CADTH | pCODR PAN-CANADIAN ONCOLOGY DRUG REVIEW

pan-Canadian Oncology Drug Review
Final Economic Guidance Report

Ribociclib (Kisqali) plus Fulvestrant for Advanced or Metastatic Breast Cancer

April 22, 2020

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1 ECONOMIC GUIDANCE IN BRIEF

1.1 Submitted Economic Evaluation

The economic analysis submitted to pCODR by Novartis Pharmaceuticals Canada Inc. compared the combination of ribociclib and fulvestrant to fulvestrant alone for the treatment of post-menopausal women with HER2-negative, hormone-receptor (HR)-positive advanced breast cancer (ABC) who have received no or only one prior line of endocrine therapy (ET). The time horizon was 15 years. The analysis was conducted from the perspective of the Canadian healthcare system. The submitted model had the capacity to estimate the cost-effectiveness of ribociclib with fulvestrant for the overall population of the MONALEESA-3 trial and two subgroups based on prior ET. The ET-sensitive subgroup included women who were newly diagnosed with ABC and treatment-naïve as well as those who relapsed > 12 months from the completion of (neo) adjuvant ET with no treatment for ABC. The ET-resistant subgroup included: 1) patients who relapsed on or within 12 months from the completion of (neo)adjuvant ET with no treatment for ABC; 2) patients who relapsed > 12 months from the completion of (neo)adjuvant ET therapy and then subsequently progressed after one line of ET for ABC; or 3) patients who were diagnosed with ABC and progressed after one line of ET for ABC. The modelled populations are consistent with the reimbursement request and Health Canada indication.

Table 1. Submitted Economic Model

Reimbursement Request/Patient Population Modelled	Aligns with funding request
Type of Analysis	Cost-utility analysis and cost-effectiveness analysis
Type of Model	Semi-Markov, cohort model
Comparator	*Fulvestrant monotherapy*
Year of costs	*Not reported*
Time Horizon	*15 years*
Perspective	*Government*
Cost of ribociclib	• $0.42 per mg (200 mg per tablet) • $253.95 per day • $5,332.95 per 28-day course
Cost of fulvestrant * *Price Source: IQVIA health care database [Date: not reported]*	• $1.98 per mg (500 mg per vial) • $990.92 per day • $1,981.84 per 28-day course (loading) • $990.92 per 28-day course (subsequent cycles)
Cost of ribociclib + fulvestrant	• $2,235.79 per day (with loading dose for fulvestrant) • $1,244.87 per day (without loading dose for fulvestrant • $8,305.71 per 28-day course
Model Structure	A semi-Markov, cohort model with three health states (progression-free survival, post-progression survival, and death) was developed. The model included 66 tunnel states to allow the probabilities of death after progression to vary by time since progression for the first five years after progression.

Key Data Sources	• *MONALEESA-3 trial (1) (data cut: June 3, 2019): efficacy and treatment duration* • *MONALEESA-3 trial (2) (data cut: November 3, 2017): adverse events and health utility* • *ITC report from the Sponsor (3): efficacy*

1.2 Clinical Considerations

According to the pCODR Clinical Guidance Panel (CGP), this comparison is appropriate. However, the CGP considered that palbociclib plus fulvestrant, abemaciclib plus fulvestrant, ribociclib plus an aromatase inhibitor (AI), palbociclib plus AI, and abemaciclib plus AI are also clinically relevant comparators. As requested by pCODR, the Sponsor included these comparators in modifications to the main economic analysis. This additional analysis was based on an indirect treatment comparison (ITC). The pCODR Methods Team's appraisal of the ITC raised concerns about differences in the patient populations included in the trials informing the ITC. The Economic Guidance Panel (EGP) believes that the concern related to heterogeneity in patient populations would cause considerable uncertainty in the comparative cost-effectiveness of ribociclib plus fulvestrant and other treatments included in the ITC. The EGP report therefore focuses on ribociclib with fulvestrant and fulvestrant monotherapy. Other treatments were included as explanatory analyses.

