

# Clinical Appropriateness Measures Collaborative Project

A DATA-DRIVEN COLLABORATION TO PROMOTE EVIDENCE-BASED CARE



# Background

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In 2020-2021, AHIP launched a project with Dr. Martin Makary, a professor at the Johns Hopkins University School of Medicine, on a data-driven, collaborative approach to promote evidence-based care. The project is based on an implementation science methodology published by Dr. Makary's team in several academic peer-reviewed journals.<sup>1</sup> In this research, the team analyzed data from the Centers for Medicare & Medicaid Services (CMS) and commercial payers using physician-led appropriateness measures based on consensus among specialists. Physicians were then benchmarked to their peers, and data was shared at an individual physician level. Results from the intervention showed 85% of physicians practicing outside of the standard changed behavior to meet consensus practice standards.<sup>2</sup>

Using this same data-driven model, several AHIP member health insurance providers collaborated with Dr. Makary's team in a similar project to increase adherence with evidence-based care, improve patient care, and reduce unnecessary care across different medical specialties. The participating health insurance providers provided their claims analysis based on the metrics and methodology provided by the Johns Hopkins study team.

## Appropriateness Measures

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Working with Dr. Makary, AHIP and clinical leaders from member health insurance providers selected five measures of interest from a broader list. The metrics were chosen based on the following criteria: high consensus of what constituted appropriate care among the relevant specialty societies; feasibility based on availability of data from claims information; and high-volume areas with potential for meaningful improvement. The measures selected encompass the specialties of gastroenterology, orthopedic surgery, and nephrology.

**Rate of Different Day Bidirectional Endoscopy:** Performing elective upper and lower endoscopic procedures on the same day is a patient-centered and less costly approach than performing them on different days. The different-day approach is associated with unnecessary repeated venipuncture and sedation, use of an endoscopy suite, added physician professional fees, and patient inconvenience.

**Rate of Add-on Upper Endoscopy During a Screening Colonoscopy:** When not scheduled in advance for clinically appropriate reasons, performing a screening colonoscopy with an add-on of an upper endoscopy on the same day can be an area of misuse, resulting in an unnecessary invasive procedure associated with increased anesthesia time and added physician procedure fees.

**Rate of Knee Arthroscopic Procedures that are Meniscectomy Only:** Arthroscopic partial meniscectomy-only procedures are commonly performed among older patients. Multiple randomized clinical trials have revealed no benefit from the procedure in patients with degenerative meniscal tears when compared to exercise and physical therapy.

**Rate of Knee Arthroscopy Prior to Knee Replacement Surgery:** Arthroscopy is a common procedure for osteoarthritis of the knee despite randomized controlled trials showing no benefit over a placebo procedure or nonsurgical management. Arthroscopy before knee replacement has also been associated with an increase in knee replacement complications, including future revision, joint infection, aseptic loosening, and stiffness.

**Rate of Home Hemodialysis:** When clinically appropriate, performing home dialysis is a patient-centered and less costly approach than in-center dialysis. Studies have shown home dialysis can improve the quality of life and sleep, improve fluid status and blood pressure control, reduce the burden of dietary restrictions, and increase survival benefits compared to in-center dialysis. In-center dialysis is associated with unnecessary use of a hemodialysis suite, added physician professional fees, and patient inconvenience.

## Results

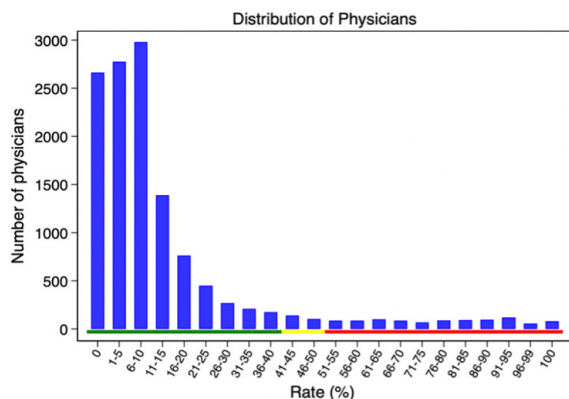
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In collaboration with seven individual health insurance providers, Dr. Makary's team performed an analysis of the five appropriateness measures using each plan's claims data and aggregated the analysis. The findings showed provider practice patterns across all measures that were outside clinically appropriate parameters.<sup>3</sup> Improving physician performance would result in better care and outcomes for patients.

