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Title

Practice and Community-Level Variations in Primary Care Panel Size

Priority 1 (Research Category)

Healthcare Services, Delivery, and Financing

Presenters

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Abstract

Background: Access to high-quality primary care requires adequate numbers of primary care physicians (PCPs) as well as appropriate clinician panel size. Excess number of patients per clinician has been associated with higher physician burnout and may hinder timely patient access to care. Despite these important implications, there have been few studies to date investigating the dimensions of optimal primary care panel size. This study aims to review variations in panel size based on practice and population characteristics.

Methods: We queried the 2021 Virginia All-Payer Claims Database (APCD) to estimate panel size by identifying the number of unique patients seen by each PCP. We adjusted for missing commercial insurance claims and excluded outliers (clinicians seeing <100 patients or >7500 patients in a year). The count, median, mean, and standard deviation of the number of patients seen by PCPs were calculated. We assessed variations in panel size based on community and practice-level characteristics.

Results: We identified 4508 PCPs in Virginia, with a mean panel size of 1490 patients (median: 1209). PCPs within health systems had significantly larger panels compared to those outside of health systems (mean 1550 vs. 1468, $p<0.01$). Rural PCPs tended to manage larger panels than their urban counterparts (1512 vs. 1409, $p<0.01$). There were variations by PCP specialty, including Internal Medicine (1311), Ob-gyn (1586), Family Medicine (1608), and Pediatrics (1747). PCPs practicing in communities with a high Social Deprivation Index (SDI) had smaller panel sizes than those in communities with a low SDI (1554 in quartile 1 vs. 1421 in quartile 4, $p<0.01$).

Conclusions: Our study reveals significant geographic, practice, and community-level variations in primary care panel size. The lower panel sizes observed in communities with higher levels of social deprivation suggest that more clinicians may be needed to deliver high-quality primary care while addressing well-established workforce shortages in those communities. These results have important implications for workforce capacity planning generally, and highlight the importance of tailored strategies in delivery system planning that incorporate patient complexity and social needs into panel size recommendations.