Concentration of Specialty Services in Medicaid Provider Networks

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An Exploration of TMSIS Data in Identifying Provider Networks[1]

Abstract

Medicaid consumers, providers, managed care organizations, and states all have an interest in ensuring access to specialty care for Medicaid beneficiaries. The Centers for Medicare & Medicaid Services (CMS) recently promulgated new federal standards for access to care for Medicaid services delivered through a managed care model. We sought to interrogate the national Transformed Medicaid Statistical Information System (TMSIS) database to learn more about specialty provider networks and examine the provision of specialty services across various states. The concentration of specialty services among Medicaid specialty providers may inform strategies for both MCOs and state policy makers in building stronger networks, clarifying the provisions of network adequacy, and developing policies to assess and regulate access to specialty care. Our analysis of TMSIS data showed significant concentration of selected specialty services among providers. The methodology may be useful for future analysis to monitor network stability and compare access among various payers.

Background

Timely access to healthcare services is critical for ensuring optimal health outcomes. Previous studies have demonstrated that access to specialty care for adult Medicaid beneficiaries is challenging. In a survey published in 2019 of Community Health Clinics (CHCs), 60% of respondents reported difficulty obtaining new patient specialty visits for their Medicaid patients.[2] A 2023 published survey of consumers included the following points:

- A greater percentage of Medicaid beneficiaries (19 percent) reported that their particular doctor or hospital they needed was not covered by their insurance versus 9% of those enrolled with Medicare.

[1] This paper was produced as part of a grant from the Robert Wood Johnson Foundation. We'd especially like to thank Katherine Hempstead for her feedback on earlier drafts of the paper. All errors are attributed to the authors.
[2] Timbie JW, Kranz AM, Mahmud A, Damberg CL. Specialty care access for Medicaid enrollees in expansion states. Am J Manag Care. 2019 Mar 1;25(3):e83-e87. PMID: 30875176; PMCID: PMC6986199.

- One-third of surveyed adults enrolled in Medicaid reported that there was a time in the past year when an in-network doctor they needed to see did not have available appointments versus 18% of Medicare beneficiaries.[3]

National Medicaid managed care enrollment data from 2021 show that 74% of Medicaid beneficiaries were enrolled in comprehensive managed care organizations (MCOs).[4] One of the publicized benefits of Medicaid managed care is the development of specialist networks and facilitated access to specialty care. Although states have developed various network adequacy standards for their contracted MCOs, at least one study has shown that specialty access standards did not lead to widespread improvements in access to specialist physicians.[5]

Ensuring that individuals not only have coverage, but also have timely access to services through their Medicaid benefits is critical to creating and promoting a functional program for beneficiaries. The Centers for Medicare & Medicaid Services (CMS) recently published the final rule, Medicaid Program; Medicaid and Children's Health Insurance Program (CHIP) Managed Care Access, Finance, and Quality that adopts new federal standards for access to care for services delivered through a managed care model.[6] Key requirements include:

- Requires states to conduct annual enrollee experience surveys.
- Sets appointment time standards for services, including outpatient mental health and substance use disorder services, adult and pediatric primary care, adult and pediatric obstetrics and gynecology, and one additional service to be defined by the state.
- Requires states to use independent "secret shoppers" to validate provider networks.

While the greatest impact of these regulations will be on the provision of mental health, primary care, and ob/gyn services, the requirements will bring greater investment by MCOs and scrutiny and enforcement by states to issues of access to specialty services.

Given the new federal regulations and previous real-world experiences regarding access to specialty services, we sought to interrogate the national Transformed Medicaid Statistical Information System (TMSIS) database to learn more about specialty provider networks and examine the provision of specialty services across various states. The concentration of specialty services among Medicaid specialty providers may inform strategies for both MCOs and state policy makers in building stronger networks,

[3] KFF Survey of Consumer Experiences with Health Insurance; https://www.kff.org/private-insurance/poll-finding/kff-survey-of-consumer-experiences-with-health-insurance/; Accessed December 1, 2024.

[4] 10 Things to Know About Medicaid Managed Care; https://www.kff.org/medicaid/issue-brief/10-things-to-know-about-medicaid-managed-care; Accessed December 1, 2024.