Relevant issues identified included:

- The CGP concluded that there is a net overall clinical benefit of ribociclib in combination with fulvestrant for post-menopausal women with incurable HR-positive, HER2-negative ABC in the first- or second-line setting based on one high-quality randomized, double-blind, placebo-controlled trial (MONALEESA-3) that demonstrated a clinically meaningful and statistically significant progression-free survival (PFS) and overall survival (OS) benefit along with an acceptable safety profile and no apparent detriment on HRQOL. This is reflected in the submitted economic analysis.
- The CGP noted that an exploratory analysis of survival of patients who moved onto subsequent therapy after disease progression revealed similar exposure to post-progression therapies between the two treatment groups with 81.5% of patients in the ribociclib plus fulvestrant group and 84.7% of patients in the placebo plus fulvestrant group receiving post-progression therapies. Thus, significant differences in post-progression treatment are unlikely to have impacted the observed OS benefit reported. The proportion of post-progression therapies usage was adequately addressed in the submitted economic model.
- The MONALEESA-3 trial reported that CDK 4/6 inhibitors were used post-progression by 11% of patients in the ribociclib plus fulvestrant group and 25.4% in the placebo plus fulvestrant group. The impact of subsequent uses of CDK 4/6 inhibitors on total costs was accounted in the submitted model. The EGP was unable to assess the impact of subsequent CDK 4/6 inhibitors on PFS or OS as data regarding the clinical benefit of CDK 4/6 inhibitors after progression are unavailable.
- The CGP acknowledges that no unexpected toxicities were observed in the MONALEESA-3 trial. Important adverse events were considered in the submitted model.

Summary of registered clinician input relevant to the economic analysis
Two registered clinicians contributed input for this submission on behalf of Cancer Care Ontario. The clinicians acknowledged that the combination of ribociclib and fulvestrant is superior to fulvestrant monotherapy and that the combination therapy has an acceptable safety/tolerability

profile. However, they preferred to administer ribociclib in combination with an AI rather than fulvestrant. The clinicians highlighted that fulvestrant is not included in the Ontario Drug Benefit so patient access will be difficult for those without private insurance.

The submitted economic analysis considered clinical outcomes, including OS, PFS and adverse events of ribociclib, raised by the registered clinicians. Alternative treatments for post-menopausal women with HR-positive, HER2-negative ABC were considered in the modifications to the main analysis performed by the Sponsor.

Summary of patient input relevant to the economic analysis
None of the patients who participated in the survey conducted by the Canadian Breast Cancer Network and Rethink Breast Cancer had experience with a combination therapy of ribociclib and fulvestrant. Patients considered treatment effectiveness, extending OS without compromising quality of life, manageable side effects, and cost and accessibility of treatments as the important factors for their treatment decisions. All patients who had treatment experience with ribociclib required dose reductions during their treatment; however, they were satisfied with the treatment efficacy in stabilizing and controlling their disease as well as improving their quality of life. Patients experienced minimal and tolerable side effects, such as mild nausea, fatigue, low white blood cell count. The submitted economic analysis considered disease progression, life expectancy, quality of life, and important adverse events raised by patients who had experience with ribociclib.

Summary of Provincial Advisory Group (PAG) input relevant to the economic analysis
PAG considered the following factors (enablers or barriers) important to consider if implementing a funding recommendation for ribociclib plus fulvestrant which are relevant to the economic analysis:

- Fulvestrant is not funded in any provinces at the time when PAG input was sought. PAG noted that this a barrier to implementation. Fulvestrant is available as 250 mg pre-filled syringes; therefore, there is no wastage concern. This is an enabler to implementation.
- PAG noted that fulvestrant must be refrigerated and would require additional nursing resources and chair time. The administration cost for fulvestrant was considered in the submitted economic analysis.
- Additional healthcare resources that may be required to monitor toxicities and drug-drug interactions routinely. The high incidence of neutropenia and risk for QT interval prolongation and hepatobiliary toxicities may lead to more frequent visits to oncologists and bloodwork. This factor was considered in the submitted economic analysis.
- PAG was concerned about the impact of post-progression therapies, particularly the use of everolimus and exemestane after ribociclib. This concern was not addressed in the submitted economic analysis. The EGP addressed this concern by increasing the proportion of everolimus and exemestane use in the subsequent lines of therapies by 20%.
- PAG sought to know which CDK 4/6 inhibitor was the most cost-effective and under what circumstance. The Sponsor provided additional modifications to the main analysis that considered relevant CDK 4/6 inhibitors. However, the results of this analysis are highly uncertain due to heterogeneity in patient populations of the trials included in the ITC.

