

CADTH Reimbursement Review

Patient Input

ANAKINRA (Kineret)
(Swedish Orphan Biovitrum AB)

Indication: For the treatment of Still's disease with active systemic features, in adults and pediatric patients aged 8 months and older with a body weight of 10 kg or above.

CADTH received patient input from:

Arthritis Consumer Experts
Canadian Arthritis Patient Alliance / Arthritis Society / Cassie and Friends

January 15, 2021

Disclaimer: The views expressed in each submission are those of the submitting organization or individual; not necessarily the views of CADTH or of other organizations.

CADTH does not edit the content of the submissions.

CADTH does use reasonable care to prevent disclosure of personal information in posted material; however, it is ultimately the submitter's responsibility to ensure no personal information is included in the submission. The name of the submitting patient group and all conflict of interest information are included in the posted patient group submission; however, the name of the author, including the name of an individual patient or caregiver submitting the patient input, are not posted.

C/O: Canadian Agency for Drugs and Technologies in Health (CADTH)

Re: Patient Input for biosimilar anakinra for Still's disease

Date of submission: January 15, 2021

Section 1 – General Information

Name of the drug: anakinra (Kineret®)

Indication of interest: Still's disease

Name of patient group: Arthritis Consumer Experts

Name of the primary contact for this submission:

████████████████████
████████████████████
████████████████

Name of author (if different):

████████████████████
████████████████████

Patient group's contact information:

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604-974-1366

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Vancouver, BC

V6J 1R1

www.jointhealth.org

Permission is granted to post this submission: Yes

Section 1 – About your Patient Group

Canada's largest, longest running **national arthritis patient organization** headquartered in Vancouver, BC, Arthritis Consumer Experts (ACE) provides free, science-based information and education programs in both official languages to people with arthritis. ACE serves people living with all forms of arthritis by helping them take control of their disease and improve their quality of life through education and (em)powerment. **Founded and led by**

people with arthritis, ACE also advocates on arthritis health policy and provides research-based education through ACE's JointHealth™ family of programs and the Arthritis Broadcast Network, directly to consumers/patients, media and government. ACE operates as a non-profit in a fully transparent manner and is guided by a strict set of guiding principles, set out by an advisory board comprised of leading scientists, medical professionals and informed arthritis consumers. Ultimately, we are guided by the needs of our members, who are people living with arthritis, and their caregivers.

Link to website: www.jointhehealth.org

Section 2 – Information Gathering

The information was gathered from two patients living with Still's disease: one completed ACE's patient input survey through SurveyMonkey from December 11, 2020 to January 12, 2021, and the other provided their input through telephone interview.

Section 3 – Disease Experience

3.1 How does the disease impact the patients' day-to-day life and quality of life?

Still's disease has a unique and significant effect on the lives of people living with it and they constantly consider the state of their disease and decide what they can, or more likely, cannot, cope with or achieve, how they can go about their daily lives, and how much help they may need along the way. Because of the unique presentation of the disease, patients living with it often struggle to get to the right specialist and receive a timely diagnosis.

- **Patient A:** Living with Still's disease for 2 years; they require daily medication and experience joint pain fever.
- **Patient B:** This patient did not indicate how long they have been living with Still's disease but does experience muscle pain and fever. They also express concerns that their disease symptoms are similar to that of COVID-19.

3.2 How does the disease impact the caregivers' day-to-day life and quality of life?

- **Patient A:** This patient did not provide an answer for this question.
- **Patient B:** This patient does not have a caregiver.

3.3 Are there any aspects of the illness that are more important to control than others?

- **Patient A:** "Joint pain and fever."
- **Patient B:** "Muscle pain and fever."

Section 4 – Experiences with Currently Available Treatments

How well are patients managing their disease/condition with currently available treatments?

- **Patient A:** This patient is currently taking Kineret. The medication is “excellent” at controlling Still's disease. Injection can be unpleasant but it is not painful.
- **Patient B:** This patient did not provide an answer for this question.

Section 5 – Improved Outcomes

The patients in this input did not provide an answer for this question.

Section 6 – Experience with Drug Under Review

- **Patient A:** “Advantage: No side effects. Disadvantage: Daily injections, cost of the drug, cold storage of injections. Occasional joint pain and fever.”
- **Patient B:** This patient has no experience with using the medication under review.

Section 7 – Companion Diagnostic Test

Not applicable to this submission.

Section 8 – Anything Else?

