Appendix Table 1. Holiday and control period start and end dates. These dates always correspond to the last Friday working to last Friday of vacation period. All date ranges are inclusive. Holiday periods will be compared to control periods beginning 4 weeks prior and 4 weeks following the first day of the holiday period (period B).

Fiscal Year (April-March)	Period A	Period B (December Holiday period)	Period C
2002	Nov 22-Dec 6	Dec 20-Jan 3	Jan 17-31
2003	Nov 21-Dec 5	Dec 19-Jan 2	Jan 16-30
2004	Nov 19-Dec 3	Dec 17-Dec 31	Jan 14-28
2005	Nov 25-Dec 9	Dec 23- Jan 6	Jan 20-Feb 3
2006	Nov 24-Dec 8	Dec 22-Jan 5	Jan 19-Feb 2
2007	Nov 23-Dec 7	Dec 21-Jan 4	Jan 18-Feb 1
2008	Nov 21-Dec 5	Dec 19-Jan 2	Jan 16-30
2009	Nov 20-Dec 4	Dec 18-Jan 1	Jan 15-29
2010	Nov 19-Dec 3	Dec 17-Dec 31	Jan 14-28
2011	Nov 25-Dec 9	Dec 23-Jan 6	Jan 20-Feb 3
2012	Nov 23-Dec 7	Dec 21-Jan 4	Jan 18-Feb 1
2013	Nov 22-Dec 6	Dec 20-Jan 3	Jan 17-31
2014	Nov 21-Dec 5	Dec 19-Jan 2	Jan 16-30
2015	Nov 20-Dec 4	Dec 18-Jan 1	Jan 15-29

Appendix Table 2. Definition of Outpatient Follow-Up

Term	Details
Outpatient physician follow-up	A billing code in the Ontario Health Insurance Plan database (Setting: office or home (location in 'O','H''), exclude codes starting with: X, J, L, H, E, Q. E, G310, G313, G538, G590, G373, G489, or any laboratory test. This definition includes visits to walk-in clinics, however would exclude visits to emergency departments. This definition does not include non-physician providers such as nurse practitioners. As physician assistants require supervision by physicians, visits with physician assistants would be captured as physician visits.
Ontario Health Insurance Plan (OHIP) database	Contains all physician billing claims for insured physician services in Ontario.

Appendix Table 3. Methods Used for Propensity Score-Matched Survival Analysis

Creation of propensity scores	Derived from a logistic regression model to predict discharge during holiday or control periods. All baseline covariates were predictors in this model (including year of discharge, and additionally the top 10 most common admission diagnoses).
Matching	Matching 1:1 on the logit of the propensity score within a caliper distance of 0.2*Standard Deviation of the logit of the propensity score.[1]
Comparison of matched pairs	Using standardized differences between the matched groups, for all variables included in the propensity score model, to confirm <10% difference between groups.[2]
Analysis	Cox proportional hazards modelling for the primary outcome (30-day death or readmission), with robust standard errors to account for the paired nature of the data.[3] Report hazard ratios and 95% confidence intervals.

1. Austin PC. Optimal caliper widths for propensity-score matching when estimating differences in means and differences in proportions in observational studies. Pharm Stat. 2011 Mar; 10(2): 150–161.

2. Austin PC. Balance diagnostics for comparing the distribution of baseline covariates between treatment groups in propensity-score matched samples. Stat Med. 2009 Nov 10;28(25):3083-107.

3. Austin PC. The use of propensity score methods with survival or time-to-event outcomes: reporting measures of effect similar to those used in randomized experiments. Stat Med. 2014 Mar 30; 33(7): 1242–1258.

Appendix Table 4. Secondary outcomes unadjusted odds ratios stratified by baseline patient and hospital characteristics.

