

Appendix A1: Emergency model results using various cut-off values

Additional 2x2 tables for various cut-off values for each emergency model are included in this section.

Emergency model 1

1. cut-off = 0.3, sensitivity = 0.73, specificity = 0.61

		Clinician urgency (clinical assessment of urgency)		Total
		<48 hours (+ve)	2+days (-ve)	
Test result (based on predictor variables)	<48 hours +ve	26	25 (FP)	51
	2+ days -ve	10 (FN)	39	49
	Total	36	64	100

2. cut-off = 0.4^(a), sensitivity = 0.58, specificity = 0.77

		Clinician urgency (clinical assessment of urgency)		Total
		<48 hours (+ve)	2+days (-ve)	
Test result (based on predictor variables)	<48 hours +ve	21	15 (FP)	36
	2+ days -ve	15 (FN)	49	64
	Total	36	64	100

(a) This particular cut-off point produces test results which are consistent with the clinician's assessment of urgency.

3. cut-off = 0.5, sensitivity = 0.45, specificity = 0.88

		Clinician urgency (clinical assessment of urgency)		Total
		<48 hours (+ve)	2+days (-ve)	
Test result (based on predictor variables)	<48 hours +ve	16	8 (FP)	24
	2+ days -ve	20 (FN)	56	76
	Total	36	64	100

4. cut-off = 0.6, sensitivity = 0.30, specificity = 0.94

		Clinician urgency (clinical assessment of urgency)		Total
		<48 hours (+ve)	2+days (-ve)	
Test result (based on predictor variables)	<48 hours +ve	11	4 (FP)	15
	2+ days -ve	25 (FN)	60	85
	Total	36	64	100

Note: FP = false positive, FN = false negative

Emergency model 2

Assuming cut-off = 0.2 for emergency model 1:

1. cut-off = 0.2, sensitivity = 0.97, specificity = 0.12, PV+ = 0.56, PV- = 0.79

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	13	12 (FP)	25
	8+ days -ve	0 (FN)	2	2
	Total	13	14	27

2. cut-off = 0.3, sensitivity = 0.91, specificity = 0.35, PV+ = 0.62, PV- = 0.76

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	14	8 (FP)	22
	8+ days -ve	1 (FN)	4	5
	Total	15	12	27

3. cut-off = 0.4, sensitivity = 0.84, specificity = 0.49, PV+ = 0.66, PV- = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	12	7 (FP)	19
	8+ days -ve	2 (FN)	6	18
	Total	14	13	27

4. cut-off = 0.5, sensitivity = 0.75, specificity = 0.65, PV+ = 0.71, PV- = 0.69

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	11	4 (FP)	15
	8+ days -ve	4 (FN)	8	12
	Total	15	12	27

5. cut-off = 0.55, sensitivity = 0.67, specificity = 0.71, PV+ = 0.73, PV- = 0.65

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	10	3 (FP)	13
	8+ days -ve	5 (FN)	9	14
	Total	14	13	27

6. cut-off = 0.6, sensitivity = 0.63, specificity = 0.77, PV+ = 0.76, PV- = 0.64

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	9	3 (FP)	12
	8+ days -ve	5 (FN)	10	15
	Total	14	13	27

7. cut-off = 0.7, sensitivity = 0.44, specificity = 0.90, PV+ = 0.84, PV- = 0.58

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	7	1 (FP)	8
	8+ days -ve	8 (FN)	11	19
	Total	15	12	27

Note: FP = false positive, FN = false negative

Assuming cut-off = 0.3 for emergency model 1:

1. cut-off = 0.2, sensitivity = 0.97, specificity = 0.12, PV+ = 0.56, PV- = 0.79

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	24	21 (FP)	45
	8+ days -ve	1 (FN)	3	4
	Total	25	24	49

2. cut-off = 0.3, sensitivity = 0.91, specificity = 0.35, PV+ = 0.62, PV- = 0.76

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	25	14 (FP)	39
	8+ days -ve	2 (FN)	8	10
	Total	27	22	49

3. cut-off = 0.4, sensitivity = 0.84, specificity = 0.49, PV+ = 0.66, PV- = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	22	12 (FP)	34
	8+ days -ve	4 (FN)	11	15
	Total	26	23	49

4. cut-off = 0.5, sensitivity = 0.75, specificity = 0.65, PV+ = 0.71, PV- = 0.69

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	20	8 (FP)	28
	8+ days -ve	6 (FN)	15	21
	Total	26	23	49

5. cut-off = 0.55, sensitivity = 0.67, specificity = 0.71, PV+ = 0.73, PV- = 0.65

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	17	7 (FP)	24
	8+ days -ve	9 (FN)	16	25
	Total	26	23	49