1.3 Submitted and EGP Reanalysis Estimates

Table 2. Submitted and EGP Probabilistic Reanalysis Estimates (Full Population of the MONALEESA-3 trial)

Estimates (range/point)	Submitted	EGP Reanalysis		
		Best Case	Lower Bound	Upper Bound
ΔE (LY)	1.19	0.98	1.19	0.44
Progression-free	1.26	1.12	1.26	0.49
Post-progression	-0.07	-0.14	-0.07	-0.05
ΔE (QALY)	0.96	0.80	0.96	0.36
Progression-free	1.02	0.91	1.02	0.40
Post-progression	-0.06	-0.11	-0.06	-0.04
ΔC ($)	$151,324	$137,857	$151,259	$132,923
ICER estimate ($/QALY)	$157,293	$171,723	$157,226	$370,710

The probabilistic sensitivity analysis (PSA) suggested that the probability that ribociclib plus fulvestrant is cost-effective is 0% at the willingness to pay (WTP) threshold of $100,000/quality-adjusted life year (QALY).

The main assumptions and limitations with the submitted economic evaluation were:

- Model structure. Although the semi-Markov model was used, the Sponsor indirectly derived transition probabilities from PFS to death by subtracting the sum of probabilities of PFS events (progression and death) from a value of 1. Although this approach is reasonable given a small proportion of death among patients without progression observed in the MONALEESA-3 trial, the estimated probability of death may inflate the benefits of ribociclib plus fulvestrant on life expectancy and quality-adjusted life years (QALYs) and underestimate the incremental cost-utility ratio (ICUR) of ribociclib plus fulvestrant because the submitted model indirectly forces transition probabilities from to death to be dependent on PFS. This means that the greater PFS, the smaller probability of death. Moreover, the Sponsor included 66 post-progression survival (PPS) tunnel states to allow the variation in the probabilities of death by time since progression. These tunnel health states may be unnecessary because the submitted model assumed that PPS data were the same across treatment groups.
- Comparative efficacy of ribociclib plus fulvestrant vs. fulvestrant monotherapy among ET-sensitive and ET-resistant subgroups. The submitted model has the capacity to estimate the cost-effectiveness of ribociclib plus fulvestrant vs. comparators for the full population of the MONALEESA-3 trial (1, 2), the ET-sensitive subgroup and the ET-resistant subgroup. The EGP notes that the cost-effectiveness analyses for the two subgroups are exploratory in nature as the MONALEESA-3 trial was not designed to have statistical power to detect treatment effects within subgroups. Lack of statistical power to detect treatment effects within subgroups would increase the uncertainty of ICURs of ribociclib plus fulvestrant for ET-sensitive and ET-resistant subgroups.
- Comparative efficacy of ribociclib plus fulvestrant vs. comparators other than fulvestrant for ET-sensitive and ET-resistant subgroups. Due to lack of direct evidence comparing ribociclib plus fulvestrant with comparators other than fulvestrant monotherapy, the comparative effect of ribociclib plus fulvestrant on PFS was based on an ITC (3). The CGP and EGP agreed with the pCODR Methods Team's appraisal that the results from the ITC were highly uncertain because of heterogeneity in patient populations enrolled in the trials included in the ITC. Moreover, the estimated hazard ratios (HRs) from the ITC can only apply to select parametric survival models that exhibit proportional hazards. The

uncertainty on the cost-effectiveness of ribociclib plus fulvestrant compared to comparators other than fulvestrant monotherapy is likely to be high.

