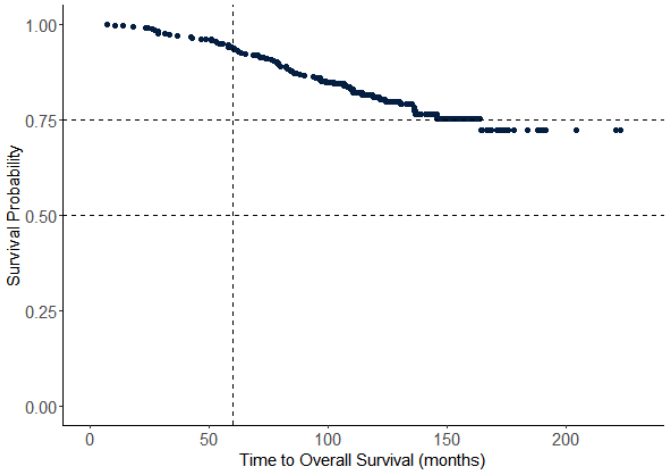


4. Lymph Node Involvement

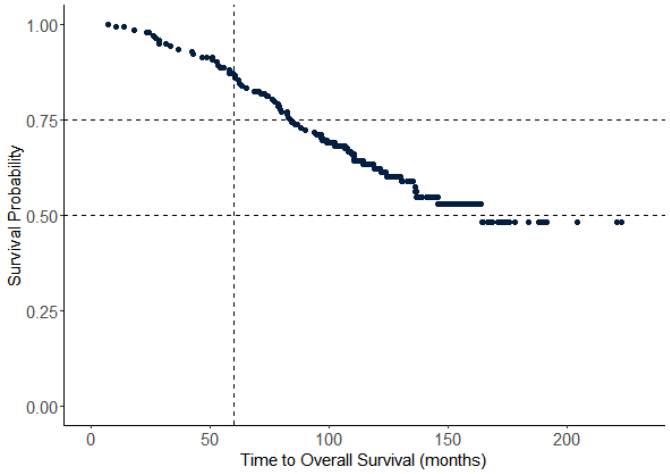
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 61
   (14 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.8112    2.2507   0.2579 3.145  0.00166 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.251     0.4443     1.358     3.731

Concordance= 0.593  (se = 0.033 )
Likelihood ratio test= 9.93  on 1 df,   p=0.002
```

```
Wald test            = 9.89  on 1 df,   p=0.002
Score (logrank) test = 10.45  on 1 df,   p=0.001
```

Baseline Survival Probability



All Risks Survival Probability

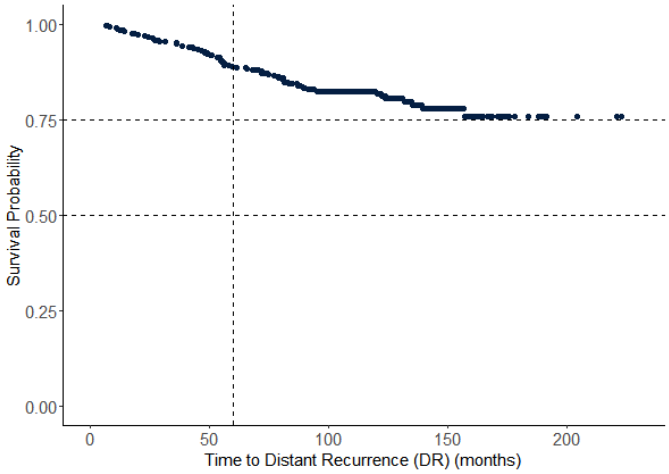


Distant Tumor Recurrence

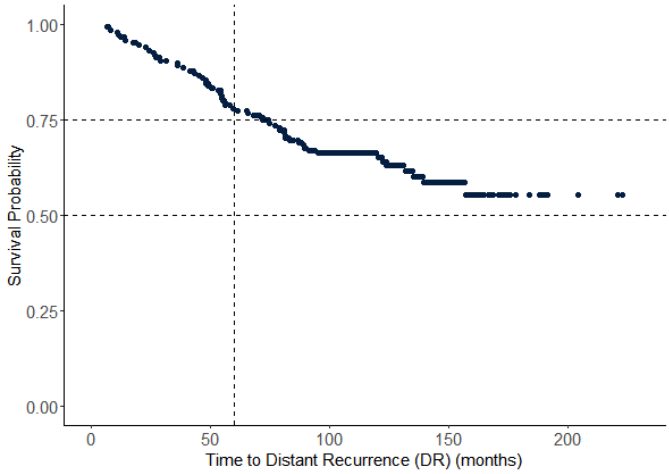
1. Mutation Statis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 304, number of events= 58
   (1 observation deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.7612    2.1408   0.3629 2.098   0.0359 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.141     0.4671     1.051      4.36

Concordance= 0.546  (se = 0.025 )
Likelihood ratio test= 3.69  on 1 df,   p=0.05
Wald test            = 4.4  on 1 df,   p=0.04
Score (logrank) test = 4.62  on 1 df,   p=0.03
```

Baseline Survival Probability



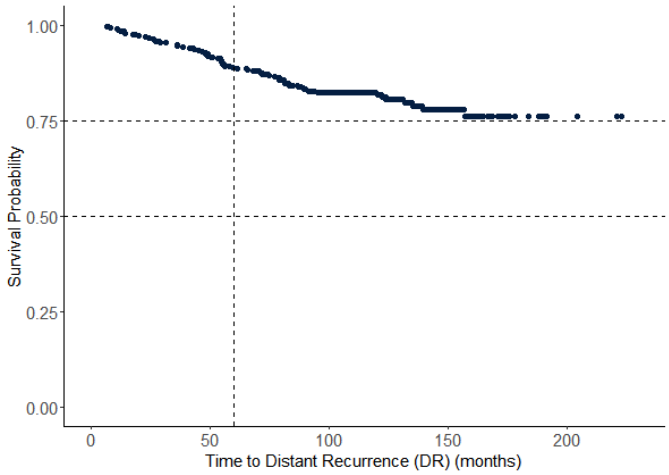
All Risks Surviv al Probability



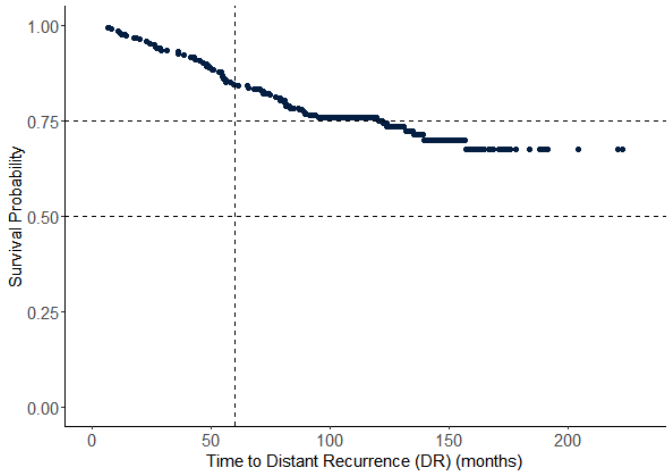
2. Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 304, number of events= 58
   (1 observation deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.3577    1.4301   0.2692 1.329    0.184

         exp(coef) exp(-coef) lower .95 upper .95
Variable      1.43     0.6993    0.8438     2.424

Concordance= 0.537  (se = 0.033 )
Likelihood ratio test= 1.72  on 1 df,   p=0.2
Wald test            = 1.77  on 1 df,   p=0.2
Score (logrank) test = 1.78  on 1 df,   p=0.2
```

Baseline Survival Probability



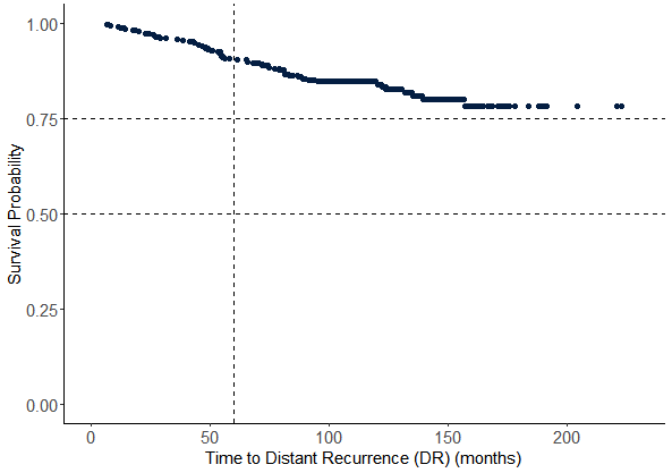
All Risks Survival Probability



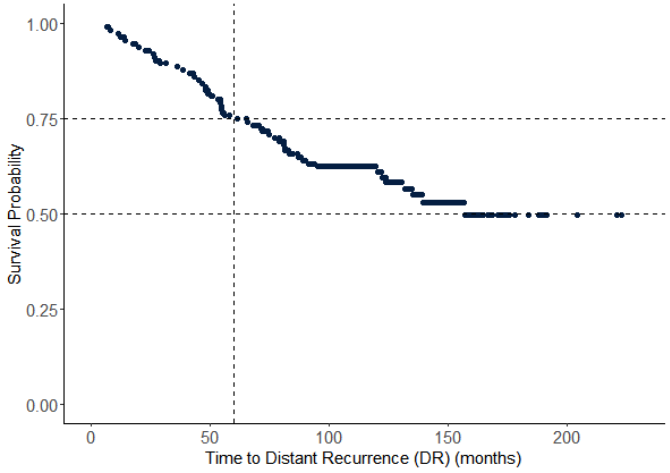
3. Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 51
   (18 observations deleted due to missingness)

           coef exp(coef) se(coef)    z Pr(>|z|)
Variable 1.0455    2.8449   0.2849 3.67 0.000243 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.845     0.3515     1.628     4.972

Concordance= 0.631  (se = 0.035 )
Likelihood ratio test= 12.2  on 1 df,   p=5e-04
Wald test            = 13.47  on 1 df,   p=2e-04
Score (logrank) test = 14.73  on 1 df,   p=1e-04
```

Baseline Survival Probability



All Risks Survival Probability

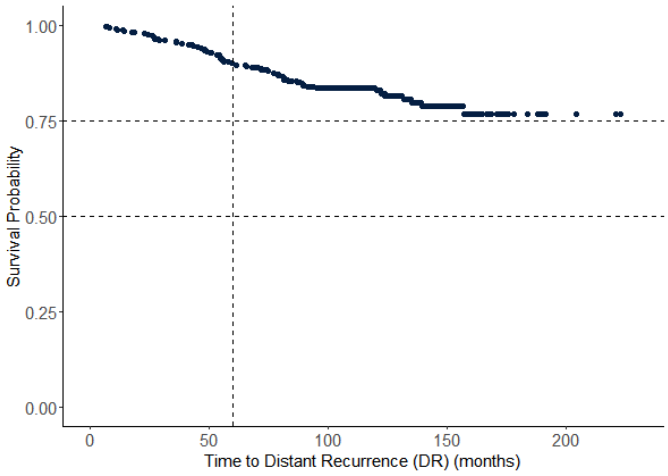


4. Lymph Node Involvement

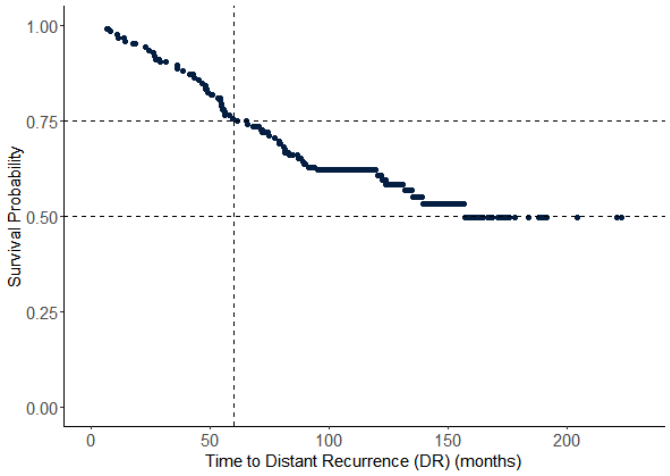
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 56
   (15 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.9758    2.6532   0.2719 3.589 0.000332 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     2.653     0.3769     1.557     4.521

Concordance= 0.627  (se = 0.033 )
Likelihood ratio test= 13.13  on 1 df,   p=3e-04
Wald test            = 12.88  on 1 df,   p=3e-04
```

```
Score (logrank) test = 13.93  on 1 df,   p=2e-04
```

Baseline Survival Probability



All Risks Survival Probability

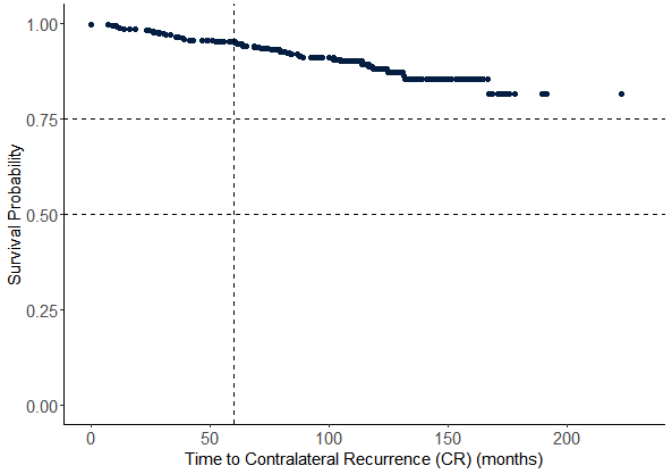


Contralateral Breast Tumor Recurrence

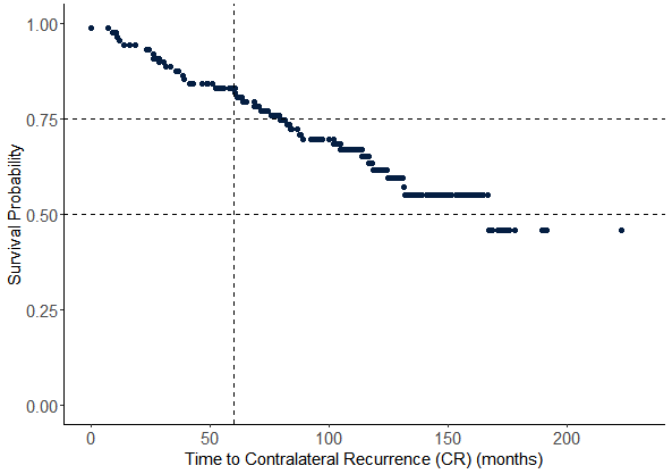
1. Mutation Status

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 298, number of events= 35
   (7 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 1.3398    3.8182   0.4039 3.317  0.00091 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     3.818     0.2619      1.73     8.427

Concordance= 0.58  (se = 0.037 )
Likelihood ratio test= 8.47  on 1 df,   p=0.004
Wald test            = 11  on 1 df,   p=9e-04
Score (logrank) test = 12.74  on 1 df,   p=4e-04
```

Baseline Survival Probability



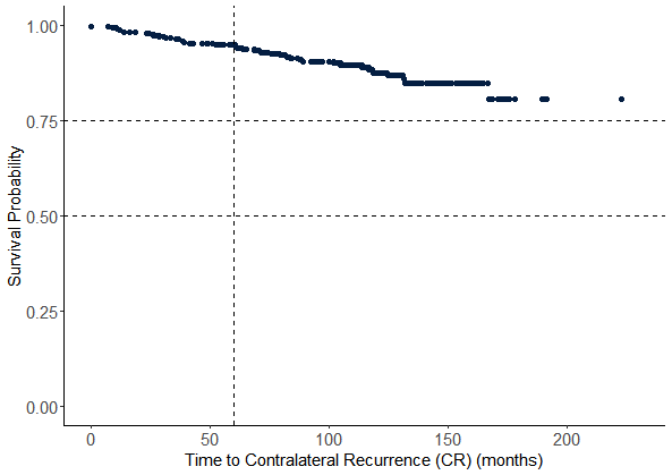
All Risks Survival Probability



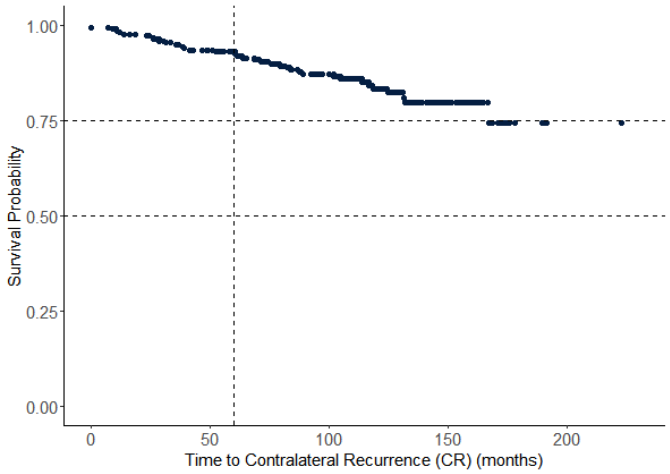
2. Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 298, number of events= 35
   (7 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.3198    1.3768   0.3458 0.925    0.355

         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.377     0.7263    0.6991     2.712

Concordance= 0.514  (se = 0.042 )
Likelihood ratio test= 0.83  on 1 df,   p=0.4
Wald test            = 0.86  on 1 df,   p=0.4
Score (logrank) test = 0.86  on 1 df,   p=0.4
```

Baseline Survival Probability



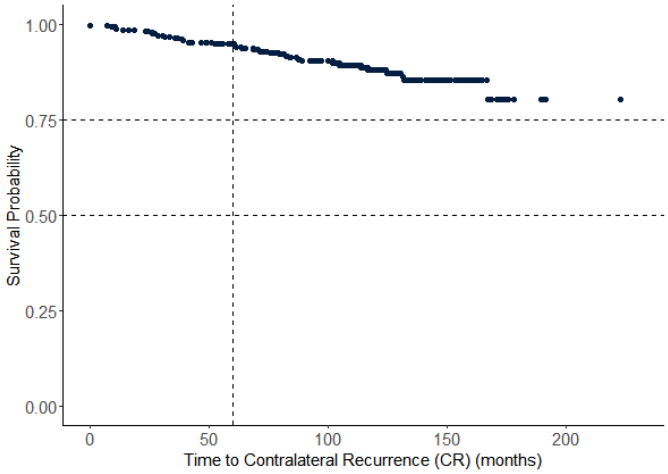
All Risks Survival Probability



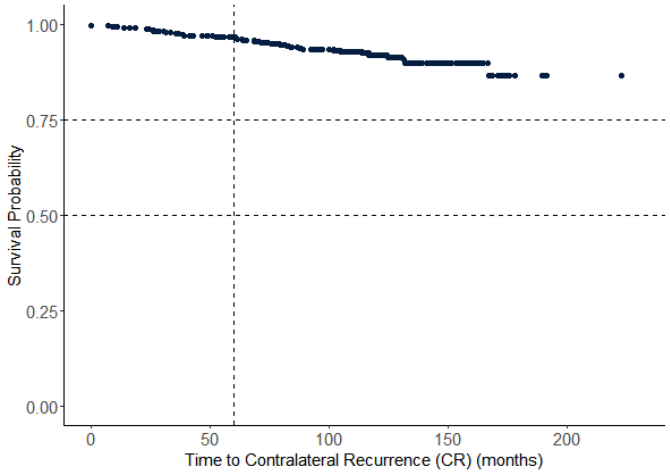
3. Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 281, number of events= 33
   (24 observations deleted due to missingness)

            coef exp(coef) se(coef)      z Pr(>|z|)
Variable -0.4144    0.6608   0.4865 -0.852    0.394

         exp(coef) exp(-coef) lower .95 upper .95
Variable    0.6608      1.513    0.2547     1.714

Concordance= 0.522  (se = 0.035 )
Likelihood ratio test= 0.8  on 1 df,   p=0.4
Wald test            = 0.73  on 1 df,   p=0.4
Score (logrank) test = 0.74  on 1 df,   p=0.4
```

Baseline Survival Probability



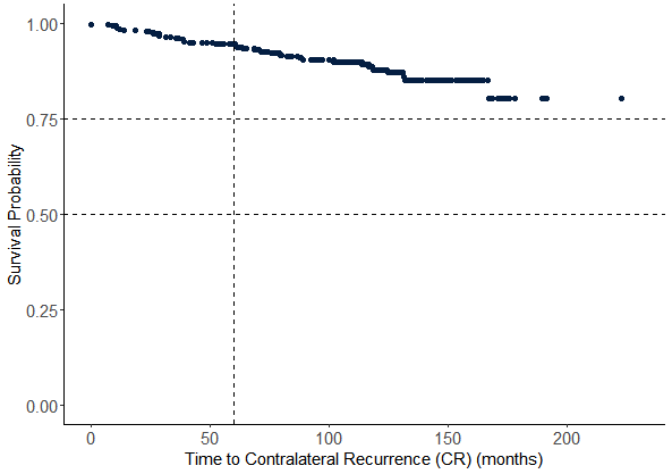
All Risks Survival Probability



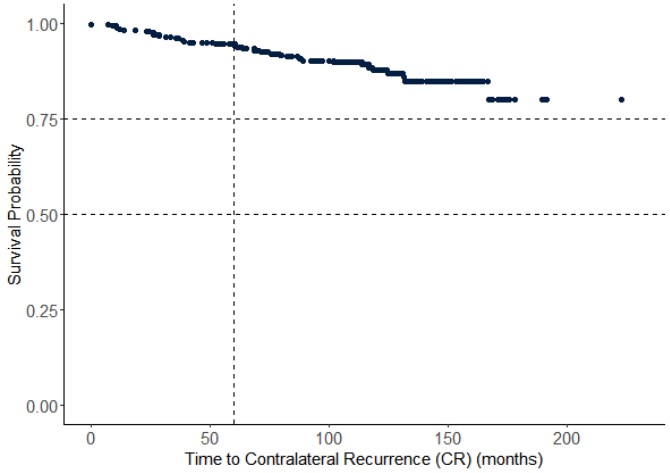
4. Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 286, number of events= 33
   (19 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.01728   1.01743  0.36289 0.048    0.962

         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.017     0.9829    0.4996     2.072

Concordance= 0.506  (se = 0.044 )
Likelihood ratio test= 0  on 1 df,   p=1
Wald test            = 0  on 1 df,   p=1
Score (logrank) test = 0  on 1 df,   p=1
```

Baseline Survival Probability



All Risks Survival Probability

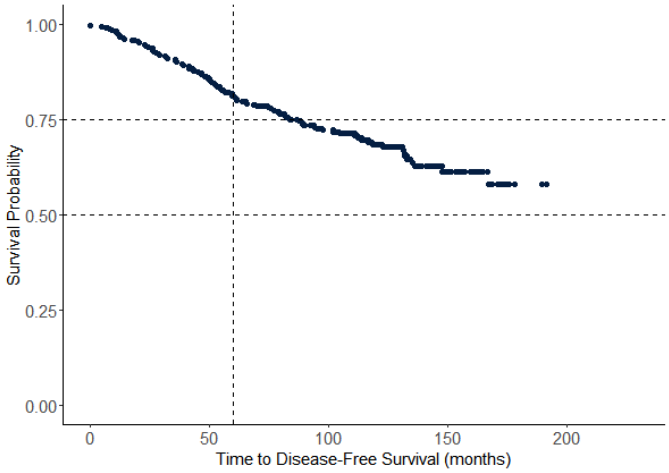


Disease-Free Survival

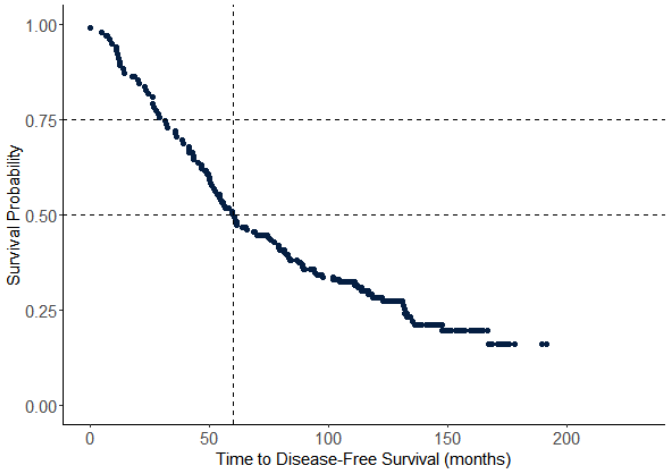
1. Mutation Status

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 99

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 1.2058    3.3393   0.2619 4.603 4.16e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     3.339     0.2995     1.999      5.58

Concordance= 0.565  (se = 0.02 )
Likelihood ratio test= 16.33  on 1 df,   p=5e-05
Wald test            = 21.19  on 1 df,   p=4e-06
Score (logrank) test = 23.86  on 1 df,   p=1e-06
```

Baseline Survival Probability



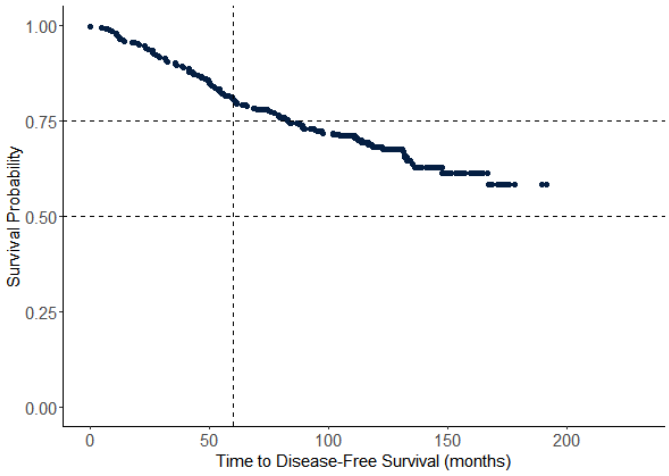
All Risks Survival Probability



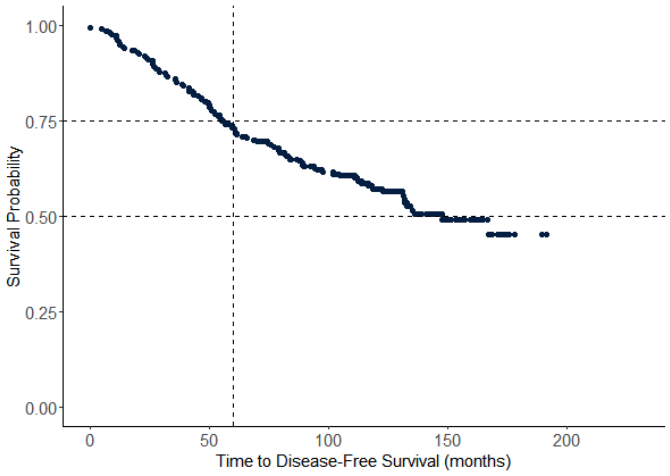
2. Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 99

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.3809    1.4637   0.2060 1.849   0.0644 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.464     0.6832    0.9774     2.192

Concordance= 0.538  (se = 0.025 )
Likelihood ratio test= 3.31  on 1 df,   p=0.07
Wald test            = 3.42  on 1 df,   p=0.06
Score (logrank) test = 3.46  on 1 df,   p=0.06
```

Baseline Survival Probability



All Risks S urvival Probability

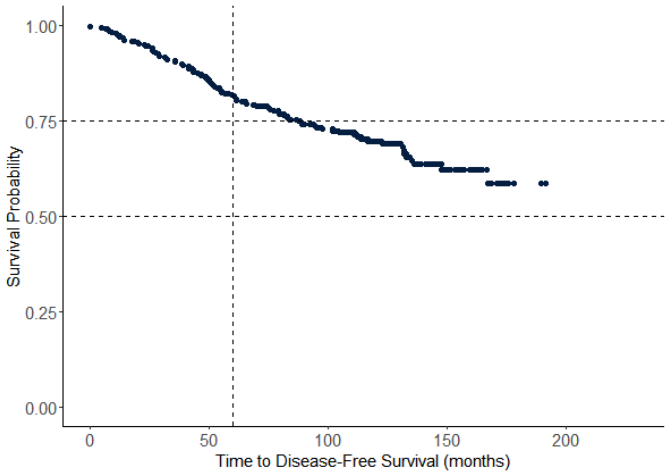


3. Tumor Stage

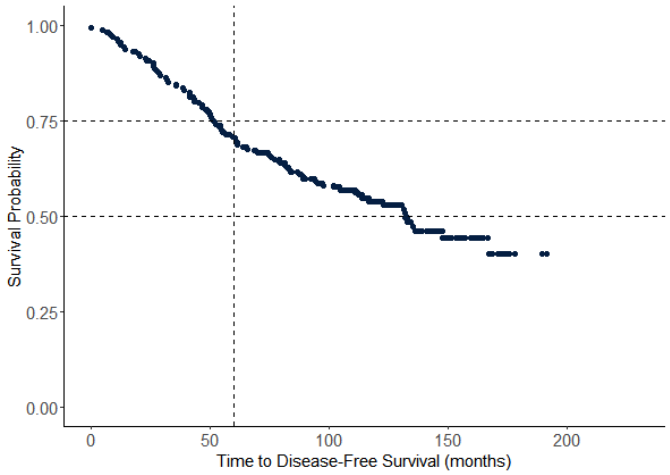
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 90
   (17 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.5360    1.7092   0.2303 2.328   0.0199 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.709     0.5851     1.088     2.684

Concordance= 0.567  (se = 0.026 )
Likelihood ratio test= 5.01  on 1 df,   p=0.03
Wald test            = 5.42  on 1 df,   p=0.02
```

```
Score (logrank) test = 5.55  on 1 df,   p=0.02
```

Baseline Survival Probability



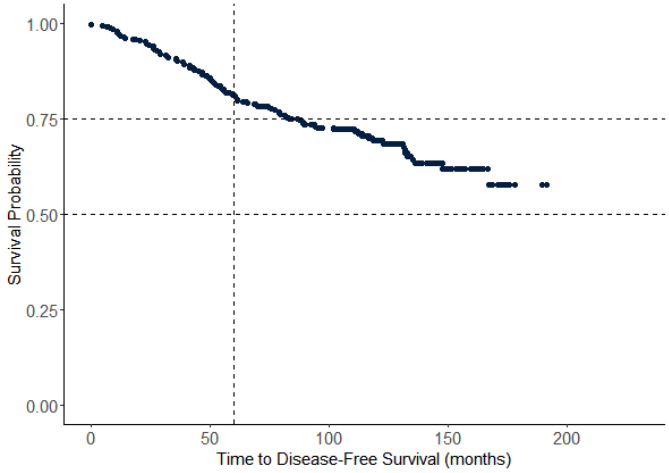
All Risks Survival Probability



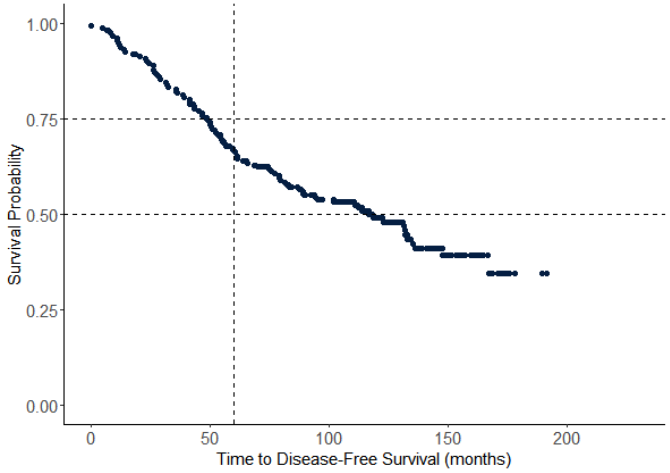
4. Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 94
   (14 observations deleted due to missingness)

           coef exp(coef) se(coef)     z Pr(>|z|)
Variable 0.6619    1.9385   0.2070 3.198  0.00138 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
Variable     1.939     0.5159     1.292     2.908

Concordance= 0.579  (se = 0.027 )
Likelihood ratio test= 10.1  on 1 df,   p=0.001
Wald test            = 10.23  on 1 df,   p=0.001
Score (logrank) test = 10.6  on 1 df,   p=0.001
```

Baseline Survival Probability



All Risks Survival Probability



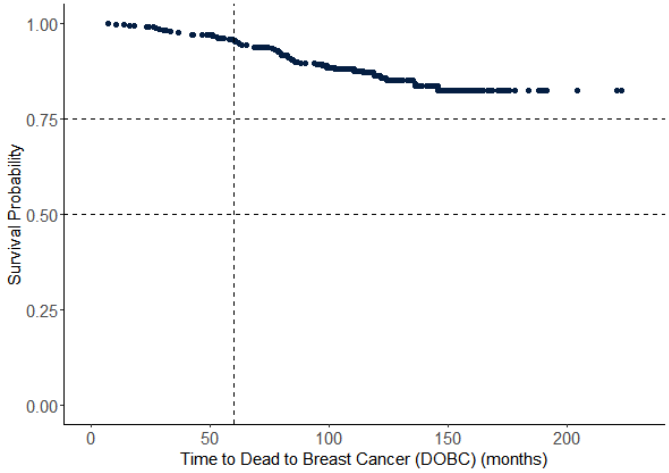
Bivariate Analysis

Breast Cancer-Specific Survival

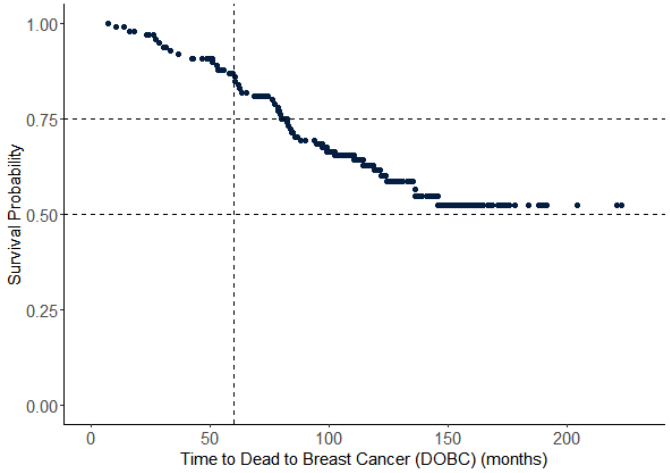
1. Mutation Status and Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 304, number of events= 43
   (1 observation deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.8169    2.2634   0.4071 2.007   0.0448 *
Variable2 0.3892    1.4759   0.3190 1.220   0.2224
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.263     0.4418    1.0192     5.026
Variable2     1.476     0.6776    0.7898     2.758

Concordance= 0.579  (se = 0.043 )
Likelihood ratio test= 6.23  on 2 df,   p=0.04
Wald test            = 7.34  on 2 df,   p=0.03
Score (logrank) test = 7.84  on 2 df,   p=0.02
```

Baseline Survival Probability



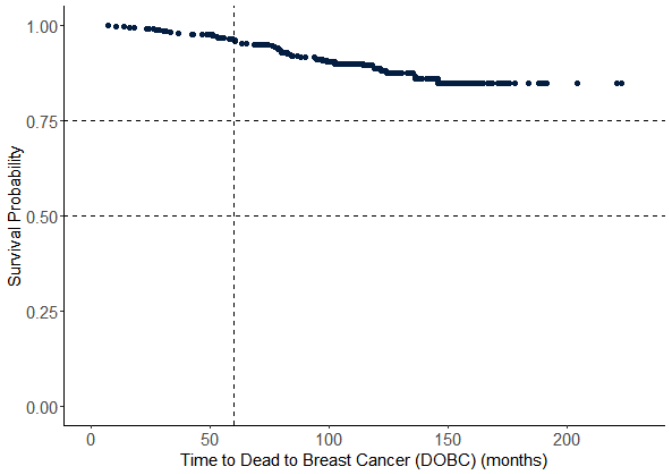
All Risks Survival Probability



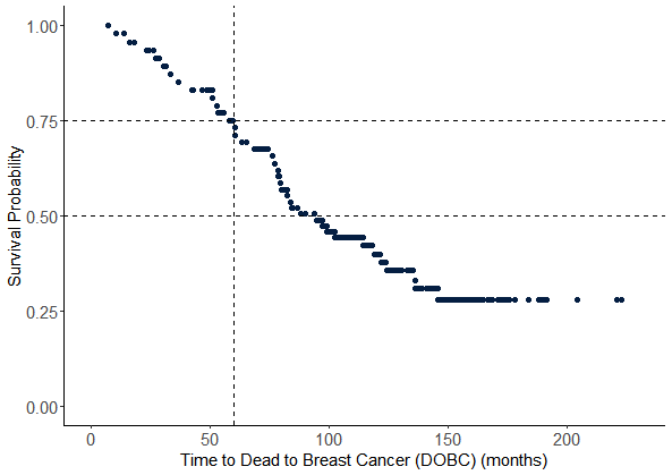
2. Mutation Status and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 37
   (18 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.8170    2.2637   0.4467 1.829 0.067397 .
Variable2 1.2279    3.4141   0.3302 3.718 0.000201 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.264     0.4418    0.9432     5.433
Variable2     3.414     0.2929    1.7872     6.522

Concordance= 0.671  (se = 0.044 )
Likelihood ratio test= 15.55  on 2 df,   p=4e-04
Wald test            = 17.36  on 2 df,   p=2e-04
Score (logrank) test = 19.42  on 2 df,   p=6e-05
```

Baseline Survival Probability



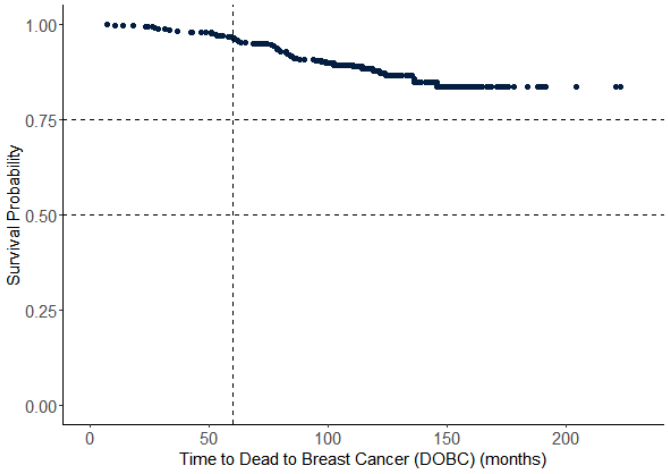
All Risks Survival Probability



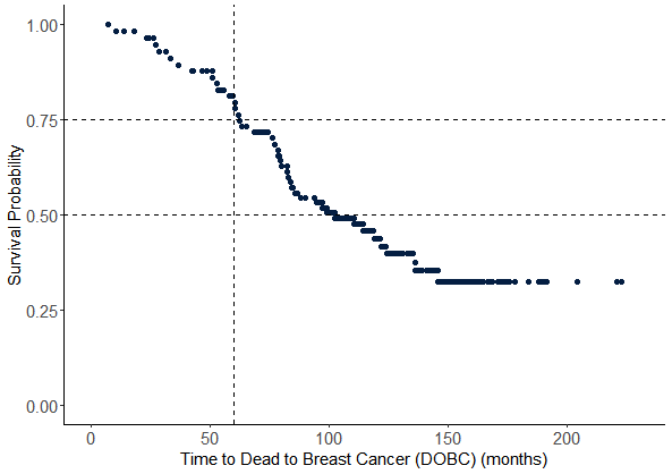
3. Mutation Status and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 41
   (15 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.7824    2.1868   0.4002 1.955  0.05058 .
Variable2 1.0612    2.8899   0.3289 3.226  0.00125 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.187     0.4573     0.998     4.792
Variable2     2.890     0.3460     1.517     5.506

Concordance= 0.657  (se = 0.042 )
Likelihood ratio test= 16.32  on 2 df,   p=3e-04
Wald test            = 16.78  on 2 df,   p=2e-04
Score (logrank) test = 18.8  on 2 df,   p=8e-05
```

Baseline Survival Probability



All Risks Survival Probability

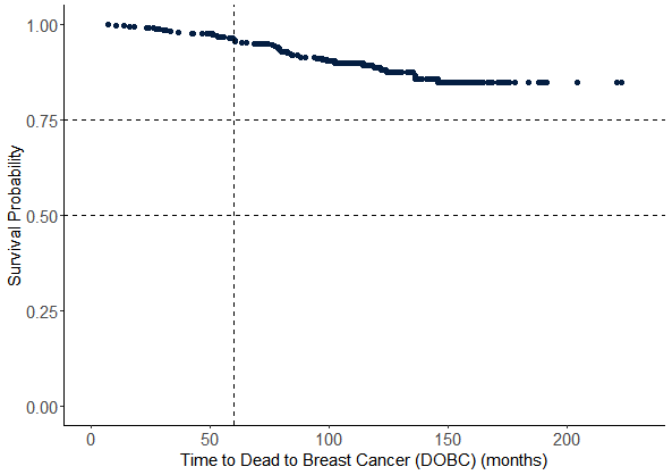


4. Age of Diagnosis and Tumor Stage

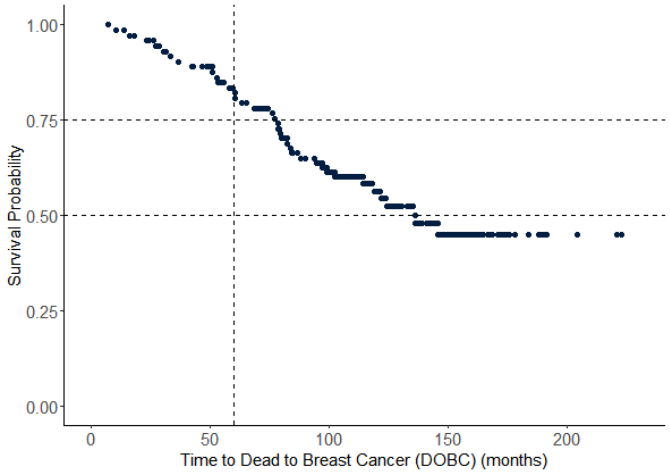
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 37
   (18 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.3664    1.4426   0.3370 1.087 0.276936
Variable2 1.2076    3.3453   0.3312 3.646 0.000266 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.443     0.6932    0.7452     2.793
```

```
Variable2     3.345     0.2989    1.7480     6.402

Concordance= 0.682  (se = 0.044 )
Likelihood ratio test= 13.93  on 2 df,   p=9e-04
Wald test            = 15.17  on 2 df,   p=5e-04
Score (logrank) test = 17.05  on 2 df,   p=2e-04
```

Baseline Survival Probability



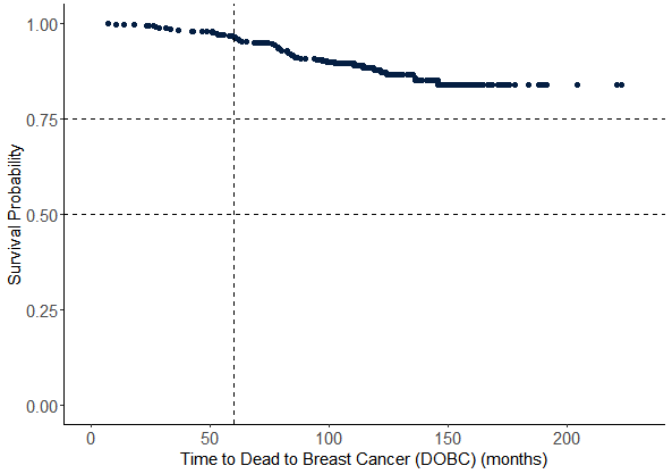
All Risks Survival Probability



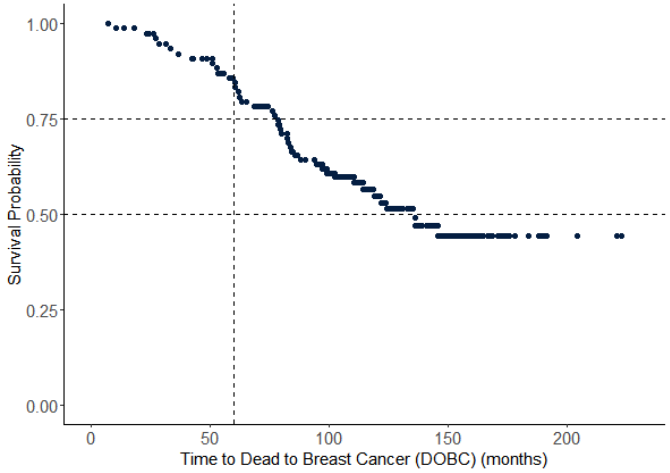
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 41
   (15 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.4387    1.5507   0.3155 1.391 0.164374
Variable2 1.0930    2.9833   0.3267 3.346 0.000819 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.551     0.6449    0.8356     2.878
Variable2     2.983     0.3352    1.5727     5.659

Concordance= 0.662  (se = 0.045 )
Likelihood ratio test= 14.95  on 2 df,   p=6e-04
Wald test            = 14.39  on 2 df,   p=8e-04
Score (logrank) test = 15.87  on 2 df,   p=4e-04
```

Baseline Survival Probability



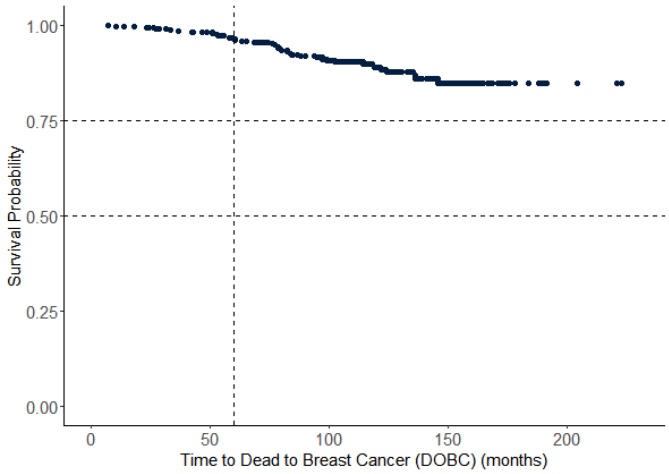
All Risks Survival Probability



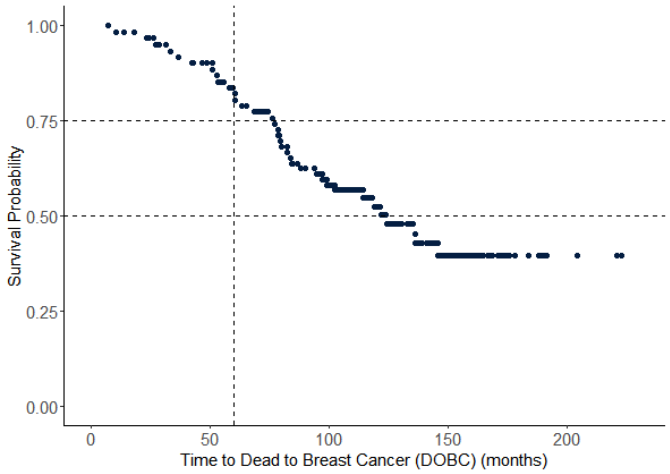
6. Tumor Stage and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 273, number of events= 35
   (32 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.9251    2.5221   0.3474 2.663  0.00774 **
Variable2 0.7968    2.2184   0.3472 2.295  0.02174 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.522     0.3965     1.277     4.982
Variable2     2.218     0.4508     1.123     4.381

Concordance= 0.696  (se = 0.042 )
Likelihood ratio test= 14.2  on 2 df,   p=8e-04
Wald test            = 14.93  on 2 df,   p=6e-04
Score (logrank) test = 16.39  on 2 df,   p=3e-04
```

Baseline Survival Probability



All Risks Survival Probability

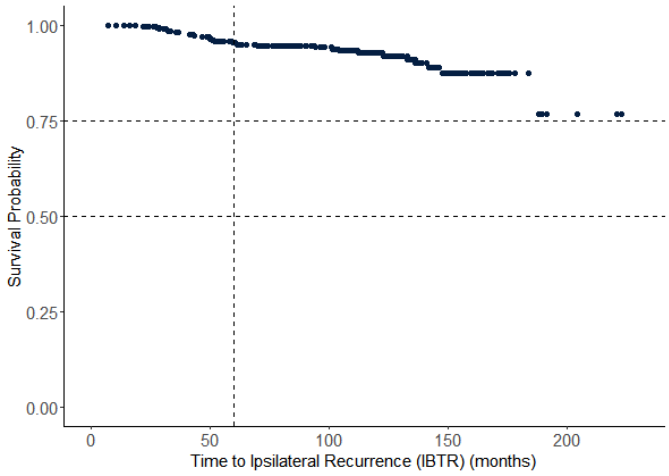


Ipsilateral Tumor Recurrence

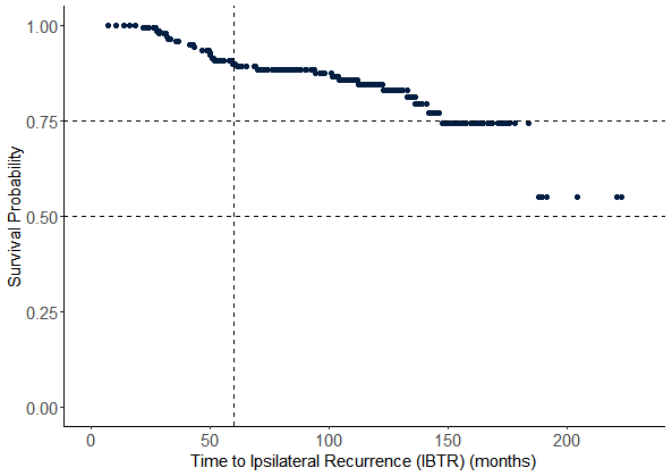
1. Mutation Status and Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 26

             coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.07836   1.08151  0.63305 0.124   0.9015
Variable2 0.72942   2.07387  0.40165 1.816   0.0694 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.082     0.9246    0.3127     3.740
Variable2     2.074     0.4822    0.9438     4.557

Concordance= 0.621  (se = 0.055 )
Likelihood ratio test= 3.45  on 2 df,   p=0.2
Wald test            = 3.53  on 2 df,   p=0.2
Score (logrank) test = 3.68  on 2 df,   p=0.2
```

Baseline Survival Probability



All Risks Survival Probability

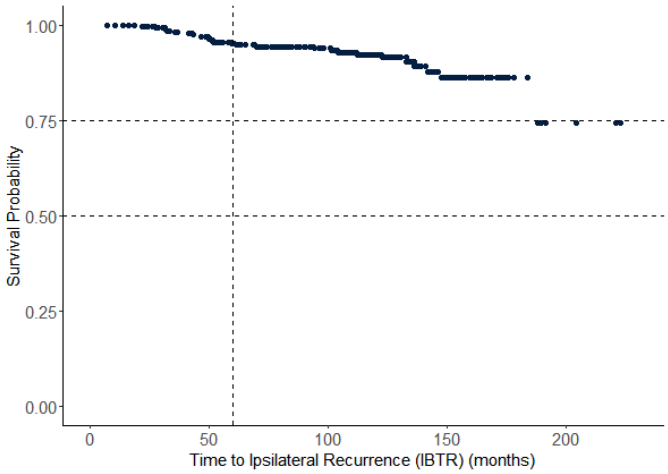


2. Mutation Status and Tumor Stage

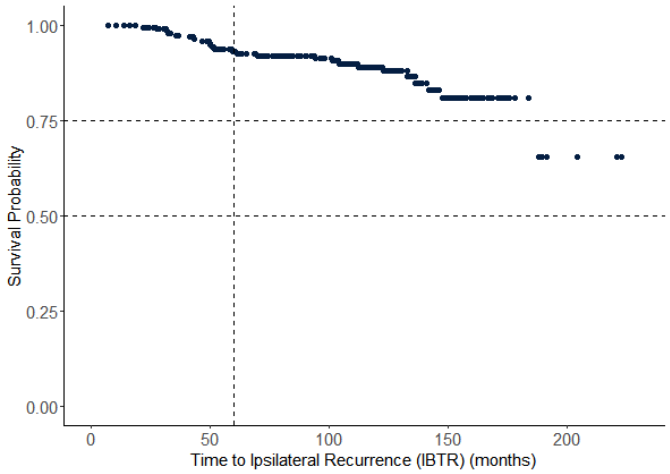
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 25
   (17 observations deleted due to missingness)

              coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.40769   1.50334  0.62836  0.649    0.516
Variable2 -0.03958   0.96119  0.50065 -0.079    0.937

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    1.5033     0.6652    0.4387     5.151
Variable2    0.9612     1.0404    0.3603     2.564
```

```
Concordance= 0.516  (se = 0.057 )
Likelihood ratio test= 0.39  on 2 df,   p=0.8
Wald test            = 0.42  on 2 df,   p=0.8
Score (logrank) test = 0.43  on 2 df,   p=0.8
```

Baseline Survival Probability



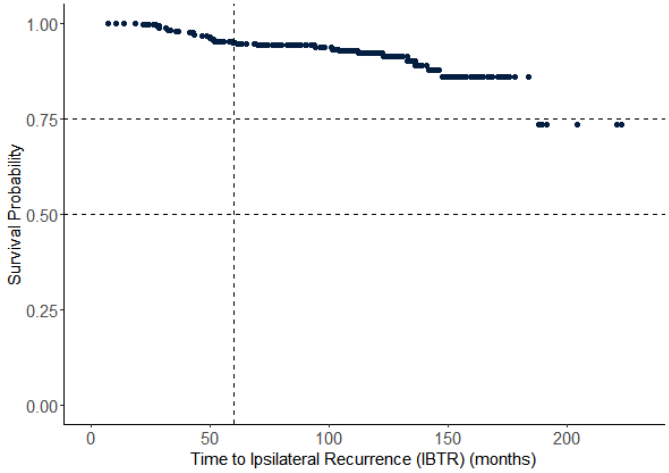
All Risks Survival Probability



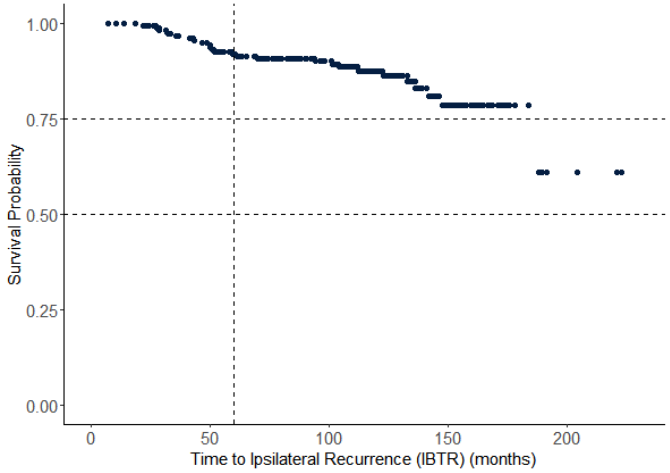
3. Mutation Status and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 26
   (14 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.2379    1.2685   0.6376 0.373    0.709
Variable2 0.2387    1.2696   0.4052 0.589    0.556

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.269     0.7883    0.3636     4.426
Variable2     1.270     0.7877    0.5738     2.809

Concordance= 0.527  (se = 0.05 )
Likelihood ratio test= 0.57  on 2 df,   p=0.8
Wald test            = 0.6  on 2 df,   p=0.7
Score (logrank) test = 0.6  on 2 df,   p=0.7
```

Baseline Survival Probability



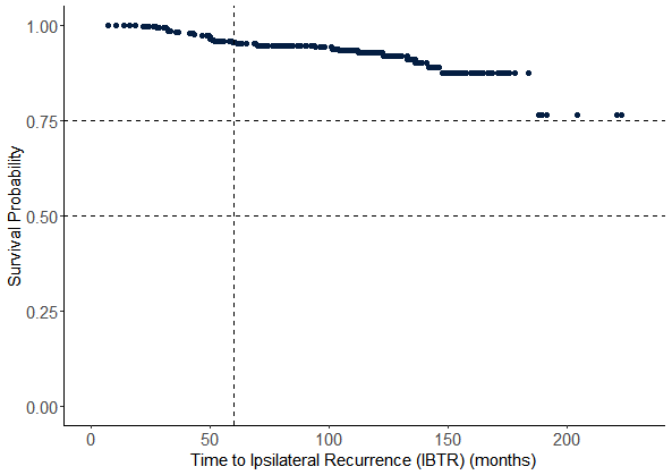
All Risks Survival Probability



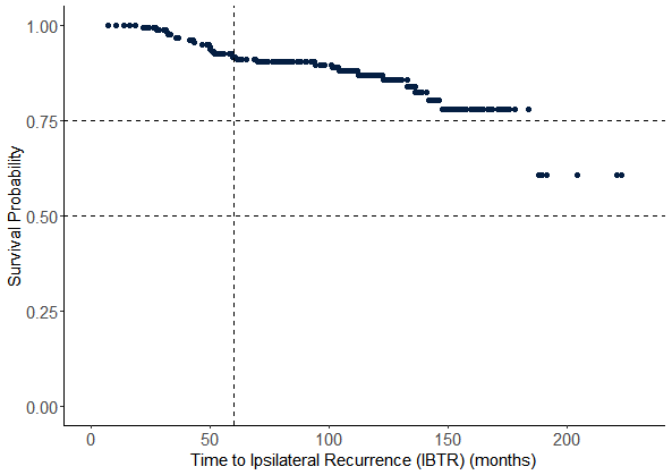
4. Age of Diagnosis and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 25
   (17 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.7350    2.0856   0.4047  1.816   0.0693 .
Variable2 -0.1161    0.8904   0.5024 -0.231   0.8172
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    2.0856     0.4795    0.9435     4.610
Variable2    0.8904     1.1231    0.3326     2.383

Concordance= 0.608  (se = 0.062 )
Likelihood ratio test= 3.2  on 2 df,   p=0.2
Wald test            = 3.3  on 2 df,   p=0.2
Score (logrank) test = 3.44  on 2 df,   p=0.2
```

Baseline Survival Probability



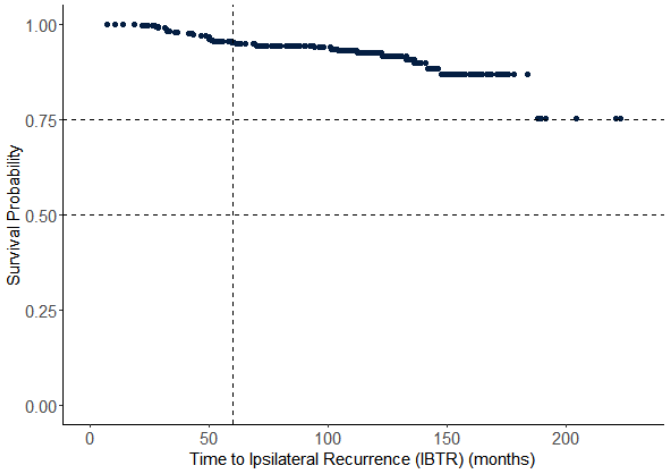
All Risks Survival Probability



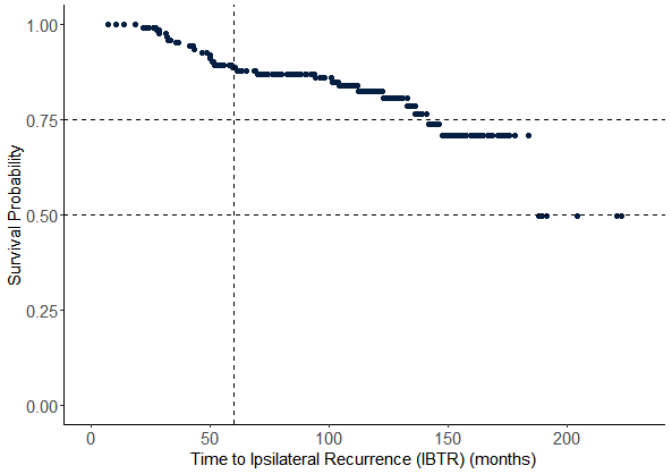
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 26
   (14 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6900    1.9938   0.3947 1.748   0.0804 .
Variable2 0.2169    1.2422   0.3995 0.543   0.5872
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.994     0.5016    0.9198     4.322
Variable2     1.242     0.8050    0.5678     2.718

Concordance= 0.596  (se = 0.064 )
Likelihood ratio test= 3.44  on 2 df,   p=0.2
Wald test            = 3.52  on 2 df,   p=0.2
Score (logrank) test = 3.66  on 2 df,   p=0.2
```

Baseline Survival Probability



All Risks Survival Probability

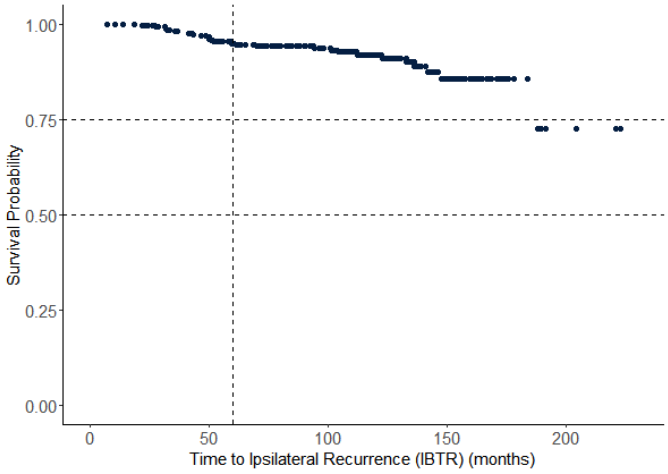


6. Tumor Stage and Lymph Node Involvement

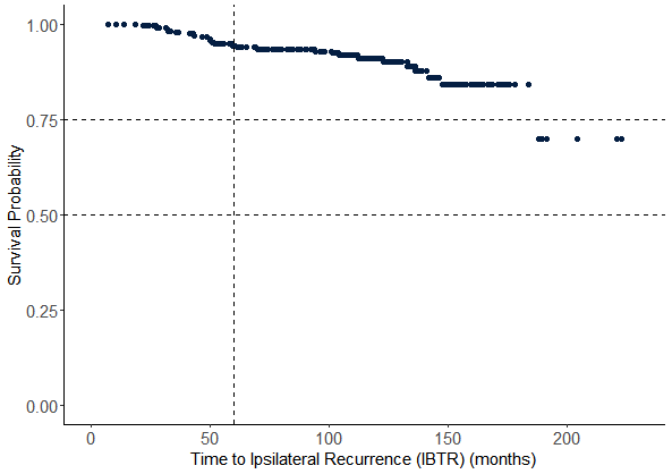
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 25
   (31 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1 -0.1246    0.8828   0.5056 -0.247    0.805
Variable2  0.2409    1.2724   0.4125  0.584    0.559

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    0.8828     1.1328    0.3277     2.378
Variable2    1.2724     0.7859    0.5668     2.856
```

```
Concordance= 0.493  (se = 0.057 )
Likelihood ratio test= 0.36  on 2 df,   p=0.8
Wald test            = 0.37  on 2 df,   p=0.8
Score (logrank) test = 0.37  on 2 df,   p=0.8
```

Baseline Survival Probability



All Risks Survival Probability

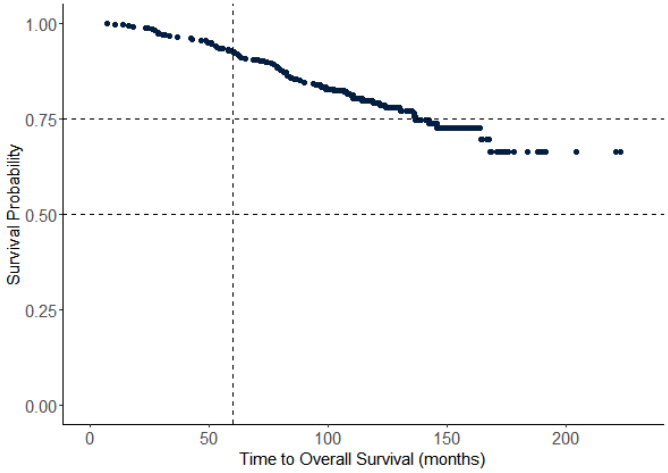


Overall Survival

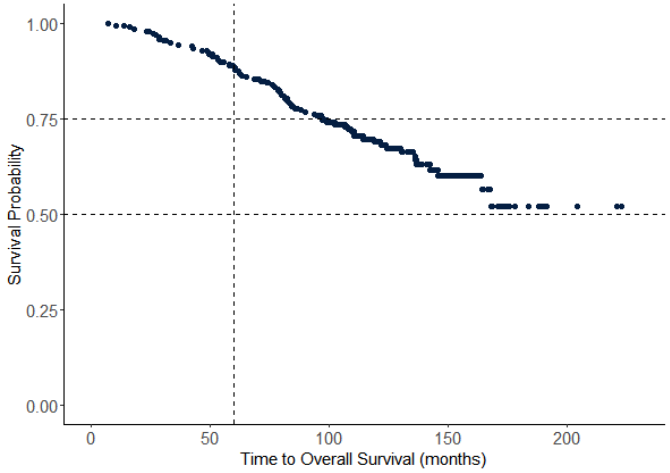
1. Mutation Status and Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 69

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.7377    2.0912   0.3537  2.086    0.037 *
Variable2 -0.2768    0.7582   0.2748 -1.007    0.314
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    2.0912     0.4782    1.0456     4.182
Variable2    0.7582     1.3189    0.4424     1.299

Concordance= 0.565  (se = 0.031 )
Likelihood ratio test= 4.11  on 2 df,   p=0.1
Wald test            = 4.6  on 2 df,   p=0.1
Score (logrank) test = 4.72  on 2 df,   p=0.09
```