## Gastroenterology

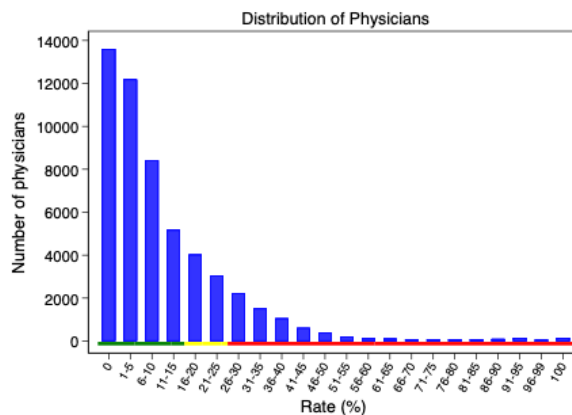
### Rate of Different Day Bidirectional Endoscopy

Of 12,851 physicians included in the study, **7.4%** (946 physicians) performed outside of consensus-based standards of care.<sup>4</sup>



### Rate of Add-on Upper Endoscopy During a Screening Colonoscopy

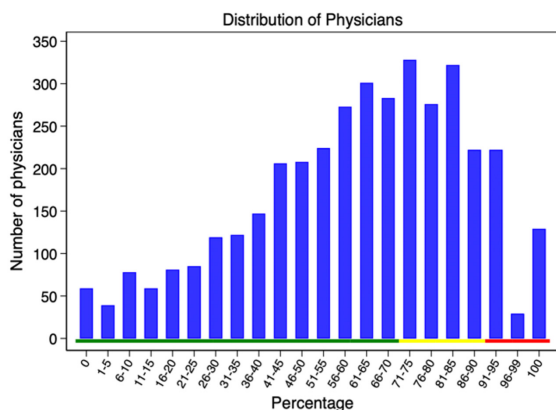
Of 53,388 physicians included in the study, **13%** (6,936 physicians) performed outside of consensus-based standards of care.<sup>5</sup>



## Orthopedic

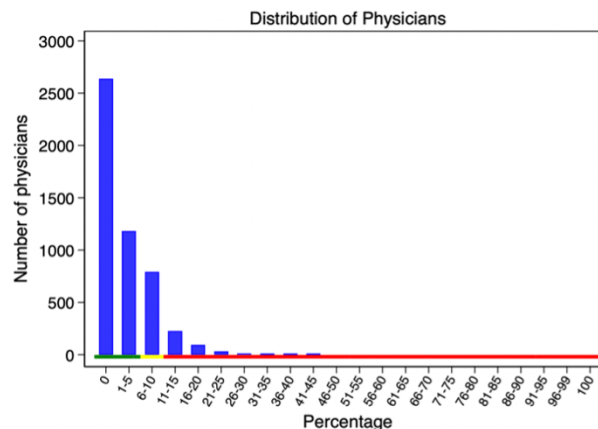
### Rate of Knee Arthroscopic Procedures that are Meniscectomy Only

Of 3,812 physicians included in the study, **10%** (380 physicians) performed outside of consensus-based standards of care.<sup>6</sup>



### Rate of Knee Arthroscopy Prior to Knee Replacement Surgery

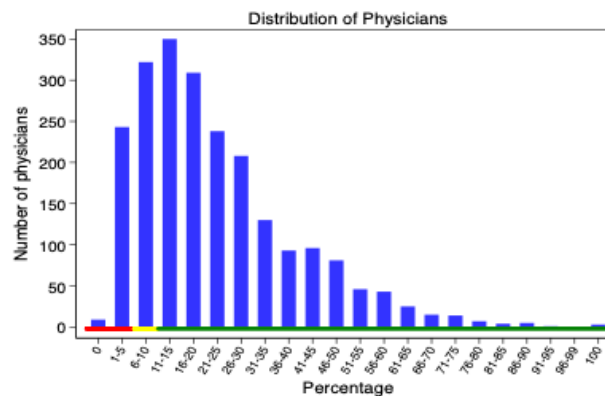
Of 4,975 physicians included in the study, **7.3%** (364 physicians) performed outside of consensus-based standards of care.<sup>7</sup>