[5] Ndumele CD, Cohen MS, Cleary PD. Association of State Access Standards with Accessibility to Specialists for Medicaid Managed Care Enrollees. JAMA Intern Med. 2017;177(10):1445–1451. doi:10.1001/jamainternmed.2017.3766

[6] Medicaid Program; Medicaid and Children's Health Insurance Program (CHIP) Managed Care Access, Finance, and Quality; https://www.federalregister.gov/documents/2024/05/10/2024-08085/medicaid-program-medicaid-and-childrens-health-insurance-program-chip-managed-care-access-finance; Accessed December 1, 2024.

clarifying the provisions of network adequacy, and developing policies to assess and regulate access to specialty care.

Methodology

Data Source

Since 2014, TMSIS analytic files (TAF) have proven to be a comprehensive resource for Medicaid encounter, beneficiary demographics, program enrollment, service utilization, and payment data. Individual states compile their Medicaid claims data and submit monthly files to CMS, who in turn compile these files into a single dataset and release an annual claims and demographics dataset for researchers. As each state submits data individually, there are numerous state specific variations in data availability and quality. Currently TMSIS data is available from 2016-2022. HMA data scientists have permission to use the data set for healthcare services research.

Data Analysis

Due to the variability in provider taxonomy data reported by states to CMS, we were unable to assess the totality of care provided by each specialty type in each state.[7] Therefore, we selected three representative services that are relatively common, potentially difficult for Medicaid beneficiaries to access, highly impactful to quality of life, typically accessed as elective procedures, and are unlikely to be provided by other clinicians such as primary care clinicians or mid-level providers. The three procedures are: total knee replacement (TKA), cataract removal, and impacted tooth extraction.[8]

We selected 10 states[9] that met a threshold of data integrity in the TMSIS dataset and represented a diverse sample of geography, socio-economic factors, and other demographic factors. We limited our analysis to non-dual adult populations greater than ages 22 through 64 years. We examined data for all services provided in 2022 for each procedure and the providers who rendered the service. We limited analysis to providers and excluded facilities.

Limitations

First, we note that TMSIS data integrity is variable across states and time. We specifically selected 10 states with the most complete appearing data sets although it is impossible to identify missing data in TMSIS. We selected 2022 for analysis since this is the most recent data available through TMSIS. We also note that data integrity has improved over time in the TMSIS data set so using the most recent data is likely to also provide the most complete data.

Second, we recognize that in 2022, the US healthcare system was still recovering from the impact of the COVID public health emergency (PHE), and this may have artificially decreased the number of elective

[7] Our initial investigation strategy was to look at provider taxonomy data for each state but we observed that the reported taxonomy or classification for various specialty providers in the TMSIS database was inadequate to determine which providers were providing specialty care services. We shifted our methodology from initially identifying specialty providers and analyzing the services that they rendered to isolating specific specialty services and identifying which providers provided those services.

[8] CPT codes used are: Impacted tooth removal: D7230, D7240

[9] AK, CO, FL, KY, MI, MN, NM, NY, OH, WA

procedures provided. Conversely, it is possible that by 2022, procedures that were deferred during 2020 and 2021 may have been performed leading to an increase in the number of procedures in 2022.

Third, our analysis is also limited to three specific procedures so patterns of care may not be generalizable to other procedures in the same specialty. We selected common procedures and clinically it is unusual for providers to agree to provide one type of specialty procedure to Medicaid beneficiaries and not other procedures within the same specialty. We also selected procedures that are not typically accessed through emergency events because we wanted to understand the typical patient experience of care either through self-referral or being referred from a primary care provider. Patients experiencing an emergency event like chest pain frequently receive a cascade of specialty services stemming from the initial event that they would not have received without the emergency event. As we refine our ability to interrogate the TMSIS provider taxonomy codes and claims data, we may be able to provide more insights into the entirety of specialty care provided by various specialty providers.

Fourth, we are limited to reviewing claims data and not clinical data. We examined the provision of specialty services but not the actual clinical need for specialty services. Claims data cannot show the number of beneficiaries for whom these procedures were clinically warranted who did not receive care. We looked at the rate of the procedures compared to the total non-dual population. We know that these TKA and cataract removals are more common for elderly persons, but we do not know the distribution of ages within the non-dual populations for each state, which may impact the clinical need for services.

Fifth, claims data reflects provision of service by provider with some specialty clinics billing as an entity and not at the individual clinician level so we are unable to determine actual number of clinicians and credentials of clinicians, or the actual geographic location of the service provided, which is an important factor in access to specialty care.