Baseline Survival Probability



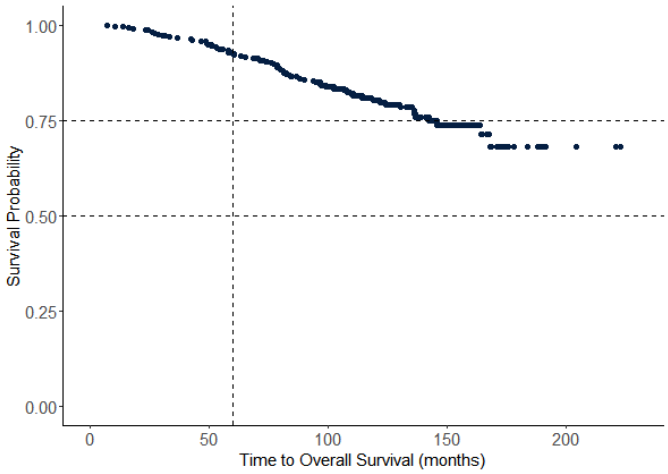
All Risks Survival Probability



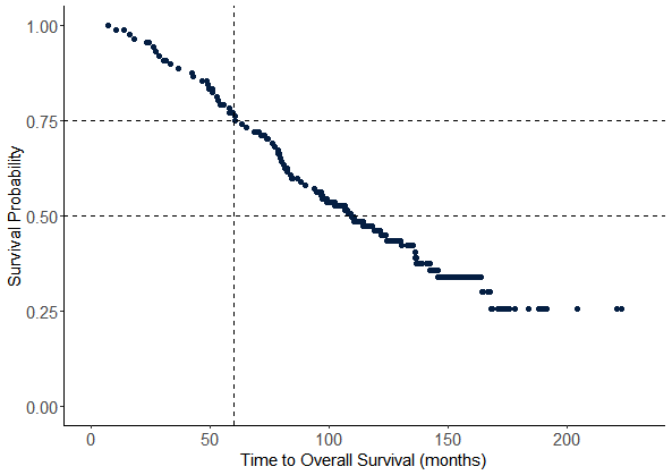
2. Mutation Status and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 63
   (17 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.5390    1.7143   0.3789 1.423   0.1548
Variable2 0.7311    2.0773   0.2650 2.759   0.0058 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.714     0.5833    0.8158     3.602
Variable2     2.077     0.4814    1.2358     3.492

Concordance= 0.609  (se = 0.034 )
Likelihood ratio test= 8.76  on 2 df,   p=0.01
Wald test            = 9.68  on 2 df,   p=0.008
Score (logrank) test = 10.07  on 2 df,   p=0.007
```

Baseline Survival Probability



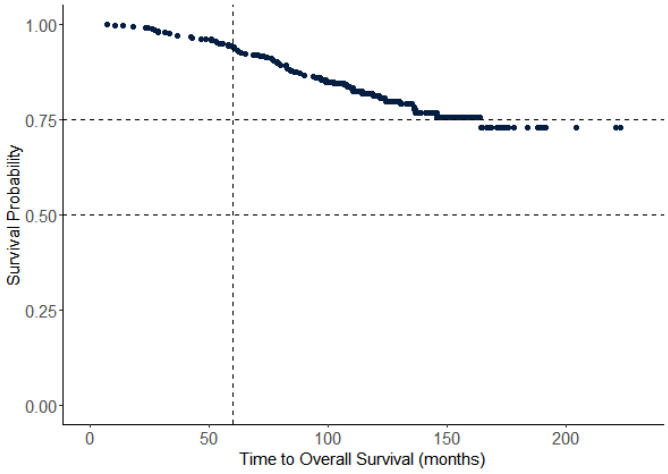
All Risks Survival Probability



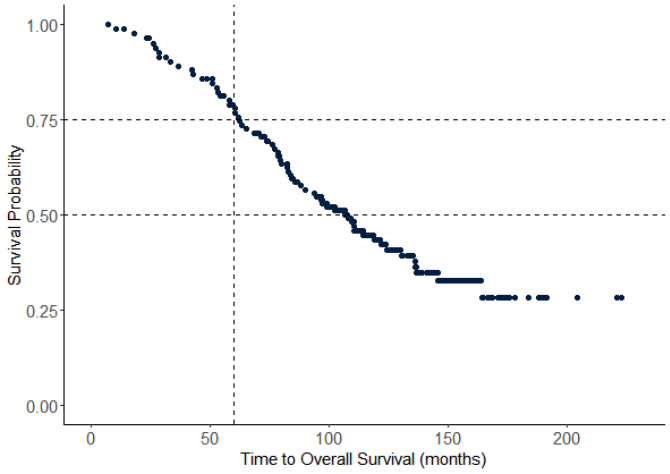
3. Mutation Status and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 61
   (14 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6373    1.8914   0.3516 1.813  0.06985 .
Variable2 0.7472    2.1111   0.2616 2.856  0.00429 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.891     0.5287    0.9496     3.767
Variable2     2.111     0.4737    1.2642     3.526

Concordance= 0.611  (se = 0.035 )
Likelihood ratio test= 12.8  on 2 df,   p=0.002
Wald test            = 13.58  on 2 df,   p=0.001
Score (logrank) test = 14.44  on 2 df,   p=7e-04
```

Baseline Survival Probability



All Risks Survival Probability

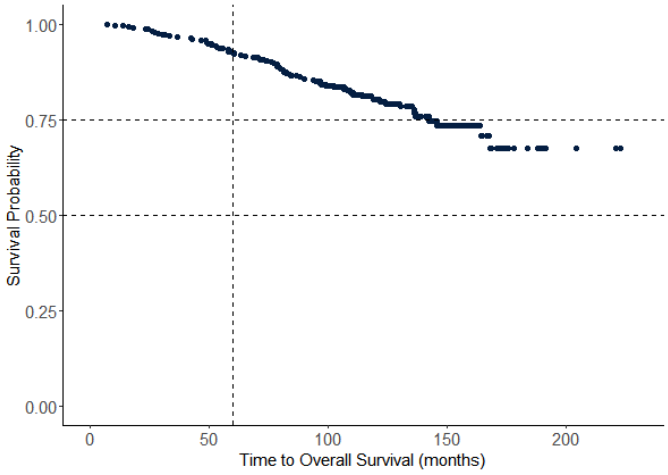


4. Age of Diagnosis and Tumor Stage

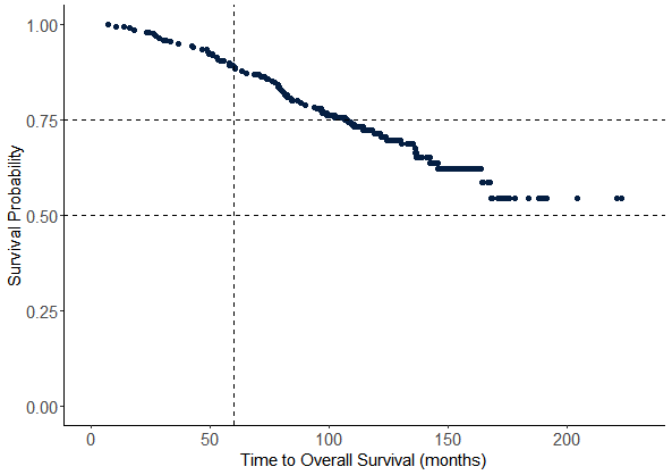
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 63
   (17 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1 -0.3188    0.7271   0.2917 -1.093  0.27445
Variable2  0.7533    2.1241   0.2656  2.836  0.00457 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    0.7271     1.3754    0.4105     1.288
```

```
Variable2    2.1241     0.4708    1.2620     3.575

Concordance= 0.613  (se = 0.035 )
Likelihood ratio test= 8.24  on 2 df,   p=0.02
Wald test            = 8.86  on 2 df,   p=0.01
Score (logrank) test = 9.21  on 2 df,   p=0.01
```

Baseline Survival Probability



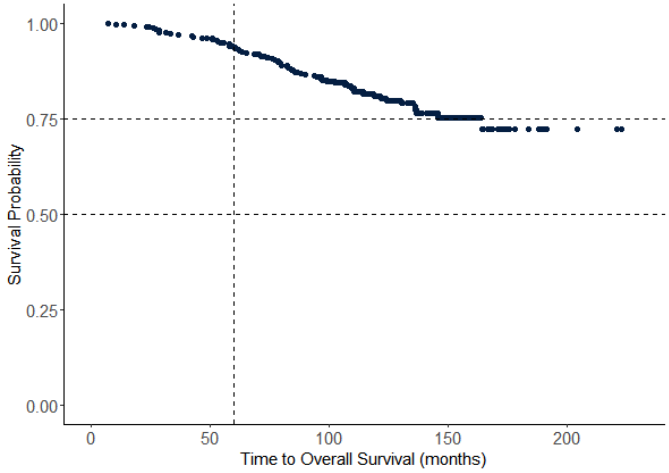
All Risks Survival Probability



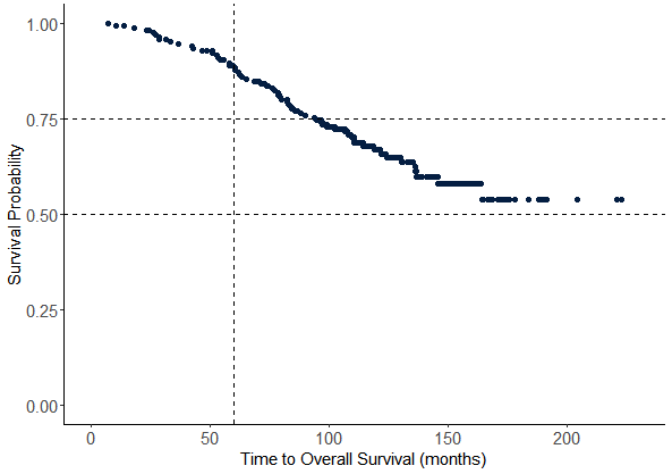
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 61
   (14 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1 -0.1771    0.8377   0.2783 -0.636  0.52448
Variable2  0.8287    2.2903   0.2592  3.197  0.00139 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    0.8377     1.1938    0.4855     1.445
Variable2    2.2903     0.4366    1.3779     3.807

Concordance= 0.602  (se = 0.033 )
Likelihood ratio test= 10.35  on 2 df,   p=0.006
Wald test            = 10.31  on 2 df,   p=0.006
Score (logrank) test = 10.87  on 2 df,   p=0.004
```

Baseline Survival Probability



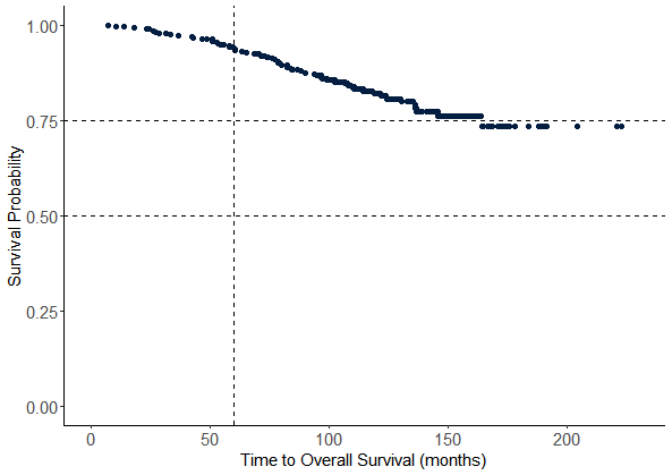
All Risks Survival Probability



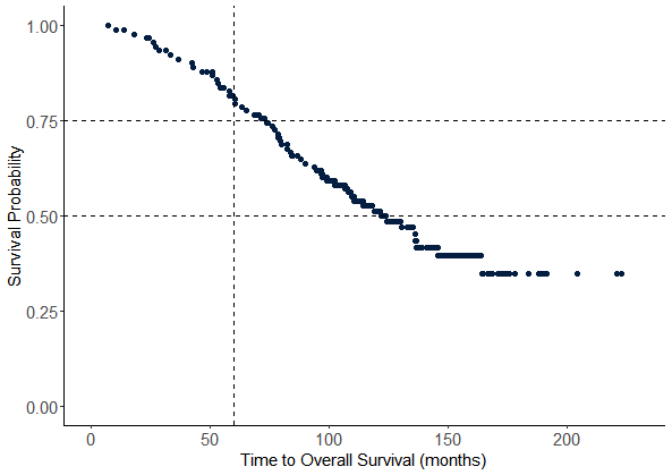
6. Tumor Stage and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 55
   (31 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6528    1.9209   0.2858 2.284   0.0224 *
Variable2 0.5702    1.7686   0.2745 2.077   0.0378 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.921     0.5206     1.097     3.363
Variable2     1.769     0.5654     1.033     3.029

Concordance= 0.627  (se = 0.039 )
Likelihood ratio test= 10.98  on 2 df,   p=0.004
Wald test            = 11.63  on 2 df,   p=0.003
Score (logrank) test = 12.2  on 2 df,   p=0.002
```

Baseline Survival Probability



All Risks Survival Probability

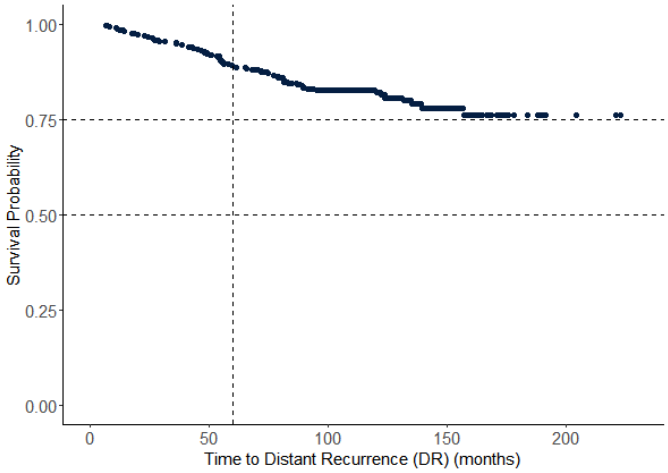


Distant Tumor Recurrence

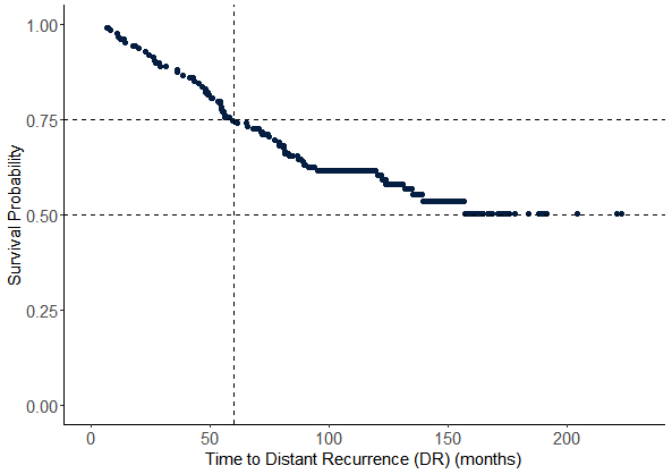
1. Mutation Status and Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 304, number of events= 58
   (1 observation deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6735    1.9611   0.3751 1.795   0.0726 .
Variable2 0.2568    1.2928   0.2782 0.923   0.3561
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.961     0.5099    0.9401     4.091
Variable2     1.293     0.7735    0.7493     2.230

Concordance= 0.554  (se = 0.036 )
Likelihood ratio test= 4.52  on 2 df,   p=0.1
Wald test            = 5.25  on 2 df,   p=0.07
Score (logrank) test = 5.48  on 2 df,   p=0.06
```

Baseline Survival Probability



All Risks Survival Probability

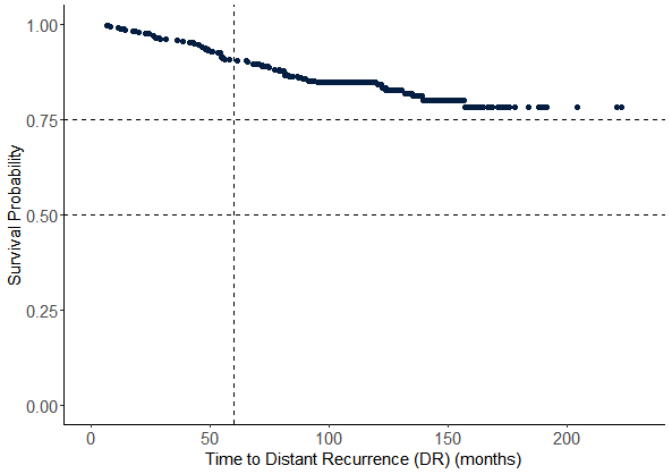


2. Mutation Status and Tumor Stage

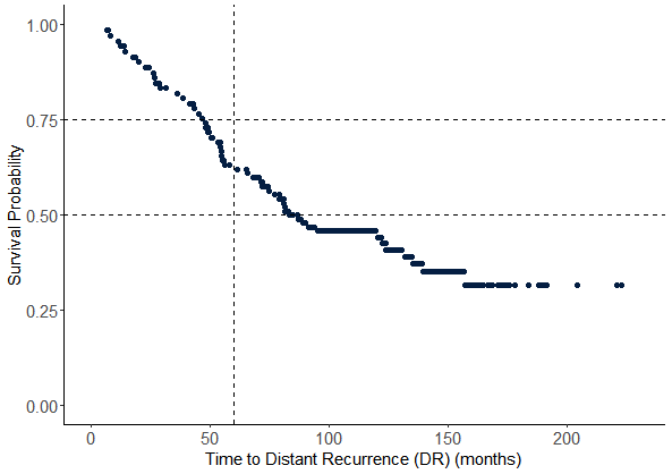
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 51
   (18 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.5103    1.6658   0.4350 1.173 0.240728
Variable2 1.0447    2.8425   0.2849 3.667 0.000245 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.666     0.6003    0.7102     3.907
Variable2     2.842     0.3518    1.6263     4.968

Concordance= 0.644  (se = 0.038 )
Likelihood ratio test= 13.41  on 2 df,   p=0.001
Wald test            = 14.85  on 2 df,   p=6e-04
Score (logrank) test = 16.15  on 2 df,   p=3e-04
```

Baseline Survival Probability



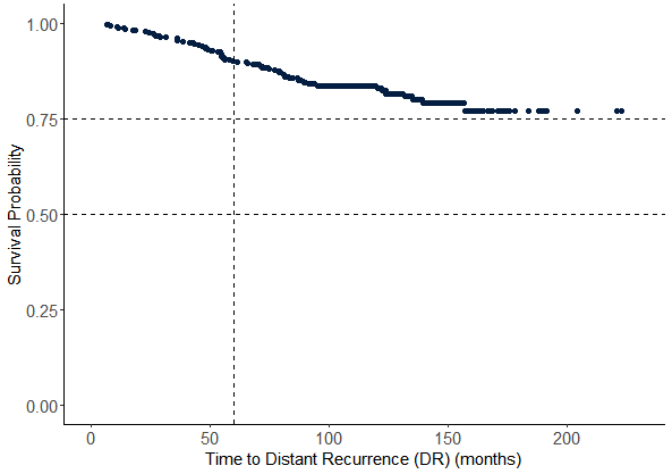
All Risks Survival Probability



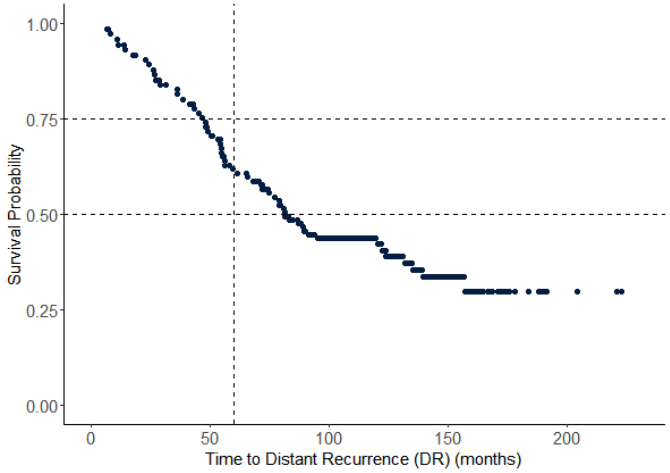
3. Mutation Status and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 56
   (15 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6173    1.8540   0.3685 1.675 0.093867 .
Variable2 0.9199    2.5091   0.2751 3.344 0.000825 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.854     0.5394    0.9004     3.817
Variable2     2.509     0.3985    1.4635     4.302

Concordance= 0.642  (se = 0.036 )
Likelihood ratio test= 15.58  on 2 df,   p=4e-04
Wald test            = 16.05  on 2 df,   p=3e-04
Score (logrank) test = 17.38  on 2 df,   p=2e-04
```

Baseline Survival Probability



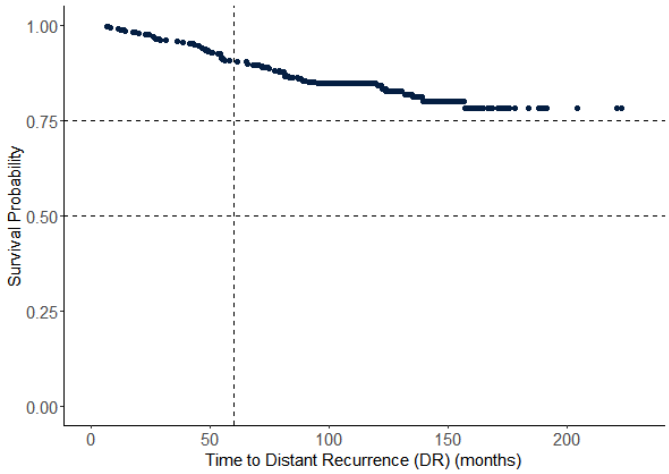
All Risks Survival Probability



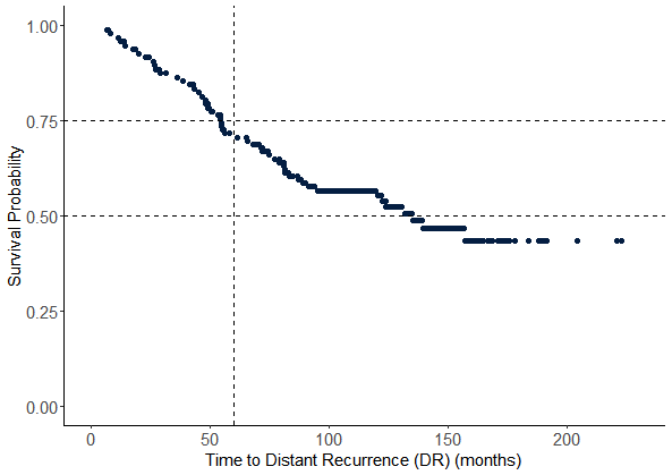
4. Age and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 51
   (18 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.1985    1.2195   0.2947 0.673 0.500712
Variable2 1.0355    2.8165   0.2853 3.629 0.000284 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.220     0.8200    0.6844     2.173
Variable2     2.817     0.3551    1.6101     4.927

Concordance= 0.63  (se = 0.041 )
Likelihood ratio test= 12.65  on 2 df,   p=0.002
Wald test            = 13.93  on 2 df,   p=9e-04
Score (logrank) test = 15.2  on 2 df,   p=5e-04
```

Baseline Survival Probability



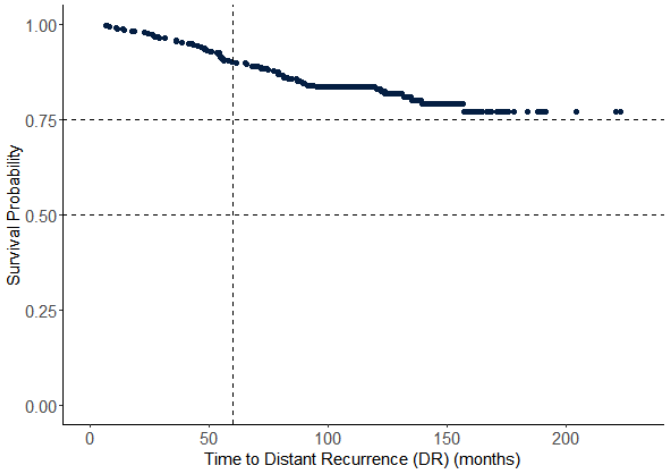
All Risks Survival Probability



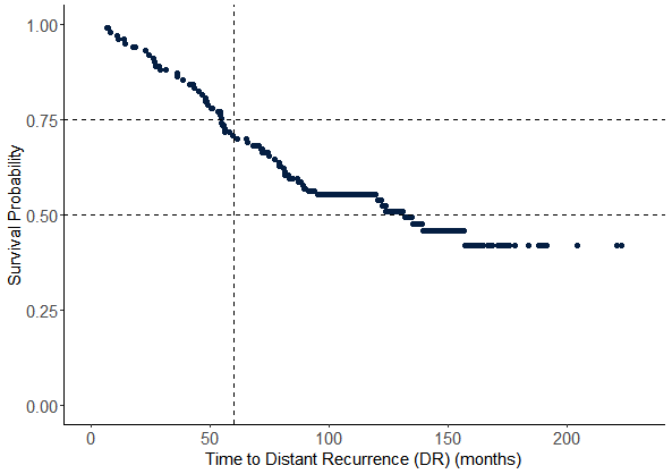
5. Age and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 56
   (15 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.2583    1.2948   0.2740 0.943 0.345742
Variable2 0.9453    2.5735   0.2740 3.450 0.000561 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.295     0.7723    0.7568     2.215
Variable2     2.574     0.3886    1.5041     4.403

Concordance= 0.631  (se = 0.04 )
Likelihood ratio test= 14  on 2 df,   p=9e-04
Wald test            = 13.79  on 2 df,   p=0.001
Score (logrank) test = 14.85  on 2 df,   p=6e-04
```

Baseline Survival Probability



All Risks Survival Probability

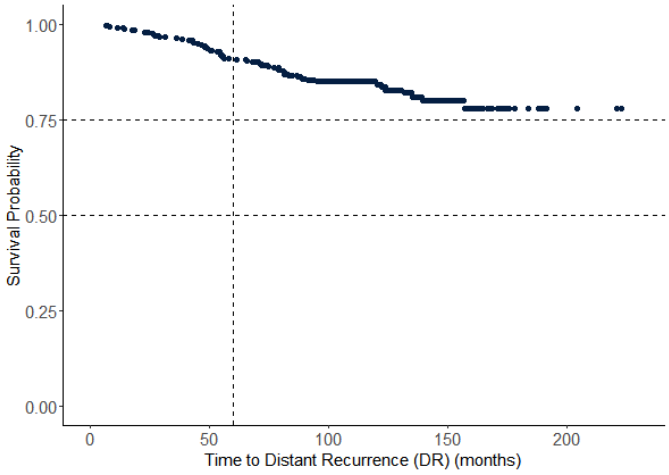


6. Tumor Stage and Lymph Node Involvement

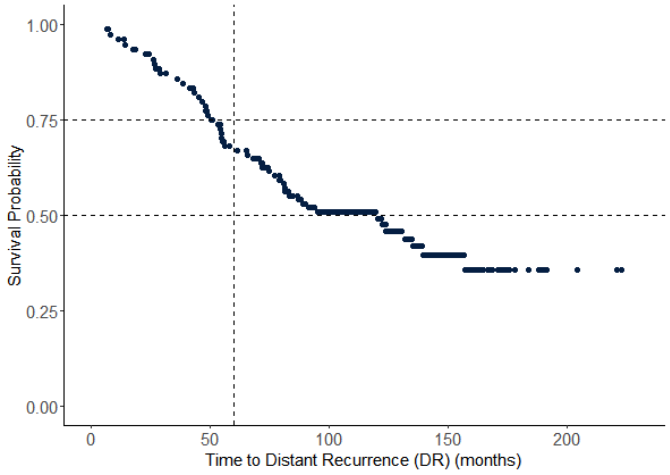
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 273, number of events= 49
   (32 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.7664    2.1519   0.2994 2.560   0.0105 *
Variable2 0.6579    1.9308   0.2925 2.249   0.0245 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.152     0.4647     1.197     3.870
```

```
Variable2     1.931     0.5179     1.088     3.426

Concordance= 0.671  (se = 0.036 )
Likelihood ratio test= 13.59  on 2 df,   p=0.001
Wald test            = 14.44  on 2 df,   p=7e-04
Score (logrank) test = 15.43  on 2 df,   p=4e-04
```

Baseline Survival Probability



All Risks Survival Probability

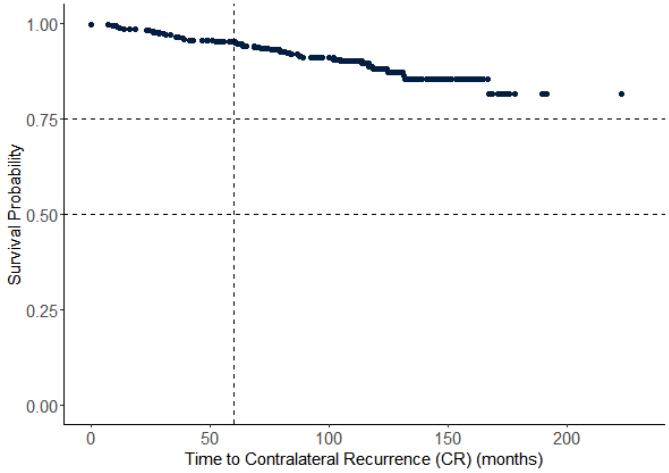


Contralateral Recurrence

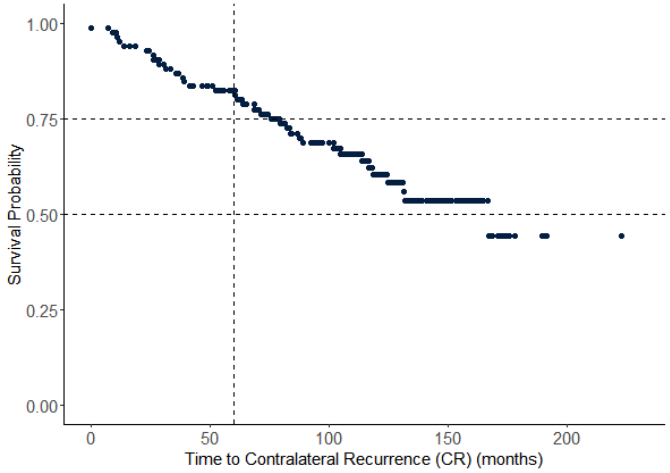
1. Mutation Status and Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 298, number of events= 35
   (7 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 1.3139    3.7208   0.4269 3.078  0.00208 **
Variable2 0.0683    1.0707   0.3650 0.187  0.85157
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     3.721     0.2688    1.6116      8.59
Variable2     1.071     0.9340    0.5236      2.19

Concordance= 0.576  (se = 0.049 )
Likelihood ratio test= 8.5  on 2 df,   p=0.01
Wald test            = 11.04  on 2 df,   p=0.004
Score (logrank) test = 12.77  on 2 df,   p=0.002
```

Baseline Survival Probability



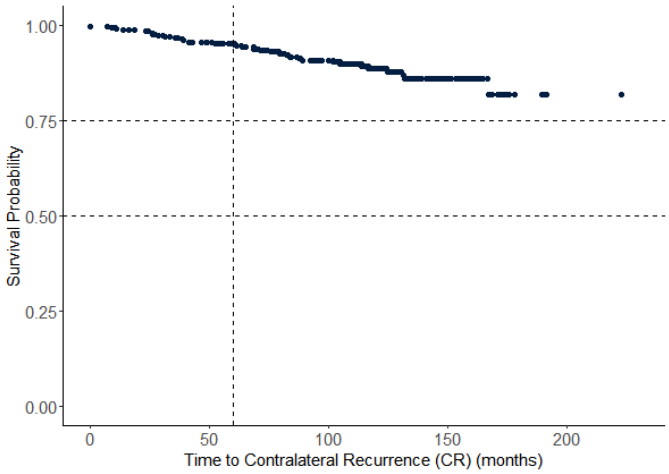
All Risks Survival Probability



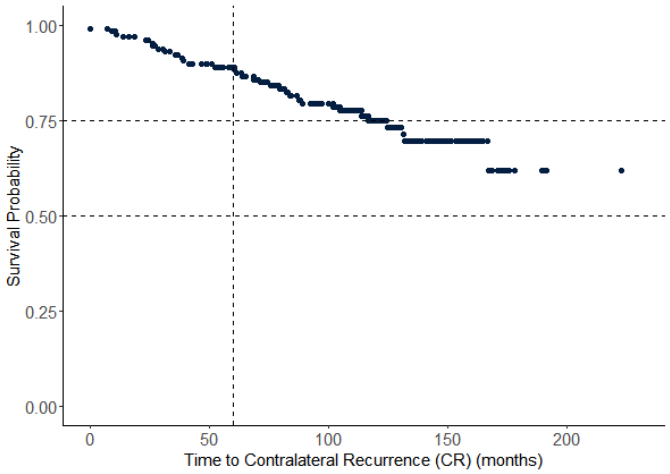
2. Mutation Status and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 281, number of events= 33
   (24 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  1.2899    3.6324   0.4276  3.016  0.00256 **
Variable2 -0.4142    0.6609   0.4859 -0.852  0.39396
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    3.6324     0.2753     1.571     8.398
Variable2    0.6609     1.5132     0.255     1.713

Concordance= 0.582  (se = 0.047 )
Likelihood ratio test= 7.8  on 2 df,   p=0.02
Wald test            = 9.81  on 2 df,   p=0.007
Score (logrank) test = 11.15  on 2 df,   p=0.004
```

Baseline Survival Probability



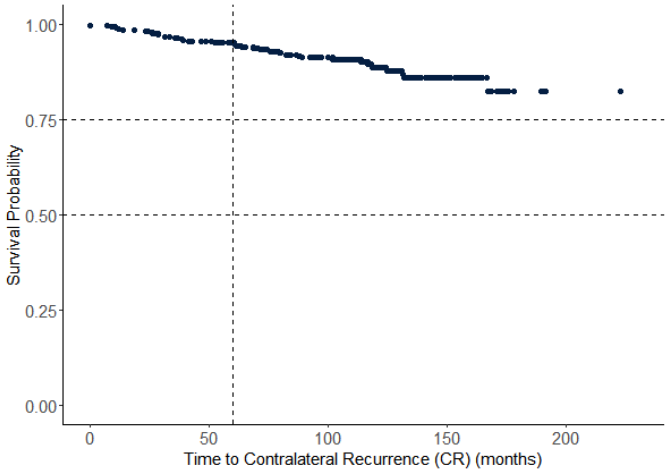
All Risks Survival Probability



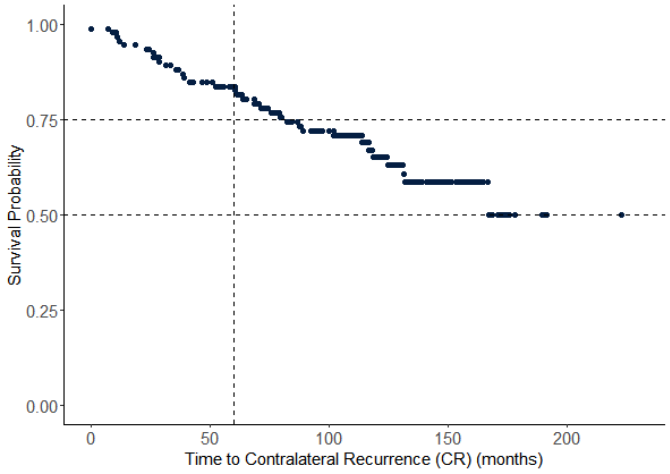
3. Mutation Status and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 286, number of events= 33
   (19 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  1.5158    4.5531   0.4264  3.555 0.000378 ***
Variable2 -0.2404    0.7863   0.3789 -0.635 0.525695
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    4.5531     0.2196    1.9740    10.502
Variable2    0.7863     1.2718    0.3742     1.652

Concordance= 0.564  (se = 0.055 )
Likelihood ratio test= 9.87  on 2 df,   p=0.007
Wald test            = 12.81  on 2 df,   p=0.002
Score (logrank) test = 15.07  on 2 df,   p=5e-04
```

Baseline Survival Probability



All Risks Survival Probability

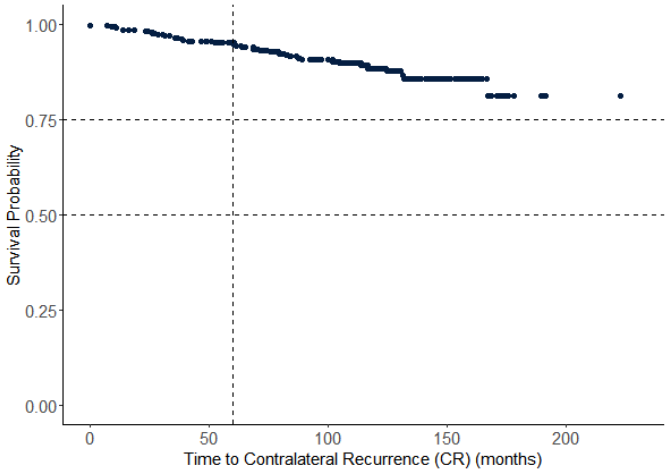


4. Age of Diagnosis and Tumor Stage

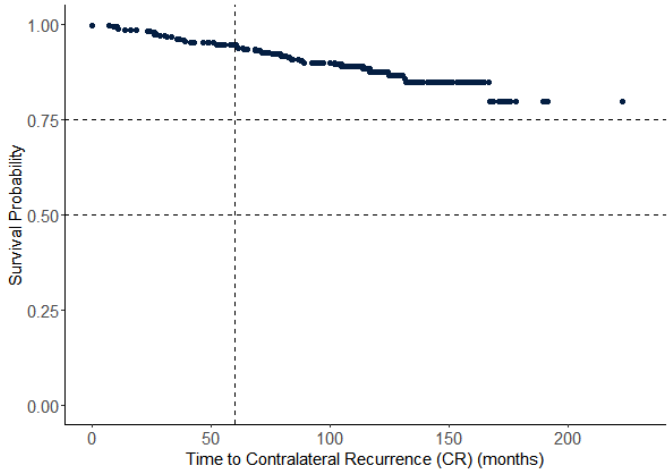
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 281, number of events= 33
   (24 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.5406    1.7170   0.3535  1.529    0.126
Variable2 -0.4587    0.6321   0.4877 -0.941    0.347

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    1.7170     0.5824    0.8587     3.433
Variable2    0.6321     1.5821    0.2430     1.644
```

```
Concordance= 0.538  (se = 0.051 )
Likelihood ratio test= 3.05  on 2 df,   p=0.2
Wald test            = 3.06  on 2 df,   p=0.2
Score (logrank) test = 3.11  on 2 df,   p=0.2
```

Baseline Survival Probability



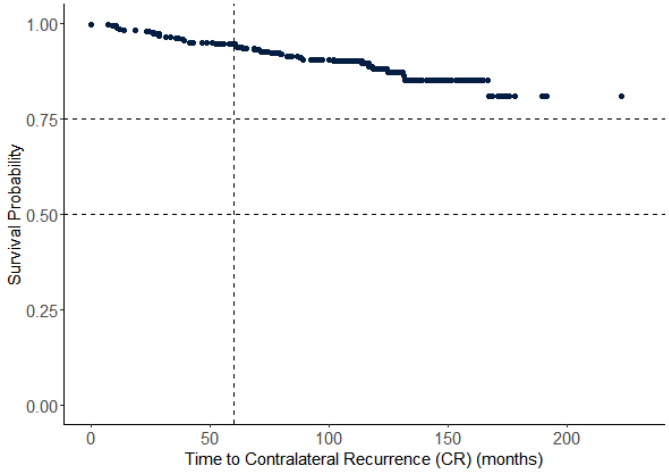
All Risks Survival Probability



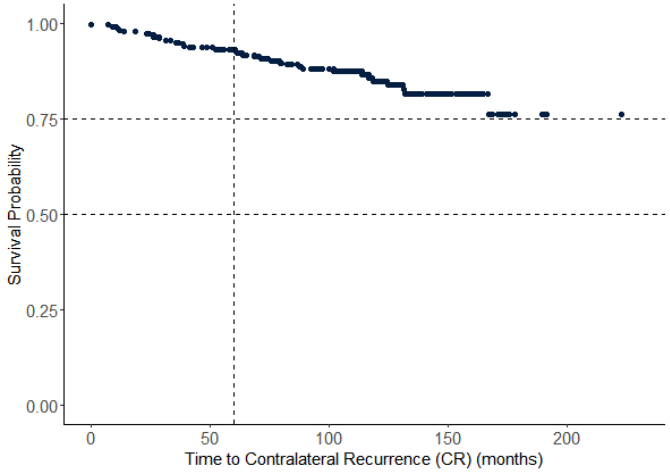
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 286, number of events= 33
   (19 observations deleted due to missingness)

              coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.25973   1.29658  0.35986  0.722    0.470
Variable2 -0.01473   0.98538  0.36587 -0.040    0.968

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    1.2966     0.7713    0.6405     2.625
Variable2    0.9854     1.0148    0.4810     2.019

Concordance= 0.502  (se = 0.05 )
Likelihood ratio test= 0.51  on 2 df,   p=0.8
Wald test            = 0.52  on 2 df,   p=0.8
Score (logrank) test = 0.53  on 2 df,   p=0.8
```

Baseline Survival Probability



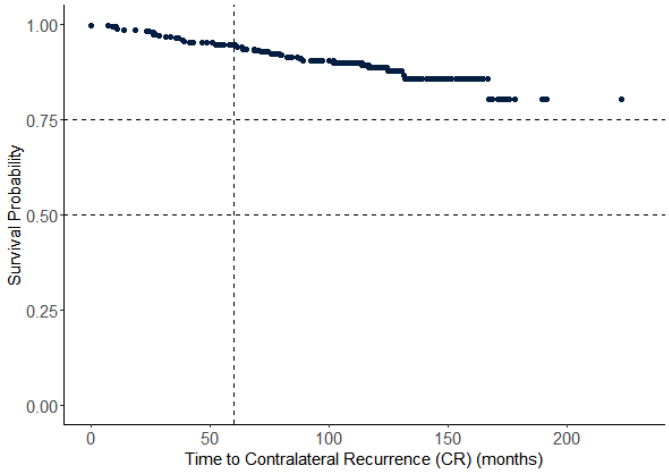
All Risks Survival Probability



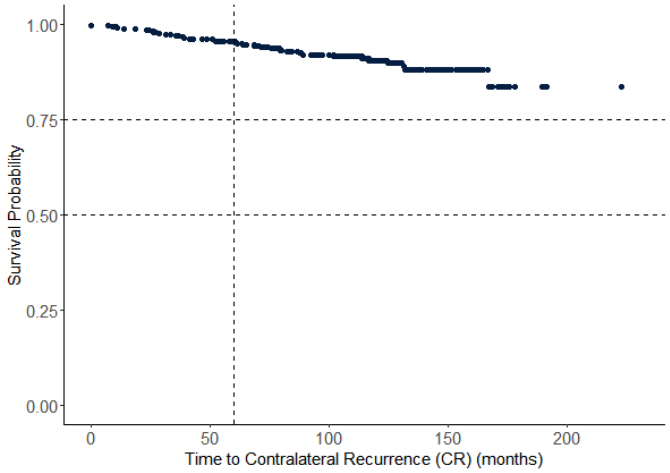
6. Tumor Stage and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 269, number of events= 31
   (36 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1 -0.4213    0.6562   0.4933 -0.854    0.393
Variable2  0.2264    1.2540   0.3729  0.607    0.544

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    0.6562     1.5239    0.2495     1.726
Variable2    1.2540     0.7974    0.6038     2.604

Concordance= 0.529  (se = 0.048 )
Likelihood ratio test= 1.03  on 2 df,   p=0.6
Wald test            = 0.98  on 2 df,   p=0.6
Score (logrank) test = 0.99  on 2 df,   p=0.6
```

Baseline Survival Probability



All Risks Survival Probability

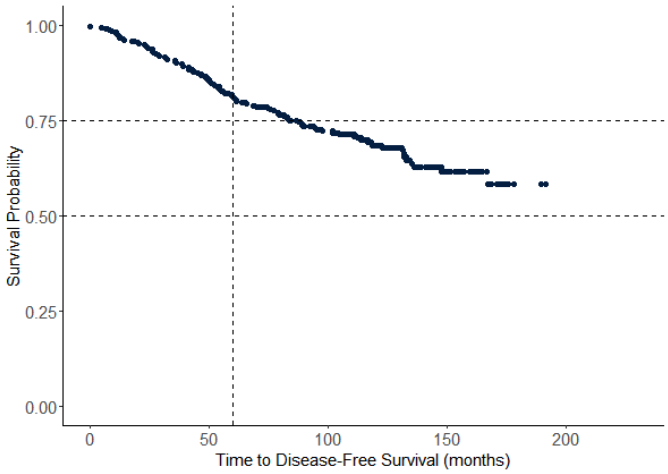


Disease-Free Survival

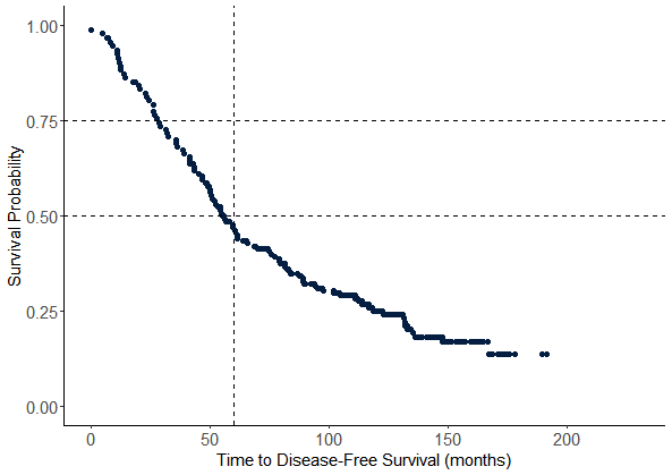
1. Mutation Status and Age of Diagnosis

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 305, number of events= 99

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 1.1330    3.1049   0.2784 4.069 4.72e-05 ***
Variable2 0.1681    1.1830   0.2191 0.767    0.443
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     3.105     0.3221    1.7990     5.359
Variable2     1.183     0.8453    0.7701     1.817

Concordance= 0.58  (se = 0.028 )
Likelihood ratio test= 16.91  on 2 df,   p=2e-04
Wald test            = 21.78  on 2 df,   p=2e-05
Score (logrank) test = 24.46  on 2 df,   p=5e-06
```

Baseline Survival Probability



All Risks Survival Probability

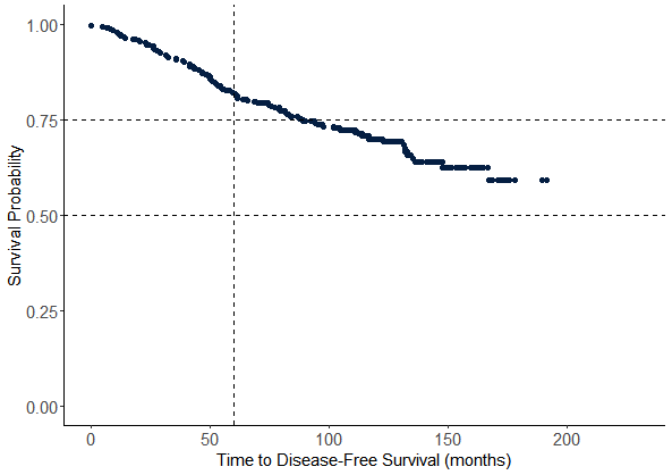


2. Mutation Status and Tumor Stage

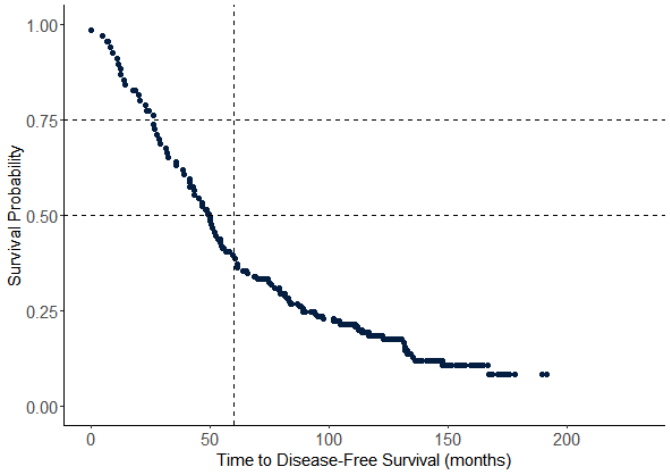
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 90
   (17 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 1.0456    2.8451   0.2919 3.582 0.000341 ***
Variable2 0.5126    1.6697   0.2304 2.225 0.026072 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
```

```
Variable1     2.845     0.3515     1.606     5.042
Variable2     1.670     0.5989     1.063     2.623

Concordance= 0.609  (se = 0.028 )
Likelihood ratio test= 15.1  on 2 df,   p=5e-04
Wald test            = 18.47  on 2 df,   p=1e-04
Score (logrank) test = 19.89  on 2 df,   p=5e-05
```

Baseline Survival Probability



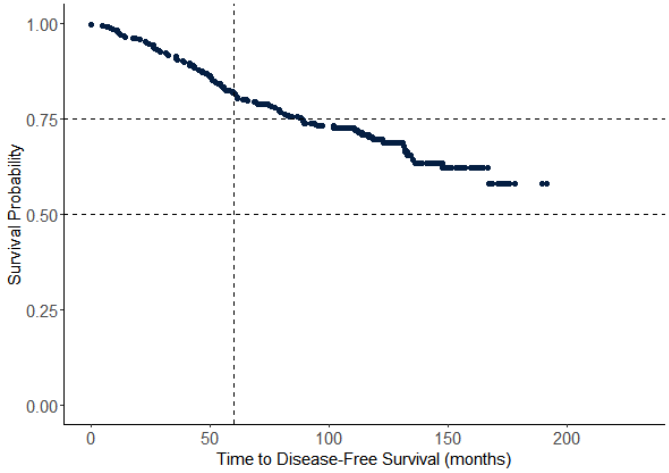
All Risks Survival Probability



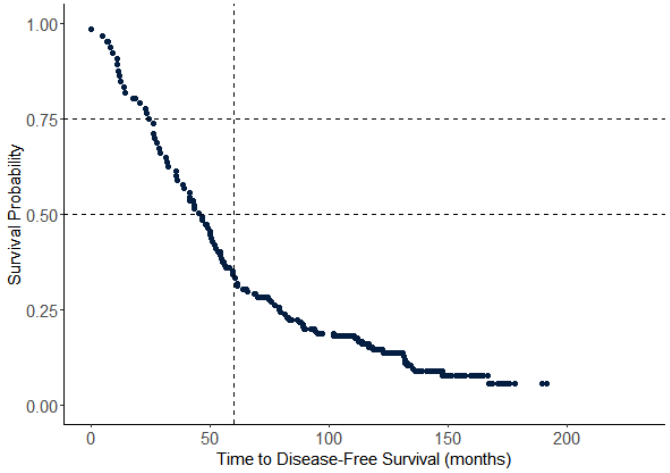
3. Mutation Status and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 94
   (14 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 1.1445    3.1409   0.2700 4.239 2.25e-05 ***
Variable2 0.5291    1.6973   0.2121 2.494   0.0126 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     3.141     0.3184      1.85     5.332
Variable2     1.697     0.5892      1.12     2.572

Concordance= 0.631  (se = 0.029 )
Likelihood ratio test= 24.49  on 2 df,   p=5e-06
Wald test            = 30.15  on 2 df,   p=3e-07
Score (logrank) test = 33.99  on 2 df,   p=4e-08
```

Baseline Survival Probability



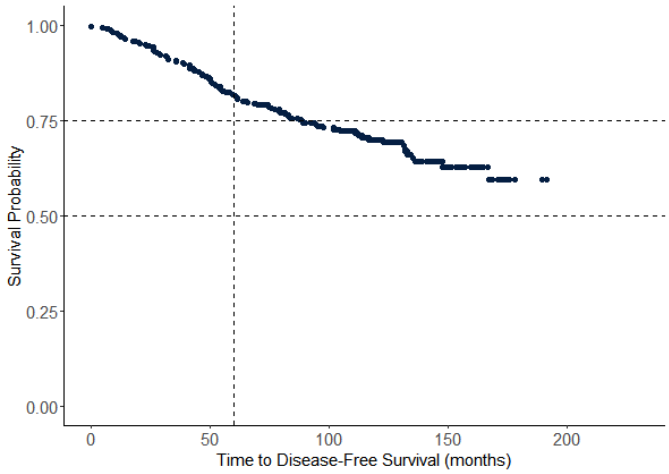
All Risks Survival Probability



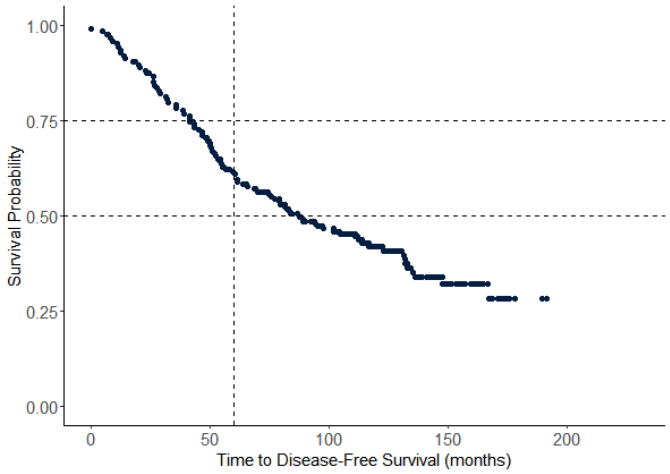
4. Age of Diagnosis and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 90
   (17 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.3816    1.4647   0.2185 1.747   0.0807 .
Variable2 0.5101    1.6654   0.2309 2.209   0.0272 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.465     0.6827    0.9545     2.248
Variable2     1.665     0.6005    1.0593     2.618

Concordance= 0.588  (se = 0.03 )
Likelihood ratio test= 7.95  on 2 df,   p=0.02
Wald test            = 8.49  on 2 df,   p=0.01
Score (logrank) test = 8.66  on 2 df,   p=0.01
```

Baseline Survival Probability



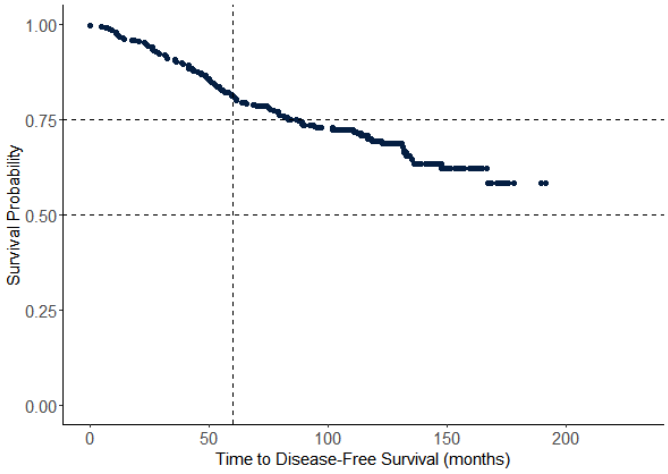
All Risks Survival Probability



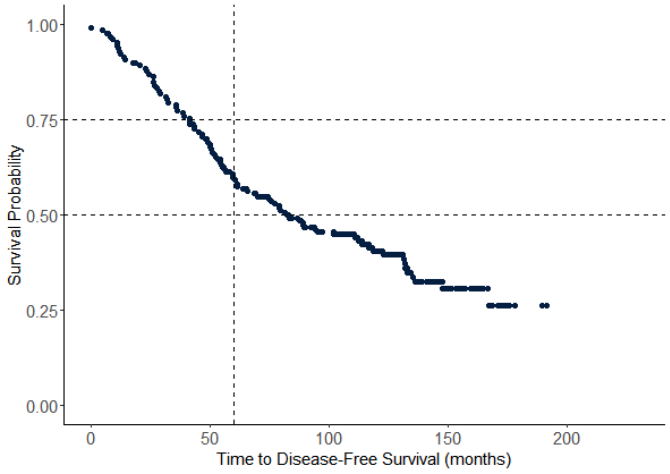
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 94
   (14 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.2846    1.3293   0.2128 1.337  0.18110
Variable2 0.6225    1.8635   0.2092 2.975  0.00293 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.329     0.7523    0.8759     2.017
Variable2     1.864     0.5366    1.2366     2.808

Concordance= 0.592  (se = 0.03 )
Likelihood ratio test= 11.85  on 2 df,   p=0.003
Wald test            = 12.06  on 2 df,   p=0.002
Score (logrank) test = 12.46  on 2 df,   p=0.002
```

Baseline Survival Probability



All Risks Survival Probability

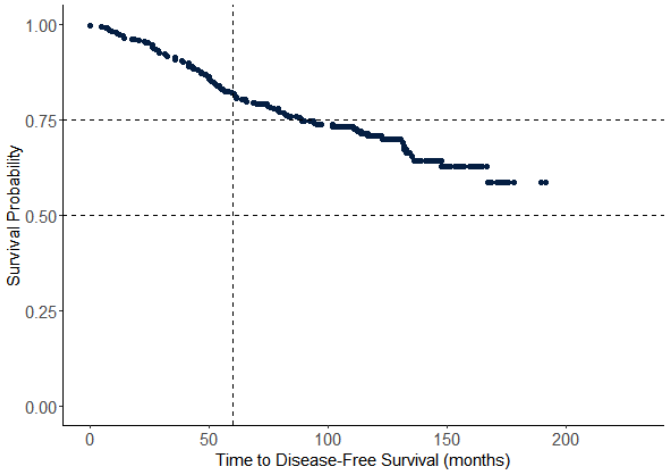


6. Tumor Stage and Lymph Node Involvement

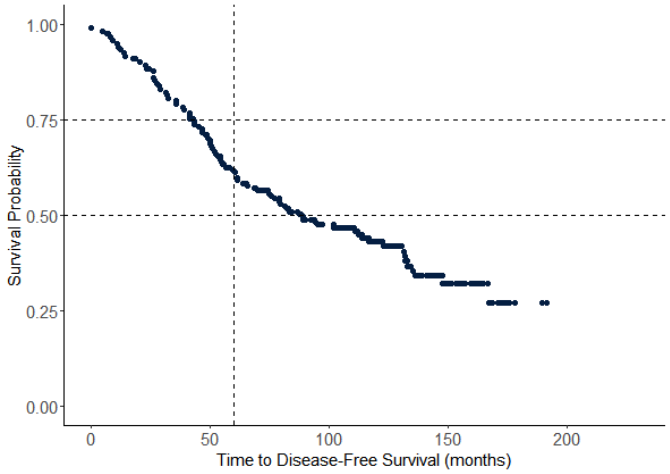
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 85
   (31 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.3368    1.4004   0.2426 1.388   0.1651
Variable2 0.5556    1.7430   0.2219 2.504   0.0123 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.400     0.7141    0.8705     2.253
```

```
Variable2     1.743     0.5737    1.1284     2.692

Concordance= 0.593  (se = 0.029 )
Likelihood ratio test= 9.49  on 2 df,   p=0.009
Wald test            = 9.84  on 2 df,   p=0.007
Score (logrank) test = 10.12  on 2 df,   p=0.006
```

Baseline Survival Probability



All Risks Survival Probability



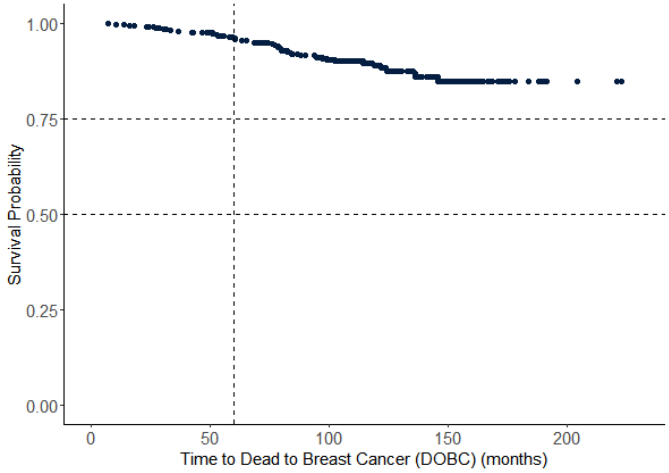
Trivariate Analysis

Breast Cancer-Specific Survival

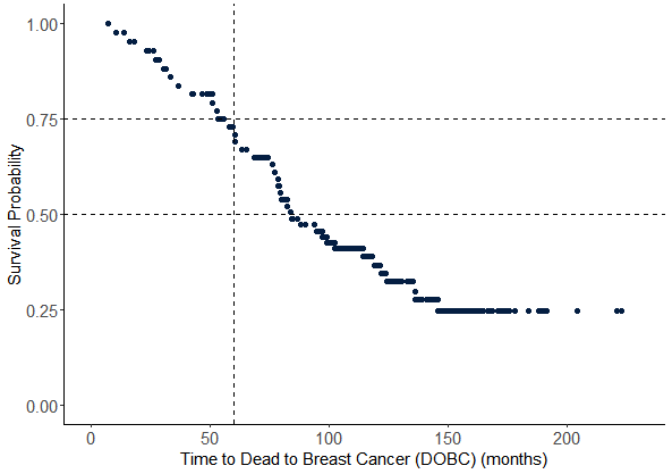
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 37
   (18 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.7160    2.0461   0.4754 1.506 0.132089
Variable2 0.2204    1.2466   0.3596 0.613 0.539946
Variable3 1.2060    3.3402   0.3322 3.631 0.000282 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.046     0.4887    0.8058     5.195
Variable2     1.247     0.8022    0.6160     2.523
Variable3     3.340     0.2994    1.7420     6.405

Concordance= 0.684  (se = 0.046 )
Likelihood ratio test= 15.92  on 3 df,   p=0.001
Wald test            = 17.93  on 3 df,   p=5e-04
Score (logrank) test = 19.96  on 3 df,   p=2e-04
```

Baseline Survival Probability



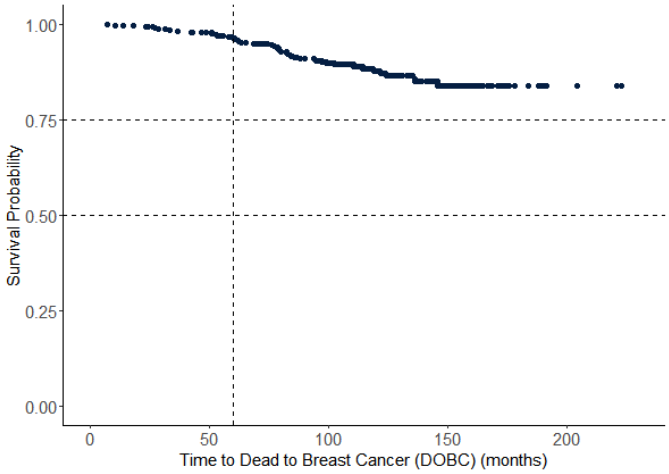
All Risks Survival Probability



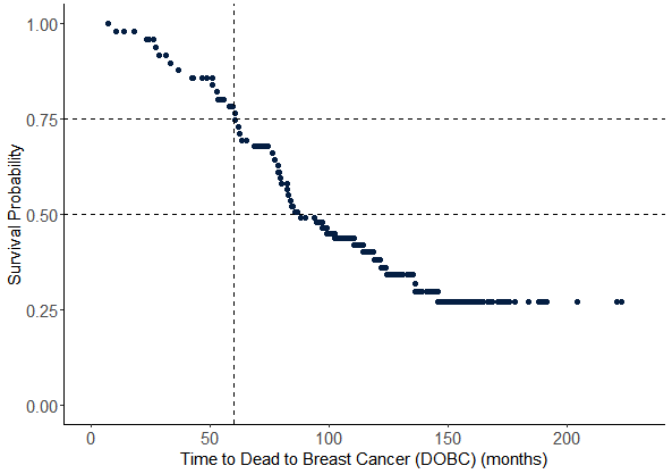
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 41
   (15 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6655    1.9455   0.4182 1.591  0.11151
Variable2 0.3150    1.3703   0.3303 0.954  0.34025
Variable3 1.0327    2.8086   0.3307 3.123  0.00179 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.946     0.5140    0.8572     4.416
Variable2     1.370     0.7298    0.7172     2.618
Variable3     2.809     0.3561    1.4689     5.370

Concordance= 0.664  (se = 0.046 )
Likelihood ratio test= 17.22  on 3 df,   p=6e-04
Wald test            = 17.74  on 3 df,   p=5e-04
Score (logrank) test = 19.81  on 3 df,   p=2e-04
```

Baseline Survival Probability



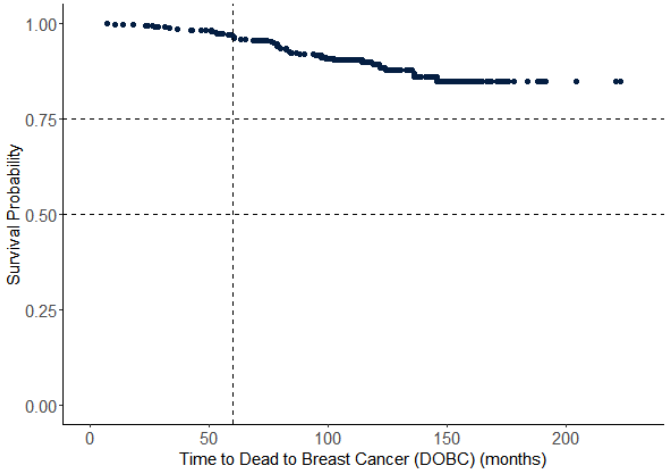
All Risks Survival Probability



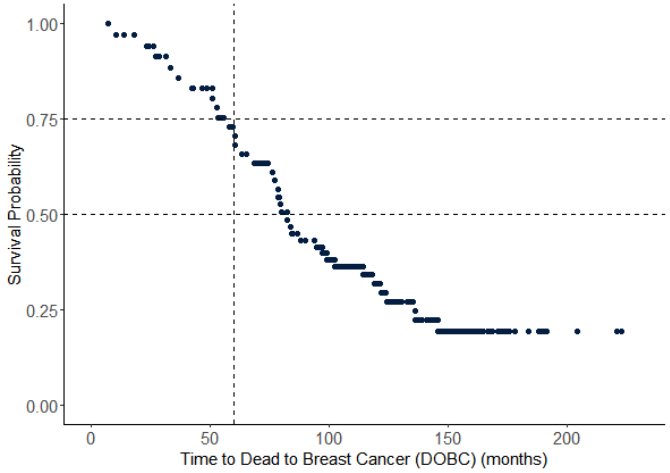
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 273, number of events= 35
   (32 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.6820    1.9778   0.4606 1.481  0.13871
Variable2 0.9142    2.4948   0.3492 2.618  0.00884 **
Variable3 0.7095    2.0330   0.3568 1.988  0.04676 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.978     0.5056    0.8019     4.878
Variable2     2.495     0.4008    1.2585     4.946
Variable3     2.033     0.4919    1.0102     4.091

Concordance= 0.704  (se = 0.042 )
Likelihood ratio test= 16.11  on 3 df,   p=0.001
Wald test            = 17.86  on 3 df,   p=5e-04
Score (logrank) test = 19.57  on 3 df,   p=2e-04
```

