

Monitoring local impacts of Medicaid expansion on primary care provider capacity: A case study from King County, Washington

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Summary

We sought to assess capacity of primary care providers (PCPs) to accept new adult Medicaid patients in King County, Washington, following the Affordable Care Act's Medicaid expansion.

We extracted PCP contact information from online provider directories using automated web scraping software, and then we conducted three "mystery shopper surveys," one pre- and two post-Medicaid expansion. Interviewers posed as new patients and asked about appointment wait times and whether PCPs were accepting new adult Medicaid patients.

The percentage of PCPs accepting new adult Medicaid patients declined during the first 15 months post-Medicaid expansion, but appointment wait times did not change significantly. We identified widespread inaccuracies in the online provider directories of Medicaid managed care organizations.

Mystery shopper surveys are limited in their ability to monitor access to care in real time because of inaccurate, fragmented data sources. More efficient and accurate methods are needed to monitor access to care in real time. Potential approaches to improve access to care monitoring include increased sharing of electronic health data between public health and health care organizations and the creation of sentinel provider networks to serve as early warning systems for changes in access to care.

Context

As part of the Affordable Care Act, Washington state expanded adult Medicaid eligibility to 138% of the federal poverty level starting on January 1, 2014.¹ During the 15 months that followed, adult Medicaid enrollment increased by 102% in King County, Washington.² This rapid rise in enrollment raised concerns about whether the health care system had the capacity to absorb the newly insured residents. No plans existed at the county or state level to evaluate unintended consequences of the Medicaid expansion on a real-time basis, highlighting a need for systematic monitoring of access to care at the population level.

Previous research suggests Medicaid beneficiaries may face more difficulty obtaining primary care appointments than privately insured individuals.³ Indeed, when Massachusetts expanded Medicaid as part of its 2006 health reform law, the percentage of internal medicine physicians accepting new Medicaid patients fell from 73% to 59% in the first year post-expansion.⁴

Evaluating access to care is an essential function of local health jurisdictions,⁵ particularly during times of health care system change. As part of its assurance role, Public Health—Seattle & King County (PHSKC) partnered with the University of Washington to develop an evaluation framework for tracking the implementation and impact of the ACA in King County.⁶ This evaluation included three rounds of "mystery shopper surveys" to assess capacity of primary care providers (PCPs) to accept new adult patients with coverage from a Medicaid managed care organization (MCO).

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Approach

A mystery shopper survey is a survey for which the interviewer's purpose is unknown by the respondent. We conducted three mystery shopper surveys: one prior to Medicaid expansion (December 3-16, 2013) and two after (April 3 – May 13, 2014 and March 16 – April 24, 2015). Interviewers called PCPs acting as uninsured King County residents aged 18-64 planning to enroll in a Medicaid MCO plan, seeking information about provider availability and appointment wait times for a routine adult physical.

Given that providers often work at multiple locations with differing availability, unique primary care provider locations were surveyed, hereafter referred to as PCPs. We identified MCO-contracted PCPs – those who were in the provider network for any of the five Medicaid MCOs serving King County – by extracting contact information from the MCOs' consumer-facing online directories, using freely available automated web scraping software (iRobotSoft, v2.6.8, <http://www.irobotsoft.com>). Data extracted from the 5 MCOs were merged and de-duplicated using Link Plus (v2.0, CDC, Atlanta, GA). PCP status was first defined by the MCO directory and subsequently by specialty (family medicine, internal medicine, general practice, non-pediatric nurse practitioner [NP], physician assistant [PA]). The resulting data file was used to estimate the percentage of PCPs accepting new adult Medicaid MCO patients as advertised on online MCO provider directories. For the 2015 survey alone, a separate source of contact information was used for physicians and PAs: a proprietary database from the Washington State Medical Association (WSMA).

