## CADTH REIMBURSEMENT REVIEW

# Patient and Clinician Group Input

**rozanolixizumab (TBC)**

(UCB Canada Inc.)

**Indication:** For the treatment of generalized myasthenia gravis (gMG) in adult patients.

**May 13, 2024**

This document compiles the input submitted by patient groups and clinician groups for the file under review. The information is used by CADTH in all phases of the review, including the appraisal of evidence and interpretation of the results. The input submitted for each review is also included in the briefing materials that are sent to expert committee members prior to committee meetings.

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# Patient Group Input

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| **Name of the Drug and Indication** | **Rozanolixizumab**<br>**Generalized Myasthenia Gravis (gMG)**<br>**SR0846-000** |
| **Name of Patient Group** | **Muscular Dystrophy Canada** |
| **Author of Submission** | **Homira Osman, PhD** |

## 1. About Your Patient Group

*Describe the purpose of your organization. Include a link to your website.*

Muscular Dystrophy Canada is registered with CADTH.

Muscular Dystrophy Canada (MDC) supports people affected by muscular dystrophies and related muscle diseases. Together, these rare conditions are referred to as “neuromuscular disorders.” Neuromuscular disorders are a group of diseases that weaken the body’s muscles. The causes, symptoms, age of onset, severity and progression vary depending on the exact diagnosis and the individual.

Since 1954, Muscular Dystrophy Canada has been the leading health charity and voice of the neuromuscular community in Canada. MDC is a sophisticated network of informed professionals, service specialists, and volunteers who deeply understand neuromuscular disorders. MDC represents 30,896 Canadians impacted by neuromuscular disorders including 12,047 persons with neuromuscular disorders, and 19,155 family members/caregivers.

MDC’s mission is to enhance the lives of those impacted by neuromuscular disorders by continually working to provide ongoing support and resources while relentlessly searching for a cure through well-funded research.

MDC has a full spectrum of programs, services, and supports for the thousands of Canadians of all ages living with a neuromuscular disorder that include: systems navigation, education and knowledge translation, access to financial supports for critical life-changing equipment and services to improve quality of life, peer-to-peer networking, emotional support, evidence- based information for new treatments, medical advances, and clinical trials and advocacy. Plus, MDC invests in transformative research to work towards more answers, therapies, and hopefully, potential cures.

Funded by Canadians from coast to coast, our investment in the research community is advancing the development of important new treatments. Our programs and services play a critical role in informing and supporting members of the neuromuscular community by funding equipment to improve daily life; hosting family and caregiver retreats; providing emotional and educational support; and with providing access to vital resources and support systems. Our advocacy efforts focus on enhancing public policy at all levels of government to bring about positive change. We are currently working to bring new treatments and trials to Canada. Advances in medicine have resulted in individuals with neuromuscular disorders living longer but not necessarily living better. As their disorder progresses and changes, so do their needs and financial strains.

Our desire is to provide support through all stages of disease progression by providing the tools, resources and support individuals need to live a full and rich life.

At the MDC, we follow the principle *Nothing About Us Without Us* closely. Individuals with Myasthenia Gravis and their circle of support are actively involved in every aspect of our organization - from leadership and decision-making roles to serving on committees and participating in collaborative research efforts. By integrating the perspectives and experiences of those affected by Myasthenia Gravis, we strive to ensure that our efforts are aligned with the needs and priorities of the patient community

Myasthenia gravis (MG) is one of the neuromuscular disorders that falls under MDC's umbrella. There is expected to be approximately 10, 000 patients affected by MG in Canada.

MG is a rare and chronic autoimmune disease in which autoantibodies attack specific proteins in the neuromuscular junction, resulting in muscle weakness. Many patients develop generalized MG resulting in severe fatigable muscle weakness with difficulties in facial expression, speech, swallowing, and mobility.

## 2. Information Gathering

*CADTH is interested in hearing from a wide range of patients and caregivers in this patient input submission. Describe how you gathered the perspectives: for example, by interviews, focus groups, or survey; personal experience; or a combination of these. Where possible, include* ***when*** *the data were gathered; if data were gathered* ***in Canada*** *or elsewhere; demographics of the respondents; and* ***how many*** *patients, caregivers, and individuals with experience with the drug in review contributed insights. We will use this background to better understand the context of the perspectives shared.*

Muscular Dystrophy Canada has Neuromuscular Service Support Staff in all provinces across Canada. As part of the System Navigation Program, the Neuromuscular Service Support Staff provide front-line support to thousands of Canadians affected by neuromuscular disorders. The program operates on collaboration and patient engagement principles. Neuromuscular Service Support Staff work directly with patients and family members to identify non-medical needs (e.g., housing, transportation, access to equipment, information on clinical trials) and provide them access to the right resources in a personalized customized manner. Neuromuscular Service Support Staff work in partnership with patients and their families to address barriers, network and make connections with others in the community, share education materials and resources, enhance life skills and self-coping strategies, embrace inclusion and ultimately provide supports to help positively improve the overall well-being and quality of life of the patient and their family members.

The Neuromuscular Service Support Staff identified and contacted adults living with Myasthenia gravis to participate in a healthcare experience survey (available in English and French) and semi- structured virtual (phone, Zoom) interviews. We shared the survey with members by e-blasts, personalized invites and Canadian patient online groups (i.e., Canadian Snowflakes -Myasthenia Gravis Support Group).

MDC also conducted a Myasthenia Gravis Canadian Journey Mapping project, where 1-hour interviews, roundtable sessions, surveys, health-related quality of life measures (i.e., EQ-VAS, EEQ- 5D, MG-ADL, MG QOL) were completed.

The following submission reflects data from a total of 194 individuals impacted by MG, all of which have a confirmed diagnosis of generalized Myasthenia Gravis through clinical reports. The respondents included 77 males and 117 females between ages 22 to 78 from all provinces in Canada.

In addition to previously collected information on Myasthenia Gravis, we recently sought the opinion on the value of having rozanolixizumab approved for use in Canada for those affected by generalized Myasthenia Gravis. 20 Canadians (16 females, 4 males) ages 34-68 (average age 51), with representation from all provinces, with confirmed gMG diagnoses specifically provided input on their knowledge of rozanolixizumab and their everyday experiences with MG. A qualitative descriptive approach, employing the technique of constant comparison, was used to produce a thematic analysis. We have included patients' quotes to ensure their voices are captured in this report and to provide context for quantitative elements. A report capturing all patient comments is also available for review.

