

**Supplemental materials for:**

Johansen ME. Comparing medical ecology, utilization, and expenditures between 1996-1997 and 2011-2012. *Ann Fam Med*. 2017;15(4):313-321.

## SUPPLEMENTARY Material

Supplement to: Johansen ME. Comparing Medical Ecology, Utilization, and Expenditures between 1996-1997 and 2011-2012.

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	<b>1996-1997</b>	<b>2011-2012</b>	<b>p-value</b>
Total	438.4 (419.4 - 457.4)	636.2 (613.3 - 659.1)	<0.001
Outpatient	196.1 (191.2 - 201.9)	282.1 (274.2 - 290.1)	<0.001
Outpatient Physician	173.9 (168.5 - 179.3)	294.7 (283.9 - 305.5)	<0.001
Primary Care Physician <sup>a</sup>	143.8 (139.4 - 148.2)	164.6 (159.6 - 169.5)	<0.001
Specialty Physician <sup>a</sup>	287.7 (278.8 - 296.6)	392.6 (374.5 - 410.7)	<0.001
Prescribed Medicine	28.09	51.64	No Statistical Testing Done
Dental	217.8 (210.8 - 224.7)	306.9 (295.9 - 318.0)	<0.001
PA/NP/Nurse/NMW	104.9 (88.0 - 121.8)	188.4 (170.4 - 206.3)	<0.001
Therapy	146.5 (132.1 - 160.9)	156.0 (148.9 - 163.0)	0.24
Treatment	253.8 (235.6 - 271.9)	333.2 (311.4 - 355.0)	<0.001
Optometry/Podiatry	142.4 (130.0 - 155.7)	163.3 (152.6 - 174.0)	0.017
Alternative/Complementary Medicine	61.1 (56.3 - 66.0)	79.2 (72.6 - 85.9)	<0.001
Inpatient	11204.2 (10354.7 - 12053.8)	14015.3 (13133.5 - 14897.0)	<0.001
ED	442.4 (408.0 - 476.8)	772.5 (739.0 - 806.1)	<0.001
Home Health	939.3 (840.8 - 1037.9)	1282.3 (1128.6 - 1436.1)	<0.001

### **eTable 1: Expenditure-to-Utilization Ratios**

The ratio represents the expenditure per use of a particular medical service. Higher ratios signal that the expenditure was higher for the use of the service. Statistical testing was not done on Prescribed medicines because the expenditures were taken from the Medical Expenditure Panel Survey (MEPS), while the number of medicines was taken from the National Health and Nutrition Examination Survey (NHANES). 95% Confidence Intervals are reported in parentheses.

PA/NP/Nurse/NMW: Physician Assistant, Nurse Practitioner, Nurse, or Nurse Midwife

<sup>a</sup> Comparison year for physician specialty is 2002-2003 instead of 1996-1997 given this was the first year the data was available within the Medical Expenditure Panel Survey (MEPS).

	<b>1996-1997</b>	<b>2011-2012</b>	<b>p-value</b>
Total	861.9 (825.2 - 898.7)	1247.0 (1201.7 - 1292.3)	<0.001
Outpatient	377.6 (365.7 - 389.5)	542.1 (524.1 - 560.1)	<0.001
Outpatient Physician	273.6 (264.4 - 282.8)	443.7 (426.7 - 460.7)	<0.001
Primary Care Physician <sup>a</sup>	172.1 (166.4 - 177.7)	191.0 (184.7 - 197.2)	<0.001
Specialty Physician <sup>a</sup>	454.4 (438.6 - 470.2)	612.3 (583.8 - 640.8)	<0.001
Prescribed Medicine	71.81	161.68	No Statistical Testing Done
Dental	266.1 (257.2 - 275.0)	353.0 (339.8 - 366.3)	<0.001
PA/NP/Nurse/NMW	168.7 (140.3 - 197.1)	265.5 (233.2 - 297.9)	<0.001
Therapy	483.4 (426.3 - 540.5)	488.6 (450.6 - 526.6)	0.88
Treatment	386.4 (358.8 - 414.0)	457.3 (426.0 - 488.6)	0.001
Optometry/Podiatry	160.8 (143.8 - 177.8)	179.9 (168.6 - 191.2)	0.07
Alternative/Complementary Medicine	149.6 (134.3 - 164.9)	168.2 (150.7 - 185.7)	0.12
Inpatient	12139.2 (11196.9 - 13081.7)	14943.7 (13992.9 - 15894.5)	<0.001
Emergency Department	530.8 (488.1 - 573.5)	983.7 (940.5 - 1026.9)	<0.001
Home Health	1195.2 (1062.6 - 1327.8)	1497.1 (1308.1 - 1686.2)	0.011