We adapted our survey instrument and methodology from the Massachusetts Medical Society.⁴ For the 2013 and 2014 surveys, 4 stratified random samples were drawn to be representative at the sub-county region level, while for the 2015 survey, stratified random samples were drawn by clinic type (federally qualified health center [FQHC] and private practice). Phone calls were made during business hours, Monday-Friday, 9am-5pm. Prior to each survey, mystery shoppers piloted the survey protocol in a nearby county to practice and refine the script and data collection instrument (a Microsoft Access database). Throughout the pilot phase and full survey, a PHSKC epidemiologist met weekly with mystery shoppers to review calls and ensure accurate and consistent data collection.

Primary outcomes included whether a PCP was accepting new adult patients with any of the 5 MCO plans, the number of days until an appointment for a routine adult physical, and whether a PCP's phone number was accurate. All outcomes were analyzed at the King County level and by clinic type (FQHC, private practice), using our sample of MCO-contracted PCPs only. Due to inaccurate phone numbers in MCO directories, we could not reach target sample sizes. After finding that outcomes neither changed significantly nor meaningfully between the 2013 and 2014 surveys, we heard from local stakeholders that it may have been too early to detect an impact of Medicaid expansion on the percentage of PCPs accepting new adult Medicaid MCO patients. Given this, and to address our aforementioned small sample sizes, we used a two-survey average (2013/2014) to compare to the 2015 survey to improve our ability to detect a change over time moving further into the post-Medicaid expansion era. To test for statistically significant differences across time and clinic type, the Adjusted Wald test was used for dichotomous outcomes and the Hodges-Lehmann median difference for median appointment wait times. Two-tailed p-values <0.05 were considered to indicate significance in all statistical tests. All statistical analyses were conducted using Stata (v13, StataCorp, College Station, TX).

Findings

We contacted 614, 765, and 170 PCPs in the December 2013, April 2014, and April 2015 surveys, respectively, and roughly one-third of phone calls resulted in complete interviews (**Table 1**). Reasons for incomplete interviews included inaccurate phone numbers (e.g. provider no longer or never at practice location, non-working or fax machine number) and inapplicable specialties (i.e. provider or location does not provide primary care). Of the complete interviews, 97, 122, and 27 providers were accepting new adult Medicaid MCO patients during the December 2013, April 2014, and April 2015 surveys, respectively, and thus had wait times assessed.

Between December 2013 and April 2015, adult Medicaid enrollment in King County more than doubled from 121,555 to 245,275 (**Figure 1**).² During the same time period, the percentage of PCPs accepting new adult Medicaid MCO patients declined significantly, from a 2013/2014 average of 47.8% (95% CI 42.5% to 53.1%) to 33.7% (95% CI 22.5% to 47.0%) in April 2015 (p=0.04).