## 3. Disease Experience

*CADTH involves clinical experts in every review to explain disease progression and treatment goals. Here we are interested in understanding the illness from a patient's perspective. Describe how the disease impacts patients' and caregivers' day-to-day life and quality of life. Are there any aspects of the illness that are more important to control than others?*

We asked participants to describe how Myasthenia gravis affects their daily life and quality of life, as well as which aspects of the condition are more important to manage. Based on the responses, the survey identified 7 key themes that were frequently reported, listed in order of frequency: 1) significant impact on productivity, 2) significant impact on fatigue, energy levels and quality of sleep,
3) significant impact on respiratory health, 4) significant impact on mobility and strength, 5) significant impact on independence, 6) significant impact on relationships and social participation, 7) significant impact on eyes/vision and speech and swallowing.

Individuals affected by Myasthenia gravis conveyed through their quotes that the impact of MG extends beyond physical symptoms, and that it affects their mental health, quality of life, and the wellbeing of their families.

- **Significant Impact on Productivity (at Work and Home)**

*"Because of myasthenia gravis, I have not been able to work and this has become a huge driver of my **financial problems**."*

*"I am **not able to work** in the same way since I have been diagnosed. I try to do some work, but everyday is unpredictable and I need to have a job that is flexible."*

*"I have had at least 61 sick days in the past year alone. This is **unpaid work leave** because of MG." "I am **unable to work**, need to rest frequently, need help with activities like washing my hair, etc."*

*"I had to **retire** from my job because of MG."*

*"I retired because the stress of my job plus MG did not mix well."*

*"I have worked while experiencing a MG crisis – it was horrible. I am fearful for the next crisis." "I am on disability leave because of my MG."*

*"I am no longer able to work and rely fully on my husband for my meals, clean home and being moved from one place to another."*

*"I wasn't able to work today because I was very tired. It gets in the way of my ability to work. And this impacts my finances in a huge way."*

*"I am not able to do the work I was once able to because I can't strain my eyes and read for more than 20 minutes."*

*"I feel useless at home. Everything now falls on my husband. Taking care of the children, cleaning, cooking and taking care of everything that revolves around IVIG treatment. MG is unreliable and my ability to support is unreliable."*

*"I had to move to part time and modified work."*

*"I can walk into the office but might need to be carried out by my partner. I no longer feel productive or competent at work."*

*"MG forced me into retiring earlier than I would have otherwise."*

*"I can no longer work. This impacts my finances and how I spend money."*

- **Significant Impact on Fatigue/Energy Levels & Quality of Sleep**

*"I am unable to do anything without **feeling tired**." "I can*

*do one task and then **need a break**."*

*"Think of the spoon theory: In the theory, each spoon represents a **finite unit of energy**. Healthy people may have an unlimited supply of spoons, but people with MG have to think carefully and plan ahead on where to spend their energy to just to get through the day."*

*"I experience **fatigue** daily at some point, usually in the evening" "I get*

***very tired** from even a conversation or reading an article."*

*"If I overdo things I will need to rest. It could hit me the same day or the next day. I may **be fatigued a good part of the day**."*

*"If I do too much, I know I will pay for it the next day. I will need a full day to recover. Imagine how you feel after travelling on different time zones, this is me every time I do something as simple as going to get groceries or cleaning my home."*

*"I **tire very easily**. Do 10 minutes of housework then have to rest. Some days I can do this and some days I can't do anything."*

*"I typically **require a 15 or 20 minute rest** after having a shower!"*

*"Most days I have to sleep for a couple of hours in the afternoon **due to fatigue**."*

From our MG Canadian Journey Mapping project, we used photo voice methodology. One of the participants shared:

*"I use this metaphor of "I feel like Cinderella" or I have to do X, Y, Z before I turn into a pumpkin. Daily, I guess this is what I feel. All of us share this experience that you only have so many things you can do in a particular day and particularly any task that exacerbates MG symptoms. Pretty much everyday, if I wake up feeling quite good, I realize, like Cinderella at midnight the coach turns into the pumpkin and that was it. She has to go home and resume a sort of oppressed life. I'm not suggesting mine is oppression, but at a*

*certain point in the day when I run out of energy and the MG starts to flare up, I have to shut down whatever plans I have or whatever I'm doing and just be able to rest and not make things worse so that's new."*

- **Significant Impact on Respiratory Health**

*"The most bothersome aspect of MG is definitely the impact on **breathing."***

*"I can feel **my lungs are weaker** because of MG."*

*"I am immunosuppressed because of the MG drugs and I feel weak respiratory wise. The combination of the two is awful."*

*"It is scary **how difficult it is to breathe** sometimes and that's why I have a ventilator near by." "I had to go **on a ventilator in ICU three times** now because of MG crises."*

*"**Choking on food or saliva interferes with breathing** as diaphragm muscles become weak."*

*"Breathing is most affected, limiting my ability to walk, climb stairs, or bend over to tie my shoes." "I have terrible **shortness of breath**."*

- **Significant Impact on Mobility & Strength**

*"My **legs are weak.** By the time I get to the top of the stairs, I have to drag my legs up to the top of the stairs."*

*"I have **lost the ability to walk** without support."*

*"Sometimes I can walk into the grocery store, but will need to carried out by a family member or use a wheelchair on the way out."*

*"I used to walk around the neighbourhood after dinner, now **I can't even walk inside my house**."*

*"I can walk short distances but always keep a walker or cane near by because you never know when the MG will flare up or when I will turn into a rag doll."*

*"I **can't walk** without a walker, I **can't stand** for any length of time, **can't sleep at night** because it aches."*

*"I can't do stairs anymore. We had to remodel our entryway because it was becoming increasingly difficult to get inside the house on my own."*

*"Some days it is **difficult to just walk**. Muscles seem be tense and not allowing me to do things." "I **cannot walk down the street without falling**. I cannot hold up a blow dryer to dry my hair."*

- **Significant Impact on Independence & Social Participation**

*"My independence has taken the biggest hit."*

*"I can still bake, but it takes me hours more. I can clean, but then the rest of the day I need to rest. While I am able to do things, it takes me away from other things. I only have energy for some tasks."*

*"Brushing my hair, blow-drying my hair has become taxing and some days it feels impossible to do that."*

*"I am unable to drive because of the weakness in my eyes and generalized weakness."*

*"MG has taken a huge toll on my relationships and on my ability to carry activities out on my own. I rely on my partner for many reasons and there is guilt."*

*"Standing to cook or do dishes takes 3x longer. On bad/weak **days I feel like a prisoner in my own house.**"*

*"We are not able to travel because heat bothers me, stress is a trigger for MG."*

*"I have symptoms everyday. **Difficulty completing activities of daily living**. No longer able to work. Can only drive short distances. I miss out on socializing due to mobility and fatigued."*