Baseline Survival Probability



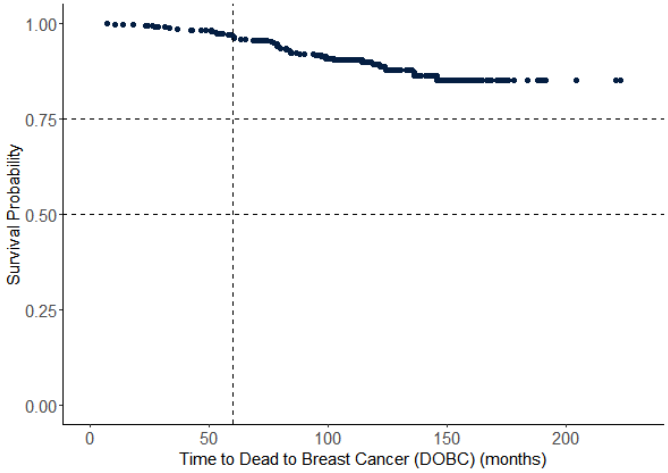
All Risks Survival Probability



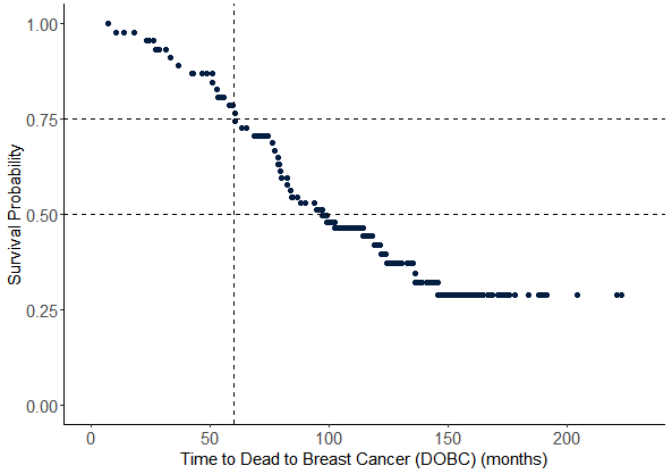
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 273, number of events= 35
   (32 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.3701    1.4479   0.3448 1.073  0.28309
Variable2 0.9048    2.4713   0.3480 2.600  0.00933 **
Variable3 0.7639    2.1466   0.3489 2.189  0.02856 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.448     0.6906    0.7366     2.846
Variable2     2.471     0.4046    1.2494     4.888
Variable3     2.147     0.4659    1.0834     4.253

Concordance= 0.704  (se = 0.044 )
Likelihood ratio test= 15.33  on 3 df,   p=0.002
Wald test            = 16.15  on 3 df,   p=0.001
Score (logrank) test = 17.64  on 3 df,   p=5e-04
```

Baseline Survival Probability



All Risks Survival Probability

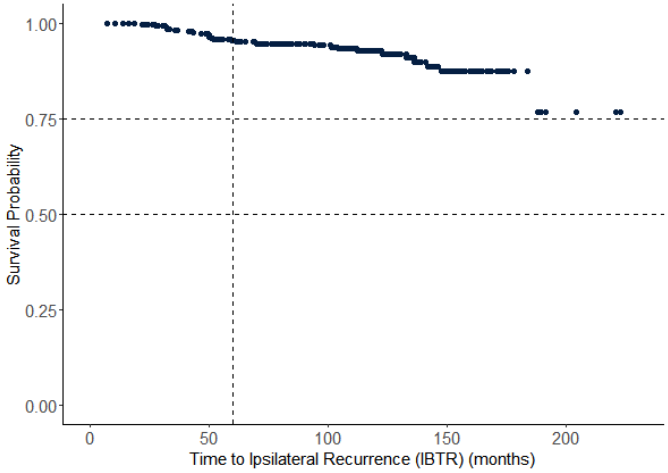


Ipsilateral Breast Tumor Recurrence

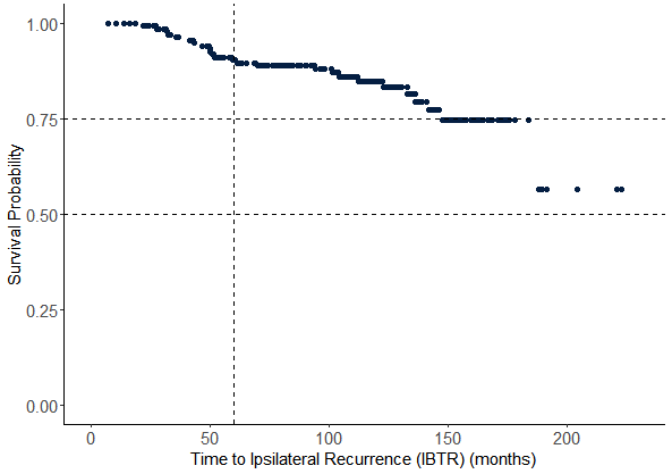
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 25
   (17 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.1852    1.2035   0.6377  0.290   0.7715
Variable2  0.7136    2.0413   0.4126  1.730   0.0837 .
Variable3 -0.1211    0.8859   0.5030 -0.241   0.8097
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    1.2035     0.8309    0.3448     4.200
Variable2    2.0413     0.4899    0.9094     4.582
Variable3    0.8859     1.1288    0.3306     2.374

Concordance= 0.611  (se = 0.063 )
Likelihood ratio test= 3.28  on 3 df,   p=0.4
Wald test            = 3.4  on 3 df,   p=0.3
Score (logrank) test = 3.54  on 3 df,   p=0.3
```

Baseline Survival Probability



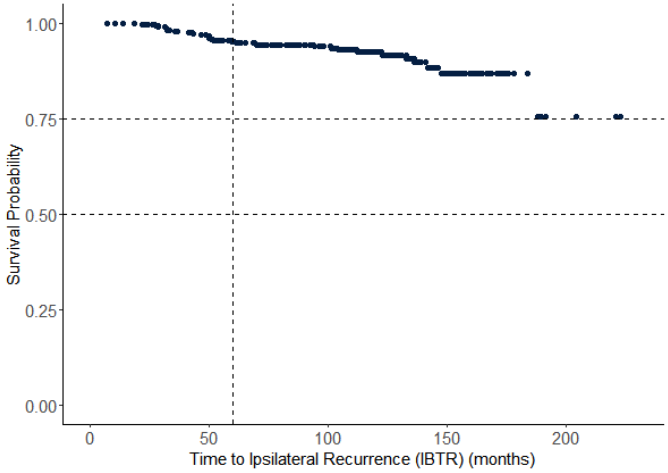
All Risks Survival Probability



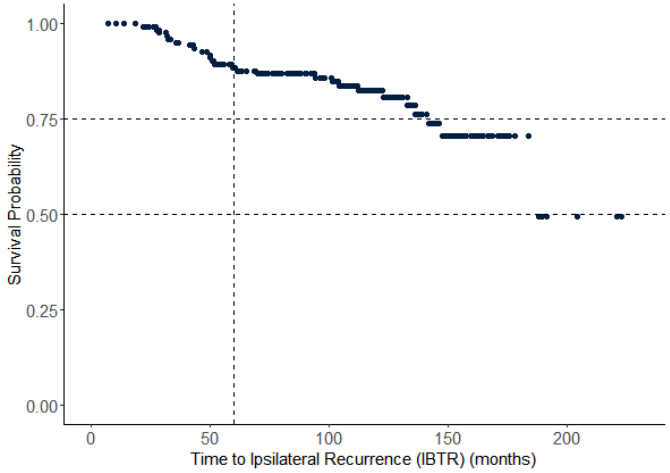
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 26
   (14 observations deleted due to missingness)

             coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.01274   1.01283  0.64718 0.020   0.9843
Variable2 0.68854   1.99080  0.40213 1.712   0.0869 .
Variable3 0.21529   1.24022  0.40759 0.528   0.5974
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.013     0.9873    0.2849     3.601
Variable2     1.991     0.5023    0.9052     4.378
Variable3     1.240     0.8063    0.5579     2.757

Concordance= 0.601  (se = 0.064 )
Likelihood ratio test= 3.44  on 3 df,   p=0.3
Wald test            = 3.52  on 3 df,   p=0.3
Score (logrank) test = 3.66  on 3 df,   p=0.3
```

Baseline Survival Probability



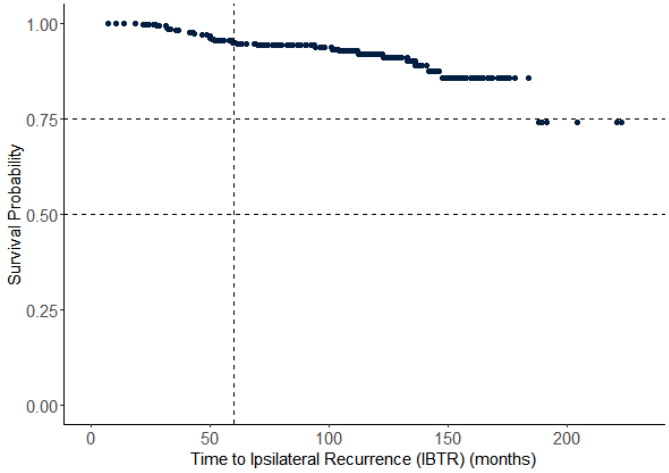
All Risks Survival Probability



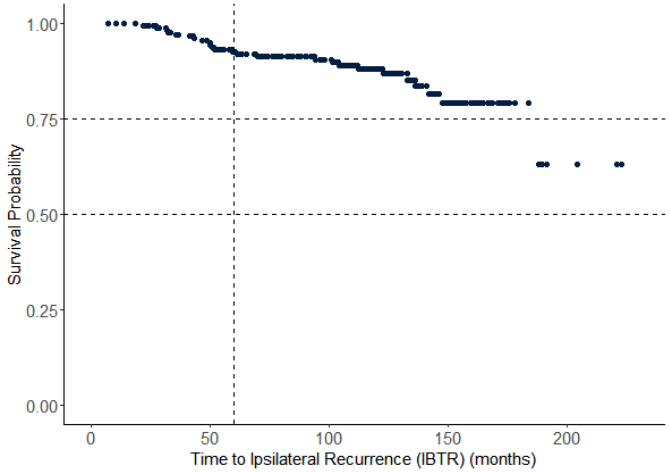
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 25
   (31 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.3564    1.4282   0.6427  0.555    0.579
Variable2 -0.1260    0.8816   0.5066 -0.249    0.804
Variable3  0.1987    1.2198   0.4221  0.471    0.638

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    1.4282     0.7002    0.4052     5.034
Variable2    0.8816     1.1343    0.3266     2.379
Variable3    1.2198     0.8198    0.5334     2.790

Concordance= 0.55  (se = 0.062 )
Likelihood ratio test= 0.65  on 3 df,   p=0.9
Wald test            = 0.69  on 3 df,   p=0.9
Score (logrank) test = 0.7  on 3 df,   p=0.9
```

Baseline Survival Probability



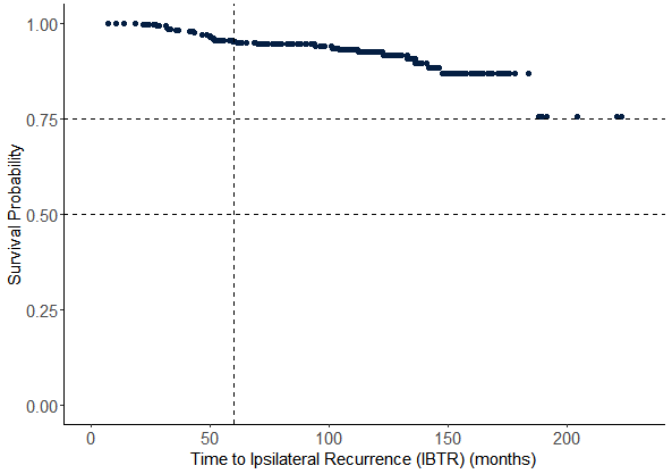
All Risks Survival Probability



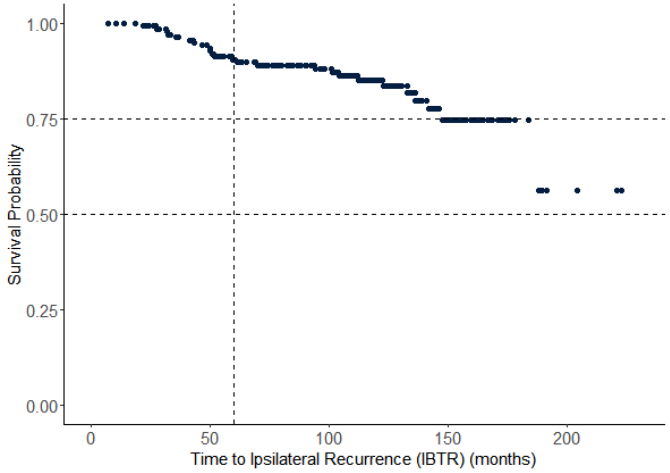
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 25
   (31 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.6971    2.0080   0.4039  1.726   0.0843 .
Variable2 -0.1935    0.8241   0.5071 -0.382   0.7028
Variable3  0.2142    1.2389   0.4140  0.517   0.6049
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    2.0080     0.4980    0.9099     4.431
Variable2    0.8241     1.2135    0.3050     2.226
Variable3    1.2389     0.8072    0.5503     2.789

Concordance= 0.582  (se = 0.07 )
Likelihood ratio test= 3.26  on 3 df,   p=0.4
Wald test            = 3.36  on 3 df,   p=0.3
Score (logrank) test = 3.48  on 3 df,   p=0.3
```

Baseline Survival Probability



All Risks Survival Probability

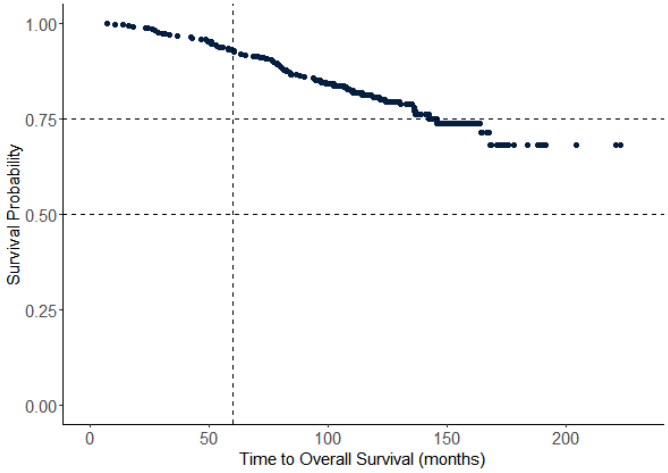


Overall Survival

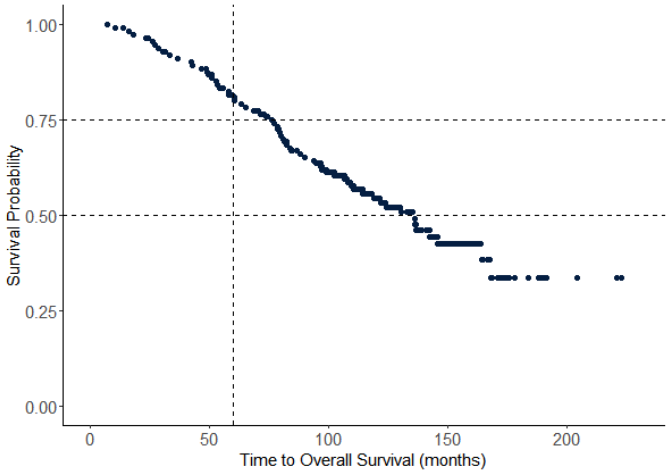
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 63
   (17 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.7212    2.0569   0.3981  1.812  0.07002 .
Variable2 -0.4515    0.6367   0.3068 -1.472  0.14115
Variable3  0.7724    2.1650   0.2666  2.898  0.00376 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    2.0569     0.4862    0.9427     4.488
Variable2    0.6367     1.5706    0.3490     1.162
Variable3    2.1650     0.4619    1.2840     3.651

Concordance= 0.63  (se = 0.036 )
Likelihood ratio test= 11.07  on 3 df,   p=0.01
Wald test            = 11.58  on 3 df,   p=0.009
Score (logrank) test = 12.1  on 3 df,   p=0.007
```

Baseline Survival Probability



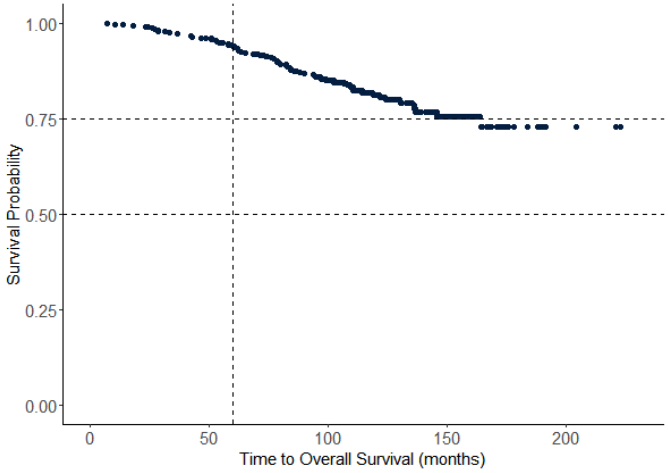
All Risks Survival Probability



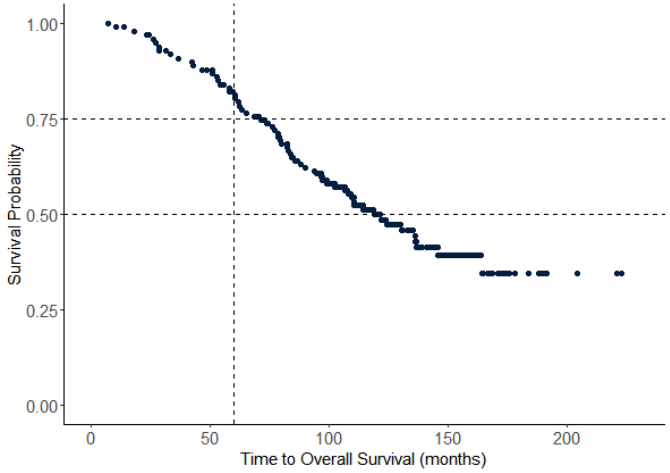
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 61
   (14 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.7522    2.1217   0.3667  2.051  0.04023 *
Variable2 -0.3146    0.7301   0.2914 -1.080  0.28022
Variable3  0.7718    2.1637   0.2622  2.943  0.00325 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    2.1217     0.4713    1.0341     4.353
Variable2    0.7301     1.3697    0.4124     1.292
Variable3    2.1637     0.4622    1.2942     3.617

Concordance= 0.626  (se = 0.035 )
Likelihood ratio test= 14  on 3 df,   p=0.003
Wald test            = 14.7  on 3 df,   p=0.002
Score (logrank) test = 15.57  on 3 df,   p=0.001
```

Baseline Survival Probability



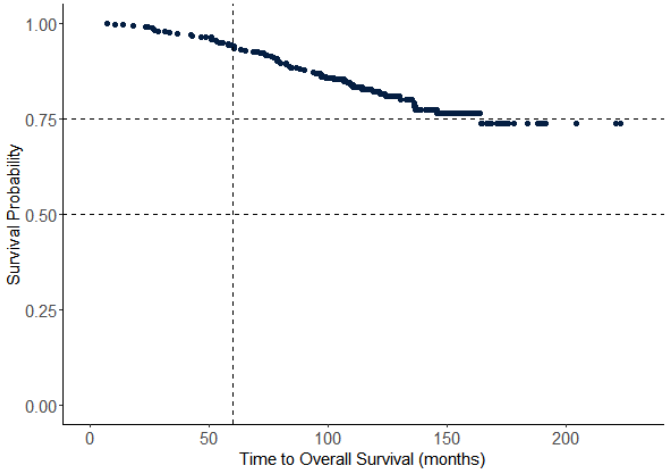
All Risks Survival Probability



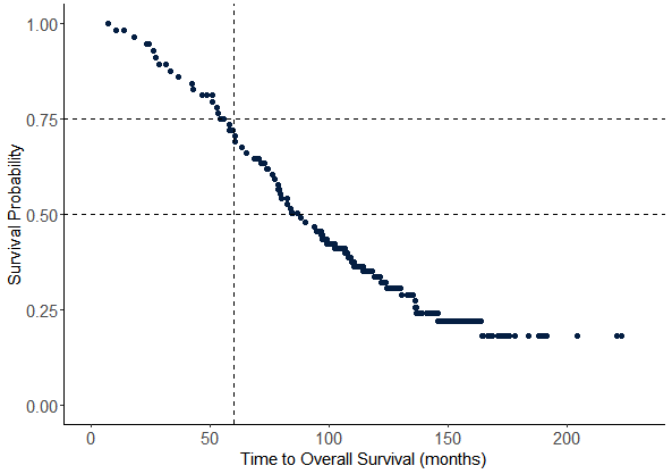
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 55
   (31 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.5663    1.7618   0.3913 1.447   0.1479
Variable2 0.6496    1.9148   0.2869 2.265   0.0235 *
Variable3 0.5050    1.6569   0.2810 1.797   0.0723 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.762     0.5676    0.8182     3.794
Variable2     1.915     0.5223    1.0913     3.360
Variable3     1.657     0.6035    0.9552     2.874

Concordance= 0.64  (se = 0.039 )
Likelihood ratio test= 12.83  on 3 df,   p=0.005
Wald test            = 14.19  on 3 df,   p=0.003
Score (logrank) test = 14.88  on 3 df,   p=0.002
```

Baseline Survival Probability



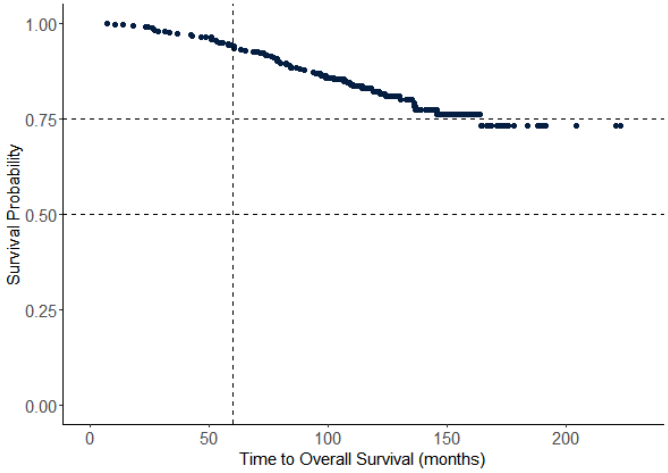
All Risks Survival Probability



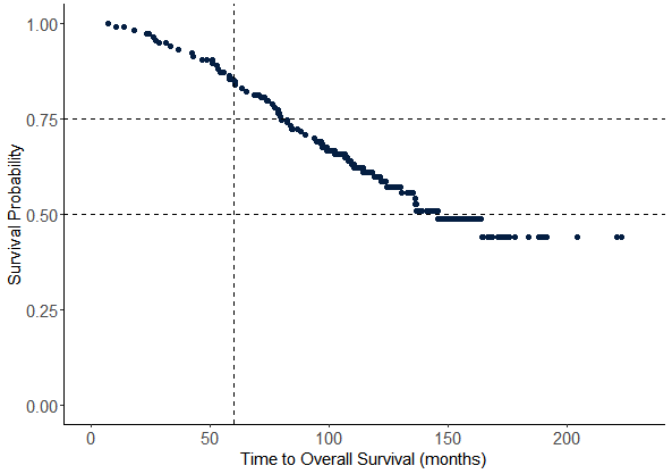
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 55
   (31 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1 -0.2873    0.7503   0.3051 -0.942   0.3464
Variable2  0.6662    1.9469   0.2860  2.329   0.0198 *
Variable3  0.5903    1.8045   0.2751  2.145   0.0319 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    0.7503     1.3328    0.4126     1.364
Variable2    1.9469     0.5136    1.1115     3.410
Variable3    1.8045     0.5542    1.0523     3.094

Concordance= 0.638  (se = 0.037 )
Likelihood ratio test= 11.9  on 3 df,   p=0.008
Wald test            = 12.55  on 3 df,   p=0.006
Score (logrank) test = 13.11  on 3 df,   p=0.004
```

Baseline Survival Probability



All Risks Survival Probability

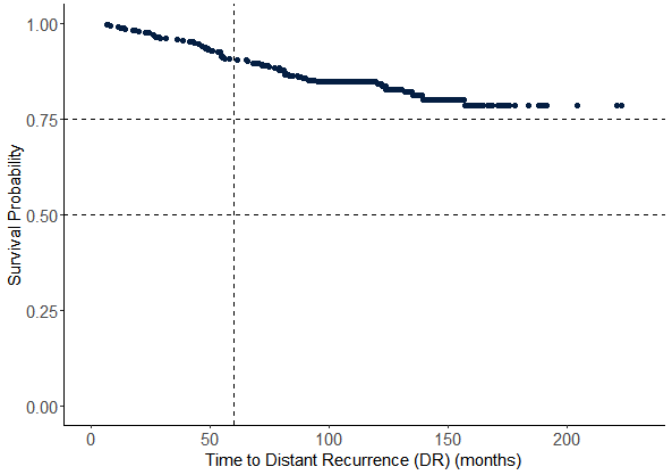


Distant Tumor Recurrence

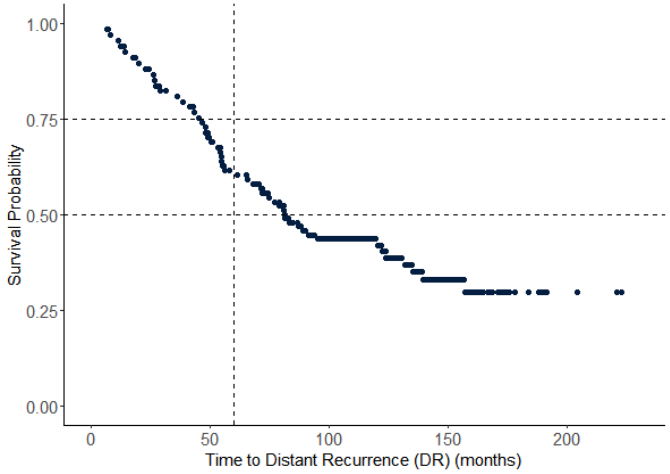
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 287, number of events= 51
   (18 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.4570    1.5794   0.4564 1.001 0.316669
Variable2 0.1189    1.1262   0.3096 0.384 0.701035
Variable3 1.0367    2.8200   0.2856 3.630 0.000284 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.579     0.6332    0.6456     3.863
Variable2     1.126     0.8879    0.6139     2.066
Variable3     2.820     0.3546    1.6111     4.936

Concordance= 0.644  (se = 0.041 )
Likelihood ratio test= 13.56  on 3 df,   p=0.004
Wald test            = 15.06  on 3 df,   p=0.002
Score (logrank) test = 16.35  on 3 df,   p=0.001
```

Baseline Survival Probability



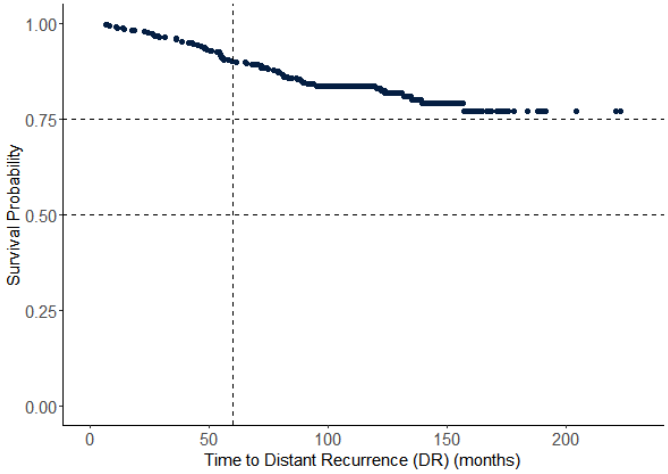
All Risks Survival Probability



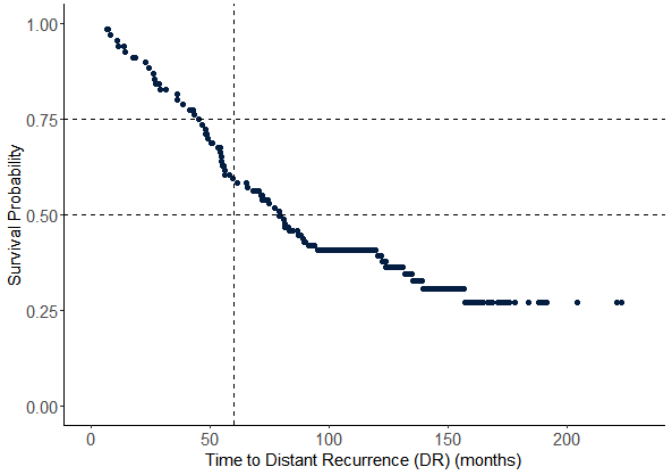
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 290, number of events= 56
   (15 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.5557    1.7432   0.3849 1.444  0.14880
Variable2 0.1588    1.1721   0.2868 0.554  0.57990
Variable3 0.9043    2.4701   0.2768 3.267  0.00109 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.743     0.5737    0.8198     3.707
Variable2     1.172     0.8532    0.6680     2.056
Variable3     2.470     0.4048    1.4359     4.249

Concordance= 0.64  (se = 0.04 )
Likelihood ratio test= 15.88  on 3 df,   p=0.001
Wald test            = 16.4  on 3 df,   p=9e-04
Score (logrank) test = 17.75  on 3 df,   p=5e-04
```

Baseline Survival Probability



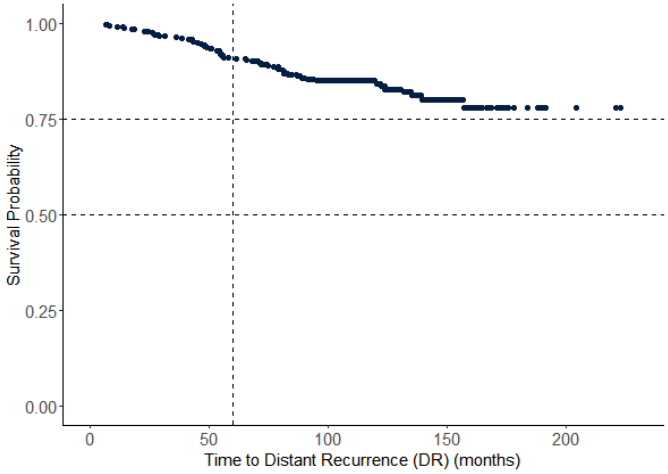
All Risks Survival Probability



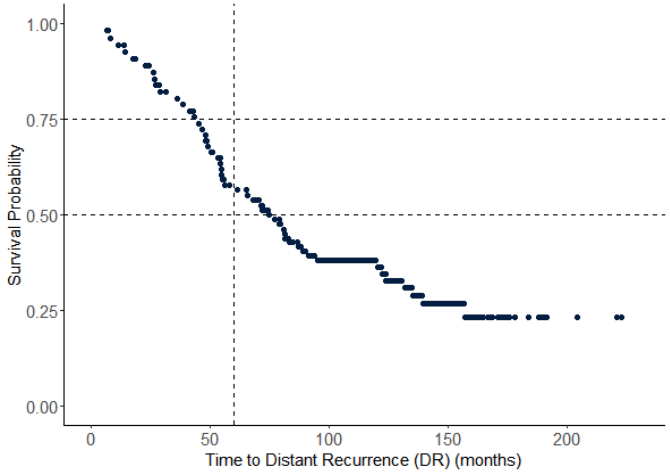
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 273, number of events= 49
   (32 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.3976    1.4882   0.4434 0.897   0.3699
Variable2 0.7651    2.1492   0.3001 2.549   0.0108 *
Variable3 0.6181    1.8555   0.2977 2.076   0.0379 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.488     0.6719     0.624     3.549
Variable2     2.149     0.4653     1.193     3.870
Variable3     1.855     0.5389     1.035     3.326

Concordance= 0.676  (se = 0.037 )
Likelihood ratio test= 14.32  on 3 df,   p=0.002
Wald test            = 15.51  on 3 df,   p=0.001
Score (logrank) test = 16.54  on 3 df,   p=9e-04
```

Baseline Survival Probability



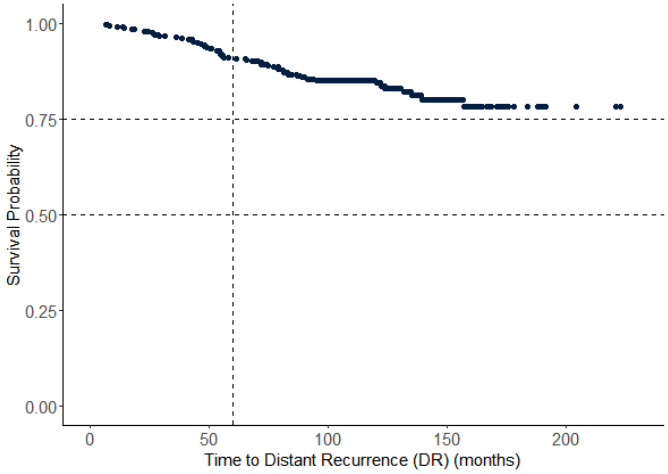
All Risks Survival Probability



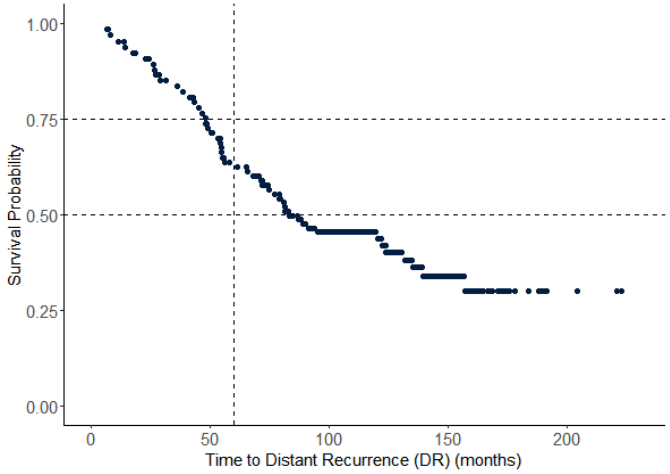
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 273, number of events= 49
   (32 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.1800    1.1972   0.2986 0.603   0.5467
Variable2 0.7627    2.1441   0.2994 2.548   0.0108 *
Variable3 0.6429    1.9019   0.2936 2.189   0.0286 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.197     0.8353    0.6668     2.149
Variable2     2.144     0.4664    1.1924     3.855
Variable3     1.902     0.5258    1.0697     3.382

Concordance= 0.659  (se = 0.04 )
Likelihood ratio test= 13.95  on 3 df,   p=0.003
Wald test            = 14.79  on 3 df,   p=0.002
Score (logrank) test = 15.79  on 3 df,   p=0.001
```

Baseline Survival Probability



All Risks Survival Probability

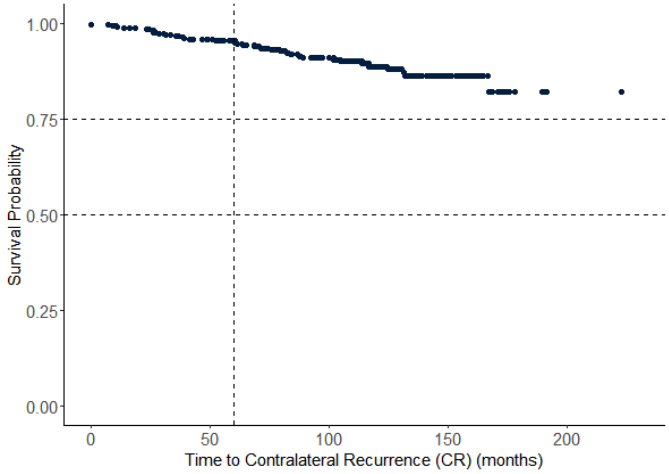


Contralateral Breast Tumor Recurrence

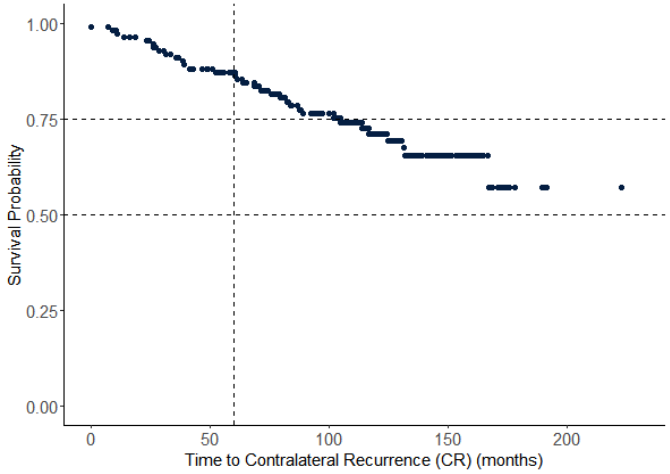
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 281, number of events= 33
   (24 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  1.1699    3.2217   0.4461  2.623  0.00873 **
Variable2  0.3460    1.4134   0.3697  0.936  0.34929
Variable3 -0.4596    0.6315   0.4883 -0.941  0.34659
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    3.2217     0.3104    1.3439     7.723
Variable2    1.4134     0.7075    0.6848     2.917
Variable3    0.6315     1.5835    0.2425     1.645

Concordance= 0.599  (se = 0.054 )
Likelihood ratio test= 8.66  on 3 df,   p=0.03
Wald test            = 10.6  on 3 df,   p=0.01
Score (logrank) test = 11.97  on 3 df,   p=0.007
```

Baseline Survival Probability



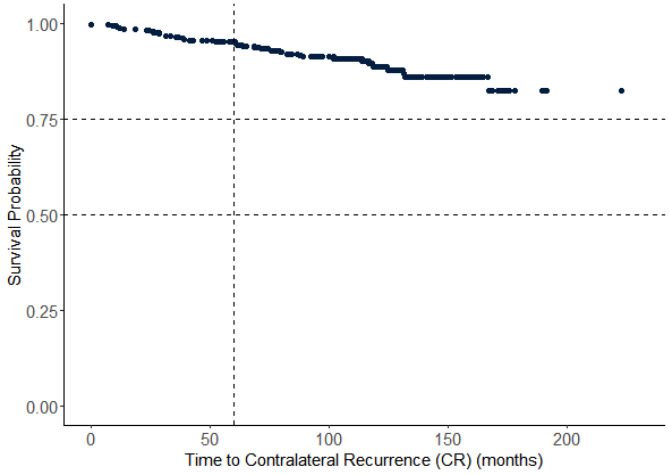
All Risks Survival Probability



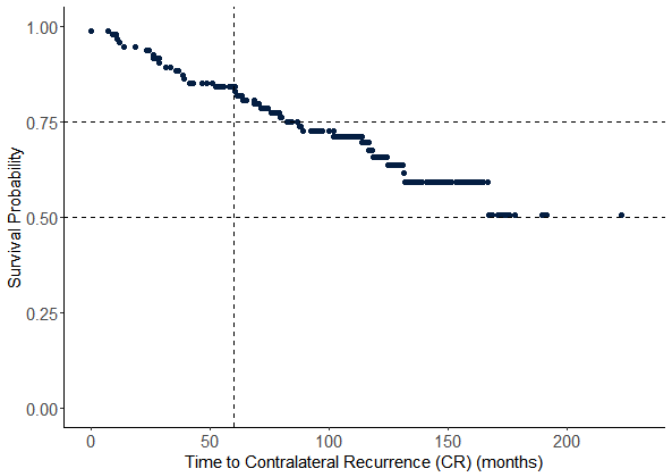
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 286, number of events= 33
   (19 observations deleted due to missingness)

              coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  1.53378   4.63568  0.45466  3.374 0.000742 ***
Variable2 -0.04403   0.95692  0.38477 -0.114 0.908886
Variable3 -0.23803   0.78818  0.37952 -0.627 0.530537
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    4.6357     0.2157    1.9016    11.301
Variable2    0.9569     1.0450    0.4501     2.034
Variable3    0.7882     1.2688    0.3746     1.658

Concordance= 0.567  (se = 0.058 )
Likelihood ratio test= 9.88  on 3 df,   p=0.02
Wald test            = 12.81  on 3 df,   p=0.005
Score (logrank) test = 15.08  on 3 df,   p=0.002
```

Baseline Survival Probability



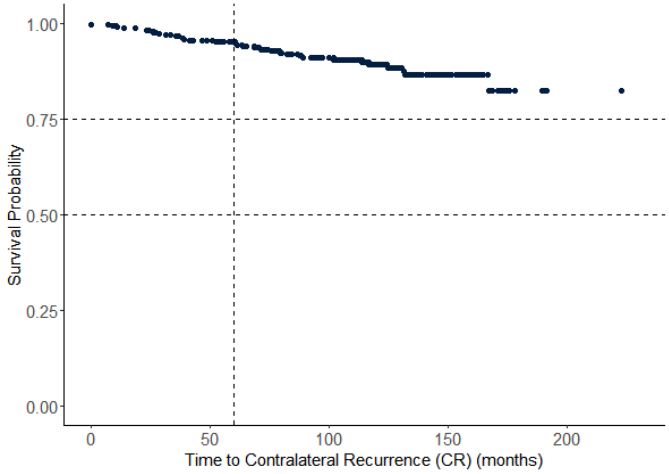
All Risks Survival Probability



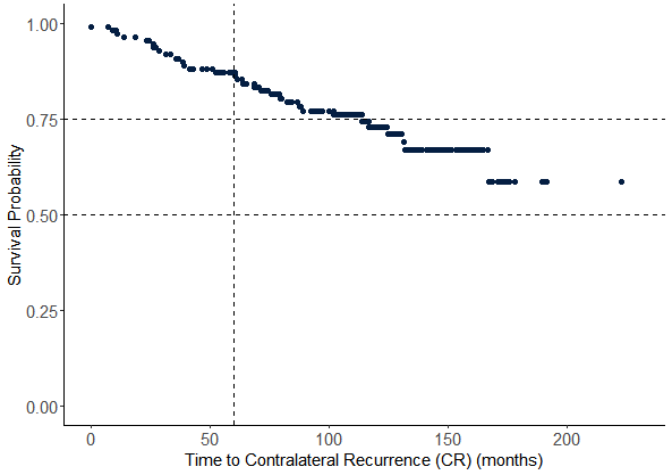
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 269, number of events= 31
   (36 observations deleted due to missingness)

              coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  1.38907   4.01110  0.44596  3.115  0.00184 **
Variable2 -0.39623   0.67285  0.49593 -0.799  0.42431
Variable3  0.02497   1.02529  0.38688  0.065  0.94854
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    4.0111     0.2493    1.6736     9.613
Variable2    0.6728     1.4862    0.2546     1.779
Variable3    1.0253     0.9753    0.4803     2.189

Concordance= 0.603  (se = 0.054 )
Likelihood ratio test= 8.63  on 3 df,   p=0.03
Wald test            = 11.05  on 3 df,   p=0.01
Score (logrank) test = 12.85  on 3 df,   p=0.005
```

Baseline Survival Probability



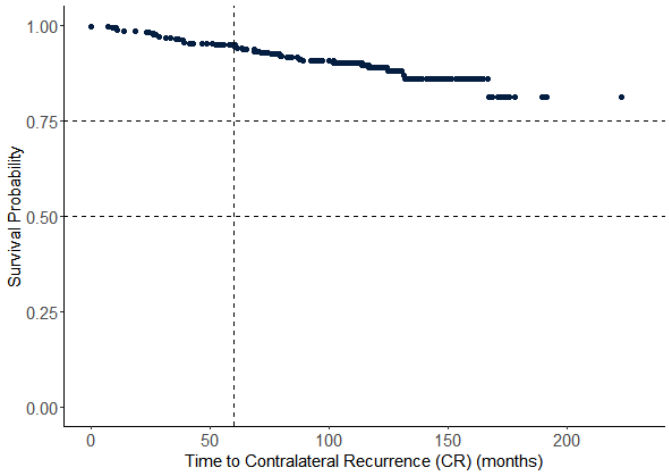
All Risks Survival Probabilit y



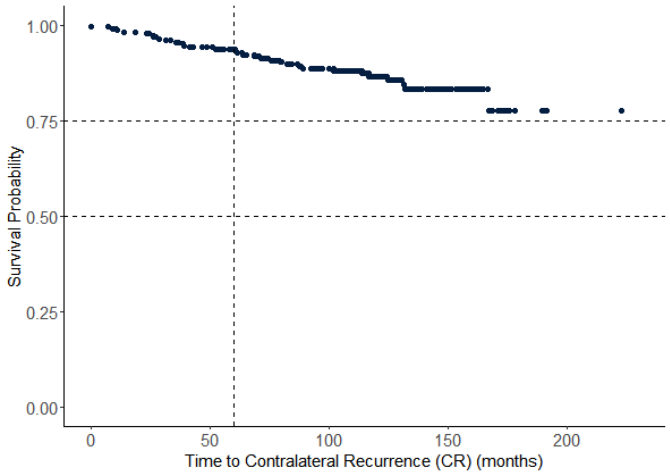
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 269, number of events= 31
   (36 observations deleted due to missingness)

             coef exp(coef) se(coef)      z Pr(>|z|)
Variable1  0.4645    1.5913   0.3668  1.266    0.205
Variable2 -0.4500    0.6376   0.4943 -0.910    0.363
Variable3  0.1841    1.2022   0.3749  0.491    0.623

          exp(coef) exp(-coef) lower .95 upper .95
Variable1    1.5913     0.6284    0.7754     3.266
Variable2    0.6376     1.5683    0.2420     1.680
Variable3    1.2022     0.8318    0.5765     2.507

Concordance= 0.54  (se = 0.056 )
Likelihood ratio test= 2.58  on 3 df,   p=0.5
Wald test            = 2.59  on 3 df,   p=0.5
Score (logrank) test = 2.62  on 3 df,   p=0.5
```

Baseline Survival Probability



All Risks Survival Probability

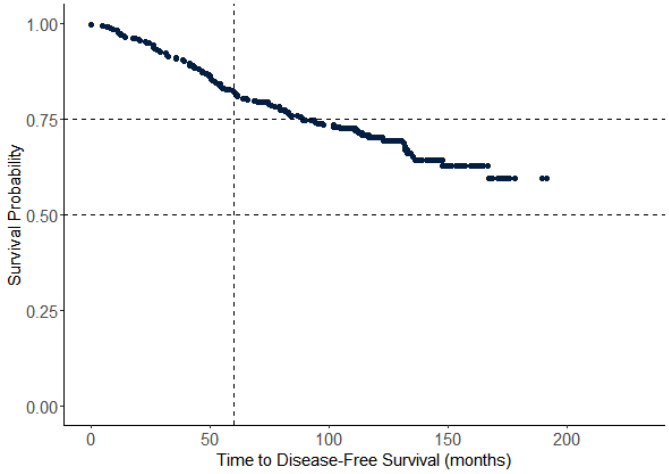


Disease-Free Survival

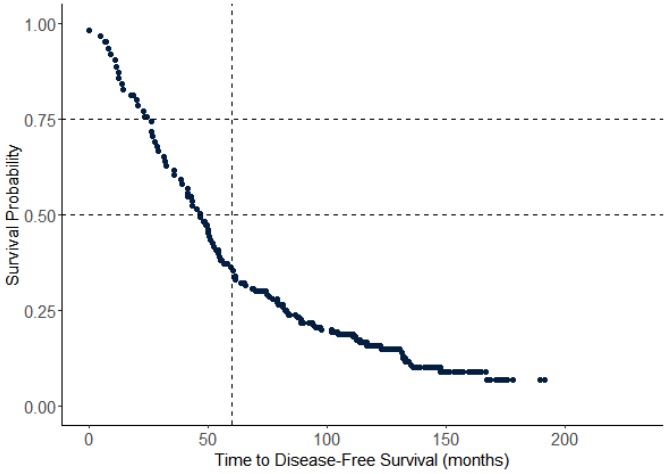
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 288, number of events= 90
   (17 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.9525    2.5922   0.3107 3.066  0.00217 **
Variable2 0.2032    1.2253   0.2332 0.871  0.38371
Variable3 0.4935    1.6380   0.2315 2.131  0.03307 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.592     0.3858    1.4099     4.766
Variable2     1.225     0.8162    0.7757     1.935
Variable3     1.638     0.6105    1.0405     2.579

Concordance= 0.622  (se = 0.03 )
Likelihood ratio test= 15.84  on 3 df,   p=0.001
Wald test            = 19.4  on 3 df,   p=2e-04
Score (logrank) test = 20.8  on 3 df,   p=1e-04
```

Baseline Survival Probability



All Risks Survival Probability

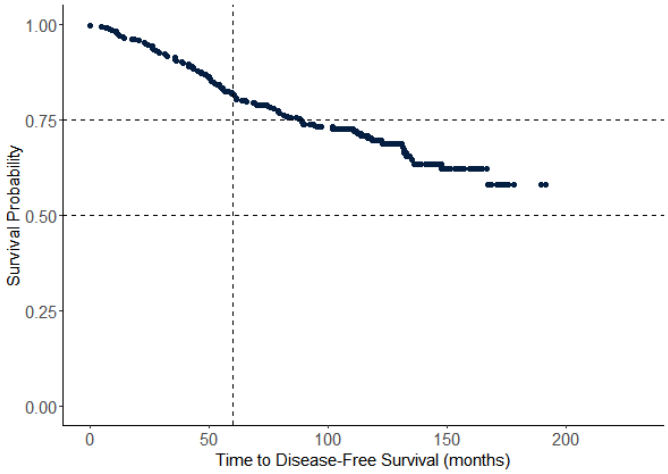


2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

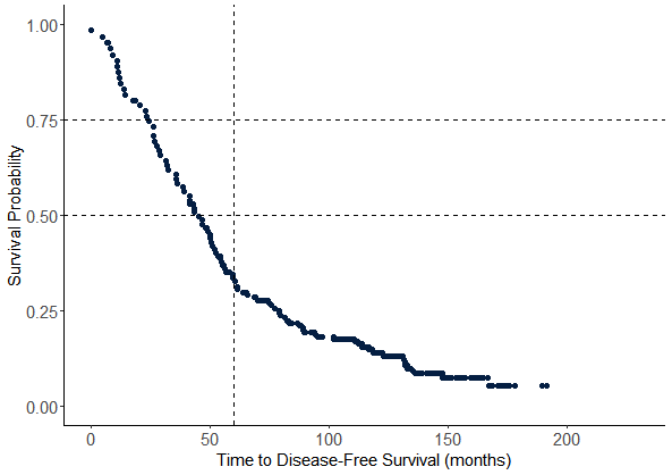
```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 291, number of events= 94
   (14 observations deleted due to missingness)

             coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 1.12411   3.07746  0.29097 3.863 0.000112 ***
Variable2 0.04353   1.04450  0.23172 0.188 0.850979
Variable3 0.52377   1.68839  0.21405 2.447 0.014405 *
```

```
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     3.077     0.3249    1.7399     5.443
Variable2     1.044     0.9574    0.6632     1.645
Variable3     1.688     0.5923    1.1099     2.568

Concordance= 0.636  (se = 0.031 )
Likelihood ratio test= 24.53  on 3 df,   p=2e-05
Wald test            = 30.22  on 3 df,   p=1e-06
Score (logrank) test = 34.05  on 3 df,   p=2e-07
```

Baseline Survival Probability



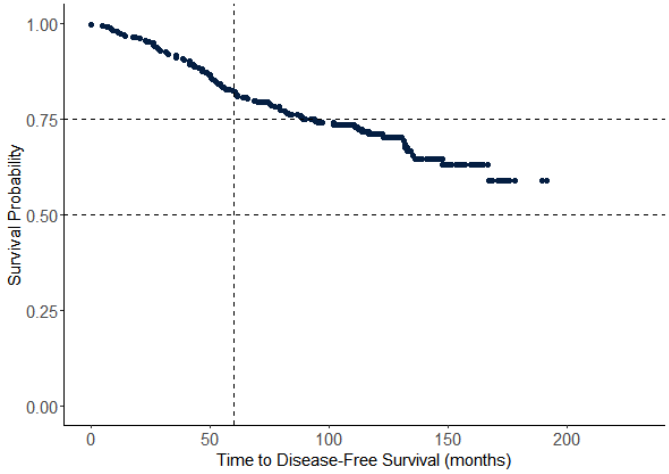
All Risks Survival Probability



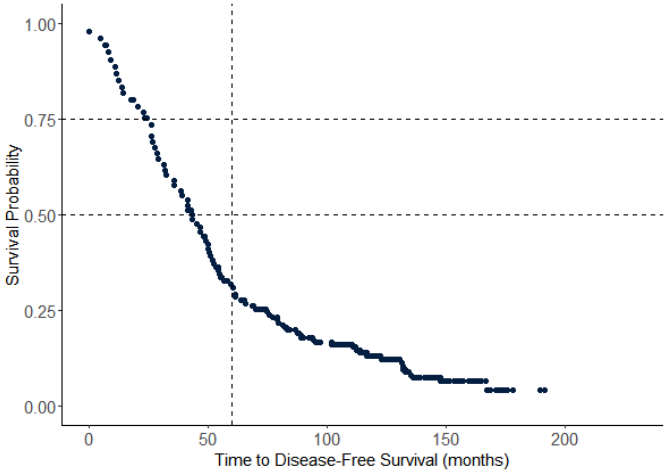
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 85
   (31 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 1.0224    2.7799   0.3001 3.407 0.000657 ***
Variable2 0.3141    1.3691   0.2444 1.285 0.198761
Variable3 0.4488    1.5664   0.2280 1.968 0.049057 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     2.780     0.3597    1.5438     5.006
Variable2     1.369     0.7304    0.8479     2.211
Variable3     1.566     0.6384    1.0019     2.449

Concordance= 0.637  (se = 0.03 )
Likelihood ratio test= 18.86  on 3 df,   p=3e-04
Wald test            = 23.01  on 3 df,   p=4e-05
Score (logrank) test = 25.05  on 3 df,   p=2e-05
```

Baseline Survival Probability



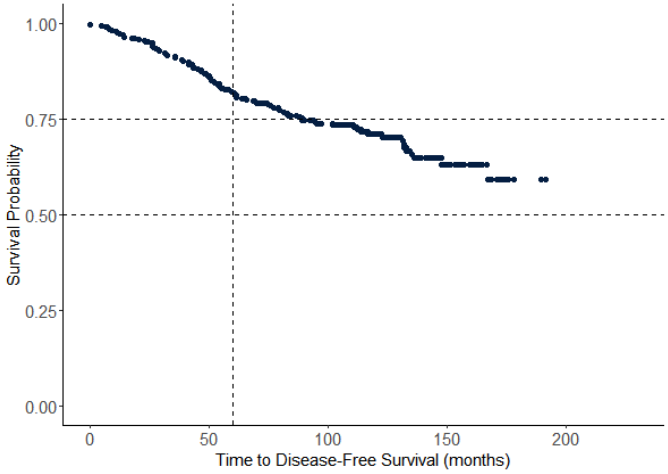
All Risks Survival Probability



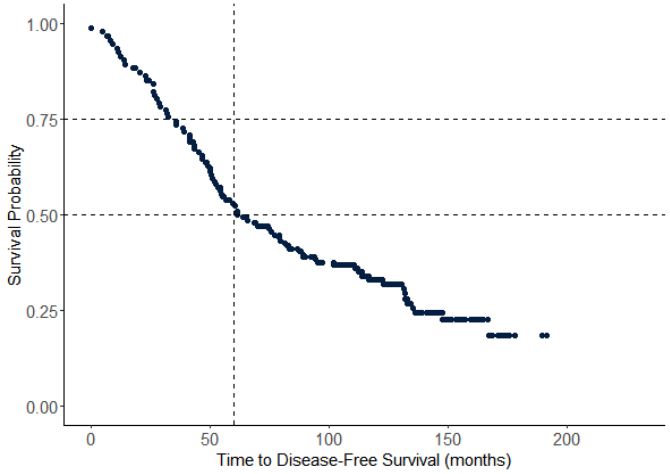
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
coxph(formula = Surv(Time, Event) ~ Variable, data = Data)

  n= 274, number of events= 85
   (31 observations deleted due to missingness)

            coef exp(coef) se(coef)     z Pr(>|z|)
Variable1 0.3288    1.3894   0.2249 1.462   0.1437
Variable2 0.3274    1.3873   0.2426 1.350   0.1771
Variable3 0.5200    1.6820   0.2232 2.330   0.0198 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
Variable1     1.389     0.7198    0.8941     2.159
Variable2     1.387     0.7208    0.8624     2.232
Variable3     1.682     0.5945    1.0861     2.605

Concordance= 0.599  (se = 0.031 )
Likelihood ratio test= 11.57  on 3 df,   p=0.009
Wald test            = 11.99  on 3 df,   p=0.007
Score (logrank) test = 12.32  on 3 df,   p=0.006
```

Baseline Survival Probability



All Risks Survival Probability



Weibull Model

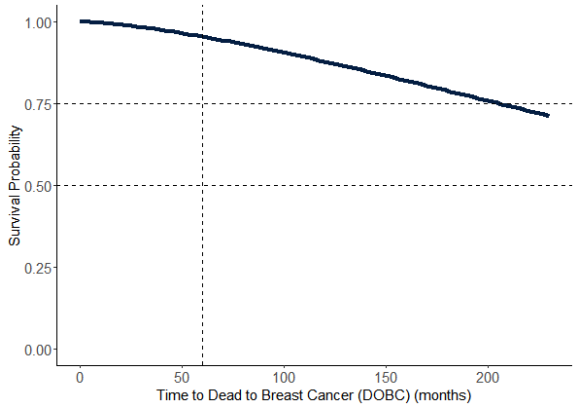
Univariate Analysis

Breast Cancer-Specific Survival

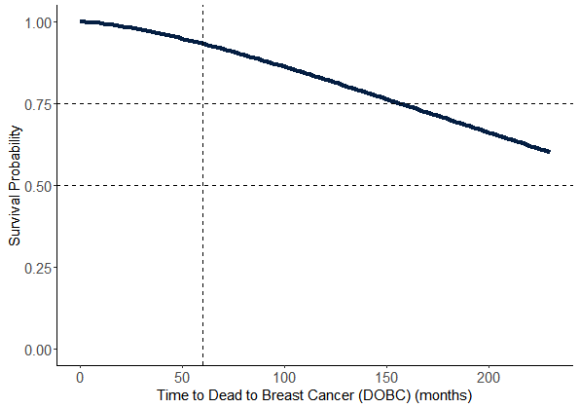
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.168      0.217 28.47 <2e-16
VARIABLE    -0.595      0.279 -2.14 0.0327
Log(scale)  -0.393      0.140 -2.81 0.0049

Scale= 0.675

Weibull distribution
Loglik(model)= -325.4   Loglik(intercept only)= -327.5
        Chisq= 4.18 on 1 degrees of freedom, p= 0.041
Number of Newton-Raphson Iterations: 7
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

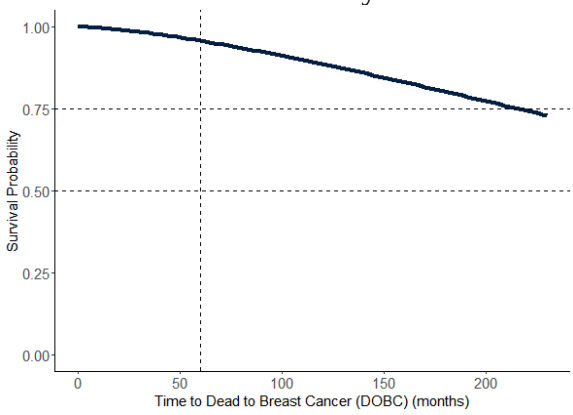


2. Age of Diagnosis

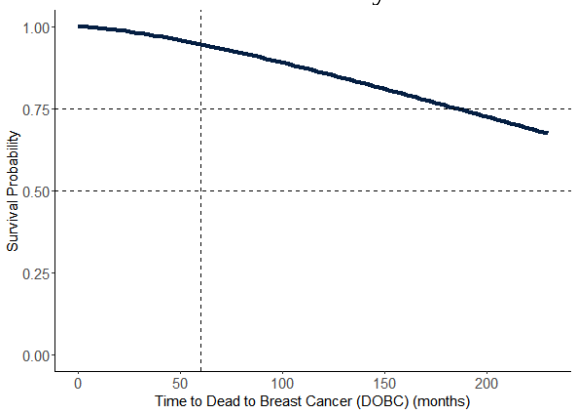
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.224      0.241 25.84 <2e-16
VARIABLE    -0.326      0.216 -1.51 0.1316
Log(scale)  -0.386      0.141 -2.74 0.0061

Scale= 0.68

Weibull distribution
Loglik(model)= -326.3   Loglik(intercept only)= -327.5
        Chisq= 2.37 on 1 degrees of freedom, p= 0.12
Number of Newton-Raphson Iterations: 8
```

```
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



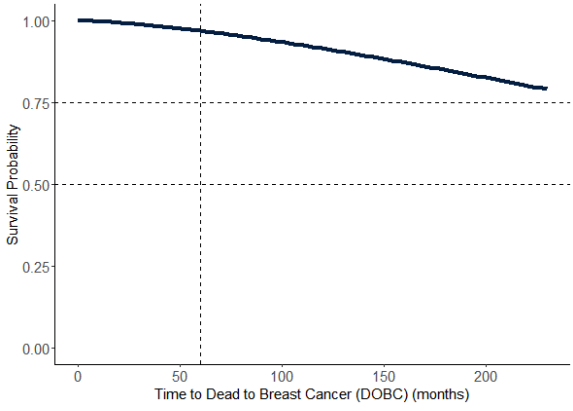
All Risks Survival Probability



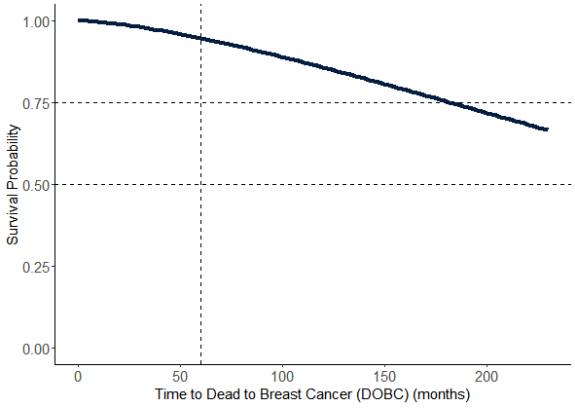
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.408      0.276 23.25 <2e-16
VARIABLE    -0.818      0.250 -3.27 0.0011
Log(scale)  -0.401      0.150 -2.68 0.0074

Scale= 0.67

Weibull distribution
Loglik(model)= -279.2   Loglik(intercept only)= -285.5
        Chisq= 12.54 on 1 degrees of freedom, p= 4e-04
Number of Newton-Raphson Iterations: 7
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



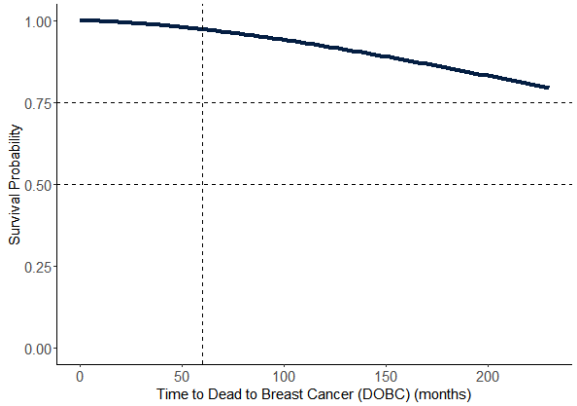
All Risks Survival Probability



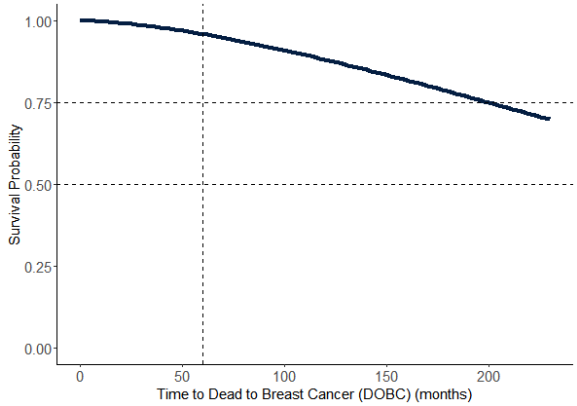
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.352      0.265 23.99 < 2e-16
VARIABLE    -0.716      0.224 -3.20 0.00139
Log(scale)  -0.475      0.142 -3.33 0.00086

Scale= 0.622

Weibull distribution
Loglik(model)= -304.9   Loglik(intercept only)= -311.5
        Chisq= 13.23 on 1 degrees of freedom, p= 0.00028
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