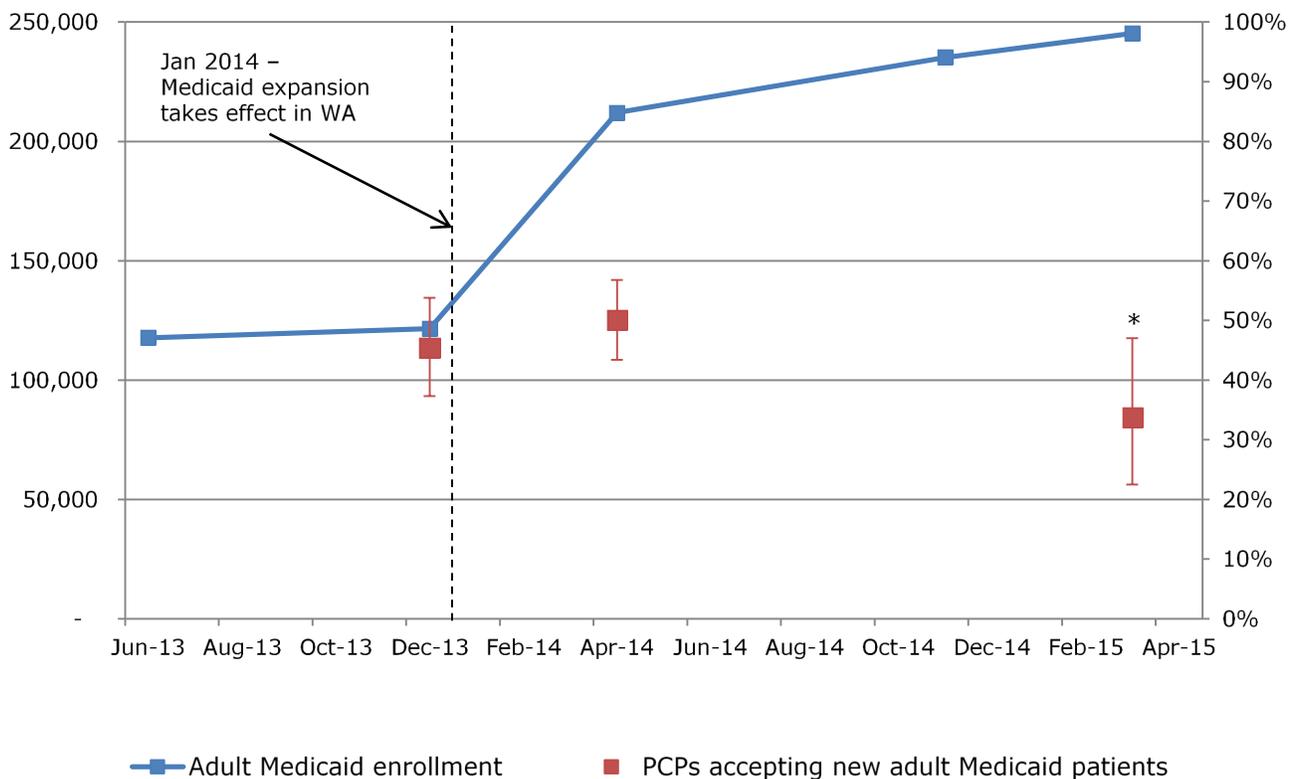
Despite the drop in the percentage of PCPs accepting new adult Medicaid MCO patients, we found no significant change in median wait times for such individuals obtain a new patient appointment for a routine adult physical. Median wait times remained stable between 7 and 9 days.

Table 1. Provider sample size for 2013-2015 mystery shopper surveys, King County, WA

	Providers called			Complete interviews (%)			Accepting new adult Medicaid MCO patients		
	Dec 2013	Apr 2014	Apr 2015	Dec 2013	Apr 2014	Apr 2015	Dec 2013	Apr 2014	Apr 2015
All clinics	614	765	170	242 (39%)	253 (33%)	67 (39%)	97	122	27
FQHC	72	108	93	34 (47%)	47 (44%)	26 (28%)	20	36	15
Private practice	542	657	77	208 (38%)	206 (31%)	41 (53%)	77	86	12

Abbreviations: FQHC=federally qualified health centers; MCO=managed care organization

Figure 1. Adult Medicaid enrollment and percent of MCO-contracted PCPs accepting new adult Medicaid MCO patients, King County, WA

