

## Appendix 1 (as supplied by the authors): Supplemental tables

**Supplemental Table S1.** Fatal motor vehicle collisions in the United States from 2007-2018 by jurisdiction – recreational cannabis legalization

Jurisdiction	Number of Events	Person-Years	Annual Rate per 100,000 Person-Years (95% CI)
<b>Fatal Motor Vehicle Collisions</b>	<b>73,982</b>	<b>924,545,813</b>	<b>8.00 (7.94, 8.06)</b>
<b>Alaska</b>	<b>757</b>	<b>8,662,065</b>	<b>8.74 (8.14, 9.38)</b>
No legalization	479	5,827,578	8.22 (7.52, 8.99)
Legalization	278	2,834,487	9.81 (8.72, 11.03)
<b>California</b>	<b>36,625</b>	<b>457,882,397</b>	<b>8.00 (7.92, 8.08)</b>
No legalization	29,150	372,247,030	7.83 (7.74, 7.92)
Legalization	7,475	85,635,368	8.73 (8.53, 8.93)
<b>Colorado</b>	<b>5,806</b>	<b>63,083,363</b>	<b>9.20 (8.97, 9.44)</b>
No legalization	2,638	29,726,995	8.87 (8.54, 9.22)
Legalization	3,168	33,356,369	9.50 (9.17, 9.83)
<b>District of Columbia</b>	<b>305</b>	<b>7,686,991</b>	<b>3.97 (3.55, 4.44)</b>
No legalization	199	5,049,204	3.94 (3.43, 4.53)
Legalization	106	2,637,787	4.02 (3.32, 4.86)
<b>Maine</b>	<b>1,724</b>	<b>15,931,214</b>	<b>10.82 (10.32, 11.34)</b>
No legalization	1,447	13,368,229	10.82 (10.28, 11.40)
Legalization	277	2,562,985	10.81 (9.61, 12.16)
<b>Massachusetts</b>	<b>4,139</b>	<b>80,129,019</b>	<b>5.17 (5.01, 5.33)</b>
No legalization	3,436	65,799,403	5.22 (5.05, 5.40)
Legalization	703	14,329,616	4.91 (4.56, 5.28)
<b>Michigan</b>	<b>10,722</b>	<b>119,302,759</b>	<b>8.99 (8.82, 9.16)</b>
No legalization	10,661	118,469,766	9.00 (8.83, 9.17)
Legalization	61	832,992.92	7.32 (5.70, 9.41)
<b>Nevada</b>	<b>3,270</b>	<b>33,484,007</b>	<b>9.77 (9.44, 10.11)</b>
No legalization	2,678	27,451,576	9.76 (9.39, 10.13)
Legalization	592	6,032,431	9.81 (9.05, 10.64)
<b>Oregon</b>	<b>4,345</b>	<b>47321693</b>	<b>9.18 (8.91, 9.46)</b>
No legalization	2,825	32,880,251	8.59 (8.28, 8.91)
Legalization	1,520	14,441,443	10.52 (10.01, 11.07)
<b>Vermont</b>	<b>713</b>	<b>7,496,251</b>	<b>9.51 (8.84, 10.24)</b>
No legalization	676	7,183,102	9.41 (8.73, 10.15)
Legalization	37	313,150	11.82 (8.56, 16.31)
<b>Washington</b>	<b>5,576</b>	<b>83,566,054</b>	<b>6.67 (6.50, 6.85)</b>
No legalization	2,677	39,558,682	6.77 (6.52, 7.03)
Legalization	2,899	44,007,372	6.59 (6.35, 6.83)

**Supplemental Table S2.** Deaths from fatal motor vehicle collisions in the United States from 2007-2018 by jurisdiction – recreational cannabis legalization