- Parametric survival models used to predict PFS and time-to-treatment discontinuation or death (TTD) data. The EGP was concerned that the parametric survival models used to predict PFS and TTD data for ribociclib plus fulvestrant and fulvestrant monotherapy did not fit visually well to the observed data. The poor model fit may increase the uncertainty in the ICURs as a small change in prediction could lead to a substantial variation in the ICUR.
- Time horizon. The Sponsor extrapolated long-term transition probabilities for PFS, PPS and TTD from the MONALEESA-3 trial using parametric survival models. The prediction is highly uncertain given that the parametric survival models did not visually fit well to the observed PFS and TTD data. The CGP suggested that a 10-year time horizon would be more reasonable. This will also assure better comparability with pCODR economic evaluations (3, 4) made in similar patient populations. A shortened time horizon will increase the ICUR, causing ribociclib plus fulvestrant to be less favourable.
- End-of-life cost. The Sponsor assumed that the terminal care cost for ABC patients was equal to those diagnosed with esophageal adenocarcinoma. The EGP disagrees with this assumption given the difference in treatments and care pathways for these two types of cancers. Using the terminal care cost specific to breast cancer (5) is likely to decrease the ICUR because this terminal care cost is much higher than the cost used by the Sponsor ($22,263 vs. $9,004)
- Health utility decrement and cost associated with low white blood cell count. The Sponsor assumed that the health utility decrement and cost associated with low white blood cell count were equal to those associated with febrile neutropenia. The CCP and EGP believe that this assumption is inappropriate and likely to overestimate the impact of the reduction in white blood cell count. Reducing the cost and health utility decrement due to low white blood cell count may decrease the ICUR of ribociclib plus fulvestrant as the larger proportion of patients receiving ribociclib plus fulvestrant experienced low white blood cell count.
- Health utility value associated with PPS health state. A health state utility value for PPS health state was derived from the MONALEESA-3 trial. The EGP has concern regarding the face validity of this health utility value as it is higher than that was used in the previous pCODR economic models for ABC (4, 6). Using a lower health utility value for a PPS health state may decrease the ICUR of ribociclib plus fulvestrant because the smaller proportion of patients receiving ribociclib plus fulvestrant is expected to be in the PPS health state than those receiving other comparators.

1.4 Detailed Highlights of the EGP Reanalysis

The EGP performed reanalyses on the full population of the MONALEESA-3 trial (1) based on the June 3, 2019 cut-off date (Table 3) because the cost-effectiveness analyses for the two patient subgroups (endocrine – sensitive and endocrine – resistant) were exploratory in nature. The MONALEESA-3 trial was not designed to have statistical power to detect treatment effects within subgroups. More importantly, the CGP indicated that it is difficult to explain the biologic rationale underlying ET–sensitive and ET–resistant patients in clinical practice.

- Omission of relevant comparators. As requested by the EGP, the Sponsor provided additional modifications to the main analysis whereby all CDK 4/6 inhibitors, including palbociclib and abemaciclib, and their combination with AI or fulvestrant, were considered. Results of the additional analysis showed that exemestane and fulvestrant were dominated by letrozole as it was more expensive and led to fewer QALYs. Moreover, ribociclib plus fulvestrant and

abemaciclib plus fulvestrant were extendedly dominated, i.e. had higher ICURs than the next most effective treatment, by palbociclib plus fulvestrant. Based on the sequential analysis, everolimus plus exemestane is cost-effective compared to letrozole if the WTP value is less than $28,137/QALY. Tamoxifen is cost-effective if the WTP values are between $28,137/QALY and $157,665 /QALY. Palbociclib plus fulvestrant is cost-effective if the WTP values are between $157,665 /QALY and $251,367/QALY.

- These cost-effectiveness results should be interpreted with caution because the comparative efficacy of all CDK 4/6 inhibitors was based on an ITC that included trials with notable differences in patient populations. Long-term efficacy of ribociclib plus fulvestrant. The Sponsor used trial data with a short follow-up period to predict PFS, PPS, and TTD over 15 years. The EGP assessed the uncertainty in the PFS, PPS, and TTD data by shortening a model time horizon from a patient lifetime (15 years) to 10 and 5 years. Further, the EGP assessed the uncertainty in the long-term efficacy of ribociclib plus fulvestrant by varying the parametric survival models used to predict long-term PFS, PPS and TTD data. These EGP reanalyses highlight that the cost-effectiveness findings are highly dependent on the assumption about the efficacy of ribociclib plus fulvestrant after the end of the trial.
- Effect of ribociclib in combination with fulvestrant on the transition from PFS to death. The EGP assessed the impact of the Sponsor's approach to estimate the transition from PFS to death by assuming the same transition probability from PFS to death for patients receiving ribociclib plus fulvestrant and fulvestrant monotherapy. This EGP reanalysis increases the ICUR from $157,293/QALY to $177,971/QALY.
- Use of post-progression therapies after ribociclib, especially everolimus and exemestane and chemotherapies. PAG sought information on the impact of post-progression therapies use on cost-effectiveness. The EGP addresses this concern by increasing the use of everolimus and exemestane by 20%. However, changes in the proportion of post-progression therapy usage had a small impact on the ICURs; this may be partly due to that the submitted model assumed the same PPS for all comparators.
- Health utility and cost associated with low white blood cell count. Decreased white blood cell count is less severe than febrile neutropenia. The EGP assumed that the cost and health utility decrement due to decreased white blood cell count to be the same as increased alanine aminotransferase (ALT) or aspartate aminotransferase (AST). Reducing the impact of low white blood cell count caused a slight decrease in the ICUR, from $157,293/QALY to $157,165/QALY.
- Cost of end-of-life care. The terminal care cost for patients with breast cancer was used as a one-time cost in the EGP reanalysis. Changing the terminal care cost reduced the ICUR from $157,293/QALY to 157,191/QALY.