*"I need to take Mestinon daily and have to try hard to avoid a Myasthenia flare up. Prior to diagnosis, I have spent long weeks and even months **quite disabled and dependent on others for care**. It affects social life, professional life, and all areas of my life."*

*"I feel like I can't be left alone – I feel I am on the verge of the next myasthenic crisis."*

*"**Not able to do dishes and laundry and everyday normal tasks**. some days it's not bad and then it will go for a couple of days and then it will flare up."*

*"**Not being able to do anything with others**. I can't get in a vehicle and can't lift my legs. I can't go out to see other people. I did have a scooter but it got burned up and I don't have a scooter anymore."*

*"Visiting with friends and family tire me out. Can't get to church. Can't go to play darts. It is very depressing knowing that there is no cure and that this is my way of life now."*

- *"I am **very restricted in my abilities and require assistance**. **Loss of independence, social interaction and employment**."*

*"**Loss of independence is awful.** I can't do activities on spur of moment, have to be carefully planned and at times have to decline, have had to drop out of some activities."*

*"It has tremendously affected my independence. I cannot drive. They took my license away. I don't have a scooter. Not being able to be with my friends or anything. The only way to see people is for them to come to me."*

*"I am a very independent person and now I am **scared to be alone** for long periods of time."*

*"I can't drive at night or for long periods, I can't clean my own house, I can't cook for long periods of time, etc."*

*"I have to **have someone drive me** to any appointments out of time. I also have to **have help with some activities for daily living.**"*

*"I have to ask my husband to puree my foods and brush my hair. I have lost complete independence and that is the most bothersome aspect of MG."*

- **Significant Impact on Eyes, Speech & Swallowing**

*"I have to **puree my foods** and chug it down." "I tend*

*to **choke on my own saliva** and food."*

- *"I had **slurred speech as though I was intoxicated**."*

*"My **voice gives out on me** and sounds very strained after a short conversation sometimes." "**Not***

***being able to speak** is very hard."*

*"The ability to swallow and have my facial muscles work properly is very important as it affects my daily life at work. When they don't, it's very frustrating because you cannot take too much Mestinon to correct it. It's time released and dosage is every 4 hours."*

*"Choking on food or saliva interferes with breathing as diaphragm muscles become weak."*

*"I think people not understanding or even knowing about it as it's one of those invisible illnesses. I'm not in a wheelchair and outwardly appear to be "fine", but it's what's going on inside is something*

*only I know unless I start **slurring my speech**. When that happens, people who don't know me or anything about me having MG, might think I'm intoxicated.*

*"Breathing is often affected, **limiting my ability to walk, climb stairs, or bend over to tie my shoes**."*

*"One of the first symptoms of MG is **a defect in eye sight** and then a weakness in muscle, if one is lucky and MG is diagnosed at an early age (I was 24 and I think that I was fortunate that I had knowledgeable physicians) that the shock of the diagnosis is easier to accept."*

*"It **affects my eyes** the most."*

*"I was diagnosed 34 years ago with MG and have been on Mestinon for the whole time. I do get fatigued when I am in a situation that requires a lot of speaking (work, meetings) in my mouth, face, throat and eyes. **I have to get lots of rest and prepare ahead of time** with my Mestinon so it will be controlled."*

*"I frequently go **cross eyed**."*

*"**Ptosis**, difficulty chewing and swallowing. Multiple acute hospitalizations." "Double*

*vision interferes with reading."*

*"I have **double vision** and just could not do ordinary everyday things that others take for granted, like drive myself for coffee!"*

*"Double vision is the most bothersome as it affects my ability to drive, read ,etc."*

## 4. Experiences With Currently Available Treatments

CADTH examines the clinical benefit and cost-effectiveness of new drugs compared with currently available treatments. We can use this information to evaluate how well the drug under review might address gaps if current therapies fall short for patients and caregivers.

Describe how well patients and caregivers are managing their illnesses with currently available treatments (please specify treatments). Consider benefits seen, and side effects experienced and their management. Also consider any difficulties accessing treatment (cost, travel to clinic, time off work) and receiving treatment (swallowing pills, infusion lines).

When MDC asked how MG is being managed with available treatments or therapies, three main themes emerged in response: negative experiences with steroids/prednisone, the slow onset of medication effects, and a feeling of trial and error with medications. People affected by MG reported that while supportive treatments have had positive health outcomes, there are concerns about the long-term and sustained benefits of these treatments, as highlighted by quotes from individuals.

- **Negative experience with prednisone**

*"The first thing the neurologist put me on was prednisone. But it was also the first thing I keep asking to be tapered off of. The side effects are awful."*
*"I was placed on prednisone straight away but the moodiness and weight gain killed me."*
*"If I don't take my medication, I'd be dead. No side effects except I was on prednisone and getting depressed and putting on weight. It's a bad pill to be on so the doctor cut it back."*
*"Prednisone helped MG a bit at first but I don't know how helpful it is now."*
*"I am on prednisone but I don't like it. I can't afford it and have to choose between food and medication and it causes diabetes which is my main concern."*

*"I have been on prednisone for four years. It took several rounds of IVIGs waiting for Mycophenolate to work."*
*"I was put on prednisone increased to 50 mg . Not helping mg. Put my blood sugars out of wak. So had to go on insulin. That gave me neuropathy with nerve pain and numbness. Put on cellcept 500 mg 2 times a day while slowly decreasing prednisone. And increased cellcept to 750. So now I am taking mestinon 30 mg 3 times a day, cellcept 750 2times a day, and prednisone 2.5 mg every other day. My swallowing is somewhat better as it doesn't happen as often. I still get cross eyed and still get tired easily.*

- **Conventional treatments take a long time to take effect**

*"My doctor told me it could take 6 maybe even 9 months for the treatment to take effect."*
*"Imagine living half the year waiting for a drug to show benefit and then to find out you need to be switched to something else.*
*"I was told it would take a while for the benefits to kick in."*
*"My whole life revolves around MG. I feel the effects of lack of IVIG close to the end of the month. Then I am knocked for a day or two after IVIG. It takes effect but loses its effect by the third week."*

- **Experience with Trial and Error**

*"Treatments have been many and honestly too overwhelming. It's a guessing game i.e. trial and error. Seronegative patients not eligible for any of the advanced treatments. Not fair.* ***I get IVIG which means I am stuck at the hospital for up to 7 hours 2 days every 3 weeks.*** *Immune suppressants caused frequent infections and pneumonia, prednisone caused a vascular necrosis in both hips resulting in fractures."*
*"It feels like I am put on a drug only to see if I will fail it or it will work enough to stop me from complaining."*
*"I have been tried on so many drugs and so many different dosages. It feels like a big game of trial and error – which is not how you want to feel about your treatment plan."*
*"I want to be given Rituxan but my doctor says I am not worse enough for that… I want to be given a chance to try a different treatment."*
*"It feels like the treatments I have tried only half address or control MG. And so then I am tried on something else. Another line of treatment."*

