

**Proof of concept model targeting patient-level prediction of 90-day mortality after colorectal cancer surgery kickstarts OHDSI journey.**

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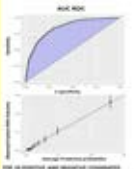
1. More than 2 million colorectal cancer patients were seen over 400,000 health encounters in 2018. The OHDSI International Patient Group (IPG) identified 400,000 encounters from 2018. OHDSI identified 400,000 encounters from 2018. OHDSI identified 400,000 encounters from 2018. OHDSI identified 400,000 encounters from 2018.
2. Proof of concept model to demonstrate the use of OHDSI data.
3. Early identification of high risk patients could facilitate personalized clinical treatment and ultimately improve patient outcomes.

**AIM**  
To develop and validate a multivariable patient-level model for prediction of 90-day mortality after CRC surgery, offering optimized decision-making on treatment alternatives to life quality, economic data.

**METHODS**  
1. Multivariable model development data from OHDSI data linked to the OHDSI network and linked to health and social outcomes.  
2. Prediction of 90-day mortality, and the OHDSI network, including training and testing procedures. (OHDSI network)

**RESULTS**  
N=22,347  
Proof of concept model: **AUC=0.78** (95% CI: 0.76-0.80), **OR=1.01** (95% CI: 1.00-1.02), **OR=1.01** (95% CI: 1.00-1.02), **OR=1.01** (95% CI: 1.00-1.02).

# Proof-of-concept model targeting patient-level prediction of 90-day mortality after colorectal cancer surgery kickstarts OHDSI journey.



OHDSI identified and described encounters

Encounter ID	Encounter Type	Encounter Date	Encounter Location	Encounter Provider	Encounter Patient	Encounter Outcome
1	1	2018-01-01	1	1	1	1
2	2	2018-01-02	2	2	2	2
3	3	2018-01-03	3	3	3	3
4	4	2018-01-04	4	4	4	4
5	5	2018-01-05	5	5	5	5
6	6	2018-01-06	6	6	6	6
7	7	2018-01-07	7	7	7	7
8	8	2018-01-08	8	8	8	8
9	9	2018-01-09	9	9	9	9
10	10	2018-01-10	10	10	10	10
11	11	2018-01-11	11	11	11	11
12	12	2018-01-12	12	12	12	12
13	13	2018-01-13	13	13	13	13
14	14	2018-01-14	14	14	14	14
15	15	2018-01-15	15	15	15	15
16	16	2018-01-16	16	16	16	16
17	17	2018-01-17	17	17	17	17
18	18	2018-01-18	18	18	18	18
19	19	2018-01-19	19	19	19	19
20	20	2018-01-20	20	20	20	20
21	21	2018-01-21	21	21	21	21
22	22	2018-01-22	22	22	22	22
23	23	2018-01-23	23	23	23	23
24	24	2018-01-24	24	24	24	24
25	25	2018-01-25	25	25	25	25
26	26	2018-01-26	26	26	26	26
27	27	2018-01-27	27	27	27	27
28	28	2018-01-28	28	28	28	28
29	29	2018-01-29	29	29	29	29
30	30	2018-01-30	30	30	30	30
31	31	2018-01-31	31	31	31	31
32	32	2018-02-01	32	32	32	32
33	33	2018-02-02	33	33	33	33
34	34	2018-02-03	34	34	34	34
35	35	2018-02-04	35	35	35	35
36	36	2018-02-05	36	36	36	36
37	37	2018-02-06	37	37	37	37
38	38	2018-02-07	38	38	38	38
39	39	2018-02-08	39	39	39	39
40	40	2018-02-09	40	40	40	40
41	41	2018-02-10	41	41	41	41
42	42	2018-02-11	42	42	42	42
43	43	2018-02-12	43	43	43	43
44	44	2018-02-13	44	44	44	44
45	45	2018-02-14	45	45	45	45
46	46	2018-02-15	46	46	46	46
47	47	2018-02-16	47	47	47	47
48	48	2018-02-17	48	48	48	48
49	49	2018-02-18	49	49	49	49
50	50	2018-02-19	50	50	50	50
51	51	2018-02-20	51	51	51	51
52	52	2018-02-21	52	52	52	52
53	53	2018-02-22	53	53	53	53
54	54	2018-02-23	54	54	54	54
55	55	2018-02-24	55	55	55	55
56	56	2018-02-25	56	56	56	56
57	57	2018-02-26	57	57	57	57
58	58	2018-02-27	58	58	58	58
59	59	2018-02-28	59	59	59	59
60	60	2018-02-29	60	60	60	60
61	61	2018-03-01	61	61	61	61
62	62	2018-03-02	62	62	62	62
63	63	2018-03-03	63	63	63	63
64	64	2018-03-04	64	64	64	64
65	65	2018-03-05	65	65	65	65
66	66	2018-03-06	66	66	66	66
67	67	2018-03-07	67	67	67	67
68	68	2018-03-08	68	68	68	68
69	69	2018-03-09	69	69	69	69
70	70	2018-03-10	70	70	70	70
71	71	2018-03-11	71	71	71	71
72	72	2018-03-12	72	72	72	72
73	73	2018-03-13	73	73	73	73
74	74	2018-03-14	74	74	74	74
75	75	2018-03-15	75	75	75	75
76	76	2018-03-16	76	76	76	76
77	77	2018-03-17	77	77	77	77
78	78	2018-03-18	78	78	78	78
79	79	2018-03-19	79	79	79	79
80	80	2018-03-20	80	80	80	80
81	81	2018-03-21	81	81	81	81
82	82	2018-03-22	82	82	82	82
83	83	2018-03-23	83	83	83	83
84	84	2018-03-24	84	84	84	84
85	85	2018-03-25	85	85	85	85
86	86	2018-03-26	86	86	86	86
87	87	2018-03-27	87	87	87	87
88	88	2018-03-28	88	88	88	88
89	89	2018-03-29	89	89	89	89
90	90	2018-03-30	90	90	90	90
91	91	2018-03-31	91	91	91	91
92	92	2018-04-01	92	92	92	92
93	93	2018-04-02	93	93	93	93
94	94	2018-04-03	94	94	94	94
95	95	2018-04-04	95	95	95	95
96	96	2018-04-05	96	96	96	96
97	97	2018-04-06	97	97	97	97
98	98	2018-04-07	98	98	98	98
99	99	2018-04-08	99	99	99	99
100	100	2018-04-09	100	100	100	100

**CONCLUSIONS**  
 • The use of OHDSI data for patient level prediction of 90-day mortality and death resulted in high clinical and social outcomes.  
 • Identifying high risk patients and the OHDSI data in a research and clinical environment will lead to improved and personalized clinical treatment plans for the patients.