Arthritis Consumer Experts is providing this patient input submission based on a patient living with Still's disease who completed ACE's patient input survey on SurveyMonkey between December 11, 2020 to January 12, 2021. Another patient called in to submit their patient input. Our organization believes that a new therapy for Stills disease ultimately improve the lives of people living with the disease.

ACE made minor grammatical corrections to input where needed but in no way altered the meaning or intent of the input.

Appendix: Conflict of Interest Declaration

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

This submission was summarized and written solely by the staff of Arthritis Consumer Experts, free from consultation, advice, influence, or financial support from any outside individual, group or company.

- 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.

A full list of private and public sector organizations providing Arthritis Consumer Experts grants-in-aid over the past 12 months can be found here: <https://jointhealth.org/about-principles.cfm?locale=en-CA>

Specific to this input, Arthritis Consumer Experts **has not received any financial payments** (grants-in-aid) from Swedish Orphan Biovitrum AB.

| Company | Check Appropriate Dollar Range | | | |
|---------|--------------------------------|-------------------|--------------------|-----------------------|
| | \$0 to 5,000 | \$5,001 to 10,000 | \$10,001 to 50,000 | In Excess of \$50,000 |
| N/A | | | | |
| | | | | |
| | | | | |

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: Cheryl Koehn

Position: President

Patient Group: Arthritis Consumer Experts

Date: January 15, 2021

CADTH Reimbursement Review Patient Input Template

| | |
|---|--|
| Name of the Drug and Indication | Anakinra (Kineret) |
| Name of the Patient Group | Canadian Arthritis Patient Alliance / Arthritis Society/ Cassie and Friends |
| Author of the Submission | ██████████ |
| Name of the Primary Contact for This Submission | ██████████ |
| Email | ██████████████████ |
| Telephone Number | ██████████ |

1. About Your Patient Group

CAPA is a grass-roots, patient-driven and managed, independent, national education and advocacy organization with members and supporters across Canada. CAPA creates links between Canadians with arthritis, assists them to become more effective advocates and seeks to improve the quality of life of all people living with the disease. CAPA believes the first expert on arthritis is the individual who has the disease, as theirs is a unique perspective. We assist members to become advocates not only for themselves but all people with arthritis. CAPA welcomes all Canadians with arthritis and those who support CAPA's goals to become members. Our website is updated regularly and can be viewed at: www.arthritispatient.ca.

The Arthritis Society has been setting lives in motion for over 70 years. Dedicated to a vision of living in a world where people are free from the devastating affects that arthritis has on the lives of Canadians, the Arthritis Society is Canada's principal health charity providing education, programs and support to the 6 million Canadians living with arthritis. Since its founding in 1948, The Society has been the largest non-government funder of arthritis research in Canada, investing more than \$200 million in projects that have led to breakthroughs in the diagnosis, treatment and care of people with arthritis. The Arthritis Society is accredited under Imagine Canada's Standards Program. The website www.arthritis.ca provides more detailed information.

Cassie + Friends Society (C+F) is a national patient and parent-led charity dedicated 100% to transforming the lives of kids and families affected by Juvenile Arthritis and other rheumatic diseases through research, education, connection, and support. Working together with youth, parents, healthcare professionals, researchers, and other friends, we help children and families navigate day-to-day life with a chronic condition while never losing sight of our ultimate goal - a pain-free future for all kids living with rheumatic disease. To-date, we have raised over \$2.5 million, successfully advocated for better access to treatments and care, and touched the lives of thousands of youth and families. To join our mission and learn more, please visit cassieandfriends.ca.

2. Information Gathering

We developed a survey to hear directly from people living with Systemic Juvenile Idiopathic Arthritis (sJIA) and adult-onset Still's disease (AOSD) about their experiences with the condition and any experiences taking Anakinra. Our organizations collaboratively developed the survey and the design was informed by the lived experiences of the CAPA Board Members who all live with various forms of arthritis. The survey was shared via e-mail, and through our respective Canadian networks and communities, including social media and through personal contacts. The author of this submission was diagnosed with Juvenile Idiopathic Arthritis therefore these personal experiences were considered in the development of this submission. More information was obtained through ongoing interactions with patient communities by the participating organizations.

