# Todd Brinton QFR Responses 7/18/23 Hearing

**The Honorable Cathy McMorris Rodgers**

***1) How long did it take for CMS to issue a national coverage determination (NCD) after TAVR was approved by the FDA?***

**A:** Four years after obtaining CE Mark in Europe, the SAPIEN valve was approved by the FDA in November 2011 for the treatment of inoperable patients with aortic stenosis, making the U.S. the 42nd country in the world to approve the therapy. Given the lengthy regulatory pathway and public interest in access to transcatheter aortic valve replacement (TAVR), CMS took the unusual step of initiating an NCD in October 2011 before the SAPIEN valve was approved by the FDA. National coverage was granted in May 2012.

While our journey with TAVR ultimately benefited hundreds of thousands of patients suffering from aortic stenosis, it is important to reflect on its unique and challenging regulatory pathway, including some key milestones:

- In 1999, Edwards began an internal program exploring transcatheter valve replacement.
- In 2002, Professor Alain Cribier performed the first-in-human procedure of a TAVR in France.
- In 2007, the PARTNER trial began, which was the multicenter randomized pivotal trial that supported FDA approval of the first aortic transcatheter valve replacement system in the US.
- In 2007, the Edwards SAPIEN valve, our first commercial transcatheter heart valve, received CE Mark for European commercial sale. The next-generation SAPIEN XT valve received CE Mark in 2010.
- The FDA developed a post-approval study process that allowed TAVR manufacturers to use registry data to satisfy post-market surveillance requirements. While Edwards did not request a formal parallel review process, CMS's engagement with industry, physician specialty societies and the FDA was unique. Ultimately, CMS worked to develop an NCD with Coverage with Evidence Development (CED) for TAVR that provided coverage based on approved FDA label indications.
- Since FDA approval and CMS coverage of TAVR in the U.S., Edwards has launched second- and third-generation TAVR valves with continued expanded indications, due in part to the evidence collected through CED.

***a) Can you elaborate on how the length of the process and resources dedicated to working within it affect your ability to deliver TAVR and other products to patients and your ability to competitively price them?***

**A:** To support regulatory decisions for approval and reimbursement of new medical technologies in the U.S., manufacturers are required to gather a great deal of clinical and economic evidence. As a part of this process, Edwards engaged with both FDA *and* CMS, early in the approval and coverage processes, to make sure that we were prepared to provide evidence the technology was safe and effective *and* reasonable and necessary to cover.

Evidence development can be an extremely resource-intensive endeavor, and often the cost to the system and inevitable patient access delays that result from excessive evidence requirements are not a key consideration for regulators. Edwards has invested decades working with regulators to achieve the current coverage standard for the SAPIEN platform, dedicating time, resources and significant funding to product development, clinical trials, and data collection and analyses. The PARTNER series of trials and registry data collection on all TAVR Medicare beneficiaries treated in the U.S. have produced one of the largest bodies of evidence ever collected for a medical device, but CMS has not updated the TAVR NCD and its broader requirements since 2019, resulting in

continued access challenges to the technology for many beneficiaries, particularly those in rural and under-served areas.

Minimally invasive procedures, like TAVR, can shorten hospital stays, reduce complications, and achieve cost effectiveness for the Medicare program. TAVR provides substantial value to our healthcare system by improving the experience of receiving treatment and population health overall, achieving better clinical outcomes, and reducing healthcare costs. Edwards' focus on providing value to patients through this "triple win" has allowed us to rapidly innovate over the past decade, contributing to better outcomes and broader access for patients with the deadly and costly disease, aortic stenosis. In a recent study evaluating variables impacting TAVR health outcomes, "the most important factors contributing to improvements in short-term outcomes relate to advances in device technology and procedural factors" (Arnold et. al, 2023). With a hyper-focus on patients and the "triple win," Edwards has demonstrated the importance of innovation in improving patient outcomes and reducing waste within our healthcare system.

2) ***During your testimony, you mentioned the "success story" of TAVR. Could you elaborate on the lessons we learned during the TAVR experience? How can Congress and CMS ensure that future NCDs reflect and improve upon the TAVR experience and increase Medicare beneficiary access to innovative technologies?***

**A:** Putting patients first is central to our culture and strategy at Edwards Lifesciences. This approach has helped us to introduce innovative technology used to treat patients with aortic stenosis while simultaneously having the opportunity to gather observational data so that we might continue to innovate.