Patient Group	**7-day death or readmission, OR (95% CI)**	**14-day death or readmission, OR (95% CI)**	**7-day outpatient follow-up, OR (95% CI)**	**14-day outpatient follow-up, OR (95% CI)**
Year of discharge				
2002-2008	1.16 (1.14-1.19)	1.13 (1.11-1.15)	0.63 (0.62-0.64)	0.69 (0.68-0.70)
2009-2016	1.12 (1.10-1.15)	1.11 (1.09-1.13)	0.62 (0.61-0.63)	0.65 (0.64-0.66)
Patient age				
<18 years	1.16 (1.11-1.22)	1.12 (1.08-1.16)	0.69 (0.67-0.71)	0.75 (0.73-0.77)
18-64 years	1.17 (1.14-1.19)	1.15 (1.13-1.17)	0.62 (0.61-0.63)	0.67 (0.66-0.68)
65 years+	1.12 (1.09-1.14)	1.09 (1.07-1.11)	0.60 (0.59-0.61)	0.64 (0.63-0.65)
Sex female	1.15(1.12-1.17)	1.13 (1.11-1.15)	0.62 (0.62-0.63)	0.67 (0.66-0.68)
Sex male	1.14 (1.12-1.17)	1.11 (1.09-1.13)	0.62 (0.61-0.63)	0.67 (0.66-0.68)
Rural	1.20 (1.16-1.25)	1.19 (1.16-1.23)	0.63 (0.61-0.65)	0.67 (0.65-0.68)
Not rural	1.13 (1.11-1.15)	1.11 (1.09-1.12)	0.62 (0.61-0.63)	0.67 (0.66-0.68)
Income quintile				
1	1.14 (1.10-1.17)	1.12 (1.09-1.15)	0.62 (0.61-0.64)	0.67 (0.66-0.69)
2	1.13 (1.10-1.17)	1.08 (1.05-1.11)	0.63 (0.61-0.64)	0.67 (0.65-0.68)
3	1.16 (1.12-1.20)	1.14 (1.11-1.18)	0.62 (0.61-0.64)	0.67 (0.65-0.68)
4	1.13 (1.09-1.18)	1.11 (1.07-1.14)	0.62 (0.61-0.64)	0.68 (0.66-0.69)
5	1.17 (1.12-1.21)	1.16 (1.12-1.19)	0.62 (0.60-0.63)	0.67 (0.65-0.68)
Length of hospital stay				
0-3 days	1.14 (1.12-1.16)	1.13 (1.11-1.15)	0.63 (0.62-0.64)	0.68 (0.67-0.69)
>3 days	1.14 (1.11-1.16)	1.11 (1.08-1.13)	0.62 (0.61-0.63)	0.66 (0.65-0.67)
Arrival by ambulance at index admission	1.10 (1.07-1.13)	1.08 (1.06-1.11)	0.61 (0.60-0.62)	0.66 (0.65-0.68)
Not arriving by ambulance	1.16 (1.14-1.19)	1.14 (1.12-1.15)	0.63 (0.62-0.64)	0.67 (0.67-0.68)
Charlson comorbid score				
0	1.16 (1.14-1.19)	1.14 (1.12-1.16)	0.65 (0.64-0.66)	0.70 (0.69-0.71)
1	1.15 (1.10-1.19)	1.11 (1.08-1.15)	0.60 (0.59-0.61)	0.65 (0.63-0.66)
2	1.13 (1.08-1.18)	1.08 (1.04-1.13)	0.59 (0.57-0.61)	0.62 (0.60-0.64)
3	1.14 (1.08-1.21)	1.10 (1.05-1.16)	0.59 (0.56-0.61)	0.63 (0.61-0.66)
4+	1.10 (1.05-1.15)	1.10 (1.06-1.14)	0.59 (0.57-0.61)	0.62 (0.60-0.64)
Discharged against medical advice	1.05 (0.96-1.16)	1.08 (0.99-1.18)	0.60 (0.55-0.66)	0.68 (0.62-0.74)
Discharged home with support services, n (%)	1.14 (1.10-1.18)	1.10 (1.07-1.13)	0.65 (0.63-0.66)	0.67 (0.65-0.69)
Outpatient visits with all physicians in previous year,				
0-5	1.18 (1.15-1.21)	1.15 (1.12-1.18)	0.67 (0.66-0.68)	0.72 (0.71-0.74)
6-10	1.15 (1.12-1.19)	1.14 (1.11-1.17)	0.62 (0.61-0.64)	0.66 (0.65-0.68)
11-15	1.12 (1.08-1.16)	1.10 (1.07-1.14)	0.60 (0.58-0.61)	0.64 (0.62-0.65)
>15	1.12 (1.08-1.15)	1.09 (1.06-1.12)	0.58 (0.57-0.59)	0.59 (0.58-0.61)
No assigned primary care provider	1.18 (1.10-1.27)	1.14 (1.06-1.21)	0.69 (0.66-0.73)	0.76 (0.72-0.79)

Appendix Table 4 (continued). Secondary outcomes unadjusted odds ratios stratified by baseline patient and hospital characteristics.

Patient Group	**7-day death or readmission, OR (95% CI)**	**14-day death or readmission, OR (95% CI)**	**7-day outpatient follow-up, OR (95% CI)**	**14-day outpatient follow-up, OR (95% CI)**
ER visit in previous 6 months				
0	1.19 (1.16-1.22)	1.17 (1.14-1.20)	0.63 (0.62-0.64)	0.69 (0.68-0.70)
1	1.12 (1.09-1.16)	1.09 (1.06-1.12)	0.63 (0.62-0.64)	0.67 (0.66-0.69)
2+	1.12 (1.10-1.15)	1.11 (1.08-1.13)	0.60 (0.59-0.61)	0.64 (0.63-0.66)
At least one urgent hospitalisation in previous year	1.09 (1.06-1.12)	1.08 (1.05-1.10)	0.60 (0.58-0.61)	0.63 (0.62-0.65)
At least one elective hospitalisation in previous year	1.16 (1.10-1.22)	1.16 (1.11-1.21)	0.60 (0.58-0.62)	0.62 (0.60-0.65)
At least one home care visits in previous 6 months	1.11 (1.05-1.17)	1.10 (1.05-1.15)	0.64 (0.61-0.66)	0.68 (0.65-0.70)
Hospital type				
Teaching	1.14 (1.10-1.17)	1.11 (1.08-1.14)	0.60 (0.59-0.62)	0.65 (0.63-0.66)
Community	1.15 (1.13-1.17)	1.13 (1.11-1.14)	0.63 (0.62-0.64)	0.68 (0.67-0.69)
Small	1.18 (1.11-1.27)	1.19 (1.12-1.26)	0.59 (0.56-0.62)	0.65 (0.62-0.69)
Pediatric	1.14 (1.03-1.25)	1.04 (0.96-1.13)	0.65 (0.62-0.70)	0.70 (0.66-0.74)
Rural	1.23 (1.17-1.30)	1.20 (1.14-1.25)	0.63 (0.60-0.65)	0.66 (0.64-0.69)
Diagnostic category of most responsible diagnosis				
Diseases of the circulatory system	1.17 (1.13-1.21)	1.14 (1.10-1.18)	0.60 (0.58-0.61)	0.64 (0.62-0.66)
Diseases of the digestive system	1.14 (1.10-1.19)	1.11 (1.07-1.15)	0.62 (0.60-0.63)	0.65 (0.63-0.66)
Diseases of the respiratory system	1.13 (1.08-1.18)	1.07 (1.03-1.11)	0.62 (0.61-0.64)	0.68 (0.66-0.70)
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	1.14 (1.09-1.20)	1.14 (1.09-1.19)	0.60 (0.58-0.62)	0.66 (0.63-0.68)
Injury, poisoning and certain other consequences of external causes	1.20 (1.14-1.26)	1.19 (1.14-1.24)	0.62 (0.60-0.64)	0.69 (0.67-0.71)
Diseases of the genitourinary system	1.20 (1.12-1.28)	1.21 (1.14-1.28)	0.63 (0.61-0.67)	0.69 (0.66-0.73)
Mental and behavioural disorders	1.11 (1.03-1.19)	1.07 (1.00-1.14)	0.62 (0.59-0.65)	0.68 (0.65-0.71)
Neoplasms	1.14 (1.06-1.22)	1.14 (1.08-1.22)	0.60 (0.56-0.63)	0.60 (0.56-0.63)
Pregnancy, childbirth and the puerperium	1.19 (1.10-1.29)	1.17 (1.09-1.26)	0.75 (0.70-0.80)	0.80 (0.74-0.85)
Endocrine, nutritional and metabolic diseases	1.11 (1.01-1.21)	1.05 (0.97-1.14)	0.61 (0.58-0.65)	0.65 (0.61-0.69)

