

POLICY BRIEF

Where is Behavioral Health Integration Occurring? Mapping National Co-Location Trends Using National Provider Identifier Data



Project Team

Erica L. Richman, PhD, MSW
Brianna Lombardi, PhD, MSW

Lisa de Saxe Zerden, PhD, MSW
Randy Randolph, MRP

Background

Because sixty to eighty percent of all primary care visits include a behavioral health component (American Hospital Association, 2016; Croft & Parish, 2013), providing integrated services in primary care is now considered a priority for health systems to meet patient needs and improve population health. Integrated care typically involves behavioral healthcare workers working on teams with primary care providers to help address behavioral health and social determinants of health alongside physical health (Crowley & Kirschner, 2015; Manderscheid & Kathol, 2014; Fraser et al., 2017). By facilitating integrated care, health systems can increase service utilization of behavioral health services, by reducing barriers such as stigma and accessibility (Kessler, 2012). Co-location, where behavioral and physical health care are housed in the same physical space, is a key element of integration (Heath et al., 2013).

Using 2010 National Plan and Provider Enumeration System (NPPES) data, past work has identified that 40% of primary care physicians (PCPs) in urban areas and 23% in rural areas were co-located with behavioral health providers (Miller et al., 2014). Little is known however, about the rate of expansion of co-located services in the United States over the past eight years, after implementation of the Affordable Care Act (ACA) and the Behavioral Health Workforce Education and Training (BHWET) program, a 2014 and 2017 federal initiative to expand the behavioral health workforce in integrated settings.

Study Aims

The rate of physical co-location between primary care physicians and social workers/psychologists is examined using geo-spatial analysis to (1) identify what percent of primary care physicians are physically co-located with social workers/psychologists in the United States; (2) assess if co-location rates vary by state, region, rurality, or practice size; and (3) determine if co-location rates vary by physician specialty.

Methods

Data were drawn from the Centers for Medicare and Medicaid (CMS) NPPES, a national and publicly available data source (CMS, 2018) in April 2018. The NPPES includes all health providers eligible to bill to CMS and includes standardized taxonomy codes to identify providers and their specialty. In this study, PCPs within five specialties were included (family medicine, general practice, internal medicine, pediatrics, and obstetrics/gynecology). Behavioral health providers were limited to social workers and clinical psychologists.

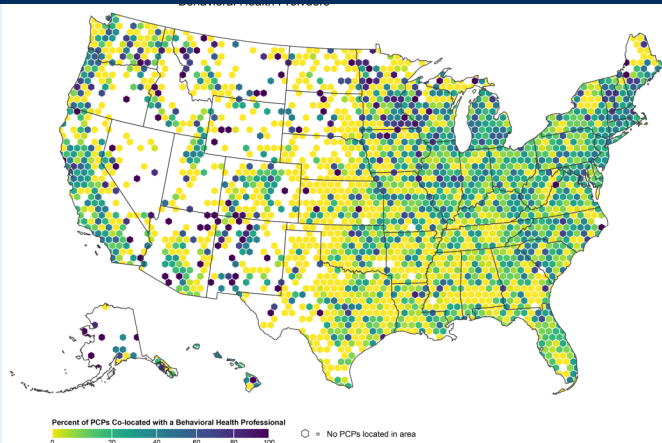
Provider practice addresses were geocoded to latitude and longitude coordinates using the Environmental Systems Research Institute (ESRI) StreetMap database and ArcGIS software (StreetMap North America, 2013). The geocoding system provides information on the quality of each geocoding result and only geocodes with quality score below 40 (out of 100) were used in analyses. Straight-line distances between practice locations of behavioral health providers and PCPs were summarized. Distances less than 0.01 miles were considered co-located while those further away were considered not co-located.

Key Findings

Of the 380,690 PCPs in the sample more than 44% were co-located with a behavioral health provider. Providers in urban settings were significantly more likely to be co-located than providers in rural locations (46% vs. 26%, $p < .001$). Rate of co-location also varied by PCP specialty. Pediatricians, Ob/Gyns, and internal medicine physicians were most likely to be co-located, whereas family medicine and general practitioners were least likely to be co-located. 12% of PCPs who were the sole PCP at an address were co-located compared to 48% of PCPs at medium size practices (11-25 PCPs) and 82% of PCPs in large practices (>25 PCPs). Practice size was also associated with rurality ($p < .001$) and providers in rural settings were more

likely to be in small or single provider practices. Further, PCPs in states that expanded Medicaid were more likely to be co-located than their counterparts. See the figure for a map detailing co-location rates across the US.