Fourteen survey responses were received and seven people had experience taking Anakinra. Participants were located across Canada ranging from British Columbia to Newfoundland and Labrador. Three participants were located outside of Canada. The survey collected demographic data, however not all participants completed this section. Two-thirds of those who completed the survey were caregivers and the final third of participants live with sJIA/AOSD Still's Disease. Most of the patients were under the age of 20.

3. Disease Experience

Still's disease can take on a pediatric form, known as Systemic Idiopathic Arthritis (sJIA), as well as an adult form, known as AOSD. Still's Disease is an autoinflammatory disease that causes swelling in the joints and causes the immune system to attack healthy cells and tissues. Both conditions are severe and potentially life-threatening. sJIA is a sub-type of JIA affecting between 10% and 15% of all children with JIA which impacts every 1 in 1000 children in Canada. Both conditions result in inflammation of the joints causing them to become red, swollen, painful or hot to the touch as well as widespread inflammation throughout the body resulting in features such as fever and rash. In children, joints can grow around the inflammation, causing abnormal shape and function as the child grows. Joint damage is irreversible and causes significant pain and disability.

Still's disease is a systemic disease that involves other internal organs, such as the heart, liver, spleen, and lymph nodes. People with Still's disease get recurrent fevers (often spiking once to twice per day) as their body tries to deal with the disease which leaves them feeling very tired and unwell. One can expect to live with the disease for the rest of their lives. sJIA can be more challenging to diagnose and treat than other types of JIA, and comes with high financial, family, and societal burdens. Approximately 60% of children will have active disease into adulthood.

Without proper medical control of the disease, the results of Still's disease can be devastating. Major joint surgeries such as joint replacement or fusions can be required at a young age and possibly lead to multiple procedures throughout the lifespan. Because of the extensive damage to their joints, some patients who do not respond to the available treatments might also have to use technical or mobility aids such as bath lifts, canes, or wheelchairs, have their house/car adapted and rely on accessible public transit services to do daily activities.

People living with sJIA and AOSD shared the following perspectives about living with and dealing with their symptoms:

“The development of itchy, burning, red welt-like rashes that get worse as the day proceeds [are] so embarrassing as [they...] take over the entire body.”

“During flares - extreme fatigue, inability to focus, joint pain, trouble participating in school physical education [and] climbing stairs, eye inflammation requiring 3-4 times daily drops including at school.

“Missing school for appointments, MRIs [magnetic resonance imaging].”

“Macrophage activation syndrome, swollen joints, rash, fever”

“Multiple joints affected. Hands, wrists, knees, ankles, neck. At onset, daily fevers, mild rash, poor blood work. Unable to do sports at level before diagnosis.”

The disease impacts patients' and families' lives in many ways. Impacts on mental health and participation in school were noted by 100% of survey respondents. Impacts on participating in physical activity was noted by 60% of survey respondents, followed by self-esteem (60%), family life (30%) and friendships (30%). People living with sJIA and AOSD shared the following perspectives about the impact of the disease on their lives:

“Steroids create self esteem issues and mental health issues as the weight gain and fat puffy face are hard to tolerate. Although prednisone is effective, the long-term effects are outrageous. Aggressive, unruly type behaviours come with steroids as well. The lack of concentration makes it hard to function effectively at school.”

“Methotrexate injections were the worst to have to give to a 12-year-old on a weekly basis at home. Huge family upheavals in the form of fights, having to force or trick or bribe my child to take the injection.”

“Finding job options that can accommodate my needs is very challenging and having to balance all the appointments with school is difficult. Anytime I flare I often require a wheelchair and wrist braces.”

“I cannot do everything the other kids do. It is hard to walk sometimes or sit for longer periods. My jaw hurts and it makes me really uncomfortable and hard to chew.”

“It has affected schooling. Missed school time due to treatments, pain or being pulled out during times when flu hits the class because my child is immune suppressed due to [medication]. Sleepless nights due to pain. Stiffness, swelling and pain. Not being able to participate in

sports or pushing through pain just to participate a little”

People living with the disease are also at risk of co-morbidities, such as uveitis and Crohn’s disease. Periods of very active disease are called a ‘flare’ and for some people, flares can be incapacitating. Flares are not predictable in terms of how bad they will be or how long they will last. They may last for a few hours, days, weeks or even months. People must deal with flares reactively and the unpredictable nature of sJIA and AOSD often makes it feel like a person is not in control of their disease or their lives.

“Since █████ was diagnosed with SJIA in January 2015, at the age of 8, she has never had the opportunity to feel well. She’s given up so many of the activities she loves. She spends most of her free time at medical appointments or in bed immobilized by pain.”