Appendix Table 5. Balance diagnostics for propensity score matched sample. SD=standardized difference of means.

Characteristic	**Holiday** n= 217,303*	**Control** n= 217,303	**SD**
Year of discharge from hospital, n(%)			
2002	17,485 (8.0%)	17,550 (8.1%)	0.00
2003	18,329 (8.4%)	17,624 (8.1%)	0.01
2004	17,324 (8.0%)	17,046 (7.8%)	0.00
2005	15,327 (7.1%)	15,926 (7.3%)	0.01
2006	15,004 (6.9%)	14,940 (6.9%)	0.00
2007	14,349 (6.6%)	14,719 (6.8%)	0.01
2008	14,052 (6.5%)	14,199 (6.5%)	0.00
2009	14,265 (6.6%)	14,535 (6.7%)	0.00
2010	14,724 (6.8%)	14,405 (6.6%)	0.01
2011	14,417 (6.6%)	15,004 (6.9%)	0.01
2012	15,509 (7.1%)	15,343 (7.1%)	0.00
2013	15,498 (7.1%)	15,207 (7.0%)	0.01
2014	15,896 (7.3%)	15,404 (7.1%)	0.01
2015	15,124 (7.0%)	15,401 (7.1%)	0.00
Patient age (years), n (%)			
<18 years	30,195 (13.9%)	29,912 (13.8%)	0.00
18-64 years	96,895 (44.6%)	98,214 (45.2%)	0.01
65+ years	90,213 (41.5%)	89,177 (41.0%)	0.01
Sex female, n (%)	107,466 (49.5%)	107,132 (49.3%)	0.00
Rural, n (%)	32,016 (14.7%)	31,306 (14.4%)	0.01
Length of hospital stay (days), median (IQR)	3 (2-6)	3 (2-6)	0.03
Arrival by ambulance at index admission, n (%)	71,035 (32.7%)	70,825 (32.6%)	0.00
Charlson comorbidity score, n (%)			
0	113,977 (52.5%)	114,918 (52.9%)	0.01
1	43,411 (20.0%)	43,420 (20.0%)	0.00
2	24,728 (11.4%)	24,336 (11.2%)	0.01
3	14,198 (6.5%)	13,955 (6.4%)	0.00
4+	20,989 (9.7%)	20,674 (9.5%)	0.00
Income quintile, n (%)			
1	1,117 (0.5%)	1,071 (0.5%)	0.00
2	49,491 (22.8%)	49,365 (22.7%)	0.00
3	45,451 (20.9%)	45,611 (21.0%)	0.00
4	42,039 (19.3%)	42,059 (19.4%)	0.00
5	41,637 (19.2%)	41,712 (19.2%)	0.00
	37,568 (17.3%)	37,485 (17.3%)	0.00
Discharged against medical advice, n (%)	3,025 (1.4%)	2,998 (1.4%)	0.00
Discharged with support services, n (%)	34,783 (16.0%)	34,106 (15.7%)	0.01

Appendix Table 5 (continued). Balance diagnostics for propensity score matched sample. SD=standardized difference of means.

