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*Evidence-Based Commentary*  
*on a Centers for Medicare and Medicaid Services*  
*Draft National Coverage Determination*

**Individual Student Responses to CMS Call for Public Comments**

**University of Pittsburgh undergraduate student collaborative**  
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**February 18, 2022**

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## Background

[Alzheimer's disease](#) is the most common type of dementia (affecting more than 6.2 million Americans in 2021, with that number expected possibly to double by 2050). According to the U.S. Centers for Disease Control, it is a progressive disease beginning with mild memory loss and possibly leading to loss of the ability to carry on a conversation and respond to the environment. Medical management can improve quality of life for individuals living with Alzheimer's disease and for their caregivers, yet there is currently no known cure.

On June 7, 2021, the Federal Drug Administration ([FDA](#)) granted "[accelerated approval](#)" for Aduhelm, a monoclonal antibody treatment for Alzheimer's disease. This was a controversial decision, as it appeared to go against advice of the FDA's scientific advisory committee that earlier questioned evidence of the drug's effectiveness in clinical trials conducted by the manufacturer, Biogen. Yet patient advocacy groups and others hailed approval of the first-to-market treatment for Alzheimer's disease. Aduhelm's cost (initially approximately \$56,000/year, later cut by Biogen to approximately \$28,000/year) raised interest in whether the U.S. Centers for Medicare and Medicaid Services (CMS) would cover the drug.

On January 11, 2022, [CMS issued a preliminary national coverage determination](#) for aducanumab (a class of monoclonal antibody therapies targeting amyloid) that proposed placing the drug in its "evidence development" program, meaning that only those patients enrolled in specific types of clinical trials would qualify for coverage. On the same day, CMS opened a 30-day [public comment window](#) for feedback on its draft coverage determination (see Fig. 1). As the agency explained:

CMS is following a long-standing statutory process that includes multiple opportunities for the public to participate and submit comments about the proposed topic on the CMS Coverage website. During the two public comment periods, you can submit comments using the orange "Comment" button at the top of the page. The initial 30-day public comment period begins with the posting date of this tracking sheet.

The screenshot shows the CMS.gov Medicare Coverage Database (MCD) interface. At the top, there is a navigation bar with "CMS.gov", "Centers for Medicare & Medicaid Services", and links for "About Us", "Newsroom", and "Data & Research". Below this is a dark blue header with the "MCD Medicare Coverage Database" logo and navigation options: "Search", "Reports", "Downloads", and utility icons for a trash can, help, and settings. The main content area has a breadcrumb trail: "Back to Monoclonal Antibodies Directed Against Amyloid for the Treatment of Alzheimer's Disease Tracking Sheet". Below the breadcrumb are two buttons: "National Coverage Analysis (NCA)" and "View Public Comments". The title of the page is "Monoclonal Antibodies Directed Against Amyloid for the Treatment of Alzheimer's Disease" in large orange text. Below the title is the identifier "CAG-00460N" and links for "Expand All Comments" and "Collapse All Comments". There is a "Comment Period" dropdown set to "01/11/2022 - 02/10/2022" and a "Sort By" dropdown set to "Comment Date". A section titled "Public Comments" shows "Total Comments: 20006". Below this is a table with two columns: "Commenter" and "Comment Information".

Figure 1. CMS call for public comments on draft national coverage determination.

## Critical Approach

This document carries seven individual student comments officially submitted to CMS within its 30-day comment window. The comments were developed as part of an optional assignment in "Evidence," an undergraduate communication course at the University of Pittsburgh. The following timeline conveys assignment sequencing and details on how a collaborative undergraduate student research effort supported drafting and refinement of submitted comments compiled herein.

- **January 11, 2022:** CMS announced opening of 30-day public comment window.
- **January 18, 2022:** Students conducted a simulated press conference role-play addressing FDA accelerated approval of Aduhelm (all students participated in brainstorming, five students volunteered to play roles of Biogen CEO, Alzheimer's Association President, FDA commissioner, CMS administrator, and journalist). Students prepared for the performance by reviewing recent news reports and discussing literature on "evidence-based medicine." In light of pandemic restrictions, the simulation was conducted via Zoom, yielding a written transcript of the event (see Appendix 1).
- **January 25, 2022:** Transcript analysis of the role play exercise yielded six prominent themes suitable for organizing brainstorming responses to an assignment prompt: "What aspect of evidence would it be useful for CMS to focus on in finalizing its aducanumab National Coverage Determination?" All students participated in Zoom breakout room brainstorming (with collaborative notes on Google Jamboards) on selected themes.
- **January 25-31, 2022:** Draft comment writing period for 16 students opting into assignment began (see Appendix 2). Preliminary review of draft comments was conducted on Canvas Discussion Boards and continued during in person class meetings.
- **February 8, 2022:** Students opting into the assignment submitted final comments to Canvas for course grading (opportunity to earn a grade equivalent to 60% of an upcoming take-home midterm examination - see assignment grading rubric in Appendix 3). Students not opting into the CMS public comment assignment continued on with the default midterm assignment (3 short answer questions worth 10 points each).
- **February 9-10, 2022:** Seven students formally submitted public comments to CMS. This part of the assignment was untethered to any grading and the decision whether to submit and how was left for students to make on their own (see Appendix 4).
- **February 10, 2022:** CMS public comment window closed.