Results

We sought to characterize the provision of services across specialty providers with special attention to high-volume specialty providers.[10]

Exhibit 1: Percentage of Procedures Rendered by Top Ten Percent of Providers

	Cataract Removal		Total Knee Replacement		Tooth Extraction	
State	Percentage of Procedures	Number of Providers in Top 10%	Percentage of Procedures	Number of Providers in Top 10%	Percentage of Procedures	Number of Providers in Top 10%
AK	58%	4	44%	1	44%	7
CO	61%	21	42%	8	64%	27
FL	62%	28	50%	12	72%	14
KY	64%	35	46%	10	53%	11
MI	56%	23	52%	15	74%	31
MN	56%	30	40%	13	63%	11

[10] Few surgical procedures provided by specialists could represent a separate clinical quality issue.

NM	68%	5	47%	3	66%	12
NY	61%	78	62%	30	68%	50
OH	62%	29	50%	13	63%	31
WA	70%	24	42%	7	69%	17

Exhibit 1 summarizes our findings about the concentration of specialty services and allows for the following notable observations:

- Unsurprisingly, the Medicaid program is reliant on the top 10% of providers. The top 10% of providers deliver between 42% and 70% of all procedures in the states.
- Less-populated states deal with particularly fragile access infrastructure dynamics. Alaska and New Mexico rely on less than 10 providers.
- In five of the states we analyzed, tooth extraction had the highest percentage of services concentration in the top 10% of providers.
- Meanwhile, in nine of the states, knee replacements were the most diffuse procedure with the lowest percentage of services concentrated in the top 10% of providers.

To further analyze the distribution of each service rendered by all providers of that service, we built on a previous study[11] and examined network concentration by plotting percentage of providers and percentage of services rendered as shown in Exhibits 2-5. Graphs of all three procedures for each state are included in the Appendix.

[11] Ludomirsky, Avital & Schpero, William & Wallace, Jacob & Lollo, Anthony & Bernheim, Susannah & Ross, Joseph & Ndumele, Chima. (2022). In Medicaid Managed Care Networks, Care Is Highly Concentrated Among A Small Percentage Of Physicians: Study examines the availability of physicians in Medicaid managed care networks. Health Affairs. 41. 760-768. 10.1377/hlthaff.2021.01747.

Exhibit 2 – Distribution of Cataract Procedures Within the Network of Specialists Providing Procedure