## Nephrology

### Rate of Home Hemodialysis

Of 2,242 physicians included in the study, **11.2%** (252 physicians) performed outside of consensus-based standards of care.<sup>8</sup>



## Conclusion & Next Steps

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The majority of physicians included in the study performed within appropriate and evidence-based standards of care as defined by their respective specialty societies. However, about 10% of physicians provided care inconsistent with these consensus and evidence-based standards. While in some cases the number of physicians deviating from accepted standards of care may seem small, each of these physicians treats many patients, making the number of affected patients significant. Policymakers should consider these findings when restricting or limiting the use of medical management tools designed to promote evidence-based care, such as prior authorization.

This data-driven approach relies on close collaboration and constructive partnerships between health insurance providers and physicians with the shared goal of improving patient care. To promote improvement in performance consistent with evidence and consensus-based standards of care, each health plan that participated in the project received their individual results and a physician performance reporting template that they can choose to use to communicate the results to their network providers. Previous research studies have shown that physicians presented with data showing their performance relative to their peers can influence the majority of under-performing providers to change their behavior. These analyses can also help to identify areas for improvement across or within certain specialties. Some health insurance providers are using the same approach to address other clinical areas.

## Endnotes

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- 1 Hicks CW, Holscher CM, Wang P, Black JH 3rd, Abularrage CJ, Makary MA. Overuse of early peripheral vascular interventions for claudication. *J Vasc Surg*. 2020 Jan;71(1):121-130.e1. doi: 10.1016/j.jvs.2019.05.005. Epub 2019 Jun 14. PMID: 31208940.  
Hicks CW, Holscher CM, Wang P, Dun C, Abularrage CJ, Black JH 3rd, Hodgson KJ, Makary MA. Use of Atherectomy During Index Peripheral Vascular Interventions. *JACC Cardiovasc Interv*. 2021 Mar 22;14(6):678-688. doi: 10.1016/j.jcin.2021.01.004. PMID: 33736774.  
Deery SE, Goldsborough E, Dun C, Abularrage CJ, Black JH, Makary MA, Hicks CW. Use of Intravascular Ultrasound During First-Time Femoropopliteal Peripheral Vascular Interventions Among Medicare Beneficiaries. *Ann Vasc Surg*. 2021 Nov 12:S0890-5096(21)00802-5. doi: 10.1016/j.avsg.2021.09.024. Epub ahead of print. PMID: 34780962.
- 2 Krishnan A, Xu T, Hutfless S, et al. Outlier Practice Patterns in Mohs Micrographic Surgery: Defining the Problem and a Proposed Solution. *JAMA Dermatol*. 2017;153(6):565–570. doi:10.1001/jamadermatol.2017.1450
- 3 As is customary during the introductory phase of a new appropriateness quality improvement project, metric thresholds for outliers were set below consensus-based standards to address the most extreme outlier practice patterns. As thresholds are adjusted over time to meet consensus-based parameters, more outlier practice physicians will be identified.
- 4 Outliers for this metric were defined as those physicians who performed different-day upper and lower endoscopies more than 50 percent of the time.
- 5 Outliers for this metric were defined as those physicians who performed screening colonoscopies with an add-on of an upper endoscopy on the same day more than 25 percent of the time.
- 6 Outliers for this metric were defined as those physicians who performed meniscectomy-only knee arthroscopic procedures more than 90 percent of the time.
- 7 Outliers for this metric were defined as those physicians who performed a knee arthroscopy within two years prior to a knee replacement more than 10 percent of the time.
- 8 Outliers for this metric were defined as those physicians who performed home hemodialysis less than 5 percent of the time.