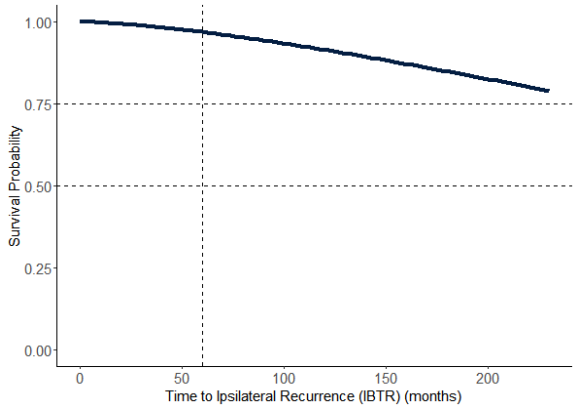


Ipsilateral Breast Tumor Recurrence

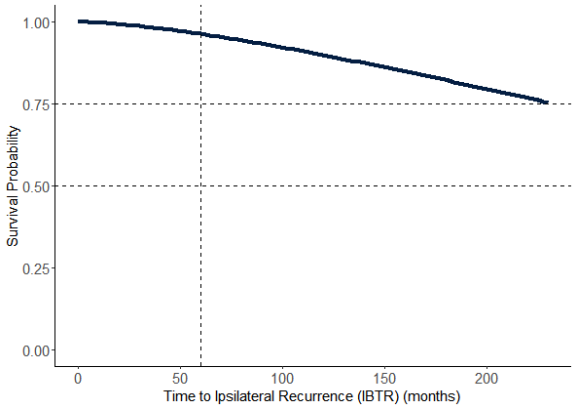
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.406      0.313 20.47 <2e-16
VARIABLE    -0.265      0.414 -0.64  0.523
Log(scale)  -0.400      0.177 -2.25  0.024

Scale= 0.671

Weibull distribution
Loglik(model)= -209.7   Loglik(intercept only)= -209.9
        Chisq= 0.37 on 1 degrees of freedom, p= 0.54
Number of Newton-Raphson Iterations: 11
n= 305
```

Baseline Survival Probability

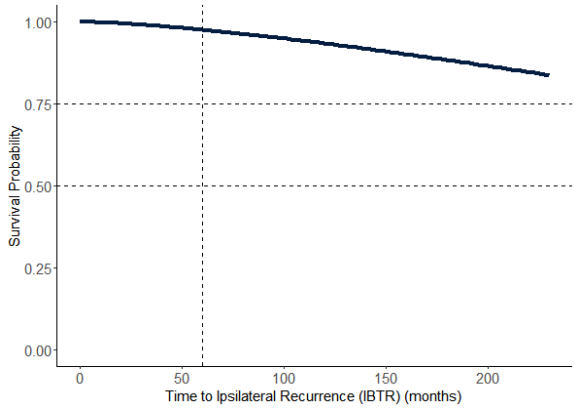


All Risks Survival Probability

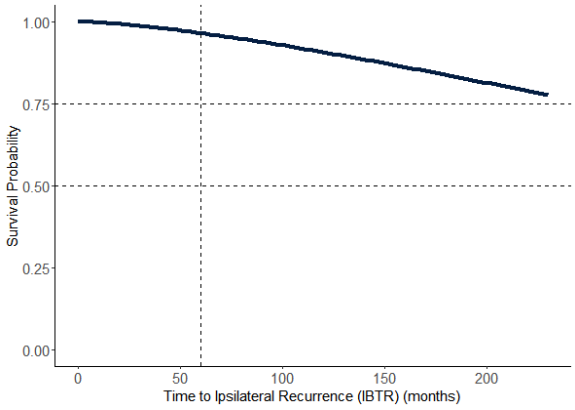


2. Age of Diagnosis

Baseline Survival Probability



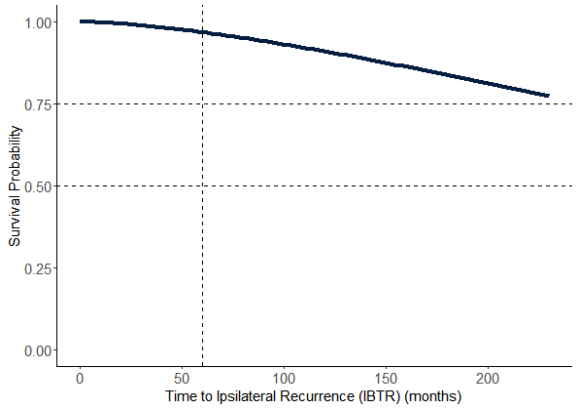
All Risks Survival Probability



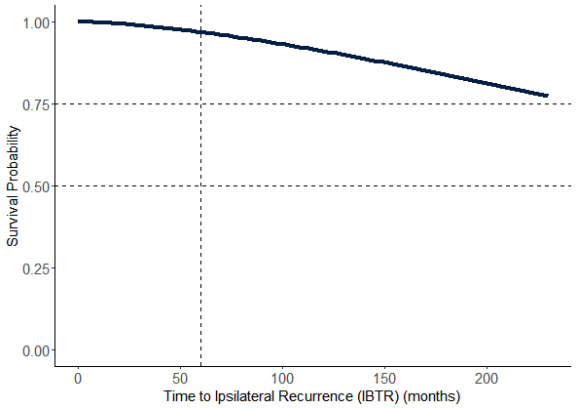
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.3130     0.3027 20.86 <2e-16
VARIABLE     0.0123     0.3233  0.04  0.970
Log(scale)  -0.4364     0.1809 -2.41  0.016

Scale= 0.646

Weibull distribution
Loglik(model)= -201.1   Loglik(intercept only)= -201.1
        Chisq= 0 on 1 degrees of freedom, p= 0.97
Number of Newton-Raphson Iterations: 12
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



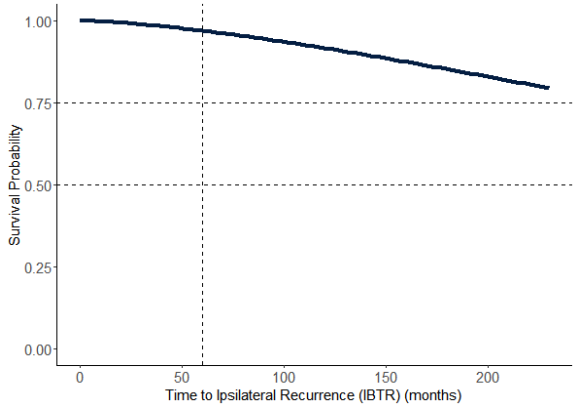
All Risks Survival Probability



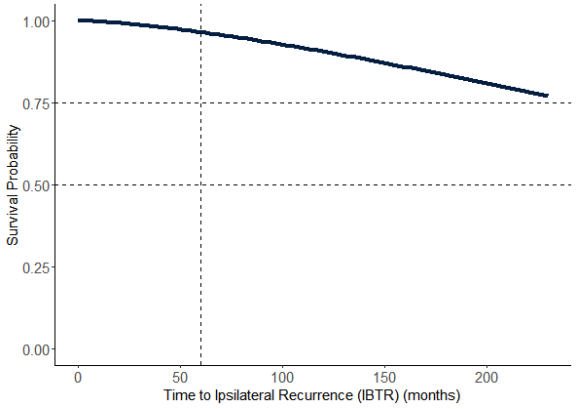
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.425      0.331 19.41 <2e-16
VARIABLE    -0.182      0.268 -0.68  0.495
Log(scale)  -0.400      0.178 -2.24  0.025

Scale= 0.671

Weibull distribution
Loglik(model)= -208.6   Loglik(intercept only)= -208.8
        Chisq= 0.46 on 1 degrees of freedom, p= 0.5
Number of Newton-Raphson Iterations: 10
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



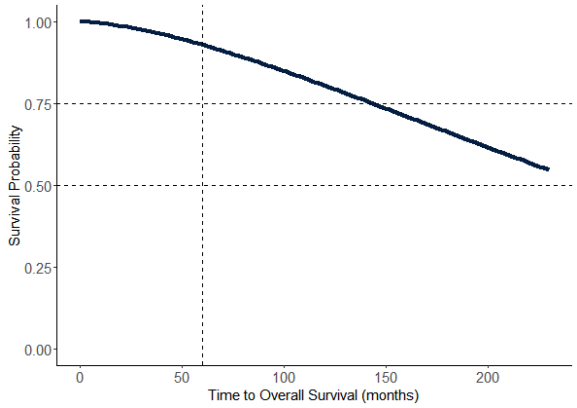
Overall Survival

1. Mutation Status

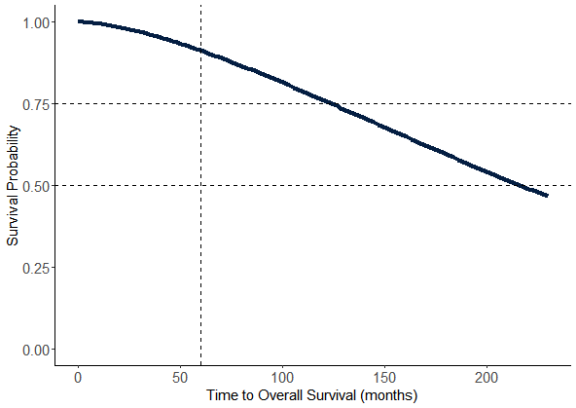
```
Call:
```

```
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.760      0.129 44.54 < 2e-16
VARIABLE    -0.370      0.222 -1.67   0.095
Log(scale)  -0.454      0.110 -4.14 3.5e-05

Scale= 0.635

Weibull distribution
Loglik(model)= -490.2   Loglik(intercept only)= -491.4
        Chisq= 2.52 on 1 degrees of freedom, p= 0.11
Number of Newton-Raphson Iterations: 7
n= 305
```

Baseline Survival Probability



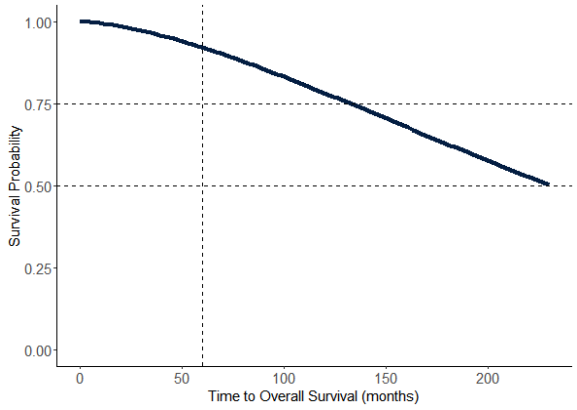
All Risks Survival Probability



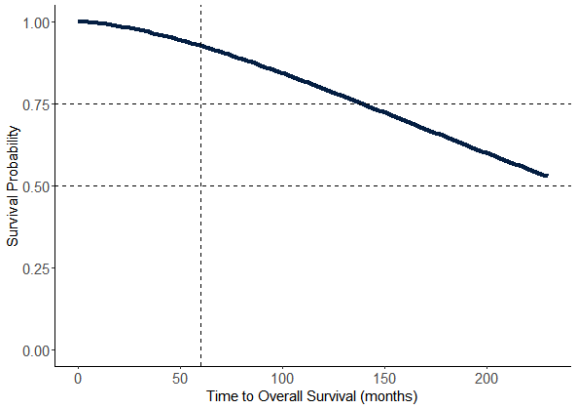
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.675      0.129 43.85 < 2e-16
VARIABLE     0.118      0.167  0.71    0.48
Log(scale)  -0.461      0.110 -4.18 2.9e-05

Scale= 0.63

Weibull distribution
Loglik(model)= -491.2   Loglik(intercept only)= -491.4
        Chisq= 0.51 on 1 degrees of freedom, p= 0.48
Number of Newton-Raphson Iterations: 7
n= 305
```

Baseline Survival Probability



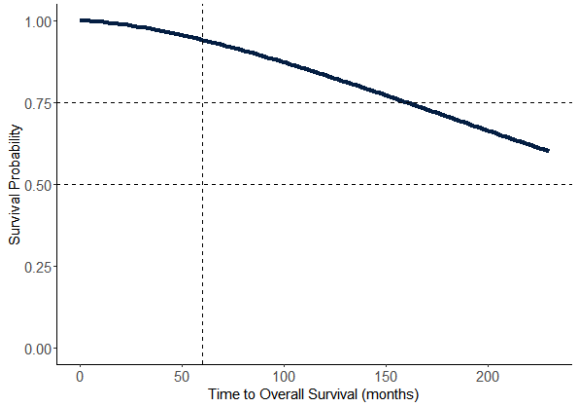
All Risks Survival Probability



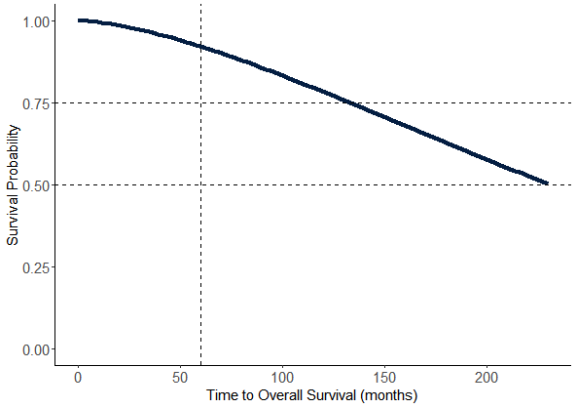
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.863      0.150 38.97 < 2e-16
VARIABLE    -0.472      0.174 -2.72  0.0066
Log(scale)  -0.463      0.115 -4.04 5.3e-05

Scale= 0.629

Weibull distribution
Loglik(model)= -447.4   Loglik(intercept only)= -451
        Chisq= 7.33 on 1 degrees of freedom, p= 0.0068
Number of Newton-Raphson Iterations: 7
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

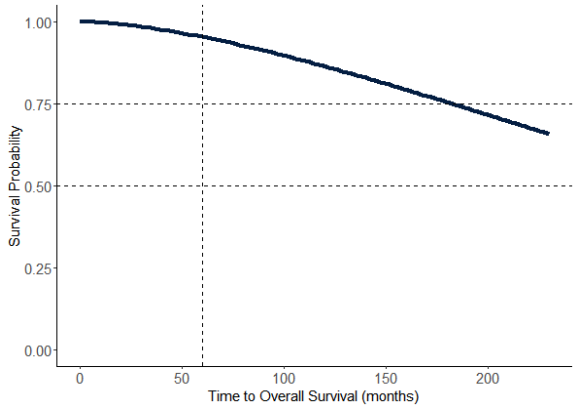


4. Lymph Node Involvement

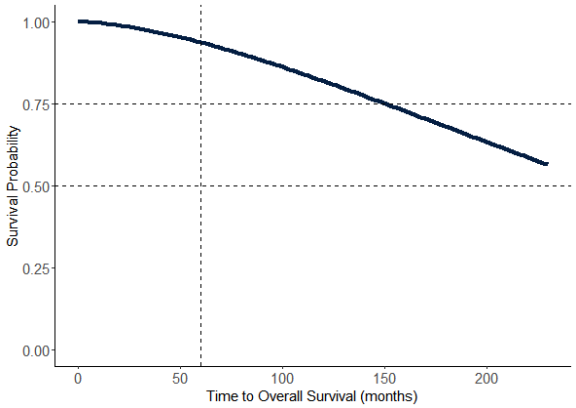
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
```

```
(Intercept)  5.975      0.175 34.18 < 2e-16
VARIABLE    -0.507      0.168 -3.02  0.0026
Log(scale)  -0.485      0.117 -4.15 3.3e-05

Scale= 0.616

Weibull distribution
Loglik(model)= -433.9   Loglik(intercept only)= -439
        Chisq= 10.23 on 1 degrees of freedom, p= 0.0014
Number of Newton-Raphson Iterations: 8
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

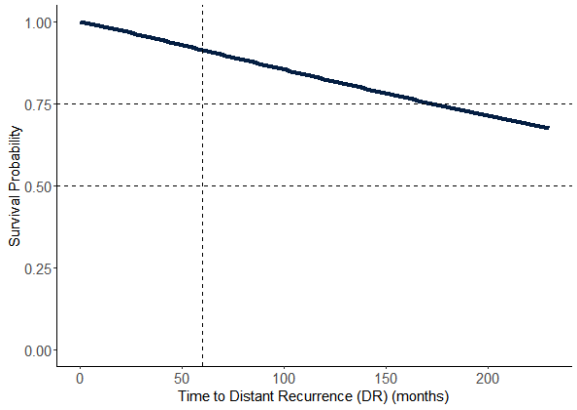


Distant Breast Tumor Recurrence

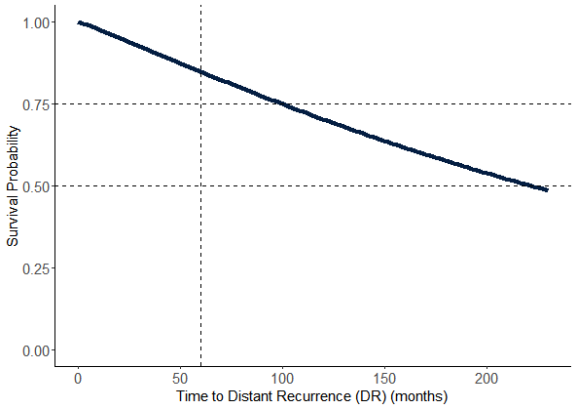
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.2848     0.2228 28.21 <2e-16
VARIABLE    -0.6676     0.3393 -1.97  0.049
Log(scale)  -0.0965     0.1219 -0.79  0.428

Scale= 0.908

Weibull distribution
Loglik(model)= -424.4   Loglik(intercept only)= -426.1
        Chisq= 3.46 on 1 degrees of freedom, p= 0.063
Number of Newton-Raphson Iterations: 8
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



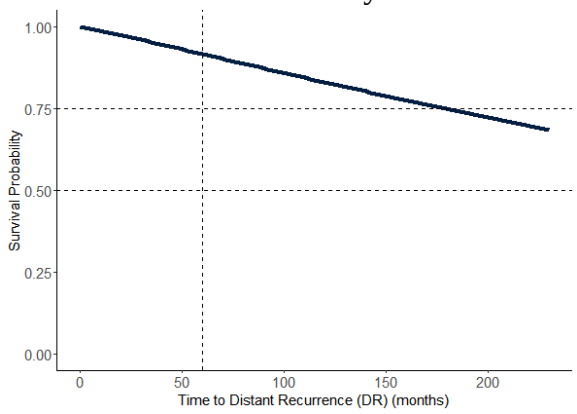
All Risks Survival Probability



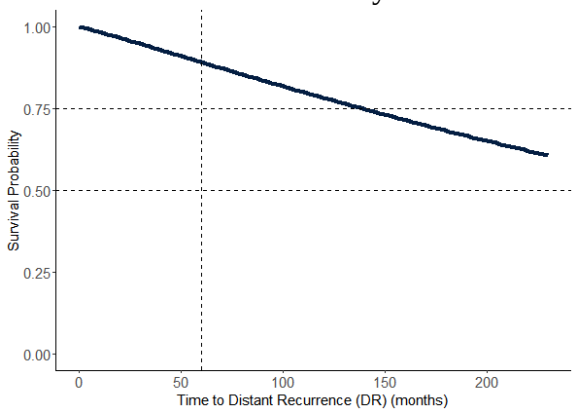
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.3248     0.2451 25.80 <2e-16
VARIABLE    -0.3021     0.2497 -1.21   0.23
Log(scale)  -0.0906     0.1226 -0.74   0.46

Scale= 0.913

Weibull distribution
Loglik(model)= -425.4   Loglik(intercept only)= -426.1
        Chisq= 1.48 on 1 degrees of freedom, p= 0.22
Number of Newton-Raphson Iterations: 8
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

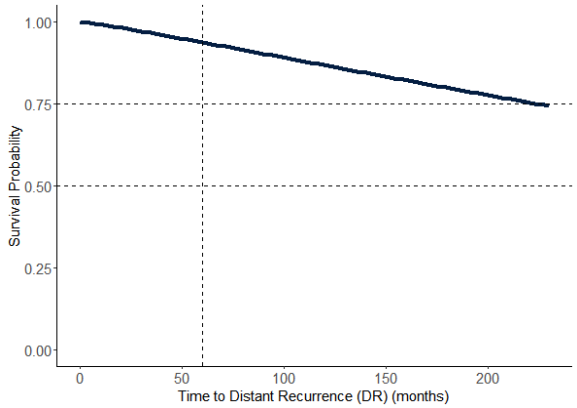


3. Tumor Stage

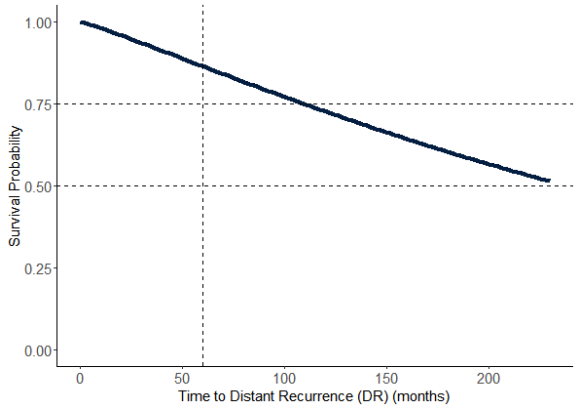
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
```

```
(Intercept)  6.513      0.272 23.96 <2e-16
VARIABLE    -0.914      0.275 -3.32 0.0009
Log(scale)  -0.123      0.129 -0.96 0.3394

Scale= 0.884

Weibull distribution
Loglik(model)= -372.6   Loglik(intercept only)= -378.5
        Chisq= 11.97 on 1 degrees of freedom, p= 0.00054
Number of Newton-Raphson Iterations: 8
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



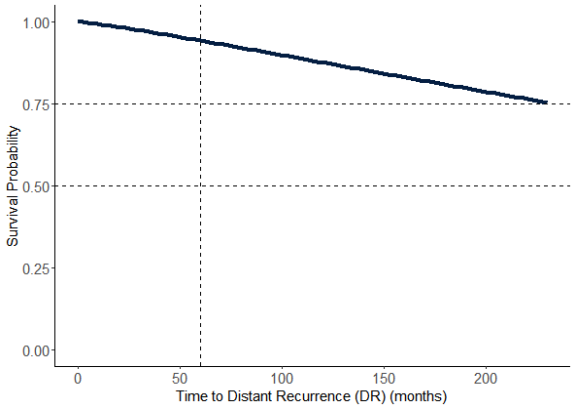
All Risks Survival Probability



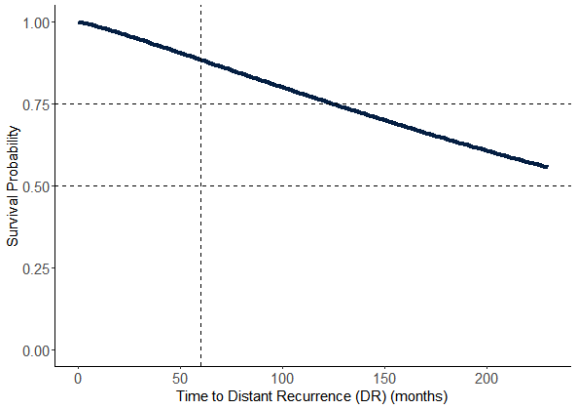
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.526      0.275 23.71 < 2e-16
VARIABLE    -0.850      0.253 -3.37 0.00076
Log(scale)  -0.151      0.123 -1.22 0.22085

Scale= 0.86

Weibull distribution
Loglik(model)= -404.1   Loglik(intercept only)= -410.8
        Chisq= 13.49 on 1 degrees of freedom, p= 0.00024
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



Breast Cancer-Specific Survival

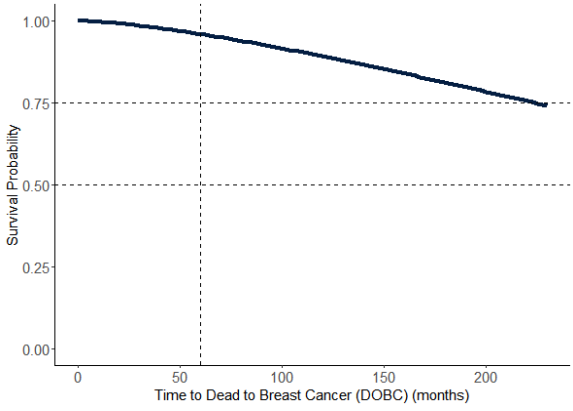
Bivariate Analysis

Breast Cancer-Specific Survival

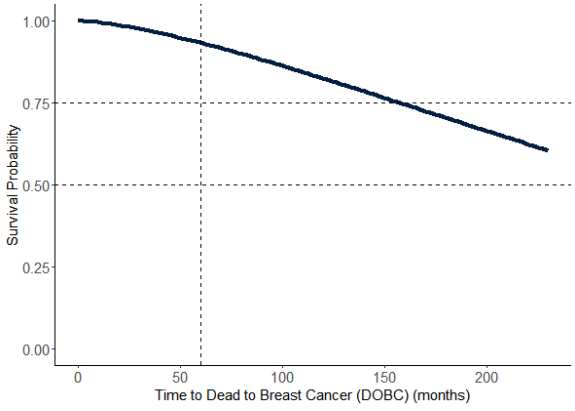
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.260      0.245 25.57 <2e-16
VARIABLE1   -0.519      0.285 -1.82 0.0681
VARIABLE2   -0.245      0.220 -1.11 0.2654
Log(scale)  -0.386      0.140 -2.76 0.0057

Scale= 0.679

Weibull distribution
Loglik(model)= -324.8   Loglik(intercept only)= -327.5
        Chisq= 5.44 on 2 degrees of freedom, p= 0.066
Number of Newton-Raphson Iterations: 8
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



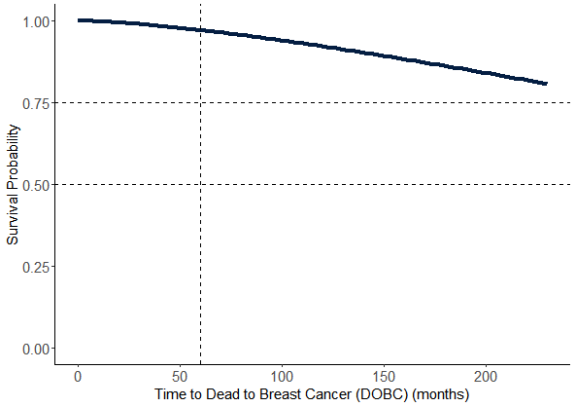
All Risks Survival Probability



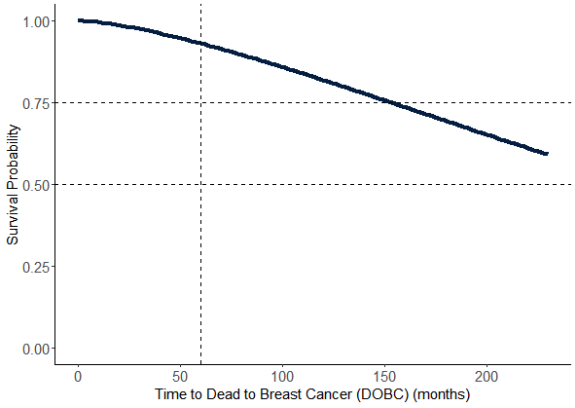
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.477      0.288 22.46 <2e-16
VARIABLE1   -0.511      0.312 -1.64  0.101
VARIABLE2   -0.822      0.251 -3.28  0.001
Log(scale)  -0.395      0.149 -2.65  0.008

Scale= 0.673

Weibull distribution
Loglik(model)= -278   Loglik(intercept only)= -285.5
        Chisq= 14.97 on 2 degrees of freedom, p= 0.00056
Number of Newton-Raphson Iterations: 7
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



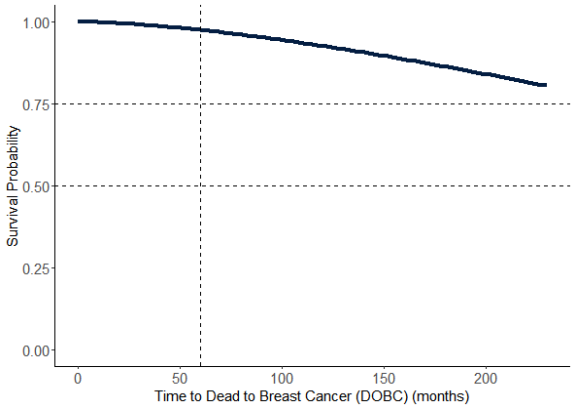
All Risks Survival Probability



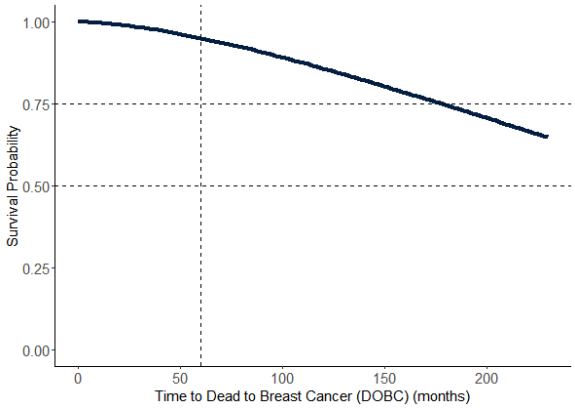
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.395      0.271 23.60 < 2e-16
VARIABLE1   -0.434      0.260 -1.67 0.09430
VARIABLE2   -0.673      0.225 -2.99 0.00277
Log(scale)  -0.468      0.141 -3.31 0.00092

Scale= 0.626

Weibull distribution
Loglik(model)= -303.5   Loglik(intercept only)= -311.5
        Chisq= 15.85 on 2 degrees of freedom, p= 0.00036
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



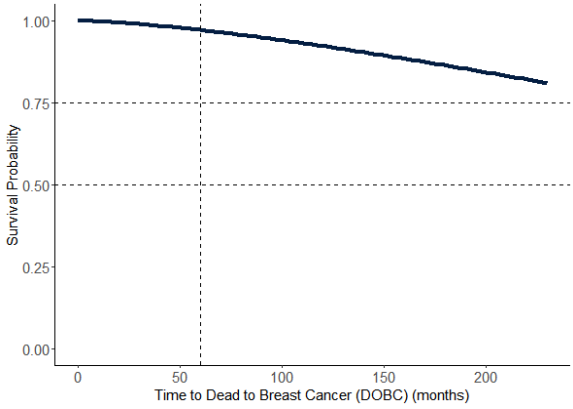
All Risks Survival Probability



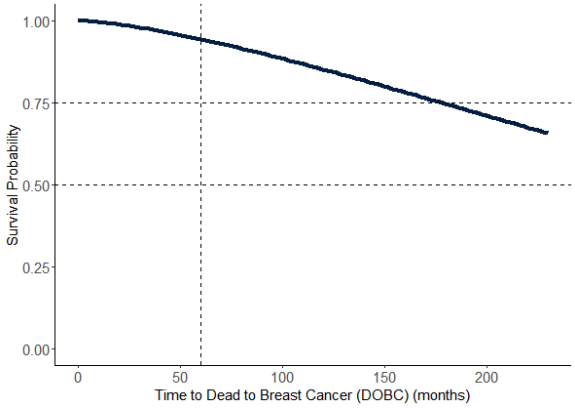
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.494      0.304 21.37 <2e-16
VARIABLE1   -0.217      0.232 -0.93 0.3511
VARIABLE2   -0.808      0.252 -3.21 0.0013
Log(scale)  -0.391      0.150 -2.61 0.0092

Scale= 0.676

Weibull distribution
Loglik(model)= -278.8   Loglik(intercept only)= -285.5
        Chisq= 13.42 on 2 degrees of freedom, p= 0.0012
Number of Newton-Raphson Iterations: 7
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

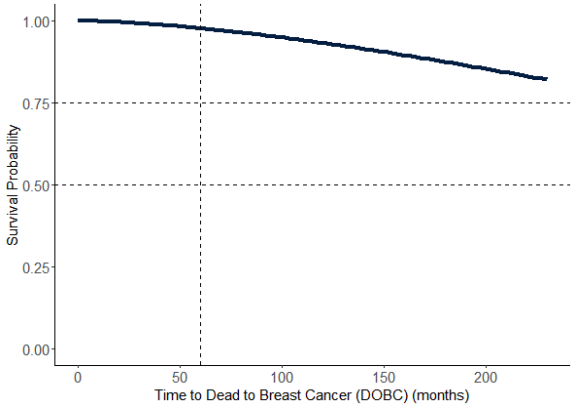


5. Age of Diagnosis and Lymph Node Involvement

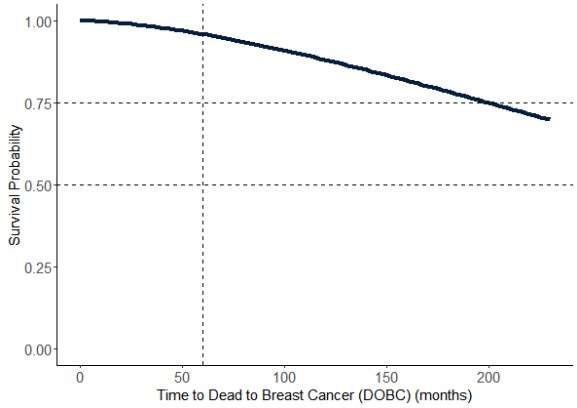
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
```

```
             Value Std. Error     z       p
(Intercept)  6.449      0.287 22.50 < 2e-16
VARIABLE1   -0.263      0.200 -1.31 0.18936
VARIABLE2   -0.694      0.223 -3.12 0.00183
Log(scale)  -0.472      0.142 -3.32 0.00091

Scale= 0.624

Weibull distribution
Loglik(model)= -304   Loglik(intercept only)= -311.5
        Chisq= 15 on 2 degrees of freedom, p= 0.00055
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



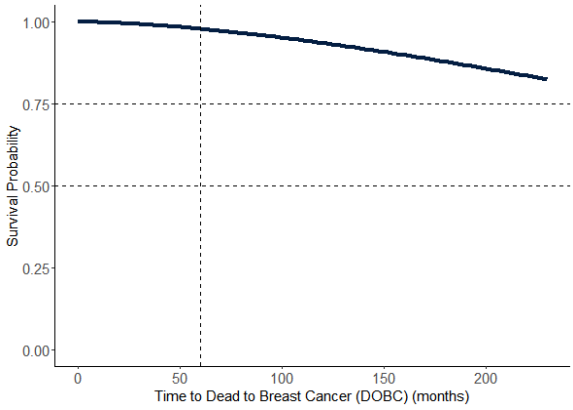
All Risks Survival Probability



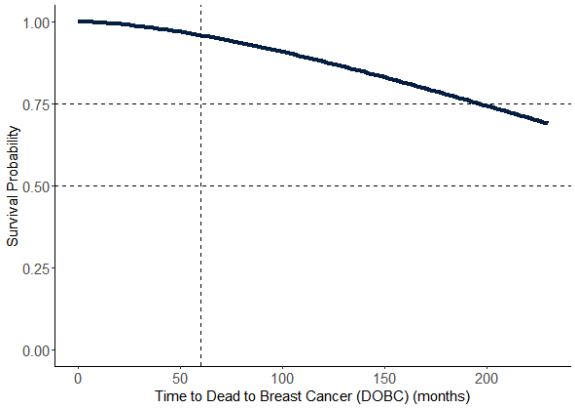
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.452      0.295 21.84 <2e-16
VARIABLE1   -0.563      0.228 -2.47 0.0134
VARIABLE2   -0.499      0.225 -2.22 0.0262
Log(scale)  -0.485      0.153 -3.17 0.0015

Scale= 0.616

Weibull distribution
Loglik(model)= -262.3   Loglik(intercept only)= -269.4
        Chisq= 14.19 on 2 degrees of freedom, p= 0.00083
Number of Newton-Raphson Iterations: 8
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

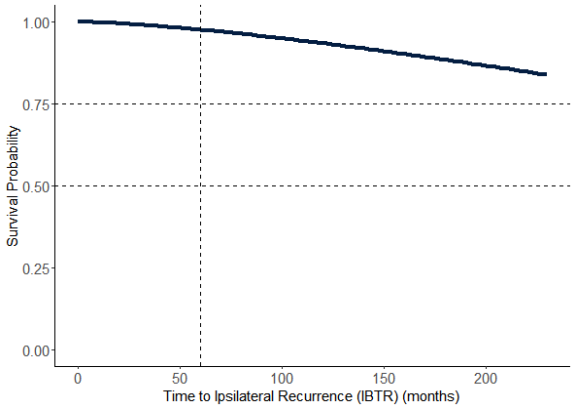


Ipsilateral Breast Tumor Recurrence

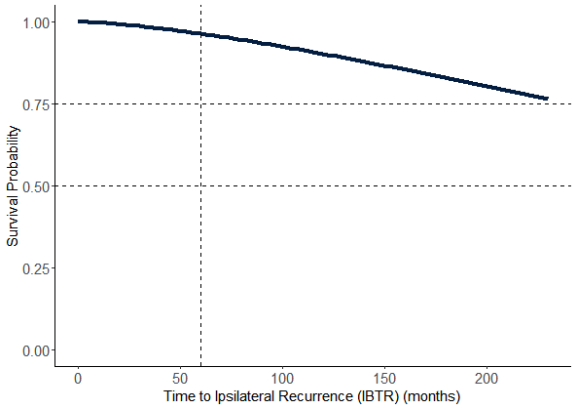
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.620      0.374 17.71 <2e-16
VARIABLE1   -0.112      0.426 -0.26  0.792
VARIABLE2   -0.506      0.291 -1.74  0.082
Log(scale)  -0.385      0.178 -2.17  0.030

Scale= 0.68

Weibull distribution
Loglik(model)= -208   Loglik(intercept only)= -209.9
        Chisq= 3.74 on 2 degrees of freedom, p= 0.15
Number of Newton-Raphson Iterations: 11
n= 305
```

Baseline Survival Probability



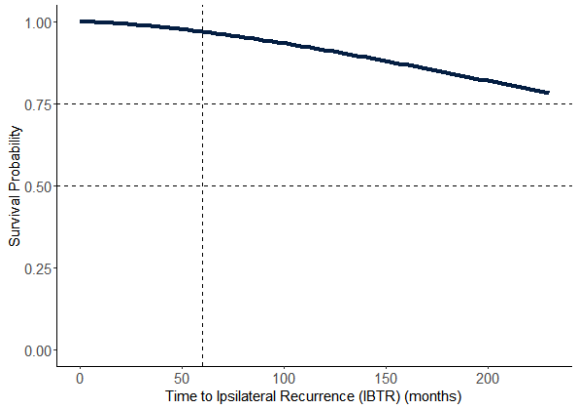
All Risks Survival Probability



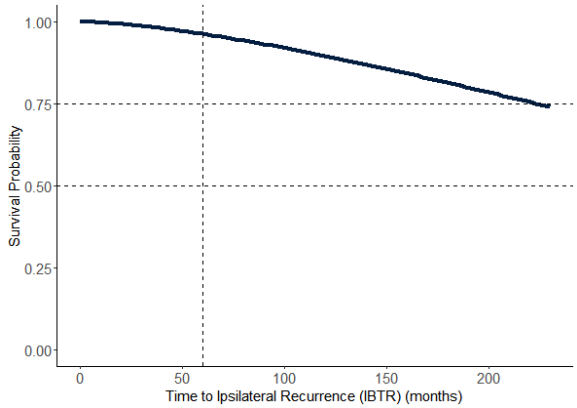
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.3469     0.3113 20.39 <2e-16
VARIABLE1   -0.3218     0.4044 -0.80  0.426
VARIABLE2    0.0177     0.3242  0.05  0.957
Log(scale)  -0.4339     0.1801 -2.41  0.016

Scale= 0.648

Weibull distribution
Loglik(model)= -200.8   Loglik(intercept only)= -201.1
        Chisq= 0.58 on 2 degrees of freedom, p= 0.75
Number of Newton-Raphson Iterations: 14
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



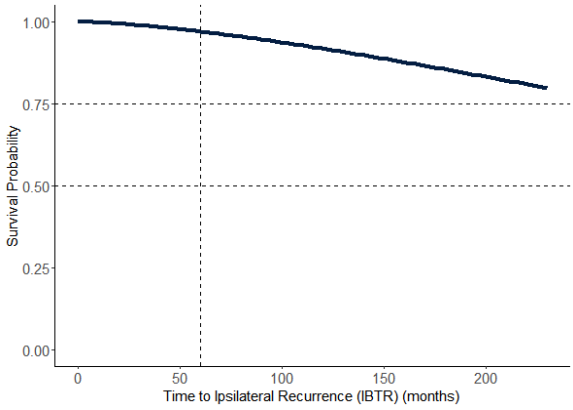
All Risks Survival Probability



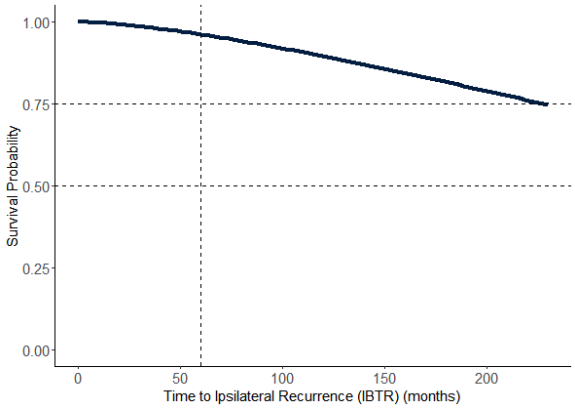
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.437      0.333 19.30 <2e-16
VARIABLE1   -0.226      0.423 -0.53  0.594
VARIABLE2   -0.157      0.273 -0.57  0.565
Log(scale)  -0.399      0.178 -2.25  0.025

Scale= 0.671

Weibull distribution
Loglik(model)= -208.5   Loglik(intercept only)= -208.8
        Chisq= 0.73 on 2 degrees of freedom, p= 0.7
Number of Newton-Raphson Iterations: 10
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



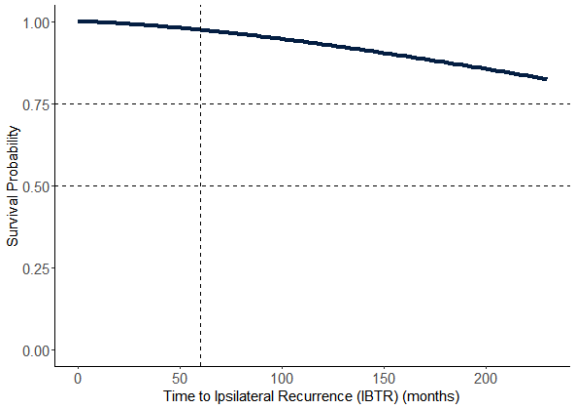
All Risks Survival Probability



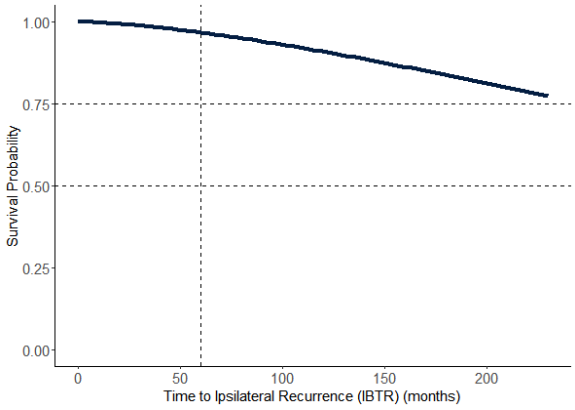
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.5256     0.3637 17.94 <2e-16
VARIABLE1   -0.5023     0.2845 -1.77  0.077
VARIABLE2    0.0602     0.3304  0.18  0.855
Log(scale)  -0.4183     0.1809 -2.31  0.021

Scale= 0.658

Weibull distribution
Loglik(model)= -199.3   Loglik(intercept only)= -201.1
        Chisq= 3.49 on 2 degrees of freedom, p= 0.18
Number of Newton-Raphson Iterations: 12
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

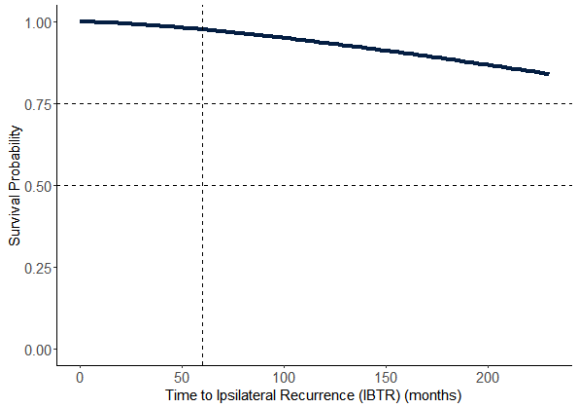


5. Age of Diagnosis and Lymph Node Involvement

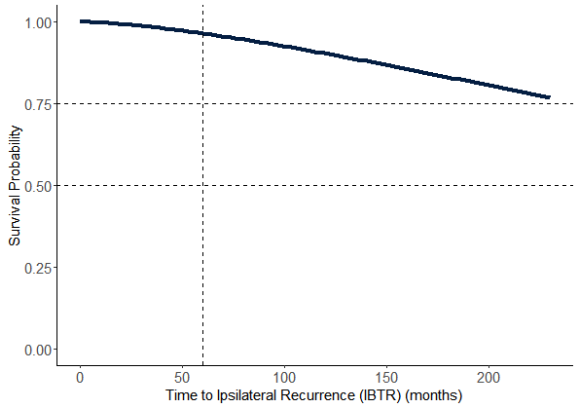
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
```

```
             Value Std. Error     z      p
(Intercept)  6.625      0.383 17.29 <2e-16
VARIABLE1   -0.483      0.283 -1.71  0.088
VARIABLE2   -0.146      0.270 -0.54  0.588
Log(scale)  -0.389      0.178 -2.19  0.029

Scale= 0.678

Weibull distribution
Loglik(model)= -207   Loglik(intercept only)= -208.8
        Chisq= 3.67 on 2 degrees of freedom, p= 0.16
Number of Newton-Raphson Iterations: 11
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



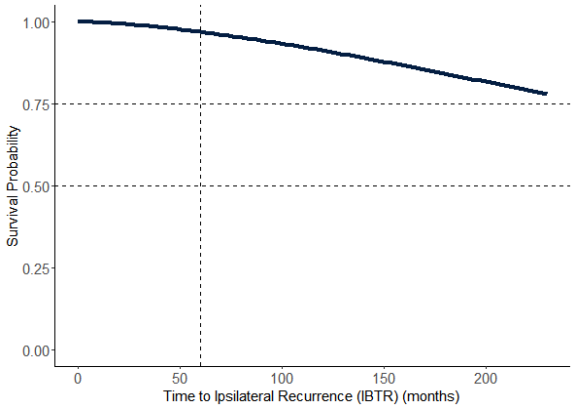
All Risks Survival Probability



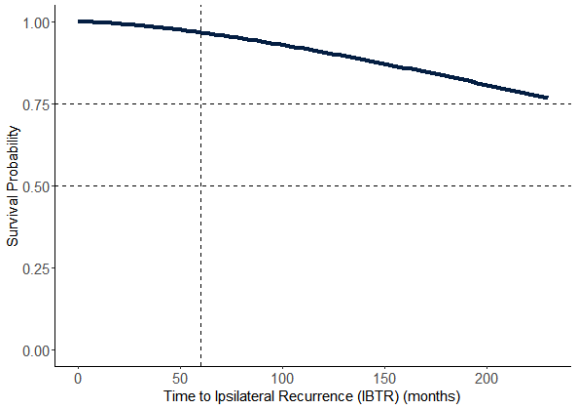
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.3345     0.3204 19.77 <2e-16
VARIABLE1    0.0732     0.3281  0.22  0.824
VARIABLE2   -0.1569     0.2687 -0.58  0.559
Log(scale)  -0.4345     0.1812 -2.40  0.016

Scale= 0.648

Weibull distribution
Loglik(model)= -199.8   Loglik(intercept only)= -200
        Chisq= 0.36 on 2 degrees of freedom, p= 0.84
Number of Newton-Raphson Iterations: 10
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

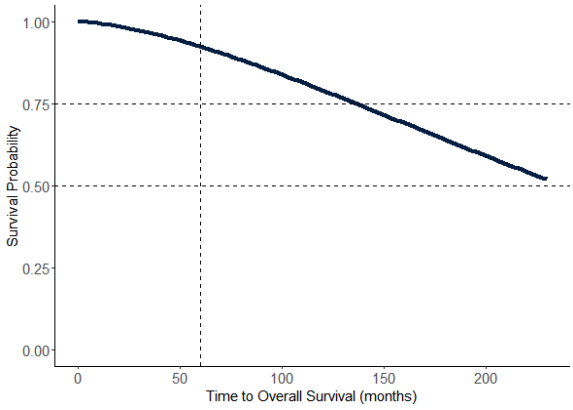


Overall Survival

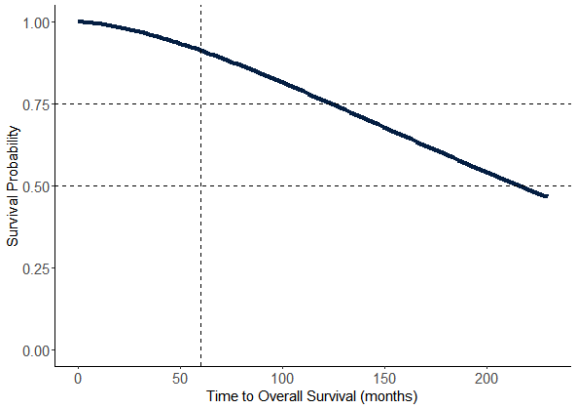
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.706      0.133 42.88 < 2e-16
VARIABLE1   -0.425      0.228 -1.86   0.062
VARIABLE2    0.182      0.173  1.05   0.294
Log(scale)  -0.459      0.110 -4.18 2.9e-05

Scale= 0.632

Weibull distribution
Loglik(model)= -489.6   Loglik(intercept only)= -491.4
        Chisq= 3.67 on 2 degrees of freedom, p= 0.16
Number of Newton-Raphson Iterations: 7
n= 305
```

Baseline Survival Probability



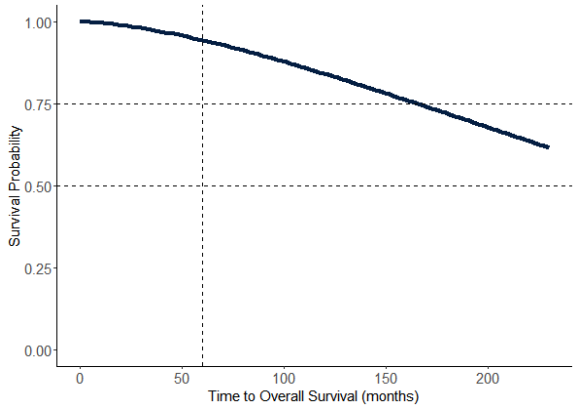
All Risks Survival Probability



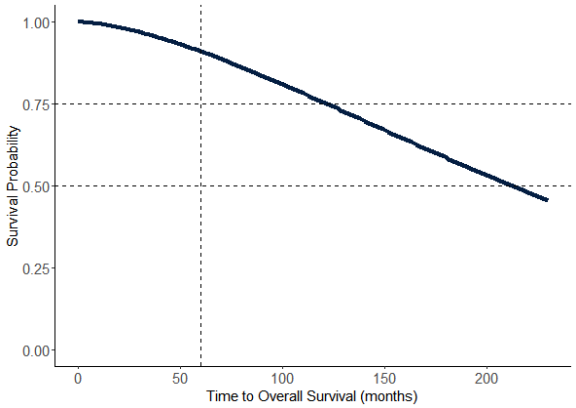
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.898      0.157 37.57 < 2e-16
VARIABLE1   -0.299      0.243 -1.23  0.2180
VARIABLE2   -0.474      0.174 -2.72  0.0066
Log(scale)  -0.459      0.114 -4.02 5.9e-05

Scale= 0.632

Weibull distribution
Loglik(model)= -446.7   Loglik(intercept only)= -451
        Chisq= 8.71 on 2 degrees of freedom, p= 0.013
Number of Newton-Raphson Iterations: 8
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



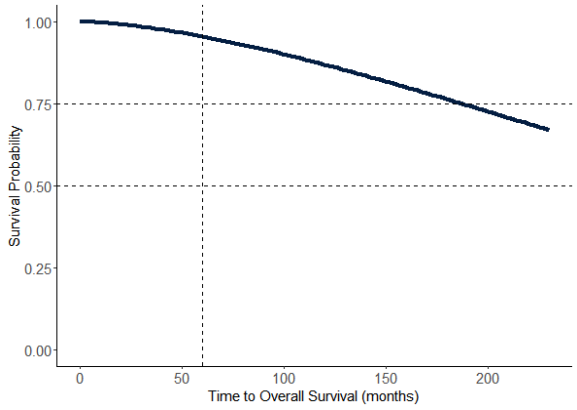
All Risks Survival Probability



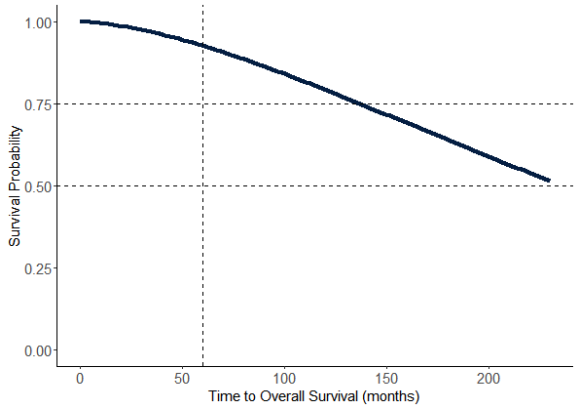
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.006      0.179 33.57 < 2e-16
VARIABLE1   -0.342      0.222 -1.54  0.1235
VARIABLE2   -0.474      0.170 -2.80  0.0052
Log(scale)  -0.480      0.116 -4.13 3.6e-05

Scale= 0.619

Weibull distribution
Loglik(model)= -432.8   Loglik(intercept only)= -439
        Chisq= 12.43 on 2 degrees of freedom, p= 0.002
Number of Newton-Raphson Iterations: 8
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



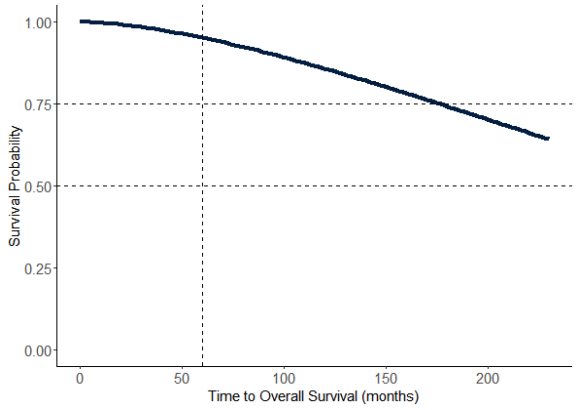
All Risks Survival Probability



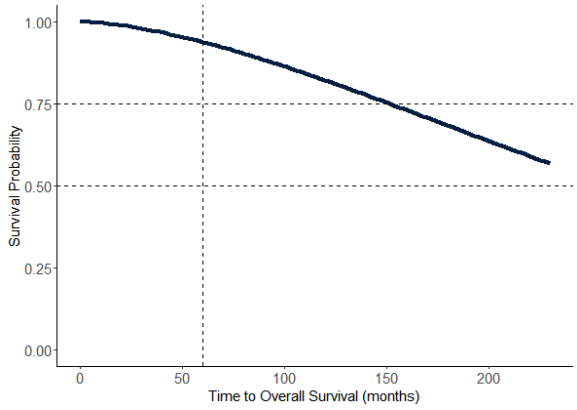
4. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.939      0.179 33.22 < 2e-16
VARIABLE1    0.119      0.171  0.70  0.4852
VARIABLE2   -0.516      0.169 -3.05  0.0023
Log(scale)  -0.486      0.117 -4.16 3.1e-05

Scale= 0.615

Weibull distribution
Loglik(model)= -433.7   Loglik(intercept only)= -439
        Chisq= 10.73 on 2 degrees of freedom, p= 0.0047
Number of Newton-Raphson Iterations: 8
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

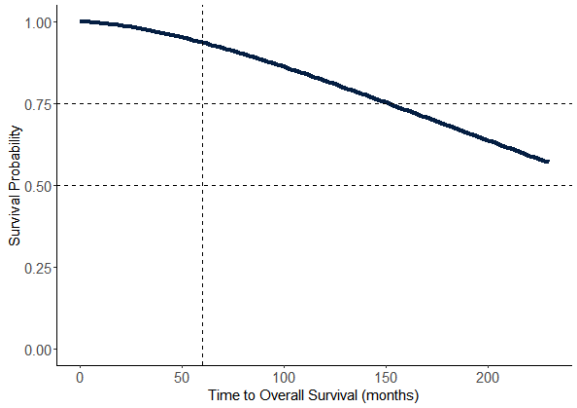


5. Age of Diagnosis and Tumor Stage

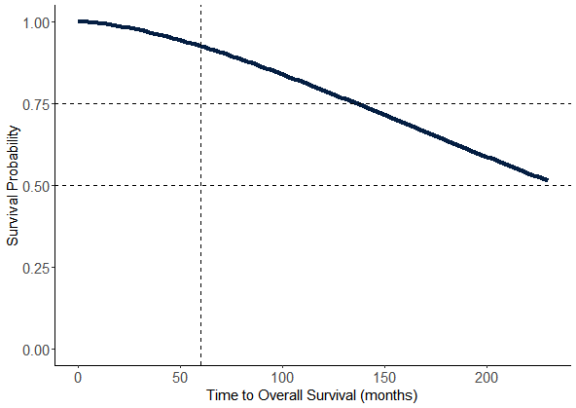
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
```

```
             Value Std. Error     z       p
(Intercept)  5.798      0.153 38.01 < 2e-16
VARIABLE1    0.214      0.181  1.18  0.2384
VARIABLE2   -0.482      0.173 -2.79  0.0052
Log(scale)  -0.472      0.115 -4.11 3.9e-05

Scale= 0.624

Weibull distribution
Loglik(model)= -446.6   Loglik(intercept only)= -451
        Chisq= 8.79 on 2 degrees of freedom, p= 0.012
Number of Newton-Raphson Iterations: 7
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



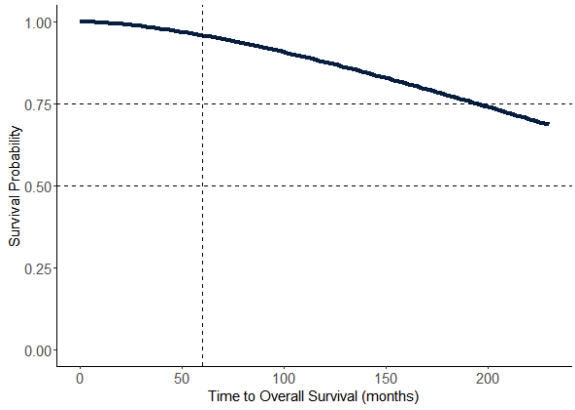
All Risks Survival Probability



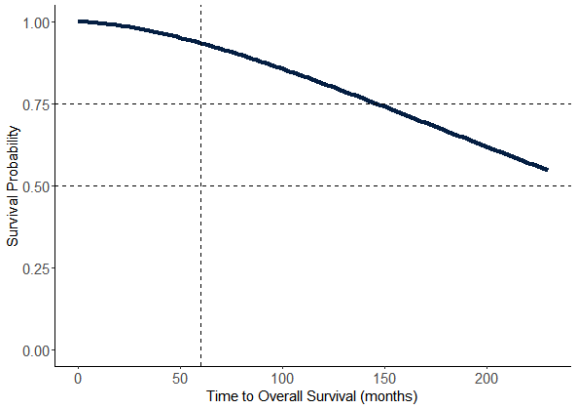
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.036      0.190 31.82 < 2e-16
VARIABLE1   -0.405      0.180 -2.25   0.024
VARIABLE2   -0.360      0.172 -2.09   0.037
Log(scale)  -0.490      0.123 -4.00 6.2e-05

Scale= 0.612

Weibull distribution
Loglik(model)= -392.7   Loglik(intercept only)= -398.4
        Chisq= 11.36 on 2 degrees of freedom, p= 0.0034
Number of Newton-Raphson Iterations: 8
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

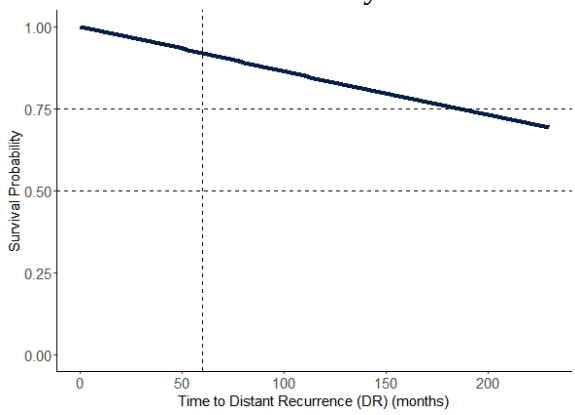


Distant Breast Tumor Recurrence

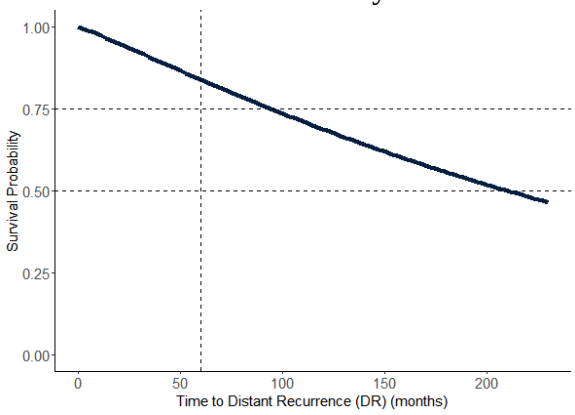
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.3590     0.2488 25.56 <2e-16
VARIABLE1   -0.5993     0.3481 -1.72  0.085
VARIABLE2   -0.2141     0.2550 -0.84  0.401
Log(scale)  -0.0926     0.1220 -0.76  0.448

Scale= 0.912

Weibull distribution
Loglik(model)= -424   Loglik(intercept only)= -426.1
        Chisq= 4.17 on 2 degrees of freedom, p= 0.12
Number of Newton-Raphson Iterations: 8
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



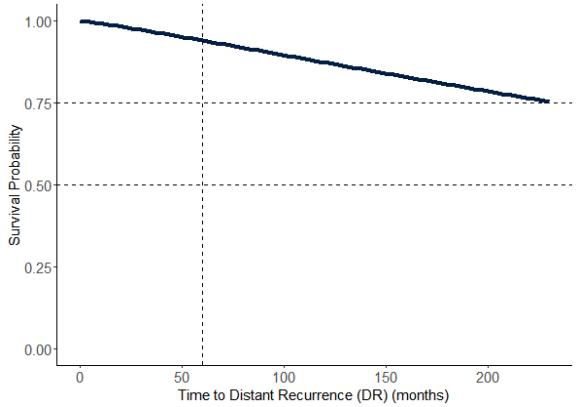
All Risks Survival Probability



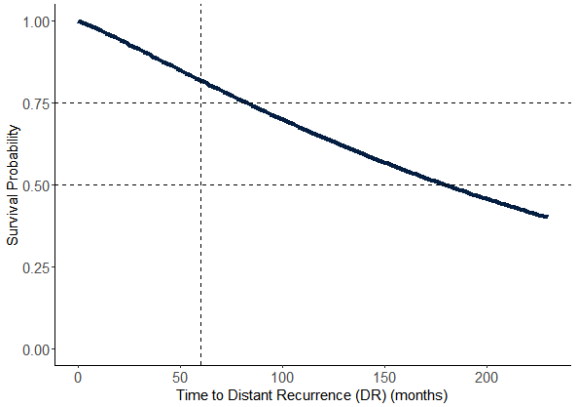
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.555      0.280 23.41 < 2e-16
VARIABLE1   -0.408      0.390 -1.05 0.29460
VARIABLE2   -0.915      0.276 -3.32 0.00091
Log(scale)  -0.121      0.129 -0.94 0.34615

Scale= 0.886

Weibull distribution
Loglik(model)= -372.1   Loglik(intercept only)= -378.5
        Chisq= 12.97 on 2 degrees of freedom, p= 0.0015
Number of Newton-Raphson Iterations: 8
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



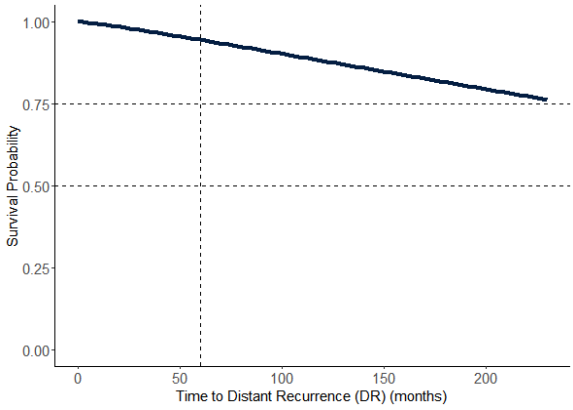
All Risks Survival Probability



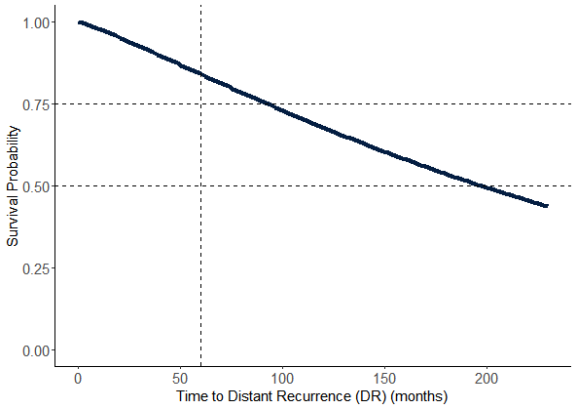
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.563      0.280 23.47 <2e-16
VARIABLE1   -0.495      0.323 -1.53 0.1258
VARIABLE2   -0.804      0.253 -3.18 0.0015
Log(scale)  -0.150      0.123 -1.22 0.2216