*TAVR Lessons Learned: Coverage with Evidence Development (CED)*

Under the current TAVR NCD, CMS requires that every U.S. patient be enrolled in a qualified prospective registry that tracks appropriate outcomes data to the patient level. The STS/ACC TVT Registry was created through a collaboration between the medical societies, regulators, and other interested stakeholders. The data from this registry has been a critical piece in understanding the real-world impact of this technology, as well as the implications of coverage policy on access. These data may inform future coverage decisions as the healthcare system continues to appropriately expand access to more and more patients in need.

However, the clinical and scientific benefits of registries and additional evidence development must be balanced with their potential to add significant cost and complexity to coverage and the possible consequences if there are misinterpretations or misuse of the data. The burden and cost of complying with registry requirements is significant. In addition to the substantial financial commitment manufacturers must make to support the development and ongoing operations of registries, hospitals are charged ongoing fees to participate. In addition, the patient data registry form for the STS/ACC TVT Registry for TAVR procedures is eight pages long and consists of 132 separate fields, requiring dedicated personnel to devote hours of work to complete this exhaustive form. Many physicians have told us that it takes longer to fill out the TVT Registry form than it does to perform the procedure. In a time of extreme budget pressure, hospitals may not be able to accept this considerable burden. We need to ensure that this process is not so costly and burdensome that the long-term prospects of the registry diminish over time.

As we noted, TAVR coverage is currently subject to CED requirements. Edwards believes that a CED process that is efficient, streamlined, and time-limited can be a mechanism for CMS to ensure high-quality real-world evidence is developed as products are used in the clinical setting. Such continued evidence development will be especially important for breakthrough-designated

technologies. We encourage CMS to consider ways that are efficient and effective when relying on evidence development in TCET, like fit-for-purpose.

As previously stated, CED can be a powerful tool for innovative technologies coming to market that require additional evidence generation for coverage by CMS, accelerating coverage that would have otherwise been delayed. However, when the necessary evidence has been generated, CED should be sunset to ensure access to technology for the greatest number of patients in need.

For example, TAVR coverage has been subject to CED requirements since the issuance of the NCD in 2012. During this time there have been 33 clinical trials and robust registry participation contributing to the TAVR evidence base, yet CED requirements for TAVR remain despite sufficient evidence generation to answer all current questions identified under existing NCD with CED. In a recent analysis of the history of CED (Zeitler et al., 2023), the authors determine that the application of CED has varied greatly; across therapeutic areas, CED requirements have been in place from one to 16 years. Consistent application and review of evidence generation requirements under CED will ensure patients have access to innovative and life-saving technologies and support a predictable process for manufacturers generating the evidence base.

*TAVR Lessons Learned: Health Disparities*

Severe and persistent disparities exist in access to high-cost cardiac procedures for minority groups and groups of low socioeconomic status as evidenced by Medicare 2021 FFS data which estimates that less than 4% of TAVR recipients are Black, less than 1% are Hispanic, and less than 1% are Asian (Medicare 100% Standard Analytic File, 2021). TAVR patients must navigate complicated diagnostic and referral pathways before receiving the procedure, which contributes to inequities in access due to barriers to care often disproportionately impacting marginalized groups (Reddy et al., 2023). Between 2012 and 2018, the majority of new TAVR centers were established in hospitals with fewer dual-eligible patients, higher median income, and lower distressed communities index scores (Nathan et al., 2021). This led to an inequitable dispersion of TAVR in areas with more socioeconomically disadvantaged patients and contributed to disparities in access. The increase in TAVR volume rate over time has been fastest for white males (Carroll et al., 2020). Black patients are 24% less likely to receive AVR than white patients (Brennan et al., 2020). Among Medicare beneficiaries, TAVR rates are significantly lower in socioeconomically disadvantaged zip codes within metropolitan areas offering TAVR, even after adjusting for age and comorbidities (Nathan et al., 2022). Treatment disparities also exist between rural and urban regions of the US, with more than 70% of transfemoral TAVRs performed at urban sites, suggesting that rural residents may have limited access to postprocedural care at the implanting TAVR center (Marquis-Gravel et al., 2020).

These identified disparities in access to TAVR were, in large part, due to the existing volume requirements incorporated in the NCD. Site and operator volume requirements were incorporated in the coverage decision due to the newness of the technology and novelty of transcatheter cardiac procedures. However, since 2012, evidence has demonstrated that there is no association between volume and outcomes. With the technological innovation and advancements in the procedure, CMS should no longer rely on volume requirements for TAVR, and instead leverage existing quality metrics to evaluate outcomes.