6. cut-off = 0.6, sensitivity = 0.63, specificity = 0.77, PV+ = 0.76, PV- = 0.64

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	17	5 (FP)	22
	8+ days -ve	10 (FN)	17	27
	Total	27	22	49

7. cut-off = 0.7, sensitivity = 0.44, specificity = 0.90, PV+ = 0.84, PV- = 0.58

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	12	2 (FP)	14
	8+ days -ve	15 (FN)	20	35
	Total	27	22	49

Note: FP = false positive, FN = false negative

Assuming cut-off = 0.4 for emergency model 1:

1. cut-off = 0.2, sensitivity = 0.97, specificity = 0.12, PV+ = 0.56, PV- = 0.79

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
		Test result (based on predictor variables)	2-7 days +ve	
	8+ days -ve	1 (FN)	4	5
	Total	33	31	64

2. cut-off = 0.3, sensitivity = 0.91, specificity = 0.35, PV+ = 0.62, PV- = 0.76

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
		Test result (based on predictor variables)	2-7 days +ve	
	8+ days -ve	3 (FN)	10	13
	Total	35	29	64

3. cut-off = 0.4, sensitivity = 0.84, specificity = 0.49, PV+ = 0.66, PV- = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
		Test result (based on predictor variables)	2-7 days +ve	
	8+ days -ve	5 (FN)	15	20
	Total	34	30	64

4. cut-off = 0.5^(b), sensitivity = 0.75, specificity = 0.65, PV+ = 0.71, PV- = 0.69

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
		Test result (based on predictor variables)	2-7 days +ve	
	8+ days -ve	9 (FN)	19	28
	Total	35	29	64

(b) This particular cut-off point produces test results which are reasonably consistent with the clinician's assessment of urgency.

5. cut-off = 0.55, sensitivity = 0.67, specificity = 0.71, PV+ = 0.73, PV- = 0.65

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
		Test result (based on predictor variables)	2-7 days +ve	
	8+ days -ve	11 (FN)	21	32
	Total	34	30	64

6. cut-off = 0.6, sensitivity = 0.63, specificity = 0.77, PV+ = 0.76, PV- = 0.64

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	22	7 (FP)	29
	8+ days -ve	13 (FN)	22	35
	Total	35	29	64

7. cut-off = 0.7, sensitivity = 0.44, specificity = 0.90, PV+ = 0.84, PV- = 0.58

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	15	3 (FP)	18
	8+ days -ve	19 (FN)	27	46
	Total	34	30	64

Note: FP = false positive, FN = false negative

Assuming cut-off = 0.5 for emergency model 1:

1. cut-off = 0.2, sensitivity = 0.97, specificity = 0.12, PV+ = 0.56, PV- = 0.79

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	38	32 (FP)	70
	8+ days -ve	1 (FN)	5	6
	Total	39	37	76

2. cut-off = 0.3, sensitivity = 0.91, specificity = 0.35, PV+ = 0.62, PV- = 0.76

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	38	22 (FP)	60
	8+ days -ve	4 (FN)	12	16
	Total	42	34	76

3. cut-off = 0.4, sensitivity = 0.84, specificity = 0.49, PV+ = 0.66, PV- = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	34	18 (FP)	52
	8+ days -ve	6 (FN)	18	24
	Total	40	36	76

4. cut-off = 0.5, sensitivity = 0.75, specificity = 0.65, PV+ = 0.71, PV- = 0.69

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	31	12 (FP)	43
	8+ days -ve	10 (FN)	23	33
	Total	41	35	76

5. cut-off = 0.55, sensitivity = 0.67, specificity = 0.71, PV+ = 0.73, PV- = 0.65

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	28	10 (FP)	38
	8+ days -ve	13 (FN)	25	38
	Total	41	35	76

6. cut-off = 0.6, sensitivity = 0.63, specificity = 0.77, PV+ = 0.76, PV- = 0.64

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	26	8 (FP)	34
	8+ days -ve	15 (FN)	27	42
	Total	41	35	76

7. cut-off = 0.7, sensitivity = 0.44, specificity = 0.90, PV+ = 0.84, PV- = 0.58

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	18	4 (FP)	21
	8+ days -ve	23 (FN)	32	55
	Total	41	35	76

Note: FP = false positive, FN = false negative

Assuming cut-off = 0.6 for emergency model 1:

1. cut-off = 0.2, sensitivity = 0.97, specificity = 0.12, PV+ = 0.56, PV- = 0.79

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	43	36 (FP)	79
	8+ days -ve	1 (FN)	5	6
	Total	44	41	85

2. cut-off = 0.3, sensitivity = 0.91, specificity = 0.35, PV+ = 0.62, PV- = 0.76

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	43	25 (FP)	67
	8+ days -ve	4 (FN)	13	18
	Total	47	38	85