Scale= 0.861

Weibull distribution
Loglik(model)= -403   Loglik(intercept only)= -410.8
        Chisq= 15.64 on 2 degrees of freedom, p= 4e-04
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness
```

Baseline Survival Probability



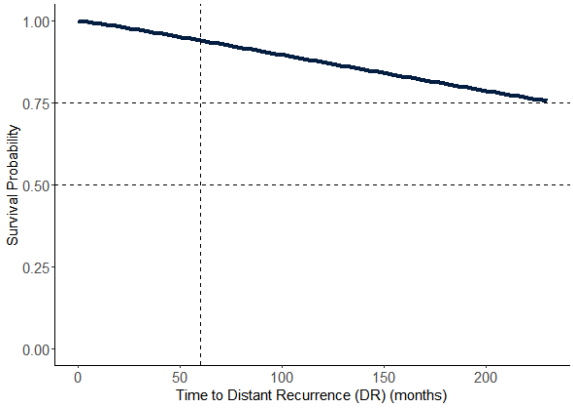
All Risks Survival Probability



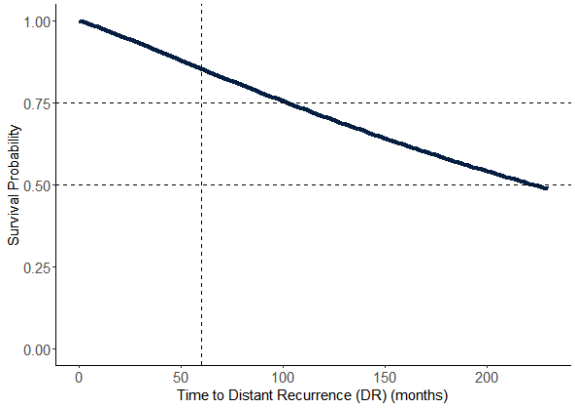
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.565      0.294 22.33 <2e-16
VARIABLE1   -0.147      0.263 -0.56  0.575
VARIABLE2   -0.909      0.276 -3.29  0.001
Log(scale)  -0.119      0.129 -0.93  0.355

Scale= 0.887

Weibull distribution
Loglik(model)= -372.4   Loglik(intercept only)= -378.5
        Chisq= 12.28 on 2 degrees of freedom, p= 0.0022
Number of Newton-Raphson Iterations: 8
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



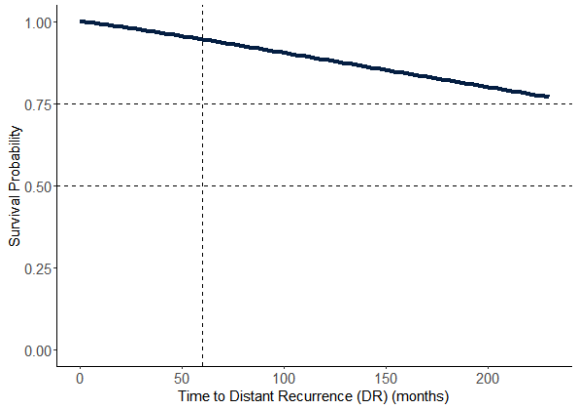
All Risks Survival Probability



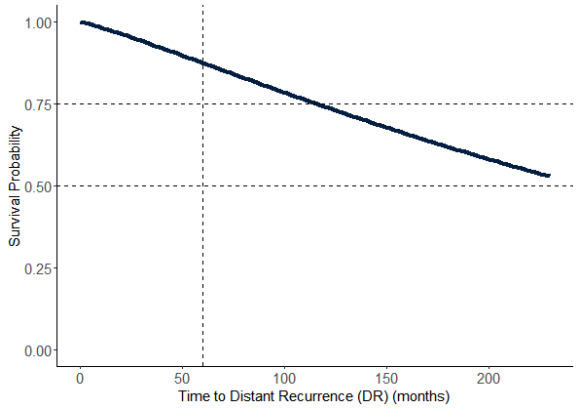
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.596      0.294 22.43 <2e-16
VARIABLE1   -0.208      0.237 -0.88  0.380
VARIABLE2   -0.830      0.253 -3.29  0.001
Log(scale)  -0.149      0.123 -1.21  0.227

Scale= 0.861

Weibull distribution
Loglik(model)= -403.7   Loglik(intercept only)= -410.8
        Chisq= 14.26 on 2 degrees of freedom, p= 8e-04
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



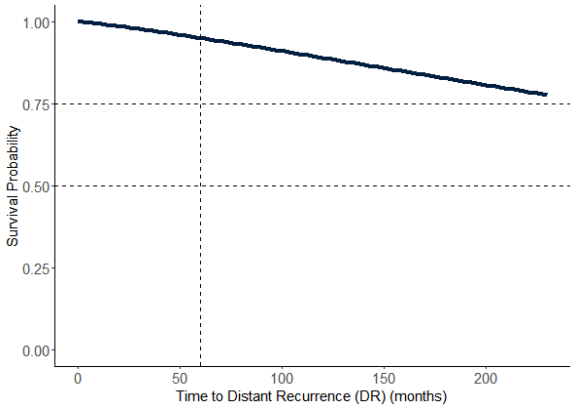
All Risks Survival Probability



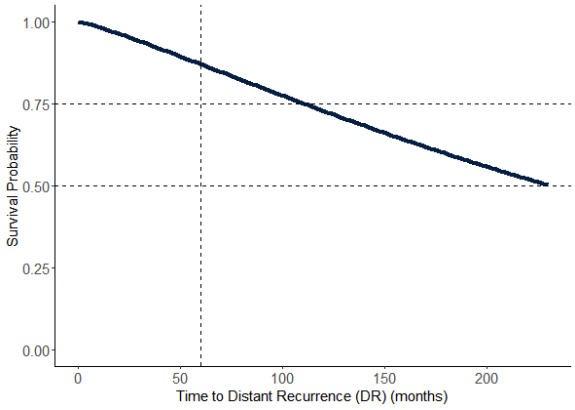
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.590      0.296 22.26 <2e-16
VARIABLE1   -0.631      0.262 -2.41  0.016
VARIABLE2   -0.564      0.253 -2.23  0.025
Log(scale)  -0.178      0.131 -1.35  0.176

Scale= 0.837

Weibull distribution
Loglik(model)= -356.4   Loglik(intercept only)= -363.2
        Chisq= 13.63 on 2 degrees of freedom, p= 0.0011
Number of Newton-Raphson Iterations: 8
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



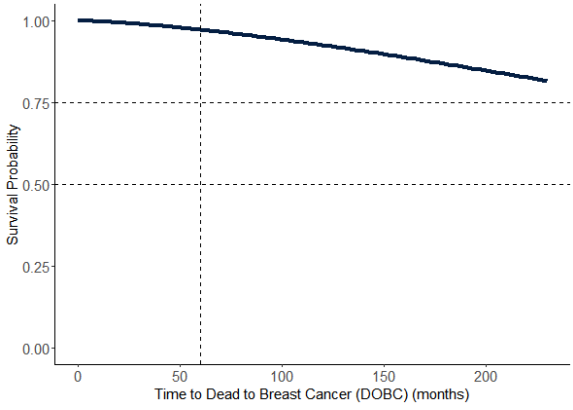
Trivariate Analysis

Breast Cancer-Specific Survival

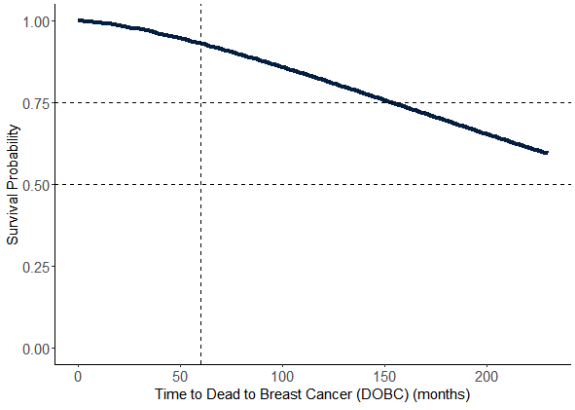
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.517      0.305 21.36 <2e-16
VARIABLE1   -0.458      0.327 -1.40 0.1617
VARIABLE2   -0.125      0.244 -0.51 0.6076
VARIABLE3   -0.812      0.252 -3.22 0.0013
Log(scale)  -0.391      0.149 -2.62 0.0089

Scale= 0.676

Weibull distribution
Loglik(model)= -277.9   Loglik(intercept only)= -285.5
        Chisq= 15.23 on 3 degrees of freedom, p= 0.0016
Number of Newton-Raphson Iterations: 7
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



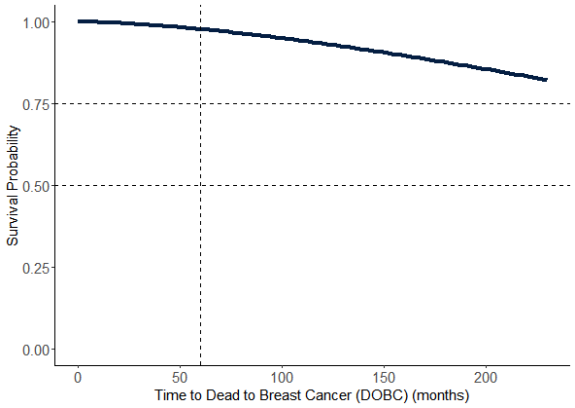
All Risks Survival Probability



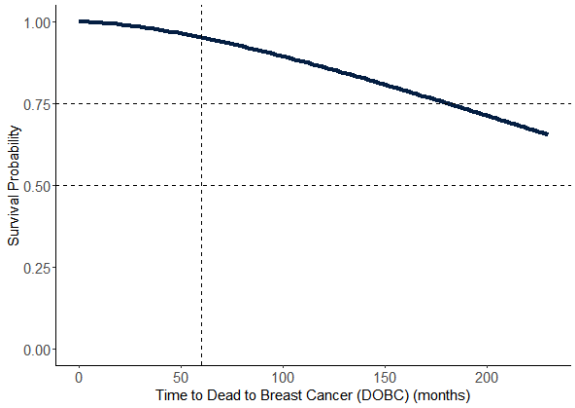
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.460      0.286 22.55 < 2e-16
VARIABLE1   -0.367      0.266 -1.38 0.16708
VARIABLE2   -0.201      0.206 -0.97 0.33032
VARIABLE3   -0.660      0.224 -2.95 0.00316
Log(scale)  -0.469      0.141 -3.31 0.00092

Scale= 0.626

Weibull distribution
Loglik(model)= -303.1   Loglik(intercept only)= -311.5
        Chisq= 16.81 on 3 degrees of freedom, p= 0.00077
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

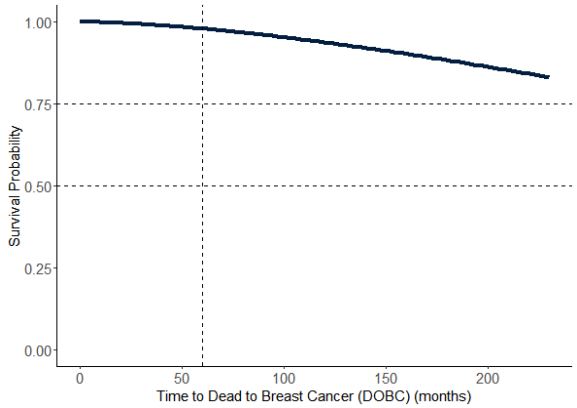


3. Mutation Status, Tumor Stage, and Lymph Node Involvement

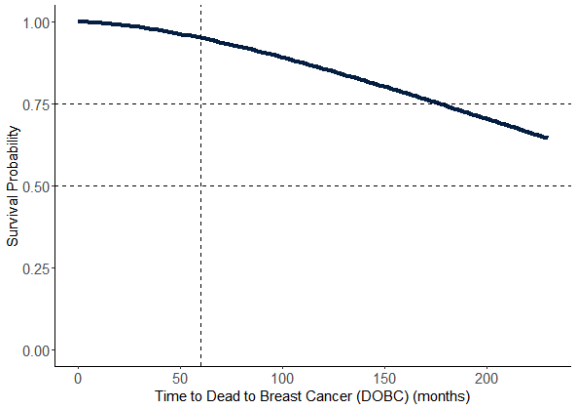
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.486      0.301 21.57 <2e-16
VARIABLE1   -0.372      0.294 -1.27 0.2055
VARIABLE2   -0.564      0.230 -2.45 0.0141
VARIABLE3   -0.453      0.229 -1.98 0.0481
Log(scale)  -0.477      0.153 -3.13 0.0018

Scale= 0.621

Weibull distribution
Loglik(model)= -261.6   Loglik(intercept only)= -269.4
        Chisq= 15.69 on 3 degrees of freedom, p= 0.0013
```

```
Number of Newton-Raphson Iterations: 8
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



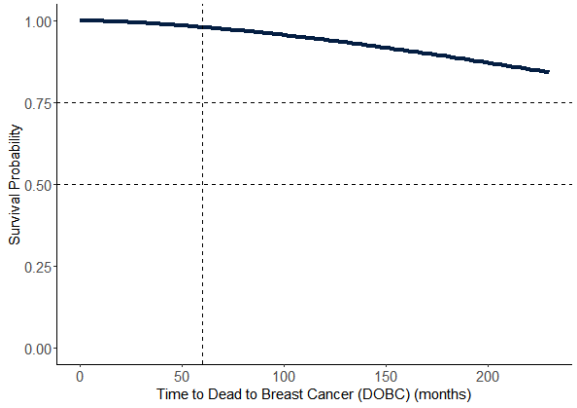
All Risks Survival Probability



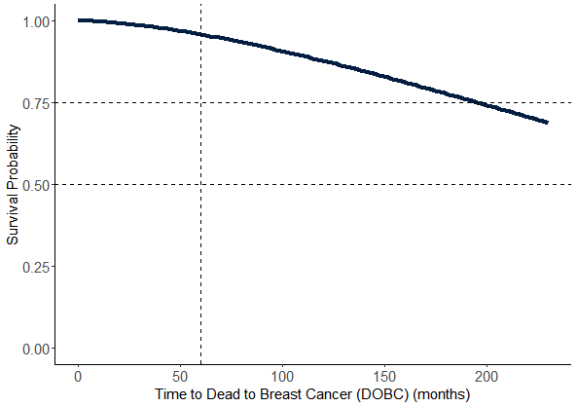
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.530      0.317 20.58 <2e-16
VARIABLE1   -0.211      0.217 -0.97 0.3304
VARIABLE2   -0.551      0.229 -2.40 0.0162
VARIABLE3   -0.489      0.225 -2.17 0.0298
Log(scale)  -0.479      0.153 -3.12 0.0018

Scale= 0.62

Weibull distribution
Loglik(model)= -261.8   Loglik(intercept only)= -269.4
        Chisq= 15.15 on 3 degrees of freedom, p= 0.0017
Number of Newton-Raphson Iterations: 8
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

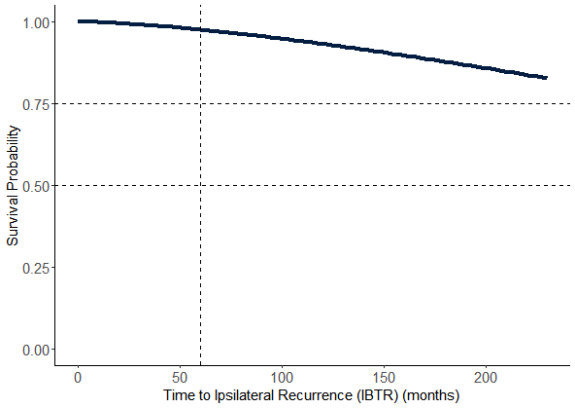


Ipsilateral Breast Tumor Recurrence

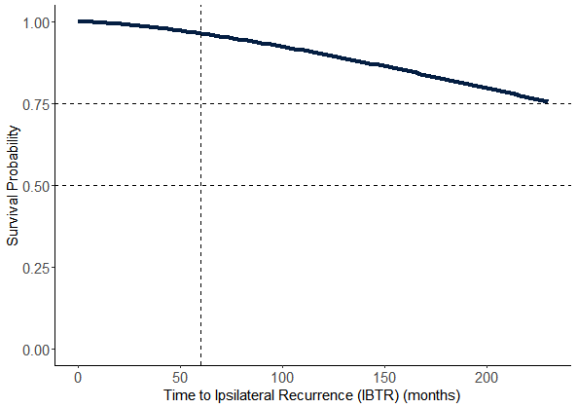
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.534      0.364 17.92 <2e-16
VARIABLE1   -0.179      0.415 -0.43  0.666
VARIABLE2   -0.482      0.288 -1.68  0.094
VARIABLE3    0.067      0.331  0.20  0.840
Log(scale)  -0.418      0.180 -2.32  0.020

Scale= 0.658

Weibull distribution
Loglik(model)= -199.2   Loglik(intercept only)= -201.1
        Chisq= 3.66 on 3 degrees of freedom, p= 0.3
Number of Newton-Raphson Iterations: 12
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

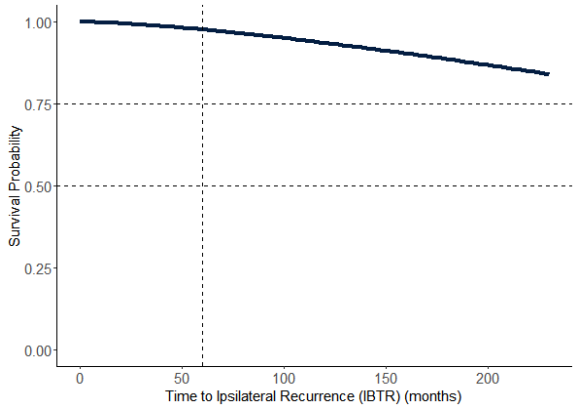


2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

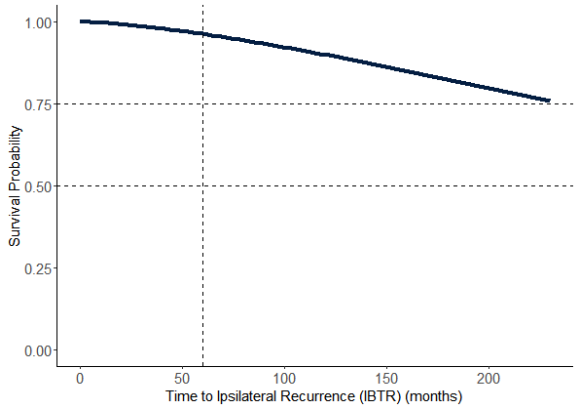
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.6249     0.3828 17.31 <2e-16
VARIABLE1   -0.0735     0.4339 -0.17  0.865
VARIABLE2   -0.4744     0.2877 -1.65  0.099
VARIABLE3   -0.1373     0.2757 -0.50  0.618
Log(scale)  -0.3890     0.1776 -2.19  0.029

Scale= 0.678

Weibull distribution
Loglik(model)= -207   Loglik(intercept only)= -208.8
        Chisq= 3.7 on 3 degrees of freedom, p= 0.3
```

```
Number of Newton-Raphson Iterations: 11
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



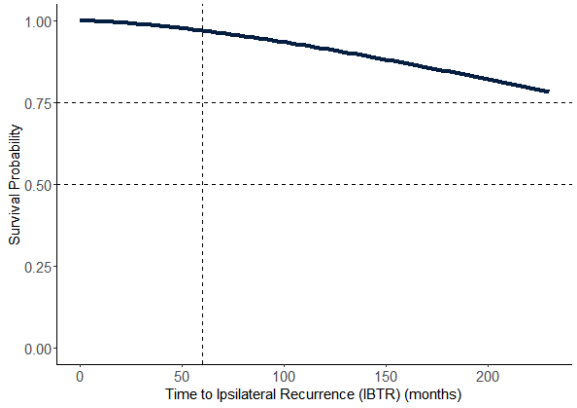
All Risks Survival Probability



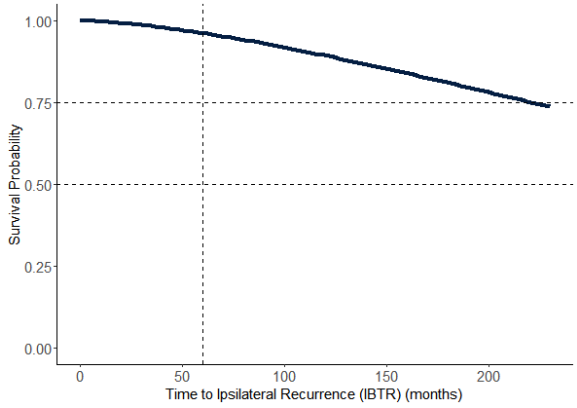
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z      p
(Intercept)  6.3543     0.3245 19.58 <2e-16
VARIABLE1   -0.2980     0.4136 -0.72  0.471
VARIABLE2    0.0745     0.3297  0.23  0.821
VARIABLE3   -0.1228     0.2752 -0.45  0.655
Log(scale)  -0.4316     0.1804 -2.39  0.017

Scale= 0.649

Weibull distribution
Loglik(model)= -199.6   Loglik(intercept only)= -200
        Chisq= 0.83 on 3 degrees of freedom, p= 0.84
Number of Newton-Raphson Iterations: 11
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



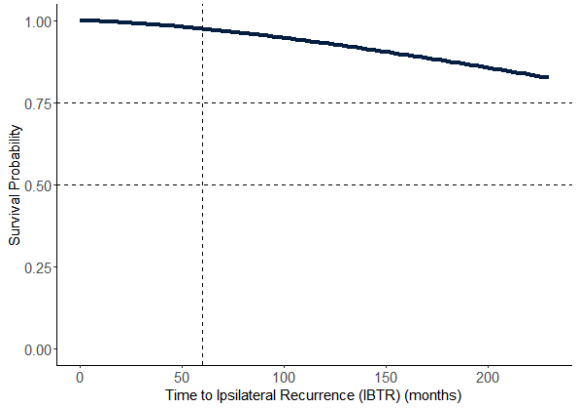
All Risks Survival Probability



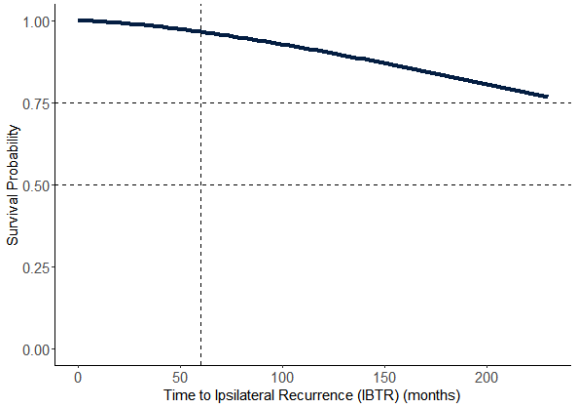
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.524      0.371 17.60 <2e-16
VARIABLE1   -0.476      0.281 -1.69   0.09
VARIABLE2    0.111      0.333  0.33   0.74
VARIABLE3   -0.138      0.271 -0.51   0.61
Log(scale)  -0.422      0.181 -2.33   0.02

Scale= 0.656

Weibull distribution
Loglik(model)= -198.2   Loglik(intercept only)= -200
        Chisq= 3.51 on 3 degrees of freedom, p= 0.32
Number of Newton-Raphson Iterations: 11
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



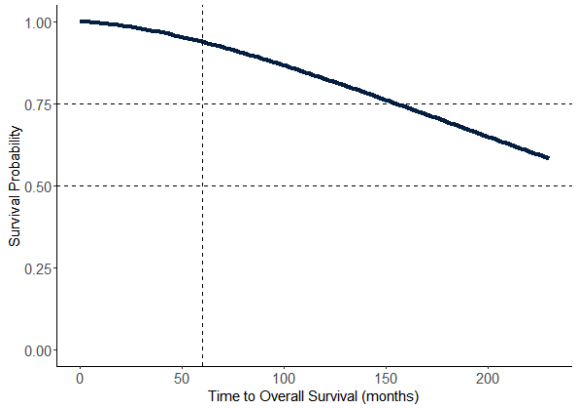
Overall Survival

1. Mutation Status, Age of Diagnosis, and Tumor Stage

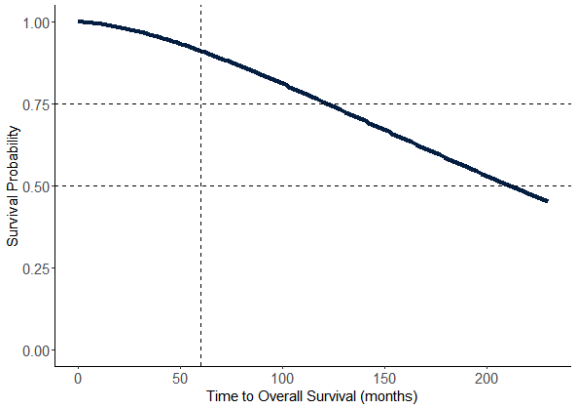
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.827      0.156 37.40 < 2e-16
VARIABLE1   -0.410      0.254 -1.62  0.1062
VARIABLE2    0.289      0.192  1.51  0.1321
VARIABLE3   -0.497      0.174 -2.85  0.0043
Log(scale)  -0.469      0.114 -4.10 4.1e-05

Scale= 0.626

Weibull distribution
Loglik(model)= -445.5   Loglik(intercept only)= -451
        Chisq= 11.17 on 3 degrees of freedom, p= 0.011
```

```
Number of Newton-Raphson Iterations: 8
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



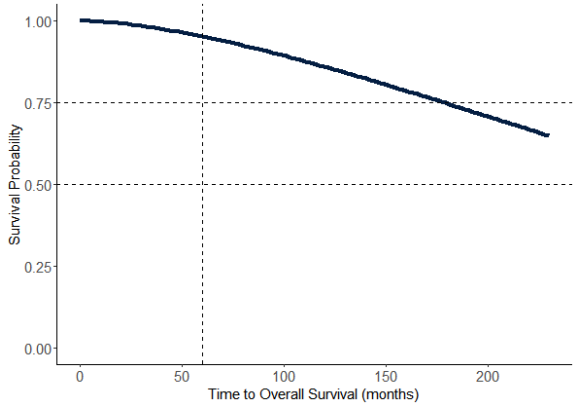
All Risks Survival Probability



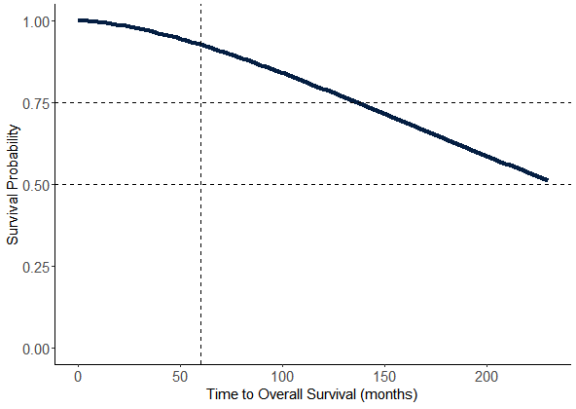
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.956      0.180 33.05 < 2e-16
VARIABLE1   -0.405      0.231 -1.75  0.0799
VARIABLE2    0.189      0.179  1.05  0.2918
VARIABLE3   -0.484      0.170 -2.84  0.0045
Log(scale)  -0.481      0.116 -4.14 3.5e-05

Scale= 0.618

Weibull distribution
Loglik(model)= -432.2   Loglik(intercept only)= -439
        Chisq= 13.6 on 3 degrees of freedom, p= 0.0035
Number of Newton-Raphson Iterations: 8
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



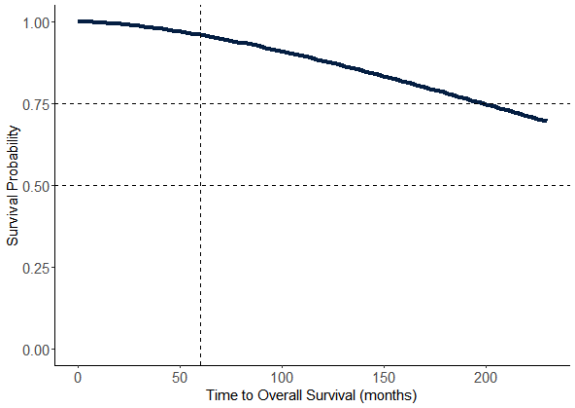
All Risks Survival Probability



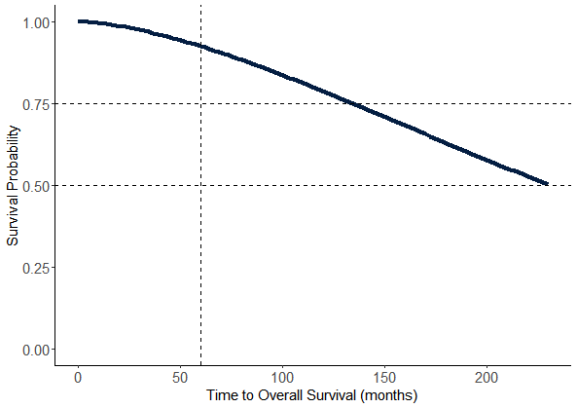
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  6.061      0.193 31.36 < 2e-16
VARIABLE1   -0.297      0.245 -1.21   0.226
VARIABLE2   -0.408      0.181 -2.25   0.025
VARIABLE3   -0.327      0.176 -1.86   0.063
Log(scale)  -0.484      0.122 -3.96 7.4e-05

Scale= 0.616

Weibull distribution
Loglik(model)= -392   Loglik(intercept only)= -398.4
        Chisq= 12.73 on 3 degrees of freedom, p= 0.0053
Number of Newton-Raphson Iterations: 8
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

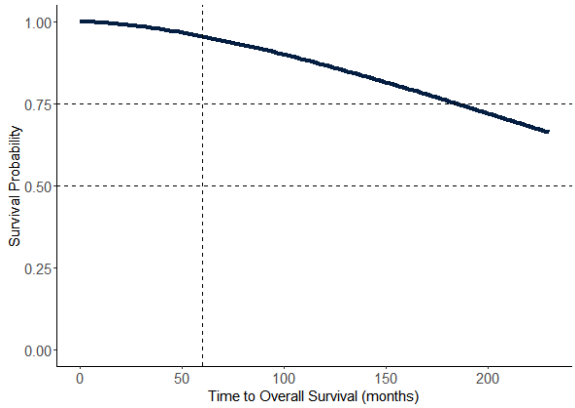


4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

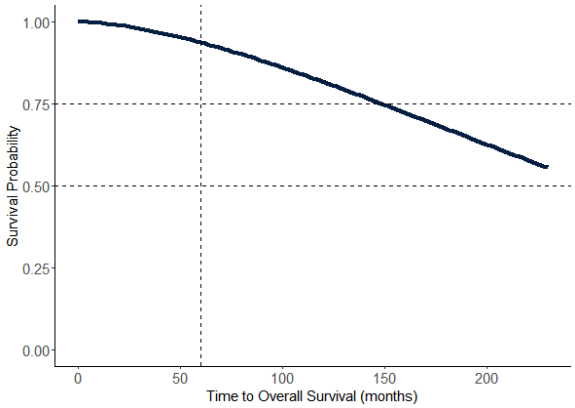
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z       p
(Intercept)  5.980      0.191 31.31 < 2e-16
VARIABLE1    0.190      0.186  1.02   0.306
VARIABLE2   -0.414      0.179 -2.31   0.021
VARIABLE3   -0.367      0.172 -2.13   0.033
Log(scale)  -0.496      0.123 -4.05 5.2e-05

Scale= 0.609

Weibull distribution
Loglik(model)= -392.2   Loglik(intercept only)= -398.4
        Chisq= 12.46 on 3 degrees of freedom, p= 0.006
```

```
Number of Newton-Raphson Iterations: 8
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

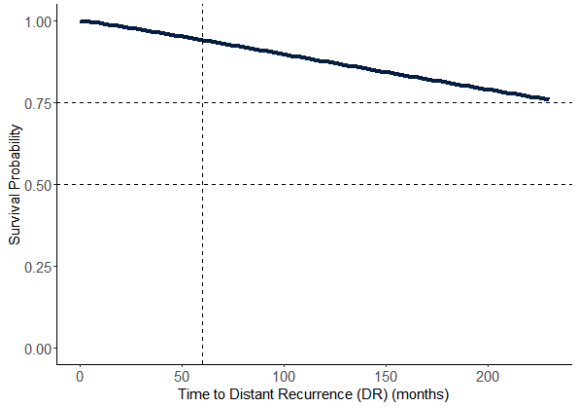


Distant Breast Tumor Recurrence

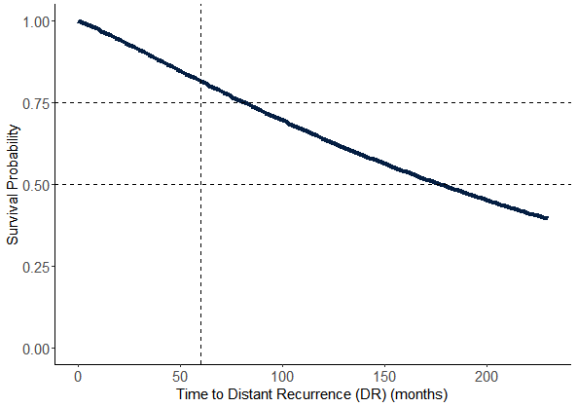
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
              Value Std. Error     z       p
(Intercept)  6.5803     0.2952 22.29 < 2e-16
VARIABLE1   -0.3726     0.4070 -0.92 0.35989
VARIABLE2   -0.0828     0.2743 -0.30 0.76289
VARIABLE3   -0.9104     0.2763 -3.29 0.00098
Log(scale)  -0.1192     0.1288 -0.93 0.35436

Scale= 0.888

Weibull distribution
Loglik(model)= -372   Loglik(intercept only)= -378.5
        Chisq= 13.06 on 3 degrees of freedom, p= 0.0045
Number of Newton-Raphson Iterations: 8
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



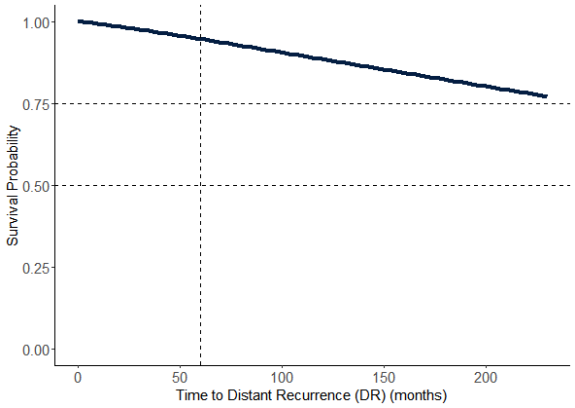
All Risks Survival Probability



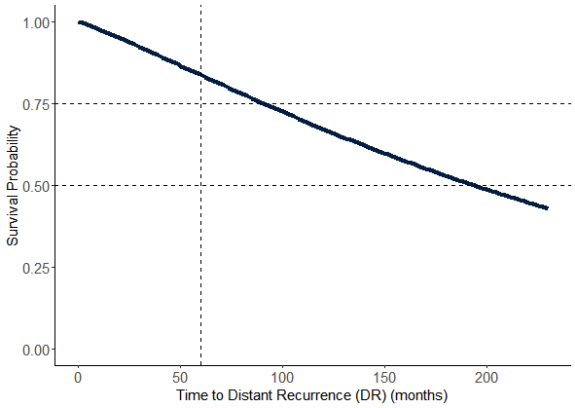
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.603      0.293 22.51 <2e-16
VARIABLE1   -0.447      0.334 -1.34 0.1813
VARIABLE2   -0.132      0.246 -0.54 0.5905
VARIABLE3   -0.794      0.253 -3.13 0.0017
Log(scale)  -0.149      0.123 -1.21 0.2246

Scale= 0.861

Weibull distribution
Loglik(model)= -402.8   Loglik(intercept only)= -410.8
        Chisq= 15.93 on 3 degrees of freedom, p= 0.0012
Number of Newton-Raphson Iterations: 8
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

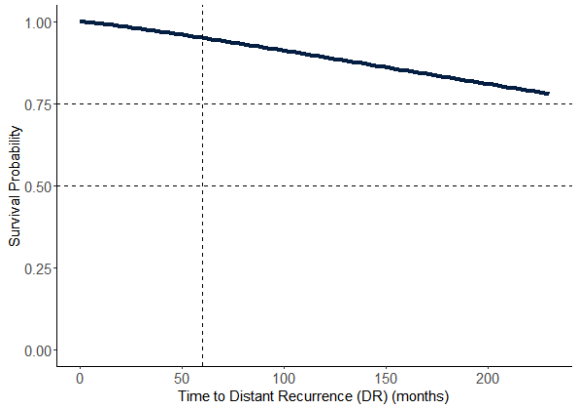


3. Mutation Status, Tumor Stage, and Lymph Node Involvement

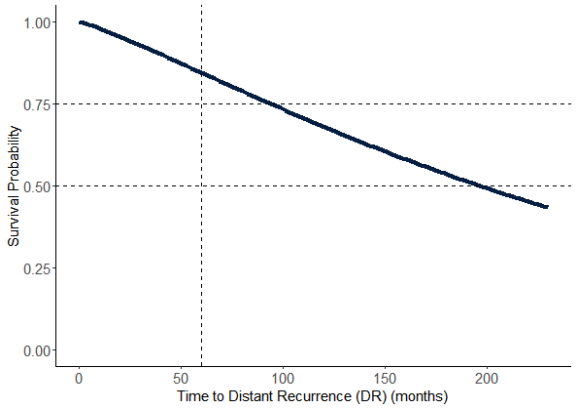
```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.609      0.299 22.10 <2e-16
VARIABLE1   -0.277      0.375 -0.74  0.460
VARIABLE2   -0.632      0.263 -2.40  0.016
VARIABLE3   -0.537      0.256 -2.09  0.036
Log(scale)  -0.175      0.131 -1.33  0.182

Scale= 0.84

Weibull distribution
Loglik(model)= -356.1   Loglik(intercept only)= -363.2
        Chisq= 14.15 on 3 degrees of freedom, p= 0.0027
```

```
Number of Newton-Raphson Iterations: 8
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



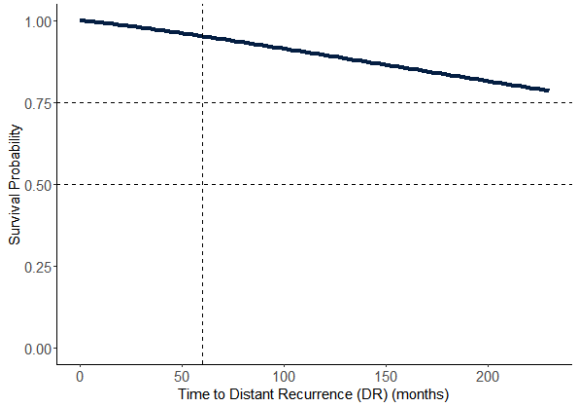
All Risks Survival Probability



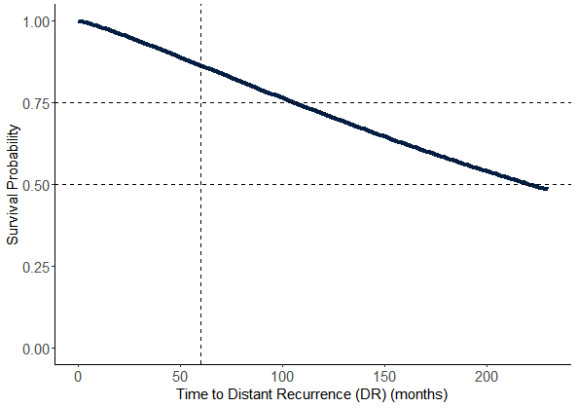
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME1, rv$EVENT1) ~ VARIABLE, data = Data)
             Value Std. Error     z      p
(Intercept)  6.633      0.313 21.20 <2e-16
VARIABLE1   -0.129      0.251 -0.51  0.607
VARIABLE2   -0.629      0.263 -2.39  0.017
VARIABLE3   -0.557      0.253 -2.20  0.028
Log(scale)  -0.175      0.131 -1.33  0.183

Scale= 0.839

Weibull distribution
Loglik(model)= -356.3   Loglik(intercept only)= -363.2
        Chisq= 13.9 on 3 degrees of freedom, p= 0.003
Number of Newton-Raphson Iterations: 8
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



Exponential Models

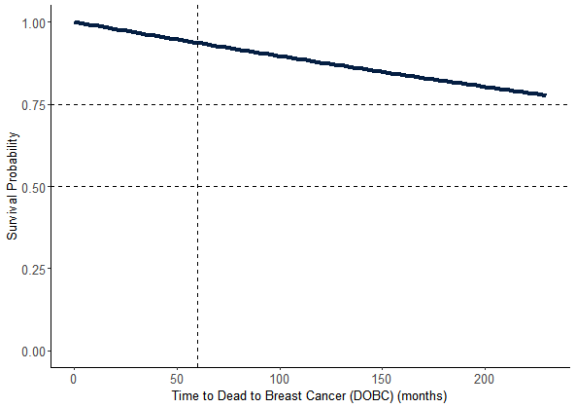
Univariate Analysis

Breast Cancer-Specific Survival

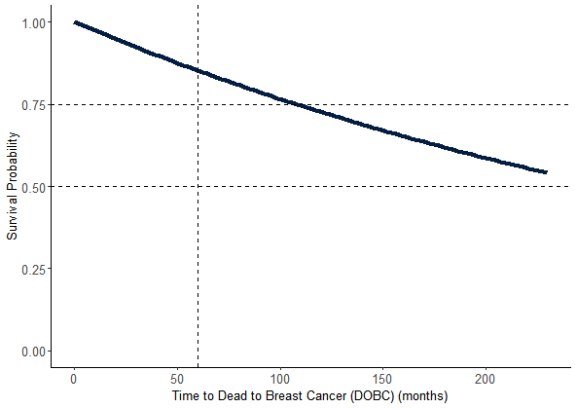
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.812      0.169 40.30 <2e-16
VARIABLE    -0.887      0.392 -2.26  0.024

Scale fixed at 1

Exponential distribution
Loglik(model)= -328.8   Loglik(intercept only)= -330.9
        Chisq= 4.22 on 1 degrees of freedom, p= 0.04
Number of Newton-Raphson Iterations: 5
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



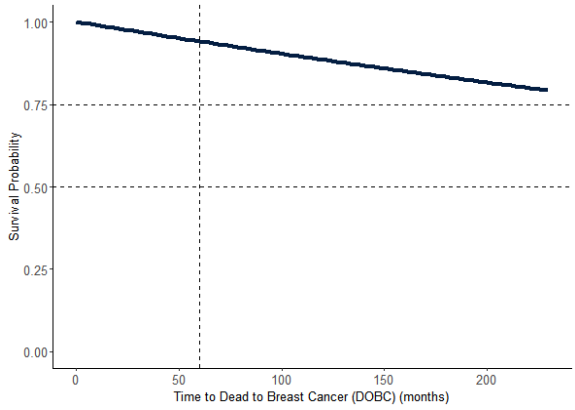
All Risks Survival Probability



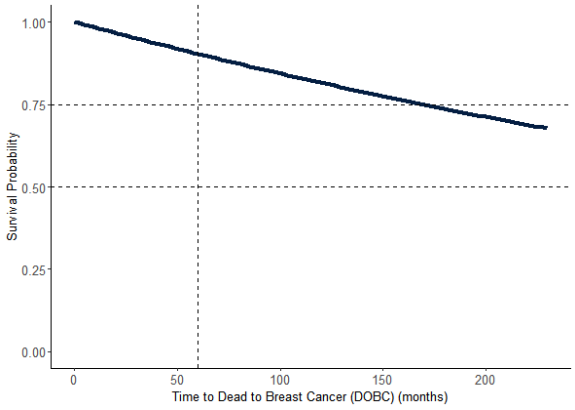
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.892      0.204 33.76 <2e-16
VARIABLE    -0.514      0.307 -1.68  0.094

Scale fixed at 1

Exponential distribution
Loglik(model)= -329.6   Loglik(intercept only)= -330.9
        Chisq= 2.72 on 1 degrees of freedom, p= 0.099
Number of Newton-Raphson Iterations: 5
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



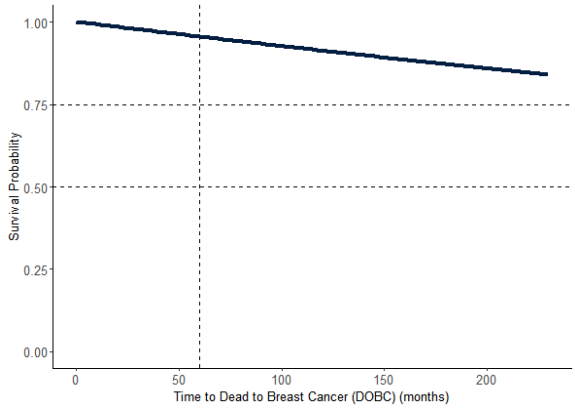
All Risks Survival Probability



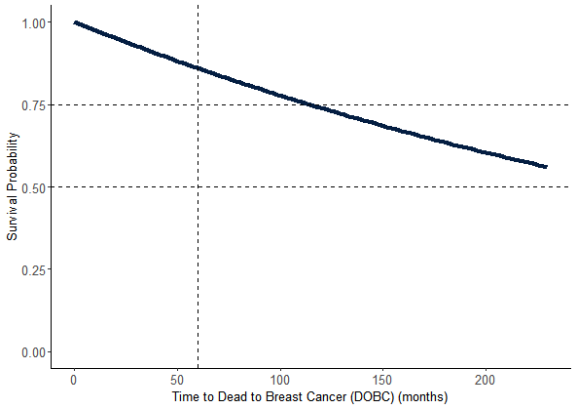
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  8.375      0.509 16.46 < 2e-16
VARIABLE    -1.196      0.330 -3.63 0.00029

Scale fixed at 1

Exponential distribution
Loglik(model)= -282.3   Loglik(intercept only)= -288.3
        Chisq= 12.07 on 1 degrees of freedom, p= 0.00051
Number of Newton-Raphson Iterations: 6
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

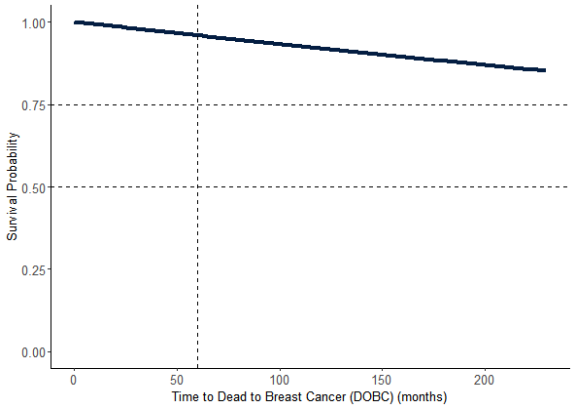


4. Lymph Node Involvement

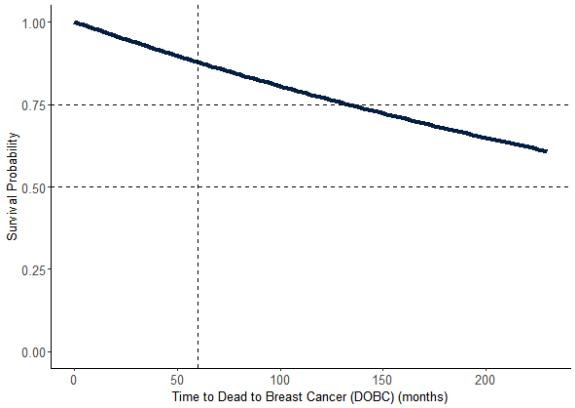
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
```

```
             Value Std. Error     z       p
(Intercept)  7.263      0.258 28.13 < 2e-16
VARIABLE    -1.128      0.324 -3.48 0.00051

Scale fixed at 1

Exponential distribution
Loglik(model)= -309.5   Loglik(intercept only)= -315.8
        Chisq= 12.72 on 1 degrees of freedom, p= 0.00036
Number of Newton-Raphson Iterations: 6
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

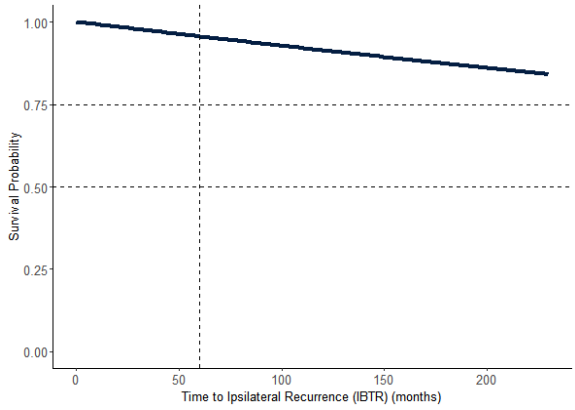


Ipsilateral Breast Tumor Recurrence

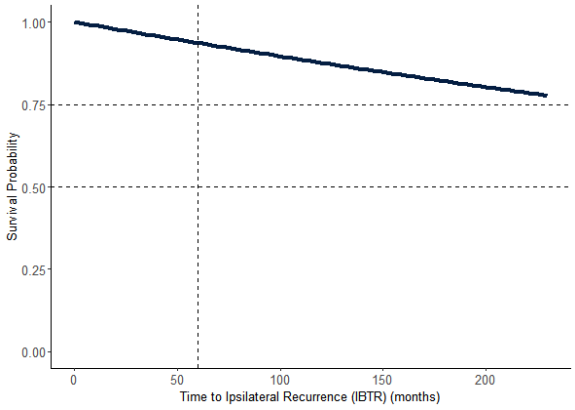
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.193      0.209 34.50 <2e-16
VARIABLE    -0.383      0.614 -0.62   0.53

Scale fixed at 1

Exponential distribution
Loglik(model)= -211.9   Loglik(intercept only)= -212
        Chisq= 0.35 on 1 degrees of freedom, p= 0.55
Number of Newton-Raphson Iterations: 6
n= 305
```

Baseline Survival Probability



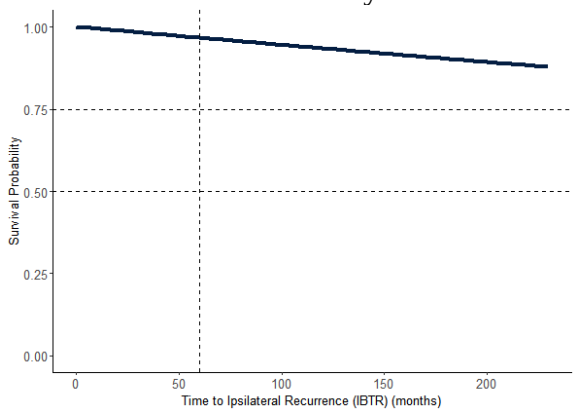
All Risks Survival Probability



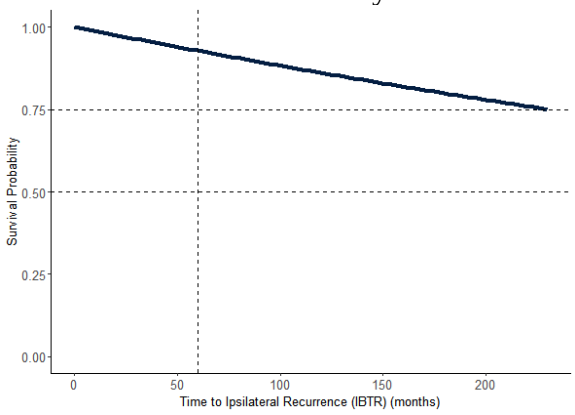
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.475      0.277 26.95 <2e-16
VARIABLE    -0.791      0.392 -2.02  0.044

Scale fixed at 1

Exponential distribution
Loglik(model)= -210.1   Loglik(intercept only)= -212
        Chisq= 3.97 on 1 degrees of freedom, p= 0.046
Number of Newton-Raphson Iterations: 6
n= 305
```

Baseline Survival Probability



All Risks Survival Probability

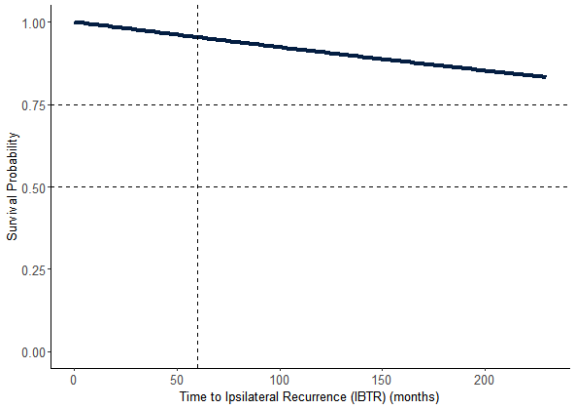


3. Tumor Stage

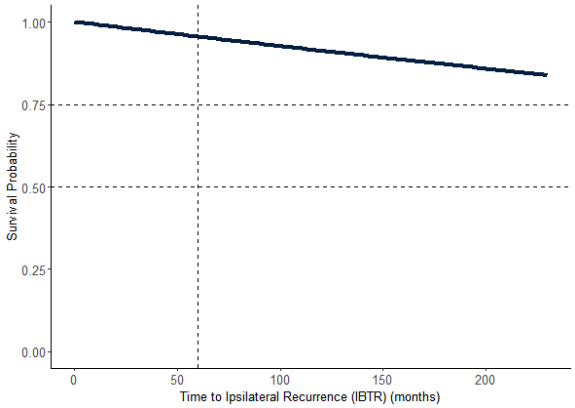
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
```

```
             Value Std. Error     z      p
(Intercept) 7.1312     0.2236 31.89 <2e-16
VARIABLE    0.0449     0.5000  0.09   0.93

Scale fixed at 1

Exponential distribution
Loglik(model)= -203.5   Loglik(intercept only)= -203.5
        Chisq= 0.01 on 1 degrees of freedom, p= 0.93
Number of Newton-Raphson Iterations: 6
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



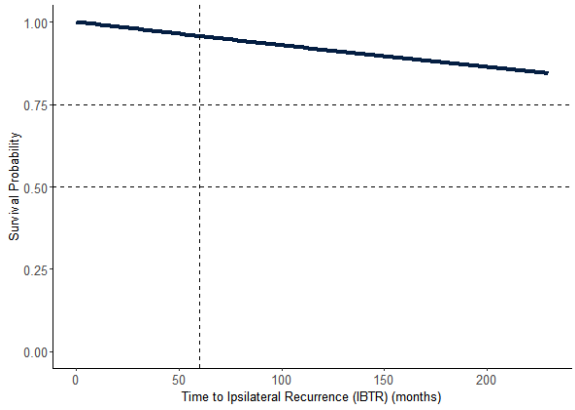
All Risks Survival Probability



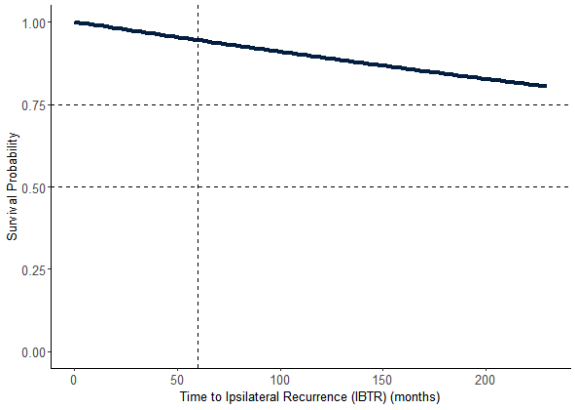
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.214      0.258 27.94 <2e-16
VARIABLE    -0.255      0.397 -0.64   0.52

Scale fixed at 1

Exponential distribution
Loglik(model)= -210.8   Loglik(intercept only)= -211
        Chisq= 0.4 on 1 degrees of freedom, p= 0.52
Number of Newton-Raphson Iterations: 6
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

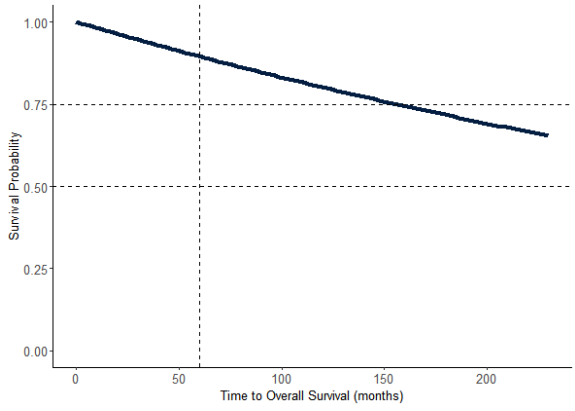


Overall Survival

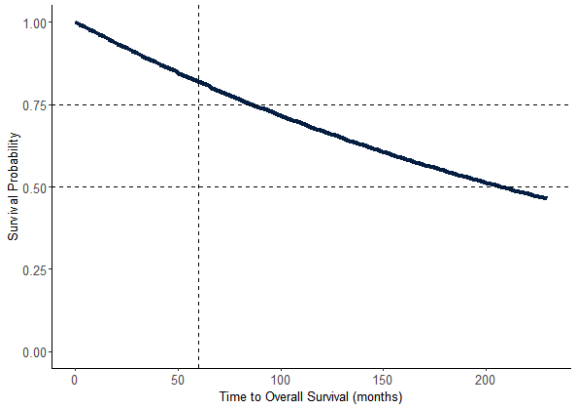
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.293      0.130 48.34 <2e-16
VARIABLE    -0.591      0.342 -1.73  0.084

Scale fixed at 1

Exponential distribution
Loglik(model)= -497.3   Loglik(intercept only)= -498.6
        Chisq= 2.59 on 1 degrees of freedom, p= 0.11
Number of Newton-Raphson Iterations: 5
n= 305
```

Baseline Survival Probability



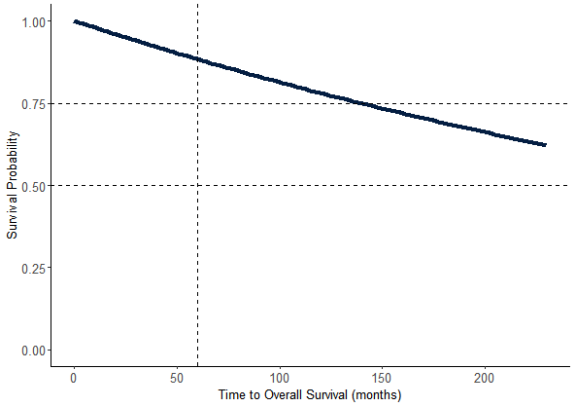
All Risks Survival Probability



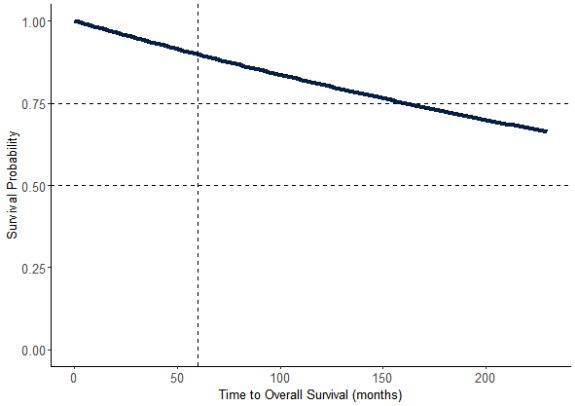
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept) 6.183      0.143 43.28 <2e-16
VARIABLE    0.144      0.265  0.54   0.59

Scale fixed at 1

Exponential distribution
Loglik(model)= -498.5   Loglik(intercept only)= -498.6
        Chisq= 0.3 on 1 degrees of freedom, p= 0.58
Number of Newton-Raphson Iterations: 5
n= 305
```

Baseline Survival Probability



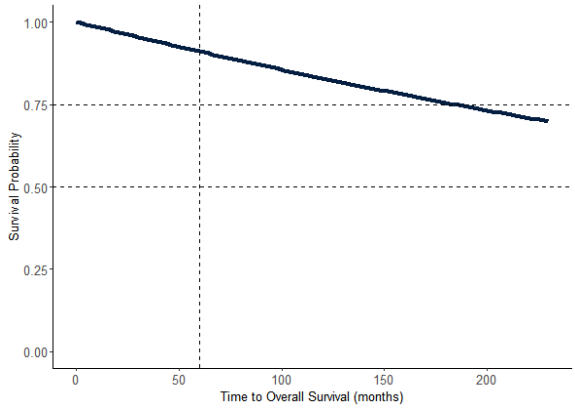
All Risks Survival Probability



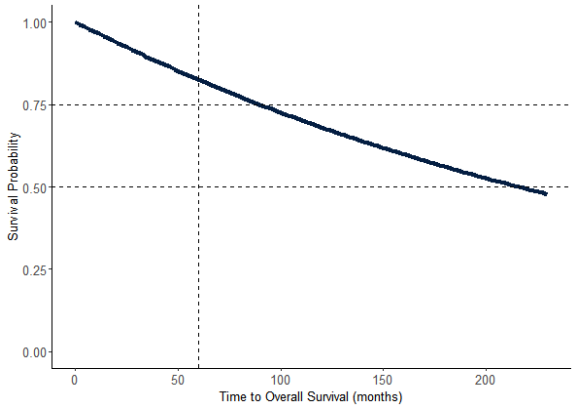
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.461      0.156 41.37 <2e-16
VARIABLE    -0.720      0.264 -2.72 0.0064

Scale fixed at 1

Exponential distribution
Loglik(model)= -454.2   Loglik(intercept only)= -457.6
        Chisq= 6.79 on 1 degrees of freedom, p= 0.0092
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



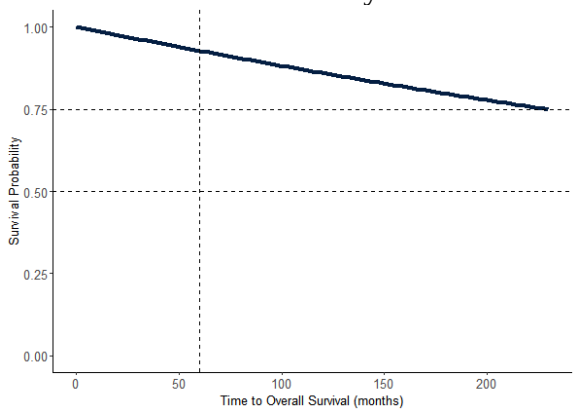
All Risks Survival Probability



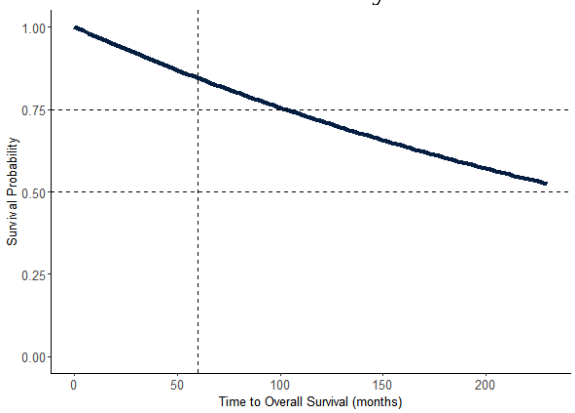
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error    z      p
(Intercept)  6.676      0.192 34.7 <2e-16
VARIABLE    -0.799      0.258 -3.1 0.0019

Scale fixed at 1

Exponential distribution
Loglik(model)= -441   Loglik(intercept only)= -445.9
        Chisq= 9.65 on 1 degrees of freedom, p= 0.0019
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

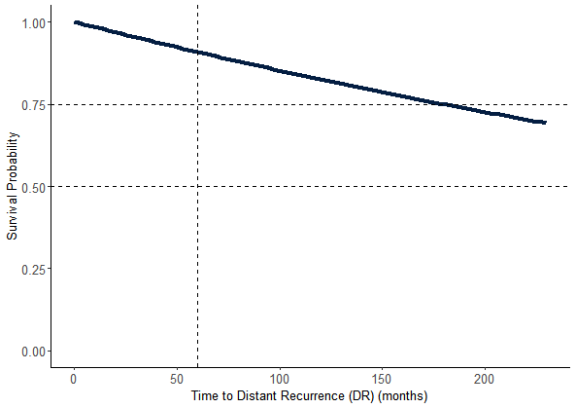


Distant Tumor Recurrence

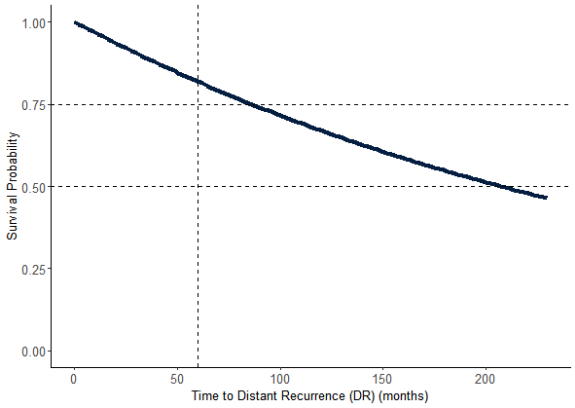
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.436      0.143 45.05 <2e-16
VARIABLE    -0.735      0.363 -2.03  0.043

Scale fixed at 1

Exponential distribution
Loglik(model)= -424.7   Loglik(intercept only)= -426.4
        Chisq= 3.46 on 1 degrees of freedom, p= 0.063
Number of Newton-Raphson Iterations: 5
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



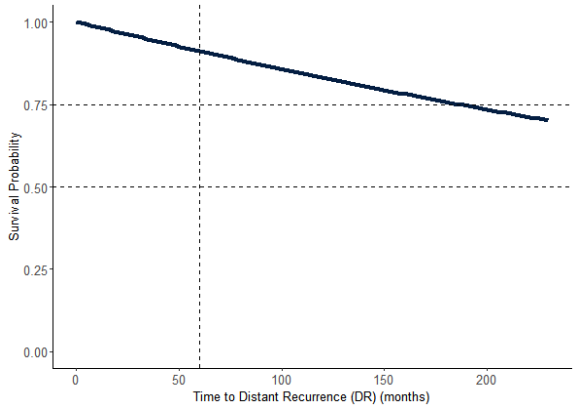
All Risks Survival Probability



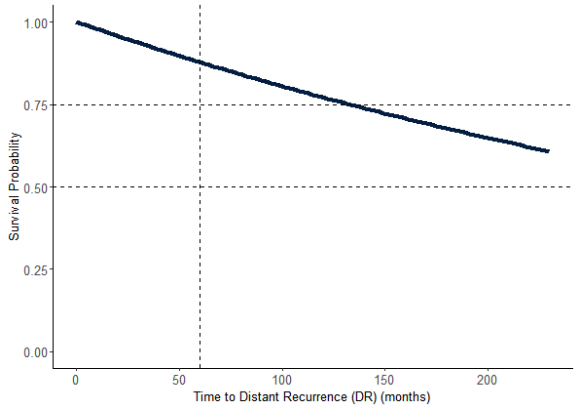
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.473      0.169 38.29 <2e-16
VARIABLE    -0.339      0.268 -1.26   0.21