- **Experience with IVIG**

*"IVIG is really the one thing that worked for me."*
*"Prednisone- huge negative psychological symptoms with psychosis Azathioprine- not effective* ***IVIG- my savior****. Every two weeks."*
*"Standard treatments such as* ***IVIG has helped****. Equally important are the dietary, relaxation, exercise and physio routines I practice daily."*
*"Mestinon - does not seem to have an affect on my symptoms. Azothiaprine- started taking in January of 2022. I don't think it's made any improvement for me. IVIG - used last Christmas at the time of my diagnosis because my symptoms were mostly bulbar and neurologist was concerned that I could be headed towards crisis.* ***IVIG worked for me and I felt so much better****… for a couple of weeks Also used before my thymectomy to make sure that I was as strong as possible before surgery."*

## 5. Improved Outcomes

CADTH is interested in patients' views on what outcomes we should consider when evaluating new therapies. What improvements would patients and caregivers like to see in a new treatment that is not achieved in currently available treatments? How might daily life and quality of life for patients, caregivers, and families be different if the new treatment provided those desired improvements?
What trade-offs do patients, families, and caregivers consider when choosing therapy?

Patients with gMG identified several aspects of their condition that they desire better control over. These include:

a. Decreased Intensity of Exacerbations: Myasthenia gravis is characterized by exacerbations, or periods of worsening symptoms. These exacerbations can significantly impact patients' quality of life, causing weakness, fatigue, difficulty breathing, and other symptoms. Patients understandably want these exacerbations to be less severe and less frequent, allowing them to function better in their daily lives.
b. Reduction of Side Effects: Treatment for gMG often involves medications such as immunosuppressants or corticosteroids, which can come with a range of side effects. These side effects can include weight gain, mood changes, increased susceptibility to infections, and others. Patients want better control over these side effects to minimize their impact on their well-being and daily functioning.
c. Maintenance of Independence: Myasthenia gravis can affect various aspects of a person's life, including their ability to perform everyday tasks independently. This loss of independence can be distressing for patients, impacting their sense of autonomy and quality of life. Patients desire better control over their symptoms to maintain their independence and continue living their lives as fully as possible.
d. Less Serious Hospital Admissions: Severe exacerbations of gMG can lead to hospital admissions, which can disrupt patients' lives and result in significant healthcare costs and emotional stress. Patients want better control over their condition to reduce the likelihood of serious exacerbations that require hospitalization, allowing them to stay out of the hospital and maintain a better quality of life.

Overall, patients with gMG seek better control over their condition to minimize the impact of symptoms, side effects, and exacerbations on their lives, allowing them to maintain their independence and avoid serious hospital admissions.

Patients stated that they would be willing to deal with side effects of medications if these aspects of MG were better controlled. Patients stated that current medications seem to be decreasing the number of exacerbations but not the impact on overall quality of life.
Desires for treatment include:

*"As a working mother of two, managing my gMG while juggling family responsibilities is a daily challenge. I dream of a treatment that not only allows me to work and care for my children but also supports me in maintaining my household duties without the fear of debilitating symptoms."*

*"Living with the constant threat of myasthenic crises is exhausting both physically and mentally. I yearn for a targeted treatment that puts an end to these frightening episodes, providing me with a sense of stability and security in my day-to-day life."*

*"My struggle with gMG is compounded by respiratory weakness and overall fatigue, making even simple tasks feel like uphill battles. A treatment that addresses these specific symptoms would be life-changing, allowing me to breathe easier and regain the strength to live a fuller life."*

*"The daily chore of swallowing multiple pills is not only inconvenient but sometimes downright unbearable when they get stuck in my throat. I wish for a medication that's easier to take, perhaps in a form that glides down effortlessly, sparing me the discomfort and foul taste."*

*"The relentless aches and pains, especially in my legs, make sleeping in a bed impossible. I wish for a treatment that provides relief from this constant discomfort, allowing me to enjoy restful nights and reclaim the comfort of sleeping in a regular bed."*

*"The thought of developing diabetes as a result of my treatment for gMG is frightening. I hope for a medication that effectively manages my condition without putting me at risk of developing additional health complications."*

*"Rather than resorting to general immunosuppression, I wish for a treatment that specifically targets the underlying mechanisms of my gMG, offering precise and tailored relief without compromising my immune system's overall function."*

*"The high cost of infusion treatments places a significant financial strain on me and my family. I advocate for more accessible options and reduced costs, ensuring that every patient can afford the care they need to manage their condition effectively."*

*"Waiting for the effects of my medication to kick in, only to endure a period of low energy and recovery afterward, is a frustrating cycle. I envision a treatment that provides swift and noticeable benefits without the accompanying downtime, allowing me to enjoy a more consistent quality of life."*

When patients, families, and caregivers evaluate different therapies, they take into account factors such as how the treatment is delivered, potential side effects, duration and frequency of treatments, convenience (e.g., travel time and parking for clinic visits), and financial impact (costs). It was consistently found that therapies with low invasiveness, minimal hospital visits, low risk of side effects, and low cost were highly valued. Patients appreciated treatments that could be administered outside of the hospital (i.e., at home or with community health resources), allowing them to have more control and flexibility. Patients not only valued but which symptoms a drug addressed/managed and how few side effects there were. Health related quality of life was noted as a key priority vs. convenience of a drug. Participants mentioned they travelled 13 hours at times for specialist care or IVIG or plasma exchange and so they will move mountains as long as the treatment is right and will help with minimizing the negative experiences that come with MG. If families were considering switching to a different therapy, they would weigh the potential side effects of the new therapy against those of the current therapy. They would also consider the ease of access to the treatment and whether it was covered by private or provincial insurance.

## 6. Experience With Drug Under Review

CADTH will carefully review the relevant scientific literature and clinical studies. We would like to hear from patients about their individual experiences with the new drug. This can help reviewers better understand how the drug under review meets the needs and preferences of patients, caregivers, and families.

How did patients have access to the drug under review (for example, clinical trials, private insurance)? Compared to any previous therapies patients have used, what were the benefits experienced? What were the disadvantages? How did the benefits and disadvantages impact the lives of patients, caregivers, and families? Consider side effects and if they were tolerated or how they were managed. Was the drug easier to use than previous therapies? If so, how? Are there subgroups of patients within this disease state for whom this drug is particularly helpful? In what ways? If applicable, please provide the sequencing of therapies that patients would have used prior to and after in relation to the new drug under review. Please also include a summary statement of the key values that are important to patients and caregivers with respect to the drug under review.

