Is there value in utilizing country-specific utilities for health technology assessment submissions? Findings from a case study in hematological cancers

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Background

- Health utility values (HUVs) are quantitative measures representing patients' preferences for specific health states, typically ranging from 0 (death) to 1 (perfect health).
- A HUV measured for an individual can vary depending on the country of assessment.
- Country-specific HUVs can capture local population preferences, cultural nuances, and healthcare contexts, potentially leading to more accurate assessments.
- In Canada, Canada's Drug Agency (CDA; formerly, the Canadian Agency for Drugs and Technologies in Health) conducts the health technology assessments (HTAs) for all provinces except Quebec [1].
- CDA recommends using estimated utilities that capture the preferences of the general population for the reference case. Since preferences vary across countries, CDA advises using utilities that specifically represent the Canadian population [2].
- Employing country-specific HUVs can impact reimbursement decisions and patient access to therapies by offering a more tailored evaluation of a treatment's value.

Aim

- To evaluate the impact of employing country-specific versus non-country-specific HUVs in a manufacturers' economic evaluation for HTA submissions to CDA in Canada.

Methods

- We used our proprietary tool, [hta]DataMine, that captures data from published reimbursement reports from CDA for oncology pharmaceuticals in hematological cancers for recommendations issued between January 2021 and April 2024.
- We identified submissions where Canadian preference weights were either employed or omitted in estimating health state and treatment utility values.
- In cases where country-specific values were not used, we investigated the impact on the submission process, including whether reviewers raised concerns about the absence of country-specific values and whether manufacturers were required to address these concerns prior to proceeding with their submissions.

Results

- A total of 25 submissions in hematological cancers were reviewed by CDA between January 2021 and April 2024.
- Out of the 25 submissions, 23 included a cost-utility analysis and 2 included cost-minimization analysis.
- Among the 23 submissions with a cost-utility analysis, 11 used Canadian preference-weighted utility values, 9 used preference values from the United Kingdom, 1 used preference values from the United States, and 2 had unclear descriptions regarding the country preference.
- Of the 10 submissions not using Canadian-specific HUVs, only 2 (20%) received reviewer comments regarding this issue, though none were required to revise their economic evaluations to include Canadian preferences.
- When assessing recommendation decisions for these 10 submissions, 8 were recommended for reimbursement, subject to clinical criteria and/or conditions.

Discussion

- This analysis showed that nearly half of the oncology hematological cancer submissions to the CDA between January 2021 and April 2024 did not incorporate Canadian-specific preferences for health state and utility values.
- The most frequently used alternative to Canadian-specific preferences in HTA submissions was UK-based health HUVs. This reliance on UK preferences may reflect similarities in health systems and/or the availability of UK data; however, it highlights a potential gap in Canada-specific preference data.
- Notably, only 20% of submissions using non-Canadian preferences received reviewer comments addressing the lack of Canadian-specific HUVs. Despite CDA guidelines recommending the use of Canadian preferences, this suggests that their absence may not be a significant focus in the review process, raising questions about the prioritization of country-specific data in evaluations.
- As most submissions without Canadian-specific HUVs still received recommendations for reimbursement, it appears that the absence of Canada-specific preferences did not substantially impact the CDA's decision-making process. This may imply that the agency places greater emphasis on the overall quality of evidence and robustness of economic evaluations rather than strictly on the source of health utility values.

Conclusions

- While Canadian-specific HUVs are recommended for HTA submissions to ensure alignment with national population preferences and healthcare context, they are not strictly required by the CDA.
- This flexibility may permit the use of robust data from other sources when Canadian-specific data are limited or unavailable.