## Comment Texts

### Comment Submitted by Caroline Bolen

Commenter	Comment Information
Bolen, Caroline	Date: 02/09/2022

In this particular process of CMS finalizing the Aducanumab National Coverage Determination, it is worth considering the value of hope. For most caregivers and patients affected by Alzheimer's, a

disease with no available cure, there exists a shared experience of grief, heartbreak, and loss of hope. CMS should take these experiences into account as evidence that people in these situations need to be offered hope. One way to engage these perspectives is Story Booth, a website that includes audio recordings of numerous family members and friends of patients telling their stories. For example, one storyteller explains the relationship between his grandmother, who had been diagnosed with Alzheimer's, and his grandfather. He shares that after falling in love and being married for years, the "connection between them has been lost to Alzheimer's" ("Acting Different," 2016). Another person shares a story about his wife, who he lost to the disease: "It was depressing for me because I loved her... to watch her degrade right in front of your eyes" ("Stand Up," 2021). CMS coverage for Aducanumab would not only give hope to people like this man, but also to patients. He continues to talk about how his wife knew that something was wrong, and she was angry and discouraged. Because Aducanumab is designed to work in patients in earlier stages, the drug could have prevented distress, anger, and quite possibly even further decline of her health. One in three seniors dies with Alzheimer's or another dementia (Alzheimer's Association 2022), so these stories document the difficult reality faced by millions. Ethically speaking, health professionals are meant to do what is best for the health of the public, so why keep something from people that could improve their quality of life? Some may question the safety of Aducanumab, suggesting that it may cause harm to users, but is watching a loved one decay into an unrecognizable person any less devastating than losing them? No matter the success of the drug, at least we can say that we tried. With so many other things going on in the world right now, people need hope now more than ever.

#### Works Cited

- Alzheimer's Association. (2022). Facts and figures. Alzheimer's Disease and Dementia. Retrieved January 31, 2022, from <https://www.alz.org/alzheimers-dementia/facts-figures>
- "Even though they're acting different, you still have to take care of them." (2016). Audio recording. My PaTH Story Booth archive, <https://www.storybooth.pitt.edu/HealthStory.aspx/0573EC>
- My PaTH Story Booth. (2022). Story Booth archive, <https://www.storybooth.pitt.edu>
- "...whether or not that's a medical person, doesn't matter, stand up for your person." (2021). Audio recording. My PaTH Story Booth archive, <https://www.storybooth.pitt.edu/HealthStory.aspx/vwqgQ3>

## Comment Submitted by Nicholas Scott

Commenter	Comment Information
Scott, Nicholas	Title: Student Organization: University of Pittsburgh Date: 02/10/2022

There are many aspects of this process that seem worthy of further review, and criticism. Firstly, for a drug whose efficacy is highly limited in scope, and whose determination as

successful necessitated post-hoc analysis (WSJ Editorial Board, 2022), I believe Biogen bears responsibility to continue decreasing the price of their drug. I find that a post-hoc analysis is a relatively weak form of evidence to determine efficacy, as opposed to traditional experimental conclusions. Combining that with the potentially negative side effects that some have experienced, which are a far-cry from being outweighed by its alleged benefits (as in most medications,) highlights that the drug in and of itself should likely not have received accelerated FDA approval and should certainly not be approved for regular administration beyond optional experimental research trials. A case of these potentially intense negative outcomes from the drug can be seen in a NY Times article, where a woman had brain swelling intense enough to result in death (Belluck, 2021). Some degree of negative outcomes is typically unavoidable in pharmaceuticals, but it must be asked whether these are outweighed by their positive effects. While of course innovation begets profit, it must be considered as to whether this innovation and its approval truly serve for the primary purpose of improving patients' lives, and not improving the financial standing of the company which has had to jump through several hoops to begin profiteering. The fundamental purpose of medical research and innovation is benefitting either the general, or a specific population who suffers from a particular illness. Alzheimer's is an illness which has always been followed by despair and hopelessness regarding its inevitable progression; individuals with afflicted loved ones will, of course, vie for any opportunity to improve their standing, however small the chance. I believe the actions of Biogen must at the very least be contemplated as predatory regarding these desperate individuals and their desire for any glimmer of hope. This is not to downplay the awareness of the afflicted regarding the drug's history and questionable efficacy, but rather highlight the potential reality that they would opt to take a considerable risk in hopes of any change. Given all the reasons for scrutiny that these events seem to justify, I am of a mind with bioethicist Leonard Fleck, who wrote in the Hastings Center Report that the company should have profit margins fractional to their current margins until it can be more definitively proven that Aduhelm does demonstrably improve the lives of those who take it (Fleck, 2021). This especially applies while it is being administered experimentally in trials, but may not be as significant, should the drug go on to more effectively prove itself. If it is eventually approved for general coverage after doing so, I still believe Biogen's top priority should be aiding the afflicted, not maximizing profit margins. If lowering its cost could allow it to help more people, the company bears a moral burden to take that into consideration regarding its pricing. Additionally, upon looking back at all of the events that occurred in this drug, and this company's timeline, further standards should be upheld to prove that transparent practice is taking place, as should be the bare minimum in medical innovation. If these further standards and trials should prove the drug more effective than it has been thus far, and if Biogen is more successful in proving the purity of its