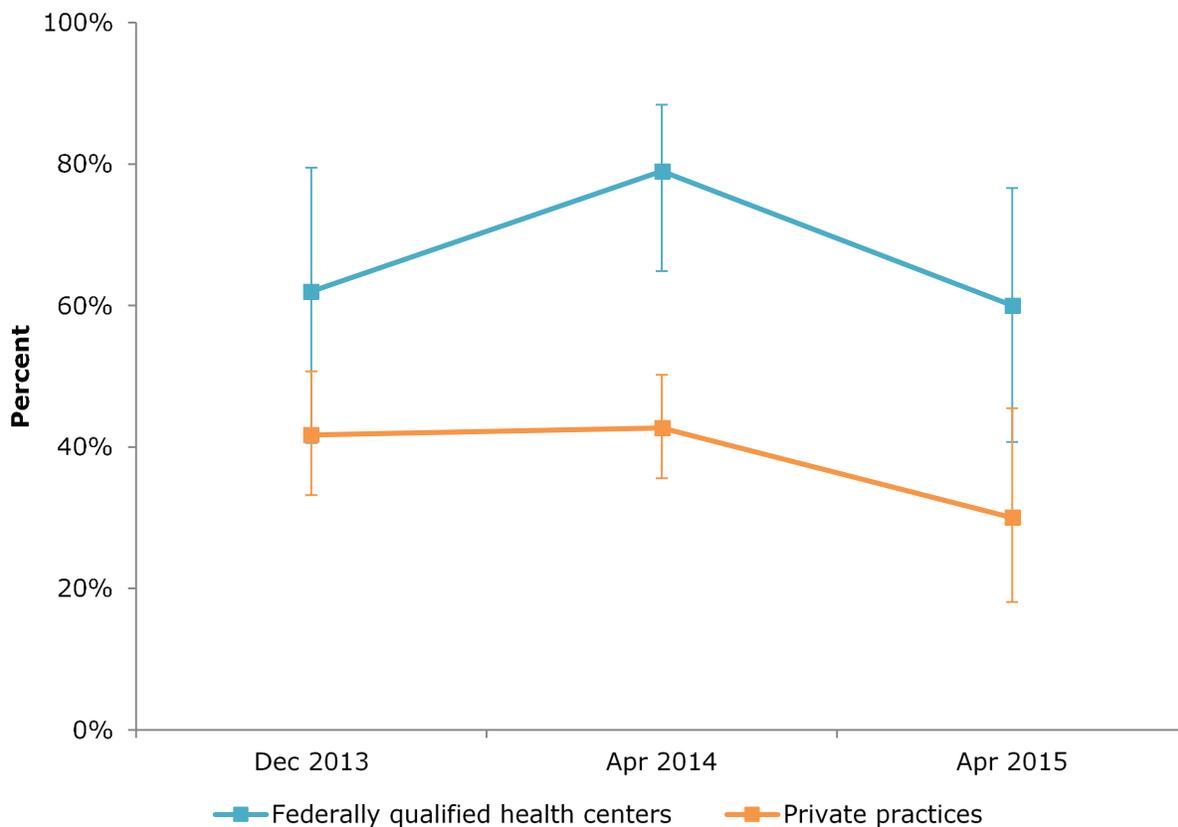


*Significant decrease from 2013/2014 surveys (combined) to 2015 survey (p=0.04)