[hta]DataMine™
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Table 1. Hematologic cancer submissions to Canada's Drug Agency, January 2021 to April 2024

Year	Cancer Type	Therapeutic Area	Indication	Drug	Analysis	Country Preferences
2021	Acute Myeloid Leukemia	Acute myeloid leukemia (AML)	Maintenance therapy in adult patients with acute myeloid leukemia who achieved complete remission or complete remission with incomplete blood count recovery following induction therapy with or without consolidation treatment, and who are not eligible for hematopoietic stem cell transplantation.	Azacitidine	Cost-utility analysis	UK
2021	Lymphoma	Mantle cell lymphoma	For treatment of adult patients with relapsed or refractory mantle cell lymphoma after 2 or more lines of systemic therapy including a Bruton's tyrosine kinase inhibitor.	Brexucabtagene Autoleucel	Cost-utility analysis	Canada + UK
2021	Acute Myeloid Leukemia	Acute myeloid leukemia	Newly diagnosed therapy-related acute myeloid leukaemia (AML) or AML with myelodysplasia-related changes.	Daunorubicin & Cytarabine	Cost-utility analysis	UK
2021	Multiple myeloma	Multiple myeloma	For the treatment of adult patients with multiple myeloma who have received at least three prior therapies, including an immunomodulatory agent, a proteasome inhibitor, and an anti-CD38 antibody and who are refractory to their last treatment.	Idecabtagene vicleucel	Cost-utility analysis	Canada
2021	Lymphoma	Classical Hodgkin Lymphoma	Pediatric patients with refractory or relapsed classical Hodgkin Lymphoma as monotherapy, who have failed autologous stem cell transplant (ASCT) or who are not candidates for multi-agent salvage chemotherapy and ASCT.	Pembrolizumab	Cost-utility analysis	US
2021	Acute Myeloid Leukemia	Acute myeloid leukemia	Newly diagnosed AML who are 75 years or older, or who have comorbidities that preclude use of intensive induction chemotherapy.	Venetoclax	Cost-utility analysis	Canada
2022	Chronic Myeloid Leukemia	Philadelphia chromosome-positive chronic myeloid leukemia	For the treatment of adult patients with Philadelphia chromosome– positive chronic myeloid leukemia in chronic phase previously treated with 2 or more tyrosine kinase inhibitors.	Asciminib	Cost-utility analysis	Not reported
2022	Multiple myeloma	Multiple myeloma	Adult patients with relapsed or refractory multiple myeloma who have received 1 to 3 prior lines of therapy.	Isatuximab	Cost-utility analysis	UK
2022	Lymphoma	Relapsed or refractory large B-cell lymphoma	For the treatment of adult patients with relapsed or refractory large: • B-cell lymphoma after 2 or more lines of systemic therapy, including diffuse large • B-cell lymphoma (DLBCL) not otherwise specified, primary mediastinal large • B-cell lymphoma, high-grade B-cell lymphoma, and DLBCL arising from follicular lymphoma	Lisocabtagene maraleucel	Cost-utility analysis	Canada
2022	Mycosis fungoides, sézary syndrome	Mycosis fungoides, Sézary syndrome	The treatment of adult patients with relapsed or refractory mycosis fungoides or Sézary syndrome after at least one prior systemic therapy.	Mogamulizumab	Cost-utility analysis	UK
2022	Multiple myeloma	Multiple myeloma	Multiple myeloma	Selinexor	Cost-utility analysis	NR
2022	Lymphoma	Diffuse large B-cell lymphoma	In combination with lenalidomide for the treatment of adult patients with relapsed or refractory diffuse large B-cell lymphoma not otherwise specified, including diffuse large B-cell lymphoma arising from low grade lymphoma, who are not eligible for autologous stem cell transplant.	Tafasitamab	Cost-utility analysis	UK
2022	Lymphoma	Mantle cell lymphoma	For the treatment of adult patients with mantle cell lymphoma who have received at least 1 prior therapy.	Zanubrutinib	Cost-minimization analysis	Not applicable