Characteristic	**Holiday** n= 217,303*	**Control** n= 217,303	**SD**
ER visits in previous 6 months, n (%)	90,716 (41.7%)	92,312 (42.5%)	0.01
0	64,673 (29.8%)	63,584 (29.3%)	0.01
1	61,914 (28.5%)	61,407 (28.3%)	0.01
2+			
At least one urgent hospitalisation in previous year, n (%)	51,105 (23.5%)	50,055 (23.0%)	0.01
At least one elective hospitalisation in previous year, n (%)	18,292 (8.4%)	18,056 (8.3%)	0.00
At least one home care visits in previous six months, n (%)	16,077 (7.4%)	15,741 (7.2%)	0.01
Outpatient visits with all physicians in previous year, n (%)			
0-5	73,247 (33.7%)	74,065 (34.1%)	0.01
6-10	52,312 (24.1%)	52,418 (24.1%)	0.00
11-15	36,623 (16.9%)	36,336 (16.7%)	0.00
>15	55,121 (25.4%)	54,484 (25.1%)	0.01
Assigned primary care provider, n (%)	207,159 (95.3%)	207,007 (95.3%)	0.00
Hospital type, n (%)			
Teaching	54,480 (25.1%)	53,943 (24.8%)	0.01
Community	144,600 (66.5%)	145,640 (67.0%)	0.01
Small	8,803 (4.1%)	8,523 (3.9%)	0.01
Pediatric	6,220 (2.9%)	6,065 (2.8%)	0.00
Rural	14,219 (6.5%)	13,880 (6.4%)	0.01
Diagnostic category for most responsible diagnosis, n (%)			
Diseases of the circulatory system	35,757 (16.5%)	36,321 (16.7%)	0.01
Diseases of the digestive system	33,963 (15.6%)	34,788 (16.0%)	0.01
Diseases of the respiratory system	33,694 (15.5%)	30,784 (14.2%)	0.04
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	21,041 (9.7%)	21,736 (10.0%)	0.01
Injury, poisoning and certain other consequences of external causes	22,049 (10.1%)	21,018 (9.7%)	0.02
Diseases of the genitourinary system	10,416 (4.8%)	10,611 (4.9%)	0.00
Mental and behavioral disorders	8,630 (4.0%)	9,930 (4.6%)	0.03
Neoplasms	7,032 (3.2%)	7,352 (3.4%)	0.01
Pregnancy, childbirth and the puerperium	6,090 (2.8%)	6,381 (2.9%)	0.01
Endocrine, nutritional and metabolic diseases	6,753 (3.1%)	6,727 (3.1%)	0.00

Appendix Table 5 (continued). Balance diagnostics for propensity score matched sample. SD=standardized difference of means.

Characteristic	**Holiday** n= 217,303*	**Control** n= 217,303	**SD**
Admission Diagnosis (ICD-10 code), n (%)			
Pneumonia, unspecified (J189)	7,289 (3.4%)	7,586 (3.5%)	0.01
Congestive Heart Failure (I500)	5,869 (2.7%)	5,809 (2.7%)	0.00
Chronic Obstructive Pulmonary Disease with acute exacerbation, unspecified (J441)	4,845 (2.2%)	4,906 (2.3%)	0.00
Chronic obstructive pulmonary disease with acute lower respiratory infection (J440)	3,512 (1.6%)	3,523 (1.6%)	0.00
Chest pain, unspecified (R074)	3,325 (1.5%)	3,195 (1.5%)	0.00
Urinary tract infection, site not specified (N390)	3,067 (1.4%)	2,988 (1.4%)	0.00
Atherosclerotic heart disease (I251)	2,783 (1.3%)	2,822 (1.3%)	0.00
Unstable angina (I200)	2,515 (1.2%)	2,385 (1.1%)	0.01
Syncope and collapse (R55)	2,484 (1.1%)	2,439 (1.1%)	0.00
Convalescence following surgery (Z540)	1,849 (0.9%)	2,032 (0.9%)	0.01

* Overall 217,303 cases matched, 2 cases unmatched (over 99.9% matched).

Appendix Table 6. Unadjusted and adjusted outcomes of adult patients with a diagnosis of congestive heart failure discharged from hospital during holiday and control periods.

CHF	Holiday, n (%)	Control, n (%)	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Primary Outcome				
30-day death or readmission	1,986 (31.9)	4,128 (30.9)	1.04 (0.98-1.11)	1.06 (1.01-1.12)
30-day emergency department visit	1,902 (30.5)	3,874 (29.0)	1.07 (1.01-1.15)	1.09 (1.03-1.16)
30-day urgent re-hospitalisation	1,251(20.1)	2,612 (19.6)	1.03 (0.96-1.11)	1.05 (0.98-1.12)
30-day death	231 (3.7)	496 (3.7)	1.00 (0.85-1.17)	1.02 (0.88-1.19)
Secondary Outcomes				
7-day outpatient follow-up	2,274 (36.5)	6,761 (50.6)	0.56 (0.53-0.60)	0.55 (0.51-0.58)
14-day outpatient follow-up	3,786 (60.7)	9,636 (72.2)	0.60 (0.56-0.64)	0.58 (0.54-0.61)
7-day death or readmission	804 (12.9)	1,547 (11.6)	1.13 (1.03-1.24)	1.14 (1.05-1.24)
7-day emergency department visit	774 (12.4)	1,450 (10.9)	1.16 (1.06-1.28)	1.18 (1.08-1.28)
7-day urgent re-hospitalisation	422 (6.8)	849 (6.4)	1.07 (0.95-1.21)	1.08 (0.96-1.11)
7-day death	49 (0.8)	112 (0.8)	0.94 (0.67-1.31)	0.96 (0.67-1.37)
14-day death or readmission	1,281 (20.6)	2,586 (19.4)	1.08 (1.00-1.16)	1.04 (1.01-1.18)
14-day emergency department visit	1,233 (19.8)	2,422 (18.1)	1.11 (1.03-1.20)	1.13 (1.05-1.22)
14-day urgent re-hospitalisation	748 (12.0)	1,524 (11.4)	1.06 (0.96-1.16)	1.08 (0.98-1.18)
14-day death	96 (1.5)	221 (1.7)	0.93 (0.73-1.18)	0.96 (0.75-1.23)

Appendix Table 7. Unadjusted and adjusted outcomes of adult patients with a diagnosis of chronic obstructive pulmonary disease discharged from hospital during holiday and control periods.