intentions, I believe that would be substantial enough evidence to justify a broader coverage by CMS, otherwise, trials should continue to be the extent of its coverage.

#### Works Cited

- Board, The Editorial. "Opinion | the Alzheimer's Death Panel." *The Wall Street Journal*, Dow Jones & Company, 23 Jan. 2022, <https://www.wsj.com/articles/the-alzheimers-death-panel-biogen-aduhelm-fda-cms-medicare-healthcare-access-ration-care-progressives-elderly-senior-citizens-11642958967>.
- Belluck, Pam. "Concerns Grow over Safety of ADUHELM after Death of Patient Who Got the Drug." *The New York Times*, 22 Nov. 2021, <https://www.nytimes.com/2021/11/22/health/aduhelm-death-safety.html>.
- Fleck, Leonard. "Alzheimer's and Aducanumab: Unjust Profits and False Hopes," *Hastings Center Report* 51, no. 4 (2021): 9-11. DOI: 10.1002/hast.1264

## Comment Submitted by Kat Macioce

Commenter	Comment Information
Macioce, Kat	Title: General Coverage for Aducanumab is Unkind (FHH) Organization: University of Pittsburgh Date: 02/10/2022

If CMS adopts general coverage for aducanumab, they will be complicit in providing families and patients false hope, given the marginal

results and significant side effects documented in the studies concerning the Biogen distribution of aducanumab, branded as Aduhelm. In addition to this, Doctor GC Alexander (2021) discusses that general coverage of aducanumab will force clinicians into some unusual disclosure with patients about the uncertainty of whether or not there are actual benefits to this extremely expensive medication. According to bioethicist Marleen Eikholt (2020) the "False Hope Harms (FHH) Argument" corroborates the notion that allowing general coverage for the distribution of this drug will be an unkind and unethical burden upon those seeking aid. Of the high-dosage patients that receive aducanumab, 40 percent will be at risk of lethal side effects, such as brain swelling and bleeding, as reported by medical ethicist, Leonard Fleck (2021). So, why would CMS cover this drug that yields such a high danger for patients and results of minimal treatment effectiveness? The FDA's results, despite the accelerated approval, reveal these great risks of Aduhelm, but Biogen skips over such concerns in pursuit of profits. Profits over people is a cruel mindset that this company is inflicting on families in immeasurable pain caused by Alzheimer's Disease. In regard to Biogen, their posthoc analysis was a devious attempt to exploit the desperation of these people. As per scientific experts Alexander, Emerson, and Kesselheim's regulatory review of Aduhelm (2021), the EMERGE study was a "prespecified analytic plan" which undermined the credibility of the results. Additionally, in an article by Adam Feuerstein (2021), the campaign Project Onyx made a push to put aducanumab on the market and is quoted by Doctor Alexander as not being FDA policy and "a highly atypical relationship between a drug manufacturer and a regulator."

### References

- Alexander, G. C., Emerson, S., & Kesselheim, A. (2021, May 04). Evaluation of Aducanumab for Alzheimer Disease. Retrieved January 30, 2022, from <https://jamanetwork.com/journals/jama/fullarticle/2778191>
- Alexander, G. C., Karlawish, J., & Janiaud, P. (2021 September). The Problem of Aducanumab for the Treatment of Alzheimer Disease. *Annals of Internal Medicine*. Retrieved January 30, 2022, from <https://www.acpjournals.org/doi/10.7326/M21-2603>
- Eijkholt, Marleen. (2020). Medicine's collision with false hope: The False Hope Harms (FHH) argument. *Bioethics* 34, 703–711. <https://doi.org/10.1111/bioe.12731>
- Feuerstein, A., Herper, M., & Garde, D. (2022, January 12). Inside 'Project Onyx': How Biogen used an FDA back channel to win approval of its polarizing Alzheimer's drug. *STAT*. Retrieved February 6, 2022, from <https://www.statnews.com/2021/06/29/biogen-fda-alzheimers-drug-approval-aduhelm-project-onyx/>
- Fleck, L. M. (2021, June 22). Alzheimer's and Aducanumab: Unjust Profits and False Hopes. Retrieved January 30, 2022, from <https://onlinelibrary.wiley.com/doi/full/10.1002/hast.1264>

