S1.  Factors associated with blood pressure control among hypertension patients in 196 healthcare organizations utilizing Epic EMRs, United States, 2020

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | N | BP <130/80 mm Hg | | BP<140/90 mm Hg | | SBP>=160 or DBP >=100 mm Hg | |
| % | AOR# (95% CI##) | % | AOR (95% CI) | % | AOR (95% CI) |
| Overall | 9,475,002 | 29.8 |  | 64.5 |  | 7.0 |  |
| *Age* |  |  |  |  |  |  |  |
| 18-44 | 928,330 | 25.6 | 1.000 | 63.9 | 1.000 | 7.8 | 1.000 |
| 45-64 | 3,823,990 | 27.6 | 1.071(1.066-1.077) | 64.6 | 0.982(0.977-0.986) | 6.9 | 0.942(0.934-0.950) |
| 65-74 | 2,887,781 | 31.6 | 1.190(1.183-1.196) | 64.9 | 0.956(0.951-0.961) | 6.5 | 0.948(0.939-0.957) |
| 75-85 | 1,834,901 | 33.5 | 1.233(1.226-1.241) | 63.8 | 0.883(0.878-0.888) | 7.4 | 1.127(1.115-1.139) |
| *Sex* |  |  |  |  |  |  |  |
| Female | 5,002,934 | 30.8 | 1.000 | 65.1 | 1.000 | 6.9 | 1.000 |
| Male | 4,471,682 | 28.6 | 0.888(0.885-0.890) | 63.8 | 0.909(0.906-0.911) | 7.1 | 1.095(1.089-1.100) |
| Other, Unknown | 386 | 30.6 | 1.048(0.842-1.303) | 59.8 | 0.803(0.654-0.986) | 9.1 | 1.291(0.910-1.832) |
| *Race/ethnicity* |  |  |  |  |  |  |  |
| Non-Hispanic White | 6,879,875 | 30.9 | 1.000 | 65.9 | 1.000 | 6.2 | 1.000 |
| Non-Hispanic Black | 1,404,490 | 23.9 | 0.735(0.732-0.739) | 57.4 | 0.735(0.732-0.738) | 10.5 | 1.639(1.628-1.650) |
| Hispanic | 521,821 | 29.8 | 0.747(0.744-0.750) | 63.5 | 0.960(0.954-0.965) | 7.6 | 1.125(1.112-1.137) |
| Non-Hispanic Asian | 205,723 | 32.1 | 1.021(1.011-1.031) | 67 | 1.049(1.039-1.059) | 6.7 | 1.066(1.048-1.085) |
| Non-Hispanic AIAN | 47,065 | 31.4 | 1.075(1.054-1.097) | 64.5 | 0.977(0.959-0.996) | 7.2 | 1.112(1.073-1.151) |
| Non-Hispanic NHOPI | 22,741 | 29 | 0.959(0.932-0.987) | 62.8 | 0.892(0.868-0.916) | 8.4 | 1.329(1.268-1.394) |
| Non-Hispanic Others | 49,149 | 29.5 | 0.937(0.919-0.955) | 63.3 | 0.888(0.871-0.904) | 7.6 | 1.242(1.200-1.284) |
| Unspecified | 344,138 | 28.8 | 0.933(0.926-0.941) | 64.3 | 0.949(0.943-0.956) | 7.5 | 1.186(1.170-1.201) |
| *Weight Status* |  |  |  |  |  |  |  |
| Under weight | 44,548 | 43.2 | 1.197(1.174-1.220) | 68.9 | 1.017(0.996-1.038) | 7 | 1.152(1.110-1.196) |
| Normal weight | 953,141 | 38.6 | 1.000 | 69 | 1.000 | 5.6 | 1.000 |
| Overweight | 2,008,032 | 33.8 | 0.833(0.829-0.837) | 68.1 | 0.966(0.961-0.971) | 5.9 | 0.942(0.933-0.952) |
| Class I obesity | 1,817,966 | 30.5 | 0.730(0.726-0.734) | 66.9 | 0.916(0.911-0.921) | 5.7 | 0.955(0.945-0.965) |
| Class II obesity | 1,058,178 | 28.4 | 0.670(0.666-0.674) | 65.9 | 0.875(0.869-0.880) | 6 | 0.989(0.977-1.001) |
| Class III obesity | 925,384 | 25.4 | 0.590(0.587-0.594) | 63.2 | 0.781(0.776-0.785) | 6.9 | 1.134(1.120-1.147) |
| Unknown | 2,667,753 | 24.9 | 0.548(0.546-0.551) | 58.2 | 0.629(0.626-0.632) | 9.7 | 1.660(1.645-1.676) |
| *Insurance coverage* |  |  |  |  |  |  |  |
| Miscellaneous/Other | 5,245,133 | 28.4 | 1.000 | 65.1 | 1.000 | 6.7 | 1.000 |
| Medicaid only | 425,076 | 28.1 | 1.098(1.090-1.106) | 60.6 | 0.896(0.890-0.902) | 9 | 1.171(1.158-1.185) |
| Medicare only | 738,092 | 31.5 | 1.060(1.054-1.065) | 63.7 | 0.966(0.961-0.972) | 7.4 | 1.069(1.059-1.080) |
| Multiple pay sources | 2,545,636 | 32.8 | 1.101(1.097-1.105) | 64.3 | 0.971(0.967-0.974) | 6.9 | 1.016(1.009-1.023) |
| Self-Pay | 121,234 | 22.6 | 0.790(0.779-0.801) | 57.4 | 0.759(0.750-0.767) | 12.2 | 1.781(1.750-1.813) |
| Unknown | 399,831 | 29.3 | 1.045(1.038-1.053) | 64.4 | 0.991(0.984-0.997) | 7.4 | 1.069(1.056-1.083) |
| *Rural/urban status* |  |  |  |  |  |  |  |
| Urban | 8,605,780 | 29.7 | 1.000 | 64.4 | 1.000 | 7 | 1.000 |
| Rural | 794,558 | 29.9 | 0.997(0.992-1.002) | 64.7 | 1.025(1.020-1.030) | 7.1 | 1.032(1.022-1.041) |
| Unknown | 74,664 | 31 | 0.989(0.963-1.016) | 67 | 1.107(1.079-1.135) | 5.4 | 0.819(0.779-0.861) |
| *Social vulnerability Index* | |  |  |  |  |  |  |
| Q1 | 2,313,084 | 31 | 1.000 | 66.9 | 1.000 | 5.8 | 1.000 |
| Q2 | 2,334,941 | 30.4 | 0.992(0.988-0.996) | 65.9 | 0.969(0.966-0.973) | 6.5 | 1.100(1.091-1.108) |
| Q3 | 2,346,541 | 29.7 | 0.971(0.967-0.975) | 64.1 | 0.906(0.903-0.910) | 7.1 | 1.187(1.178-1.196) |
| Q4 | 2,367,784 | 28 | 0.941(0.937-0.945) | 60.9 | 0.834(0.830-0.837) | 8.7 | 1.339(1.329-1.349) |
| Unknown | 112,652 | 30.5 | 0.945(0.925-0.966) | 65.9 | 0.883(0.865-0.902) | 6 | 1.172(1.126-1.219) |