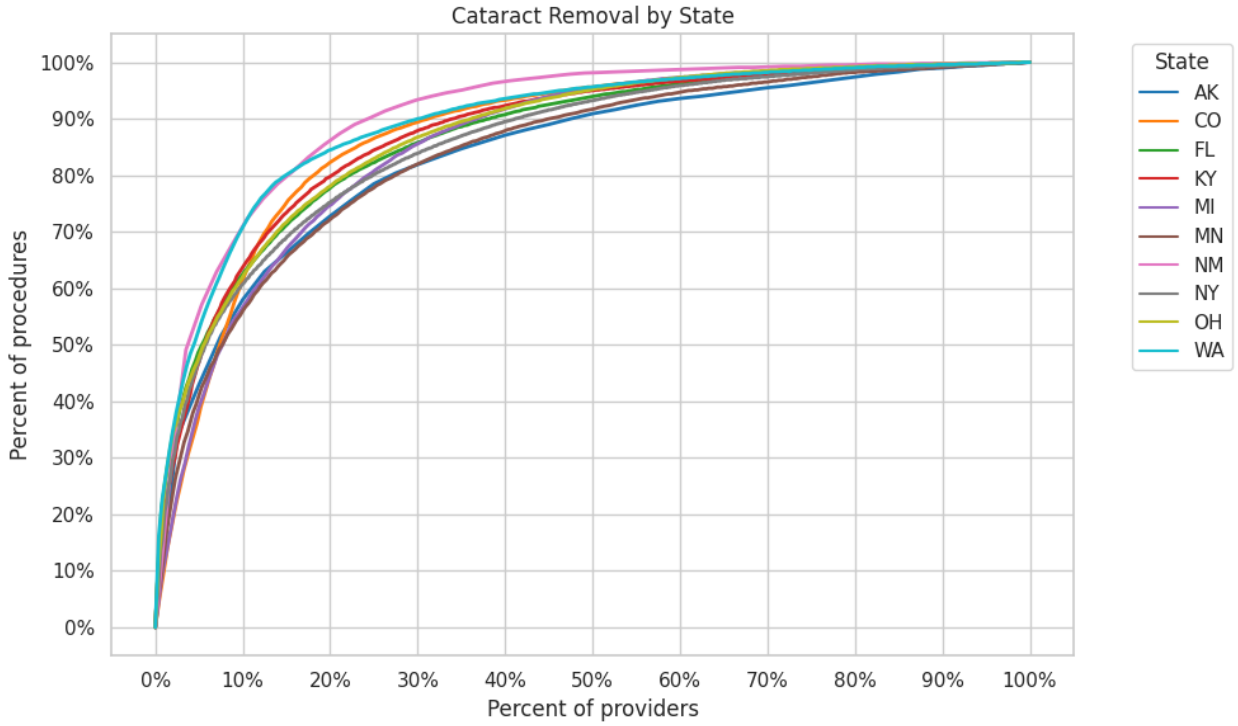


Exhibit 3 - Distribution of Tooth Extraction Procedures Within the Network of Specialists Providing Procedure

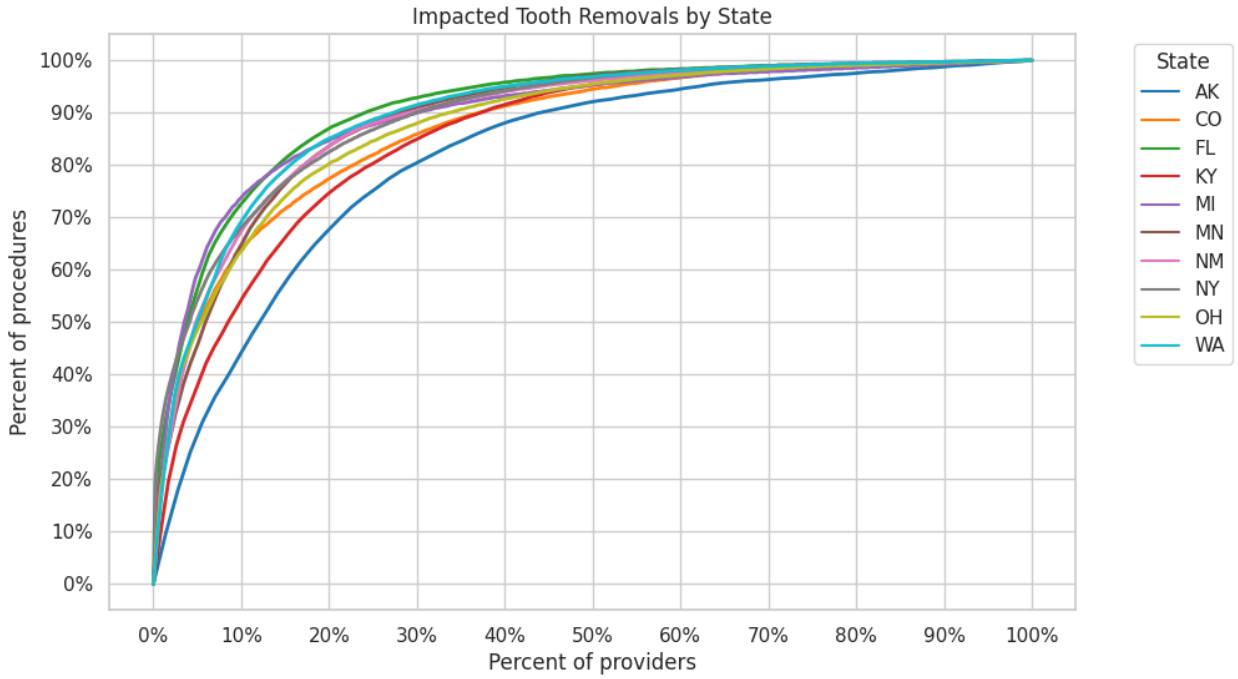
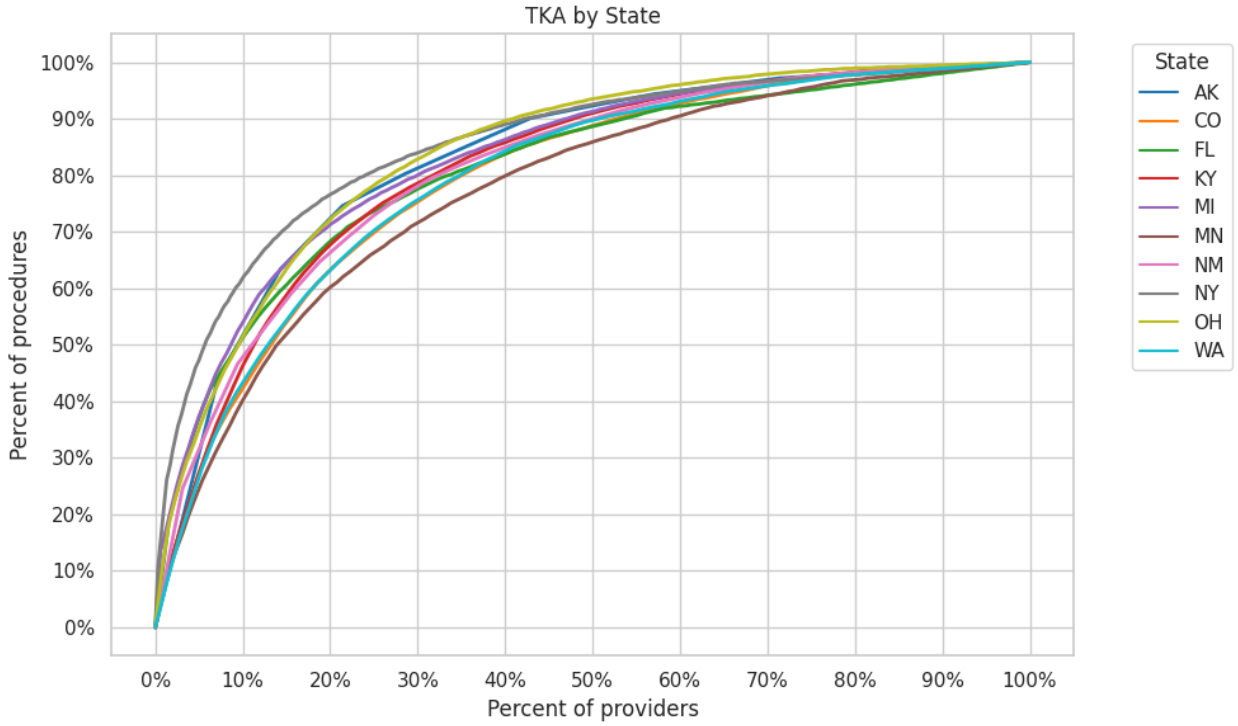