## Comment Submitted by Olan Malcolm

Commenter	Comment Information
Malcolm, Olan	Organization: University of Pittsburg Date: 02/10/2022

Hope is a funny thing. You think you want it until it crashes down in front of your eyes. This is exactly what can happen with millions of people affected by Alzheimer's if the

CMS covers Aduhelm prematurely. I have seen firsthand the mental and physical strain this disease creates not only for those with the disease, but also on those who love and hold that person dear to them. A couple years ago, my [PHI Redacted] was diagnosed with Alzheimer's disease, and I have watched the progression from her forgetting something small to her not knowing my name anymore. As much as I would love to say have the CMS push Aduhelm all the way through and cover all costs for it, I would not wish seeing either no effect, or even adverse health effects, from the drug after it is prescribed. Aduhelm trials EMERGE and ENGAGE was shut down because of futility, and it was not until a biased post hoc analysis that even a sliver of evidence was found that the drug does anything other than kill a 75-year-old woman by making her brain swell (Belluck). This drug CANNOT be trusted until thorough and correct experimentation has been done on it proving that it helps either slow or reverse the effects of Alzheimer's disease. If my [PHI Redacted] was still in the early stages of her Alzheimer's and the CMS were to approve this without any evidence of it actually helping the disease, my family would not give this drug to her. We would be getting our, and her, hopes up with what seems like a good chance of them crashing down knowing that the same drug that got FDA accelerated approved could not show any significant results in the 4-year phase 3 trials. If the CMS approves this drug with little to no evidence, where is the line drawn at what they approve and do not approve. Are they going to approve any drug that might work from now on? Medicine is a world where data and results speak, and so far, Aduhelm has neither of those. There are already two more drugs, donanemab and gantenerumab, made by Lilly and Roche and Eisai respectively, which are both amyloid blockers who are seeking FDA approval (Adams). What is stopping them from getting FDA approved the same way Aduhelm did, and creating this argument all over again? The CMS must put regulations on drugs they could possibly cover that get accelerated approved by the FDA not only to stop false hope being created, but to keep the order in the CMS drug covering system.

### Works Cited

- Belluck, Pam, et al. "How an Unproven Alzheimer's Drug Got Approved." *The New York Times*, 20 July 2021, <https://www.nytimes.com/2021/07/19/health/alzheimers-drug-aduhelm-fda.html>.
- Adams, Ben. "CMS' Biogen Decision Could Spell Problems for Lilly, Roche Alzheimer's Drugs, Half of Surveyed Neurologists Say." *FiercePharma*, 1 Feb. 2022, <https://www.fiercepharma.com/marketing/half-neurologists-unlikely-to-prescribe-lilly-roche-alzheimer-s-drugs-if-cms-biogen>.



## Comment Submitted by Isabelle James

Commenter	Comment Information
James, Isabelle	Organization: University of Pittsburgh Date: 02/10/2022

Given the evidence thus far in Aduhelm's trials, CMS is right to limit coverage to evidence development since the widespread coverage of this drug may provide false hope for

patients and their families. As discussed in Pam Belluck's *New York Times* piece, "Concerns Grow Over Safety of Aduhelm After Death of Patient Who Got the Drug," Alzheimer's experts said it was unclear whether Aduhelm could benefit patients at all and even stated that the drug can cause serious harm to patients. Salloway and colleagues discuss harmful effects of Aduhelm in the *JAMA Neurology* journal where results from Aduhelm trials show 41% of patients experienced brain swelling or bleeding when given the FDA approved dose of the drug. Given the overwhelming evidence that Aduhelm is minimally effective at best, why is there such a large push to approve this drug? After the scientific advisory board denied accelerated approval of Aduhelm in an almost unanimous result, it is unethical to continue to push for widespread coverage rather than extended and more in-depth clinical trials of the drug. People who have been dealing with the effects of this debilitating disease will latch onto anything that seems promising even if the fine print shows less than stellar results. The widespread release of such an expensive drug with murky results would be to take advantage of a vulnerable population of people who are so desperate for some kind of relief. Seeing as they are not realistically able to see the harmful drawback of the drug because of the emotional toll of Alzheimer's, they are unable to fully consent to the possible harmful effects of Aduhelm. While physicians typically allow for a patient or their family to assess the risks and benefits of treatment on their own, one cannot reasonably expect for a person suffering from such a devastating disease to thoroughly investigate the research and trials of Aduhelm. Furthermore, the FDA approval will encourage them to see Aduhelm as safe and effective, even if further research disproves this statement. If Aduhelm fails to give patients and their families the results they claim to, the effects of Alzheimer's on the patients will be even more debilitating. These patients and their families are putting their full trust in this questionable drug and, if it does not improve the patient's condition, they and their families are not fully prepared for the tragic outcome. If Aduhelm is released to the public without further trial, Biogen is giving patients and their families false hope that the condition will improve which is unethical.