The EGP's best case estimate was calculated by reducing the time horizon to 10 years, assuming the same cost and health utility decrement for low white blood cell count and increased liver enzyme, and using the end-of-life cost specific to breast cancer.

EGP conducted a price reduction scenario analysis based on the Sponsor's and EGP's Best Estimates. A price reduction of 50% or greater for ribociclib was needed to make the ICUR of ribociclib plus fulvestrant lower than $100,000/QALY.

Table 3. Detailed Description of EGP Probabilistic Reanalysis Estimates

One-way and multi-way sensitivity analyses					
Description of Reanalysis	ΔC	ΔE QALYs	ΔE LYs	ICUR (QALY)	Δ from baseline submitted ICER
Baseline (Sponsor's best case)	$151,324	0.96	1.19	$157,293	-
[LOWER BOUND]					
1. *Using lower PPS health utility value based on Loyld et. al*	$150,933	0.96	1.19	$157,214	-$79
2. *Replacing the cost and utility associated decreased leukocyte count to be equal to increased ALT/AST*	$150,887	0.96	1.19	$157,165	-$128
3. *Using end-of-life cost for breast cancer patients*	$150,287	0.96	1.19	$156,541	-$752
4. *Increasing the proportion of patients receiving EVE – EXE in the subsequent lines by 20%*	$150,911	0.96	1.19	$157,191	-$102
Best case estimate of above 4 parameters (No.1-4)	$150,259	0.96	1.19	$157,226	-$67
[UPPER BOUND]					
5. *PPS prediction: Using Weibull distribution to predict long-term PPS data*	$150,652	0.95	1.18	$158,236	$943
6. *PFS prediction: Using trial data and RCS Weibull restricted distribution to predict long-term PFS data*	$150,540	0.94	1.17	$159,437	$2,144
7. *PFS prediction: Assuming the same effect on PFS after the end of the trial follow-up*	$117,081	0.43	0.53	$274,170	$116,877
8. *Assuming that transition probabilities from PFS to death are equal for both arms*	$146,683	0.82	1.02	$177,971	$20,678
9. *TTD prediction: trial data and RCS Weibull restricted distribution for ribociclib + fulvestrant and generalized gamma restricted for fulvestrant*	$192,154	0.96	1.19	$199,829	$42,536
10. *Decreasing a time horizon to 10 years*	$138,749	0.80	0.98	$173,076	$15,783
11. *Decreasing a time horizon to 5 years*	$103,704	0.38	0.45	$275,155	$117,862
Best case estimate of above 5 parameters (No. 5,7, 8-10)	$132,923	0.36	0.44	$370,710	$213,417
[BEST CASE ESTIMATE]					
Best case estimate of parameters (No.2, 3, 10)	$137,857	0.80	0.98	$171,723	$14,430

1.5 Evaluation of Submitted Budget Impact Analysis

Factors that most influenced the submitted budget impact analysis (BIA) included medication costs, the percentage of ABC that is HR-positive, and market share of ribociclib with fulvestrant. However, the EGP's reanalyses suggested that a relative dose intensity of ribociclib, assumption on drug wastage, and treatment duration are the key drivers of the 3-year budgetary impact. If a 100% RDI is assumed for ribociclib, the 3-year budgetary impact would increase to $93,307,512 and $256,202,615 for Ontario and Canada, respectively. Additionally, if drug wastage is assumed for all medications, the 3-year total budgetary impact would increase by 27.5%.