Scale fixed at 1

Exponential distribution
Loglik(model)= -425.6   Loglik(intercept only)= -426.4
        Chisq= 1.55 on 1 degrees of freedom, p= 0.21
Number of Newton-Raphson Iterations: 5
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



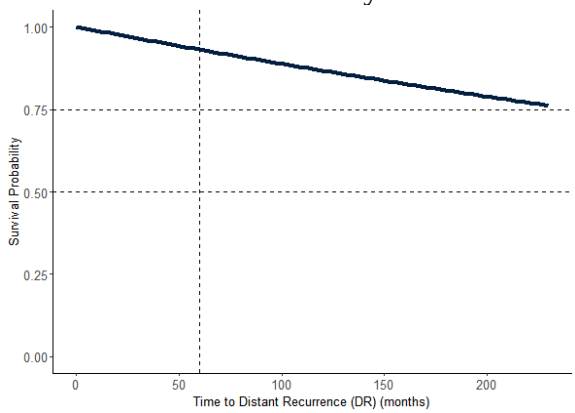
All Risks Survival Probability



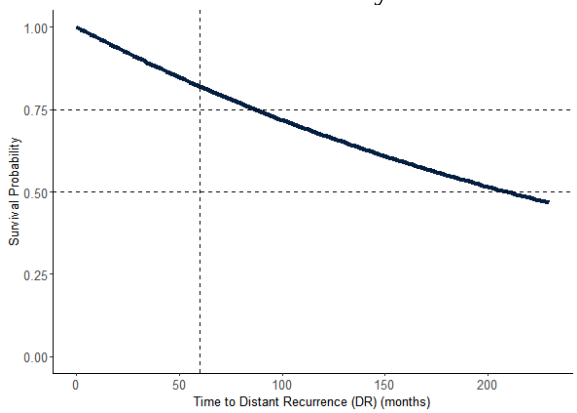
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  6.736      0.183 36.90 < 2e-16
VARIABLE    -1.027      0.285 -3.61 0.00031

Scale fixed at 1

Exponential distribution
Loglik(model)= -373   Loglik(intercept only)= -378.9
        Chisq= 11.82 on 1 degrees of freedom, p= 0.00059
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

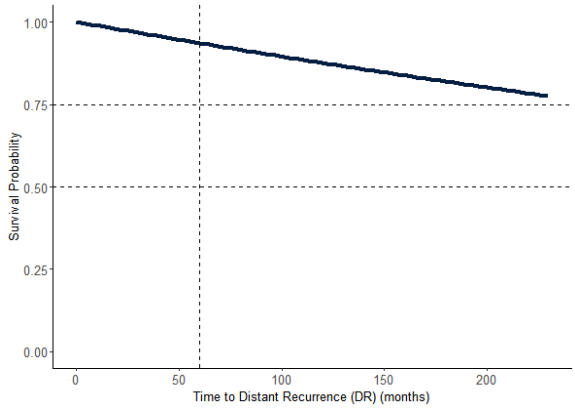


4. Lymph Node Involvement

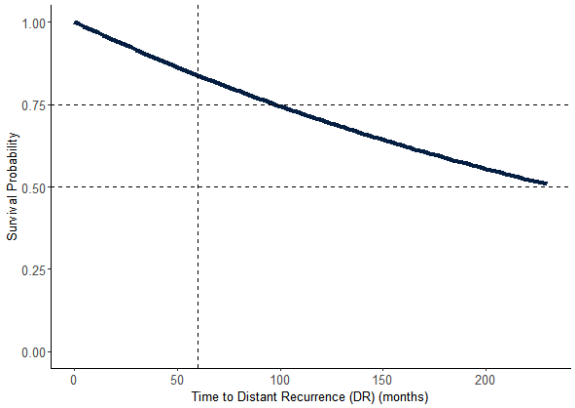
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
```

```
             Value Std. Error    z       p
(Intercept)  6.804      0.209 32.6 < 2e-16
VARIABLE    -0.977      0.272 -3.6 0.00032

Scale fixed at 1

Exponential distribution
Loglik(model)= -404.8   Loglik(intercept only)= -411.4
        Chisq= 13.18 on 1 degrees of freedom, p= 0.00028
Number of Newton-Raphson Iterations: 5
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



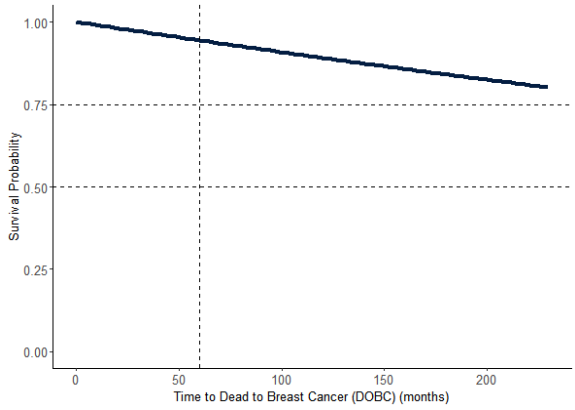
Bivariate Analysis

Breast Cancer-Specific Survival

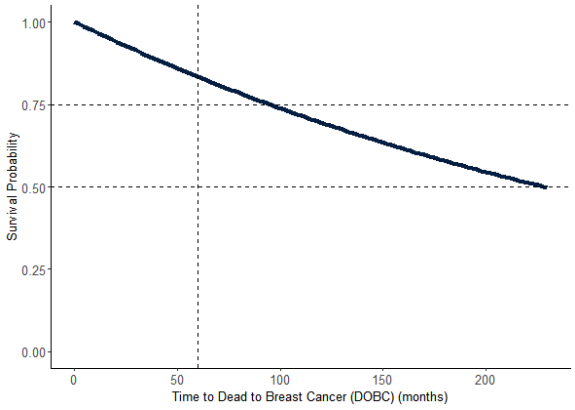
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.943      0.208 33.43 <2e-16
VARIABLE1   -0.754      0.406 -1.86  0.063
VARIABLE2   -0.392      0.318 -1.23  0.218

Scale fixed at 1

Exponential distribution
Loglik(model)= -328.1   Loglik(intercept only)= -330.9
        Chisq= 5.71 on 2 degrees of freedom, p= 0.058
Number of Newton-Raphson Iterations: 5
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



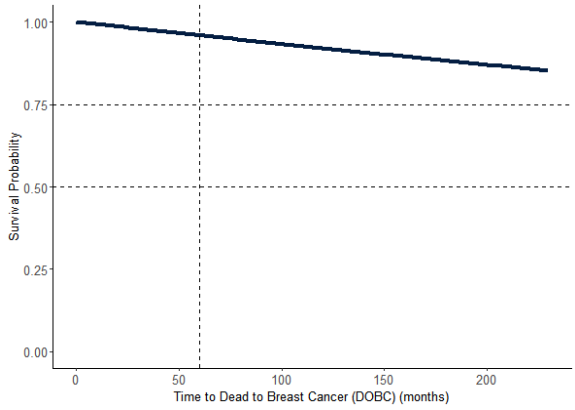
All Risks Survival Probability



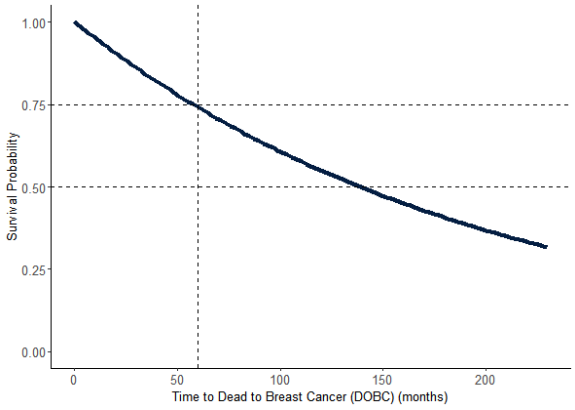
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.269      0.235 30.96 <2e-16
VARIABLE1   -0.776      0.446 -1.74 0.0817
VARIABLE2   -1.194      0.330 -3.62 0.0003

Scale fixed at 1

Exponential distribution
Loglik(model)= -281   Loglik(intercept only)= -288.3
        Chisq= 14.6 on 2 degrees of freedom, p= 0.00068
Number of Newton-Raphson Iterations: 6
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

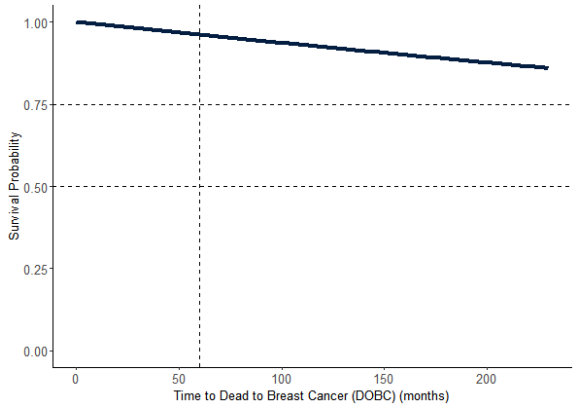


3. Mutation Status and Lymph Node Involvement

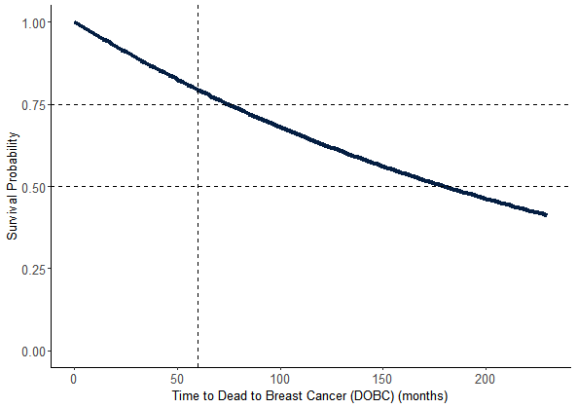
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
```

```
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.320      0.262 27.96 <2e-16
VARIABLE1   -0.710      0.400 -1.78 0.0758
VARIABLE2   -1.051      0.329 -3.20 0.0014

Scale fixed at 1

Exponential distribution
Loglik(model)= -308.1   Loglik(intercept only)= -315.8
        Chisq= 15.45 on 2 degrees of freedom, p= 0.00044
Number of Newton-Raphson Iterations: 6
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



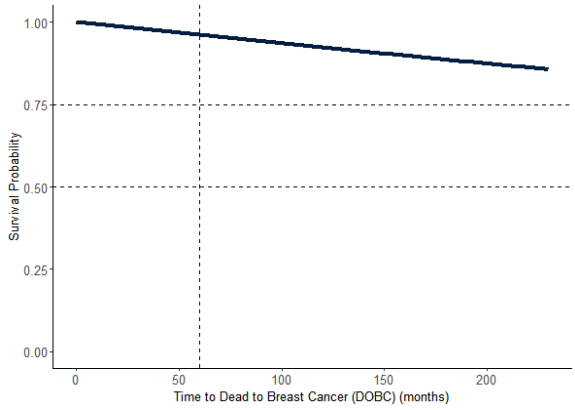
All Risks Survival Probability



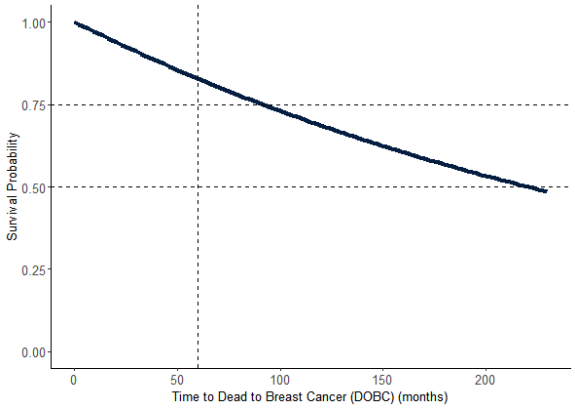
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  7.300      0.256 28.53 < 2e-16
VARIABLE1   -0.369      0.336 -1.10 0.27203
VARIABLE2   -1.169      0.331 -3.53 0.00041

Scale fixed at 1

Exponential distribution
Loglik(model)= -281.7   Loglik(intercept only)= -288.3
        Chisq= 13.24 on 2 degrees of freedom, p= 0.0013
Number of Newton-Raphson Iterations: 6
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



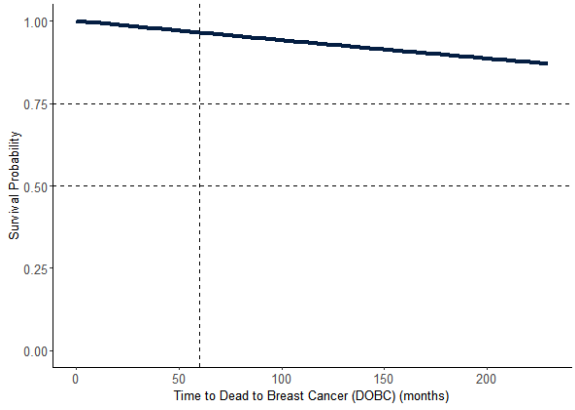
All Risks Survival Probability



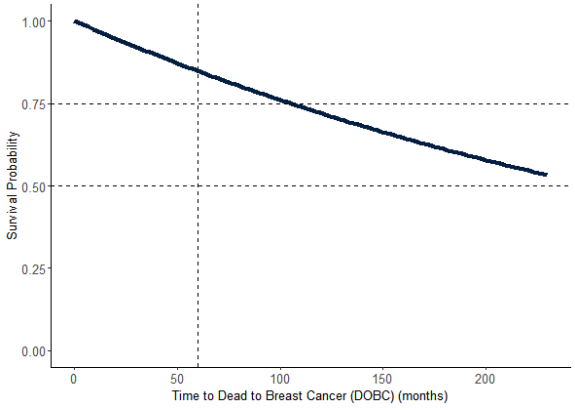
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  7.408      0.285 25.96 < 2e-16
VARIABLE1   -0.432      0.315 -1.37 0.17065
VARIABLE2   -1.076      0.327 -3.30 0.00098

Scale fixed at 1

Exponential distribution
Loglik(model)= -308.6   Loglik(intercept only)= -315.8
        Chisq= 14.56 on 2 degrees of freedom, p= 0.00069
Number of Newton-Raphson Iterations: 6
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

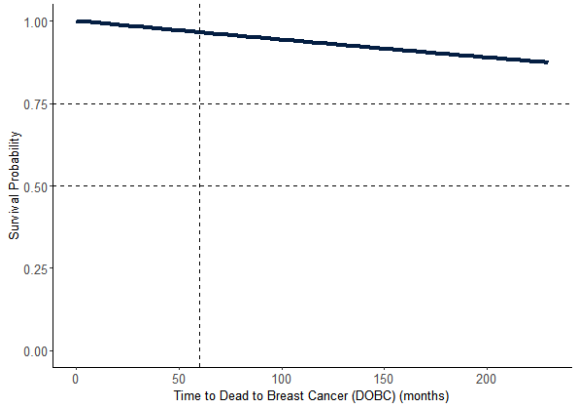


6. Tumor Stage and Lymph Node Involvement

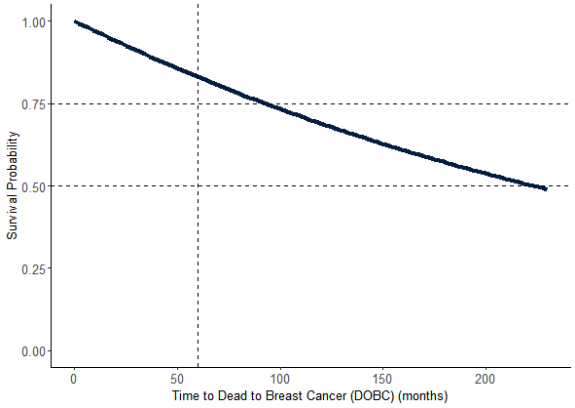
```
Call:
```

```
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.439      0.282 26.40 <2e-16
VARIABLE1   -0.880      0.347 -2.53  0.011
VARIABLE2   -0.785      0.347 -2.26  0.024

Scale fixed at 1

Exponential distribution
Loglik(model)= -266.5   Loglik(intercept only)= -273.2
        Chisq= 13.42 on 2 degrees of freedom, p= 0.0012
Number of Newton-Raphson Iterations: 6
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

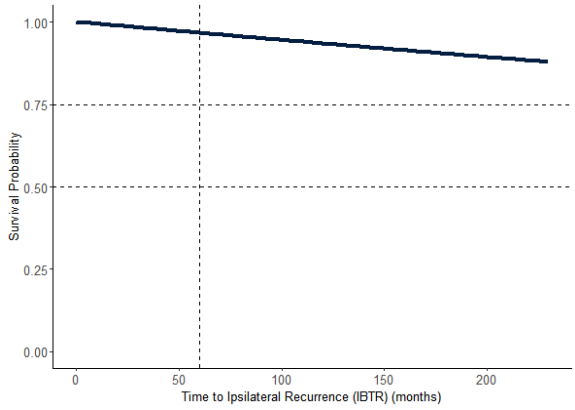


Ipsilateral Breast Tumor Survival

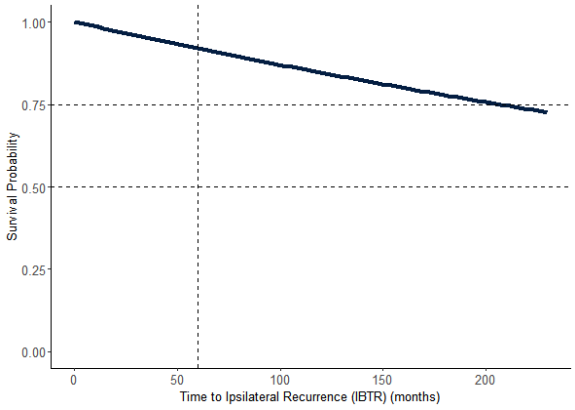
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.481      0.279 26.79 <2e-16
VARIABLE1   -0.131      0.626 -0.21  0.834
VARIABLE2   -0.776      0.400 -1.94  0.053

Scale fixed at 1

Exponential distribution
Loglik(model)= -210   Loglik(intercept only)= -212
        Chisq= 4.01 on 2 degrees of freedom, p= 0.13
Number of Newton-Raphson Iterations: 6
n= 305
```

Baseline Survival Probability



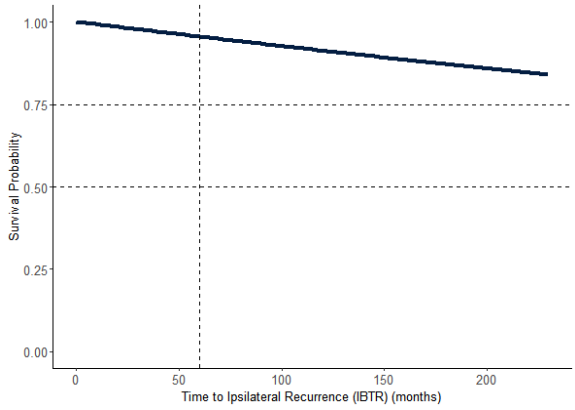
All Risks Survival Probability



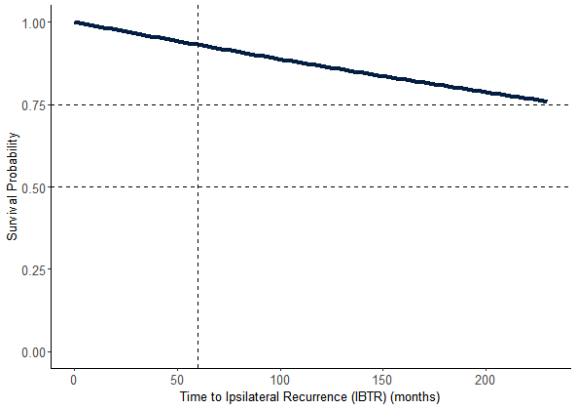
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
              Value Std. Error     z      p
(Intercept)  7.1785     0.2348 30.57 <2e-16
VARIABLE1   -0.5042     0.6156 -0.82   0.41
VARIABLE2    0.0522     0.5001  0.10   0.92

Scale fixed at 1

Exponential distribution
Loglik(model)= -203.2   Loglik(intercept only)= -203.5
        Chisq= 0.6 on 2 degrees of freedom, p= 0.74
Number of Newton-Raphson Iterations: 6
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

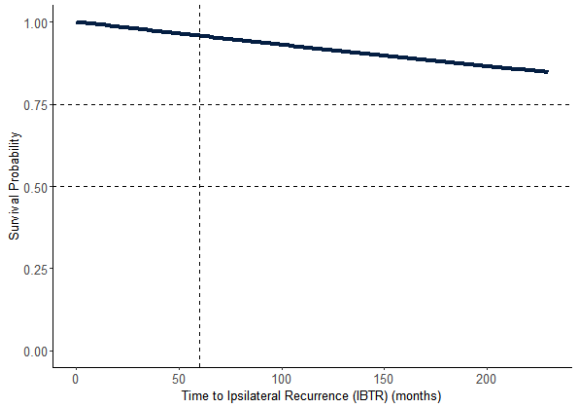


3. Mutation Status and Lymph Node Involvement

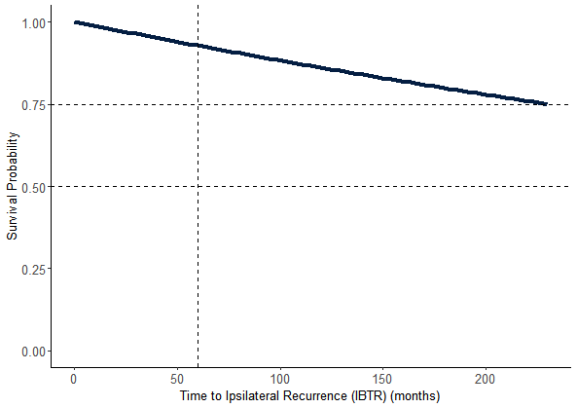
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
```

```
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.232      0.261 27.68 <2e-16
VARIABLE1   -0.328      0.625 -0.52   0.60
VARIABLE2   -0.219      0.404 -0.54   0.59

Scale fixed at 1

Exponential distribution
Loglik(model)= -210.6   Loglik(intercept only)= -211
        Chisq= 0.66 on 2 degrees of freedom, p= 0.72
Number of Newton-Raphson Iterations: 6
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



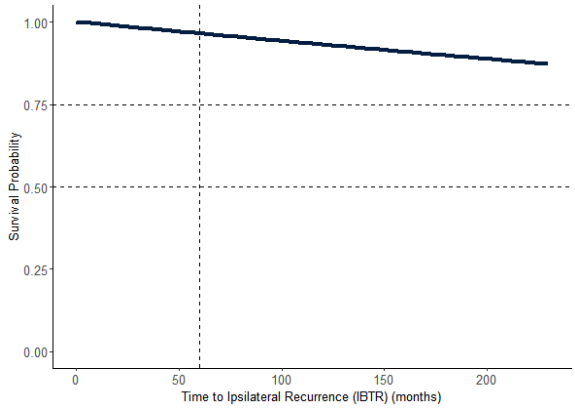
All Risks Survival Probability



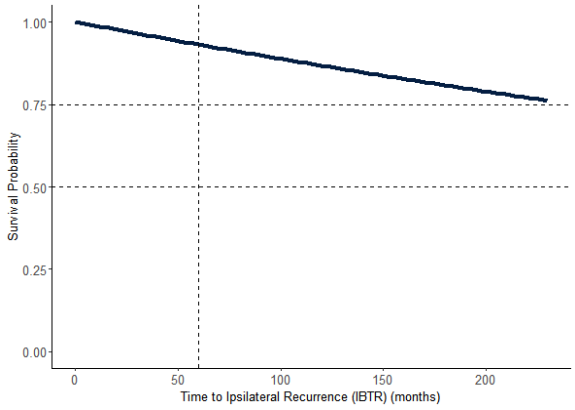
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.426      0.291 25.55 <2e-16
VARIABLE1   -0.801      0.401 -2.00  0.046
VARIABLE2    0.111      0.501  0.22  0.825

Scale fixed at 1

Exponential distribution
Loglik(model)= -201.6   Loglik(intercept only)= -203.5
        Chisq= 3.86 on 2 degrees of freedom, p= 0.15
Number of Newton-Raphson Iterations: 6
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



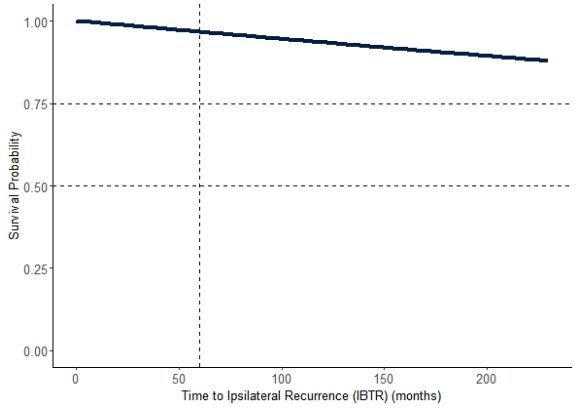
All Risks Survival Probability



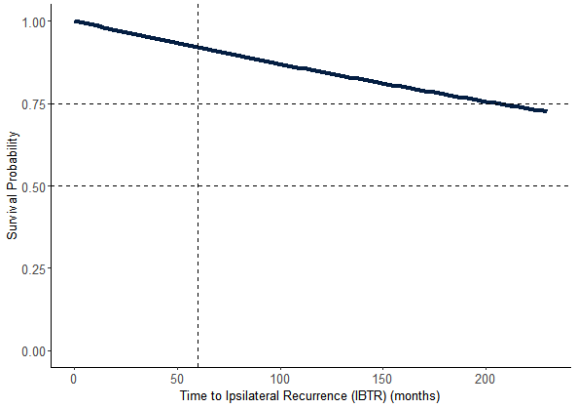
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.483      0.314 23.82 <2e-16
VARIABLE1   -0.736      0.395 -1.86  0.062
VARIABLE2   -0.177      0.399 -0.44  0.658

Scale fixed at 1

Exponential distribution
Loglik(model)= -209.1   Loglik(intercept only)= -211
        Chisq= 3.81 on 2 degrees of freedom, p= 0.15
Number of Newton-Raphson Iterations: 6
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

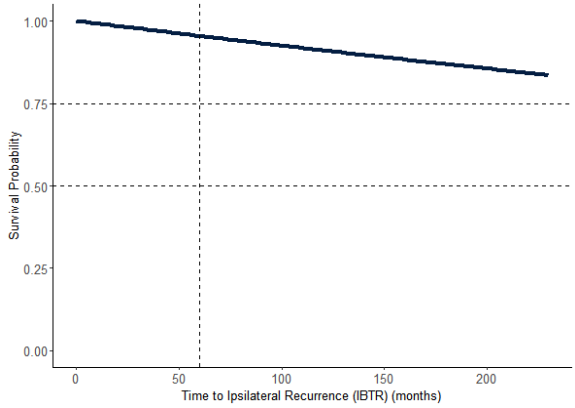


6. Tumor Stage and Lymph Node Involvement

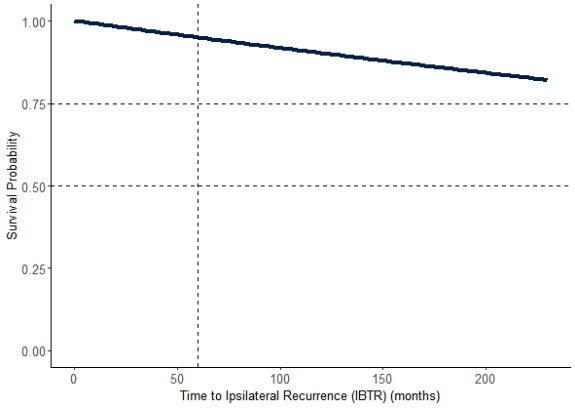
```
Call:
```

```
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.155      0.269 26.63 <2e-16
VARIABLE1    0.137      0.507  0.27   0.79
VARIABLE2   -0.233      0.414 -0.56   0.57

Scale fixed at 1

Exponential distribution
Loglik(model)= -202.2   Loglik(intercept only)= -202.4
        Chisq= 0.34 on 2 degrees of freedom, p= 0.84
Number of Newton-Raphson Iterations: 6
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

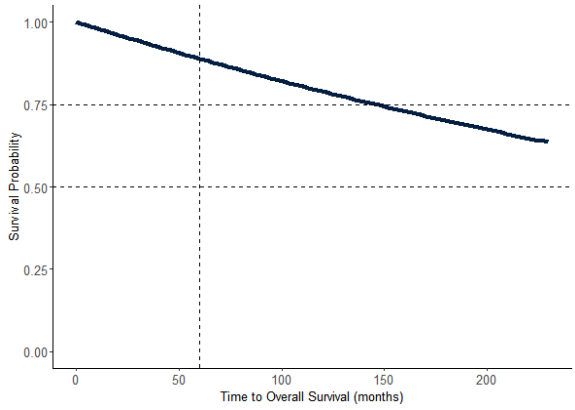


Overall Survival

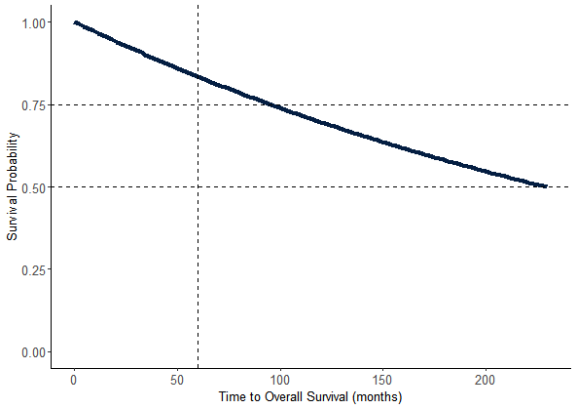
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.227      0.146 42.59 <2e-16
VARIABLE1   -0.675      0.354 -1.91  0.056
VARIABLE2    0.250      0.274  0.91  0.362

Scale fixed at 1

Exponential distribution
Loglik(model)= -496.9   Loglik(intercept only)= -498.6
        Chisq= 3.45 on 2 degrees of freedom, p= 0.18
Number of Newton-Raphson Iterations: 5
n= 305
```

Baseline Survival Probability



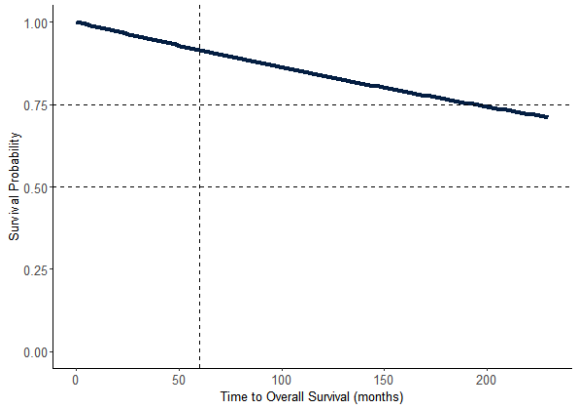
All Risks Survival Probability



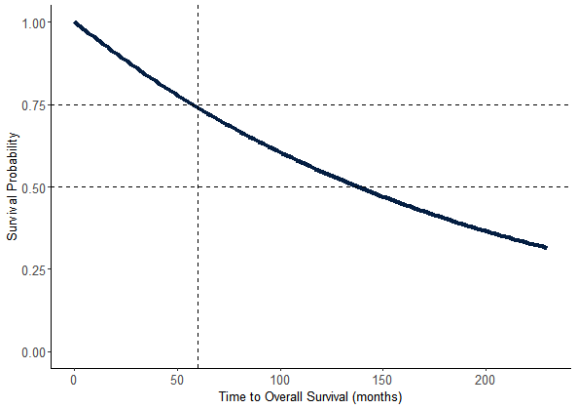
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.512      0.163 39.86 <2e-16
VARIABLE1   -0.500      0.378 -1.32 0.1866
VARIABLE2   -0.719      0.264 -2.72 0.0065

Scale fixed at 1

Exponential distribution
Loglik(model)= -453.4   Loglik(intercept only)= -457.6
        Chisq= 8.33 on 2 degrees of freedom, p= 0.016
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

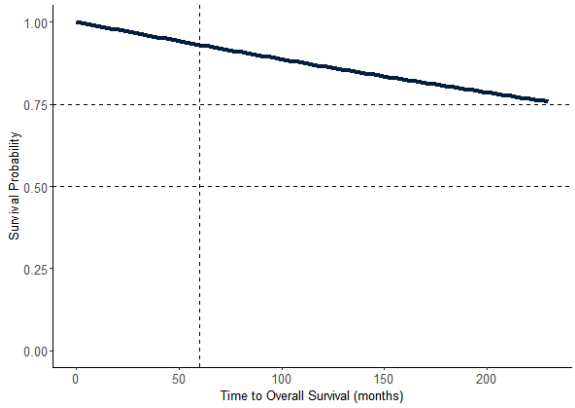


3. Mutation Status and Lymph Node Involvement

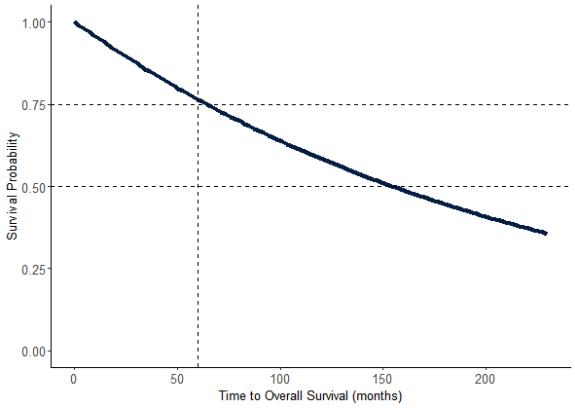
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
```

```
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.718      0.195 34.39 <2e-16
VARIABLE1   -0.569      0.351 -1.62 0.1047
VARIABLE2   -0.742      0.261 -2.84 0.0045

Scale fixed at 1

Exponential distribution
Loglik(model)= -439.9   Loglik(intercept only)= -445.9
        Chisq= 11.98 on 2 degrees of freedom, p= 0.0025
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



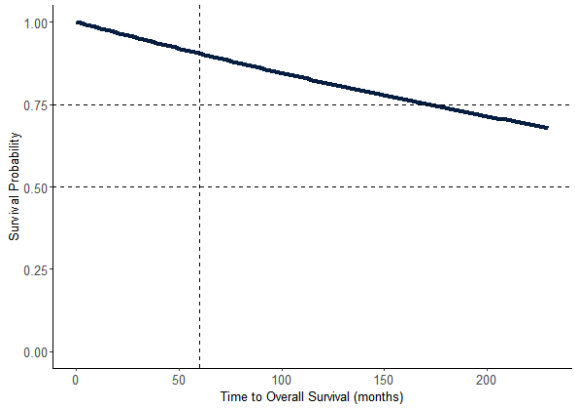
All Risks Survival Probability



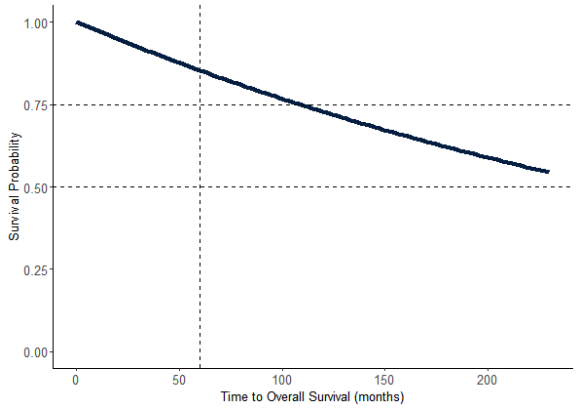
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.387      0.170 37.50 <2e-16
VARIABLE1    0.284      0.290  0.98 0.3269
VARIABLE2   -0.737      0.265 -2.78 0.0054

Scale fixed at 1

Exponential distribution
Loglik(model)= -453.7   Loglik(intercept only)= -457.6
        Chisq= 7.8 on 2 degrees of freedom, p= 0.02
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



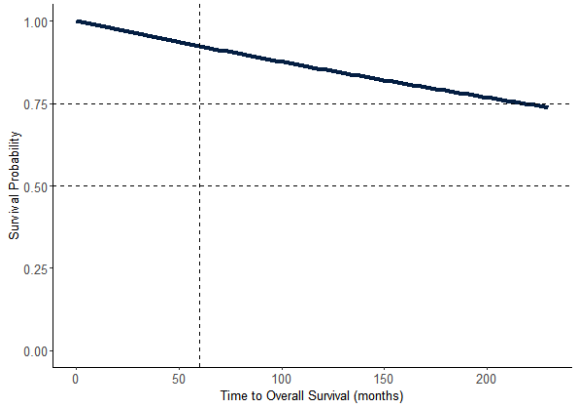
All Risks Survival Probability



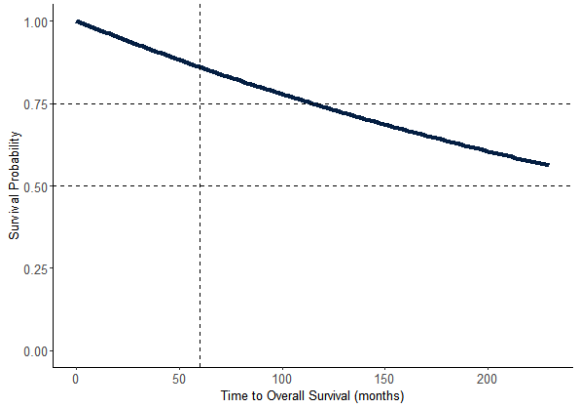
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.628      0.205 32.33 <2e-16
VARIABLE1    0.176      0.278  0.63 0.5270
VARIABLE2   -0.818      0.259 -3.15 0.0016

Scale fixed at 1

Exponential distribution
Loglik(model)= -440.8   Loglik(intercept only)= -445.9
        Chisq= 10.06 on 2 degrees of freedom, p= 0.0065
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

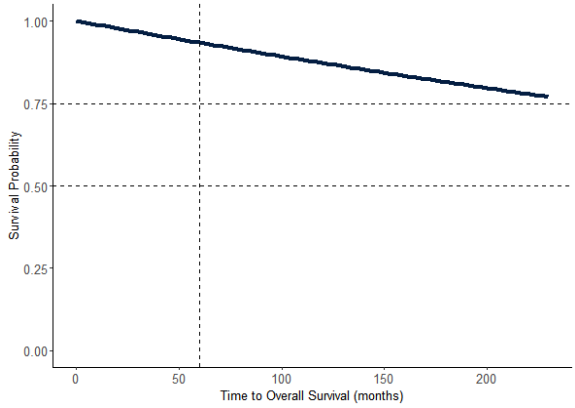


6. Tumor Stage and Lymph Node Involvement

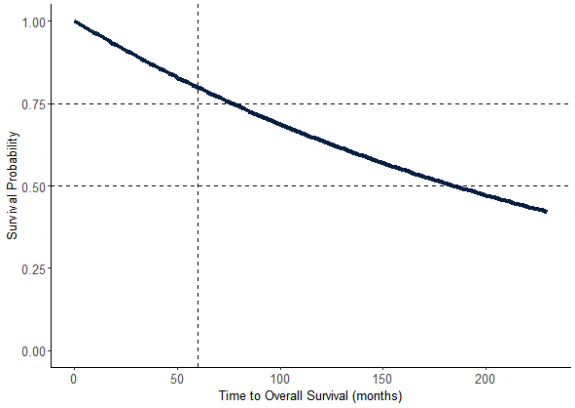
```
Call:
```

```
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.776      0.208 32.65 <2e-16
VARIABLE1   -0.628      0.285 -2.20  0.028
VARIABLE2   -0.563      0.275 -2.05  0.040

Scale fixed at 1

Exponential distribution
Loglik(model)= -399.3   Loglik(intercept only)= -404.6
        Chisq= 10.53 on 2 degrees of freedom, p= 0.0052
Number of Newton-Raphson Iterations: 5
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

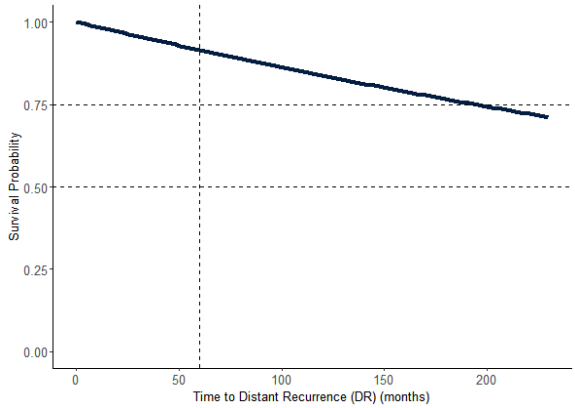


Distant Tumor Recurrence

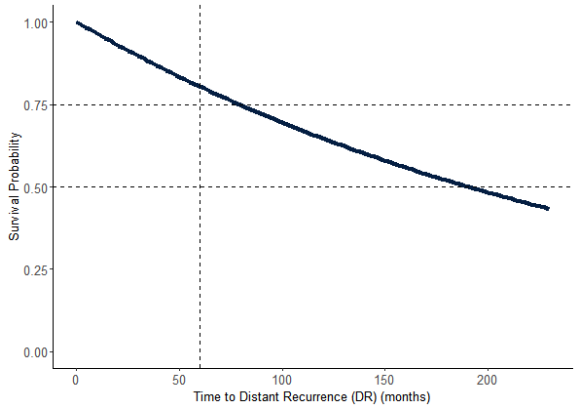
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.513      0.172 37.90 <2e-16
VARIABLE1   -0.654      0.374 -1.75  0.081
VARIABLE2   -0.243      0.277 -0.88  0.381

Scale fixed at 1

Exponential distribution
Loglik(model)= -424.3   Loglik(intercept only)= -426.4
        Chisq= 4.21 on 2 degrees of freedom, p= 0.12
Number of Newton-Raphson Iterations: 5
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



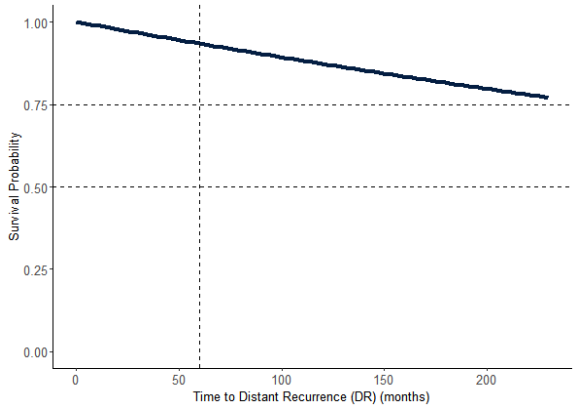
All Risks Survival Probability



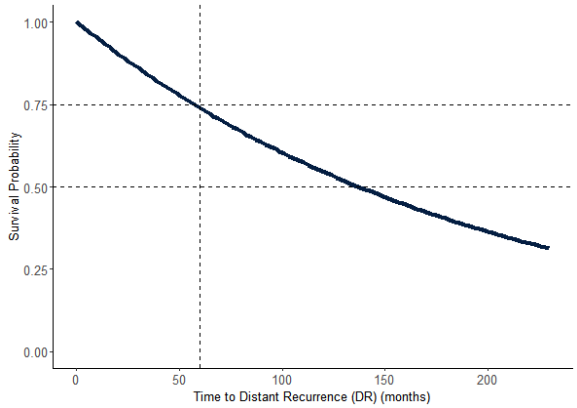
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  6.781      0.189 35.79 < 2e-16
VARIABLE1   -0.467      0.435 -1.07 0.28310
VARIABLE2   -1.026      0.285 -3.61 0.00031

Scale fixed at 1

Exponential distribution
Loglik(model)= -372.5   Loglik(intercept only)= -378.9
        Chisq= 12.84 on 2 degrees of freedom, p= 0.0016
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

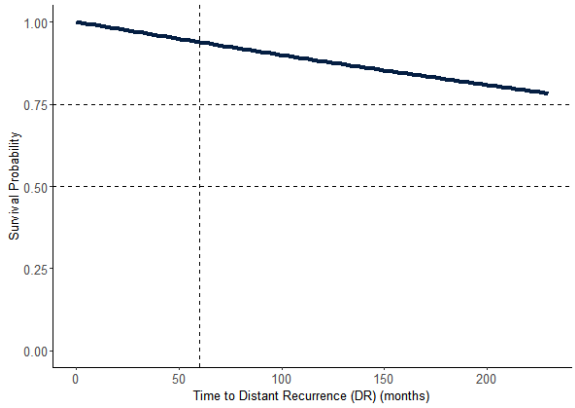


3. Mutation Status and Lymph Node Involvement

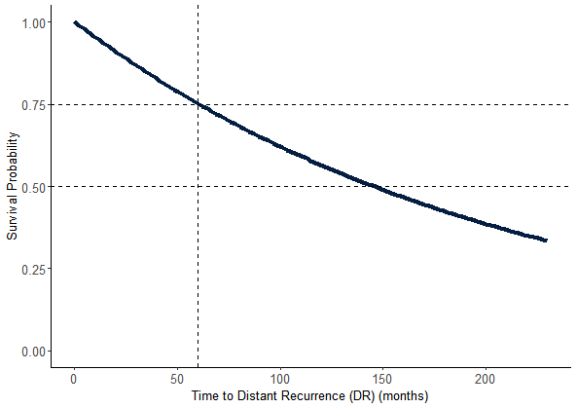
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
```

```
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.845      0.211 32.40 <2e-16
VARIABLE1   -0.576      0.368 -1.56 0.1182
VARIABLE2   -0.922      0.275 -3.35 0.0008

Scale fixed at 1

Exponential distribution
Loglik(model)= -403.7   Loglik(intercept only)= -411.4
        Chisq= 15.33 on 2 degrees of freedom, p= 0.00047
Number of Newton-Raphson Iterations: 5
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



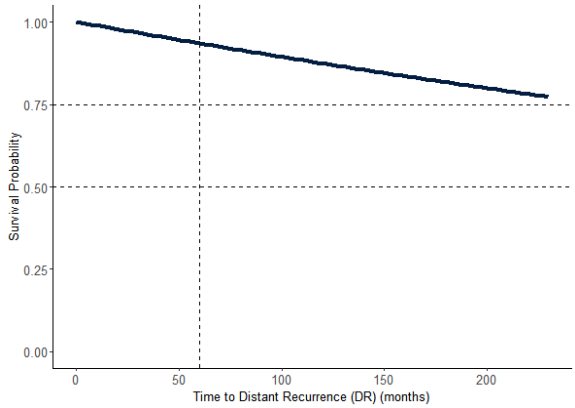
All Risks Survival Probability



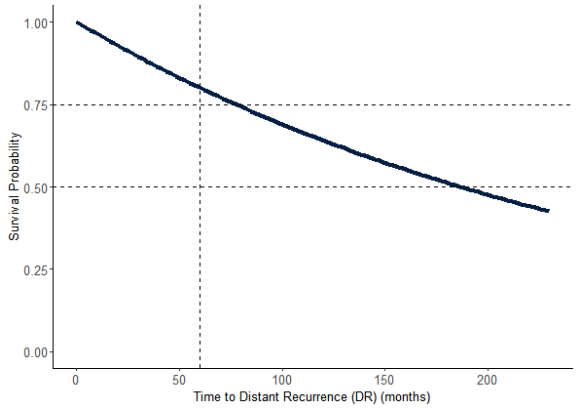
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  6.792      0.206 32.89 < 2e-16
VARIABLE1   -0.179      0.294 -0.61 0.54187
VARIABLE2   -1.017      0.285 -3.57 0.00036

Scale fixed at 1

Exponential distribution
Loglik(model)= -372.8   Loglik(intercept only)= -378.9
        Chisq= 12.19 on 2 degrees of freedom, p= 0.0023
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



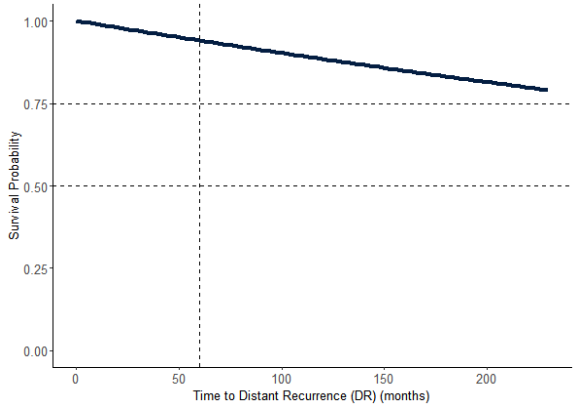
All Risks Survival Probability



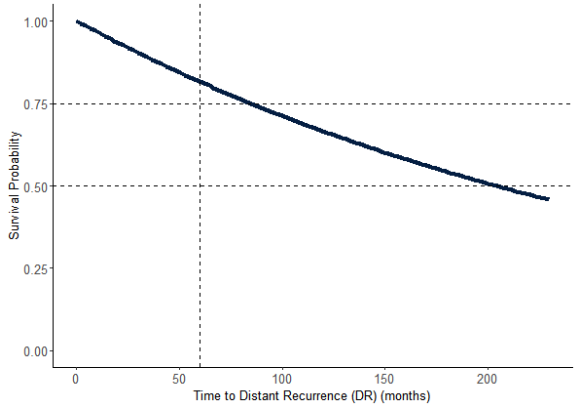
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  6.882      0.229 30.11 < 2e-16
VARIABLE1   -0.247      0.273 -0.90 0.36603
VARIABLE2   -0.949      0.273 -3.47 0.00052

Scale fixed at 1

Exponential distribution
Loglik(model)= -404.4   Loglik(intercept only)= -411.4
        Chisq= 13.99 on 2 degrees of freedom, p= 0.00092
Number of Newton-Raphson Iterations: 5
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

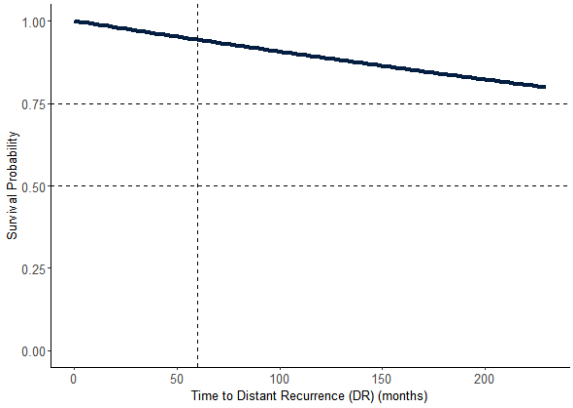


6. Tumor Stage and Lymph Node Involvement

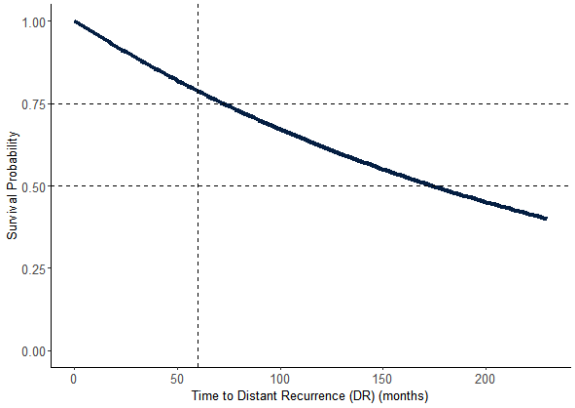
```
Call:
```

```
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.929      0.225 30.76 <2e-16
VARIABLE1   -0.744      0.299 -2.49  0.013
VARIABLE2   -0.659      0.292 -2.26  0.024

Scale fixed at 1

Exponential distribution
Loglik(model)= -357.2   Loglik(intercept only)= -363.9
        Chisq= 13.26 on 2 degrees of freedom, p= 0.0013
Number of Newton-Raphson Iterations: 5
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



Trivariate Analysis

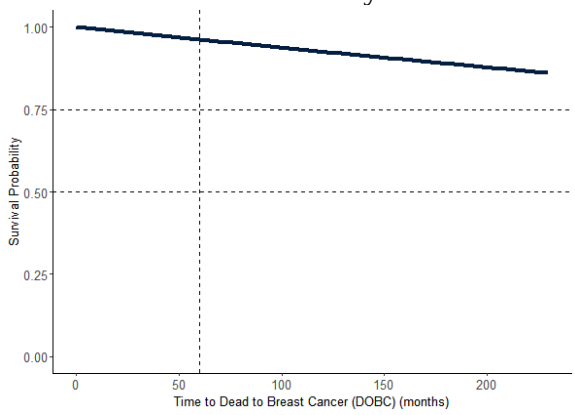
Breast Cancer-Specific Survival

1. Mutation Status, Age of Diagnosis, and Tumor Stage

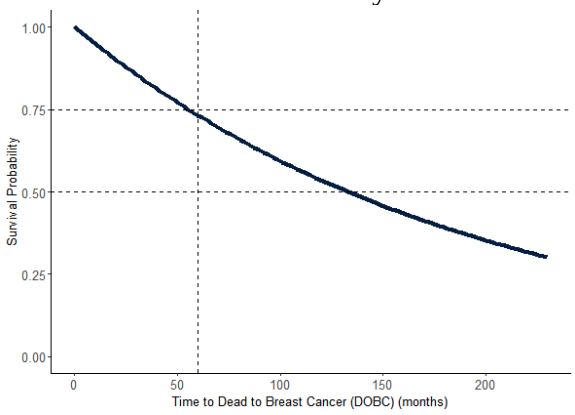
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  7.330      0.256 28.67 < 2e-16
VARIABLE1   -0.671      0.474 -1.41 0.15709
VARIABLE2   -0.232      0.358 -0.65 0.51727
VARIABLE3   -1.170      0.332 -3.53 0.00042

Scale fixed at 1

Exponential distribution
Loglik(model)= -280.8   Loglik(intercept only)= -288.3
        Chisq= 15.01 on 3 degrees of freedom, p= 0.0018
Number of Newton-Raphson Iterations: 6
```

```
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



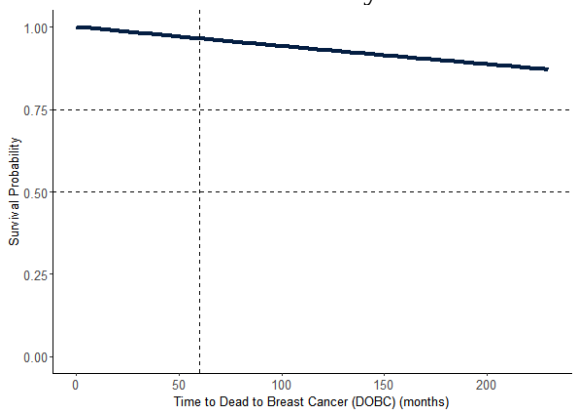
All Risks Survival Probability



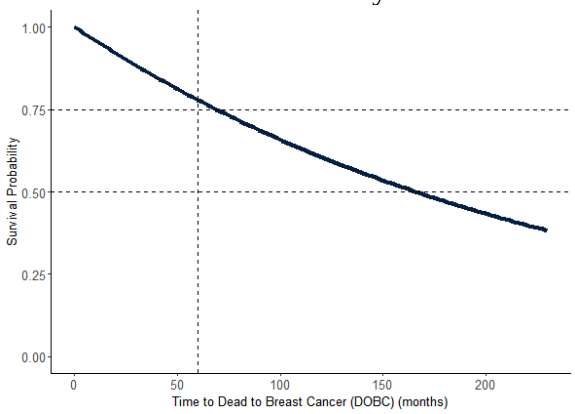
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.416      0.284 26.12 <2e-16
VARIABLE1   -0.594      0.416 -1.43  0.154
VARIABLE2   -0.323      0.329 -0.98  0.327
VARIABLE3   -1.021      0.331 -3.09  0.002

Scale fixed at 1

Exponential distribution
Loglik(model)= -307.6   Loglik(intercept only)= -315.8
        Chisq= 16.4 on 3 degrees of freedom, p= 0.00094
Number of Newton-Raphson Iterations: 6
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



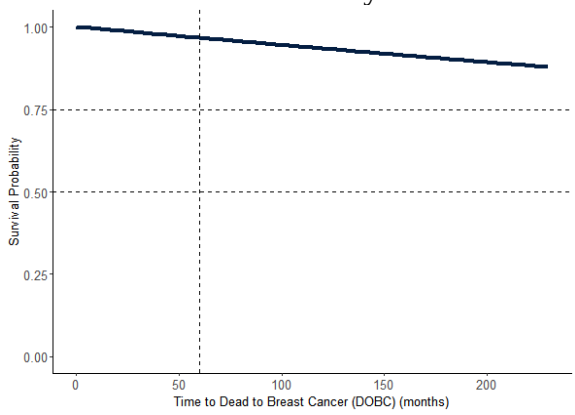
All Risks Survival Probability



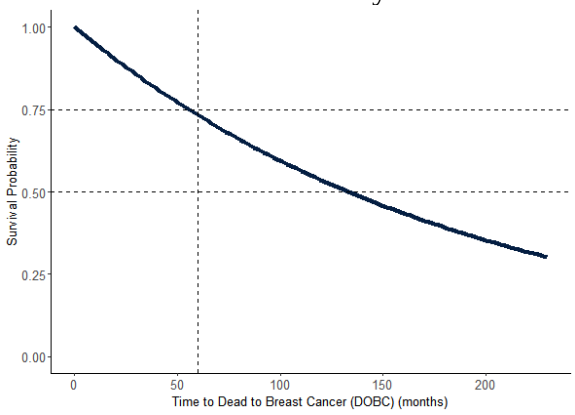
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.475      0.282 26.47 <2e-16
VARIABLE1   -0.639      0.459 -1.39  0.164
VARIABLE2   -0.875      0.349 -2.51  0.012
VARIABLE3   -0.703      0.357 -1.97  0.049

Scale fixed at 1

Exponential distribution
Loglik(model)= -265.6   Loglik(intercept only)= -273.2
        Chisq= 15.12 on 3 degrees of freedom, p= 0.0017
Number of Newton-Raphson Iterations: 6
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



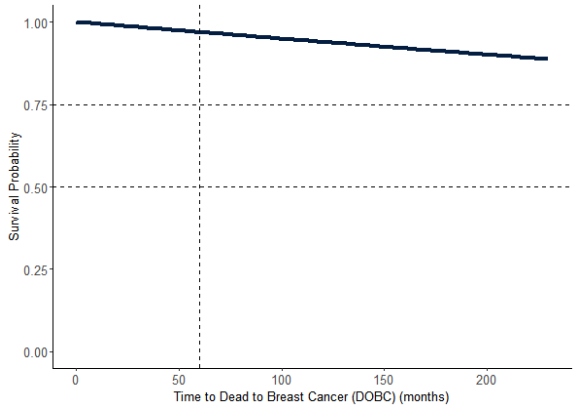
All Risks Survival Probability



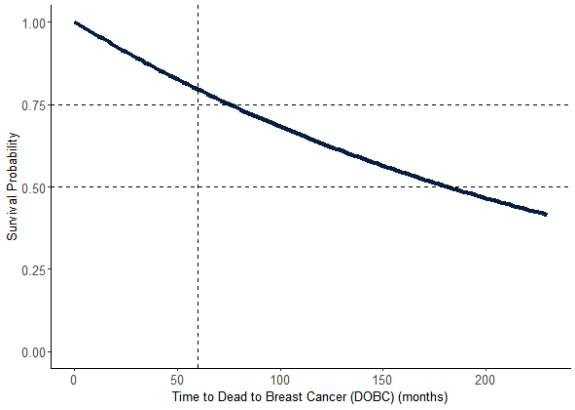
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.556      0.307 24.65 <2e-16
VARIABLE1   -0.377      0.344 -1.10  0.273
VARIABLE2   -0.860      0.348 -2.47  0.013
VARIABLE3   -0.751      0.349 -2.15  0.031

Scale fixed at 1

Exponential distribution
Loglik(model)= -265.9   Loglik(intercept only)= -273.2
        Chisq= 14.6 on 3 degrees of freedom, p= 0.0022
Number of Newton-Raphson Iterations: 6
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

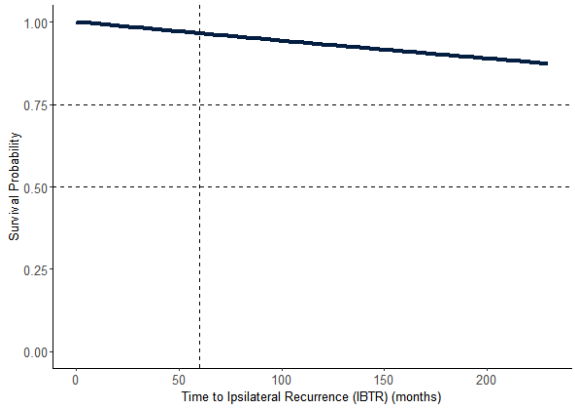


Ipsilateral Breast Tumor Survival

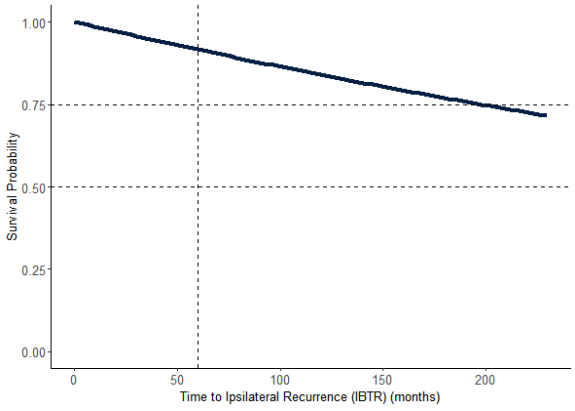
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.437      0.292 25.49 <2e-16
VARIABLE1   -0.256      0.630 -0.41   0.68
VARIABLE2   -0.771      0.410 -1.88   0.06
VARIABLE3    0.121      0.502  0.24   0.81

Scale fixed at 1

Exponential distribution
Loglik(model)= -201.5   Loglik(intercept only)= -203.5
        Chisq= 4.01 on 3 degrees of freedom, p= 0.26
Number of Newton-Raphson Iterations: 6
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability

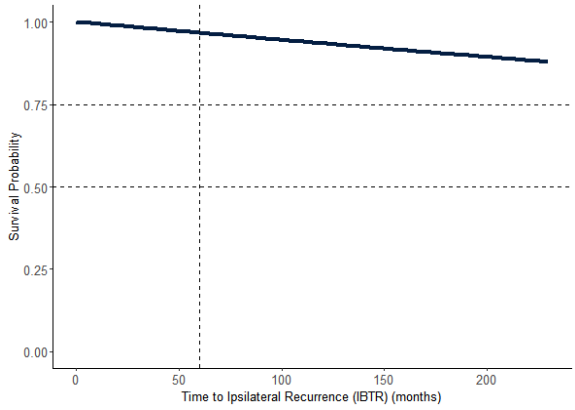


All Risks Survival Probability

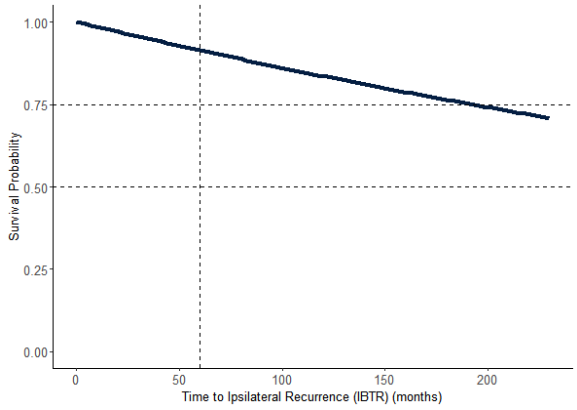


2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

Baseline Survival Probability



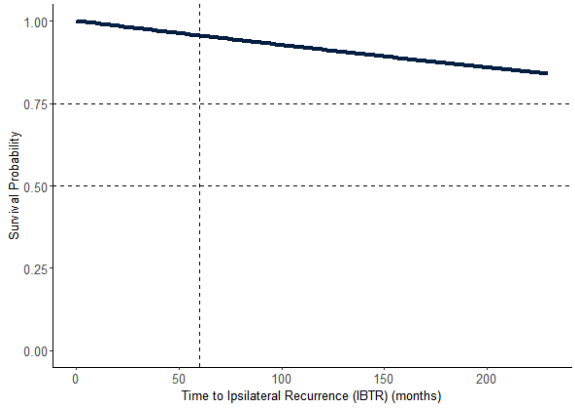
All Risks Survival Probability



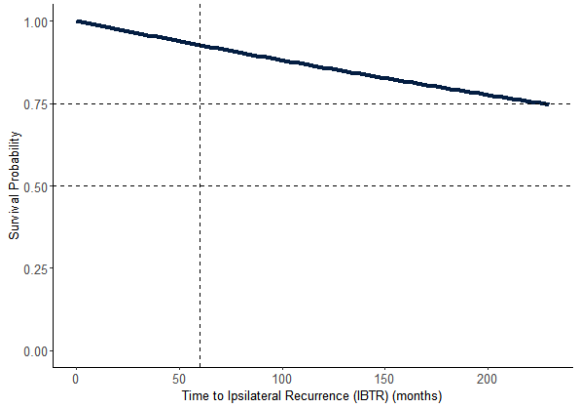
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.181      0.272 26.43 <2e-16
VARIABLE1   -0.469      0.627 -0.75   0.45
VARIABLE2    0.138      0.508  0.27   0.79
VARIABLE3   -0.183      0.422 -0.43   0.66

Scale fixed at 1

Exponential distribution
Loglik(model)= -202   Loglik(intercept only)= -202.4
        Chisq= 0.85 on 3 degrees of freedom, p= 0.84
Number of Newton-Raphson Iterations: 6
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