### References

- Belluck, Pam. (2021). Concerns grow over safety of Aduhelm after death of patient who got the drug. *The New York Times*, November 22, 2021.
- Salloway, Stephen, et al. (2022). Amyloid-related imaging abnormalities in 2 phase 3 studies evaluating Aducanumab in patients with early Alzheimer disease. *JAMA Neurology* 79(1): 13-21.
- Fleck, Leonard. (2021). Alzheimer's and Aducanumab: Unjust profits and false hopes. *Hastings Center Report* July-August 2021: 9-11.

## Comment Submitted by Jared Freudenberg

Commenter	Comment Information
Freudenberg, Jared	Title: The Importance of Trust and Transparency Organization: University of Pittsburgh Date: 02/10/2022

The responsibility of the FDA, as described by its mission statement, is: "The Food and Drug Administration is responsible for protecting the public health by ensuring the

safety, efficacy, and security of human and veterinary drugs." Why then are they prioritizing the approval of this drug on an accelerated track through backdoor deals and discussions? The FDA approval rating has taken a drastic downturn during the pandemic: "37% of doctors, 27% of nurses, and 41% of WebMD readers said they trust the FDA in general."(2) In the current landscape in which the public trust in the FDA and medicine has been on a steep decline, it has become more difficult for the public to accept the FDA-approval as a sign of quality. We cannot further endanger the nation's trust by supporting broad coverage for an unproven drug whose effectiveness and legitimacy has been called into question, especially at such a dramatically high price. Nobody wants to see the disaster that is going on regarding the acceptance of vaccines spread to other fields of medicine. With the rise in Medicare premiums for the public that would be required to pay for broad CMS coverage of this drug, the nation's already thinning trust will further decrease while also taxing the general public. The complete radio silence from the CDER Patrizia Cavazzoni regarding inquiries regarding Aduhelm and its suspect approval. The double standards regarding the approval of Aduhelm and things such as Vaccine implementation can lead to the public questioning the safety legitimacy of other more proven and tested pharmaceuticals. If Aduhelm was approved on an accelerated track with little evidence of its effectiveness and 23 different tests saying it doesn't work, how can people be sure of anything else approved by the FDA. As a governmental body, having standards apply consistently and fairly is one of the most important parts of making these decisions. For an organization that has the health and safety of millions upon millions of people in its hands, this lack of transparency cannot be acceptable. There is no doubt that Alzheimer's is a devastating illness, but we cannot allow ourselves to be clouded by desperation for a cure, and instead properly find an effective treatment. Aducanumab is not the answer that we need, therefore I do not support its coverage unless new evidence of its effectiveness is provided.

## Comment Submitted by Finley Geist

Commenter	Comment Information
Geist, Finley	Organization: University of Pittsburgh Date: 02/10/2022

I don't think CMS should not move forward with providing National Coverage for Aduhelm until further trials have been conducted. Though the clinical trials for the treatment did show a reduction of amyloid

beta plaques in the brain for those who received the highest dose of Aduhelm, there is no proof that reducing these amyloid proteins will slow the decline of those with Alzheimer's (Cavazzoni 2021). Furthermore, both of the studies conducted for Aduhelm were terminated early for futility and weren't completed, meaning the only evidence we have to support Biogen's claims is a post hoc analysis of one of these trials conducted by the sponsor of the drug (Knopman 2021). Even the authors pointed out that any post hoc analysis of the randomized trial would introduce bias and provide limited information that should not be the basis for FDA approval (Tampi 2021). Even if one trial showed promising signs, the Peripheral and Central Nervous System Drugs Advisory Committee stated when they reviewed the drug that only one successful trial is not enough evidence to support approval (Mahase 2021). And with only one successful clinical trial, it's impossible to determine the possible side effects this drug might have. Before being approved for National coverage, further trials must be held to determine both what the short- and long-term side effects of the treatment are and if the reduction of amyloid plaque truly slows the progression of Alzheimer's. 3 FDA members quit following the approval for Aduhelm, one of which called the decision "This might be the worst approval decision that the F.D.A. has made that I can remember" (Mahase 2021). This controversial approval has caused the public to distrust this treatment and approving this drug for National Coverage before further clinical trials have been conducted could lead the public to distrust future Alzheimer's treatments that have a higher potential of working. CMS should refrain from approving National coverage of Biogen's treatment until further clinical trials have been conducted.

### Work Cited

- Dr. Patrizia Cavazzoni, et al., "FDA's Decision to Approve New Treatment for Alzheimer's Disease." U.S. Food and Drug Administration (2021)
- Mahase E., et al., "Three FDA advisory panel members resign over approval of Alzheimer's drug BMJ" (2021)
- David S. Knopman, et al., "Failure to demonstrate efficacy of aducanumab: An analysis of the EMERGE and ENGAGE trials as reported by Biogen, December 2019," *Alzheimer's Dementia* 17 (2021)
- Rajesh R. Tampi, et al., "Aducanumab: evidence from clinical trial data and controversies," *Drugs in Context* 10 (2021).