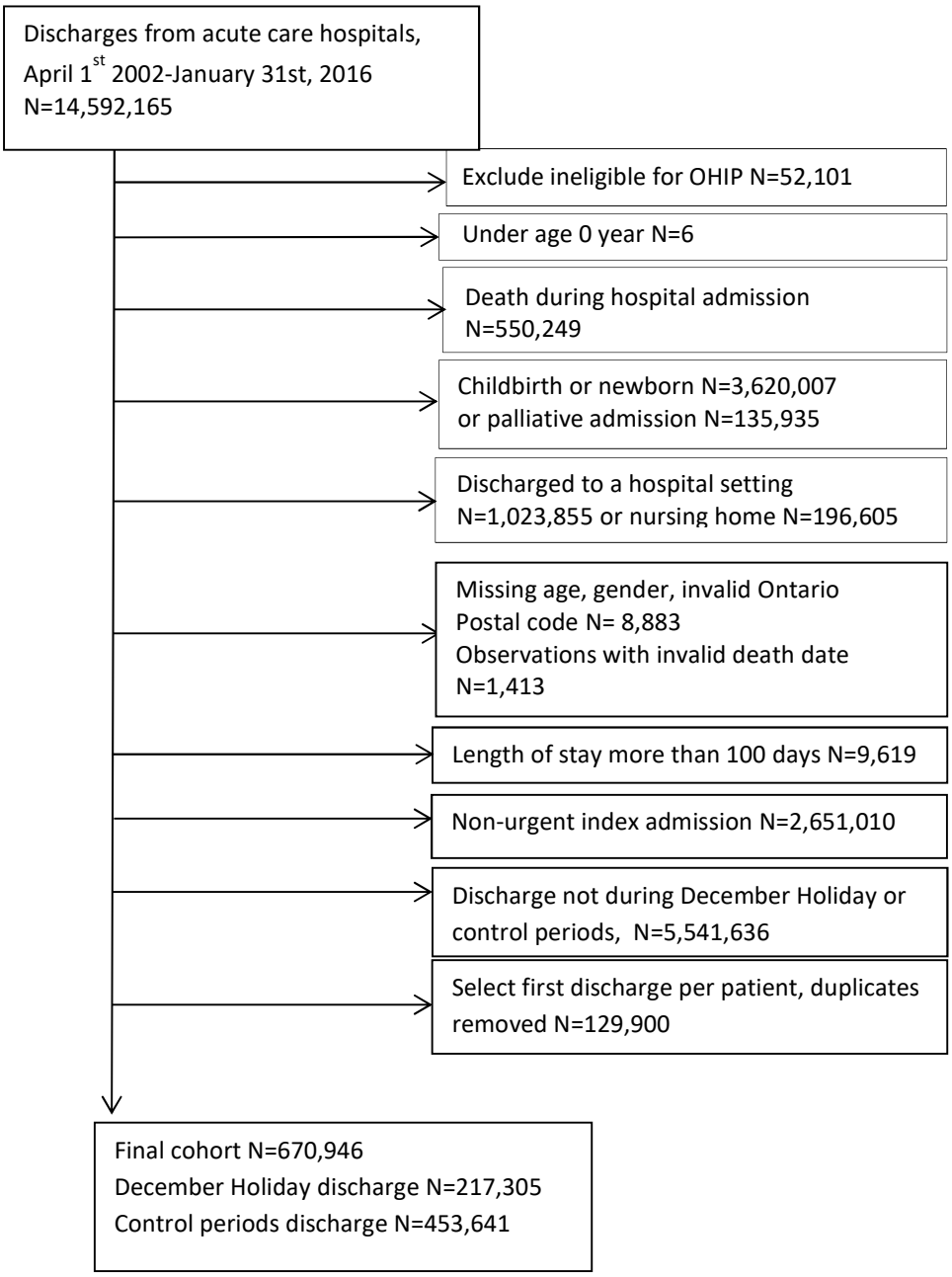
COPD	Holiday, n (%)	Control, n (%)	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Primary Outcome				
30-day death or readmission	2,360 (26.4)	4,064 (27.8)	0.94 (0.88-0.99)	0.99 (0.93-1.05)
30-day emergency department visit	2,293 (25.7)	3,915 (26.8)	0.95 (0.89-1.01)	1.00 (0.94-1.06)
30-day urgent re-hospitalisation	1,384 (15.5)	2,396 (16.4)	0.94 (0.87-1.01)	1.00 (0.94-1.08)
30-day death	198 (2.2)	405 (2.8)	0.80 (0.67-0.95)	0.90 (0.76-1.07)
Secondary Outcomes				
7-day outpatient follow-up	2,669 (29.9)	6,030 (41.2)	0.61 (0.58-0.64)	0.59 (0.55-0.63)
14-day outpatient follow-up	4,875 (54.6)	9,383 (64.1)	0.67 (0.64-0.71)	0.64 (0.60-0.68)
7-day death or readmission	977 (10.9)	1,422 (9.7)	1.14 (1.05-1.24)	1.19 (1.09-1.30)
7-day emergency department visit	949 (10.6)	1,364 (9.3)	1.16 (1.06-1.26)	1.20 (1.10-1.31)
7-day urgent re-hospitalisation	480 (5.5)	744 (5.1)	1.08 (0.96-1.22)	1.15 (1.03-1.28)
7-day death	53 (0.6)	73 (0.5)	1.19 (0.84-1.70)	1.39 (0.98-1.97)
14-day death or readmission	1,564 (17.5)	2,420 (16.5)	1.07 (1.00-1.15)	1.13 (1.05-1.21)
14-day emergency department visit	1,523 (17.1)	2,321 (15.9)	1.09 (1.02-1.17)	1.14 (1.06-1.22)
14-day urgent re-hospitalisation	845 (9.5)	1,336 (9.1)	1.04 (0.95-1.14)	1.11 (1.01-1.22)
14-day death	102 (1.1)	182 (1.2)	0.92 (0.72-1.17)	1.05 (0.85-1.30)

