Appendix 4 (as supplied by the authors): Segmented regression results for patients who received an incentive, with time zero set as the individual date of incentive billing
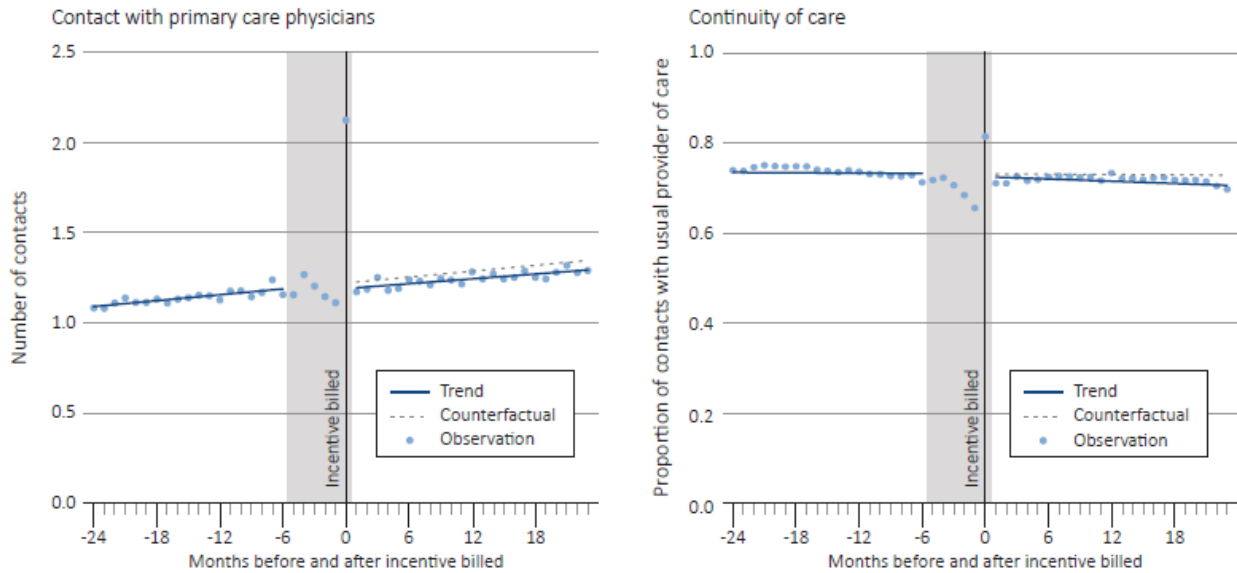

Figure 4.1 Number of contacts with primary care physician and average continuity of care among patients who received an incentive within the first 12 months of implementation, excluding patient who died during the study period (n=97,011)
Note: Time zero is the individual date of incentive billing. The month of incentive billing and 5 previous months are excluded in segmented regression models.
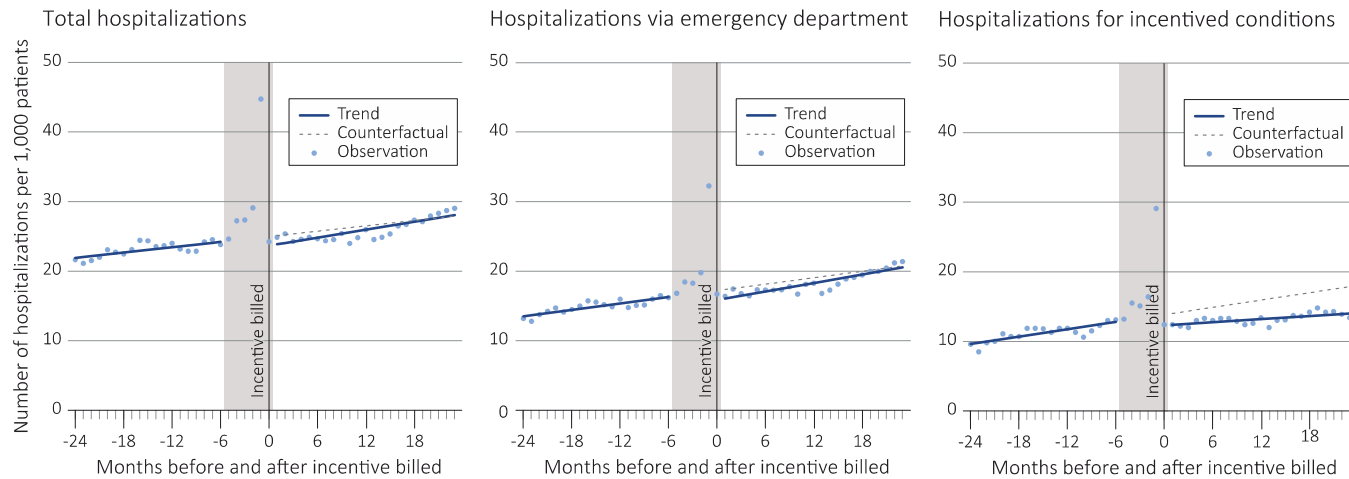