\*Includes patients who were ever diagnosed with hypertension prior to 2020 and had a least one office or outpatient visit in 2020

BP: blood pressure; SDP: systolic blood pressure; DBP: diastolic blood pressure,

AIAN: American Indian and Alaska Native; NHOPI: Native Hawaiians and Other Pacific Islanders

#AOR: adjusted odds ratio, adjusting for all other variables included in the table

## CI: confidence interval

S2. Factors associated with blood pressure control among hypertension patients in 196 healthcare organizations utilizing Epic EMRs, United States, 2019

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | N | BP <130/80 mm Hg | | BP <140/90 mm Hg | | SBP>=160 or DBP >=100  Mm Hg | |
| % | AOR# (95% CI##) | % | AOR (95% CI) | (%) | AOR (95% CI) |
| Overall | 8,890,649 | 32.3 |  | 67.7 |  | 6.5 |  |
| *Age* |  |  |  |  |  |  |  |
| 18-44 | 880,996 | 27.2 | 1.000 | 66.9 | 1.000 | 7.6 | 1.000 |
| 45-64 | 3,689,058 | 29.9 | 1.099(1.093-1.105) | 67.8 | 0.994(0.989-0.999) | 6.5 | 0.910(0.902-0.919) |
| 65-74 | 2,681,596 | 34.6 | 1.247(1.240-1.254) | 68.3 | 0.973(0.968-0.979) | 6.0 | 0.882(0.873-0.891) |
| 75-85 | 1,638,999 | 36.6 | 1.293(1.285-1.301) | 67.0 | 0.890(0.885-0.896) | 6.8 | 1.045(1.034-1.057) |
| *Sex* |  |  |  |  |  |  |  |
| Female | 4,711,443 | 33.3 | 1.000 | 68.2 | 1.000 | 6.5 | 1.000 |
| Male | 4,178,860 | 31.1 | 0.890(0.887-0.892) | 67.2 | 0.914(0.912-0.917) | 6.5 | 1.074(1.069-1.080) |
| Other, Unknown | 346 | 30.6 | 0.931(0.739-1.172) | 70.2 | 1.100(0.872-1.387) | 5.8 | 0.853(0.542-1.343) |
| *Race/ethnicity* |  |  |  |  |  |  |  |
| Non-Hispanic White | 6,484,600 | 33.5 | 1.000 | 69.2 | 1.000 | 5.7 | 1.000 |
| Non-Hispanic Black | 1,324,806 | 25.8 | 0.735(0.732-0.739) | 60.1 | 0.708(0.705-0.711) | 10.2 | 1.710(1.698-1.723) |
| Hispanic | 453,925 | 32.9 | 1.044(1.037-1.051) | 67.5 | 0.982(0.976-0.989) | 6.9 | 1.097(1.083-1.110) |
| Non-Hispanic Asian | 193,882 | 35.6 | 1.057(1.047-1.067) | 71.0 | 1.076(1.065-1.086) | 5.8 | 1.000(0.981-1.020) |
| Non-Hispanic AIAN | 43,143 | 33.7 | 1.070(1.048-1.091) | 67.8 | 0.974(0.954-0.994) | 6.7 | 1.106(1.065-1.149) |
| Non-Hispanic NHOPI | 22,635 | 32.2 | 1.002(0.974-1.031) | 66.8 | 0.912(0.887-0.938) | 7.7 | 1.308(1.245-1.374) |
| Non-Hispanic Others | 46,436 | 32.4 | 0.957(0.938-0.976) | 67.3 | 0.906(0.889-0.924) | 6.7 | 1.172(1.129-1.215) |
| Unspecified | 321,222 | 31.3 | 0.938(0.931-0.945) | 67.4 | 0.939(0.931-0.946) | 7.0 | 1.201(1.185-1.218) |