Parents are generally the primary caregivers of children and youth living with sJIA. They feel additional stress as a result of caring for an ill child and adapting family activities and managing medical care. This includes attending extra medical appointments (e.g., specialists, allied health care professionals), managing medications on a day-to-day basis, dealing with flares in the disease, etc. The parent(s) also need to manage this in addition to the current responsibilities in life, such as work and caring for other children. A survey participant noted the impact on their parents and siblings:

“It required my parents to do the injections and support me during the injections. My brother grew up with me getting these injections and now has a serious needle phobia as an adult.”

Caring for a sick child or living with the condition may also impact the relationship between spouses/partners. The parents, patients and spouses/partners are also at risk of depression and marital stress because of living with these additional responsibilities.

There are also financial pressures for people with the condition and their families, including the difficulties in navigating drug reimbursement. The cost of the medication places additional stress on families’ finances. Drug access programs, whether private or publicly managed, are difficult to navigate, meaning extra time and effort are required by patients and their families. The following excerpts describe some of the patient and family experiences:

“It has been a financial burden because of lost wages due to treatments. Fortunately, we have medical coverage but that has been very stressful as it is constantly changing the % they are willing to cover or [they] tell you [that you’ve reached a maximum] for some drugs, or they get to decide if you will be covered for it or not. We have had to apply for patient support to cover the remaining costs as we don’t make enough to cover these added costs. On top of this, there is the added stress of the longer damage that may be caused by each drug and being on multiple drugs at one time. It is also very stressful having to jump through hoops with doing specific drugs before being approved for others.”

“All medications that help a child are highly overpriced. We have fought hard for expensive medications that sit in the decision of professionals that have no knowledge of this disease. From Anakinra to Canakinumab, these medications should be accessible for a doctor to prescribe as quickly as needed. With death knocking on the door for many people with this disease, we need to make biologics accessible.”

“...often it is difficult to access the drugs that are needed such as Kineret. The docs and their staff do their best for patients but often that involves unnecessary bureaucracy with the drug companies and their

distribution systems.”

“My Anakinra treatments were significantly delayed as the government initially refused to cover it for me - this resulted in me continuing to flare for much longer than if I had had immediate access to the medication. The significant costs associated with Tocilizumab injections also resulted in me opting to continue to receive the drug by IV infusion in hospital.”

4. Experiences With Currently Available Treatments

Medications for sJIA and AOSD aim to control inflammation and minimize disease activity so that no long-term joint or organ damage occurs, as there currently is no cure for the disease. Treatments used include Nonsteroidal anti-inflammatory drugs (NSAIDs), antimalarial medications (hydroxychloroquine and chloroquine), corticosteroids, and immunomodulation drugs, such as methotrexate, cyclophosphamide and canakinumab. The following provides a general description of the treatments used and their side effects:

- NSAIDs are used to treat pain relating to the disease. The NSAIDs may cause many side effects, from stomach upset to changes in kidney function.
- Antimalarial medications such as hydroxychloroquine and chloroquine, the most common unwanted effect of which is some stomach upset. However, if hydroxychloroquine and chloroquine are taken in a high dose and over a long period (more likely in pediatric patients), they may accumulate in the retina and cause a loss of vision and in rare cases, blindness may occur. These effects could be in addition to uveitis caused by sJIA.
- Corticosteroids are commonly used in the treatment of Still’s disease and although effective, there are a significant amount of side effects when taken for longer durations and at higher doses. Corticosteroids can cause short-term effects such as weight gain, acne, excess facial hair, mood swings, high blood pressure, high blood sugar, increased infection, stomach ulcers, hyperactivity, and increase in appetite. Long-term effects include osteoporosis, glaucoma and cataracts, osteonecrosis, skin changes, heart disease, and stroke.
- Traditional immunomodulation drugs such as methotrexate and leflunomide are also commonly used and have a range of side effects that are difficult to manage. Side effects include nausea, vomiting, hair loss, diarrhea, decrease in white blood count, bone marrow toxicity, liver toxicity, and bladder-related problems. Some biologics are available such as Tocilizumab, Canakinumab, and Etanercept.