## Appendices

### Appendix 1: Press Conference Role-Play Simulation

#### Center for Medicare/Medicaid Services National Coverage Determination for Aducanumab

January 18-20, 2022

*The following transcript, edited for concision and clarity, was generated from a Zoom recording during a University of Pittsburgh undergraduate communication course on "Evidence" featuring student researchers and performers Cameron DelGatto, Finley Tull Geist, Corbin Makar, Nicholas Scott, and Isaac Winograd. Remarks made by simulated characters do not necessarily reflect the actual views of students participating in the exercise.*

**Biogen CEO:** I just wanted to thank everybody for having me at this conference today, and I think it's really important that we talk on Alzheimer's. So, as the CEO of Biogen, I just wanted to say that, on the market as of right now, not many options are available for Alzheimer's patients, this is something that affects millions of Americans and their families, every year, and possibly even more for those around the world. Our drug is the first on the market to remove amyloid on nerve cells and we are the first drug to be approved since 2003. We believe that, by having FDA approval that it just provides more of an option for those patients receiving it even with Medicare covering it or not. We just want more coverage available for something that could possibly help and is shown to help with Alzheimer's.

**Alzheimer's Association President:** As President of the Alzheimer's Association, I have seen many thousands of people afflicted with this disease, including my own mother. I know how terrible it can be, which is why I think this drug should be more available and more accessible to everyone who would like to take it. Right now, only the people with money are able to take this potentially lifesaving drug. These people are dying and if this drug even has a chance of helping them, then they should have access to it, it shouldn't be restricted to those who can pay for it. After clinical trials are completed, maybe the drug will be made available to everybody else, but it might be too late for some of those people, so we need to make this drug more widely available and accessible to everyone.

**Federal Drug Administration (FDA) Commissioner:** Here at the FDA we find that this is a great opportunity for the American public and we think that the benefits for this disease that causes so many problems for so many people, people like myself, who are in an older age demographic and worry about this as we're entering the later stages of our lives and want to go on living happy and healthy lives to have this at our disposal. So, despite the early stages of the drug, we think that the benefits outweigh the risk, and we are in full approval of moving forward, exposing the strength to the public and giving people who are willing and interested a chance to use it as long as they are fully informed about the history of the drug, its risks that come along with it, obviously if they're up for it and they want to give it a try. We certainly want to put it out there for them, and we think that it is safe to do so.

**Center for Medicare/Medicaid Services (CMS) Administrator:** Hi everyone so, although I think the drug could be super beneficial and is a really important topic and option. But right now, I think that, overall, the quality of research on effectiveness isn't 100%. And I think before we're sending it out to the millions of people who are affected as everybody's mentioned, there are so many people, even in the US alone who are affected, before we can do that need to be absolutely sure that it is going to help them. Especially with the price point right now, before sending it more widely under Medicare, it should be put in the evidence development program so that we can figure out all those things for the millions of patients.

**Journalist:** I will start with Biogen. My question for you would be if all of these procedural abnormalities were necessary to acquire approval, how is it comparable to similar drugs that didn't need to jump through so many unconventional hoops?

**Biogen CEO:** There aren't really a lot of similar drugs out there. Like I said, the last one to be approved by the FDA was 2003, so it is 19 years since the last Alzheimer's drug was approved, and as I also stated, we are the first on the market to remove amyloid so there really isn't anything similar on the market as of right now and that's why we believe by pushing through it, I wouldn't say abnormalities in a sense, I do know that it was accelerated, but the reason why we wanted it to accelerate was in the end to benefit everybody as they came out.

**Journalist:** So, my follow up to that would be, I meant breakthrough drugs for other treatment patterns in the past, where they were proven much more effective. The public has been made aware of some practices that occurred in in this process and some private meetings that certainly have raised some eyebrows, so I think the public is generally wondering if this is truly a transparent process with the stated goals being their actual intent.

**Biogen CEO:** The results were still presented overall. It wasn't like we were just saying like oh here's like the goal we're going to just push it through. We still presented information, and it was made available to the public, and the FDA so I wouldn't say we're hiding things.

**Journalist:** Okay, and in response to that, I would address how the price tag was halved. If that could have been afforded to have been done from the beginning, I also would think that that would raise eyebrows about intent of the introduction of the drug. If it was truly intended to benefit the people who may take it and receive nominal gain from it, or the company, who was on the brink of stock collapse again.

**Biogen CEO:** Well, I mean by cutting the price in half, it will introduce more flexibility. I don't think drugs should be possibly \$800 per one routine let's say. By cutting the price in half we're increasing accessibility. We try to cut prices and drugs, in general, everything is negotiated through our government. Our government just decides we're going to have the higher price cap.