### **eTable 2: Expenditure-to-Individual Ratios**

The ratio represents the expenditure per individual who used a service during a given month. Higher ratios signal that the expenditure was higher for an individual who used the service during a given month. Statistical testing was not done on Prescribed medicines because the expenditures were taken from the Medical Expenditure Panel Survey (MEPS), while the number of individuals was taken from the National Health and Nutrition Examination Survey (NHANES). 95% Confidence Intervals are reported in parentheses.

PA/NP/Nurse/NMW: Physician Assistant, Nurse Practitioner, Nurse, or Nurse Midwife

<sup>a</sup> Comparison year for physician specialty is 2002-2003 instead of 1996-1997 given this was the first year the data was available within the Medical Expenditure Panel Survey (MEPS).

	<b>1996-1997</b>	<b>2011-2012</b>	<b>p-Value</b>
Total	1.97 (1.93 - 2.00)	1.96 (1.93 - 1.99)	0.8
Outpatient	1.93 (1.89 - 1.96)	1.92 (1.89 - 1.95)	0.86
Outpatient Physician	1.57 (1.55 - 1.59)	1.51 (1.49 - 1.52)	<0.001
Primary Care Physician <sup>a</sup>	1.20 (1.19 - 1.21)	1.16 (1.15 - 1.17)	<0.001
Specialty Physician <sup>a</sup>	1.58 (1.55 - 1.60)	1.56 (1.54 - 1.58)	0.22
Prescribed Medicine	2.56 (2.43 - 2.69)	3.13 (2.96 - 3.30)	<0.001
Dental	1.22 (1.21 - 1.23)	1.15 (1.14 - 1.16)	<0.001
PA/NP/Nurse/NMW	1.61 (1.46 - 1.76)	1.41 (1.32 - 1.50)	0.025
Therapy	3.30 (3.13 - 3.47)	3.13 (2.96 - 3.30)	0.17
Treatment	1.52 (1.45 - 1.59)	1.37 (1.32 - 1.42)	<0.001
Optometry/Podiatry	1.13 (1.09 - 1.17)	1.10 (1.07 - 1.13)	0.23
Alternative/Complementary Medicine	2.45 (2.30 - 2.60)	2.12 (2.00 - 2.25)	0.001
Inpatient	1.08 (1.07 - 1.09)	1.07 (1.06 - 1.08)	0.013
Emergency Department	1.20 (1.19 - 1.21)	1.27 (1.26 - 1.29)	<0.001
Home Health	1.27 (1.22 - 1.32)	1.17 (1.13 - 1.20)	0.001

**eTable 3: Utilization-to-Individual Ratios.**

The ratio represents the number of visits per person who used a service. Therefore, the higher the ratio, the more visits per person per month was used during the time period. 95% Confidence Intervals are reported in parentheses.

PA/NP/Nurse/NMW: Physician Assistant, Nurse Practitioner, Nurse, or Nurse Midwife

<sup>a</sup> Comparison year for physician specialty is 2002-2003 instead of 1996-1997 given this was the first year the data was available within the Medical Expenditure Panel Survey (MEPS).