Patients shared these experiences regarding their current treatments:

“Every single day or every single week, my daughter has to endure and ingest:

- *Seven injections of anakinra - a biologic that burns like fire under her skin and causes her severe anxiety and emotional breakdowns.*
- *One injection of methotrexate - a form of chemotherapy*
- *Eight tablets of prednisone per day (50mg) - an amount that both you and I know is toxic over the long-term to our child.*

- Two tablets of cyclosporine per day - the same medication used to prevent organ rejection in people who have received a liver, kidney, or heart transplant. This is because our daughter is now borderline MAS, or Macrophage activation syndrome, a potentially complication of SJIA.
- Countless tablets of folic acid to counteract the effects of methotrexate.
- Advil to help with the chronic pain of the arthritis that has caused damage to her knee.

If you add that up, that's eight incredibly painful injections and 80+ pills a week."

Patients reported that they had tried several treatments, which could be difficult to tolerate and manage:

"Steroids have terrible side effects when used for many months. Biologics do not have these side effects and treat SJIA very well."

"Oral steroids caused every side effect possible and [had] no effectiveness what so ever. The pain of Kineret was so unbearable that it started causing psychological problems as well as becoming a full family ordeal with every injection day and night! Pain and inflammation are still not being fully kept under control. The long lists of side effects of these drugs [are] very scary. Tocilizumab causes lip swelling, so [it's important to] also take Benadryl before hand."

"Biologics have been the most effective and have prevented further joint damage and/or damage to my organs. The joint injections caused damage to my joints."

"Side effects are loss of hair, poor hair quality, bloating. I do not like getting IV [intravenous] or injections and that is hard. My symptoms are not really improving."

It was also noted that current treatments may lose effectiveness over time, and half of survey participants noted they did not respond to or were intolerant to current treatment options.

"The drugs have all been used separately and in combinations. They have had periods of being effective, periods of less effectiveness and periods of being non-effective. One biologic was ineffective, one was effective and [the other was] mildly effective."

"I reacted poorly to some of them and had to adapt routines for that. Others just didn't work well."

5. Improved Outcomes

People living with SJIA and AOSD reported that current treatments are difficult to tolerate because of side effects. A variety of side effects are difficult to manage such as stomach upset, loss of appetite, hair loss, and difficulties in administering injections. Minimizing these side effects are important outcomes that should be considered when evaluating new therapies. Patients and families shared these perspectives:

"Methotrexate made me very nauseous. Other [treatments] were not effective."

“... Developed nausea after a couple of months and lost her appetite so we were switched to Leflunomide. So very much happier now, thank goodness.”

“...and methotrexate made me incredibly nauseous, to the point where I would often miss school.”

Overall, there are several outcomes of importance to people living with sJIA and AOSD including:

- a reduction in pain and fatigue
- reduced organ involvement or disease complications, such as uveitis
- increased mobility and participation in physical activities
- ability to participate in school activities and work
- ability to carry out activities of daily living and social roles

The expectations of the drug are to offer another treatment option for patients with sJIA and AOSD. The current risk-benefit profile of Anakinra is like other medications available to treat sJIA and AOSD (e.g., serious infections, allergic reaction). New treatment options have the potential to ease the burden on patients' families, caregivers and the healthcare system.

6. Experience With Drug Under Review

Patients' response to sJIA and AOSD medications vary significantly. Some medications are effective for some people, while not effective for others. Some treatments will only manage the disease for a short period of time before the patient's immune system adapts to a drug presence (i.e., becomes non-responsive to it) and they will have to switch to another medication. In some cases, patients with sJIA and AOSD may not adequately respond to any of the medications currently available. As a result, patients need a number of medication options in order to effectively manage their disease throughout their lives. Access to biologics is usually limited to patients who have not responded to first-line therapies, such as Methotrexate, Leflunomide, and other medications.

There were 7 survey participants who had experience with Anakinra. Many expressed that the medication was effective in controlling their disease symptoms, particularly skin rash, and fevers, and led to a reduction in steroid use. The following perspectives were shared by patients and their families:

“It controlled the skin rash and fevers well. Much better than steroids alone. I didn't experience many side effects although prednisone had so many. The only side effect that I experienced was site injection rash. The use of a biologic over oral medications is preferred. Also being able to administer the medication at home or on holidays didn't strap me to attend the hospital day units. Biologics have given me my life back and saved me.”

“Symptoms of mas (Macrophage Activation Syndrome) were gone. No need for steroids. Did develop joint inflammation so had to switch to another biologic.”