| *Weight Status* |  |  |  |  |  |  |  |
| Under weight | 41,025 | 45.3 | 1.175(1.152-1.199) | 71.1 | 0.985(0.964-1.007) | 6.7 | 1.150(1.105-1.197) |
| Normal weight | 913,614 | 41.2 | 1.000 | 71.9 | 1.000 | 5.6 | 1.000 |
| overweight | 1,956,580 | 36.3 | 0.834(0.830-0.839) | 71.0 | 0.962(0.956-0.967) | 5.2 | 0.932(0.921-0.942) |
| Class I obesity | 1,765,941 | 32.8 | 0.732(0.728-0.736) | 69.7 | 0.908(0.903-0.914) | 5.4 | 0.951(0.941-0.962) |
| Class II obesity | 1,018,590 | 30.5 | 0.670(0.666-0.674) | 68.6 | 0.862(0.857-0.868) | 5.7 | 0.987(0.975-0.999) |
| Class III obesity | 875,367 | 27.5 | 0.596(0.592-0.600) | 66.0 | 0.770(0.765-0.775) | 6.6 | 1.129(1.115-1.143) |
| Unknown | 2,319,532 | 27.4 | 0.561(0.558-0.564) | 62.0 | 0.643(0.639-0.646) | 9.2 | 1.673(1.656-1.690) |
| *Insurance coverage* |  |  |  |  |  |  |  |
| Miscellaneous/Other | 4,886,506 | 30.7 | 1.000 | 68.4 | 1.000 | 6.2 | 1.000 |
| Medicaid only | 375,545 | 30.8 | 1.119(1.110-1.127) | 64.0 | 0.901(0.895-0.908) | 8.5 | 1.166(1.151-1.180) |
| Medicare only | 698,194 | 34.3 | 1.061(1.055-1.067) | 66.8 | 0.956(0.950-0.961) | 6.9 | 1.095(1.084-1.107) |
| Multiple pay sources | 2,372,400 | 35.7 | 1.102(1.098-1.106) | 67.7 | 0.971(0.967-0.975) | 6.3 | 1.030(1.022-1.037) |
| Self-Pay | 115,539 | 24.7 | 0.790(0.779-0.800) | 60.3 | 0.731(0.723-0.740) | 11.8 | 1.838(1.804-1.872) |
| Unknown | 442,465 | 31.3 | 1.021(1.014-1.027) | 67.1 | 0.955(0.949-0.962) | 6.8 | 1.064(1.051-1.077) |
| *Rural/urban status* |  |  |  |  |  |  |  |
| Urban | 8,080,240 | 32.2 | 1.000 | 67.7 | 1.000 | 6.5 | 1.000 |
| Rural | 742,703 | 32.6 | 0.999(0.994-1.005) | 68.1 | 1.030(1.024-1.035) | 6.5 | 1.018(1.008-1.028) |
| Unknown | 67,706 | 34.4 | 1.051(1.023-1.079) | 71.9 | 1.234(1.201-1.268) | 4.5 | 0.734(0.695-0.775) |
| *Social vulnerability Index* | |  |  |  |  |  |  |
| Q1 | 2,173,781 | 33.6 | 1.000 | 70.1 | 1.000 | 5.3 | 1.000 |
| Q2 | 2,192,502 | 32.8 | 0.988(0.984-0.992) | 69.2 | 0.974(0.970-0.978) | 5.9 | 1.099(1.090-1.108) |
| Q3 | 2,202,405 | 32.2 | 0.972(0.968-0.976) | 67.5 | 0.908(0.904-0.912) | 6.6 | 1.194(1.184-1.204) |
| Q4 | 2,218,221 | 30.4 | 0.943(0.939-0.947) | 64.1 | 0.830(0.827-0.834) | 8.2 | 1.364(1.353-1.375) |
| Unknown | 103,740 | 33.3 | 0.908(0.888-0.928) | 69.9 | 0.848(0.830-0.867) | 5.3 | 1.241(1.191-1.293) |

\*Includes patients who were ever diagnosed with hypertension prior to 2019 and had a least one office or outpatient visit in 2019.