Figure 4.2. Monthly number of total hospitalizations, hospitalizations via emergency, and hospitalizations for incentivized conditions (per 1,000 patients) among patients who received an incentive within the first 12 months of implementation, excluding patient who died during the study period (n=97,011)

Total spending

Appendix 4 Figure 3. Average monthly health care spending (CAD, 2010/11 constant dollars), among patients who received an incentive within the first 12 months of implementation, excluding patient who died during the study period (n=97,011)
Note: Time zero is the individual date of incentive billing. The month of incentive billing and 5 previous months are excluded in segmented regression models.
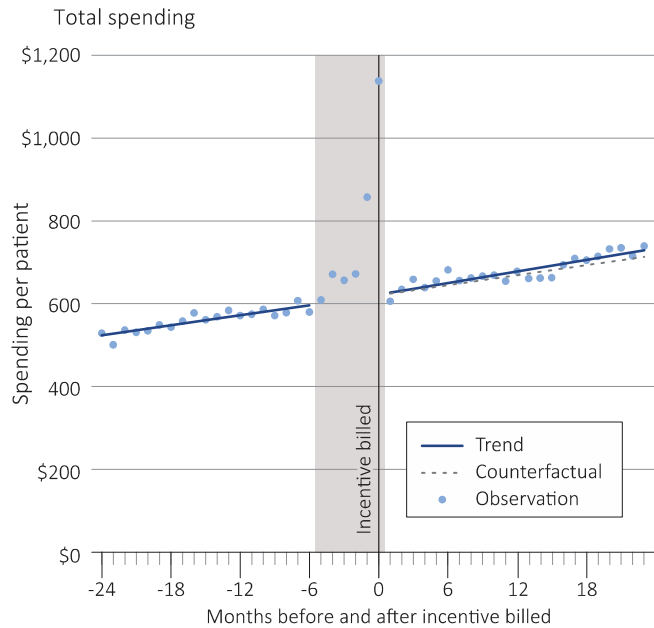
Table 4.1. Segmented regression estimates among patients who received incentives, with time zero equal to the date of incentive billing

	Contacts with primary care physicians (average monthly count per patient)	Continuity with primary care physician (proportion of visits to usual provider of care)	Total hospitalizations (monthly rate per 1,000 patients)	Hospitalizations via the emergency department (monthly rate per 1,000 patients)	Hospitalizations for incentivized conditions (monthly rate per 1,000 patients)	Health care expenditures (monthly per-patient average, 2011 CAD$)
Intercept 24 months before incentive billing*	**1.09** **(1.07, 1.10)**	**0.73** **(0.72, 0.75)**	**21.8** **(20.5, 23.0)**	**13.4** **(12.5, 14.2)**	**9.5** **(8.6, 10.3)**	**519.8** **(504.5, 535.2)**
Pre-incentive trend†	**0.0049** **(0.0047, 0.0052)**	**-0.0001** **(-0.0011, -0.0009)**	**0.13** **(0.02, 0.23)**	**0.15** **(0.08, 0.23)**	**0.17** **(0.10, 0.25)**	**4.0** **(2.7, 5.4)**
Change in level	**-0.017** **(-0.055, -0.004)**	0.006 (-0.025, 0.013)	-1.4 (-3.4, 0.6)	-1.42 (-2.85, 0.02)	**-1.4** **(-2.8, -0.1)**	0.9 (-24.1, 25.9)

after
incentive
billing[†]

Change in trend after incentive billing§	**-0.0010** **(-0.0021, -0.0005)**	-0.007 (-0.002, 0.0006)	0.06 (-0.07, 0.20)	0.05 (-0.04, 0.15)	**-0.10** **(-0.19, -0.01)**	0.62 (-1.06, 2.30)
Average monthly change‖	**-0.026** **(-0.033, -0.018)**	-0.17 (-0.49, 0.14)	-0.6 (-3.5, 2.2)	-0.8 (-2.9, 1.2)	**-2.6** **(-4.6, -0.7)**	8.3 (-27.9, 44.6)

Note: Estimates significant at p●0.05 are indicated in **bold**. The month of incentive billing and 5 previous months are excluded in segmented regression models. The cost of the incentive itself and any other changes in service use in these months are not reflected in estimates. Average monthly difference calculated via delta method (Zhang 2009).

*Model fit value 24 months month before incentive introduction.

†Slope or rate of change in the outcome over time, prior to incentive billing.

‡A significant change in level after incentives indicates a one-time increase or decrease in the outcome immediately following incentive billing.

§A significant change in trend after incentives indicates that the slope of the outcome increased or decreased relative to the pre-incentive trend.

‖The average monthly change reflects the total change attributable to the intervention, incorporating changes in both level and trend, over the 23 months of follow-up (divided by 23 to reflect the monthly average).