Jurisdiction	Number of Events	Person-Years	Annual Rate per 100,000 Person-Years (95% CI)
<b>Deaths from Motor Vehicle Collisions</b>	<b>80,402</b>	<b>924,545,813</b>	<b>8.70 (8.64, 8.76)</b>
<b>Alaska</b>	<b>827</b>	<b>8,662,065</b>	<b>9.55 (8.92, 10.22)</b>
No legalization	523	5,827,578	8.97 (8.24, 9.78)
Legalization	304	2,834,487	10.73 (9.58, 12.00)
<b>California</b>	<b>39,901</b>	<b>457,882,397</b>	<b>8.71 (8.63, 8.80)</b>
No legalization	31,765	372,247,030	8.53 (8.44, 8.63)
Legalization	8,136	85,635,368	9.50 (9.30, 9.71)
<b>Colorado</b>	<b>6,343</b>	<b>63,083,363</b>	<b>10.05 (9.81, 10.31)</b>
No legalization	2,904	29,726,995	9.77 (9.42, 10.13)
Legalization	3,439	33,356,369	10.31 (9.97, 10.66)
<b>District of Columbia</b>	<b>328</b>	<b>7,686,991</b>	<b>4.27 (3.83, 4.75)</b>
No legalization	218	5,049,204	4.32 (3.78, 4.93)
Legalization	110	2,637,787	4.17 (3.46, 5.03)
<b>Maine</b>	<b>1,859</b>	<b>15,931,214</b>	<b>11.67 (11.15, 12.21)</b>
No legalization	1,565	13,368,229	11.71 (11.14, 12.30)
Legalization	294	2,562,985	11.47 (10.23, 12.86)
<b>Massachusetts</b>	<b>4,385</b>	<b>80,129,019</b>	<b>5.47 (5.31, 5.64)</b>
No legalization	3,645	65,799,403	5.54 (5.36, 5.72)
Legalization	740	14,329,616	5.16 (4.81, 5.55)
<b>Michigan</b>	<b>11,595</b>	<b>119,302,759</b>	<b>9.72 (9.54, 9.90)</b>
No legalization	11,532	118,469,766	9.73 (9.56, 9.91)
Legalization	63	832,992.92	7.56 (5.91, 9.68)
<b>Nevada</b>	<b>3,557</b>	<b>33,484,007</b>	<b>10.62 (10.28, 10.98)</b>
No legalization	2,916	27,451,576	10.62 (10.24, 11.02)
Legalization	641	6,032,431	10.63 (9.83, 11.48)
<b>Oregon</b>	<b>4,792</b>	<b>47321693</b>	<b>10.13 (9.84, 10.42)</b>
No legalization	3,112	32,880,251	9.46 (9.14, 9.80)
Legalization	1,680	14,441,443	11.63 (11.09, 12.20)
<b>Vermont</b>	<b>785</b>	<b>7,496,251</b>	<b>10.47 (9.76, 11.23)</b>
No legalization	743	7,183,102	10.34 (9.63, 11.11)
Legalization	42	313,150	13.41 (9.91, 18.15)
<b>Washington</b>	<b>6,030</b>	<b>83,566,054</b>	<b>7.22 (7.04, 7.40)</b>
No legalization	2,899	39,558,682	7.33 (7.07, 7.60)
Legalization	3,131	44,007,372	7.11 (6.87, 7.37)

**Supplemental Table S3.** Fatal motor vehicle collisions in the United States from 2007-2018 by jurisdiction – open recreational cannabis dispensaries

<b>Jurisdiction</b>	<b>Number of Events</b>	<b>Person-Years</b>	<b>Annual Rate per 100,000 Person-Years (95% CI)</b>
<b>Fatal Motor Vehicle Collisions</b>	<b>60,518</b>	<b>774,128,598</b>	<b>7.82 (7.76, 7.88)</b>
<b>Alaska</b>	<b>757</b>	<b>8,662,065</b>	<b>8.74 (8.14, 9.38)</b>
No open dispensaries	598	7,061,183	8.47 (7.82, 9.18)
Open dispensaries	159	1,600,882	9.93 (8.50, 11.60)
<b>California</b>	<b>36,625</b>	<b>457,882,397</b>	<b>8.00 (7.92, 8.08)</b>
No open dispensaries	33,366	418,325,352	7.98 (7.89, 8.06)
Open dispensaries	3,259	39,557,045	8.24 (7.96, 8.53)
<b>Colorado</b>	<b>5,806</b>	<b>63,083,363</b>	<b>9.20 (8.97, 9.44)</b>
No open dispensaries	3,102	35,427,660	8.76 (8.45, 9.07)
Open dispensaries	2,704	27,655,703	9.78 (9.42, 10.15)
<b>Massachusetts</b>	<b>4,139</b>	<b>80,129,019</b>	<b>5.17 (5.01, 5.33)</b>
No open dispensaries	4,109	79,553,840	5.17 (5.01, 5.33)
Open dispensaries	30	575,179	5.22 (3.65, 7.46)
<b>Nevada</b>	<b>3,270</b>	<b>33,484,007</b>	<b>9.77 (9.44, 10.11)</b>
No open dispensaries	2,824	28,950,596	9.75 (9.40, 10.12)
Open dispensaries	446	4,533,412	9.84 (8.97, 10.79)
<b>Oregon</b>	<b>4,345</b>	<b>47,321,693</b>	<b>9.18 (8.91, 9.46)</b>
No open dispensaries	2,943	33,887,495	8.68 (8.38, 9.00)
Open dispensaries	1,402	13,434,198	10.44 (9.90, 11.90)
<b>Washington</b>	<b>5,576</b>	<b>83,566,054</b>	<b>6.67 (6.50, 6.85)</b>
No open dispensaries	3,333	50,635,604	6.58 (6.36, 6.81)
Open dispensaries	2,243	32,930,450	6.81 (6.54, 7.10)

**Supplemental Table S4.** Deaths from fatal motor vehicle collisions in the United States from 2007-2018 by jurisdiction – open recreational cannabis dispensaries