BP: blood pressure; SDP: systolic blood pressure; DBP: diastolic blood pressure,

AIAN: American Indian and Alaska Native; NHOPI: Native Hawaiians and Other Pacific Islanders

#AOR: adjusted odds ratio, adjusting for all other variables included in the table

## CI: confidence interval

Table S3. Factors associated with blood pressure control among hypertension patients in 196 healthcare organizations utilizing EPIC EMR, United States, 2022

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | N | BP <130/80 mm Hg | | BP<140/90 (%) mm Hg | | SBP>=160 or DBP >=100  mm Hg | |
| % | AOR# (95% CI##) | % | AOR (95% CI) | % | AOR (95% CI) | |
| **Overall** | 12,964,766 | 31.0 |  | 66.1 |  | 6.9 |  | |
| ***Age*** |  |  |  |  |  |  |  | |
| 18-44 | 1,263,852 | 26.4 | 1.000 | 65.8 | 1.000 | 7.7 | 1.000 | |
| 45-64 | 4,968,762 | 28.4 | 1.070 (1.065-1.075) | 66 | 0.968 (0.964-0.972) | 6.9 | 0.949 (0.942-0.956) | |
| 65-74 | 3,940,996 | 32.9 | 1.223 (1.217-1.228) | 66.5 | 0.958 (0.954-0.963) | 6.5 | 0.936 (0.928-0.944) | |
| 75-85 | 2,791,156 | 35.2 | 1.287 (1.281-1.294) | 65.6 | 0.893 (0.889-0.897) | 7.2 | 1.094 (1.084-1.103) | |
| ***Sex*** |  |  |  |  |  |  |  | |
| Female | 6,810,530 | 31.9 | 1.000 | 66.6 | 1.000 | 6.9 | 1.000 | |
| Male | 6,153,642 | 30.2 | 0.909 (0.907-0.911) | 65.5 | 0.921 (0.918-0.923) | 7 | 1.076 (1.071-1.080) | |
| Other, Unknown | 594 | 29.8 | 0.972 (0.814-1.160) | 64.6 | 0.921 (0.918-0.923) | 6.7 | 0.938 (0.679-1.295) | |
| ***Race/ethnicity*** |  |  |  |  |  |  |  | |
| Non-Hispanic White | 9,115,235 | 32.3 | 1.000 | 67.5 | 1.000 | 6.1 | 1.000 | |
| Non-Hispanic Black | 1,977,514 | 25.2 | 0.755 (0.753-0.758) | 59.4 | 0.741 (0.738-0.743) | 10.4 | 1.631 (1.622-1.641) | |
| Hispanic | 816,553 | 31.2 | 1.028 (1.023-1.033) | 65.3 | 0.965 (0.960-0.969) | 7.5 | 1.113 (1.103-1.123) | |
| Non-Hispanic Asian | 308,734 | 33.5 | 1.025 (1.017-1.033) | 68.6 | 1.046 (1.038-1.054) | 6.6 | 1.044 (1.029-1.059) | |
| Non-Hispanic AIAN | 65,867 | 32.5 | 1.061 (1.044-1.079) | 65.9 | 0.963 (0.947-0.978) | 7.3 | 1.131 (1.098-1.165) | |
| Non-Hispanic NHOPI | 30,496 | 30 | 0.948 (0.925-0.972) | 63.3 | 0.844 (0.825-0.864) | 8.7 | 1.390 (1.336-1.447) | |
| Non-Hispanic Others | 100,733 | 31.5 | 0.955 (0.942-0.968) | 66.2 | 0.923 (0.911-0.935) | 6.9 | 1.152 (1.123-1.180) | |
| Unspecified | 549,634 | 29.9 | 0.919 (0.913-0.924) | 65.6 | 0.928 (0.923-0.934) | 7.3 | 1.180 (1.168-1.193) | |
