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Administrator
Centers for Medicare & Medicaid Services
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Dear Administrator Verma:

The undersigned organizations are writing regarding the Centers for Medicare & Medicaid Services' (CMS) coverage analysis of Medicare's National Coverage Determination (NCD) for Transcatheter Mitral Valve Repair (TMVR) (section 20.33). Collectively, we represent heart valve disease patients, family caregivers, aging organizations, advocates for minority and women's health, and cardiologists. We ask that all groups listed on this comment be counted in CMS' response.

Approximately 2.5% of the U.S. population is estimated to have heart valve disease: 1.7% has mitral regurgitation, 0.1% has mitral stenosis, 0.5% has aortic regurgitation; and 0.4% has aortic stenosis. Nearly 10% of people aged 75 and older have moderate or severe mitral regurgitation (MR).^{1,2} Because of the associations between MR and advancing age and between functional MR and heart failure (HF), an increase in prevalence of MR is expected over the coming decades, although no population-based lifetime risk estimations of MR are available in the literature.³ MR is a serious disease and patients with severe MR who do not get surgery have mortality rates of 20% after 1-year and 50% after 5-years.⁴

Patients with mitral regurgitation fall into two general categories: 1) primary or degenerative mitral regurgitation (DMR); and 2) secondary or functional mitral regurgitation (FMR). The treatment and response to treatment is profoundly different for both.

Degenerative mitral regurgitation means there is something intrinsically wrong with the mitral valve itself that causes it to leak. It can be related to age, a birth defect, or underlying heart disease. Most cases of DMR are treated with surgery, where patients undergo mitral valve repair. However, DMR patients who are judged by a heart team to be ineligible or too high risk for surgery, can appropriately be treated with transcatheter mitral valve repair (TMVR) with the MitraClip device, which was approved by the U.S. Food & Drug Administration (FDA) in 2013 for the treatment of prohibitively high-risk patients with significant symptomatic degenerative mitral regurgitation. Approval was based on data from multiple studies and demonstrated symptomatic improvements and a high degree of safety.^{5 6} In August 2014, CMS made the decision to cover TMVR under

¹ Nkomo, V, et al. 2006. Burden of Valvular Heart Disease: A population-based study. *Lancet* 368(9540):1005-11.

² Benjamin, et al. 2018. Heart Disease and Stroke Statistics—2018 Update: A report from the American Heart Association. *Circ* 137(12):e67-492.

³ Singh, J, et al. . 1999 Prevalence and Clinical Determinants of Mitral, Tricuspid, and Aortic R(The Framingham Heart Study). *Am J Cardiol* 83:897–902.

⁴ Goel, S, et al. 2014. Prevalence and Outcomes of Unoperated Patients with Severe Symptomatic Mitral Regurgitation and Heart Failure. *J Am Coll Cardiol* 63(2):185-6.

⁵ Lim, D, et al. Improved Functional Status and Quality of Life in Prohibitive Surgical Risk Patients with Degenerative Mitral Regurgitation after Transcatheter Mitral Valve Repair. 2014. *J Am Coll Cardiol* 64:182-92.

⁶ Glower, D,, et al. Percutaneous Mitral Valve Repair for Mitral Regurgitation in High-Risk Patients: Results of the EVEREST II study. 2014. *J Am Coll Cardiol* 64:172-81.

Coverage with Evidence Development (CED) for the treatment of significant symptomatic DMR under certain conditions of coverage.⁷

Functional mitral regurgitation does not involve an abnormality of the valve itself, but is a disease of the left ventricle, termed either ischemic or non-ischemic cardiomyopathy. The ventricle becomes enlarged leading to tethering of the mitral valve leaflets, preventing them from coapting, or meeting in the center to close.