Exhibit 4 - Distribution of Total Knee Arthroplasty Within the Network of Specialists Providing Procedure



Exhibits 2-4 pull together data that allows for the following notable observations:

- When looking at the same procedure across states, no consistent pattern emerged of which states had the highest and lowest concentration of services in the top 10/25% of providers.
- However, when looking at the same procedure across multiple states, TKA tended to have the lowest concentration of services among those we focused on, while tooth removal tended to have the highest.
- Regardless of procedure and state, the 50% of providers with the lowest procedure count tended to provide fewer than 10% of the total services combined.

Discussion

Relationship of Specialty Provider Concentration and Network Adequacy

We picked a diversity of states for analysis with the initial hypothesis that the concentration of specialty care among rural states or Medicaid expansion states might look similar and lead to policy recommendations. We could not discern a pattern of specialty care concentration among the various states when considering these groupings. This suggests that the specialty networks within each state are highly nuanced, and state policymakers need to look at individual specialty networks when considering health policy. The newly implemented federal rules do not address specialty care outside of behavioral health services and ob/gyn services. State policy makers and MCOs need to examine each specialty individually to assess the distribution of care and access to care.

The concentration of services within the specialty service provision is relatively concentrated across the three specialties and ten states. The top 10% of providers rendered a minimum of 40% of procedures up to a total of 75% of procedures. Although TMSIS data does not allow for examination of location of service provision, it is likely that more concentrated provider networks are also more geographically concentrated. Higher concentration of specialty providers may lead to greater disruptions in access if a few providers decline to participate in Medicaid or stop contracting with a specific MCO. States and MCOs can work together to develop strategies to develop more robust networks using various levers such as value-based payments or other directed payment mechanisms to encourage participation and drive quality among high-volume providers.