While separate and distinct from CED requirements, site and operator requirements are similarly often leveraged by CMS in the coverage of innovative technologies, contributing to the broad adoption of TAVR for appropriate patients with severe aortic stenosis. Notably, however, broad adoption of care has not led to equitable adoption of care. In all future coverage determinations, CMS must consider the impact of any volume requirement on minority and rural patient access.

*Recommendations for Congress and CMS*

The introduction of TAVR transformed clinical care for patients suffering from aortic stenosis and was a pioneer technology in transcatheter structural heart technologies. As other innovative technologies continue to become available to patients, the Agency and Congress must ensure that the lessons learned and unintended consequences from the TAVR experience are acknowledged. Both Congress and CMS play an important role in ensuring all beneficiaries have access to innovative and life-saving technologies. Edwards is pleased to provide recommendations to improve patient access and expedite coverage:

1. *Recommendation:* Improve the transparency of the NCD process by publicly reporting the number of NCD requests, of all types, CMS receives, defining the prioritization criteria the agency uses to review these requests, and completing the Medicare Coverage Determination Report to Congress annually.

2. *Recommendation:* Consider future performance metrics to measure outcomes and assess the NCD process, such as the duration of application reviews and the rate at which finalized NCDs are revisited or terminated.

3. *Recommendation:* Reopen the TAVR NCD to review the use of CED and expand access to minority and rural communities. The TAVR NCD is outdated for this proven therapy, leading to unnecessary burdens and delays in patient care.

***3) In your testimony you note it is because of data collection through the CED requirements that you were able to identify disparities in patient access to TAVR. How can the TAVR registry help ensure access to the treatment for all patient populations, including those in rural settings?***

**A:** Our belief in the innovation process is paired with our commitment to evidence development. Evidence allows us to better understand how innovative therapies can and should evolve over time and how we can help further improve outcomes for patients. That said, it is important to highlight how medical device technology and pharmaceuticals are different. Simply stated: once drugs are approved, they do not change. The manufacturer is responsible for replicating and packaging the drug, and the patient is administered the drug out of the package. For drugs, access and compliance represent some of the most significant variables impacting patients' outcomes, assuming the drug is made available to a well-defined patient cohort.

Conversely, for medical technology like our transcatheter heart valve therapies, we are constantly learning, which allows us to improve the technology and the procedures associated with intervention. When clinicians use medical technology, they learn and improve their skills over time and collect data on how to optimize patient outcomes. As an interventionalist, an engineer, and an innovator myself, I would argue we need that evidence to help us innovate for patients with unmet needs.

As we have learned through TAVR, data collection through a registry can support better understanding of real-world outcomes and characteristics of treated patients, and a revised NCD that utilizes these data to increase access and reduce unnecessary provider requirements will ensure appropriate care for all beneficiaries. While the first TAVR NCD was constructed using the best available evidence at the time, and developed through broad stakeholder input, it ultimately resulted in unintended consequences leading to racial and geographic disparities in care. Fortunately, the TVT Registry has helped us to track these inequities, which are the result of site eligibility requirements contained within the NCD that have limited the qualification of new hospitals

(particularly in rural and under-served areas) eligible to perform transcatheter procedures. The presence of geographic, racial, ethnic, and socioeconomic barriers in access to TAVR are well established (Nathan et al., 2021, Nathan et al., 2021, Brennan et al., 2020, Holmes et al., 2020, Alkhouli et al., 2019).

CED requirements like participating in the TVT Registry should not be confused with site and operator requirements, which in the current NCD (not updated since 2019) restrict the ability of certain well-qualified sites to perform transcatheter procedures. However, the burden and cost of complying with registry requirements is substantial. For example, the patient data registry form for the STS/ACC TVT Registry for transcatheter aortic valve replacement procedures is eight pages long and consists of more than 132 separate fields, requiring special staffing, and dedicated personnel, and hours of work to complete this exhaustive form. Many physicians have told us that it takes longer to fill out the TVT Registry form than it does to perform the procedure. In addition to the significant financial commitment manufacturers must make to support the development and ongoing operations of registries, hospitals are charged ongoing fees to participate.

Registry requirements should be simplified to collect only the necessary data. This would help ensure data collection is not so costly and burdensome as to create access barriers for patients in rural and underserved communities.