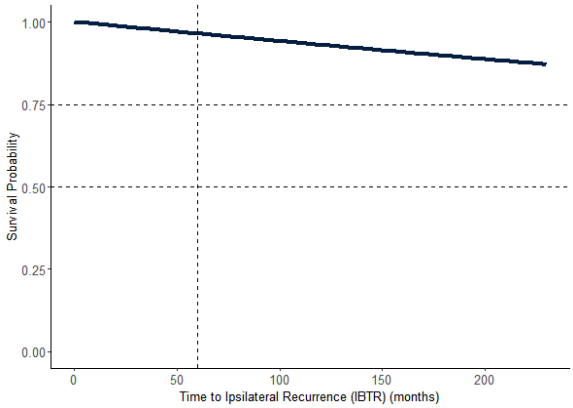


4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

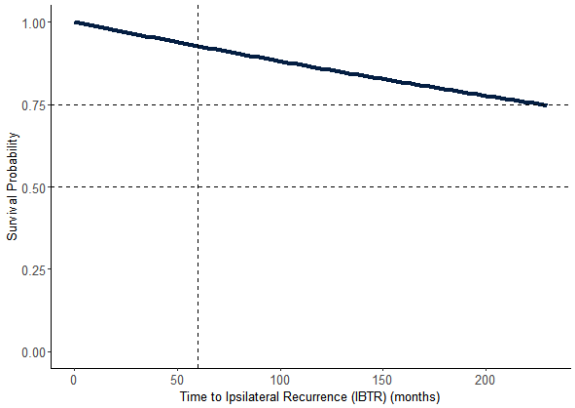
```
Call:
```

```
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  7.417      0.321 23.11 <2e-16
VARIABLE1   -0.754      0.402 -1.87  0.061
VARIABLE2    0.182      0.507  0.36  0.720
VARIABLE3   -0.176      0.415 -0.42  0.672

Scale fixed at 1

Exponential distribution
Loglik(model)= -200.5   Loglik(intercept only)= -202.4
        Chisq= 3.74 on 3 degrees of freedom, p= 0.29
Number of Newton-Raphson Iterations: 6
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

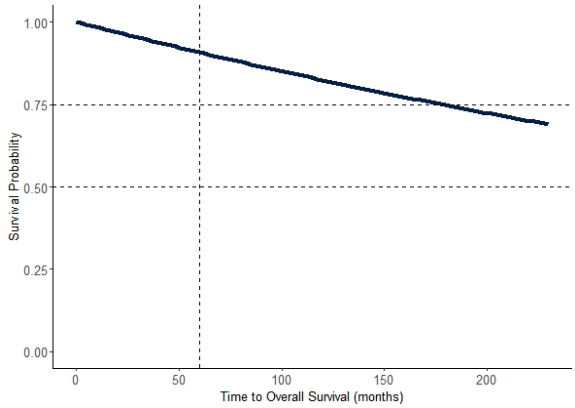


Overall Survival

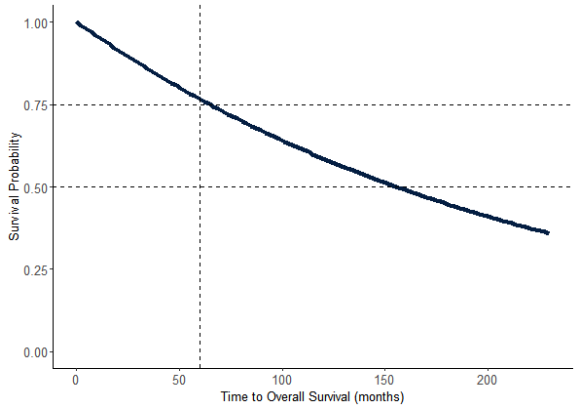
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.426      0.172 37.26 <2e-16
VARIABLE1   -0.667      0.398 -1.68 0.0935
VARIABLE2    0.410      0.305  1.34 0.1794
VARIABLE3   -0.755      0.266 -2.84 0.0045

Scale fixed at 1

Exponential distribution
Loglik(model)= -452.5   Loglik(intercept only)= -457.6
        Chisq= 10.25 on 3 degrees of freedom, p= 0.017
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



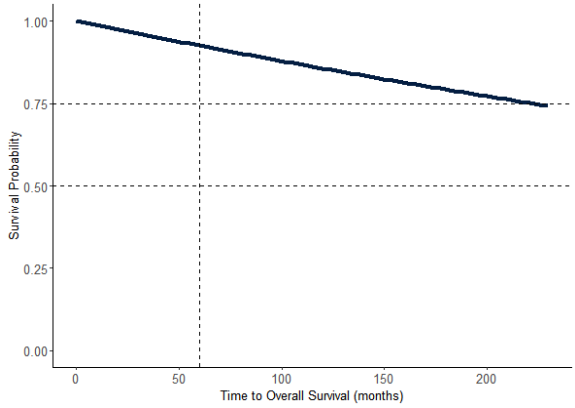
All Risks Survival Probability



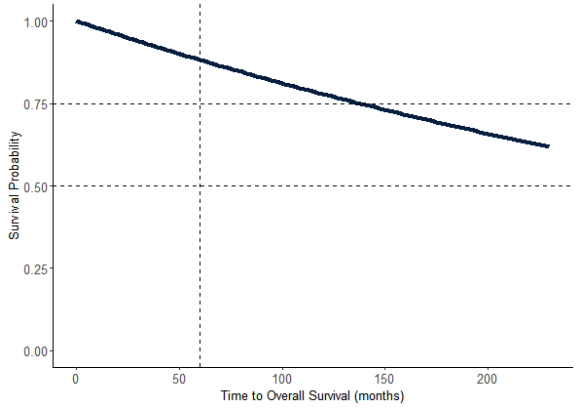
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.647      0.205 32.48 <2e-16
VARIABLE1   -0.677      0.365 -1.85 0.0639
VARIABLE2    0.301      0.291  1.03 0.3012
VARIABLE3   -0.767      0.262 -2.93 0.0034

Scale fixed at 1

Exponential distribution
Loglik(model)= -439.3   Loglik(intercept only)= -445.9
        Chisq= 13.08 on 3 degrees of freedom, p= 0.0045
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



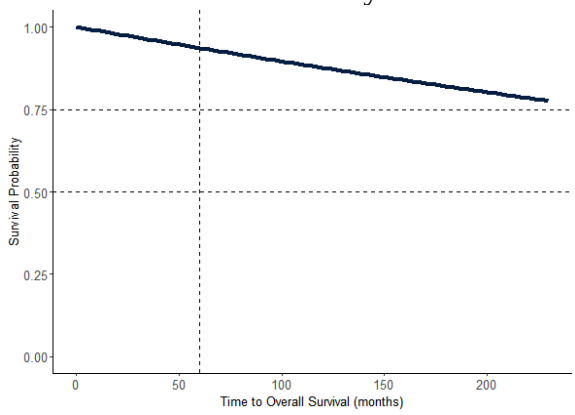
All Risks Survival Probability



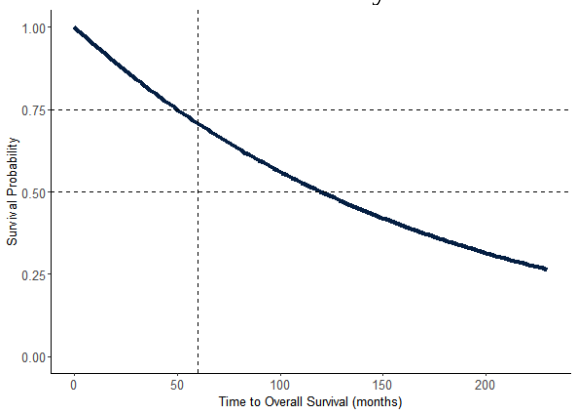
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.808      0.209 32.58 <2e-16
VARIABLE1   -0.521      0.390 -1.34  0.181
VARIABLE2   -0.629      0.286 -2.20  0.028
VARIABLE3   -0.505      0.281 -1.80  0.072

Scale fixed at 1

Exponential distribution
Loglik(model)= -398.5   Loglik(intercept only)= -404.6
        Chisq= 12.12 on 3 degrees of freedom, p= 0.007
Number of Newton-Raphson Iterations: 5
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



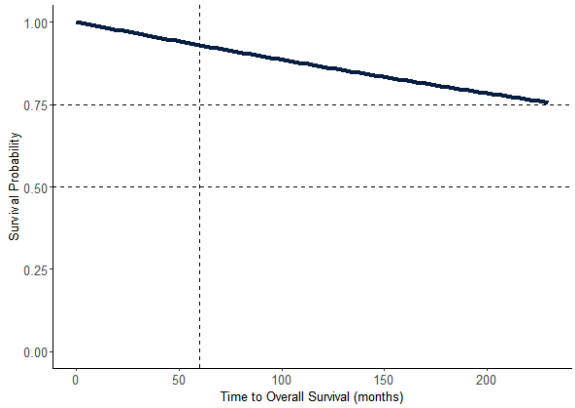
All Risks Survival Probability



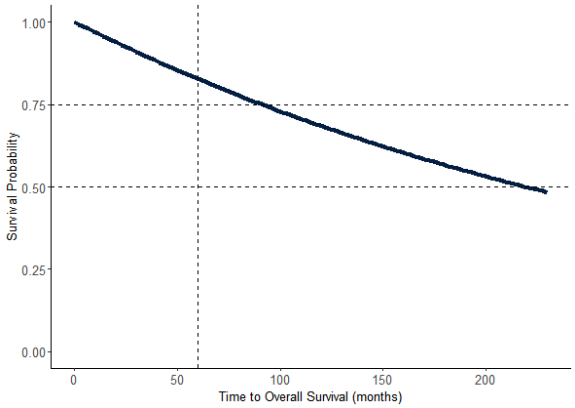
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.709      0.218 30.74 <2e-16
VARIABLE1    0.272      0.304  0.89  0.372
VARIABLE2   -0.639      0.286 -2.24  0.025
VARIABLE3   -0.584      0.275 -2.12  0.034

Scale fixed at 1

Exponential distribution
Loglik(model)= -398.9   Loglik(intercept only)= -404.6
        Chisq= 11.36 on 3 degrees of freedom, p= 0.01
Number of Newton-Raphson Iterations: 5
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

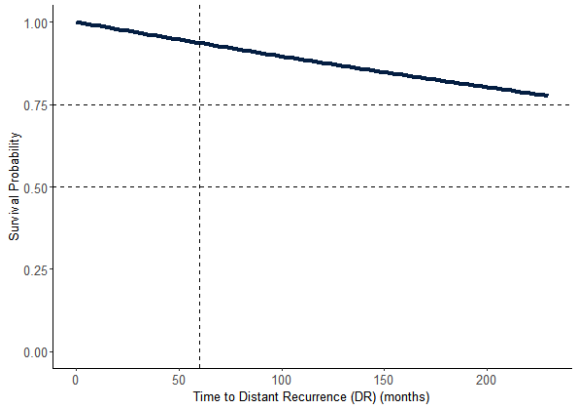


Distant Tumor Recurrence

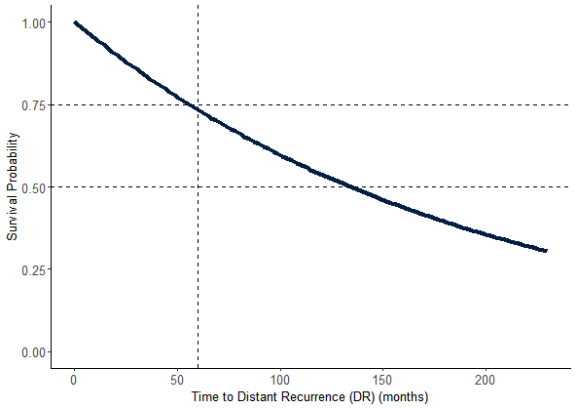
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z       p
(Intercept)  6.808      0.207 32.91 < 2e-16
VARIABLE1   -0.419      0.455 -0.92 0.35697
VARIABLE2   -0.106      0.308 -0.35 0.72949
VARIABLE3   -1.018      0.285 -3.57 0.00036

Scale fixed at 1

Exponential distribution
Loglik(model)= -372.4   Loglik(intercept only)= -378.9
        Chisq= 12.96 on 3 degrees of freedom, p= 0.0047
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



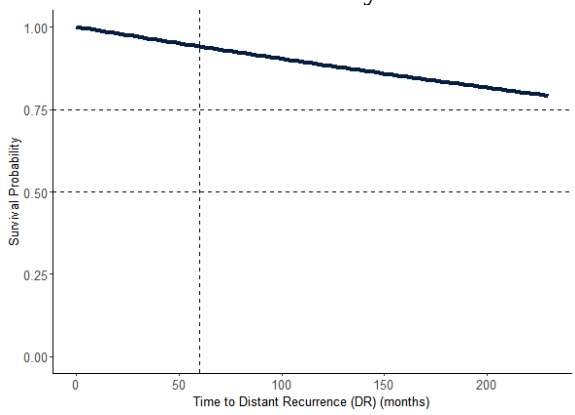
All Risks Survival Probability



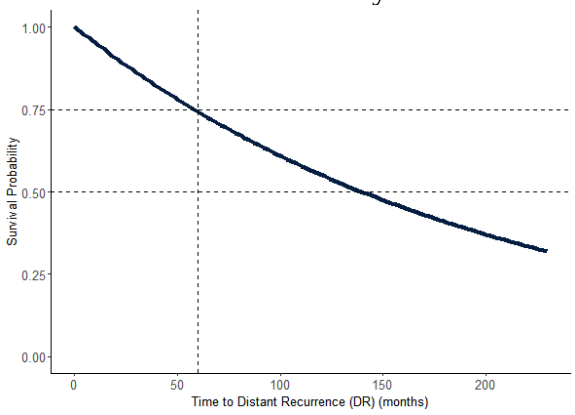
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.889      0.228 30.27 <2e-16
VARIABLE1   -0.517      0.383 -1.35  0.177
VARIABLE2   -0.158      0.285 -0.56  0.578
VARIABLE3   -0.908      0.276 -3.28  0.001

Scale fixed at 1

Exponential distribution
Loglik(model)= -403.5   Loglik(intercept only)= -411.4
        Chisq= 15.64 on 3 degrees of freedom, p= 0.0013
Number of Newton-Raphson Iterations: 5
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



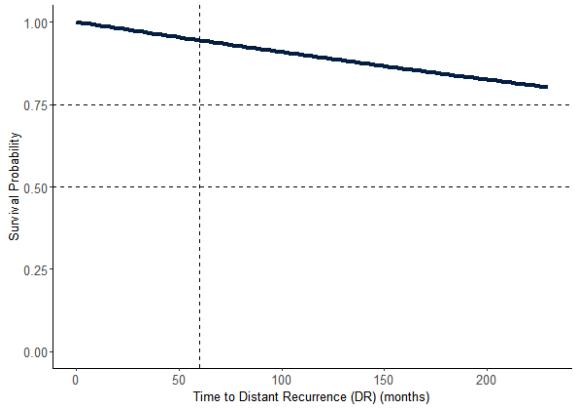
All Risks Survival Probability



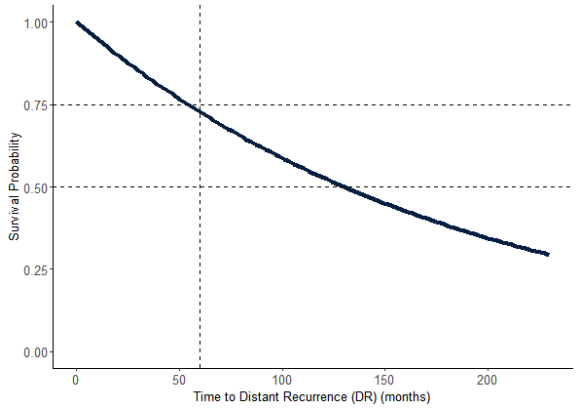
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.946      0.226 30.70 <2e-16
VARIABLE1   -0.344      0.443 -0.78  0.437
VARIABLE2   -0.743      0.300 -2.48  0.013
VARIABLE3   -0.624      0.297 -2.10  0.036

Scale fixed at 1

Exponential distribution
Loglik(model)= -357   Loglik(intercept only)= -363.9
        Chisq= 13.82 on 3 degrees of freedom, p= 0.0032
Number of Newton-Raphson Iterations: 5
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



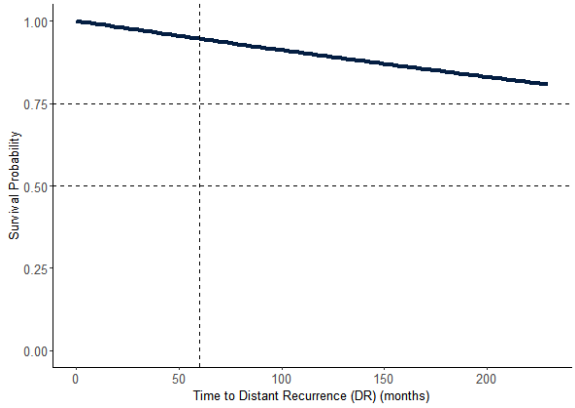
All Risks Survival Probability



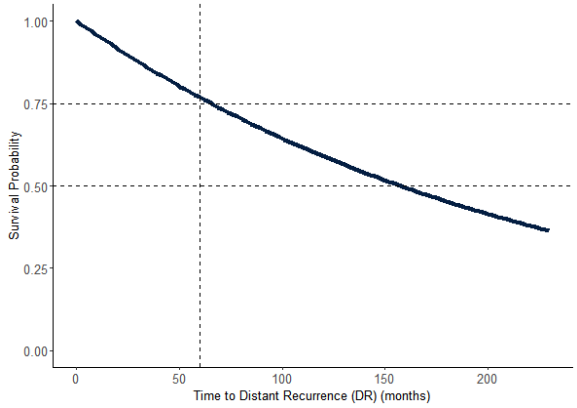
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "exponential")
             Value Std. Error     z      p
(Intercept)  6.978      0.244 28.61 <2e-16
VARIABLE1   -0.167      0.298 -0.56  0.574
VARIABLE2   -0.740      0.299 -2.47  0.013
VARIABLE3   -0.646      0.293 -2.20  0.027

Scale fixed at 1

Exponential distribution
Loglik(model)= -357.1   Loglik(intercept only)= -363.9
        Chisq= 13.57 on 3 degrees of freedom, p= 0.0035
Number of Newton-Raphson Iterations: 5
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



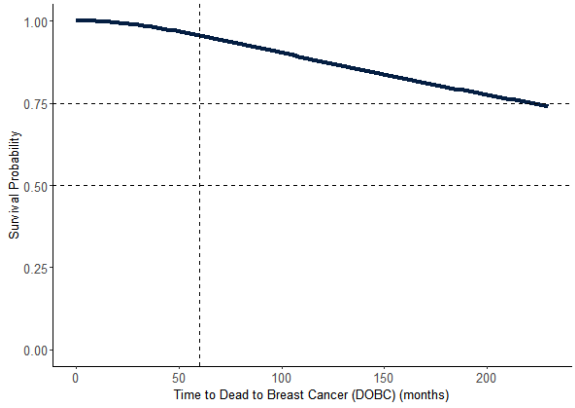
Log-Normal Models

Breast Cancer-Specific Survival

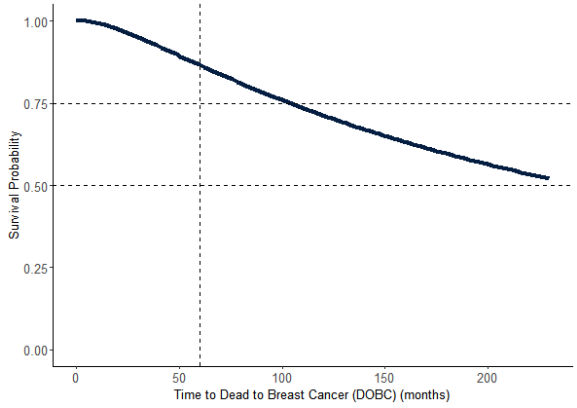
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.263      0.238 26.35 <2e-16
VARIABLE    -0.760      0.335 -2.26  0.024
Log(scale)   0.244      0.126  1.94  0.052

Scale= 1.28

Log Normal distribution
Loglik(model)= -323.8   Loglik(intercept only)= -326.4
        Chisq= 5.09 on 1 degrees of freedom, p= 0.024
Number of Newton-Raphson Iterations: 4
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

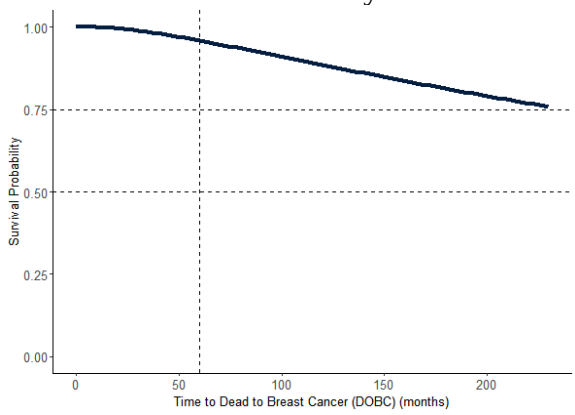


2. Age of Diagnosis

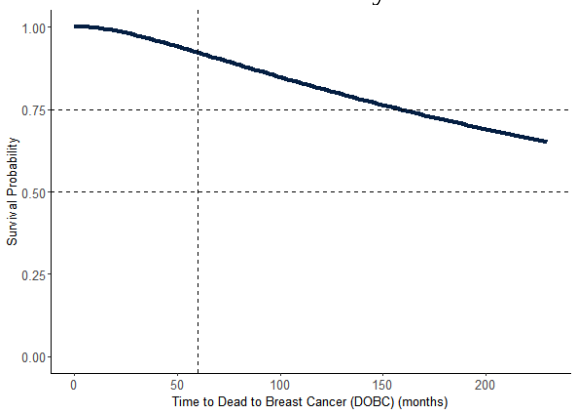
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.348      0.262 24.19 <2e-16
VARIABLE    -0.404      0.240 -1.68  0.093
Log(scale)   0.263      0.126  2.08  0.037

Scale= 1.3

Log Normal distribution
Loglik(model)= -324.9   Loglik(intercept only)= -326.4
        Chisq= 2.93 on 1 degrees of freedom, p= 0.087
Number of Newton-Raphson Iterations: 4
```

```
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



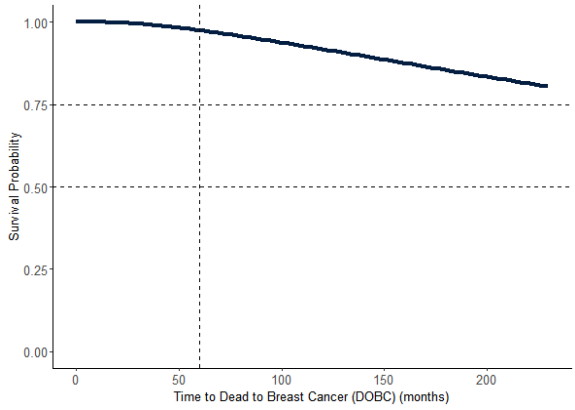
All Risks Survival Probability



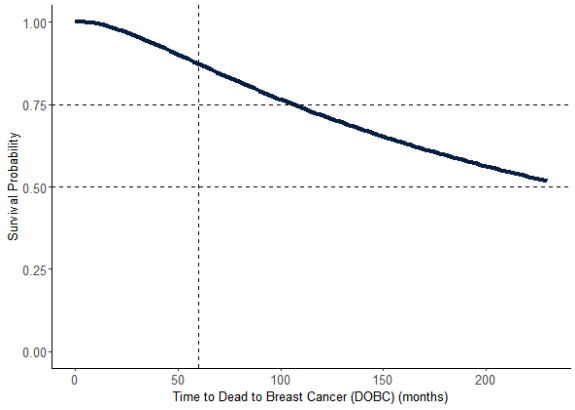
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.486      0.278 23.30 < 2e-16
VARIABLE    -0.995      0.260 -3.82 0.00013
Log(scale)   0.204      0.134  1.52 0.12893

Scale= 1.23

Log Normal distribution
Loglik(model)= -276.7   Loglik(intercept only)= -284.7
        Chisq= 15.94 on 1 degrees of freedom, p= 6.6e-05
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



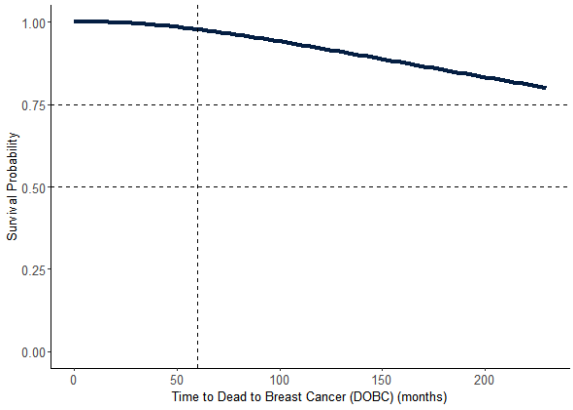
All Risks Survival Probability



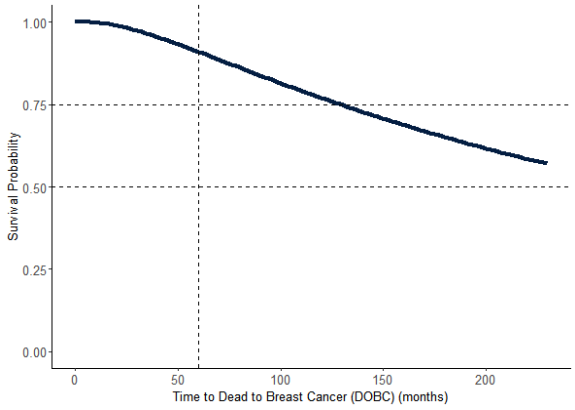
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.415      0.268 23.93 < 2e-16
VARIABLE    -0.774      0.228 -3.39 0.00069
Log(scale)   0.148      0.128  1.15 0.24976

Scale= 1.16

Log Normal distribution
Loglik(model)= -303.6   Loglik(intercept only)= -310.3
        Chisq= 13.31 on 1 degrees of freedom, p= 0.00026
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



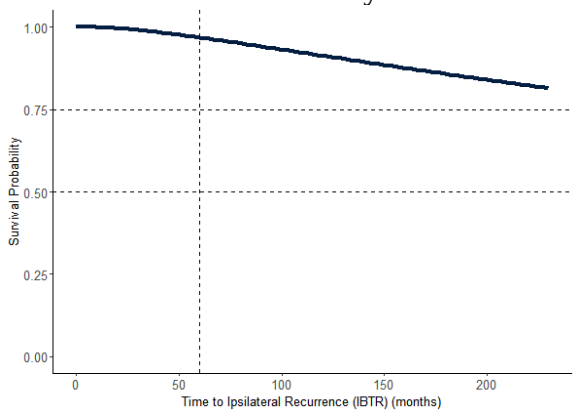
Ipsilateral Breast Tumor Recurrence

1. Mutation Status

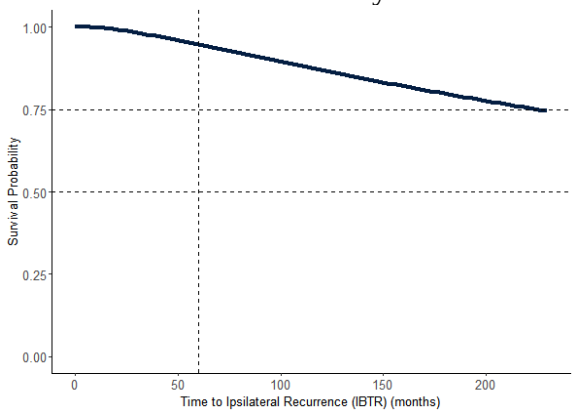
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.695      0.369 18.15 <2e-16
VARIABLE    -0.331      0.473 -0.70  0.484
Log(scale)   0.341      0.162  2.11  0.035

Scale= 1.41

Log Normal distribution
Loglik(model)= -209   Loglik(intercept only)= -209.2
        Chisq= 0.47 on 1 degrees of freedom, p= 0.49
Number of Newton-Raphson Iterations: 5
```

```
n= 305
```

Baseline Survival Probability



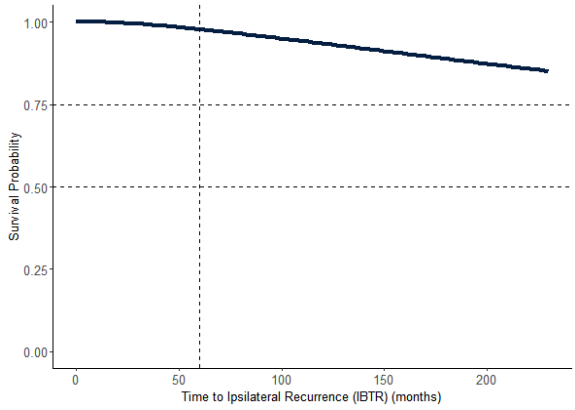
All Risks Survival Probability



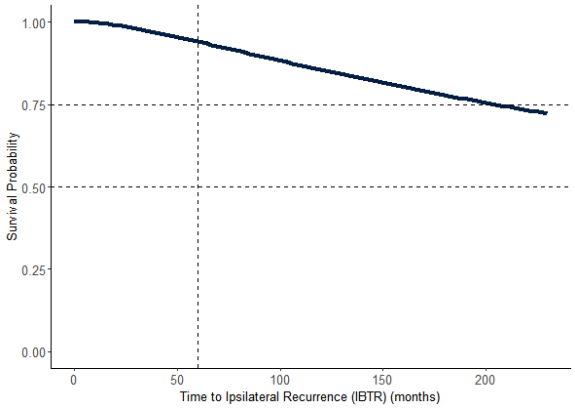
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.880      0.408 16.85 <2e-16
VARIABLE    -0.625      0.304 -2.05  0.040
Log(scale)   0.328      0.162  2.03  0.042

Scale= 1.39

Log Normal distribution
Loglik(model)= -206.9   Loglik(intercept only)= -209.2
        Chisq= 4.57 on 1 degrees of freedom, p= 0.033
Number of Newton-Raphson Iterations: 5
n= 305
```

Baseline Survival Probability



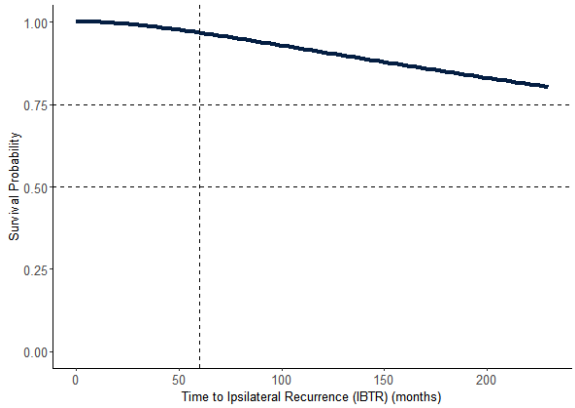
All Risks Survival Probability



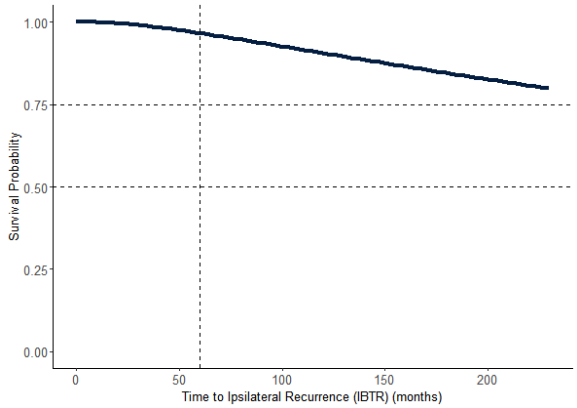
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.5965     0.3604 18.30 <2e-16
VARIABLE    -0.0238     0.3504 -0.07  0.946
Log(scale)   0.3074     0.1649  1.86  0.062

Scale= 1.36

Log Normal distribution
Loglik(model)= -200.5   Loglik(intercept only)= -200.5
        Chisq= 0 on 1 degrees of freedom, p= 0.95
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



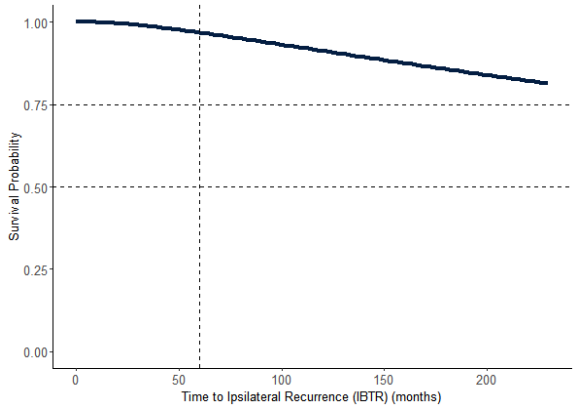
All Risks Survival Probability



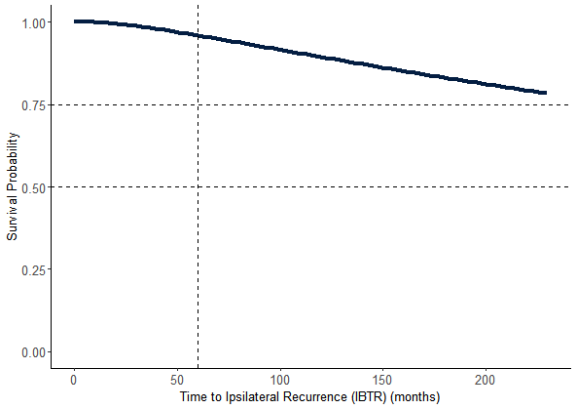
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.689      0.385 17.37 <2e-16
VARIABLE    -0.151      0.297 -0.51  0.611
Log(scale)   0.340      0.162  2.10  0.036

Scale= 1.41

Log Normal distribution
Loglik(model)= -208   Loglik(intercept only)= -208.2
        Chisq= 0.26 on 1 degrees of freedom, p= 0.61
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

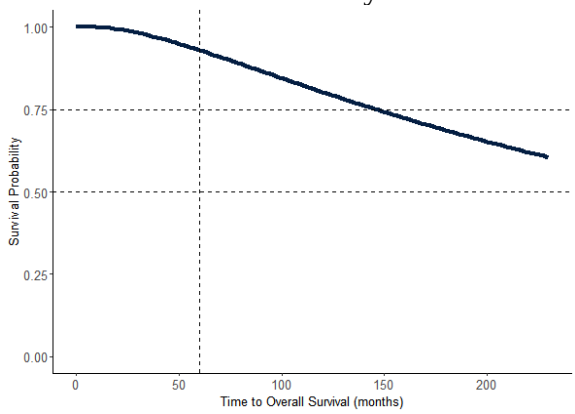


Overall Survival

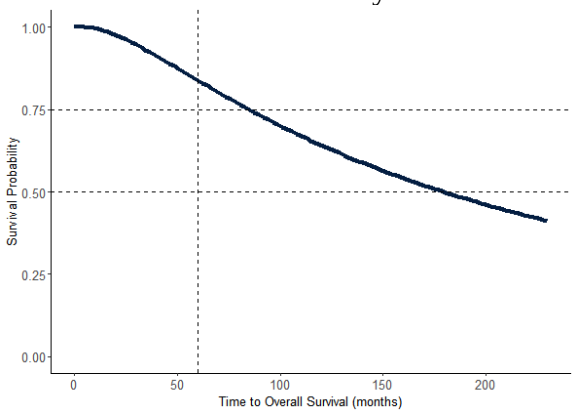
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.7344     0.1423 40.30 <2e-16
VARIABLE    -0.5445     0.2677 -2.03  0.042
Log(scale)   0.1078     0.0978  1.10  0.270

Scale= 1.11

Log Normal distribution
Loglik(model)= -488   Loglik(intercept only)= -490.1
        Chisq= 4.05 on 1 degrees of freedom, p= 0.044
Number of Newton-Raphson Iterations: 4
n= 305
```

Baseline Survival Probability



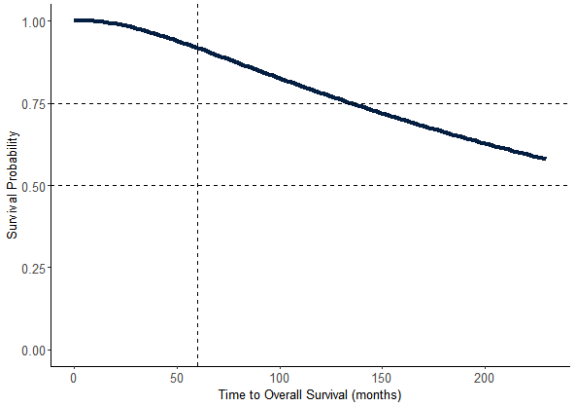
All Risks Survival Probability



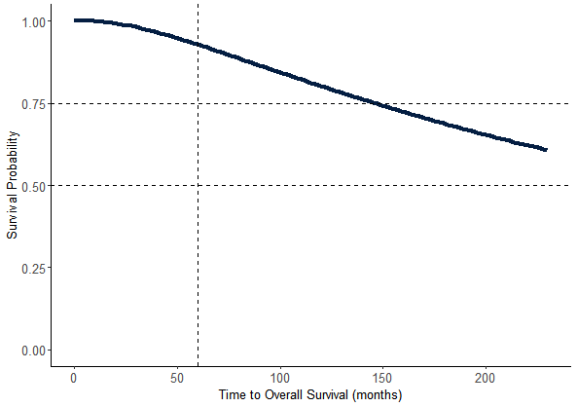
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept) 5.6655     0.1484 38.18 <2e-16
VARIABLE    0.0802     0.1888  0.42   0.67
Log(scale)  0.1226     0.0980  1.25   0.21

Scale= 1.13

Log Normal distribution
Loglik(model)= -490   Loglik(intercept only)= -490.1
        Chisq= 0.18 on 1 degrees of freedom, p= 0.67
Number of Newton-Raphson Iterations: 4
n= 305
```

Baseline Survival Probability



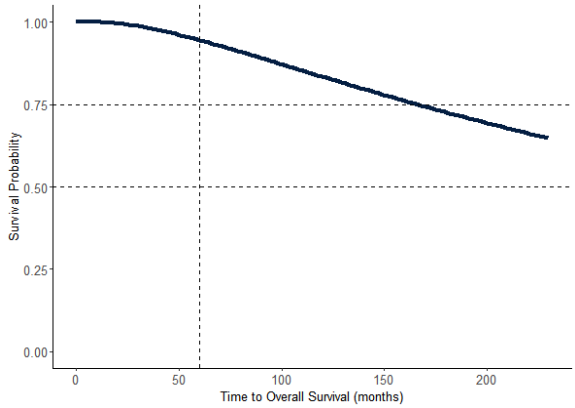
All Risks Survival Probability



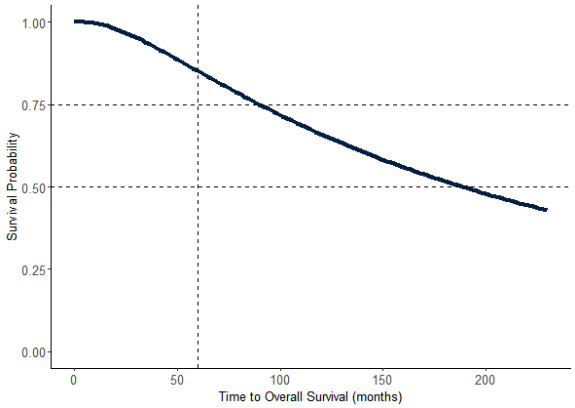
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.8555     0.1608 36.42 <2e-16
VARIABLE    -0.6152     0.1991 -3.09  0.002
Log(scale)   0.0974     0.1019  0.96  0.339

Scale= 1.1

Log Normal distribution
Loglik(model)= -445.3   Loglik(intercept only)= -450.1
        Chisq= 9.61 on 1 degrees of freedom, p= 0.0019
Number of Newton-Raphson Iterations: 4
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



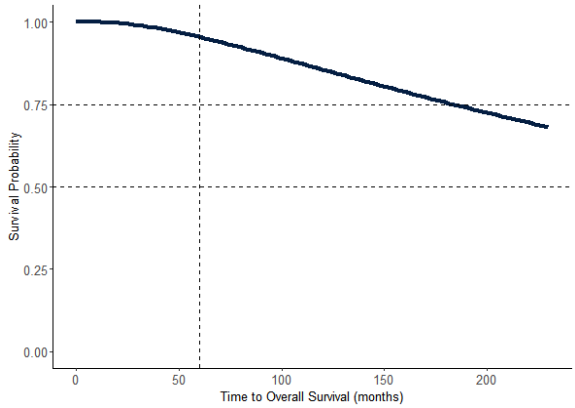
All Risks Survival Probability



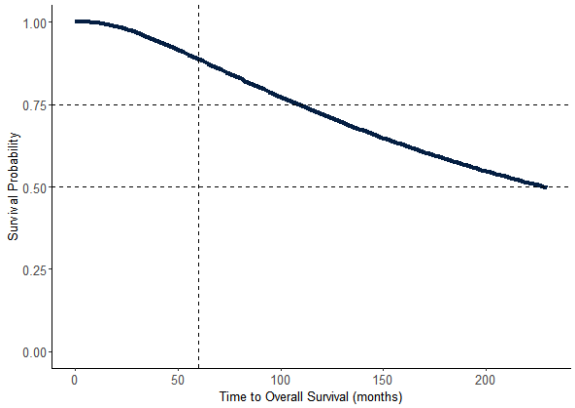
4. Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.9567     0.1835 32.46 <2e-16
VARIABLE    -0.5264     0.1852 -2.84 0.0045
Log(scale)   0.0977     0.1043  0.94 0.3488

Scale= 1.1

Log Normal distribution
Loglik(model)= -433.2   Loglik(intercept only)= -437.6
        Chisq= 8.64 on 1 degrees of freedom, p= 0.0033
Number of Newton-Raphson Iterations: 4
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

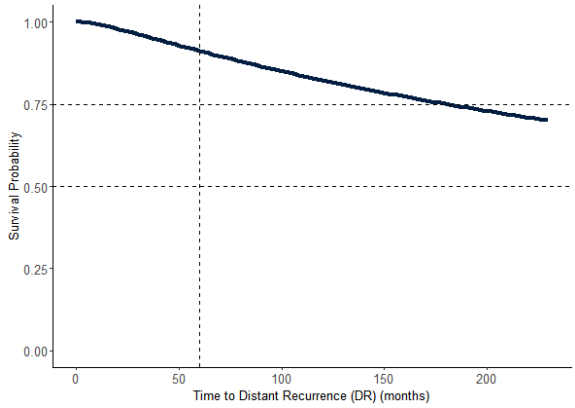


Distant Tumor Recurrence

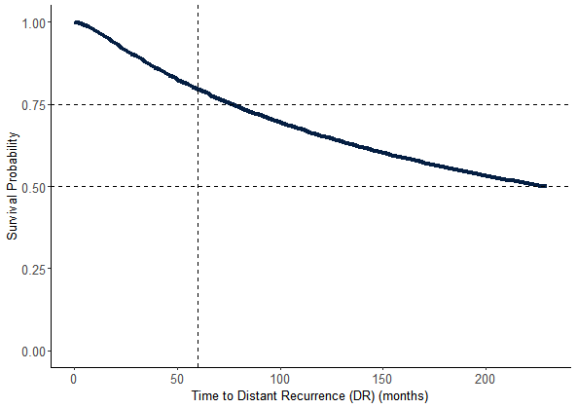
1. Mutation Status

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.288      0.240 26.25 < 2e-16
VARIABLE    -0.855      0.406 -2.11   0.035
Log(scale)   0.483      0.109  4.44 8.8e-06

Scale= 1.62

Log Normal distribution
Loglik(model)= -421.8   Loglik(intercept only)= -424
        Chisq= 4.37 on 1 degrees of freedom, p= 0.037
Number of Newton-Raphson Iterations: 4
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



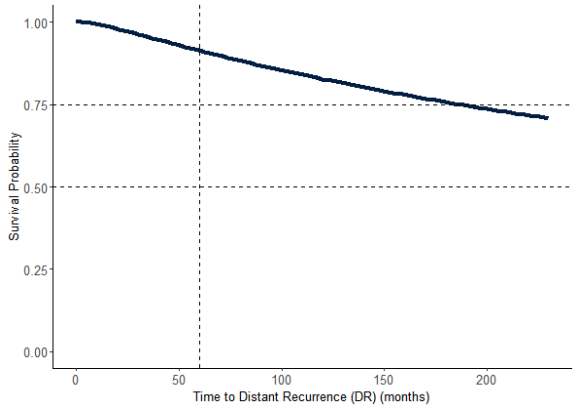
All Risks Survival Probability



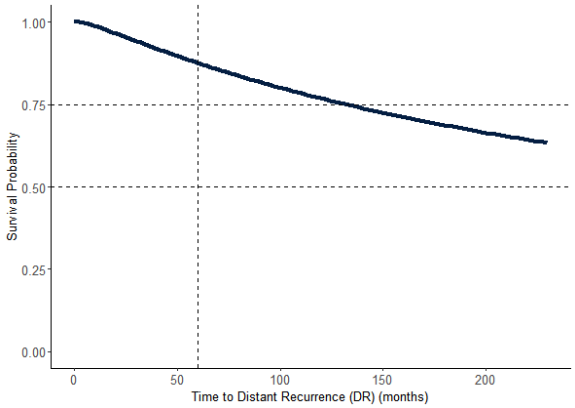
2. Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.341      0.263 24.08 < 2e-16
VARIABLE    -0.343      0.280 -1.22    0.22
Log(scale)   0.501      0.109  4.60 4.3e-06

Scale= 1.65

Log Normal distribution
Loglik(model)= -423.2   Loglik(intercept only)= -424
        Chisq= 1.52 on 1 degrees of freedom, p= 0.22
Number of Newton-Raphson Iterations: 4
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



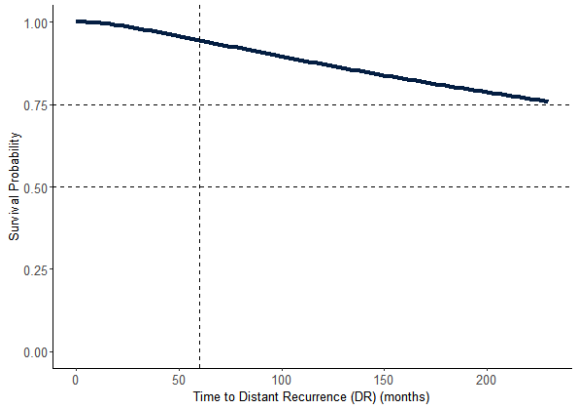
All Risks Survival Probability



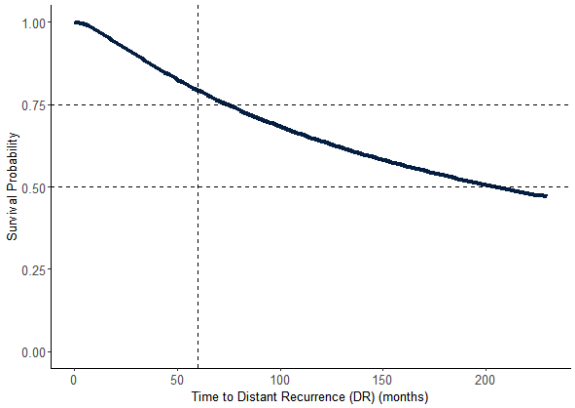
3. Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.497      0.267 24.30 < 2e-16
VARIABLE    -1.174      0.287 -4.09 4.4e-05
Log(scale)   0.411      0.115  3.57 0.00035

Scale= 1.51

Log Normal distribution
Loglik(model)= -368.2   Loglik(intercept only)= -376.8
        Chisq= 17.3 on 1 degrees of freedom, p= 3.2e-05
Number of Newton-Raphson Iterations: 4
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

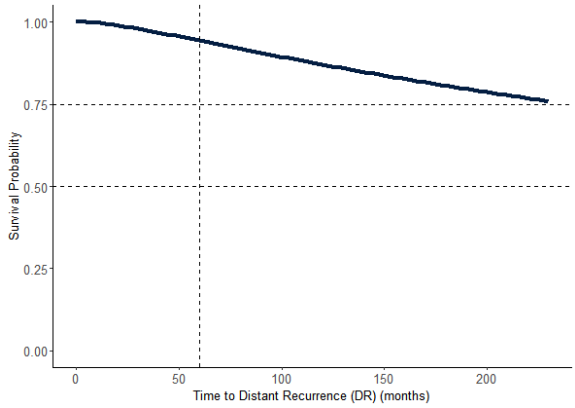


4. Lymph Node Involvement

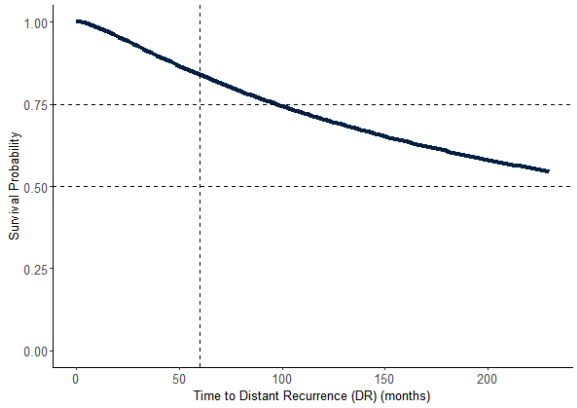
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
```

```
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.512      0.279 23.38 < 2e-16
VARIABLE    -0.902      0.266 -3.38 0.00071
Log(scale)   0.426      0.110  3.87 0.00011

Scale= 1.53

Log Normal distribution
Loglik(model)= -402.5   Loglik(intercept only)= -408.8
        Chisq= 12.57 on 1 degrees of freedom, p= 0.00039
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



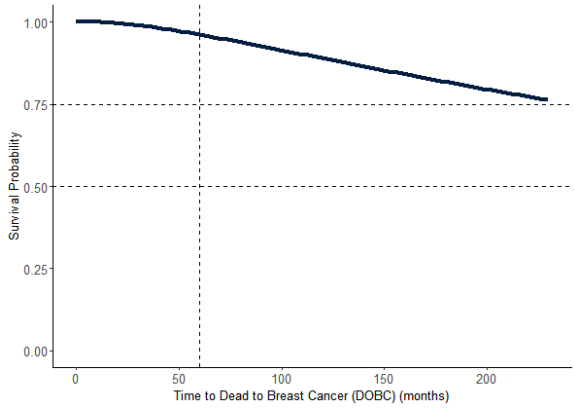
Bivariate Analysis

Breast Cancer-Specific Survival

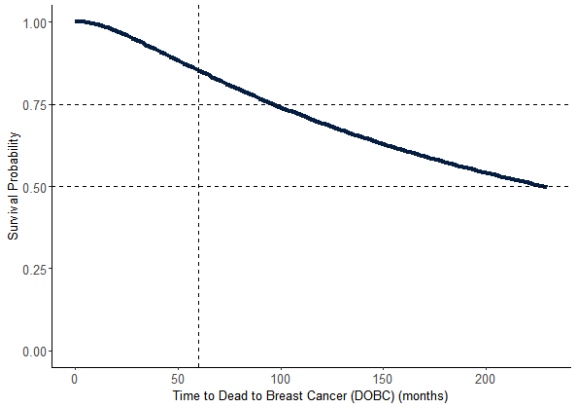
1. Mutation Status and Age of Diagnosis

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.349      0.260 24.40 <2e-16
VARIABLE1   -0.649      0.349 -1.86  0.063
VARIABLE2   -0.270      0.246 -1.10  0.272
Log(scale)   0.245      0.126  1.94  0.052

Scale= 1.28

Log Normal distribution
Loglik(model)= -323.2   Loglik(intercept only)= -326.4
        Chisq= 6.32 on 2 degrees of freedom, p= 0.042
Number of Newton-Raphson Iterations: 4
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



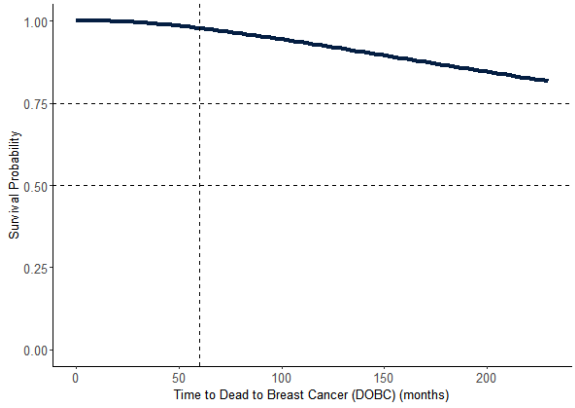
All Risks Survival Probability



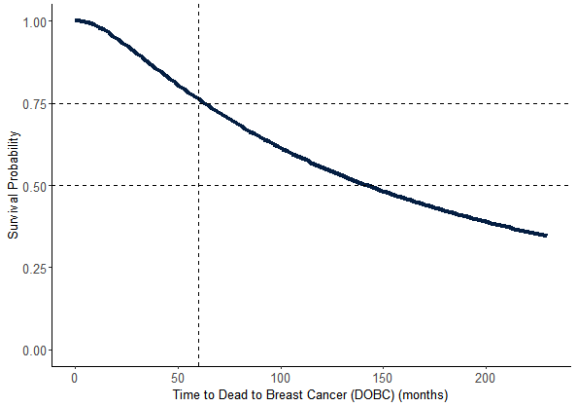
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.530      0.284 22.98 < 2e-16
VARIABLE1   -0.595      0.360 -1.65 0.09849
VARIABLE2   -0.978      0.258 -3.79 0.00015
Log(scale)   0.193      0.134  1.44 0.14952

Scale= 1.21

Log Normal distribution
Loglik(model)= -275.4   Loglik(intercept only)= -284.7
        Chisq= 18.62 on 2 degrees of freedom, p= 9.1e-05
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

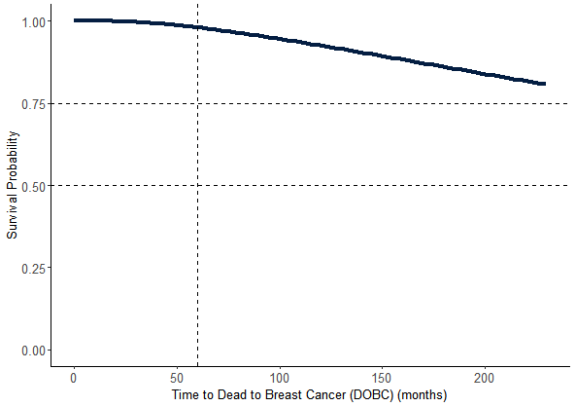


3. Mutation Status and Lymph Node Involvement

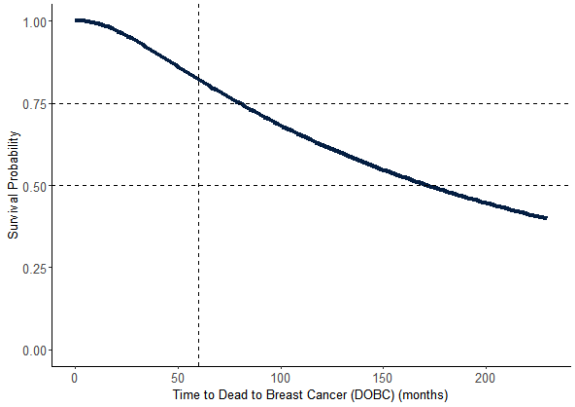
```
Call:
```

```
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.421      0.266 24.13 <2e-16
VARIABLE1   -0.585      0.309 -1.89 0.0589
VARIABLE2   -0.691      0.225 -3.07 0.0021
Log(scale)   0.127      0.128  1.00 0.3194

Scale= 1.14

Log Normal distribution
Loglik(model)= -301.9   Loglik(intercept only)= -310.3
        Chisq= 16.8 on 2 degrees of freedom, p= 0.00022
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



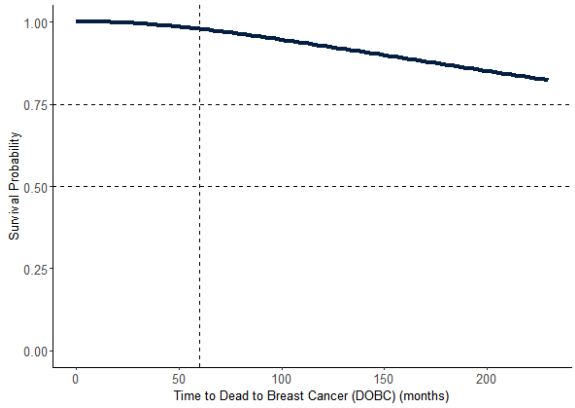
All Risks Survival Probability



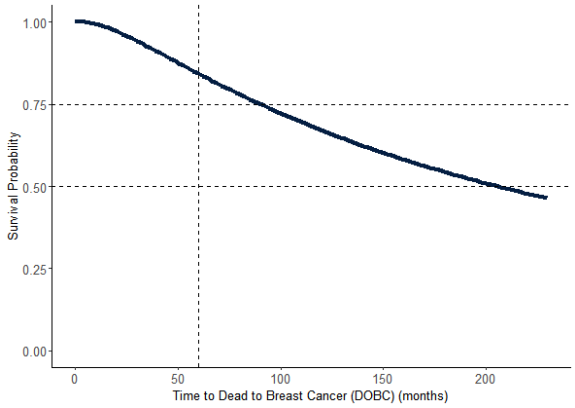
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.573      0.301 21.87 < 2e-16
VARIABLE1   -0.267      0.247 -1.08 0.28102
VARIABLE2   -0.978      0.261 -3.75 0.00018
Log(scale)   0.205      0.134  1.52 0.12803

Scale= 1.23

Log Normal distribution
Loglik(model)= -276.1   Loglik(intercept only)= -284.7
        Chisq= 17.11 on 2 degrees of freedom, p= 0.00019
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



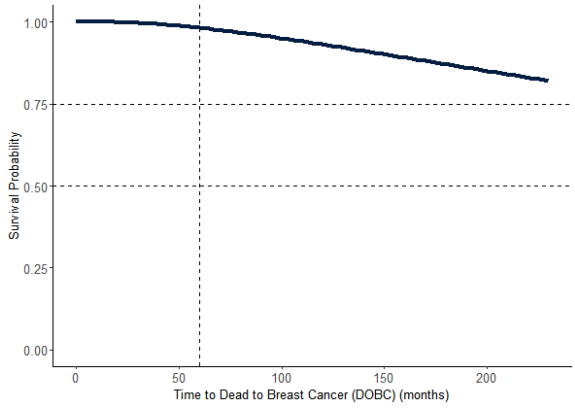
All Risks Survival Probability



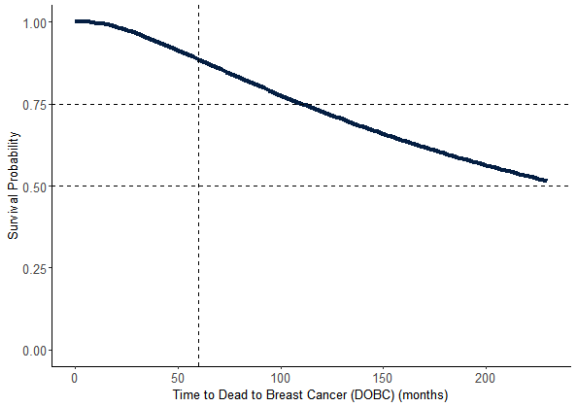
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.493      0.282 22.99 <2e-16
VARIABLE1   -0.291      0.221 -1.32 0.1882
VARIABLE2   -0.720      0.228 -3.16 0.0016
Log(scale)   0.142      0.128  1.11 0.2686

Scale= 1.15

Log Normal distribution
Loglik(model)= -302.8   Loglik(intercept only)= -310.3
        Chisq= 15.06 on 2 degrees of freedom, p= 0.00054
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



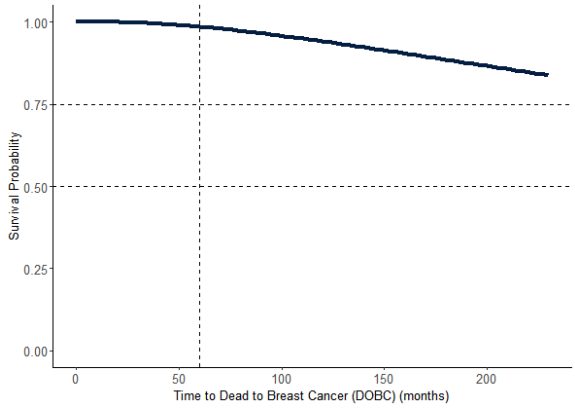
All Risks Survival Probability



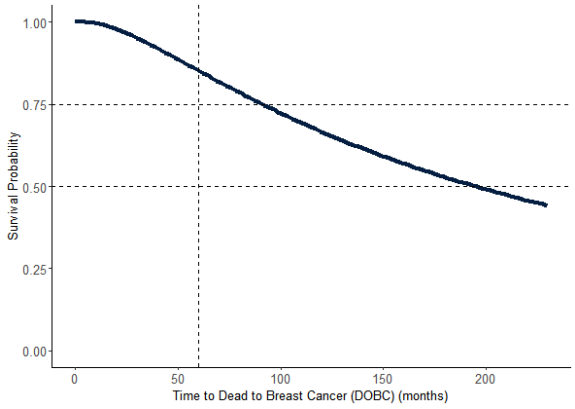
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.550      0.299 21.89 <2e-16
VARIABLE1   -0.723      0.244 -2.97  0.003
VARIABLE2   -0.554      0.232 -2.39  0.017
Log(scale)   0.124      0.138  0.90  0.370

Scale= 1.13

Log Normal distribution
Loglik(model)= -260.1   Loglik(intercept only)= -268.6
        Chisq= 17.04 on 2 degrees of freedom, p= 2e-04
Number of Newton-Raphson Iterations: 5
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



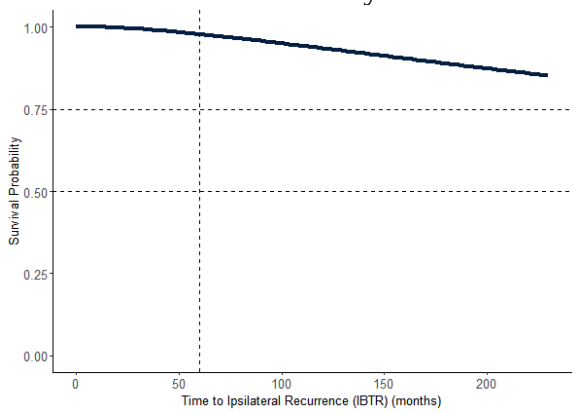
Ipsilateral Breast Tumor Survival

1. Mutation Status and Age of Diagnosis

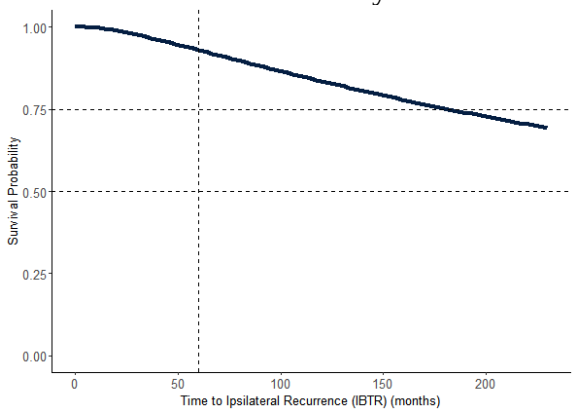
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.883      0.409 16.84 <2e-16
VARIABLE1   -0.139      0.476 -0.29  0.770
VARIABLE2   -0.607      0.308 -1.97  0.049
Log(scale)   0.326      0.161  2.02  0.043

Scale= 1.39

Log Normal distribution
Loglik(model)= -206.9   Loglik(intercept only)= -209.2
        Chisq= 4.65 on 2 degrees of freedom, p= 0.098
Number of Newton-Raphson Iterations: 5
```