| ***Weight Status*** |  |  |  |  |  |  |  | |
| Under weight | 76,524 | 44.6 | 1.197 (1.180-1.215) | 70.3 | 1.006 (1.181-1.217) | 6.8 | 1.160 (1.127-1.194) | |
| Normal weight | 1,382,531 | 40 | 1.000 | 70.6 | 1.000 | 5.7 | 1.000 | |
| overweight | 2,736,495 | 35.1 | 0.834 (0.830-0.838) | 69.7 | 0.960 (0.956-0.964) | 5.3 | 0.932 (0.923-0.940) | |
| Class I obesity | 2,412,381 | 31.8 | 0.734 (0.730-0.737) | 68.6 | 0.916 (0.921-0.920) | 5.5 | 0.943 (0.934-0.951) | |
| Class II obesity | 1,387,383 | 29.6 | 0.674 (0.671-0.678) | 67.6 | 0.875 (0.870-0.879) | 5.6 | 0.961 (0.951-0.971) | |
| Class III obesity | 1,207,277 | 26.4 | 0.593 (0.590-0.596) | 65.1 | 0.785 (0.781-0.789) | 6.6 | 1.105 (1.009-1.020) | |
| Unknown | 3,762,175 | 26.1 | 0.552 (0.550-0.554) | 59.8 | 0.623 (0.621-0.626) | 10.1 | 1.817 (1.802-1.831) | |
| ***Insurance coverage*** |  |  |  |  |  |  |  | |
| Miscellaneous/Other | 7,578,146 | 29.8 | 1.000 | 66.8 | 1.000 | 6.6 | 1.000 | |
| Medicaid only | 668,827 | 29.3 | 1.094 (1.087-1.100) | 62.7 | 0.903 (0.898-0.908) | 8.9 | 1.166 (1.155-1.176) | |
| Medicare only | 807,263 | 32.5 | 1.011 (1.006-1.016) | 63.8 | 0.888 (0.883-0.892) | 7.6 | 1.138 (1.128-1.149) | |
| multiple pay sources | 3,472,186 | 34.4 | 1.095 (1.092-1.098) | 66.1 | 0.969 (0.966-0.972) | 6.7 | 1.015 (1.009-1.020) | |
| Self-Pay | 277,360 | 27.7 | 0.791 (0.782-0.800) | 64.3 | 0.752 (0.745-0.760) | 7.9 | 1.726 (1.700-1.753) | |
| Unknown | 160,984 | 23.7 | 0.925 (0.917-0.933) | 58.9 | 0.935 (0.928-0.943) | 12 | 1.120 (1.104-1.136) | |
| ***Rural/urban status*** |  |  |  |  |  |  |  | |
| Urban | 11,804,338 | 31 | 1.000 | 66.1 | 1.000 | 6.9 | 1.000 | |
| Rural | 1,056,294 | 31 | 0.983 (0.978-0.987) | 65.7 | 0.997 (0.992-1.001) | 7.1 | 1.027 (1.018-1.035) | |
| Unknown | 104,134 | 34.1 | 1.066 (1.041-1.090) | 69.1 | 1.151 (1.126-1.178) | 4.9 | 0.724 (0.693-0.756) | |
| ***Social vulnerability Index*** | |  |  |  |  |  |  | |
| Q1 | 3,157,778 | 32.2 | 1.000 | 68.4 | 1.000 | 5.8 | 1.000 | |
| Q2 | 3,189,529 | 31.6 | 0.997 (0.994-1.000) | 67.4 | 0.968 (0.964-0.971) | 6.4 | 1.085 (1.078-1.092) | |
| Q3 | 3,213,813 | 31 | 0.983 (0.979-0.986) | 65.7 | 0.908 (0.905-0.911) | 7 | 1.177 (1.170-1.185) | |
| Q4 | 3,250,153 | 29.4 | 0.961 (0.958-0.965) | 62.7 | 0.836 (0.833-0.839) | 8.6 | 1.337 (1.328-1.346) | |
| Unknown | 153,493 | 33.1 | 0.955 (0.937-0.974) | 67.7 | 0.860 (0.844-0.876) | 5.7 | 1.248 (1.206-1.291) | |