***N/A***

## 7. Companion Diagnostic Test

If the drug in review has a companion diagnostic, please comment. Companion diagnostics are laboratory tests that provide information essential for the safe and effective use of particular therapeutic drugs. They work by detecting specific biomarkers that predict more favourable responses to certain drugs. In practice, companion diagnostics can identify patients who are likely to benefit or experience harms from particular therapies, or monitor clinical responses to optimally guide treatment adjustments.

What are patient and caregiver experiences with the biomarker testing (companion diagnostic) associated with regarding the drug under review?

Consider:

- Access to testing: for example, proximity to testing facility, availability of appointment.
- Testing: for example, how was the test done? Did testing delay the treatment from beginning? Were there any adverse effects associated with testing?
- Cost of testing: Who paid for testing? If the cost was out of pocket, what was the impact of having to pay? Were there travel costs involved?
- How patients and caregivers feel about testing: for example, understanding why the test happened, coping with anxiety while waiting for the test result, uncertainty about making a decision given the test result.

**100%** reported that they did have diagnostic testing completed with at least a blood test; but many also had single fiber electromyography to confirm diagnosis.**85%** of respondents reported significant difficulty getting diagnosed. Early findings of the Canadian MG Journey Mapping project indicates **7 years from time of first bothersome symptom to diagnosis**, with the range up to 23 years. The vast majority found it to be a cost-effective but lengthy process with many missed opportunities. They noted significant diagnostic odyssey - delays, misdiagnoses and costs incurred. For those who received a diagnosis as part of a crisis or medical event/hospitalization, the diagnosis was reported as smooth (**25**%). Below are quotes that further highlight the experiences of patients and caregivers with the testing:

- **Dismissive**

*“I was worked up for a stroke and Bell’s palsy.. and when it wasn’t either of those, I was told to go home. That was the end of testing.”*
*“I went to the ER five times before I was seen by neurology.”*

*"I was told my results didn't show anything. Then they called me and said maybe there is something, it might be artifact. Turns out I have a rare form of MG."*
*"I have sero negative MG and was dismissed many times because the results did not match up with what the doctor expected for typical MG."*

- **Easy/Smooth Experience with Testing**

*"There were many tests.*
*"Easy access to testing. I had headaches from the testing, and it started with a twitch with my left eye. My doctor sent me to the hospital and the doctors confirmed I had MG. It was covered by the province (Ontario). I had to pay for gas to go to the hospital."*
*"OHIP covered the cost of the testing. But getting to the right test was a mission."*
*"It took a bit of time and a few visits to my GP, walk-in clinics and ER departments before we came up with the possibility of MG. Eventually, my GP ordered one simple blood test that showed that I am ACHR+. He then sent out a referral request for a neurologist."*
*"I was rushed to hospital because I couldn't breathe. I had just had a triple bypass and valve replaced two weeks prior was only five minutes away from hospital and diagnosed within the hour of arrival I believe they did blood tests. OHIP payed then but now living in BC. treatment started right away."*

- **Delayed Diagnosis**

*"I visited 3 doctors in two different countries before getting properly diagnosed. It took 4 years."*
*"I had to pay for the blood test which gets sent to the University of British Columbia. I was tested for the generalized form of MG which I do not have. It was ruled out and I was told I do not have MG. Because I was not tested for MuSK MG I was hospitalized for 3 months. The blood test that was $50.00 was missed and so the hospital stay was very costly to the system."*
*"I went to the doctor and then was sent on a huge runaround of doctors. I was sent to a dentist as they thought it was TMJ! After a few months I finally was sent to a neurologist but he wouldn't even consider me because I was only 24. My family doctor was amazing and even sat with me in his office and had me describe my symptoms while he flipped through his medical book. He was the one who thought I had MG. Finally, after a few months of my above symptoms happening to me daily, I woke up one morning and I could not swallow my own saliva! I sounded drunk, couldn't speak, move my tongue, etc. that I headed to Emergency and they dealt with it asap. There they tested me with the tension test and came to a diagnosis." "I have had a very hard time getting diagnosed. There has not been agreement among the physicians who have assessed me. Some say I have MuSK MG based on clinical assessment and also positive MuSK antibodies. The physician who I was sent to did not believe I have MG because I did not have a positive SFEMG. She did not believe my symptoms were caused by MG and she did not consider my antibodies for MuSK relevant at all. It has been in reliably frustrating dealing with physicians like her. I am very relieved to have a neurologist now who understands there can be quite a diversity in MG presentations."*
*"It took almost 2 years after that to finally get positive blood results. All genetic testing and muscle biopsy done in that time."*

- **Costs Related to Diagnosis**

*"Testing done through academic centre so no cost to me."*
*"Pretty much right after that, I was scheduled for a thymectomy within a month and put on Mestinon. In Canada, there was no payment for the surgery but the drugs were expensive. Fortunately I had good benefits coverage at work. I haven't had coverage for the past 8 years so that's out of pocket for me and costly. Mestinon monthly is about $125 which is not a lot I realize but it is on top of everything else. It's another expense for sure but a vital one."*

*"Was tested at one neurologist who sent me for bloodwork at a cost of $145.00. He then sent me to a neuromuscular specialist who was 60 miles away. He tested me and had more blood work done. The bloodwork was sent from Toronto to Vancouver. It took 4 months for the results. Then Covid came along*

*and had difficulty getting a follow up appointment. So after 18 months I was diagnosed with generalized mg. Yes I had to pay for travelling and parking. It was an extra cost out of my budget."*

*"I saw one neurologist who sent me for a blood test because he thought I may have myasthenia gravis, but he said it came back negative. He thought I may have had a stroke. That was negative. I had double vision, weak muscles, I couldn't without falling down, so I was covered in bruises. The doctor more or less told me it was all in my head. I was falling at work, I was falling down stairs and I had to lift my leg from the gas pedal in my car to the break with my hand because it would not move by itself. I went back to see this doctor and showed him how I was covered in bruises and he sent me to see someone at the University Hospital. There the Neurologist give me a test, and the doctor said you have MG. All in all it took two years. Most frustrating."*

## 8. Anything Else?

Is there anything else specifically related to this drug review that CADTH reviewers or the expert committee should know?

There's a pressing need for improved treatment options to address the ongoing challenges faced by MG patients. Despite the existence of recently approved drugs, the sentiment is that patients with MG are not adequately treated. They seek better options that offer enhanced effectiveness, and positive effects on mobility and energy. We call on CDEC to prioritize the needs of MG patients and provide them with the treatment options they deserve.