3. cut-off = 0.4, sensitivity = 0.84, specificity = 0.49, PV+ = 0.66, PV- = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	38	20 (FP)	58
	8+ days -ve	7 (FN)	20	27
	Total	45	40	85

4. cut-off = 0.5, sensitivity = 0.75, specificity = 0.65, PV+ = 0.71, PV- = 0.69

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	34	14 (FP)	48
	8+ days -ve	12 (FN)	25	37
	Total	46	39	85

5. cut-off = 0.55, sensitivity = 0.67, specificity = 0.71, PV+ = 0.73, PV- = 0.65

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	31	11 (FP)	42
	8+ days -ve	15 (FN)	28	43
	Total	46	39	85

6. cut-off = 0.6, sensitivity = 0.63, specificity = 0.77, PV+ = 0.76, PV- = 0.64

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	29	9 (FP)	38
	8+ days -ve	17 (FN)	30	47
	Total	46	39	85

7. cut-off = 0.7, sensitivity = 0.44, specificity = 0.90, PV+ = 0.84, PV- = 0.58

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	20	4 (FP)	24
	8+ days -ve	26 (FN)	35	61
	Total	46	39	85

Note: FP = false positive, FN = false negative

Assuming cut-off = 0.7 for emergency model 1:

1. cut-off = 0.2, sensitivity = 0.97, specificity = 0.12, PV+ = 0.56, PV- = 0.79

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	46	40 (FP)	86
	8+ days -ve	2 (FN)	5	7
	Total	48	45	93

2. cut-off = 0.3, sensitivity = 0.91, specificity = 0.35, PV+ = 0.62, PV- = 0.76

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	47	27 (FP)	74
	8+ days -ve	4 (FN)	15	19
	Total	51	42	93

3. cut-off = 0.4, sensitivity = 0.84, specificity = 0.49, PV+ = 0.66, PV- = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	41	23 (FP)	64
	8+ days -ve	8 (FN)	21	29
	Total	49	44	93

4. cut-off = 0.5, sensitivity = 0.75, specificity = 0.65, PV+ = 0.71, PV- = 0.69

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	38	15 (FP)	53
	8+ days -ve	12 (FN)	28	40
	Total	50	43	93

5. cut-off = 0.55, sensitivity = 0.67, specificity = 0.71, PV+ = 0.73, PV- = 0.65

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	34	12 (FP)	46
	8+ days -ve	16 (FN)	31	47
	Total	50	43	93

6. cut-off = 0.6, sensitivity = 0.63, specificity = 0.77, PV+ = 0.76, PV- = 0.64

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	31	10 (FP)	41
	8+ days -ve	19 (FN)	33	52
	Total	50	43	93

7. cut-off = 0.7, sensitivity = 0.44, specificity = 0.90, PV+ = 0.84, PV- = 0.58

		Clinician urgency (clinical assessment of urgency)		Total
		2-7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	2-7 days +ve	22	4 (FP)	26
	8+ days -ve	28 (FN)	39	67
	Total	50	43	93

Note: FP = false positive, FN = false negative

Emergency model 3

1. cut-off = 0.2, sensitivity = 1.00, specificity = 0.00

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	71	29 (FP)	100
	8+ days -ve	0 (FN)	0	0
	Total	71	29	100

2. cut-off = 0.3, sensitivity = 0.99, specificity = 0.04

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	70	28 (FP)	98
	8+ days -ve	1 (FN)	1	2
	Total	71	29	100

3. cut-off = 0.4, sensitivity = 0.93, specificity = 0.24

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	66	22 (FP)	88
	8+ days -ve	5 (FN)	7	12
	Total	71	29	100

4. cut-off = 0.5, sensitivity = 0.89, specificity = 0.40

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	63	17 (FP)	80
	8+ days -ve	8 (FN)	12	20
	Total	71	29	100

5. cut-off = 0.7, sensitivity = 0.66, specificity = 0.73

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	47	8 (FP)	55
	8+ days -ve	24 (FN)	21	45
	Total	71	29	100

6. cut-off = 0.8, sensitivity = 0.49, specificity = 0.87

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	34	4	39
	8+ days -ve	36 (FN)	25	61
	Total	71	29	100

7. cut-off = 0.9, sensitivity = 0.49, specificity = 0.87

		Clinician urgency (clinical assessment of urgency)		Total
		≤7 days (+ve)	8+ days (-ve)	
Test result (based on predictor variables)	≤7 days +ve	18	1 (FP)	19
	8+ days -ve	53 (FN)	28	81
	Total	71	29	100

Note: FP = false positive, FN = false negative