Appendix Table 8. Adjusted results for outcomes of patients at high and low baseline risk of readmission (as predicted by LACE score) discharged from hospital during holiday and control periods.

Outcome Measure	High Risk Group Adjusted OR (95% CI)	Low Risk Group Adjusted OR (95% CI)	P for interaction
Primary Outcome			
30-day death or readmission	1.06 (1.04-1.09)	1.12 (1.10-1.13)	0.0001
30-day emergency department visit	1.07 (1.05-1.09)	1.11 (1.09-1.13)	0.002
30-day urgent re-hospitalisation	1.05 (1.03-1.08)	1.08 (1.06-1.11)	0.08
30-day death	1.02 (0.98-1.07)	1.17 (1.10-1.25)	0.001
Secondary Outcomes			
7-day outpatient follow-up	0.58 (0.56-0.59)	0.62 (0.61-0.63)	<0.0001
14-day outpatient follow-up	0.60 (0.59-0.62)	0.67 (0.66-0.68)	<0.0001
7-day death or readmission	1.14 (1.11-1.17)	1.16 (1.14-1.19)	0.25
7-day emergency department visit	1.16 (1.13-1.19)	1.17 (1.14-1.20)	0.57
7-day urgent re-hospitalisation	1.06 (1.03-1.09)	1.08 (1.04-1.12)	0.45
7-day death	1.07 (0.96-1.18)	1.36 (1.14-1.63)	0.02
14-day death or readmission	1.11 (1.08-1.13)	1.13 (1.13-1.17)	0.003
14-day emergency department visit	1.13 (1.10-1.15)	1.16 (1.14-1.18)	0.02
14-day urgent re-hospitalisation	1.06 (1.03-1.09)	1.09 (1.06-1.12)	0.17
14-day death	1.03 (0.97-1.10)	1.25 (1.11-1.40)	0.008

Appendix Table 9. Adjusted results for outcomes of patients discharged from hospital during holiday and control periods, according to year of hospital discharge.

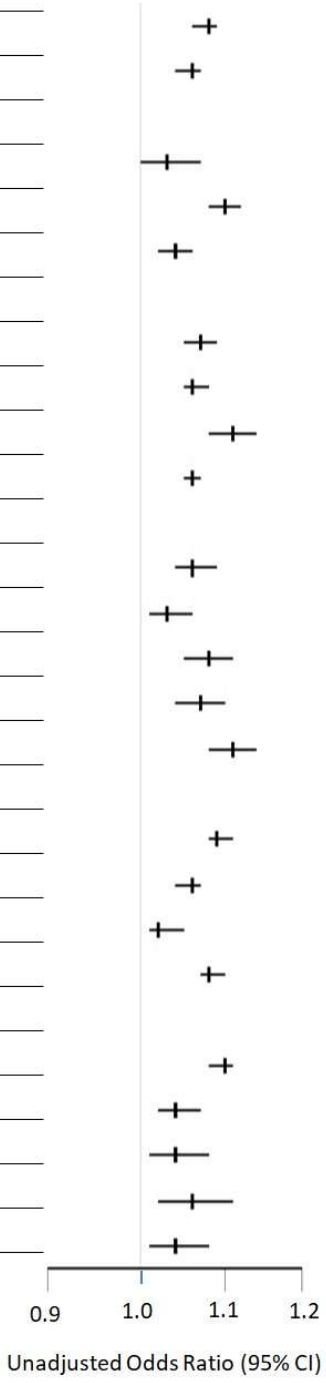
Outcome Measure	Year of Discharge 2002-2008 Adjusted OR (95% CI)	Year of Discharge 2009-2015 Adjusted OR (95% CI)	P for interaction
Primary Outcome			
30-day death or readmission	1.10 (1.08-1.12)	1.08 (1.06-1.09)	0.09
30-day emergency department visit	1.10 (1.07-1.12)	1.08 (1.06-1.10)	0.23
30-day urgent re-hospitalisation	1.07 (1.04-1.09)	1.05 (1.03-1.07)	0.24
30-day death	1.07 (1.01-1.13)	1.05 (1.00-1.10)	0.62
Secondary Outcomes			
7-day outpatient follow-up	0.62 (0.61-0.63)	0.60 (0.59-0.61)	0.02
14-day outpatient follow-up	0.67 (0.66-0.68)	0.63 (0.62-0.65)	<0.0001
7-day death or readmission	1.18 (1.15-1.20)	1.13 (1.11-1.16)	0.008
7-day emergency department visit	1.19 (1.17-1.22)	1.14 (1.12-1.17)	0.007
7-day urgent re-hospitalisation	1.08 (1.04-1.11)	1.05 (1.02-1.08)	0.30
7-day death	1.17 (1.03-1.32)	1.11 (0.96-1.28)	0.62
14-day death or readmission	1.15 (1.12-1.17)	1.12 (1.10-1.14)	0.09
14-day emergency department visit	1.16 (1.14-1.19)	1.13 (1.11-1.15)	0.07
14-day urgent re-hospitalisation	1.07 (1.05-1.10)	1.07 (1.04-1.09)	0.67
14-day death	1.09 (1.01-1.17)	1.07 (0.99-1.16)	0.79



Appendix Figure 1: Flow chart detailing exclusions for study population. OHIP= Ontario Health Insurance Plan.