"The extensive hospital visits and critical care resources required to manage an MG crisis can impact the physical, emotional, social and financial well-being of a person, but it also places a financial and resource burden on the provincial healthcare systems," says Chloe Atkins, who is living with MG. "Earlier public funding of innovative treatments which more effectively control the disease could result in fewer hospital admissions and less damage to the body, meaning a greater quality of life for people living with MG and a decreased strain on our healthcare services."

**Rozanolixizumab has the potential to improve patients' quality of life by decreasing the frequency and intensity of symptoms, and by helping to reduce the dosage and usage of other medications with higher toxicity or delayed onset of action.**

## Appendix: Patient Group Conflict of Interest Declaration

To maintain the objectivity and credibility of the CADTH reimbursement review process, all participants in the drug review processes must disclose any real, potential, or perceived conflicts of interest. This Patient Group Conflict of Interest Declaration is required for participation. Declarations made do not negate or preclude the use of the patient group input. CADTH may contact your group with further questions, as needed.

1. Did you receive help from outside your patient group to complete this submission? If yes, please detail the help and who provided it.

*No.*

2. Did you receive help from outside your patient group to collect or analyze data used in this submission? If yes, please detail the help and who provided it.

*No.*

3. List any companies or organizations that have provided your group with financial payment over the past two years AND who may have direct or indirect interest in the drug under review.

| Company | Check Appropriate Dollar Range | | | |
|---|---|---|---|---|
| | $0 to 5,000 | $5,001 to 10,000 | $10,001 to 50,000 | In Excess of $50,000 |
| UCB | | | X<br>$25, 000 – restricted educational initiatives that did not involve the company at all. | |

I hereby certify that I have the authority to disclose all relevant information with respect to any matter involving this patient group with a company, organization, or entity that may place this patient group in a real, potential, or perceived conflict of interest situation.

*Name: Homira Osman, PhD*
*Position: VP, Research & Public Policy Patient*
*Group: Muscular Dystrophy Canada Date: May 13, 2024*

# Clinician Group Input

CADTH Project Number: SR0838-000
Generic Drug Name (Brand Name): rozanolixizumab
Indication: Generalized myasthenia gravis (gMG), acetylcholine receptor and MuSK antibody positive
Name of Clinician Group: Neuromuscular Disease Network for Canada
Author of Submission: Dr. Vera Bril, BSc, MD, FRCPC; and

Elizabeth Pringle, MD, FRCPC
Hans Katzberg, MD, FRCPC
Dubravka Dodig, MD, FRCPC
Richard Leckey, MD, FRCPC

## 1. About Your Clinician Group

Please describe the purpose of your organization. Include a link to your website (if applicable).

The Neuromuscular Disease Network for Canada (NMD4C) is a new pan-Canadian network that brings together the country's leading clinical, scientific, technical, and patient expertise to improve care, research, and collaboration in neuromuscular disease. https://neuromuscularnetwork.ca/

Launched in January 2020 with funding from the Canadian Institutes of Health Research (CIHR) and Muscular Dystrophy Canada (MDC), NMD4C builds on existing national initiatives such as the Canadian Neuromuscular Disease Registry (CNDR), the Canadian Pediatric Neuromuscular Group (CPNG), and the former neuromuscular network CAN-NMD. The mission of NMD4C is to improve the care, research and treatment of NMDs for all Canadians. Its vision is to be a comprehensive, inclusive, open and enduring network through which Canadian stakeholders can share expertise and data and collaborate on joint activities and research for the benefit of Canadian patients.

The network's goals are to:

- Formalize and sustain a network of NMD stakeholders united around a cohesive three-year work plan
- Train and educate the next generation of NMD stakeholders (clinicians, scientists, and patient advocates)
- Raise the standard of care for NMD and access to therapies across Canada
- Strengthen biomedical and clinical infrastructure to build research capacity in Canada

Since its inception, NMD4C has grown to more than 500 members with the majority having expertise in neurology and physical medicine and rehabilitation. NMD4C provides leadership and evidence-based support to improve access to approved novel treatments. We published a Canadian guidance on gene replacement therapy in spinal muscular atrophy (SMA), provided guidance on NMD respiratory care and vaccination during the COVID pandemic, and developed a variety of knowledge translation products.

**As NMD4C members and neuromuscular clinicians across Canada with significant clinical expertise in the management of patients with generalized myasthenia gravis, we are writing to offer our strong support for favorable benefit access for rozanolixizumab as a treatment option in Canada.**

## 2. Information Gathering

Please describe how you gathered the information included in the submission.

Clinicians with experience treating generalized Myasthenia Gravis, including **clinicians with experience with ravulizumab, eculizumab, efgartigimod alfa and rozanolixizumab** and standards of care for gMG were asked to contribute to this submission. These expert clinicians contribute to the knowledge of gMG and its treatments and are involved in clinical and observational research, clinical guidelines development and health technology assessment. The clinicians contributing herein are familiar with the data from clinical trials on treatments for gMG, and, specifically, for rozanolixizumab. The information presented in this submission was gathered from 1:1 discussions with lead author, Dr. Vera Bril, and group discussions.

## 3. Current Treatments and Treatment Goals

The gMG treatment goal is to achieve a complete remission, pharmacological remission or minimal manifestation status (i.e., asymptomatic or no disease-related functional limitation) with minimal adverse events (AEs) (Lascano et al., 2021, Alhaidar et al., 2022).

It is noted that conventional treatment options for gMG have been based on symptomatic therapy (e.g., acetylcholinesterase inhibitors), short-term rescue immunotherapy (e.g., plasma exchange and intravenous immunoglobulins) and long-term immunosuppressive therapy (e.g. corticosteroids and nonsteroidal immunosuppressants) (Menon and Bril 2022, Lascano et al., 2021 and Habib et al., 2020). These treatments are for the most part off-label treatments for gMG.

Further, non-specific immunosuppressants, such as corticosteroids, azathioprine, cyclosporine, mycophenolate and tacrolimus, have been only partially effective in controlling disease symptoms; however, many patients fail to attain a complete or stable remission, with 10–20% of patients not responding or intolerant to these agents (Alhaidar et al., 2022, Vanoli et al. 2022). Again, these treatments are off-label.

Moreover, these agents may take several weeks to many months to be effective and are frequently associated with burdensome and intolerable side effects (Alhaidar et al., 2022, Vanoli et al., 2022).

## 4. Treatment Gaps (unmet needs)

### 4.1. Considering the treatment goals in Section 3, please describe goals (needs) that are not being met by currently available treatments.

We would like to emphasize that standard treatments for gMG are often transiently effective, may require long treatment periods for benefits to be observed, may have side-effects and are not effective for all patients.