**Journalist:** So, my my next question, for the Alzheimer's Association president, would be that we've talked a lot about how people who suffer from Alzheimer's are dealing with a seemingly hopeless disease, with no chance of improvement. But with the data that's been shown, it seems that the improvement is nominal so for the FDA to approve drugs like this, of its nature, for the first time with such nominal benefit, how is the false hope that it could give these families for this potential benefit less cruel than holding it back in hopes of finding something better in the future?

**Alzheimer's Association President:** I would say that false hope is better than no hope at all, which is what they currently have that their relatives will get better or not die from this disease. I think a false hope is better than no hope at all, and I would rather have the families of the people affected say that there is a possibility rather than give up. I think if I, personally, if I had this disease, I would want a glimmer of hope rather than none at all, and I wish I could have had that, for my mother.

**Journalist:** Well, hope is certainly a powerful thing that can improve the mental health of a lot of people struggling with a lot of serious illnesses. The only thing that I would potentially counter with is, and I will touch on this later with CMS, when the price tag of potentially false hope is \$28,000 a year, that could be going to more proven treatments for other diseases, equally, if not more deadly. I think we have to ask ourselves: how do we justify false hope as compared to demonstrable success?

**Alzheimer's Association President:** Well, as I stated, I do disagree with Medicare's choice not to cover this treatment for all patients. I agree that the price tag is much too high for any working middle class family to pay just to have hope that their relatives and their family will not die from this disease. I would counter the argument that we shouldn't be spending money on other diseases and compare this. We should be spending money to research all kinds of diseases. That doesn't mean we shouldn't be spending money to research on Alzheimer's just because another disease might be more widespread or more deadly doesn't mean that Alzheimer's isn't still a problem that needs to be focused on.

**Journalist:** Let me just jump in there and follow up a fine point, so the data from Biogen suggests that yes, Aduhelm can reduce amyloid plaque in patients with mild dementia. Do you support approving this drug and having Medicare coverage for patients with severe dementia, even though there really are no data on that?

**Alzheimer's Association President:** I would say yes, I think, because we have data that this has worked in people with mild Alzheimer's. It's worth a shot to at least start up a research trial, to see if this could potentially help people who are further down the line.

**Journalist:** For the FDA Commissioner: with such such a lack of internal approval, with a board internally voting 10-0 against its approval, why go against such a conventional and consistent metric as a way to measure the efficacy and relative worth of introducing a drug, to the public?

**FDA Commissioner:** Yeah, it's a good question. I think it's more about the way that we would support introducing that drug to the public, so the key word is making it available and accessible and also letting that information about the drug be just as available and accessible. So, we feel that as long as we do it that way, we are doing it in a way that is informing the public, letting them know what is on the table for them, and if they want to use that we want to make it available considering how rare it is for there to be something on the market to work for this disease.

**Journalist:** I would ask if people who have been so passionate and so effective in the past about improving public health and the lives of the public through the scope of health have been so upset as to resign over its approval, is it not questionable that those people may be better equipped to make decisions about the pros and cons of a drug for the general health of the public, as opposed to a layman who is less versed in medical terms and maybe less able to review such empirical data to a degree of scrutiny that they have effectively done in the past?

**FDA Commissioner:** Great question. It's a strong question right there. I think you know if you look at my 10-year history, I think that I certainly have the credentials to make such calls and you know determinations about drugs, being that I am commissioner of the Food and Drug Administration and certainly, you know we take into account everyone's opinion here but right now we want to move in a direction that is giving people an opportunity to access drugs, and we also would like to do that in a way that's financially reasonable as well, which is why we recommend that Medicare and Medicaid will also sponsor and approve this drug as well.

**Journalist:** But in your opening statement, you said the FDA should make drugs available as widely as possible and just let people have the information. You said, 'We to take all of us into account,' seemingly alluding to your scientific advisory committee, but if the scientific advisory committee says snake oil doesn't work to alleviate any maladies does your same logic apply to snake oil? Let the public see the information and decide for themselves? At what point do you actually say no we're not actually going to approve snake oil?

**FDA Commissioner:** That's a really good question and you're right, we do need to have defined parameters about yes, at a certain point it can't just be a free for all. I think the perspective we're trying to take is given the circumstances of how hard it is to find anything to work for this disease and given the fact that there is some backing behind the drug, that it has potential. This case is a little bit different, so not on a wide scale policy for all drugs, we want to be that way for the majority, and furthermore I think that one reason we want to do it that way is because that would increase public trust in the FDA, increase public trust in these agencies. I understand how, at first, that might sound counterintuitive but by giving people the opportunity to make decisions for themselves, I think they might feel like less is being shielded from them like less is being forced on them and it might actually increase trust and faith and involvement in the public health process while at the same time, there is a risk that some may use medications that aren't the best for them through that process even then the opportunity in this country to do so is the position we take currently.