The EGP and CGP believe that the submitted budgetary impact has considerable uncertainty as fulvestrant is not covered by any public drug plans in Canada. Lack of public coverage for fulvestrant is likely to limit the market share and the budgetary impact of ribociclib and fulvestrant. The EGP is also concerned about the Sponsor's approach used to approximate mean TTD from median TTD. This approach assumed that TTD data follow an exponential distribution. This assumption was not consistent with the TTD distributions used in the submitted economic model whereby one form of the Weibull distribution was assumed for TTD data of ribociclib and fulvestrant. Using the mean TTD estimated from RCS Weibull (restricted) leads to a 19.6% increase in the 3-year budgetary impact.

Another key limitation of the submitted BIA model is the approach used to derive TTD data for other treatments. Unlike ribociclib and fulvestrant, the Sponsor derived TTD data for other comparators by applying a hazard ratio of PFS for each comparator vs. PFS for ribociclib with fulvestrant. Based on this approach, the Sponsor assumed that relative change in PFS results in the same magnitude of change in TTD. It is unclear whether this assumption would hold given that, based on the MONALEESA-3 trial, the Kaplan-Meier survival curves for TTD are well below that for PFS. The EGP was unable to assess the impact of this limitation due the lack of TTD data for other treatments.

1.6 Conclusions

The EGP's best estimate of ΔC and ΔE for ribociclib plus fulvestrant when compared to fulvestrant monotherapy is:

- $171,723/ QALY with a range between $157,226/QALY and $370,710/QALY.
- The extra cost of ribociclib plus fulvestrant is $137,857 (range: $150,609 - $174,675). The two key factors that influence extra costs are time horizon and the assumption of PFS data after the end of the trial follow-up.
- The extra clinical effect of ribociclib plus fulvestrant is 0.80 QALYs (range: 0.36 and 1.19 QALYs) (ΔE). The two key factors that influence extra clinical effects are time horizon and the assumption of PFS data after the end of the trial follow-up.

Overall conclusions of the submitted model:

The model structure and assumptions were well-justified. The cost-effectiveness results are highly uncertain and depend on whether the observed clinical benefit of ribociclib in combination with fulvestrant would sustain after the end of the trial follow-up. The cost-effectiveness of ribociclib with fulvestrant compared to other CDK 4/6 inhibitors should be interpreted cautiously as the results are subject to important limitations related to the heterogeneity in patient populations of the RCTs included in the ITC.

2 DETAILED TECHNICAL REPORT

This section outlines the technical details of the pCODR Economic Guidance Panel's evaluation of the economic evidence that is summarized in Section 1. In accordance with the *Disclosure of Information Guidelines for the CADTH Pan-Canadian Oncology Drug Review*, this section is not eligible for disclosure. It was provided to the pCODR Expert Review Committee (pERC) for their deliberations and the participating drug programs for their information.

3 ABOUT THIS DOCUMENT

This Economic Guidance Report was prepared by the pCODR Economic Guidance Panel and supported by the pCODR Breast Clinical Guidance Panel and the pCODR Methods Team. This document is intended to advise the pCODR Expert Review Committee (pERC) regarding resource implications and the cost-effectiveness of ribociclib plus fulvestrant for ABC. A full assessment of the clinical evidence of ribociclib plus fulvestrant for ABC is beyond the scope of this report and is addressed by the relevant pCODR Clinical Guidance Report. Details of the pCODR review process can be found on the pCODR website (www.cadth.ca/pcodr).

pCODR considers it essential that pERC recommendations be based on information that can be publicly disclosed. Information included in the Economic Guidance Report was handled in accordance with the *pCODR Disclosure of Information Guidelines*. There was no non-disclosable information in the Economic Guidance Report provided to pERC for their deliberations.

This Final Economic Guidance Report is publicly posted at the same time that a pERC Final Recommendation is issued. The Final Economic Guidance Report supersedes the Initial Economic Guidance Report. Note that no revisions were made in between posting of the Initial and Final Guidance Reports.

The Economic Guidance Panel is comprised of economists selected from a pool of panel members established by the pCODR Secretariat. The panel members were selected by the pCODR secretariat, as outlined in the pCODR Nomination/Application Information Package and the Economic Guidance Panel Terms of Reference, which are available on the pCODR website (www.cadth.ca/pcodr). Final selection of the pool of Economic Guidance Panel members was made by the pERC Chair in consultation with the pCODR Executive Director. The Economic Guidance Panel is editorially independent of the provincial and territorial Ministries of Health and the provincial cancer agencies.

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