## 5. Place in Therapy

### 5.1. How would the drug under review fit into the current treatment paradigm?

The pivotal trial evidence indicates that rozanolixizumab addresses the underlying cause of myasthenia gravis by decreasing circulating pathogenic antibody and will do so with minimal side effects and without significant immunosuppression.

Specifically, treatment with rozanolixizumab showed significant decreases in disease symptoms that were consistent across MG-specific scales. Reductions from baseline to day 43 in MG-ADL scores were observed in patients with **AChR autoantibody-positive** generalised myasthenia gravis (rozanolixizumab 7 mg/kg least-squares mean –3·03

[SE 0·89]; rozano-lixizumab 10 mg/kg –3·36 [0·87]; placebo –1·10 [0·87]; least-squares mean difference from placebo −1·94 [97·5% CI −3·06 to −0·81] and −2·26 [−3·39 to −1·13] in the rozanolixizumab 7 mg/kg and 10 mg/kg groups, respectively). For patients with **MuSK autoantibody-positive** gMG, least-squares mean reductions were –7·28 [SE 1·94] in the rozanolixizumab 7 mg/kg group, –4·16 [1·78] in the rozanolixizumab 10 mg/kg group, and 2·28 [1·95] in the placebo group (least-squares mean difference from placebo for rozanolixizumab 7 mg/kg −9·56 [97·5% CI −15·25 to −3·87]; −6·45 [−11·03 to –1·86] for the rozanolixizumab 10 mg/kg group). (Bril et al, 2023).

Both rozanolixizumab groups showed statistically significant improvements compared with placebo for change from baseline to day 43 in MGC and QMG scores. Improvements from baseline in MG-ADL, MGC, QMG, and Myasthenia Gravis Symptoms PRO scores were seen **as early as day 8** and throughout the treatment period, before returning towards baseline levels by day 99

A positive response to rozanolixizumab was seen in patients who were poorly controlled although 70% were on steroids and about ½ were on steroids plus non-steroidal immunosuppressants at baseline indicating failure of standard therapies. These were MG patients with baseline burdensome disease (ADL of 8 and QMGS of 15) despite other therapies. More patients achieved minimal symptom expression in both rozanolixizumab groups (17 [26%] patients in the rozanolixizumab 7 mg/kg group and 19 [28%] patients in the rozanolixizumab 10 mg/kg group) than in the placebo group (two [3%] patients In terms of safety, rozanolixizumab was well tolerated.

Another unmet need in our practices is related to MuSK positive patients. Rozanolixizumab is the first FcR inhibitor to show benefit in this population of patients. Although the number of patients was small, 100% on rozanolixizumab improved compared to worsening status in those on placebo.

Another benefit of rozanolixizumab is the subcutaneous route of administration which obviates the need for the use of infusion centres (generally in hospitals) that is necessitated by intravenous administration.

### 5.2. Which patients would be best suited for treatment with the drug under review? Which patients would be least suitable for treatment with the drug under review?

Which patients are most likely to respond to treatment with drug under review? Those most likely to respond are those with acetylcholine receptor or MuSK antibodies in their system. Those with double seronegative status may respond but further research needs to be done on this group.

Which patients are most in need of an intervention? Those needing intervention most are those getting worse quickly and therefore need a therapy that works quickly such as rozanolixizumab (within 1-2 weeks in most patients). Of particular concern are those who have impending MG crisis and require rapid intervention.

Would this differ based on any disease characteristics (e.g., presence or absence of certain symptoms, stage of disease)? MG is so variable that prediction of rapid worsening is difficult. Those patients who have symptoms restricted to only ocular muscles are unlikely to require such rapid intervention with this therapy.

How would patients best suited for treatment with drug under review be identified (e.g., clinician examination/judgement, laboratory tests (specify), diagnostic tools (specify)) The patients best suited for treatment would be identified by clinician examination/judgement supplemented by assessment of MG activities of daily living and other scales that reflect severity of disease such as the quantitative myasthenia gravis score, the MG Impairment Index and the single simple question. If not available, then antibody testing needs to be done, but results can be delayed.

Are there any issues related to diagnosis? The diagnosis in those who are double-seronegative is less understood. Cluster antibodies to both acetylcholine and MuSK may be present but need to be tested for specifically and this can take weeks.

Is a companion diagnostic test required? The clinical scales as indicated above are used to assess disease severity.

Is it likely that misdiagnosis occurs in clinical practice (e.g., underdiagnosis)? It is absolutely likely that under diagnosis occurs in clinical practice. Appropriate investigations including serological testing as well as single fibre EMG and repetitive nerve stimulation studies are necessary in evaluating the patients.

Is it possible to identify those patients who are most likely to exhibit a response to treatment with drug under review? There is nothing clear at this point that predicts those likely to respond other than the presence of acetylcholine receptor or MuSK antibodies.

<Enter Response Here>

### 5.3 What outcomes are used to determine whether a patient is responding to treatment in clinical practice? How often should treatment response be assessed?

Are outcomes used in clinical practice aligned with the outcomes typically used in clinical trials? Many people use MG ADL today to assess their patients and this can be used if rozanolixizumab is administered. Also, other scales are used such as the QMGS, MGII, SSQ. So the MG ADL would be the minimum required to assess the patients. The response has to be assessed depending on the severity of MG in the patient. The response at at 2 weeks would be required in most and then at 4 weeks, and after that directed by the patient's status. Mahy of the scales are reliably tested using virtual means so in person clinic visits are not necessarily required and this facilitates frequent and rapid assessments.

What would be considered a clinically meaningful response to treatment? Consider the magnitude of the response to treatment. Is this likely to vary across physicians? The clinically meaningful response to treatment should follow those used in the clinical trials such as 2 or more points on the ADL or 3 or more points on the QMGS. Of course, how much this matters in an individual patient will be determined by their starting severity and many will improve more than this. The ADL measures those activities of the patient on a daily basis. The QMGS is an assessment of impairments. The MGII measures impairments including the element of fatigue and is mostly patient reported. The SSQ is an overall gestalt of how the patient feels with respect to this MG and levels above 72% indicate general satisfaction with their state. Different physicians may use different scales but one would expect some uniformity in the changes in the scale needed to assess response.

### 5.4 What factors should be considered when deciding to discontinue treatment with the drug under review?

The lack of response to treatment should lead the clinician to discontinue treatment and the way to measure response are listed above. If treatment is started, then the interval to measure response should be a minimum of 2 weeks, if the patient is not doing well. So, for example, there needs to be time for the response to work similar to if intravenous immunoglobulin is administered.