**Journalist:** My final question for the CMS administrator would be, I understand that, in its current state, it is only being approved for specific clinical trials, but firstly I would ask, yes or no, if the data that we've seen proves to be consistent with the distribution of the drug in these applied cases, would it be considered to be expanded to be covered more broadly, by Medicare and Medicaid if the same data seems to recur in practice?

**CMS Administrator:** The short answer yes, but I think in a perfect world of course, the data would match up, but I think that's already the problem that we're seeing is that it's not giving us the results that we need nor want.

**Journalist:** So, in that scenario, if it doesn't prove to be more effective in broad distributive practice than it did in clinical studies, how would you justify the aforementioned very steep price tag for a drug that has been proven less effective for its applied use than considerably less expensive and more effective drugs? Because the reality of governance is there is not an infinite budget, and the source of the budget is the taxpayer. So, while some people won't be paying for the drug, somebody somewhere is, and with such a heavy price tag if the data does not improve, how is that preferable to reallocating money towards something more effective that could have a more significant impact?

**CMS Administrator:** Great question, but I think that that's kind of the whole idea of the evidence development program, so that we can be sure, and I think it kind of goes along

with what my previous colleagues have mentioned - that if people really want to try out a drug or feel as though their symptoms match up with the data that has been given out and they have the desire, then that's a different conversation. But again, that completely follows whether or not the data that we would see through the evidence development program would warrant that. The evidence development program basically has been to go through more clinical trials with people have those symptoms, so we could offer those those people who really want to try the drug and are really willing. But we can't force those results, so I think it kind of isn't fair to include it in the conversation yet until we would go through that effort, because obviously we don't want to distribute right now largely because of that price point. Until we figure out the effectiveness and who it would be working for or not in terms of symptoms or cases of either severe or mild Alzheimer's, I don't think we can even have that discussion, until we would put it through that program and get that data back.



## Appendix 2: Optional Assignment Description

### Midterm pre-write (CMS public comment)

Published

Edit



This is a purely optional assignment. Students wishing to take the full regular midterm exam can pass on this option, with no grade penalty. However, students opting in to write a CMS public comment can earn up to 30 points (60% of the midterm exam points - substituting for three, 10-point short answer questions) by:

- Submitting a draft of their CMS public comment to the Canvas Discussion Board corresponding to their general topic by **January 31, 11:00 a.m.** This will facilitate peer review during our class session on February 1.
- Submitting a revised, final version of their CMS public comment here by **February 8, 11:59 p.m.** Your final comment will then be graded, and it will be purely up to you whether you choose to submit the comment to CMS.




Comment guidelines:

- Prompt: "What aspect of evidence would it be useful for CMS to focus on in finalizing its Aducanumab National Coverage Determination?"
- Minimum 300 words, no maximum.
- Provide citations for all source references, consistently applying a citation style of your own choosing. Visit Pitt [Library's guide](#) to make a choice and find instructions for how to apply the style to your document.

#### Frequently Asked Questions

- *If I opt-in to this assignment, how will my grade be included into my midterm?* Simply write "see CMS public comment assignment" in the midterm's short answer text box (no need to write full answers), and your grade from this optional assignment will be folded into your midterm exam grade.
- *If I opt-in to this assignment, can I also write the short answer section of the midterm?* Yes - your best score (out of 30 points) will be used.
- *Do I have to cite course materials for theoretical concepts?* Yes. Consult the syllabus for citations, and visit the "[Deploying and citing theoretical sources](#)" primer page for additional support.
- *Where do I submit my paper?* Two places: 1) A preliminary rough draft to a Discussion Board by January 31, 11:00 a.m.; 2) Here, in an assignment text box, by February 8, 11:59 p.m.
- *Can I switch topics after participating in the January 25 brainstorming session?* Yes.
- *Do I have to actually submit my final comment to CMS in order to earn credit?* No. Your comment will be graded using the assignment rubric, independently of whether you ultimately decide to submit it to CMS.
- *When does the CMS public comment window close?* February 10, 2022, so you have one full day (February 9) to submit to CMS after finishing your assignment here.

### Appendix 3: Optional Assignment Grading Rubric

CMS Public Comment <span style="float: right;">  </span>			
Criteria	Ratings		Pts
<p><b>Timeliness</b> A draft comment was submitted to the appropriate Discussion Board by January 31, 11:00 a.m. and a revised final comment was submitted here by February 8, 11:59 p.m.</p>	10 pts Full Marks	0 pts No Marks	10 pts
<p><b>Prose quality and citation practice</b> The comment features strong and polished prose, free from significant typographical and/or grammatical errors, and relevant references are cited, consistent with a selected style guide.</p>	10 pts Full Marks	0 pts No Marks	10 pts
<p><b>Prompt responsiveness</b> The final comment features a substantial and relevant response to the prompt: "What aspect of evidence would it be useful for CMS to focus on in finalizing its Aducanumab National Coverage Determination?"</p>	10 pts Full Marks	0 pts No Marks	10 pts
			Total Points: 30

## Appendix 4: Optional Assignment Workflow Chart