2023	Lymphoma	Diffuse large B-cell lymphoma or high-grade B-cell lymphoma	For the treatment of adult patients with diffuse large B-cell lymphoma (DLBCL) or high-grade B-cell lymphoma that is refractory to first-line chemoimmunotherapy or that relapses within 12 months of first-line chemoimmunotherapy.	Axicabtagene ciloleucel	Cost-utility analysis	Canada
2023	Lymphoma	Relapsed or refractory follicular lymphoma	For the treatment of adult patients with relapsed or refractory grade 1, 2, or 3a follicular lymphoma after 2 or more lines of systemic therapy.	Axicabtagene ciloleucel	Cost-utility analysis	UK
2023	Acute Lymphoblastic Leukemia	Relapsed or refractory B-cell precursor acute lymphoblastic leukemia	Treatment of adult patients with relapsed or refractory B-cell precursor acute lymphoblastic leukemia if certain conditions are met.	Brexucabtagene autoleucel	Cost-utility analysis	Canada
2023	Multiple myeloma	Multiple myeloma	For the treatment of adult patients with multiple myeloma, who have received at least 3 prior lines of therapy, including a proteasome inhibitor, an immunomodulatory agent, and an anti-CD38 antibody, and who are refractory to their last treatment.	Ciltacabtagene autoleucel	Cost-utility analysis	Canada
2023	Acute Lymphoblastic Leukemia	Acute lymphoblastic leukemia and lymphoblastic lymphoma	As a component of a multi-agent chemotherapeutic regimen for the treatment of acute lymphoblastic leukemia and lymphoblastic lymphoma in adult and pediatric patients 1 year or older who have developed hypersensitivity to E. coli-derived asparaginase.	Crisantaspase recombinant	Cost-utility analysis	Canada
2023	Chronic lymphocytic leukemia	Chronic lymphocytic leukemia	Ibrutinib in combination with venetoclax for the treatment of adult patients with previously untreated chronic lymphocytic leukemia, including those with 17p deletion.	Ibrutinib	Cost-utility analysis	UK
2023	Acute Lymphoblastic Leukemia	T-cell acute lymphoblastic leukemia	Nelarabine is for addition to front-line multiagent therapy of pediatric, adolescent, and young adult patients (aged 1 year to 30 years at diagnosis) with intermediate- or high-risk T-cell acute lymphoblastic leukemia.	Nelarabine	Cost-utility analysis	Canada
2023	Lymphoma	Lymphoma	Polatuzumab vedotin in combination with R-CHP, indicated for the treatment of adult patients with previously untreated LBCL, including DLBCL NOS, high-grade B-cell lymphoma, EBV-positive DLBCL NOS, and T-cell/histiocyte-rich LBCL.	Polatuzumab vedotin	Cost-utility analysis	UK
2023	Lymphoma	Relapsed or refractory grade 1, 2, or 3a follicular lymphoma a	For the treatment of adult patients with relapsed or refractory grade 1, 2, or 3a follicular lymphoma after 2 or more lines of systemic therapy.	Tisagenlecleucel	Cost-utility analysis	Canada
2023	Chronic Lymphocytic Leukemia	Chronic lymphocytic leukemia	Zanubrutinib is indicated for the treatment of adult patients with chronic lymphocytic leukemia.	Zanubrutinib	Cost-minimization analysis	Not applicable
2024	Acute Lymphoblastic Leukemia	Acute Lymphoblastic Leukemia	As a component of a multiagent chemotherapeutic regimen for the treatment of ALL in pediatric and young adult patients aged 1 year to 21 years.	Calaspargase pegol	Cost-utility analysis	Canada
2024	Waldenstrom's Macroglobulinemia	Waldenstrom's Macroglobulinemia (WM)	For the treatment of adult patients with: • WM as a monotherapy or in combination with rituximab Previously untreated active CLL, including patients with 17p deletion • CLL who received at least one prior therapy, in combination with bendamustine and rituximab • Relapsed or refractory MCL • MZL who require systemic therapy and have received at least one prior anti-CD20- based therapy • Steroid-dependent or refractory cGVHD	Ibrutinib	Cost-utility analysis	UK

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Disclosures

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