**Supplemental Digital Content, Table 4. PIM prescription rates per 1000 visits by initial and refill PIM prescription rate**

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| --- | --- | --- | --- | --- | --- |
| Characteristic | Average initial PIM rate per 1000 visits (range) | |  | Average refill PIM rate per 1000 visits (range) | |
|  | 2016 | 2018 |  | 2016 | 2018 |
| Total | 9.42 (9.36–9.49) | 8.51 (8.45–8.57) |  | 15.65 (15.57–15.73) | 13.95 (13.87–14.03) |
| Provider type |  |  |  |  |  |
| Physician | 9.56 (9.49–9.63) | 8.66 (8.59–8.72) |  | 16.31 (16.22–16.39) | 14.75 (14.67–14.84) |
| Nurse practitioner | 8.00 (7.80–8.19) | 7.50 (7.35–7.66) |  | 8.87 (8.66–9.07) | 8.33 (8.17–8.50) |
| NP regulation |  |  |  |  |  |
| Restricted | 9.67 (9.60–9.74) | 8.81 (8.74–8.88) |  | 16.21 (16.12–16.30) | 14.71 (14.62–14.80) |
| Conditional | 8.83 (8.62–9.03) | 8.04 (7.90–8.18) |  | 13.36 (13.11–13.62) | 11.96 (11.79–12.14) |
| Full | 7.74 (7.55–7.93) | 7.00 (6.83–7.17) |  | 12.76 (12.51–13.00) | 11.46 (11.24–11.68) |
| Age, years |  |  |  |  |  |
| 66–69 | 10.78 (10.62–10.94) | 10.44 (10.28–10.59) |  | 18.43 (18.22–18.63) | 18.33 (18.12–18.54) |
| 70–74 | 10.05 (9.93–10.18) | 8.99 (8.87–9.10) |  | 16.01 (15.85–16.17) | 14.35 (14.20–14.49) |
| 75–79 | 9.53 (9.39–9.67) | 8.25 (8.12–8.37) |  | 15.52 (15.35–15.69) | 12.85 (12.70–13.00) |
| 80–84 | 8.82 (8.67–8.98) | 7.75 (7.61–7.89) |  | 14.55 (14.35–14.74) | 12.48 (12.30–12.66) |
| 85+ | 7.48 (7.35–7.62) | 6.74 (6.61–6.87) |  | 13.42 (13.24–13.60) | 11.54 (11.37–11.71) |
| Gender |  |  |  |  |  |
| Male | 7.45 (7.36–7.54) | 6.61 (6.53–6.69) |  | 10.79 (10.68–10.90) | 9.64 (9.54–9.75) |
| Female | 10.65 (10.56–10.73) | 9.72 (9.64–9.80) |  | 18.66 (18.55–18.77) | 16.69 (16.59–16.80) |
| Race or ethnicity |  |  |  |  |  |
| White | 9.24 (9.17–9.30) | 8.31 (8.24–8.37) |  | 15.58 (15.49–15.67) | 13.80 (13.72–13.88) |
| Black | 9.14 (8.88–9.39) | 8.45 (8.20–8.70) |  | 14.74 (14.42–15.06) | 13.09 (12.78–13.40) |
| Hispanic | 11.21 (10.90–11.52) | 10.22 (9.92–10.51) |  | 16.92 (16.53–17.30) | 15.24 (14.88–15.60) |
| Other | 11.08 (10.78–11.38) | 10.12 (9.85–10.38) |  | 16.55 (16.19–16.92) | 15.87 (15.54–16.20) |
| Original entitlement |  |  |  |  |  |
| Aged | 9.31 (9.25–9.38) | 8.32 (8.26–8.38) |  | 14.32 (14.24–14.41) | 12.62 (12.54–12.70) |
| ESRD or disability | 10.19 (10.00–10.37) | 9.90 (9.72–10.08) |  | 25.02 (24.73–25.31) | 23.48 (23.20–23.76) |
| Dual eligibility |  |  |  |  |  |
| No | 9.14 (9.07–9.21) | 8.20 (8.13–8.26) |  | 13.62 (13.54–13.71) | 12.16 (12.08–12.23) |
| Yes | 10.74 (10.58–10.90) | 10.13 (9.97–10.29) |  | 25.04 (24.80–25.29) | 23.11 (22.87–23.35) |
| Hospitalization |  |  |  |  |  |
| No | 9.51 (9.43–9.58) | 8.58 (8.52–8.65) |  | 15.13 (15.04–15.22) | 13.52 (13.44–13.61) |
| Yes | 9.07 (8.93–9.22) | 8.21 (8.08–8.34) |  | 17.83 (17.64–18.03) | 15.79 (15.60–15.97) |
| Charlson comorbidity index score |  |  |  |  |  |
| 0 condition | 10.39 (10.27–10.51) | 9.30 (9.19–9.40) |  | 14.71 (14.57–14.85) | 13.47 (13.34–13.60) |
| 1–2 conditions | 9.15 (9.07–9.24) | 8.31 (8.22–8.39) |  | 15.79 (15.68–15.91) | 14.04 (13.93–14.14) |
| ≥ 3 conditions | 8.31 (8.16–8.46) | 7.48 (7.34–7.62) |  | 17.08 (16.87–17.29) | 14.70 (14.51–14.90) |
| Residence location |  |  |  |  |  |
| Metropolitan | 9.21 (9.14–9.29) | 8.32 (8.25–8.38) |  | 14.98 (14.89–15.07) | 13.27 (13.18–13.35) |
| Urban | 10.10 (9.96–10.24) | 9.19 (9.05–9.32) |  | 17.84 (17.65–18.03) | 16.11 (15.94–16.29) |
| Rural | 10.05 (9.65–10.44) | 8.93 (8.56–9.30) |  | 17.61 (17.09–18.13) | 16.77 (16.27–17.27) |
| Residence region |  |  |  |  |  |
| Northeast | 7.95 (7.82–8.08) | 7.28 (7.16–7.41) |  | 13.28 (13.11–13.45) | 11.33 (11.18–11.49) |
| Midwest | 8.62 (8.49–8.75) | 7.90 (7.78–8.02) |  | 14.56 (14.39–14.73) | 12.70 (12.55–12.85) |
| South | 10.93 (10.83–11.04) | 9.65 (9.55–9.75) |  | 17.41 (17.27–17.54) | 15.70 (15.57–15.82) |
| West | 8.45 (8.31–8.60) | 7.94 (7.81–8.07) |  | 15.40 (15.21–15.59) | 14.13 (13.96–14.31) |

Note: ESRD = end stage renal disease; NP = nurse practitioner; PIM = potentially inappropriate medication.