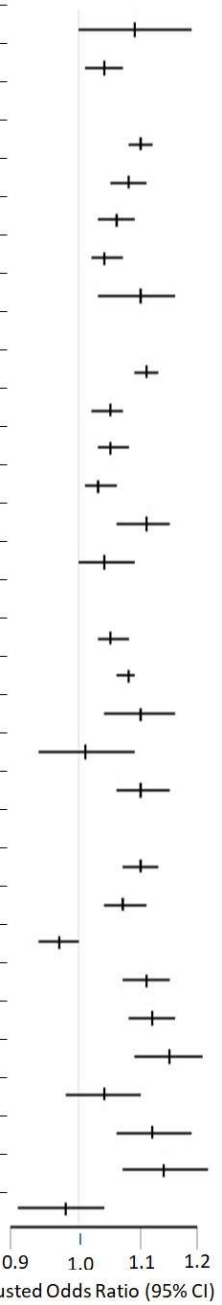
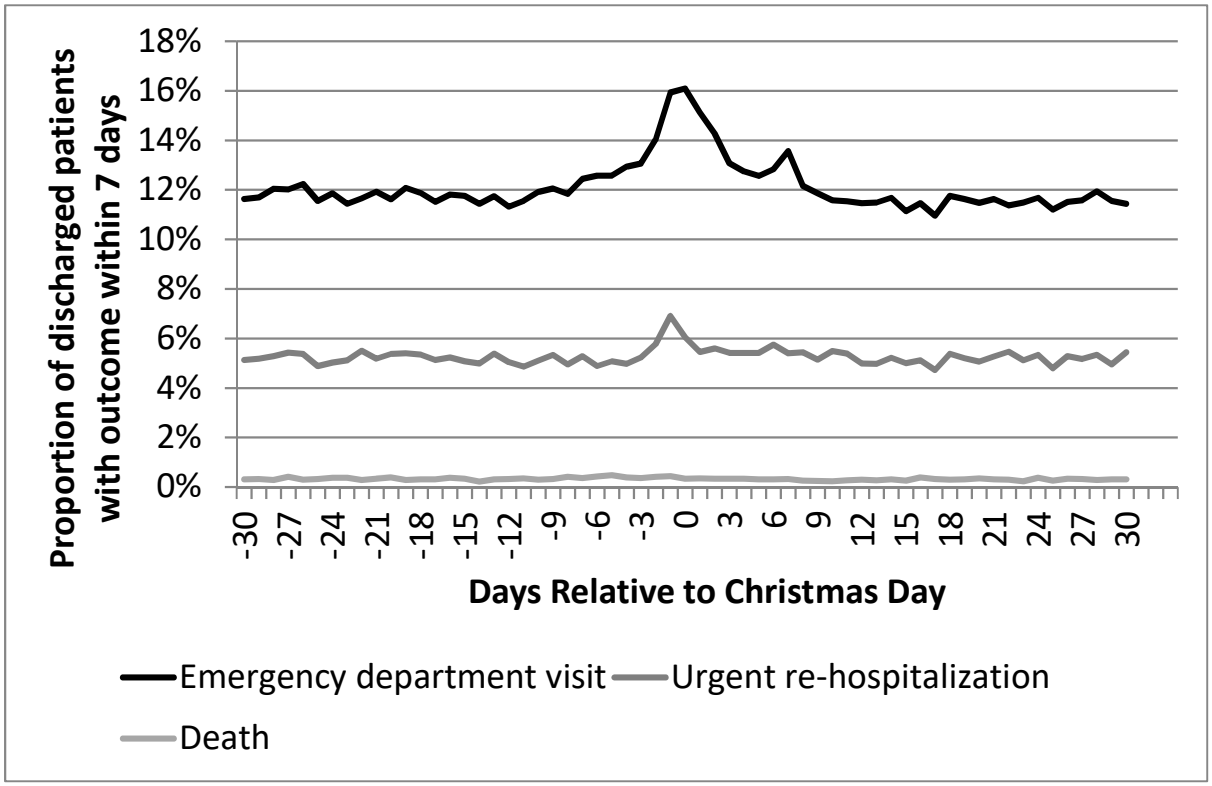
Appendix Figure 2. Forest plot of unadjusted results for 30 day death or readmission after hospital discharge during the Christmas holiday period or two controls periods, stratified by baseline patient and hospital characteristics.

