

Scientific Merit Rating Scale

The Breakthrough Team Grants Scientific Merit rating scale is to be used by all reviewers to assess the scientific merit of an application. Assigned reviewers are asked to assign a preliminary **Scientific Merit** score (between 0 and 5, to 1 decimal place) based on the criteria below, and to record this score in EGrAMS prior to the panel meeting. *Note that guidance has been provided to indicate which criteria may be deemed most relevant by reviewer type, particularly for interpreting score descriptions below, however reviewers are free to assess based on their own personal (and intersectional) expertise/experience.*

Review Criteria	Sci	PSC
Research Strategy		
<ul style="list-style-type: none"> The proposed research is well aligned with the funding call 	✓	✓
<ul style="list-style-type: none"> The proposed research is creative, innovative and/or original and is not simply the 'next logical step' or incremental in nature 	✓	
<ul style="list-style-type: none"> Scientific rationale and evidence for the proposed research is thorough, balanced, and compelling 	✓	
<ul style="list-style-type: none"> Aims are clearly articulated and well-conceived (aims need not be directly linked) 	✓	✓
<ul style="list-style-type: none"> Approach/methods is/are well-described and feasible, with potential challenges and alternative approaches discussed 	✓	
<ul style="list-style-type: none"> For research not involving patients or specimens/data from patients, there is thorough consideration and description of how the research will ultimately lead to benefits for those affected by one or more of the 6 low survival cancers For biomedical/preclinical studies involving specimens from patients (e.g. tumour cells, blood, urine) and/or genetic information, their use is well described and justified For clinical studies, there is thoughtful discussion and mitigation of potential risks for participants as well as barriers to patient recruitment and retention (e.g. number of hospital/clinic visits, number of tests, costs to get to treatment (i.e., travel and parking, etc.)). 	✓	✓
<ul style="list-style-type: none"> Where relevant, the proposed research acknowledges the burden of cancer on patients and their caregivers, and considers the quality of life of study participants in tangible, measurable ways 	✓	✓
<ul style="list-style-type: none"> Sex, gender, and other dimensions of diversity/social determinants of health (e.g. race, ethnicity, education, economic status) and their intersectionalities are appropriately addressed in the research design, methods, analysis, interpretation, and dissemination/implementation of findings/outcomes 	✓	✓
<ul style="list-style-type: none"> Equitable and timely access to any outcomes/data arising from the research is considered and addressed 	✓	✓
<ul style="list-style-type: none"> High likelihood that anticipated outcomes will be realized – i.e. key milestones and timelines are realistic 	✓	
<ul style="list-style-type: none"> The term and amount of support requested is appropriate for the work proposed. Full costs (i.e. \$1.5M/yr, \$7.5M total) have only been requested in cases where clinical trials are proposed. Remuneration for patients/caregivers is clearly and appropriately outlined in the Budget. Any funds proposed to leave Canada are well-justified. 	✓	✓
<ul style="list-style-type: none"> The Public Summary, Patient and Caregiver Reviewer Summary, and Relevance statement are written in non-technical language and clearly describe the goal/purpose, methods, relevance and potential impact of the proposed research, the process for engaging patient, caregivers and other stakeholders in research design, implementation and results dissemination, and next steps for moving the results of the research closer to practice. 	✓	✓
Team Composition & Environment		
<ul style="list-style-type: none"> Research team (including early career investigator(s), patient/caregiver partner(s) and clinician(s)/end-user(s)) is well balanced and possesses the relevant/appropriate expertise and experience to carry out the proposed research. 	✓	✓

<ul style="list-style-type: none"> Team members are from more than one province, and international team members have been included where there is clear value added 	✓	✓
<ul style="list-style-type: none"> At least one early career investigator has been included on the team as Co-PI 	✓	✓
<ul style="list-style-type: none"> New collaborations that create new opportunities for synergies in research outcomes that would not have been possible otherwise are evident in the team composition 	✓	✓
<ul style="list-style-type: none"> Accessibility, equity, diversity and inclusion principles are evident in team composition 	✓	✓
<ul style="list-style-type: none"> Meaningful involvement has been demonstrated with <u>all</u> members of the research team in the development of the research proposal. There is evidence that patients/caregivers and clinicians/end-users have been and will be engaged throughout the life of the research project. There is appropriate representation of patients/caregivers on the research team – or a description of how deficits will be addressed 	✓	✓
<ul style="list-style-type: none"> Terms of Reference and ‘description of research team members’ (in proposal) are clear and appropriate. Roles and responsibilities of team members are clear and cohesive, including decision-making processes, estimated time commitment and remuneration (where eligible). 	✓	✓
<ul style="list-style-type: none"> The environment(s) where the research will take place is/are appropriate (e.g. contain the required equipment and expertise), and there are clear plans to establish sub-agreements or other methods for ensuring smooth operations and undertaking the required work across multiple sites (where applicable). 	✓	
Training and Mentorship		
<ul style="list-style-type: none"> Training and mentorship is valued and articulated as an integral part of the research plan and will result in a sustained increase in research capacity and momentum in the future (from a human resources perspective) 	✓	✓
<ul style="list-style-type: none"> Specific and appropriate approaches, activities, and skills to be developed are described for different career stages/types of team members as relevant 	✓	✓
<ul style="list-style-type: none"> Inclusion and equity have been considered in development of the plan 	✓	✓
<ul style="list-style-type: none"> Patient/caregiver members of the team have been/will be included/engaged 	✓	✓
<ul style="list-style-type: none"> A robust evaluation plan for measuring success is proposed 	✓	✓

Score descriptions

When interpreting score descriptions, the proportion of criteria addressed (all, majority, most, etc.) should pertain only to those that are relevant to a given reviewer. For example, if PSCs are scoring based on 20 (of the possible 25 points above), then 20 is the denominator for the descriptions below.

Description	Score range	Funding priority
All scoring criteria have been met and some exceeded. Each item has been appropriately and thoroughly addressed. Very minor improvements are recommended.	4.7 – 5.0	Highest
The majority (>85%) scoring criteria have been met and some exceeded. The majority of items have been appropriately addressed. Some minor improvements are recommended.	4.3 – 4.6	High
Most (70-85%) scoring criteria have been met. Most items have been appropriately addressed. There are several minor or moderate areas for improvement, but no major weaknesses	3.9 – 4.2	Medium-High
Many (60-70%) scoring criteria have been met. Many items have been addressed. There is at least one moderate weakness.	3.5 – 3.8	Medium-Low
Some (30-60%) scoring criteria have been met. Few items have been addressed. There are major weaknesses and the proposal needs further development before being competitive in this program.	3.0 – 3.4	Low
Not enough (<30%) scoring criteria have been met. The weaknesses of the proposal outweigh the strengths.	Below 3.0	None