In March 2019, the FDA expanded the indication for the MitraClip to include heart failure (HF) patients who have moderate-to-severe or severe FMR despite treatment with optimal medical therapy. The decision came as result of the 614-patient Cardiovascular Outcomes Assessment of the MitraClip Percutaneous Therapy for Heart Failure Patients with Functional Mitral Regurgitation (COAPT) trial, which showed that transcatheter mitral valve repair using the percutaneous clip procedure in patients with heart failure and severe FMR significantly reduced not only the primary endpoint of HF rehospitalizations by 47%, but also resulted in a 38% relative reduction in mortality at 2 years.⁸

In August 2019, CMS initiated a review of its TMVR NCD, and included the stated focus on “TMVR for the treatment of significant symptomatic functional MR.”⁹ ***Given the existing FDA approval, and significant prognostic benefit, we fully support Medicare expansion of coverage for TMVR to patients with significant symptomatic FMR. And, we support revising the title of the NCD to "Transcatheter Mitral Valve Innovations" (rather than "Interventions") so that CMS "may consider potential coverage pathways for other transcatheter mitral valve treatments under this NCD as this field continues to evolve in the future."***

Randomized Clinical Trial Requirement

In its August 14, 2019 initiation of a national coverage analysis for TMVR, CMS indicated an openness to “reviewing the NCD requirement for randomized controlled trials of non-FDA approved indications and considering if it should be changed to reduce burden and encourage innovation in this space.” We recognize the importance of CMS utilizing clinical trial data in making coverage decisions, and strongly support flexibility in the clinical trial data the agency should accept. In general, we feel that data collected from study designs accepted by the FDA should be accepted by CMS.

In the case of clinical trials for heart failure patients with FMR, CMS should remove its clinical trial randomization requirement for coverage because it is unethical. The prognosis among patients with heart failure and FMR on guideline-directed medical therapy alone is very poor. In the COAPT trial, approximately two-thirds of patients who had guideline-directed medical therapy alone (control group) died or were hospitalized for heart failure within 2 years¹⁰ The study found that the annualized rate of all hospitalizations for heart failure within 24 months was 35.8% per patient-year in the device group as compared with 67.9% per patient-year in the control group; and death from any cause within 24 months occurred in 29.1% of the patients in the device group as compared with 46.1% in the control group. CMS should recognize that such

⁷ Centers for Medicare and Medicaid Services. August 7, 2014. *Decision Memo for Transcatheter Mitral Valve Repair (TMVR) (CAG-00438N)*. Available at www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=273.

⁸ Stone, G, et al. 2018. Transcatheter Mitral-Valve Repair in Patients with Heart Failure. *N Eng J Med* 379:2307-18.

⁹Centers for Medicare and Medicaid Services. August 14, 2019. *National Coverage Analysis (NCA) Tracking Sheet or Transcatheter Mitral Valve Repair (TMVR) (CAG-00438R)*. Available at <https://www.cms.gov/medicare-coverage-database/details/nca-tracking-sheet.aspx?NCAId=297>.

¹⁰ Ibid.

significant differences in major health outcomes between device and control group participants should not be forced to continue in order to qualify for coverage.

CMS should also provide immediate Medicare coverage of MitraClip in patients with heart failure (HF) and moderate-to-severe FMR because it has already been FDA approved for six months. Why must beneficiaries be forced to wait another six months—12 months in total—to obtain Medicare coverage while CMS considers a more inclusive NCD title change?

The randomized trial requirement represents a high evidentiary threshold, as it precludes potential Medicare coverage of observational studies, as well as trial designs agreed upon between sponsors and the FDA such as a single-arm pivotal trial or a non-randomized arm within a larger study program. Under the current NCD, these parts of the study would be ineligible for reimbursement of the routine costs to treat Medicare subjects. The coverage of the items and services that are generally available to Medicare beneficiaries can be financially critical to medical device companies engaging in clinical trials.

Additionally, although they are different devices, CMS did not require that non-FDA approved uses of TAVR be in randomized trials to be eligible for coverage. We know of no published studies on TMVR trial design that cite a unique necessity for randomization.