### 5.5 What settings are appropriate for treatment with [drug under review]? Is a specialist required to diagnose, treat, and monitor patients who might receive [drug under review]?

It is generally accepted that that IVIg and SCIg treatments are effective in MG patients are utilized in certain clinical settings, but Ig treatment places significant burden on the Canadian health care system and that supplies can be at risk periodically (such as in the pandemic). In consideration of the trial evidence, rozanolixizumab is an excellent treatment option for patients who are candidates for or are intolerant to IVIg or SCIg therapy. We think that FcR inhibitors, such as rozanolixizumab, are likely to replace Ig therapies.

## 6. Additional Information

In closing, we **strongly endorse access to rozanolixizumab** as a treatment option in Canada. We thank CADTH for the opportunity to provide clinician input on the rozanolixizumab submission. My colleagues and I would be pleased to provide additional information and/or clarification.

## 7. Conflict of Interest Declarations

To maintain the objectivity and credibility of the CADTH drug review programs, all participants in the drug review processes must disclose any real, potential, or perceived conflicts of interest. This conflict of interest declaration is required for participation. Declarations made do not negate or preclude the use of the clinician group input. CADTH may contact your group with further questions, as needed. Please see the *Procedures for CADTH Drug Reimbursement Reviews* (section 6.3) for further details.

1. Did you receive help from outside your clinician group to complete this submission? If yes, please detail the help and who provided it.

None

2. Did you receive help from outside your clinician group to collect or analyze any information used in this submission? If yes, please detail the help and who provided it.

None

3. List any companies or organizations that have provided your group with financial payment over the past two years AND who may have direct or indirect interest in the drug under review. **Please note that this is required for <u>each clinician</u> who contributed to the input — please add more tables as needed (copy and paste). It is preferred for all declarations to be included in a single document.**

- **Declaration for Clinician 1**

**Name:** Vera Bril
**Position:** Professor of Neurology
**Date:** May 6, 2024

☒ **I hereby certify** that I have the authority to disclose all relevant information with respect to any matter involving this clinician or clinician group with a company, organization, or entity that may place this clinician or clinician group in a real, potential, or perceived conflict of interest situation.

- **Table 1: Conflict of Interest Declaration for Clinician 1**

| Company | Check appropriate dollar range* | | | |
|---|---|---|---|---|
| | $0 to $5,000 | $5,001 to $10,000 | $10,001 to $50,000 | In excess of $50,000 |
| Grifols | | x | | |
| CSL | | | | x |
| UCB | | | | x |
| ArgenX | | | | x |
| Takeda | | | | x |
| Alnylam | | | x | |
| Octapharma | | | | x |
| Akcea | | | | x |
| Ionis | | | | x |
| Sanofi | x | | | |
| Momenta (J&J) | | | | x |
| Roche | x | | | |
| Janssen | | | x | |
| AZ-Alexion | | | | x |
| Novo-Nordisk | x | | | |
| Immunovant | | | | x |
| Japan Tobacco | x | | | |

* Place an X in the appropriate dollar range cells for each company.
High dollar ranges are for research grants and also consultancy.

**Declaration for Clinician 2**

**Name:** Catherine Elizabeth

Pringle
**Position:** Associate Professor (Neurology), University of Ottawa
**Date:** May 7, 2024

☒ **I hereby certify** that I have the authority to disclose all relevant information with respect to any matter involving this clinician or clinician group with a company, organization, or entity that may place this clinician or clinician group in a real, potential, or perceived conflict of interest situation.

- **Table 1: Conflict of Interest Declaration for Clinician 2**

| Company | Check appropriate dollar range* | | | |
|---|---|---|---|---|
| | $0 to $5,000 | $5,001 to $10,000 | $10,001 to $50,000 | In excess of $50,000 |
| Argenx | x | | | |

* Place an X in the appropriate dollar range cells for each company.

- **Declaration for Clinician 3**

**Name:** Hans Katzberg
**Position:** Associate Professor of Medicine, University of Toronto
**Date:** May 8, 2024

☒ **I hereby certify** that I have the authority to disclose all relevant information with respect to any matter involving this clinician or clinician group with a company, organization, or entity that may place this clinician or clinician group in a real, potential, or perceived conflict of interest situation.

- **Table 1: Conflict of Interest Declaration for Clinician 3**

| | **Check appropriate dollar range*** | | | |
|---|---|---|---|---|
| **Company** | **$0 to $5,000** | **$5,001 to $10,000** | **$10,001 to $50,000** | **In excess of $50,000** |
| CSL Behring | | | X | |
| Grifols | X | | | |
| Octapharma | | | X | |
| Takaeda | | | X | |
| Alexion | | | X | |
| UCB | | | X | |
| ArgenX | | | X | |
| Roche | X | | | |
| Dyne | X | | | |
| Abcuro | | X | | |
| Immunovant | X | | | |
| Dianthus | | X | | |

* Place an X in the appropriate dollar range cells for each company.

- **Declaration for Clinician 4**

**Name:** Dubravka Dodig, MD, FRCP
C **Position:** Neuromuscular
Neurologist **Date:** May 7, 2024

- ☒ **I hereby certify** that I have the authority to disclose all relevant information with respect to any matter involving this clinician or clinician group with a company, organization, or entity that may place this clinician or clinician group in a real, potential, or perceived conflict of interest situation.

- **Table 1: Conflict of Interest Declaration for Clinician 4**

| **Company** | **Check Appropriate Dollar Range** | | | |
|---|---|---|---|---|
| | **$0 to 5,000** | **$5,001 to 10,000** | **$10,001 to 50,000** | **In Excess of $50,000** |
| Alexion AstraZeneca | ☐ | ☐ | ☒ | ☐ |
| Argenx | ☐ | ☒ | ☐ | ☐ |

* Place an X in the appropriate dollar range cells for each company.
each company.

- **Declaration for Clinician 5**

**Name:** Richard Leckey, MD, FRCPC
**Position:** Neurologist and Assistant Professor at Dalhousie University
**Date:** May 7, 2024

- ☒ **I hereby certify** that I have the authority to disclose all relevant information with respect to any matter involving this clinician or clinician group with a company, organization, or entity that may place this clinician or clinician group in a real, potential, or perceived conflict of interest situation.

- **Table 1: Conflict of Interest Declaration for Clinician 5**

| Company | Check appropriate dollar range* | | | |
|---|---|---|---|---|
| | **$0 to $5,000** | **$5,001 to $10,000** | **$10,001 to $50,000** | **In excess of $50,000** |
| ArgenX | | X | | |
| Alexion | | X | | |
| Octapharma | X | | | |
| Roche | X | | | |
| Merz | X | | | |

* Place an X in the appropriate dollar range cells for each company.
each company.