4) ***How are rural areas impacted by CED requirements and the burden associated with reporting via a registry? What are the associated costs with reporting via a cardiovascular registry? Would eliminating CED requirements for patients located in rural areas increase access for these patients?***

**A:** Scarcity of resources is always a barrier to access, and rural areas are often some of the most under resourced. As I discussed during the hearing, it is critical to eliminate any unnecessary burdens on patients, including through robust fit-for-purpose evidence development as a component of any successful TCET structure. As such, to the extent additional questions need to be answered by ongoing CED requirements, those requirements should be tailored specifically to those identified outstanding questions and exclude any extraneous data collection that would otherwise limit site participation and exacerbate preexisting access challenges, especially in rural regions.

Beyond the risk of being disproportionately burdensome and the monetary cost of participating in the TVT Registry for rural hospitals, the most significant barriers to sites performing TAVR are contained within the NCD's site and operator requirements. Site and operator requirements were incorporated into the TAVR NCD to control the dissemination of a novel technology outside the context of a controlled clinical trial to ensure patients were receiving the service in a qualified facility and from a knowledgeable operator. However, while these controls may have been appropriate in the early days of the technology, these volume requirements restricted which facilities were eligible to perform TAVR. As clinical practice has advanced and the procedure and technology matured, site and operator requirements have unnecessarily restricted access for patients, especially in rural areas.

5) ***What are the benefits of "fit-for-purpose" data collection and how could that be different than a registry?***

**A:** In the TCET proposed notice, CMS expresses openness to fit-for-purpose (FFP) study designs and defines a FFP study as "one where the study design, analysis plan, and study data are appropriate for the question the study aims to answer." CMS goes on to explain that "FFP study

designs scale sample size, duration, and study type, etc., based off of the utilization and risk profile of the item or service".

Edwards is encouraged by CMS's openness to incorporating robust FFP evidence development. This type of data collection could be less burdensome and more streamlined than a registry. Edwards commends CMS for its acknowledgment of the benefits of fit-for-purpose study designs and its willingness to consider FFP studies given that these studies have, as CMS states in the notice, the "potential to generate evidence that complements tightly controlled premarket traditional clinical trials by demonstrating external validity."

We believe FFP data collection should be designed with a focus on patient need. It should be streamlined to minimize administrative burden and limited to the data necessary to demonstrate to CMS that the innovation is reasonable and necessary to cover. FFP evidence generation in the context of Medicare coverage determinations should:

- Be designed with patients and their needs in mind;
- Be limited to the essential data needed to address unanswered questions and demonstrate to CMS that the innovation is reasonable and necessary;
- Utilize, where appropriate, retrospective real-world data, including payer claims and electronic clinical and patient data as an alternative to registry data collected prospectively; and
- Allow for the collection of data in the most efficient and least burdensome way for providers and the innovator company.

The process of identifying the essential data could involve CMS working with the FDA, manufacturers, patients, and specialty societies to outline data requirements and collection techniques to be used. Such an approach would ensure that coverage of the technology is directly linked to evidence of its benefit to the Medicare population as well as support the implementation of appropriate safeguards for patients.

6) ***How should the criteria for truly innovative products be considered, and how do we ensure that both larger and smaller innovators can reasonably meet any reporting requirements or other policies to ensure patient safety and the merits of their products?***

In the proposed TCET guidance, CMS states that it does not anticipate the TCET pathway will accept more than five candidates per year. We believe TCET should be used judiciously, but it is likely to be needed for more than five candidates per year, and we do not support establishing an arbitrary cap. However, we recognize this limitation is in part due to limited resources in the CMS Coverage and Analysis Group. While Edwards believes there is a need for more resources and expertise in this part of the organization, we also understand the need to prioritize TCET reviews. As such, we urge CMS to establish clearly defined and transparent criteria that it will use to select candidate technologies for TCET review. In establishing these criteria, CMS should consider the following questions:

- Is this device a life-saving medical technology?
- Will the device have a significant (not incremental) impact on the lives of Medicare beneficiaries, their families, and communities?
- Will the technology address unmet patient needs, and does it demonstrate potential for significant clinical benefits?
- How does consideration of this device for transitional coverage contribute to addressing health disparities by expanding access and improving health outcomes?

Further, Edwards, like many other innovators, patients, and other stakeholders, is concerned that transitional coverage will put more burden on an already stressed system. Specifically, we believe

that CMS needs the ability to hire additional clinical and research experts from outside the agency as full-time CMS employees. FDA, National Institute of Health (NIH), Centers for Disease Control (CDC) and Health Resources and Services Administration (HRSA) have been afforded the authority to hire candidates with doctorates or clinical and research expertise under Title 42 of the Public Health Service Act. However, CMS is governed under the Social Security Act and is therefore not subject to these expanded authorities. As a result, CMS has had difficulty competing with other federal agencies for talent. Bipartisan members of this committee supported expanding FDA's hiring authorities in the 21st Century Cures Act, to help the agency with its responsibility to review and regulate medical products. As medical technology continues to evolve, CMS should have the same authority to hire clinical experts uniquely qualified to understand the technologies its programs cover.