\*2022 Data version 1: Includes patients who were ever diagnosed with hypertension prior to 2022 and had a least one office or outpatient visit in 2022

BP: blood pressure; SDP: systolic blood pressure; DBP: diastolic blood pressure,

AIAN: American Indian and Alaska Native; NHOPI: Native Hawaiians and Other Pacific Islanders

#AOR: adjusted odds ratio, adjusting for all other variables included in the table

## CI: confidence interval

Table S4. Factors associated with blood pressure control among hypertension patients in 196 healthcare organizations utilizing EPIC EMR, United States, 2021

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | N | BP <130/80  mm Hg | | BP<140/90 (%)  mm Hg | | SBP>=160 or DBP >=100  mm Hg | |
| % | AOR# (95% CI##) | % | AOR (95% CI) | % | AOR (95% CI) |
| Overall |  | 30.4 |  | 65.4 |  | 6.9 |  |
| *Age* |  |  |  |  |  |  |  |
| 18-44 | 1,097,554 | 26.0 | 0.592(0.589-0.596) | 65.0 | 2.942(2.924-2.961) | 7.7 | 0.046(0.046-0.047) |
| 45-64 | 4,424,621 | 28.0 | 1.069(1.064-1.074) | 65.5 | 0.976(0.972-0.980) | 6.9 | 0.950(0.942-0.957) |
| 65-74 | 3,418,691 | 32.3 | 1.210(1.204-1.216) | 65.9 | 0.959(0.955-0.964) | 6.5 | 0.941(0.932-0.949) |
| 75-85 | 2,316,521 | 34.3 | 1.258(1.252-1.265) | 64.8 | 0.887(0.882-0.892) | 7.3 | 1.104(1.093-1.114) |
| *Sex* |  |  |  |  |  |  |  |
| Female | 5,920,856 | 31.3 | 1.000 | 66.0 | 1.000 | 6.9 | 1.000 |
| Male | 5,336,053 | 29.4 | 0.898(0.896-0.901) | 64.7 | 0.913(0.910-0.915) | 7 | 1.083(1.078-1.088) |
| Other, Unknown | 478 | 27.8 | 0.890(0.728-1.089) | 61.5 | 0.810(0.673-0.975) | 5.6 | 0.803(0.543-1.186) |
| *Race/ethnicity* |  |  |  |  |  |  |  |
| Non-Hispanic White | 8,043,540 | 31.6 | 1.000 | 66.8 | 1.000 | 6.2 | 1.000 |
| Non-Hispanic Black | 1,693,042 | 24.6 | 0.753(0.750-0.756) | 58.7 | 0.740(0.737-0.742) | 10.3 | 1.610(1.600-1.620) |
| Hispanic | 670,869 | 30.4 | 1.022(1.016-1.028) | 64.6 | 0.965(0.960-0.970) | 7.6 | 1.118(1.107-1.129) |
| Non-Hispanic Asian | 256,602 | 33.1 | 1.035(1.024-1.046) | 68.1 | 1.025(1.014-1.037) | 6.5 | 1.019(0.997-1.041) |
| Non-Hispanic AIAN | 56,668 | 32.1 | 1.080(1.061-1.099) | 65.6 | 0.979(0.962-0.997) | 6.9 | 1.065(1.031-1.100) |
| Non-Hispanic NHOPI | 26,784 | 29.5 | 0.950(0.926-0.976) | 62.5 | 0.845(0.824-0.866) | 8.3 | 1.316(1.260-1.375) |
| Non-Hispanic Others | 72,674 | 30.7 | 0.952(0.937-0.967) | 65.2 | 0.914(0.900-0.928) | 7.3 | 1.205(1.172-1.240) |
| Unspecified | 437,208 | 29.2 | 0.921(0.915-0.927) | 64.9 | 0.931(0.925-0.937) | 7.4 | 1.184(1.170-1.198) |
| *Weight Status* |  |  |  |  |  |  |  |
| Under weight | 58,447 | 44.1 | 1.210(1.190-1.231) | 70 | 1.022(1.003-1.040) | 7.0 | 1.155(1.118-1.194) |
| Normal weight | 1,160,954 | 39.3 | 1.000 | 69.9 | 1.000 | 5.9 | 1.000 |
| Overweight | 2,384,878 | 34.5 | 0.836(0.832-0.840) | 69 | 0.964(0.959-0.969) | 5.5 | 0.931(0.922-0.940) |
| Class I obesity | 2,135,854 | 31.1 | 0.732(0.729-0.736) | 67.9 | 0.915(0.910-0.919) | 5.6 | 0.941(0.932-0.951) |
| Class II obesity | 1,236,332 | 29.1 | 0.675(0.672-0.679) | 66.8 | 0.872(0.867-0.877) | 5.8 | 0.971(0.961-0.982) |
| Class III obesity | 1,087,929 | 25.9 | 0.590(0.587-0.594) | 64.2 | 0.778(0.774-0.783) | 6.8 | 1.124(1.112-1.137) |
| Unknown | 3,192,993 | 25.4 | 0.549(0.547-0.552) | 59.1 | 0.658(0.654-0.661) | 9.8 | 1.726(1.711-1.741) |
| *Insurance coverage* |  |  |  |  |  |  |  |
| Miscellaneous/Other | 6,347,629 | 29.1 | 1.000 | 66.1 | 1.000 | 6.6 | 1.000 |
| Medicaid only | 545,927 | 28.7 | 1.091(1.084-1.098) | 61.8 | 0.900(0.895-0.906) | 8.9 | 1.177(1.165-1.189) |
| Medicare only | 759,660 | 32.0 | 1.031(1.026-1.037) | 64.1 | 0.931(0.926-0.935) | 7.4 | 1.104(1.094-1.115) |
| Multiple pay sources | 2,994,400 | 33.6 | 1.090(1.087-1.094) | 65.2 | 0.966(0.962-0.969) | 6.8 | 1.030(1.024-1.036) |
| Self-Pay | 135,997 | 23 | 0.784(0.774-0.794) | 58.1 | 0.749(0.741-0.758) | 12.1 | 1.767(1.737-1.797) |
| Unknown | 473,774 | 29.6 | 1.018(1.012-1.025) | 65.6 | 1.006(1.000-1.012) | 7.2 | 1.044(1.032-1.056) |
| *Rural/urban status* |  |  |  |  |  |  |  |
| Urban | 10,239,460 | 30.4 | 1.000 | 65.4 | 1.000 | 7 | 1.000 |
| Rural | 928,529 | 30.5 | 0.991(0.986-0.996) | 65.5 | 1.020(1.015-1.024) | 7 | 1.012(1.004-1.021) |
| Unknown | 89,398 | 32.8 | 1.034(1.009-1.059) | 68.6 | 1.142(1.115-1.170) | 5 | 0.715(0.683-0.749) |
| *Social vulnerability Index* | |  |  |  |  |  |  |
| Q1 | 2,744,173 | 31.7 | 1.000 | 67.7 | 1.000 | 5.7 | 1.000 |
| Q2 | 2,771,249 | 30.9 | 0.991(0.987-0.994) | 66.8 | 0.970(0.967-0.974) | 6.4 | 1.096(1.088-1.104) |
| Q3 | 2,790,468 | 30.3 | 0.976(0.972-0.980) | 65.1 | 0.908(0.905-0.911) | 7 | 1.190(1.182-1.199) |
| Q4 | 2,818,099 | 28.7 | 0.949(0.945-0.953) | 62.0 | 0.836(0.833-0.839) | 8.6 | 1.352(1.343-1.362) |
| Unknown | 133,398 | 32.1 | 0.953(0.933-0.972) | 67.3 | 0.878(0.861-0.896) | 5.8 | 1.264(1.219-1.310) |