Volume Requirements

We anticipate that one of the biggest debates regarding this TMVR coverage decision will be whether CMS should continue to require a minimum number of annual surgical and interventional cardiac procedures for a hospital to begin and maintain a TMVR program, and if so, the exact level those volume requirements should be. Most likely, CMS will look to the specialty society consensus recommendations as was done recently for the TAVR NCD.¹¹

Like TAVR, when the original TMVR policy was established in 2014, the number of annual procedures a given hospital or heart center performed was used as a surrogate for the quality of its care. This makes sense when a technology is new because there is both limited data and a procedural learning curve, but is no longer necessary as providers and hospitals become familiar with the technology

There have been a few published studies that use Transcatheter Valve Therapy (TVT) Registry data to support the volume-outcomes hypothesis, even using actual health outcomes data thousands of procedures that have accumulated in the registry. The latest of these studies was published in the July 22, 2019 issue of *JACC: Cardiovascular Interventions*, and examined the relationship between institutional MitraClip case volume and in-hospital outcomes from 12,334 consecutive patients treated at 275 U.S. hospitals between November 2013 and September 2017 who were enrolled in the TVT Registry.¹² Analysis of unadjusted data found an association between increasing institutional experience and improvements in procedural success, procedure time, and procedural complications. Once the data were adjusted, however, only procedural time improved. It is important to note that currently “institutional experience” is often spread across multiple physicians within a hospital and offers no insight into the individual operator’s learning curve.

¹¹ Centers for Medicare and Medicaid Services. July 21, 2019. *CMS Finalizes Updates to Coverage Policy for Transcatheter Aortic Valve Replacement (TAVR)*. Available at www.cms.gov/newsroom/press-releases/cms-finalizes-updates-coverage-policy-transcatheter-aortic-valve-replacement-tavr.

¹² Chhatriwalla, A, et al. 2019. Institutional Experience with Transcatheter Mitral Valve Repair and Clinical Outcomes: Insights from the TVT Registry. *J Am Coll Cardiol Intv* 12(14):1342–52.

The TVT Registry was chosen by CMS to fulfill the TMVR NCD registry requirement. The registry is mandated to track health outcomes outlined by CMS and address questions related to short- and long-term outcomes and adverse events; device durability; and demographics of participants. At no point in the NCD does CMS pose a research question regarding the validity of procedural volume requirements. In our view, too much time and resources have been spent by the TVT Registry on the volume-outcomes hypothesis for TAVR and we do not want to see the same pattern continue with TMVR. **As CMS reviews the TMVR NCD, we ask for a moratorium on further volume-outcomes analyses of registry data and, in its place, mandate annual reports of the aggregate TVT Registry data (on patient characteristics, trends, and outcomes of TMV procedures).** The last annual report was published more than two years ago and covers patient data only through the end of 2015.¹³ **Additionally, the TVT Registry should be required to publicly list which hospitals perform TMVR, TAVR, or both.**

Each year, professional societies are playing a larger role in shaping Medicare coverage decisions by requesting NCAs or NCA reviews and informing the content included in subsequent determinations. **We ask CMS to not automatically leverage the facility and operator criteria expected to be released this year by the Societies' (The Society of Thoracic Surgeons (STS), the American College of Cardiology (ACC), the Society for Cardiovascular Angiography and Interventions (SCAI), and the American Association for Thoracic Surgery (AATS)) when drafting its decision. Instead, we ask CMS to we ask CMS to prioritize quality outcomes metrics as the tool to measure a hospitals and operator's ability to provide these procedures and ensure that patient outcomes and access are emphasized over volume.** If CMS determines volume metrics are required in the absence of quality outcome metrics, we recommend CMS resist adopting any procedural volume requirements that are higher than the TAVR NCD.