Policy Considerations

Given the variability both within and among states for the concentration of specialty services, state officials should take steps to better measure and monitor provision of services to ensure appropriate access. Some potential policies include:

Sentinel Specialty Services as an MCO Performance Measure

We postulate that states could readily select other 'sentinel' specialty procedures, in addition to TKA, cataracts, and tooth extraction, such as placement of long-active reversible contraception (LARC), Mohs skin surgery, or others and examine the concentration of services among providers. This type of analysis is easier to produce and complementary to other assessments of network adequacy such as time/distance standards, secret shopper surveys, and beneficiary/provider ratios. In addition to examining relative concentration of specialty provider services, changes in the concentration of services could be tracked over time or in response to various changes in policy or payment.

High Volume Providers and Quality of Care

States or MCOs should set a threshold to define high-volume providers and examine quality metrics and health outcomes for these providers since they provide a disproportionate volume of care. Aggregating providers to include all MCOs within each state yields a more accurate reflection of the total volume of Medicaid services rendered by each provider. High-volume providers should be examined more frequently for fraud, waste, and abuse.

Accuracy of Provider Taxonomy Data

As noted in our methodology section, the quality of provider taxonomy data (e.g. specialty care identifiers) in the TMSIS data set is incomplete. States should strive to collect complete taxonomy data from providers and include in their TMSIS datasets allowing for more robust assessments of the provision of care and composition and distribution of specialty networks.

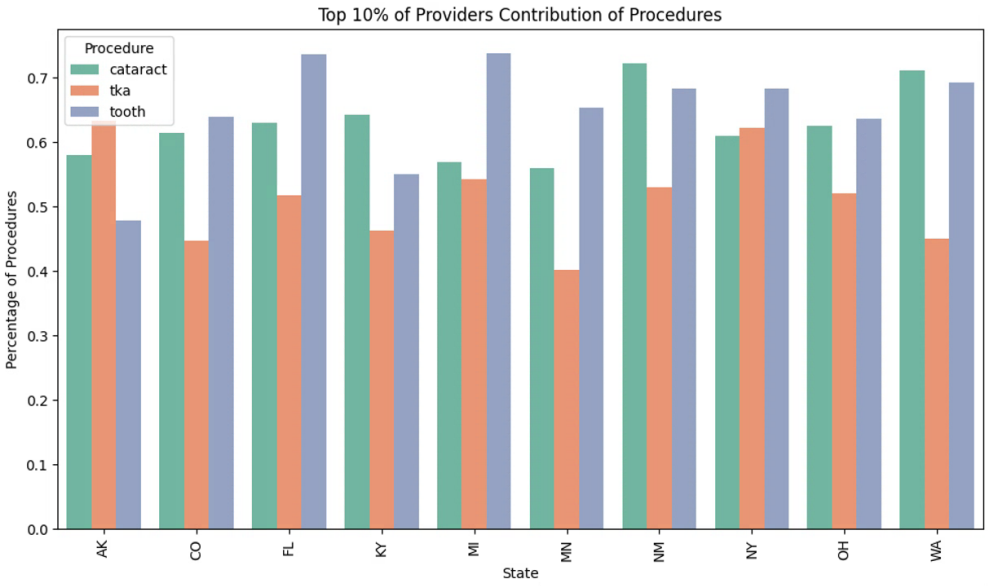
Conclusion

Timely access to specialty care is critical to ensuring optimal health outcomes and an important component of health equity. Assessment of the concentration of specialty services provides a readily available measure that could serve as an indirect reflection of network adequacy and assist states and MCOs characterize provision of specialty services, develop policies to enhance network adequacy, and