**The Honorable Robert E. Latta**

1) ***I want to reiterate my strong desire to work with this Committee in a bipartisan manner to ensure a robust and meaningful separate expedited pathway for coverage of innovative FDA-approved devices. I am concerned that CMS has moved in the wrong direction with this guidance and is instead expanding or refining the Coverage with Evidence Development process for those with inadequate evidence as the only pathway under TCET. This would be a significant departure from creating a separate pathway for accelerated coverage for the truly innovative products that may not need additional data for coverage due to existing sound clinical data, and for whom existing protracted coverage processes have led to significant delays in coverage. Do you agree that it is crucial that CMS and Congress to continue to work to modify this guidance, or do you think we need to find a legislative or administrative solution for a separate, predictable, and transparent pathway for expedited Medicare coverage of new devices that have existing significant clinical data?***

   **A:** While TCET represents a positive first step to assure accelerated and appropriate coverage for new technologies, it is critical that Congress work with CMS not only to improve the guidance before it becomes operational, but also to ensure any legislation necessary to augment the final TCET guidance is developed in consultation with CMS. The best outcome for patients will involve CMS and Congress working together. Once additional modifications are made to the guidance, Congress should consider legislation that builds on it to further improve patient access to FDA-approved innovative technologies that CMS cannot currently address due to statutory or other limitations in the final TCET guidance.

**The Honorable Dan Crenshaw**

1) ***Dr. Brinton, can you speak more to how TCET differs from the MCIT proposal, specifically, the number of devices that CMS expects to even be eligible for this produce?***

**A:** The MCIT rule provided immediate coverage for breakthrough designated products. While I understand CMS cannot commit to immediately covering a TCET technology as soon as FDA approves the technology due to their differing statutory mandates, there should be a clear, timely and predictable timeline for a process for coverage of all breakthrough designated products. Additionally, it is disappointing that CMS only plans to use the TCET pathway five times per year. We agree that TCET should be used judiciously, but there could be more innovations that could benefit from TCET than just five per year, which seems like an arbitrary cap on the number of technologies that can be approved for coverage, and which may result in continued lack of – or delayed – access to critical technologies. Ideally, an optimized TCET pathway should be dependent on patient need and the availability of lifesaving technologies approved for patients at any given time.

2) ***Dr. Brinton, what about those products with significant clinical evidence and clinical trials that do not have breakthrough designation?***

**A:** CMS should offer assurance that all technologies seeking an NCD are considered in a timely and efficient way, and that coverage through the NCD process (which may or may not include certain elements of coverage with evidence development) is provided.

3) ***Can you speak to what this will mean for investment in and access to these products for patients?***

**A:** The proposed TCET coverage pathway holds promise for addressing the needs of patients, and while there are some areas in the proposal for clarification or feedback, we believe this is a positive step forward in building a timelier coverage pathway, which will ultimately benefit patients. An important driver for investment in innovation is predictability of process, so we encourage Congress and CMS to work together to ensure innovators can appropriately manage risk and raise capital. Additionally, increasing the number of TCET candidates will increase the investment in and access to these products, which may require additional resources and specific expertise within CMS. As the results of Stanford's study on coverage timelines recently confirmed: "An increase in capacity within CMS to review nominations, perform evidence review and provide transitional coverage for all novel and breakthrough technologies could improve Medicare beneficiary access to new therapies and diagnostics much sooner than they do today" (Sexton et al., 2023).

4) ***To your knowledge, before restricting Medicare coverage of FDA-approved therapies and devices to participants in clinical trials and studies does, does CMS do any analysis of the potential impacts on access to rural or other underserved populations? If so, is that information publicly available?***

**A:** I am not aware whether CMS performs this type of analysis prior to making coverage determinations which may restrict access to technologies to beneficiaries enrolled in certain CMS approved trials or registries. It is important to note that given the nature of the differences between evidence development supporting drug and device approvals, the role that CED plays in the pursuit of meaningful Medicare coverage differs, as well. While there has been much discussion lately about CMS's use of CED requirements for drug coverage, many medical technology innovators would prefer CED to non-coverage, which can effectively curtail further technology development

and refinement. I share your curiosity about CMS's specific analyses and decision-making criteria. This underscores the importance of ensuring predictability in the TCET process, including transparency and unambiguous timelines.