Source: HCA enrollment data; 2013-2015 PHSKC mystery shopper surveys

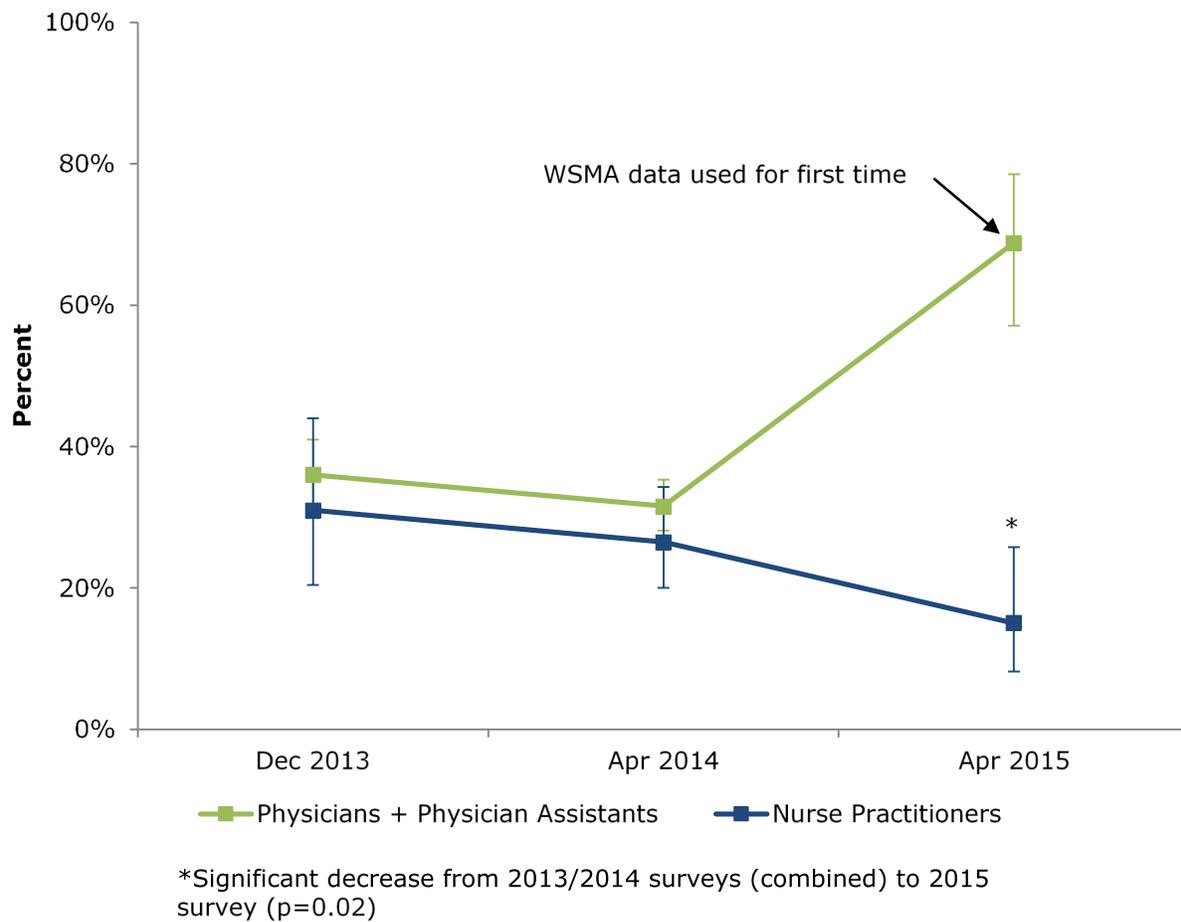
Compared with PCPs in private practice, a higher percentage of PCPs in federally qualified health centers (FQHCs) were accepting new adult Medicaid MCO patients both in the 2013/2014 surveys ($p < 0.001$), as well as a year later ($p = 0.01$) (**Figure 2**). The difference between FQHCs and private practice providers for accepting new adult Medicaid MCO patients did not change significantly over time ($p = 0.90$).

Figure 2. Percent of MCO-contracted PCPs accepting new adult Medicaid MCO patients by clinic type, King County, WA



We also identified inaccuracies in the online provider directories operated by Washington’s MCOs, as well as in a WSMA physician/PA database (**Figure 3**). In 2013/2014 combined, the percentage of PCPs with an accurate phone number in MCO directories was only 28.3% (95% CI 22.3% to 35.1%) for NPs, and 33.7% (95% CI 30.8% to 36.8%) for physicians and PAs. By the time of the follow-up survey in April 2015, the percentage of NPs with an accurate phone number in the MCOs’ directories had decreased significantly to 15.0% (95% CI 8.1% to 25.9%; $p = 0.02$). For physicians and PAs, the April 2015 survey used the WSMA database, which showed a higher degree of accuracy compared with the MCO directories from the previous year. However, the percentage of accurate phone numbers in the WSMA database still remained less than 70%.