Public Reporting of Outcomes Data

Since the inception of the TVT Registry in 2011, The Pew Charitable Trusts convened a series of multi-stakeholder meetings in 2014 to develop a set of recommendations on the use of registries to improve patient safety.¹⁴ We believe that CMS should leverage the thought leadership of this effort and include the recommendation that a qualifying registry should “streamline registry data collection through efficiencies that reduce the time and cost of reporting:

1. The number of patients followed in a registry should reflect its underlying purpose.
2. Registry data fields should be limited to the data most relevant to the purpose of the registry, and they must use standardized definitions.
3. Registries should be coordinated with national efforts to improve quality measure reporting.”¹⁵

Patient organizations, Medicare beneficiaries, and the general public do not have access to outcomes data by hospital or heart center. The TVT Registry website states that “Hospital-specific registry data is not publically [sic] available and the registry cannot provide data without written permission from the hospital to do so.”

We think this lack of transparency on health outcomes by facility needs to change in the updated NCD and we would like to work with CMS and HHS to explore options for transparency. Immediate reporting of these data are already provided in New York State. Since 1989, the New York Department of Health (NYDOH) has published annual data on risk-adjusted mortality following coronary artery bypass surgery by hospital and

¹³ Grover, F, et al. 2017. 2016 Annual Report of The Society of Thoracic Surgeons/American College of Cardiology Transcatheter Valve Therapy Registry. *J Am Coll Cardiol* 69(10).

¹⁴ PEW. September 3, 2014. *Medical Device Registries: Recommendations for advancing safety and public health*. Available at <http://www.pewtrusts.org/en/research-and-analysis/reports/2014/09/medical-device-registries>

¹⁵ Ibid.

surgeon.¹⁶ The state's Cardiac Surgery Reporting System (CSRS) was the first program in the country to produce public data on outcomes for cardiac surgery and is the nation's longest running program of its kind. NYDOH is advised in its activities by the Cardiac Advisory Committee (CAC), a group of independent, practicing cardiac surgeons, cardiologists, and other professionals in related fields. The goal of NYDOH and the CAC is to improve the quality of care related to cardiac surgery in the state. Providing hospitals and cardiac surgeons in New York with data about their own outcomes for these procedures allows them to examine the quality of care they provide and to identify areas needing improvement, and it allows patients and family caregivers to research data on TMVR mortality outcomes in local hospitals. The program operates under the general authority of the NYDOH commissioner. Reporting on TMVR in New York State started in 2015 with hospital volume and moved to mortality rate reporting in 2017 by hospital for discharges from 2012-2014. The most recent report on mortality rates is from February 2018 for TMVR discharges between 2013 and 2015.¹⁷ **We know from the New York DOH that this can be done, and the TVT Registry should be doing it.**

Conclusion

While we are glad to see consideration of expansion of Medicare coverage to additional FDA-approved TMVR indications, we implore CMS to prioritize equal access and quality care for all Medicare beneficiaries over procedural volume requirements. Our organizations urge CMS to phase out TAVR volume standards, and phase in hospital-based quality and outcomes data, as the primary metric for CMS TAVR coverage. We also urge CMS to articulate a pathway and timeline for transitioning this TMVR CED to a NCD with coverage to FDA-approved label.

In summary, our organizations call on CMS to develop a solid coverage policy that provides all Medicare beneficiaries with severe DMR or FMR access to all appropriate treatments. This is an important opportunity for the agency to offer hope and better access to more patients and families and to put true patient-centered care into practice.

Thank you for the work you do to improve the health and well-being of our nation's older adults, and for considering our views.

Sincerely,

Alliance for Aging Research
Caregiver Action Network
HealthyWomen
Heart Valve Voice US
Mended Hearts and Mended Little Hearts
Men's Health Network

¹⁶ New York State Department of Health. *Cardiovascular Disease Data and Statistics*. Last updated April 2019. Available at www.health.ny.gov/statistics/diseases/cardiovascular/

¹⁷ New York State Department of Health. February 2018. *Adult Cardiac Surgery in New York State 2013-2015*. Available at https://www.health.ny.gov/statistics/diseases/cardiovascular/heart_disease/docs/2013-2015_adult_cardiac_surgery.pdf.