Figure 1. Percentage of Primary Care Physicians Co-Located with Behavioral Health Providers



Conclusions & Policy Implications

Co-location is occurring less frequently in rural settings and in smaller practices; these are the practices that will need greater assistance achieving integrated healthcare. This may be due to the “costs” of co-location and the need for a more complex organization to support it. Increasing rates of co-location by incentivizing behavioral healthcare providers to work alongside physicians could reduce physician burnout by minimizing the rural physician’s scope of practice and potentially reduce feelings of seclusion. While co-location rates appear to be increasing overall, strategies are needed to facilitate adaptation of integrated models into clinical practice that take into account variation by state, provider type, licensure, and administrative barrier that impact rates of co-location. Further, the health workforce must be trained to work in integrated settings and understand how practice can incorporate both physical and behavioral health needs concurrently. Medical education and residency training will need to teach and reflect integrated service delivery.

There are large areas of the U.S. in which co-location is not occurring, and the benefits of integrated services remain untapped. Given the importance of monitoring these efforts, the reliance on NPES data warrants further administrative oversight at the federal level to better consider the frequency and accuracy of NPI data

to assess national trends (Bindman, 2013). Exploration of national integrated workforce data are needed to develop a clear understanding of which providers are needed, where, and how to better align workforce supply with patient need.

Limitations. Despite significant findings, limitations are: 1) Geographic analyses focuses on the physical co-location of providers and do not indicate the quality of care; 2) Provider specialty measures may not fully capture context or role as this is a limitation of the NPI data available; 3) co-location was determined by spatial analyses that do not account for addresses stacked on top of one another; and 4) it is not known if providers are working in full or part-time capacities which could impact the potential for collaborative practice.

References

1. American Hospital Association. (2016). The state of the behavioral health workforce: a literature review. Chicago: American Hospital Association. Retrieved June 14, 2016: <http://www.aha.org/content/16/stateofbehavior.pdf>
2. Bindman, A. B. (2013). Using the National Provider Identifier for health care workforce evaluation. *Medicare & Medicaid Research Review*, 3(3), mmmr.003.03.b03. <http://doi.org/10.5600/mmmr.003.03.b03>
3. Centers for Medicare& Medicaid Services [CMS], 2018. Retrieved from <https://www.cms.gov/Regulations-and-Guidance/Administrative-Simplification/NationalProvIdentStand/DataDissemination.html>
4. Croft, B., & Parish, S. L. (2013). Care integration in the Patient Protection and Affordable Care Act: Implications for Behavioral Health. *Administration and Policy in Mental Health and Mental Health Service Research*, 40(4), 258-263.
5. Crowley, R. A., & Kirschner, N. (2015). The integration of care for mental health, substance abuse, and other behavioral health conditions into primary care: Executive summary of an American College of Physicians position paper. *Annals of Internal Medicine*, 163(4), 298-299.
6. Fraser, M. W., Lombardi, B. M., Wu, S., Zerden, L. D., Richman, E. L., & Fraher, E. P. (2018). Integrated primary care and social work: a systematic review. *Journal of the Society for Social Work and Research*, 9(2), 175-215.
7. Heath B, Wise Romero P, and Reynolds K. A Review and Proposed Standard Framework for Levels of Integrated Healthcare. Washington, D.C. SAMHSA-HRSA Center for Integrated Health Solutions. March 2013.
8. Kessler, R. (2012). Mental health care treatment initiation when mental health services are incorporated into primary care practice. *The Journal of the American Board of Family Medicine*, 25(2), 255-259.
9. Manderscheid, R., & Kathol, R. (2014). Fostering sustainable, integrated medical and behavioral health services in medical settings. *Annals of Internal Medicine*, 160, 61-65.
10. Miller, B. F., Petterson, S., Levey, S. M. B., Payne-Murphy, J. C., Moore, M., & Bazemore, A. (2014). Primary care, behavioral health, provider colocation, and rurality. *The Journal of the American Board of Family Medicine*, 27(3), 367-374.
11. StreetMap North America; ESRI, DeLorme, Automotive Navigation Data road data, and Tele Atlas, First American, UNEP-WCMC, USGS; May 2013