Patient Group	Holiday, n (%)	Control, n (%)	30-day Death or Readmission, Odds Ratio (95% CI)
Year of discharge			
2002-2008	28,660 (25.6)	57,042 (24.3)	1.08 (1.06-1.09)
2009-2016	27,593 (26.2)	54,887 (25.1)	1.06 (1.04-1.07)
Patient age			
<18 years	6,184 (20.5)	12,573 (20.0)	1.03 (1.00-1.07)
18-64 years	25,549 (26.4)	50,651 (24.5)	1.10 (1.08-1.12)
65 years+	24,520 (27.2)	48,705 (26.5)	1.04 (1.02-1.06)
Sex			
Female	27,579 (25.7)	55,751 (24.4)	1.07 (1.05-1.09)
Male	28,674 (26.1)	56,178 (24.9)	1.06 (1.05-1.08)
Rural	10,061 (31.4)	20,140 (29.3)	1.11 (1.08-1.14)
Not rural	46,192 (24.9)	91,789 (23.9)	1.06 (1.05-1.07)
Income quintile			
1 (Lowest)	13,652 (27.6)	27,385 (26.4)	1.06 (1.04-1.09)
2	11,685 (25.7)	23,759 (25.1)	1.03 (1.01-1.06)
3	10,741 (25.6)	21,356 (24.2)	1.08 (1.05-1.11)
4	10,367 (24.9)	20,369 (23.7)	1.07 (1.04-1.10)
5 (Highest)	9,493 (25.3)	18,359 (23.4)	1.11 (1.08-1.14)
Length of hospital stay			
0-3 days	28,771 (24.2)	52,485 (22.6)	1.09 (1.08-1.11)
>3 days	27,482 (27.9)	59,444 (26.8)	1.06 (1.04-1.07)
Arrival by ambulance	19,016 (26.8)	37,180 (26.2)	1.02 (1.01-1.05)
Not arriving by ambulance	37,237 (25.5)	74,749 (24.0)	1.08 (1.07-1.10)
Charlson comorbid score			
0	26,065 (22.9)	51,131 (21.3)	1.10 (1.08-1.11)
1	10,210 (23.5)	19,685 (22.7)	1.04 (1.02-1.07)
2	7,229 (29.2)	14,752 (28.4)	1.04 (1.01-1.08)
3	4,430 (31.2)	8,921 (30.0)	1.06 (1.02-1.11)
4+	8,319 (39.6)	17,440 (38.6)	1.04 (1.01-1.08)



Appendix Figure 2 (continued). Forest plot of unadjusted results for 30 day death or readmission after hospital discharge during the Christmas holiday period or two controls periods, stratified by baseline patient and hospital characteristics.

Patient Group	Holiday, n (%)	Control, n (%)	30-day Death or Readmission, Odds Ratio (95% CI)
Discharged against medical advice	1,461 (48.3)	2,607 (46.1)	1.09 (1.00-1.19)
Discharged home with support services	11,368 (32.7)	24,838 (31.8)	1.04 (1.01-1.07)
Outpatient visits with all physicians in previous year			
0-5	15,995 (21.8)	30,409 (20,3)	1.10 (1.08-1.12)
6-10	12,831 (24.5)	25,287 (23.1)	1.08 (1.05-1.11)
11-15	9,755 (26.6)	19,810 (25.6)	1.06 (1.03-1.09)
>15	17,672 (32,1)	36,423 (31.2)	1.04 (1.02-1.07)
No assigned primary care provider	2,263 (22.3)	4,211 (20.8)	1.10 (1.03-1.16)
Emergency department visits in previous 6 months			
0	19,082 (21.0)	36,684 (19.4)	1.11 (1.09-1.13)
1	15,070 (23.3)	29,734 (22.5)	1.05 (1.02-1.07)
2+	22,101 (35.7)	45,511 (34.5)	1.05 (1.03-1.08)
At least one urgent hospitalisation in previous year	17,890 (35.0)	38,021 (34.3)	1.03 (1.01-1.06)
At least one elective hospitalisation in previous year	5,992 (32.8)	11,800 (30.6)	1.11 (1.06-1.15)
At least one home care visits in previous 6 months	5,497 (34.2)	11,368 (33.2)	1.04 (1.00-1.09)
Hospital type			
Teaching	14,599 (26.8)	29,596 (25.8)	1.05 (1.03-1.08)
Community	36,405 (25.2)	71,326 (23.8)	1.08 (1.06-1.09)
Small	3,081 (35.0)	6,307 (33.0)	1.10 (1.04-1.16)
Pediatric	1,443 (23.2)	2,993 (23.0)	1.01 (0.94-1.09)
Rural	50,691 (25.4)	100,447 (24.2)	1.10 (1.06-1.15)
Category of most responsible diagnosis, n (%)			
Diseases of the circulatory system	9,883 (27.6)	19,932 (25.8)	1.10 (1.07-1.13)
Diseases of the digestive system	7,992 (23.5)	15,963 (22.3)	1.07 (1.04-1.11)
Diseases of the respiratory system	7,659 (22.7)	13,080 (23.3)	0.97 (0.94-1.00)
Symptoms, signs and abnormal findings	5,455 (25.9)	11,239 (24.0)	1.11 (1.07-1.15)
Injury, poisoning	5,175 (23.5)	9,603 (21.5)	1.12 (1.08-1.16)
Diseases of the genitourinary system	2,935 (28.2)	5,768 (25.5)	1.15 (1.09-1.21)
Mental and behavioural disorders	2,415 (28.0)	5,998 (27.2)	1.04 (0.98-1.10)
Neoplasms	2,993 (42.6)	6,356 (39.8)	1.12 (1.06-1.19)
Pregnancy, childbirth and the puerperium	1,991 (32.7)	3,823 (29.9)	1.14 (1.07-1.22)
Endocrine, nutritional and metabolic diseases	1,746 (25.9)	3,655 (26.3)	0.98 (0.91-1.04)



Appendix Figure 3. Unadjusted proportion of patients with 7-day death, emergency department visit or urgent re-hospitalisation, by day of discharge, relative to Christmas day. Results from all years are combined.