Jurisdiction	Number of Events	Person-Years	Annual Rate per 100,000 Person-Years (95% CI)
<b>Deaths from Motor Vehicle Collisions</b>	<b>65,835</b>	<b>774,128,598</b>	<b>8.50 (8.44, 8.57)</b>
<b>Alaska</b>	<b>827</b>	<b>8,662,065</b>	<b>9.55 (8.92, 10.22)</b>
No open dispensaries	653	7,061,183	9.25 (8.57, 9.98)
Open dispensaries	174	1,600,882	10.87 (9.37, 12.61)
<b>California</b>	<b>39,901</b>	<b>457,882,397</b>	<b>8.71 (8.63, 8.80)</b>
No open dispensaries	36,338	418,325,352	8.69 (8.60, 8.78)
Open dispensaries	3,563	39,557,045	9.01 (8.72, 9.31)
<b>Colorado</b>	<b>6,343</b>	<b>63,083,363</b>	<b>10.05 (9.81, 10.31)</b>
No open dispensaries	3,420	35,427,660	9.65 (9.34, 9.98)
Open dispensaries	2,923	27,655,703	10.57 (10.19, 10.96)
<b>Massachusetts</b>	<b>4,385</b>	<b>80,129,019</b>	<b>5.47 (5.31, 5.64)</b>
No open dispensaries	4,353	79,553,840	5.47 (5.31, 5.64)
Open dispensaries	32	575,179	5.56 (3.93, 7.87)
<b>Nevada</b>	<b>3,557</b>	<b>33,484,007</b>	<b>10.62 (10.28, 10.98)</b>
No open dispensaries	3,070	28,950,596	10.60 (10.24, 10.99)
Open dispensaries	487	4,533,412	10.74 (9.83, 11.74)
<b>Oregon</b>	<b>4,792</b>	<b>47,321,693</b>	<b>10.13 (9.84, 10.42)</b>
No open dispensaries	3,239	33,887,495	9.56 (9.23, 9.89)
Open dispensaries	1,553	13,434,198	11.56 (11.00, 12.15)
<b>Washington</b>	<b>6,030</b>	<b>83,566,054</b>	<b>7.22 (7.04, 7.40)</b>
No open dispensaries	3,612	50,635,604	7.13 (6.90, 7.37)
Open dispensaries	2,418	32,930,450	7.34 (7.06, 7.64)

**Supplemental Table S5.** Variance inflation factor for calendar year and recreational cannabis legalization/open dispensaries in the United States from 2007-2018 by jurisdiction and rate ratio for calendar year.

**1) Recreational Cannabis Legalization**

Jurisdiction	VIF	RR for calendar year (continuous)	
		Fatal Motor Vehicle Collisions	Deaths from Motor Vehicle Collisions
Alaska	2.86488	0.97 (0.93, 1.00)	0.96 (0.93, 0.999)
California	1.78942	0.99 (0.985, 0.993)	0.99 (0.98, 0.99)
Colorado	4.03059	1.01 (0.99, 1.02)	1.00045 (0.99, 1.02)
District of Columbia	2.86488	0.90 (0.85, 0.96)	0.89 (0.84, 0.95)
Maine	1.67294	0.98 (0.97, 1.00)	0.99 (0.97, 1.002)
Massachusetts	1.75507	0.99 (0.976, 0.999)	0.99 (0.97, 0.997)
Michigan	1.01807	1.003 (0.99, 1.01)	1.004 ( 0.999, 1.009)
Nevada	1.72289	0.98 (0.97, 0.996)	0.98 (0.97, 0.996)
Oregon	2.58853	0.97 (0.96, 0.98)	0.97 (0.95, 0.98)
Vermont	1.12406	0.98 (0.96, 1.002)	0.98 (0.96, 1.002)
Washington	4.03059	0.99 (0.97, 1.00)	0.99 (0.97, 1.0004)

**2) Opening of Recreational Cannabis Dispensaries**

Jurisdiction	VIF	RR for calendar year (continuous)	
		Fatal Motor Vehicle Collisions	Deaths from Motor Vehicle Collisions
Alaska	1.78942	0.99 (0.97, 1.02)	0.99 (0.96, 1.02)
California	1.30000	1.002 (0.998, 1.005)	0.99985 (0.997, 1.003)
Colorado	3.76316	0.99 (0.97, 1.003)	0.99 (0.97, 1.001)
Massachusetts	1.01807	0.99 (0.98, 0.997)	0.99 (0.98, 0.995)
Nevada	1.47062	0.99 (0.97, 0.998)	0.99 (0.97, 0.997)
Oregon	2.43161	0.98 (0.97, 0.99)	0.98 (0.96, 0.99)
Washington	3.30678	0.96 (0.95, 0.98)	0.96 (0.95, 0.98)