Figure 3. Percent of MCO-contracted PCPs with an accurate online phone number, King County, WA



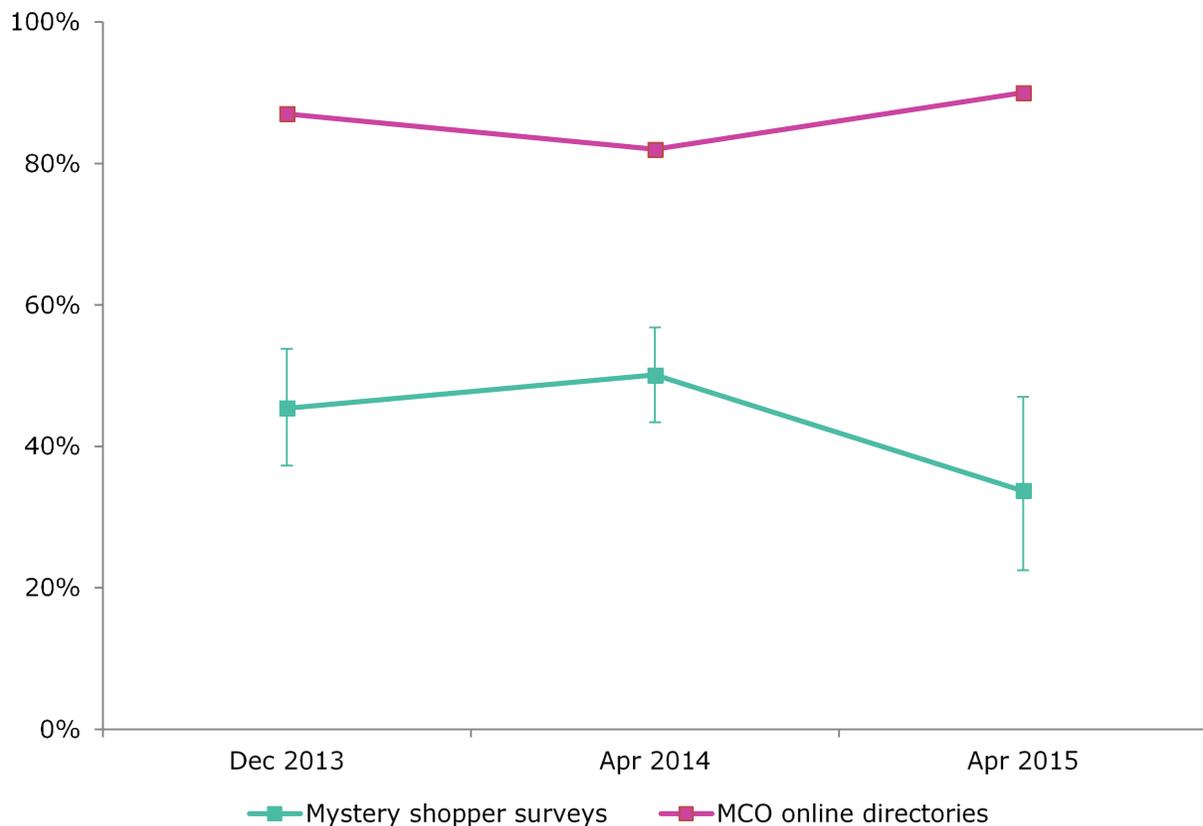
In addition, the online MCO directories appear to over-advertise PCP availability to accept new adult Medicaid MCO patients. In December 2013 and April 2015, respectively, the advertised percentage of MCO-contracted PCPs accepting new adult Medicaid MCO patients was 1.9 and 2.7 times greater than the availability found in the mystery shopper surveys (**Figure 4**).

Major themes

Prior to ACA implementation, King County exceeded the state average for PCP capacity to accept new Medicaid patients.⁷ While Medicaid expansion helped more King County residents obtain coverage, the number of PCPs accepting new adult Medicaid MCO patients declined. King County's experience is comparable to that of Massachusetts, where the percentage of physicians accepting new Medicaid patients fell after the state expanded Medicaid.⁴ The experiences of Massachusetts and King County suggest that insurance coverage may not guarantee PCP availability, and that additional policy levers – such as increased Medicaid reimbursement or simplified administrative processes – may be necessary to improve PCP participation under Medicaid.^{8,9}

FQHCs provide care to underserved individuals, and generally have greater availability than private practices to offer appointments to new Medicaid beneficiaries.¹⁰ In the year following Medicaid expansion, the percentage of PCPs accepting new adult Medicaid MCO patients remained higher in King County FQHCs than in private practices, suggesting FQHCs are continuing to fulfill their role as safety-net providers.