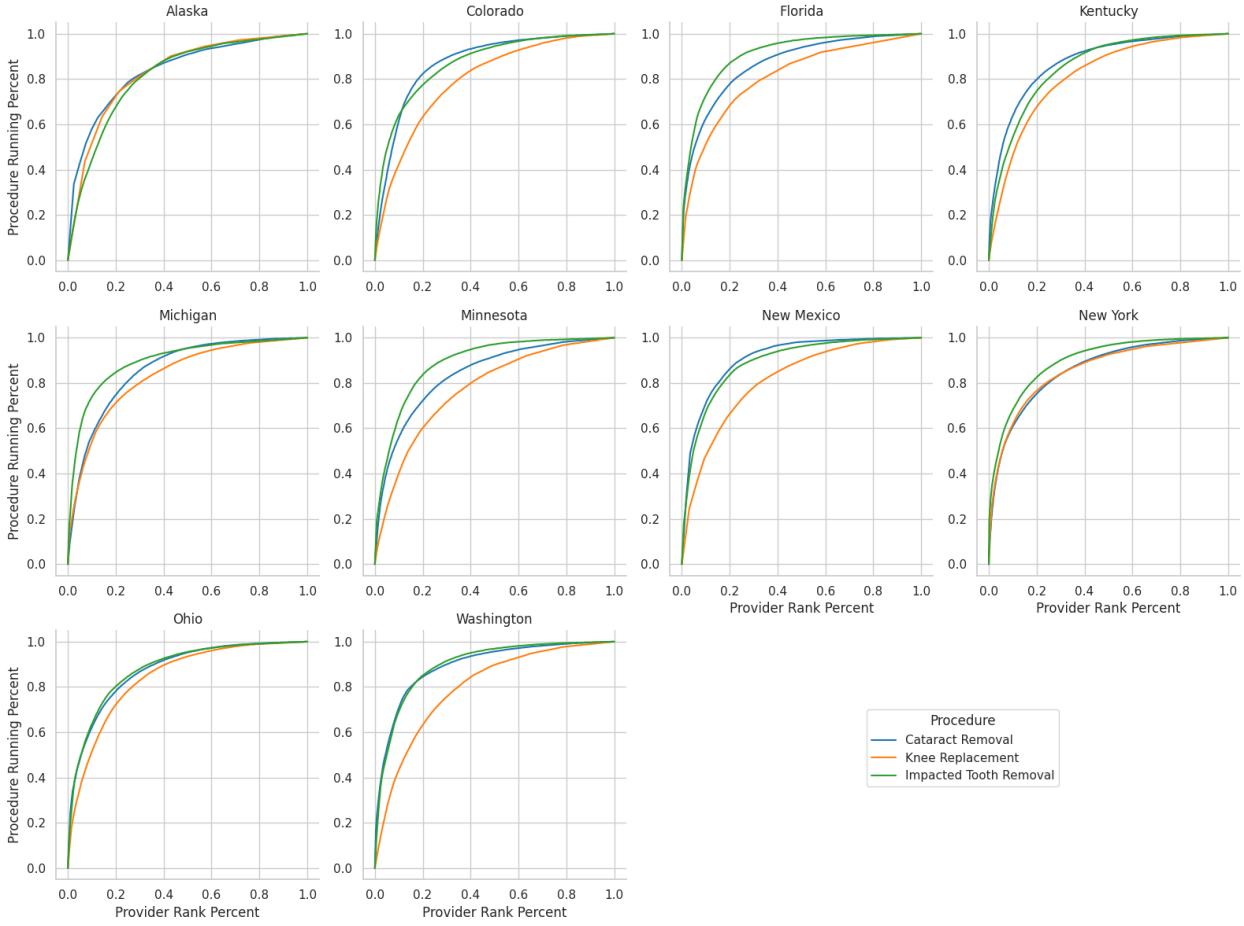
monitor the impact of quality and policy levers. Our initial analysis of TMSIS data, while finding that some services can be concentrated, did not identify any key patterns leading to identification of specific drivers. It is likely that nuanced, and state specific factors are crucial in understanding the concentration of each specialty in each state. States should institute sentinel services monitoring and consider setting thresholds to identify if disproportionate care is occurring. This methodology is easy to apply to all payer types. Further researchers should examine the concentration of services for Medicaid beneficiaries and compare them to Medicare FFS, Medicare Advantage, and commercial insurance. If Medicaid services are more concentrated (and we hypothesize that they are), then network concentration may be an indirect reflection of actual access to specialty services and serial analyses may help drive health equity.

Appendix

Appendix 1: Bar Chart with Percentage of Procedures Rendered by Top Ten Percent of Providers



Appendix 2-11 – Individual States and Distribution of TKA, Cataract Removal, and Tooth Extraction Within the Network of Specialists Providing Procedure



Data and analytics were provided by Shreyas Ramani at sramani@healthmanagement.com and Jessica Wu at jwu@healthmanagement.com. Please contact Michael Cohen at Michael.Cohen@wakely.com, Matt Powers at mpowers@healthmanagement.com, or Margaret at Kirkegaard mkirkegaard@healthmanagent.com with any questions or to follow up on any of the concepts presented here.

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