```
n= 305
```

Baseline Survival Probability



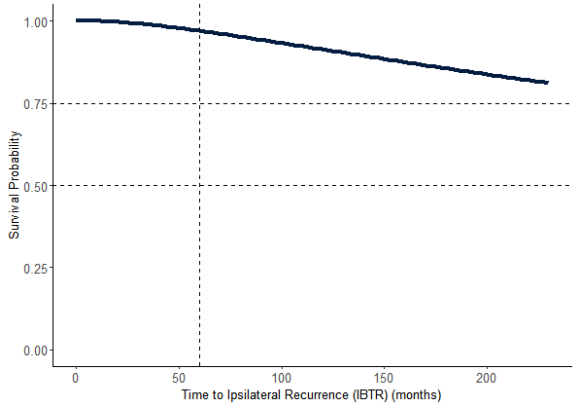
All Risks Survival Probability



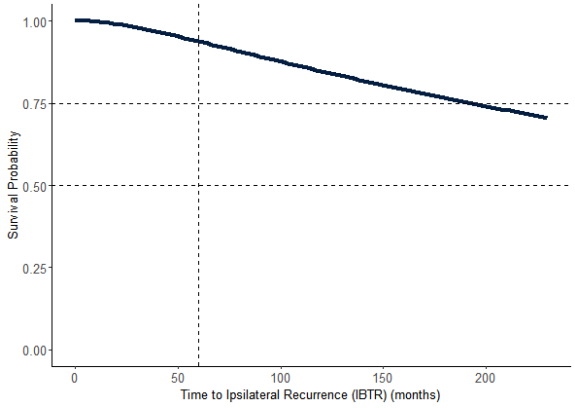
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.6255     0.3656 18.12 <2e-16
VARIABLE1   -0.4223     0.4685 -0.90  0.367
VARIABLE2   -0.0344     0.3478 -0.10  0.921
Log(scale)   0.3007     0.1645  1.83  0.068

Scale= 1.35

Log Normal distribution
Loglik(model)= -200.1   Loglik(intercept only)= -200.5
        Chisq= 0.78 on 2 degrees of freedom, p= 0.68
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



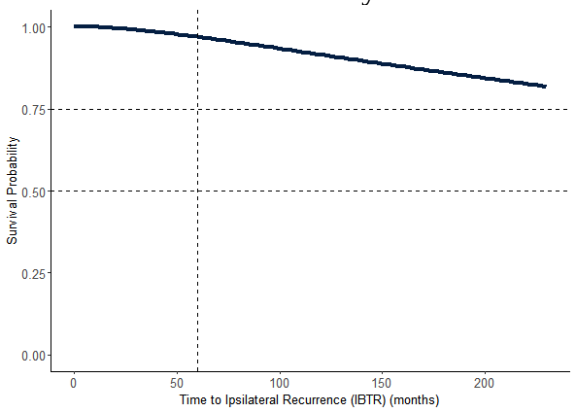
All Risks Survival Probability



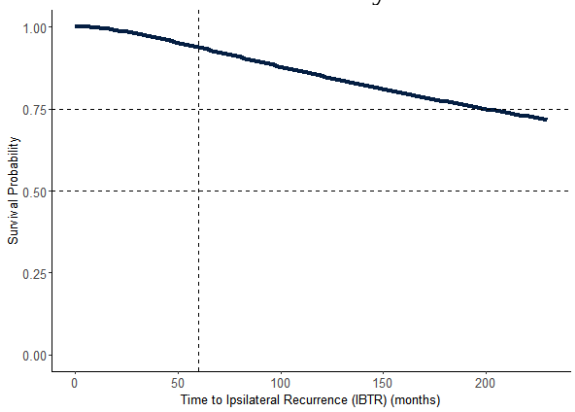
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.707      0.388 17.28 <2e-16
VARIABLE1   -0.327      0.473 -0.69  0.489
VARIABLE2   -0.141      0.296 -0.47  0.635
Log(scale)   0.335      0.162  2.07  0.038

Scale= 1.4

Log Normal distribution
Loglik(model)= -207.8   Loglik(intercept only)= -208.2
        Chisq= 0.72 on 2 degrees of freedom, p= 0.7
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



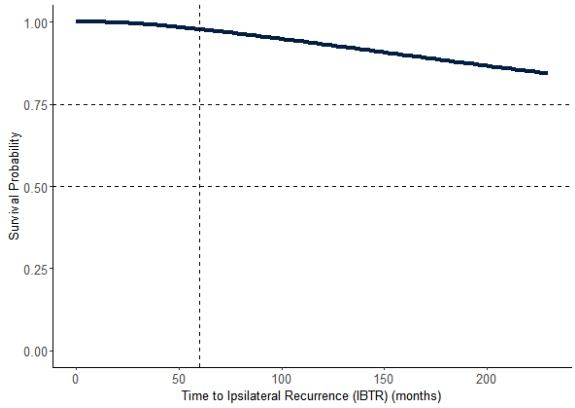
All Risks Survival Probability



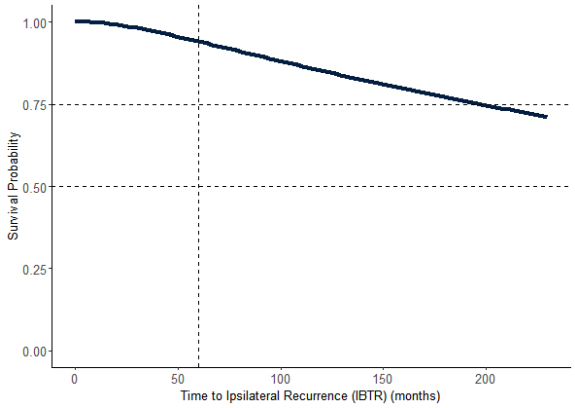
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.787      0.402 16.90 <2e-16
VARIABLE1   -0.597      0.304 -1.96  0.050
VARIABLE2   -0.003      0.350 -0.01  0.993
Log(scale)   0.294      0.164  1.79  0.073

Scale= 1.34

Log Normal distribution
Loglik(model)= -198.4   Loglik(intercept only)= -200.5
        Chisq= 4.17 on 2 degrees of freedom, p= 0.12
Number of Newton-Raphson Iterations: 5
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



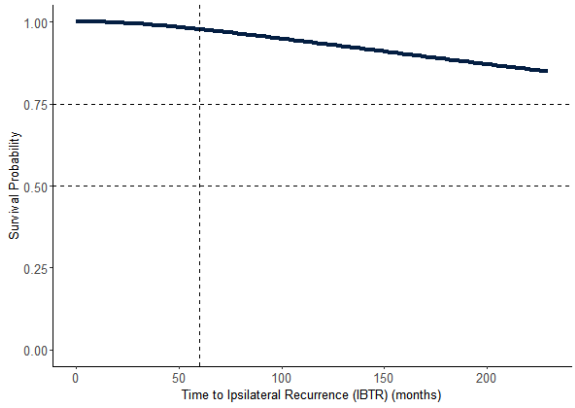
All Risks Survival Probability



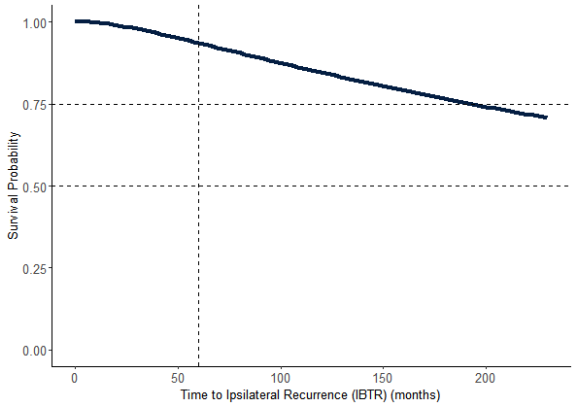
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TSIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.8587     0.4175 16.43 <2e-16
VARIABLE1   -0.5903     0.3044 -1.94  0.052
VARIABLE2   -0.0775     0.2969 -0.26  0.794
Log(scale)   0.3225     0.1615  2.00  0.046

Scale= 1.38

Log Normal distribution
Loglik(model)= -206   Loglik(intercept only)= -208.2
        Chisq= 4.28 on 2 degrees of freedom, p= 0.12
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



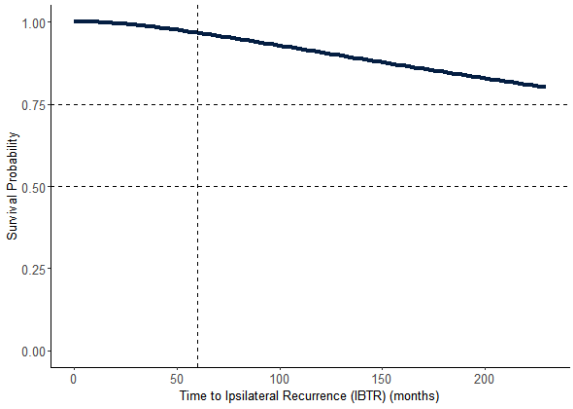
All Risks Survival Probability



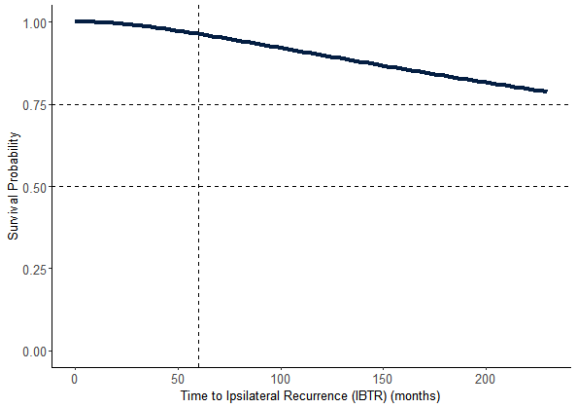
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.5835     0.3747 17.57 <2e-16
VARIABLE1    0.0312     0.3565  0.09  0.930
VARIABLE2   -0.0977     0.3020 -0.32  0.746
Log(scale)   0.3039     0.1651  1.84  0.066

Scale= 1.36

Log Normal distribution
Loglik(model)= -199.4   Loglik(intercept only)= -199.4
        Chisq= 0.11 on 2 degrees of freedom, p= 0.95
Number of Newton-Raphson Iterations: 5
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



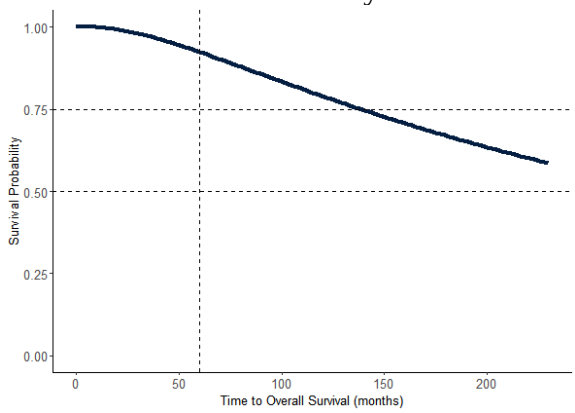
Overall Survival

1. Mutation Status and Age of Diagnosis

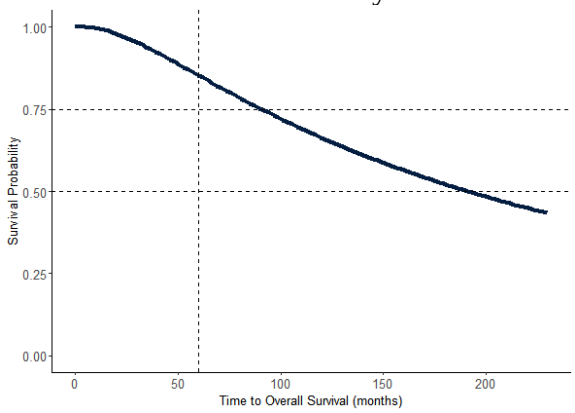
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.6788     0.1478 38.43 <2e-16
VARIABLE1   -0.6214     0.2781 -2.23  0.025
VARIABLE2    0.1968     0.1949  1.01  0.313
Log(scale)   0.1034     0.0977  1.06  0.290

Scale= 1.11

Log Normal distribution
Loglik(model)= -487.5   Loglik(intercept only)= -490.1
        Chisq= 5.08 on 2 degrees of freedom, p= 0.079
Number of Newton-Raphson Iterations: 4
```

```
n= 305
```

Baseline Survival Probability



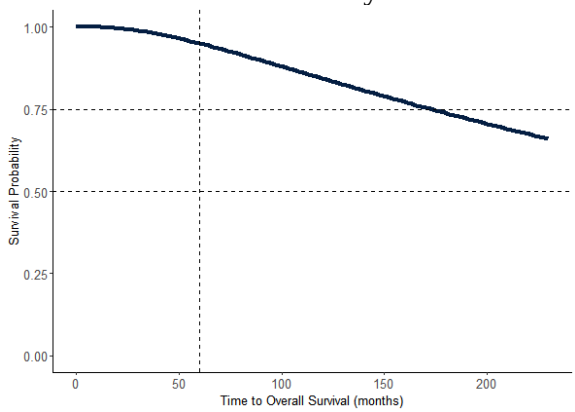
All Risks Survival Probability



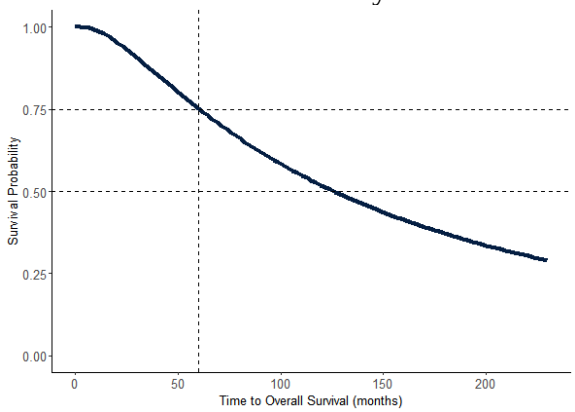
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.8881     0.1642 35.86 <2e-16
VARIABLE1   -0.4461     0.2876 -1.55 0.1209
VARIABLE2   -0.6067     0.1977 -3.07 0.0021
Log(scale)   0.0883     0.1017  0.87 0.3852

Scale= 1.09

Log Normal distribution
Loglik(model)= -444.1   Loglik(intercept only)= -450.1
        Chisq= 11.97 on 2 degrees of freedom, p= 0.0025
Number of Newton-Raphson Iterations: 4
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



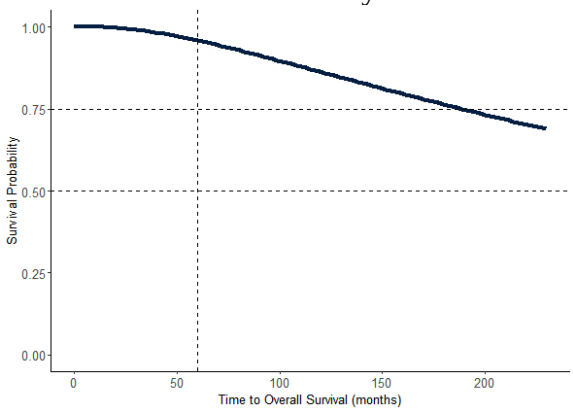
All Risks Survival Probability



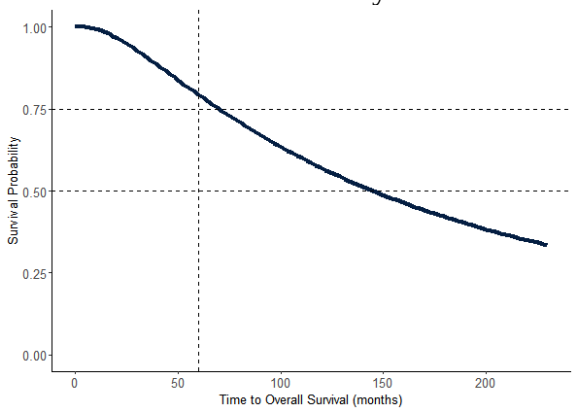
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  5.9694     0.1828 32.66 <2e-16
VARIABLE1   -0.5329     0.2703 -1.97  0.049
VARIABLE2   -0.4599     0.1838 -2.50  0.012
Log(scale)   0.0793     0.1041  0.76  0.446

Scale= 1.08

Log Normal distribution
Loglik(model)= -431.3   Loglik(intercept only)= -437.6
        Chisq= 12.43 on 2 degrees of freedom, p= 0.002
Number of Newton-Raphson Iterations: 4
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



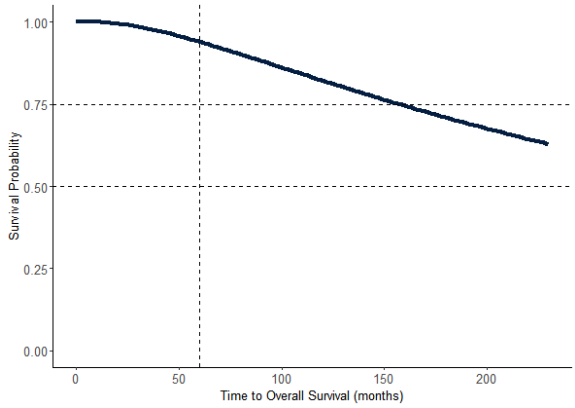
All Risks Survival Probability



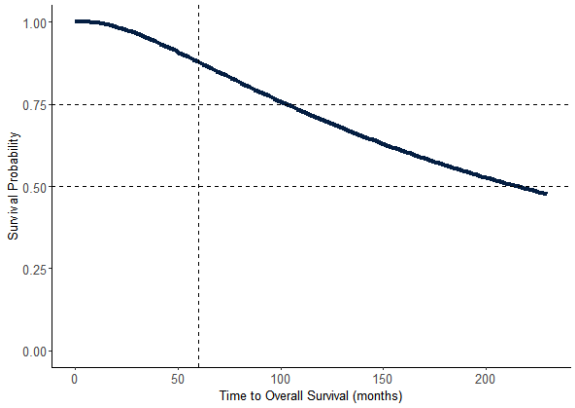
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  5.7985     0.1650 35.15 <2e-16
VARIABLE1    0.2052     0.2003  1.02 0.3056
VARIABLE2   -0.6315     0.1992 -3.17 0.0015
Log(scale)   0.0927     0.1018  0.91 0.3628

Scale= 1.1

Log Normal distribution
Loglik(model)= -444.7   Loglik(intercept only)= -450.1
        Chisq= 10.68 on 2 degrees of freedom, p= 0.0048
Number of Newton-Raphson Iterations: 4
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



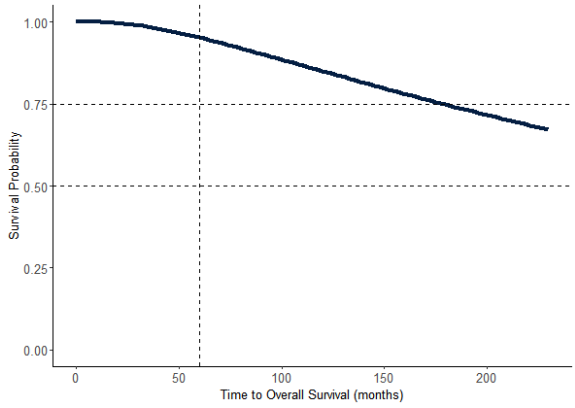
All Risks Survival Probability



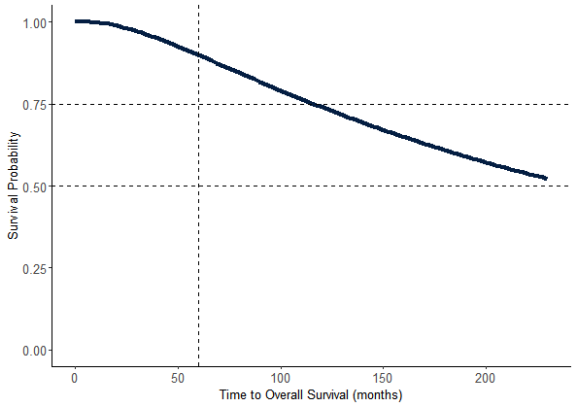
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.9282     0.1873 31.65 <2e-16
VARIABLE1    0.1170     0.1958  0.60 0.5500
VARIABLE2   -0.5473     0.1892 -2.89 0.0038
Log(scale)   0.0975     0.1043  0.93 0.3502

Scale= 1.1

Log Normal distribution
Loglik(model)= -433.1   Loglik(intercept only)= -437.6
        Chisq= 9 on 2 degrees of freedom, p= 0.011
Number of Newton-Raphson Iterations: 4
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



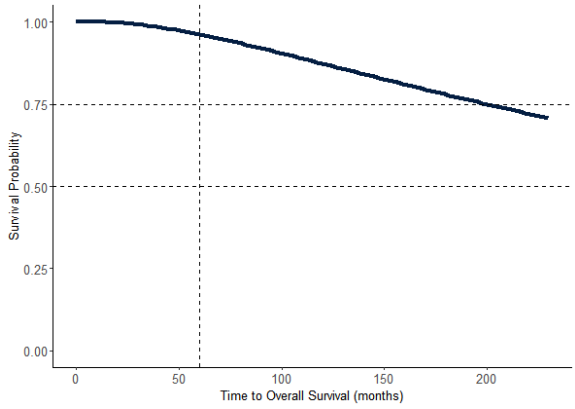
All Risks Survival Probability



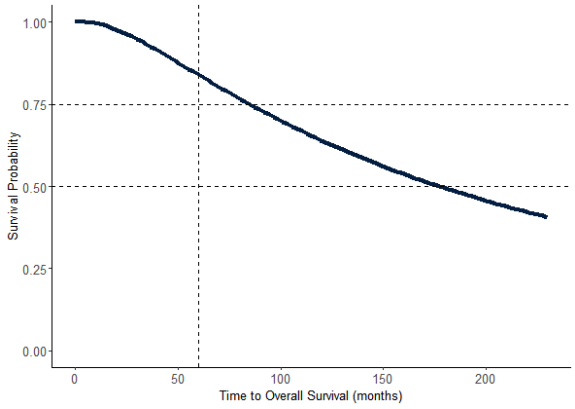
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.0366     0.1991 30.32 <2e-16
VARIABLE1   -0.5106     0.2090 -2.44  0.015
VARIABLE2   -0.3473     0.1933 -1.80  0.072
Log(scale)   0.0915     0.1094  0.84  0.403

Scale= 1.1

Log Normal distribution
Loglik(model)= -391.7   Loglik(intercept only)= -397.3
        Chisq= 11.19 on 2 degrees of freedom, p= 0.0037
Number of Newton-Raphson Iterations: 4
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



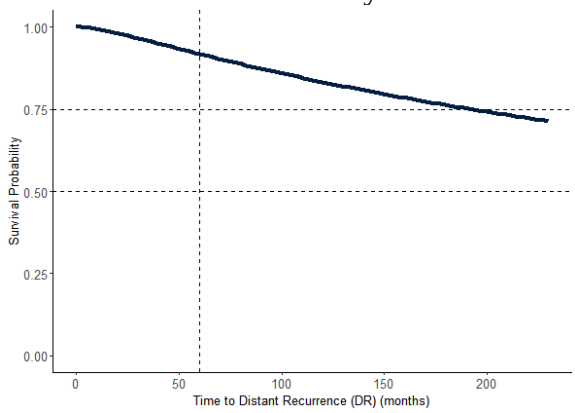
Distant Tumor Recurrence

1. Mutation Status and Age of Diagnosis

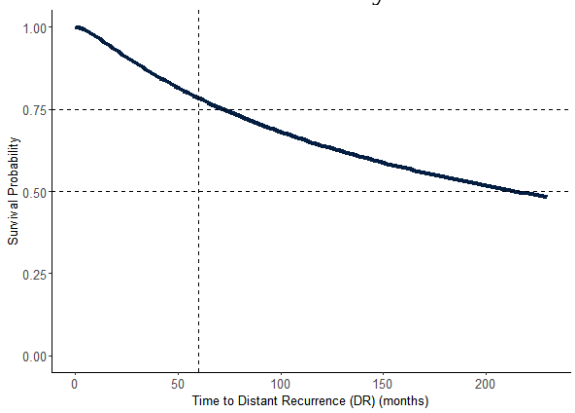
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z       p
(Intercept)  6.352      0.262 24.23 < 2e-16
VARIABLE1   -0.778      0.420 -1.85   0.064
VARIABLE2   -0.205      0.286 -0.72   0.473
Log(scale)   0.485      0.109  4.46 8.3e-06

Scale= 1.62

Log Normal distribution
Loglik(model)= -421.5   Loglik(intercept only)= -424
        Chisq= 4.88 on 2 degrees of freedom, p= 0.087
Number of Newton-Raphson Iterations: 4
```

```
n=304 (1 observation deleted due to missingness)
```

Baseline Survival Probability



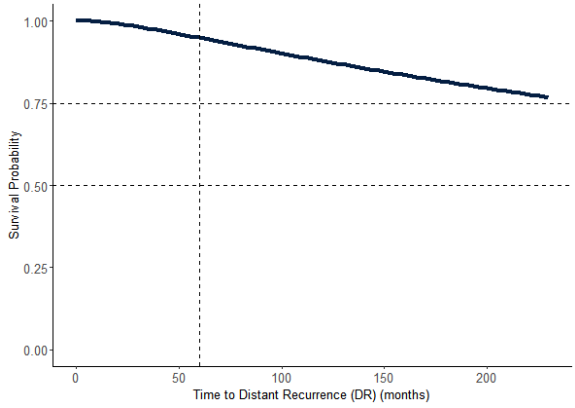
All Risks Survival Probability



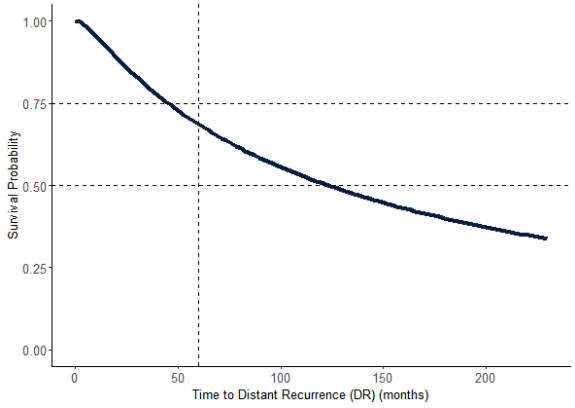
2. Mutation Status and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.528      0.270 24.14 < 2e-16
VARIABLE1   -0.559      0.426 -1.31 0.18919
VARIABLE2   -1.156      0.285 -4.06 4.9e-05
Log(scale)   0.401      0.115  3.49 0.00048

Scale= 1.49

Log Normal distribution
Loglik(model)= -367.4   Loglik(intercept only)= -376.8
        Chisq= 18.97 on 2 degrees of freedom, p= 7.6e-05
Number of Newton-Raphson Iterations: 4
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



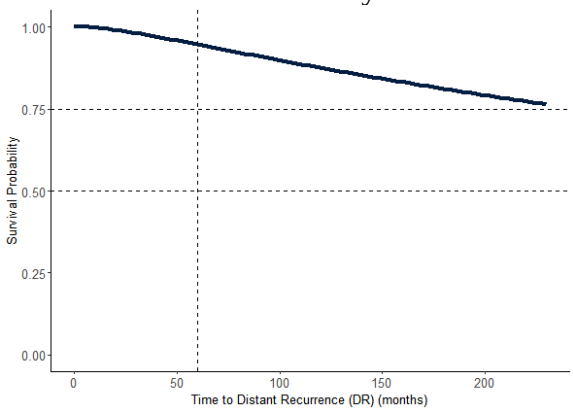
All Risks Survival Probability



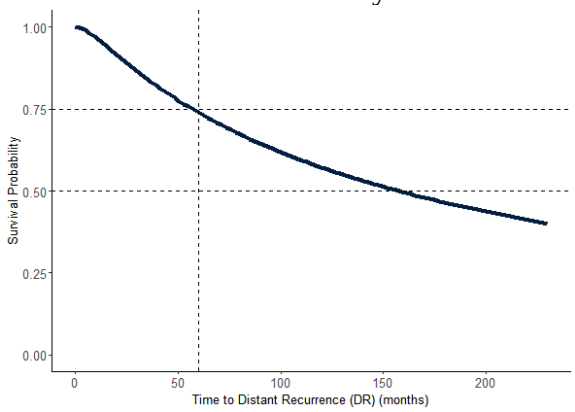
3. Mutation Status and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.523      0.277 23.51 < 2e-16
VARIABLE1   -0.650      0.392 -1.66 0.09742
VARIABLE2   -0.814      0.266 -3.06 0.00218
Log(scale)   0.412      0.110  3.75 0.00018

Scale= 1.51

Log Normal distribution
Loglik(model)= -401.2   Loglik(intercept only)= -408.8
        Chisq= 15.25 on 2 degrees of freedom, p= 0.00049
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



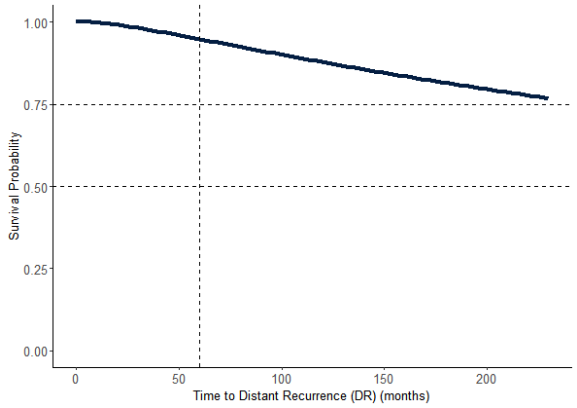
All Risks Survival Probability



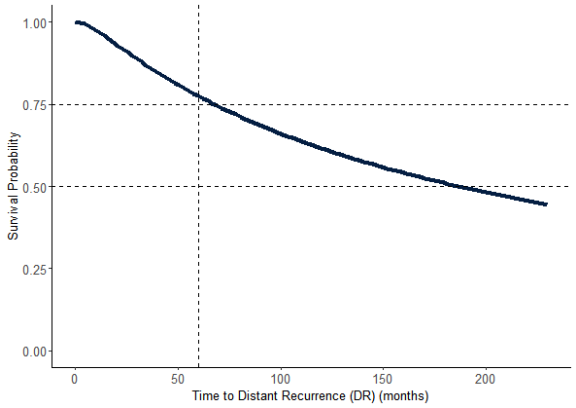
4. Age of Diagnosis and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.542      0.286 22.90 < 2e-16
VARIABLE1   -0.147      0.279 -0.53 0.59912
VARIABLE2   -1.165      0.288 -4.05 5.2e-05
Log(scale)   0.412      0.115  3.58 0.00034

Scale= 1.51

Log Normal distribution
Loglik(model)= -368.1   Loglik(intercept only)= -376.8
        Chisq= 17.57 on 2 degrees of freedom, p= 0.00015
Number of Newton-Raphson Iterations: 4
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



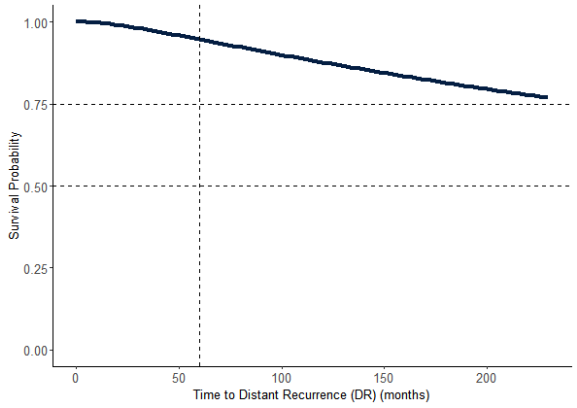
All Risks Survival Probability



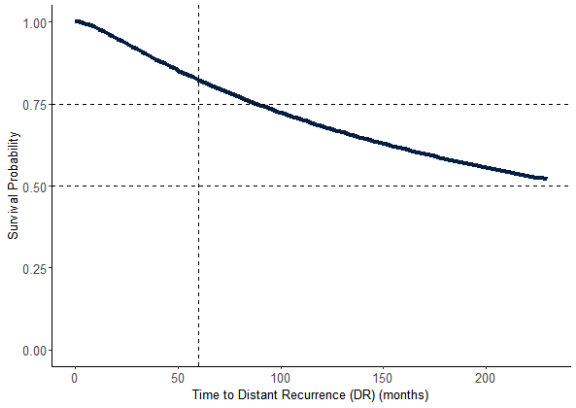
5. Age of Diagnosis and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.559      0.292 22.46 < 2e-16
VARIABLE1   -0.177      0.271 -0.65 0.51360
VARIABLE2   -0.868      0.270 -3.21 0.00132
Log(scale)   0.426      0.110  3.87 0.00011

Scale= 1.53

Log Normal distribution
Loglik(model)= -402.3   Loglik(intercept only)= -408.8
        Chisq= 12.99 on 2 degrees of freedom, p= 0.0015
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



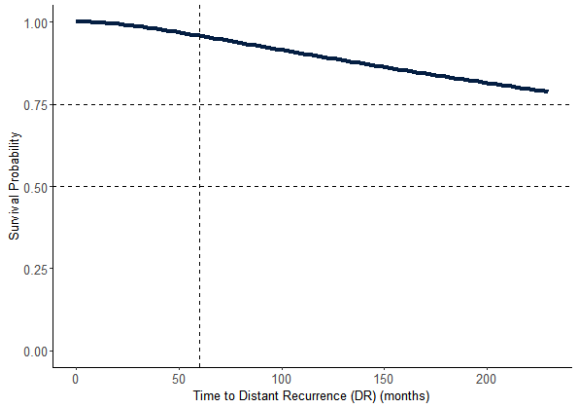
All Risks Survival Probability



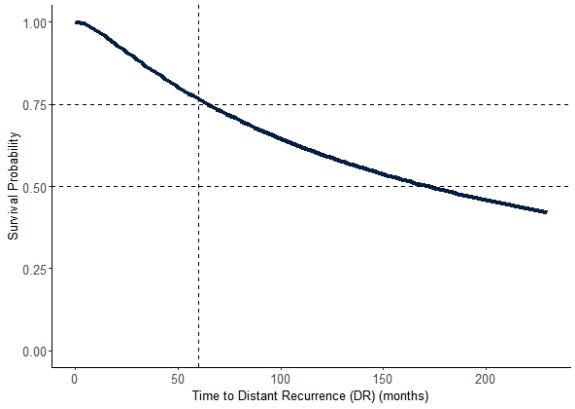
6. Tumor Stage and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.596      0.295 22.39 <2e-16
VARIABLE1   -0.895      0.282 -3.17 0.0015
VARIABLE2   -0.555      0.265 -2.10 0.0358
Log(scale)   0.374      0.117  3.19 0.0014

Scale= 1.45

Log Normal distribution
Loglik(model)= -353.1   Loglik(intercept only)= -361.6
        Chisq= 17 on 2 degrees of freedom, p= 2e-04
Number of Newton-Raphson Iterations: 4
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



Trivariate Analysis

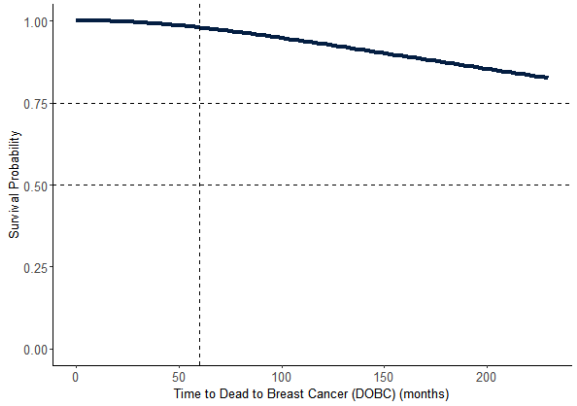
Breast Cancer-Specific Survival

1. Mutation Status, Age of Diagnosis, and Tumor Stage

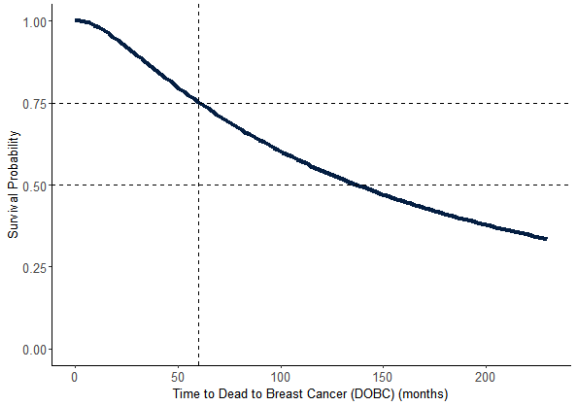
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.576      0.299 21.96 < 2e-16
VARIABLE1   -0.525      0.377 -1.39 0.16386
VARIABLE2   -0.161      0.257 -0.63 0.53171
VARIABLE3   -0.969      0.259 -3.74 0.00018
Log(scale)   0.195      0.134  1.45 0.14648

Scale= 1.22
```

```
Log Normal distribution
Loglik(model)= -275.2   Loglik(intercept only)= -284.7
        Chisq= 19.01 on 3 degrees of freedom, p= 0.00027
Number of Newton-Raphson Iterations: 5
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



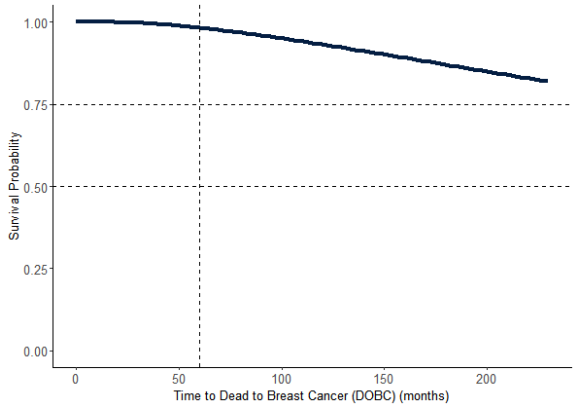
All Risks Survival Probability



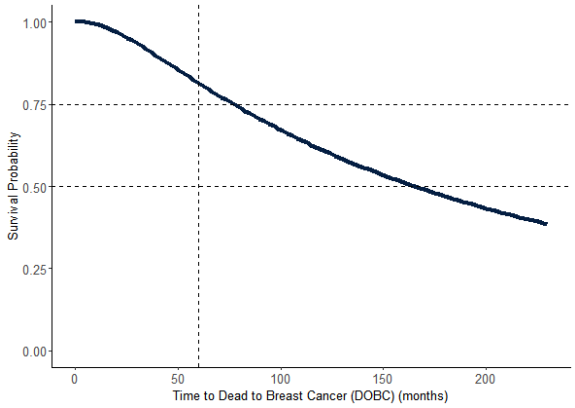
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.469      0.278 23.30 <2e-16
VARIABLE1   -0.508      0.322 -1.57 0.1153
VARIABLE2   -0.188      0.228 -0.82 0.4099
VARIABLE3   -0.666      0.226 -2.95 0.0032
Log(scale)   0.126      0.128  0.99 0.3237

Scale= 1.13

Log Normal distribution
Loglik(model)= -301.5   Loglik(intercept only)= -310.3
        Chisq= 17.48 on 3 degrees of freedom, p= 0.00056
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



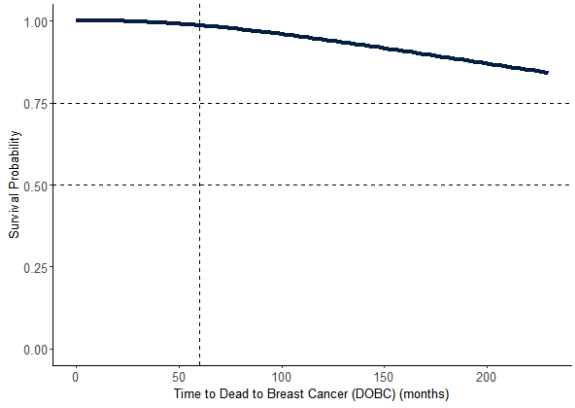
All Risks Survival Probability



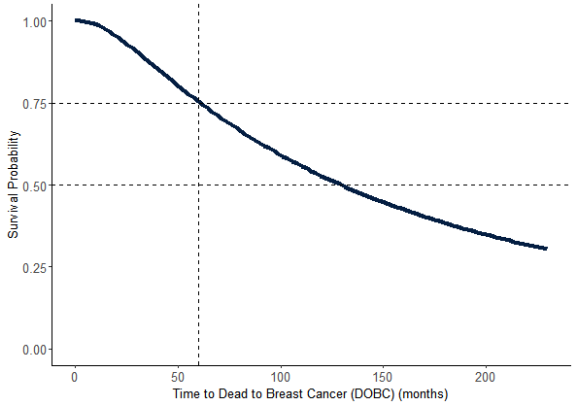
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.559      0.299 21.96 <2e-16
VARIABLE1   -0.493      0.343 -1.44 0.1507
VARIABLE2   -0.710      0.242 -2.93 0.0034
VARIABLE3   -0.493      0.232 -2.13 0.0334
Log(scale)   0.113      0.137  0.82 0.4112

Scale= 1.12

Log Normal distribution
Loglik(model)= -259.1   Loglik(intercept only)= -268.6
        Chisq= 19.06 on 3 degrees of freedom, p= 0.00027
Number of Newton-Raphson Iterations: 5
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



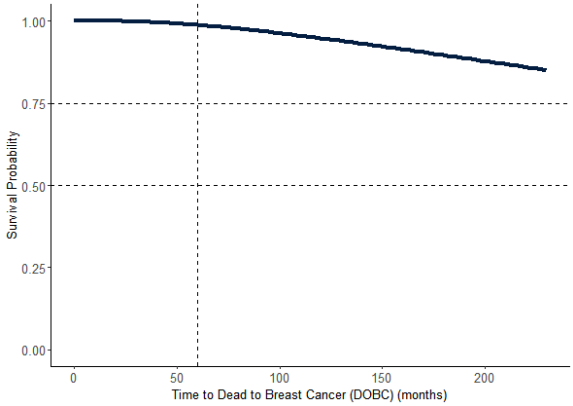
All Risks Survival Probability



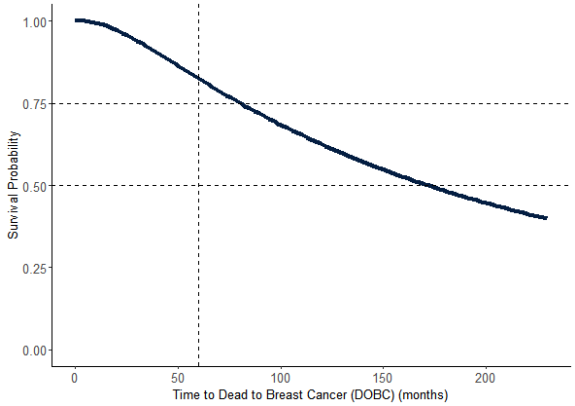
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.610      0.312 21.19 <2e-16
VARIABLE1   -0.236      0.234 -1.01 0.3141
VARIABLE2   -0.707      0.244 -2.90 0.0037
VARIABLE3   -0.520      0.232 -2.24 0.0251
Log(scale)   0.121      0.138  0.88 0.3802

Scale= 1.13

Log Normal distribution
Loglik(model)= -259.6   Loglik(intercept only)= -268.6
        Chisq= 18.06 on 3 degrees of freedom, p= 0.00043
Number of Newton-Raphson Iterations: 5
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability



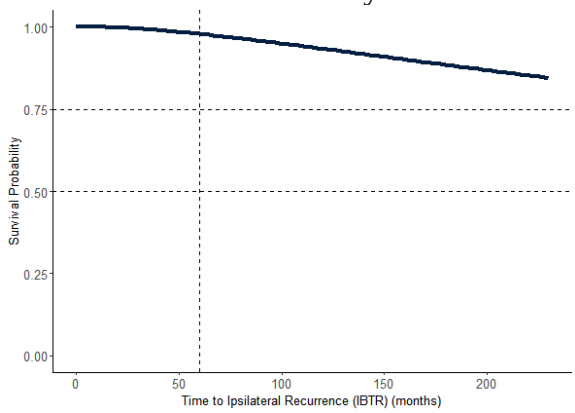
Ipsilateral Breast Tumor Survival

1. Mutation Status, Age of Diagnosis, and Tumor Stage

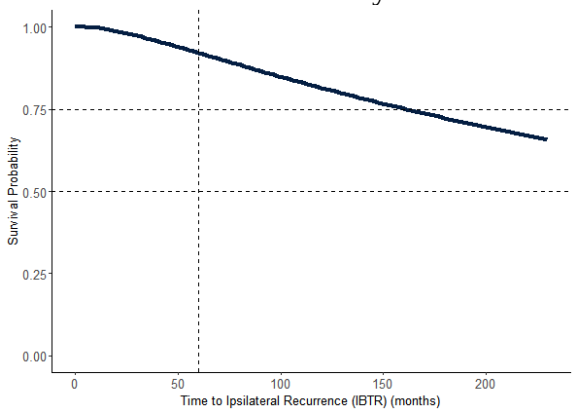
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.793      0.402 16.90 <2e-16
VARIABLE1   -0.236      0.474 -0.50  0.618
VARIABLE2   -0.567      0.308 -1.84  0.066
VARIABLE3   -0.007      0.348 -0.02  0.984
Log(scale)   0.291      0.164  1.77  0.076

Scale= 1.34

Log Normal distribution
Loglik(model)= -198.3   Loglik(intercept only)= -200.5
        Chisq= 4.41 on 3 degrees of freedom, p= 0.22
Number of Newton-Raphson Iterations: 5
```

```
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



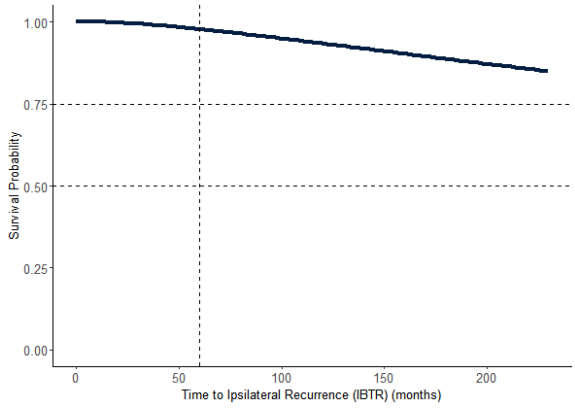
All Risks Survival Probability



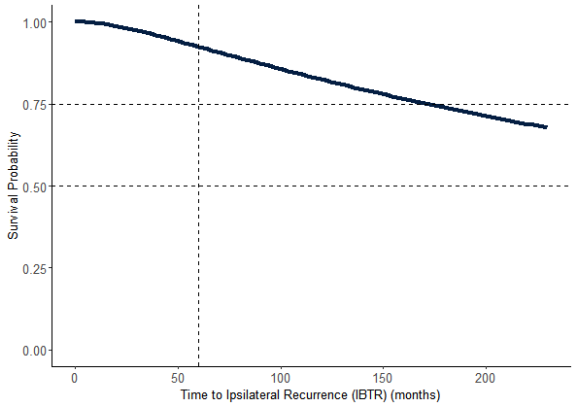
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.8605     0.4174 16.44 <2e-16
VARIABLE1   -0.1419     0.4768 -0.30  0.766
VARIABLE2   -0.5724     0.3092 -1.85  0.064
VARIABLE3   -0.0737     0.2967 -0.25  0.804
Log(scale)   0.3207     0.1615  1.99  0.047

Scale= 1.38

Log Normal distribution
Loglik(model)= -206   Loglik(intercept only)= -208.2
        Chisq= 4.37 on 3 degrees of freedom, p= 0.22
Number of Newton-Raphson Iterations: 5
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



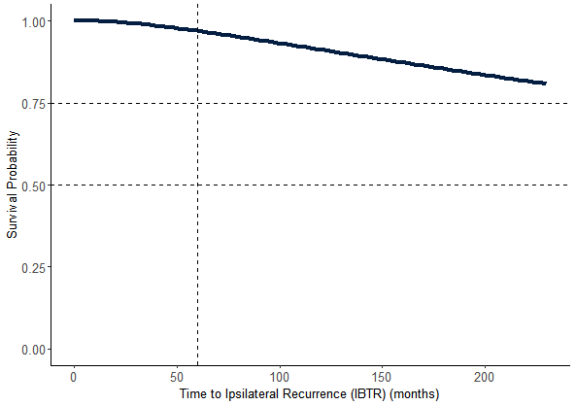
All Risks Survival Probability



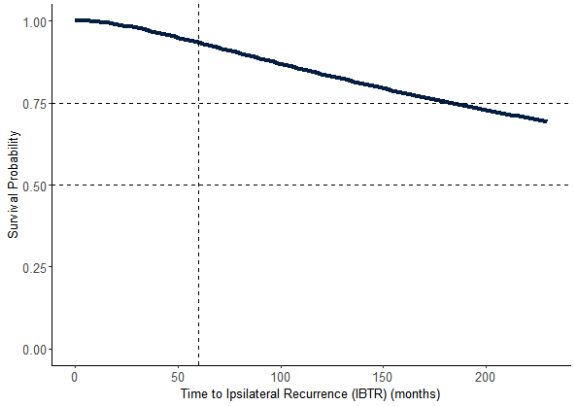
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.6070     0.3783 17.46 <2e-16
VARIABLE1   -0.4269     0.4713 -0.91  0.365
VARIABLE2    0.0183     0.3540  0.05  0.959
VARIABLE3   -0.0826     0.3006 -0.27  0.783
Log(scale)   0.2966     0.1648  1.80  0.072

Scale= 1.35

Log Normal distribution
Loglik(model)= -199   Loglik(intercept only)= -199.4
        Chisq= 0.89 on 3 degrees of freedom, p= 0.83
Number of Newton-Raphson Iterations: 5
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

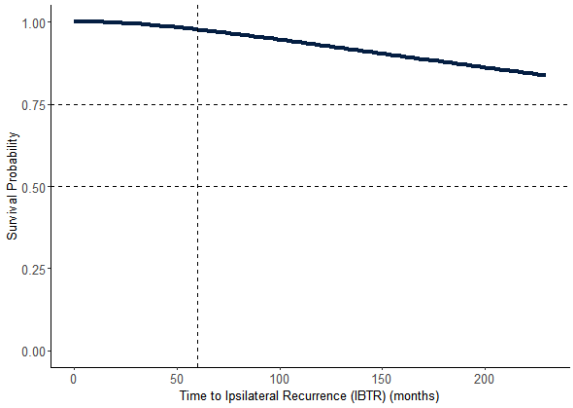


4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

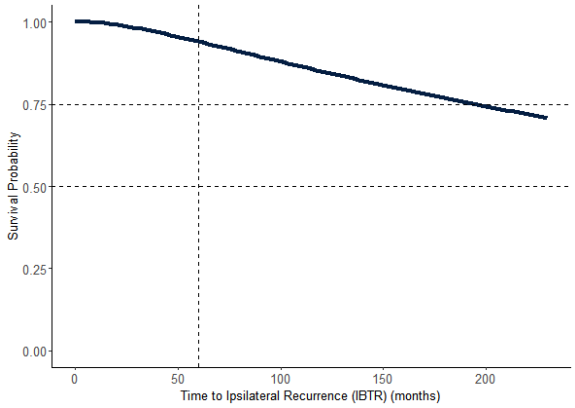
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.7489     0.4080 16.54 <2e-16
VARIABLE1   -0.5706     0.3038 -1.88  0.060
VARIABLE2    0.0357     0.3543  0.10  0.920
VARIABLE3   -0.0438     0.3013 -0.15  0.884
Log(scale)   0.2895     0.1645  1.76  0.078

Scale= 1.34

Log Normal distribution
Loglik(model)= -197.5   Loglik(intercept only)= -199.4
        Chisq= 3.88 on 3 degrees of freedom, p= 0.27
```

```
Number of Newton-Raphson Iterations: 5
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

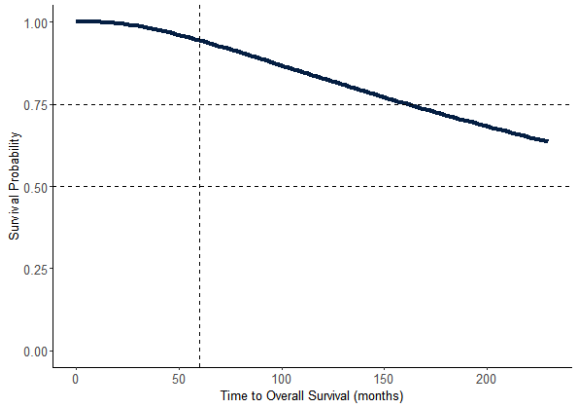


Overall Survival

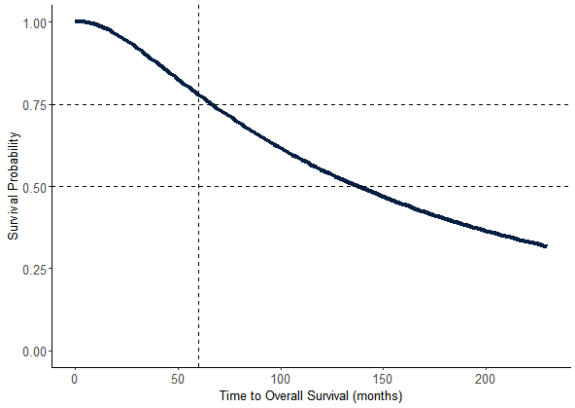
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  5.8124     0.1649 35.26 <2e-16
VARIABLE1   -0.5648     0.2975 -1.90 0.0576
VARIABLE2    0.3072     0.2079  1.48 0.1394
VARIABLE3   -0.6304     0.1971 -3.20 0.0014
Log(scale)   0.0788     0.1016  0.78 0.4382

Scale= 1.08

Log Normal distribution
Loglik(model)= -442.9   Loglik(intercept only)= -450.1
        Chisq= 14.22 on 3 degrees of freedom, p= 0.0026
Number of Newton-Raphson Iterations: 4
n=288 (17 observations deleted due to missingness)
```

Baseline Survival Probability



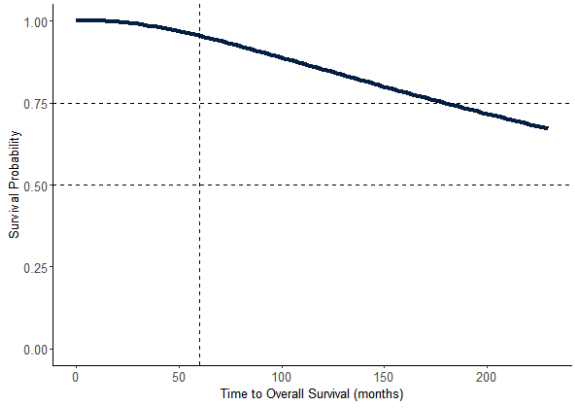
All Risks Survival Probability



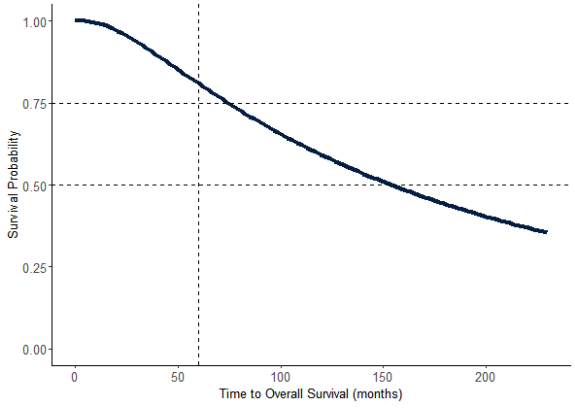
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.9165     0.1839 32.18 <2e-16
VARIABLE1   -0.6203     0.2810 -2.21 0.0273
VARIABLE2    0.2318     0.2020  1.15 0.2512
VARIABLE3   -0.4922     0.1865 -2.64 0.0083
Log(scale)   0.0758     0.1040  0.73 0.4665

Scale= 1.08

Log Normal distribution
Loglik(model)= -430.7   Loglik(intercept only)= -437.6
        Chisq= 13.78 on 3 degrees of freedom, p= 0.0032
Number of Newton-Raphson Iterations: 4
n=291 (14 observations deleted due to missingness)
```

Baseline Survival Probability



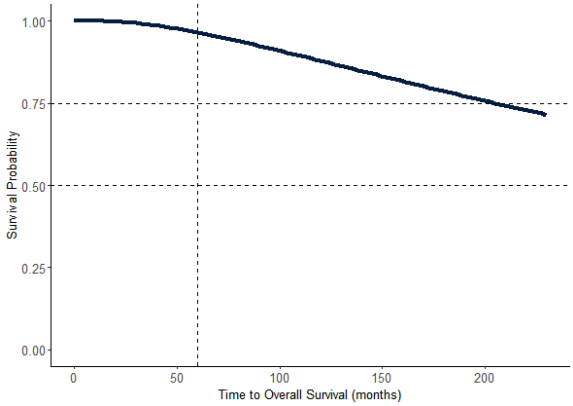
All Risks Survival Probability



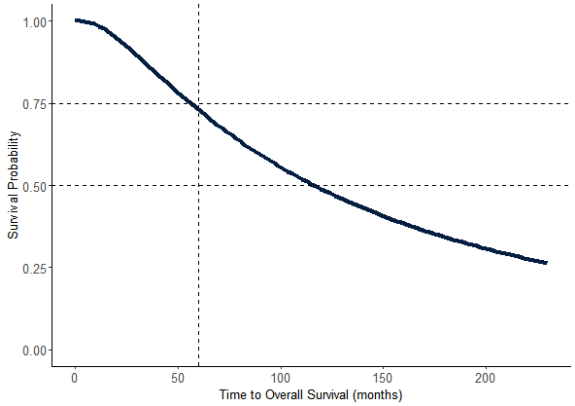
3. Mutation Status, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.0510     0.1990 30.40 <2e-16
VARIABLE1   -0.4956     0.2951 -1.68  0.093
VARIABLE2   -0.5082     0.2070 -2.46  0.014
VARIABLE3   -0.2925     0.1933 -1.51  0.130
Log(scale)   0.0783     0.1092  0.72  0.473

Scale= 1.08

Log Normal distribution
Loglik(model)= -390.3   Loglik(intercept only)= -397.3
        Chisq= 13.95 on 3 degrees of freedom, p= 0.003
Number of Newton-Raphson Iterations: 4
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



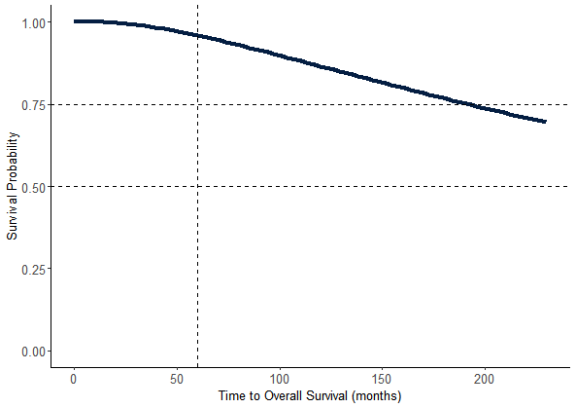
All Risks Survival Probability



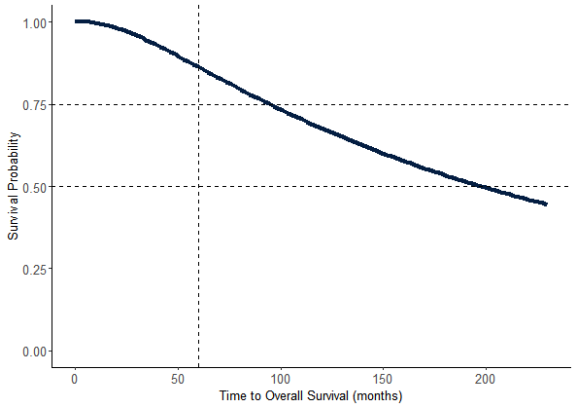
4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  5.9935     0.2009 29.84 <2e-16
VARIABLE1    0.1892     0.2095  0.90  0.367
VARIABLE2   -0.5229     0.2093 -2.50  0.012
VARIABLE3   -0.3725     0.1958 -1.90  0.057
Log(scale)   0.0896     0.1095  0.82  0.413

Scale= 1.09

Log Normal distribution
Loglik(model)= -391.3   Loglik(intercept only)= -397.3
        Chisq= 12.02 on 3 degrees of freedom, p= 0.0073
Number of Newton-Raphson Iterations: 4
n=274 (31 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

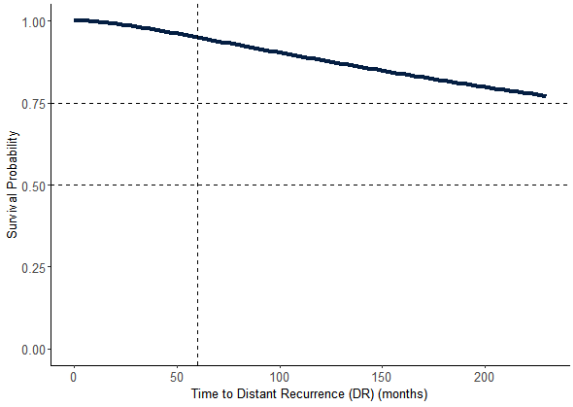


Distant Tumor Recurrence

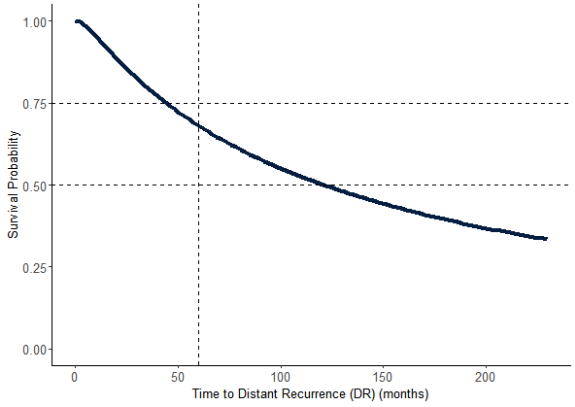
1. Mutation Status, Age of Diagnosis, and Tumor Stage

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z       p
(Intercept)  6.5463     0.2845 23.01 < 2e-16
VARIABLE1   -0.5355     0.4390 -1.22 0.22253
VARIABLE2   -0.0628     0.2854 -0.22 0.82594
VARIABLE3   -1.1531     0.2854 -4.04 5.3e-05
Log(scale)   0.4019     0.1149  3.50 0.00047

Scale= 1.49

Log Normal distribution
Loglik(model)= -367.3   Loglik(intercept only)= -376.8
        Chisq= 19.02 on 3 degrees of freedom, p= 0.00027
Number of Newton-Raphson Iterations: 4
n=287 (18 observations deleted due to missingness)
```

Baseline Survival Probability



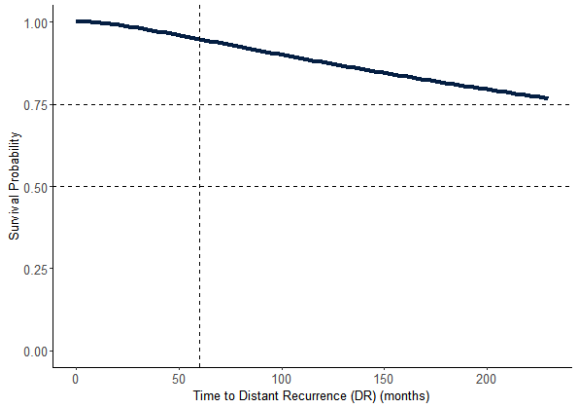
All Risks Survival Probability



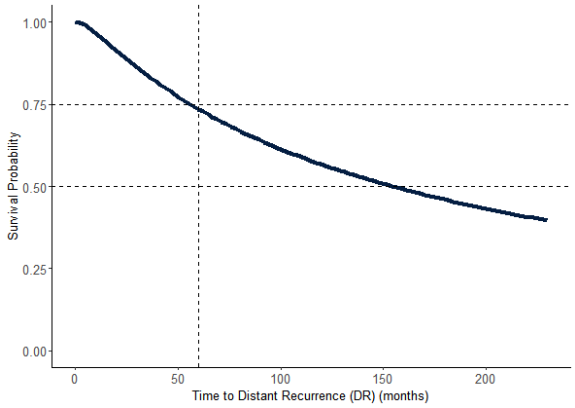
2. Mutation Status, Age of Diagnosis, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z       p
(Intercept)  6.5412     0.2882 22.69 < 2e-16
VARIABLE1   -0.6245     0.4046 -1.54 0.12274
VARIABLE2   -0.0727     0.2763 -0.26 0.79254
VARIABLE3   -0.8034     0.2686 -2.99 0.00278
Log(scale)   0.4124     0.1099  3.75 0.00018

Scale= 1.51

Log Normal distribution
Loglik(model)= -401.1   Loglik(intercept only)= -408.8
        Chisq= 15.32 on 3 degrees of freedom, p= 0.0016
Number of Newton-Raphson Iterations: 4
n=290 (15 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability

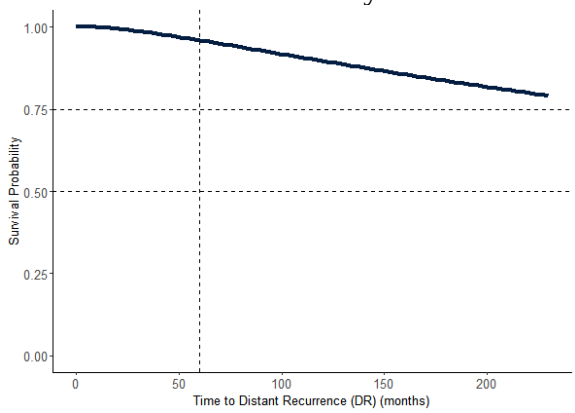


3. Mutation Status, Tumor Stage, and Lymph Node Involvement

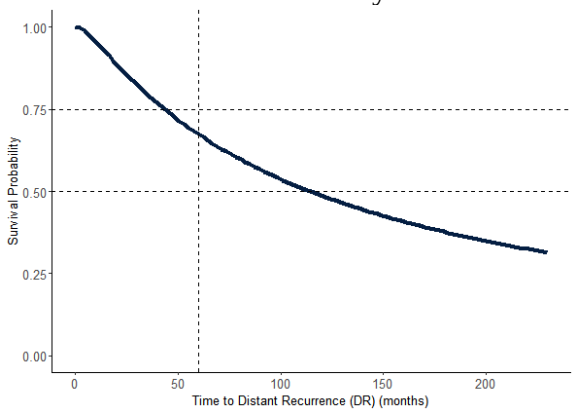
```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
             Value Std. Error     z      p
(Intercept)  6.601      0.293 22.50 <2e-16
VARIABLE1   -0.475      0.423 -1.12 0.2618
VARIABLE2   -0.885      0.280 -3.16 0.0016
VARIABLE3   -0.502      0.266 -1.89 0.0591
Log(scale)   0.365      0.117  3.12 0.0018

Scale= 1.44

Log Normal distribution
Loglik(model)= -352.5   Loglik(intercept only)= -361.6
        Chisq= 18.22 on 3 degrees of freedom, p= 4e-04
Number of Newton-Raphson Iterations: 4
```

```
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



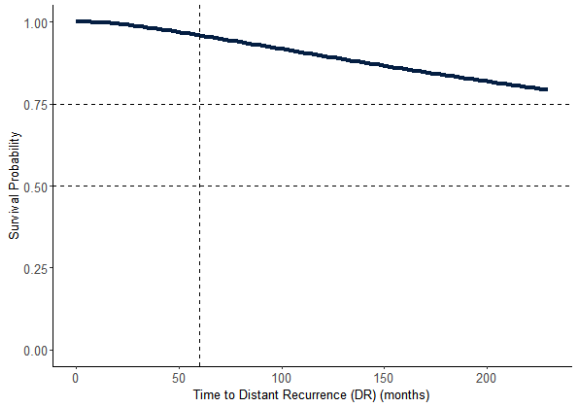
All Risks Survival Probability



4. Age of Diagnosis, Tumor Stage, and Lymph Node Involvement

```
Call:
survreg(formula = Surv(rv$TIME3, rv$EVENT3) ~ VARIABLE, data = Data,
    dist = "lognormal")
              Value Std. Error     z      p
(Intercept)  6.6209     0.3051 21.70 <2e-16
VARIABLE1   -0.0974     0.2760 -0.35 0.7241
VARIABLE2   -0.8904     0.2828 -3.15 0.0016
VARIABLE3   -0.5410     0.2675 -2.02 0.0431
Log(scale)   0.3743     0.1171  3.20 0.0014

Scale= 1.45

Log Normal distribution
Loglik(model)= -353.1   Loglik(intercept only)= -361.6
        Chisq= 17.13 on 3 degrees of freedom, p= 0.00067
Number of Newton-Raphson Iterations: 4
n=273 (32 observations deleted due to missingness)
```

Baseline Survival Probability



All Risks Survival Probability