Some patients expressed difficulties in managing the daily injections of the medication, however, some noted that these difficulties were worth the effort:

“It controlled my flares for a number of years (much better than other medications I had been on before becoming ineffective. Injections were very painful but [I learned] to cope with it. Having to do injections everyday made travel challenging. Overall, it definitely improved my quality of life.”

“The daily injection sucks but the drug did work to alleviate symptoms and control the disease.”

“It worked for a short period. It causes severe pain. The amount of pain is unacceptable, they need to figure out a way for it to not be so painful. The pain caused a lot of tears and psychological problems which is unacceptable.”

Some participants noted that taking Anakinra was easier to manage compared to infusions, especially with regard to travelling to hospitals and managing one’s schedule or travel from a rural community to a major tertiary care centre:

“... being able to administer the medication at home or on holidays didn’t strap me to attend the hospital day units.”

“When we first started spending every 2 weeks in a medical day unit to anakinra, being able to manage at home, to monthly injections on Canakinumab. This has changed how I can manage daily life of school and activities. Having my mom inject me every day was definitely better than attending the hospital. Painful injections were very challenging, but my wellness was the reward.”

“...It affects a parent’s work schedule and adds the financial cost of parking at hospitals, dispensing fees, etc.”

“Kineret was a daily injection which was challenging, but the drug worked so it was worth it. Other biologics tried often required an entire day if [available locally], but if we had to go to <city> for the drug, then it would mean multiple days off work and school.”

7. Companion Diagnostic Test

Not applicable

8. Anything Else?

We are pleased to see that Anakinra has been studied in the pediatric population. Unfortunately, the study of medications in the pediatric population is not always undertaken by pharmaceutical companies or researchers and means that medications are often prescribed off-label. For patients and their families, this means that they are making decisions without adequate clinical data demonstrating risks and benefits.

sJIA and AOSD are rare, debilitating disease with **limited treatment options**, making access to those treatments that are proven to be safe and effective even more important to those affected.

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.

The patient groups noted on this submission worked collaboratively to develop the survey and submission.

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.

We did not receive any assistance from outside the patient groups noted on this submission.

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.

Canadian Arthritis Patient Alliance

| Company | Check Appropriate Dollar Range | | | |
|--|--------------------------------|-------------------|--------------------|-----------------------|
| | \$0 to 5,000 | \$5,001 to 10,000 | \$10,001 to 50,000 | In Excess of \$50,000 |
| Abbvie Corporation | | | X | |
| UCB Canada | | X | | |
| Johnson & Johnson | X | | | |
| CADTH | X | | | |
| SmithSolve LLC | X | | | |
| The University of British Columbia | X | | | |
| Alcimed | X | | | |
| Arthritis Society | X | | | |
| University of Alberta | X | | | |
| Children's Hospital of Eastern Ontario | X | | | |
| Hospital for Sick Kids | X | | | |
| Dalhousie University | X | | | |

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: Laurie Proulx
 Position: 2nd Vice-President
 Patient Group: Canadian Arthritis Patient Alliance
 Date: January 15, 2021

Arthritis Society

| Company | Check Appropriate Dollar Range | | | |
|-----------------------------|--------------------------------|-------------------|--------------------|-----------------------|
| | \$0 to 5,000 | \$5,001 to 10,000 | \$10,001 to 50,000 | In Excess of \$50,000 |
| Abbvie | | | | X |
| Alcon | | | X | |
| Amgen | | | | X |
| Boehringer Ingelheim | | | X | |
| BMS | | | X | |
| Celgene | | | X | |
| Eli Lilly | | | | X |
| Eupraxia Pharmaceuticals | X | | | |
| Gilead | | | X | |
| Innovative Medicines Canada | | | X | |
| J+J Shared Services | | | | X |
| Janssen | | | | X |
| Merck | | | | X |
| Novartis | | | | X |
| Pfizer | | | | X |
| Sanofi | | X | | |
| UCB | | | | X |

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: Luke Fox
 Position: Education Specialist
 Patient Group: The Arthritis Society
 Date: January 11, 2021

Cassie & Friends

| Company | Check Appropriate Dollar Range | | | |
|----------|--------------------------------|-------------------|--------------------|-----------------------|
| | \$0 to 5,000 | \$5,001 to 10,000 | \$10,001 to 50,000 | In Excess of \$50,000 |
| Sobi Inc | | X | | |

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: Jennifer Wilson

Position: Executive Director

Patient Group: Cassie and Friends

Date: January 11, 2021