\*Includes patients who were ever diagnosed with hypertension prior to 2021 and had a least one office or outpatient visit in 2021

BP: blood pressure; SDP: systolic blood pressure; DBP: diastolic blood pressure,

AIAN: American Indian and Alaska Native; NHOPI: Native Hawaiians and Other Pacific Islanders

#AOR: adjusted odds ratio, adjusting for all other variables included in the table

## CI: confidence interval

Table S5. Factors associated with blood pressure control among hypertension patients in 196 healthcare organizations utilizing EPIC EMR, United States, 2018

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | N | BP <130/80 mm Hg | | BP<140/90 (%) mmHg | | SBP>=160 or DBP >=100 mmHg | |
| % | AOR# (95% CI##) | % | AOR (95% CI) | % | AOR (95% CI) |
| Overall | 7,383,365 | 31.8 |  | 66.9 |  | 6.7 |  |
| *Age* |  |  |  |  |  |  |  |
| 18-44 | 746,957 | 27.2 | 1.000 | 66.3 | 1.000 | 7.7 | 1.000 |
| 45-64 | 3,135,589 | 29.6 | 1.086(1.080-1.092) | 67.2 | 0.987(0.981-0.992) | 6.6 | 0.916(0.907-0.925) |
| 65-74 | 2,182,124 | 34.0 | 1.214(1.206-1.221) | 67.4 | 0.950(0.944-0.956) | 6.1 | 0.900(0.890-0.910) |
| 75-85 | 1,318,695 | 35.7 | 1.240(1.231-1.248) | 65.9 | 0.858(0.852-0.864) | 7.0 | 1.070(1.057-1.083) |
| *Sex* |  |  |  |  |  |  |  |
| Female | 3,939,973 | 32.9 | 1.000 | 67.5 | 1.000 | 6.6 | 1.000 |
| Male | 3,443,113 | 30.5 | 0.882(0.879-0.885) | 66.3 | 0.909(0.906-0.912) | 6.7 | 1.083(1.077-1.089) |
| Other, Unknown | 279 | 26.2 | 0.738(0.564-0.966) | 59.1 | 0.666(0.524-0.846) | 6.5 | 1.009(0.625-1.631) |
| *Race/ethnicity* |  |  |  |  |  |  |  |
| Non-Hispanic White | 5,418,828 | 33.0 | 1.000 | 68.4 | 1.000 | 5.9 | 1.000 |
| Non-Hispanic Black | 1,105,496 | 25.5 | 0.735(0.731-0.739) | 59.4 | 0.707(0.704-0.711) | 10.3 | 1.685(1.672-1.698) |
| Hispanic | 356,246 | 32.6 | 1.042(1.034-1.050) | 67.0 | 0.988(0.980-0.995) | 7.0 | 1.097(1.082-1.112) |
| Non-Hispanic Asian | 152,792 | 34.7 | 1.035(1.024-1.046) | 69.3 | 1.025(1.014-1.037) | 6.0 | 1.019(0.997-1.041) |
| Non-Hispanic AIAN | 34,366 | 33.1 | 1.059(1.035-1.083) | 67.0 | 0.964(0.942-0.986) | 6.6 | 1.069(1.025-1.116) |
| Non-Hispanic NHOPI | 19,784 | 31.7 | 0.993(0.963-1.023) | 65.9 | 0.899(0.873-0.926) | 7.7 | 1.299(1.233-1.369) |
| Non-Hispanic Others | 38,620 | 31.8 | 0.950(0.930-0.971) | 66.0 | 0.887(0.868-0.906) | 7.0 | 1.201(1.155-1.250) |
| Unspecified | 257,233 | 30.4 | 0.923(0.915-0.931) | 66.2 | 0.924(0.916-0.932) | 7.3 | 1.200(1.182-1.219) |
| *Weight Status* |  |  |  |  |  |  |  |
| Under weight | 32,864 | 45.0 | 1.192(1.166-1.219) | 70.9 | 1.011(0.986-1.036) | 7.1 | 1.200(1.149-1.253) |