Figure 4. Advertised versus surveyed percentage of MCO-contracted PCPs accepting new adult Medicaid MCO patients in King County, WA



Access to care involves the ability to obtain appointments with specialty providers as well as PCPs. At the request of local stakeholder groups, the April 2015 survey assessed specialist availability in King County and found the percentage of obstetricians/gynecologists and orthopedic surgeons accepting new adult Medicaid MCO patients exceeded the percentage of PCPs accepting new adult Medicaid MCO patients at 64.1% (95% CI 54.5% to 72.7%) and 57.6% (95% CI 47.4% to 67.1%), respectively (data not shown). However, with only one time point, we were unable to examine trends over time. Additional evaluation would be needed to draw conclusions about whether King County's supply of specialty providers is sufficient to meet demand following a post-ACA growth in Medicaid enrollment.

Our evaluation highlights important population-level trends, but does not explore whether the decline in the percentage of PCPs accepting new adult Medicaid MCO patients is affecting access to care at the individual level. In fact, the saturation of PCP capacity may indicate that new Medicaid enrollees are successfully connecting with providers. Given currently available data sources, it is difficult to determine the extent to which individual Medicaid beneficiaries are succeeding in accessing and utilizing care. Measures like the Healthcare Effectiveness Data and Information Set (HEDIS) and the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) provide information on health plan performance and patient perceptions of care, but are not nimble enough to facilitate real-time monitoring of access to care.

While mystery shopper surveys can uncover problems with access to care, they are limited by inaccurate provider directories that make it challenging to reach sufficient sample sizes for precise results. Moreover, the inaccuracy of these consumer-facing online directories could create serious barriers for Medicaid MCO beneficiaries, who may need to call multiple listed phone numbers to find an available PCP.

Inaccurate provider directories are a nationwide problem. A 2014 study by the Office of Inspector General for the U.S. Department of Health and Human Services found that 35% of sampled providers could not be found at the location listed by a Medicaid managed care plan.¹¹ This inaccuracy might stem from various causes, including that providers might not be submitting updated contact information to MCOs. The Washington State Health Care Authority (HCA) has taken steps to address this issue, including a new requirement for MCOs to audit provider network information quarterly.¹²

There are opportunities to further improve the quality of provider directories – and facilitate monitoring of access to care – through the increased sharing of electronic health data across payers, providers, and health departments. Many health care organizations already are sharing patient data through health information exchanges (HIE), and such data sharing arrangements could be expanded to include information on wait times for new patient appointments, provider capacity to accept new patients with Medicaid or other coverage, and even patient-reported data on appointment accessibility. A requirement to submit and update such information on a regular basis could help MCOs monitor the adequacy of their provider networks, and also help local health jurisdictions evaluate access to care among entire populations.

An environment of increased health information sharing could promote the development of other new approaches to monitoring access to care, such as the creation of “sentinel provider networks.” Such networks would comprise a random, representative sample of providers from various disciplines selected to provide real-time information on provider availability to accept new patients. These networks would allow for early detection and population-level monitoring of inadequate access to care. Additionally, sentinel provider networks could be leveraged to address a range of related issues of public health importance, such as differences in care-seeking behavior by insurance coverage status or other demographic characteristics.

Conclusion

As the number of Medicaid enrollees rises, the capacity of PCPs to accept new Medicaid patients may decline. Increased support for Medicaid providers may help PCPs increase their Medicaid panel size, as well as encourage more PCPs to accept Medicaid. Mystery shopper surveys can uncover problems with access to care, but these surveys are hindered by inaccurate, fragmented data on providers. More efficient and accurate methods are needed to monitor access to care, particularly during times of health care system change. Potential approaches to improving access to care monitoring include increased sharing of electronic health data across public health and health care organizations, as well as the creation of sentinel provider networks to serve as early warning systems for changes in access to care.

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