| Normal weight | 750,263 | 40.5 | 1.000 | 71.1 | 1.000 | 5.7 | 1.000 |
| Overweight | 1,629,388 | 35.6 | 0.835(0.830-0.839) | 70.0 | 0.957(0.951-0.963) | 5.4 | 0.948(0.936-0.959) |
| Class I obesity | 1,478,587 | 32.2 | 0.733(0.729-0.737) | 68.8 | 0.900(0.895-0.906) | 5.6 | 0.973(0.961-0.985) |
| Class II obesity | 850,892 | 30.0 | 0.671(0.667-0.676) | 67.6 | 0.851(0.845-0.857) | 5.9 | 1.005(0.991-1.018) |
| Class III obesity | 732,077 | 27.1 | 0.595(0.591-0.599) | 64.9 | 0.757(0.751-0.762) | 6.9 | 1.165(1.150-1.181) |
| Unknown | 1,909,294 | 27.2 | 0.573(0.569-0.576) | 61.7 | 0.658(0.654-0.661) | 9.1 | 1.620(1.602-1.637) |
| *Insurance coverage* |  |  |  |  |  |  |  |
| Miscellaneous/Other | 4,017,005 | 30.3 | 1.000 | 67.7 | 1.000 | 6.4 | 1.000 |
| Medicaid only | 316,177 | 30.5 | 1.114(1.105-1.123) | 63.7 | 0.909(0.902-0.916) | 8.6 | 1.149(1.134-1.164) |
| Medicare only | 592,877 | 33.9 | 1.075(1.069-1.082) | 66.4 | 0.975(0.969-0.981) | 7.0 | 1.089(1.077-1.101) |
| Multiple pay sources | 1,932,461 | 35.1 | 1.109(1.104-1.113) | 66.8 | 0.977(0.972-0.981) | 6.5 | 1.031(1.023-1.039) |
| Self-Pay | 89,514 | 24.7 | 0.799(0.786-0.811) | 60.0 | 0.738(0.728-0.749) | 11.8 | 1.813(1.776-1.852) |
| Unknown | 435,331 | 30.0 | 0.981(0.974-0.987) | 64.6 | 0.885(0.879-0.891) | 6.7 | 1.026(1.013-1.039) |
| *Rural/urban status* |  |  |  |  |  |  |  |
| Urban | 6,721,762 | 31.7 | 1.000 | 66.8 | 1.000 | 6.7 | 1.000 |
| Rural | 605,899 | 32.5 | 1.017(1.011-1.023) | 68.0 | 1.059(1.053-1.065) | 6.6 | 1.001(0.990-1.012) |
| Unknown | 55,704 | 34.2 | 1.041(1.010-1.072) | 72.6 | 1.284(1.247-1.323) | 4.5 | 0.728(0.686-0.772) |
| *Social vulnerability Index* | |  |  |  |  |  |  |
| Q1 | 1,807,190 | 32.9 | 1.000 | 69.0 | 1.000 | 5.8 | 1.000 |
| Q2 | 1,821,172 | 32.3 | 0.997(0.992-1.001) | 68.3 | 0.979(0.975-0.983) | 6.5 | 1.093(1.083-1.102) |
| Q3 | 1,829,575 | 31.8 | 0.986(0.981-0.990) | 66.8 | 0.925(0.920-0.929) | 7.1 | 1.193(1.182-1.203) |
| Q4 | 1,839,265 | 30.1 | 0.958(0.953-0.962) | 63.5 | 0.852(0.848-0.856) | 8.7 | 1.342(1.331-1.354) |
| Unknown | 86,163 | 33.2 | 0.939(0.916-0.962) | 70.3 | 0.894(0.874-0.916) | 6.0 | 1.211(1.158-1.266) |

\*Includes patients who were ever diagnosed with hypertension prior to 2018 and had a least one office or outpatient visit in 2018

BP: blood pressure; SDP: systolic blood pressure; DBP: diastolic blood pressure,

AIAN: American Indian and Alaska Native; NHOPI: Native Hawaiians and Other Pacific Islanders

#AOR: adjusted odds ratio, adjusting for all other variables included in the table

## CI: confidence interval