**The Brighton Collaboration Standardized Module for Vaccine Benefit-Risk Assessment** [[1]](#footnote-1), 2, 3

**Version 1: August 20, 2023**

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| **Section 1: Decision context** |

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| **1A. Authorship and Role** | | |
| **Author(s) and affiliation(s)** |  | |
| **Date completed/updated**[[2]](#footnote-2) |  | |
| **Module role:** Is this module currently being used to plan, report or review a B-R assessment? | Select one:  🞎 Planning  🞎 Reporting  🞎 Reviewing | |
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| **1B. Vaccine of Interest Topics** | | | |
| **Question** | | **Responses** | **Comments** |
| **Vaccine of Interest:** What is the vaccine being studied (type or platform, producer)? | |  |  |
| **Formulation / Regimen / Schedule of the vaccine of interest:**  Specify the formulation and schedule | |  |  |
| **Vaccine Development/Lifecycle stage:**  For what lifecycle stage is this B-R assessment? | |  |  |
| **Objective of the vaccine of interest immunization program:**  What are/were the key objectives of the immunization program for the vaccine of interest? If the objective varies by region and season, describe the objective/s and regions. | |  |  |
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| **1C. Disease and Treatments Topics** | | | |
| **Question** | | **Responses** | **Comments** |
| **Disease of interest:**  What is the disease (or indication) for which the vaccine will be /is used? | |  |  |
| **Population of interest:**  What is the population intended for this vaccine benefit-risk assessment?  If relevant, describe potential differences between the trial population and the target population. | |  |  |
| **Nature of condition:** Briefly describe the natural course of the condition, illness or disease the vaccine is intended to prevent. How serious is this condition? Note important uncertainties in these characteristics that impact on B-R. | |  |  |
| **Existing vaccines and therapies**:  What vaccines, treatments or therapies are currently used to treat or prevent this condition | |  |  |
| **Unmet medical need:**  Briefly describe the limitations of currently available therapies for preventing/treating the condition. What are their key adverse effects and uncertainties? Is there sufficient supply of these alternatives and can they be accessed by those who choose to use them?  If relevant, indicate if there are any important differences by region or country for which the vaccine is being considered. Note: It may be easier to complete a separate module for regions / countries with several important differences. | |  |  |

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| **1D. High-level Benefit-Risk Topics** | | |
| **Question** | **Responses** | **Comments** |
| **Purpose and drivers for the B-R assessment:**  What is driving the decision to perform this B-R assessment at this time? |  |  |
| **Comparator(s)**  To what vaccine(s), treatment(s) or therapy(ies) is the vaccine of interest being compared in the B-R assessment? |  |  |
| **Time horizon for B-R assessment:** Over what time period after vaccination are B-R assessment data being considered? |  |  |
| **What is the justification for this time horizon?**  If there is a series of doses, indicate when the time horizon’s data collection period starts |  |  |
| **Subgroups of special interest:** List subgroups for which B-R assessment is of particular interest.  If not clear from a subgroup’s name, provide the definition of the subgroup (e.g., age group considered for adolescents, adults, or elderly).  If not self-evident, describe why a subgroup is of special interest.  Indicate if any of these subgroups is likely to be especially small or difficult to study. |  |  |
| Subgroup 1 |  |  |
| Name |  |  |
| Definition |  |  |
| Subgroup 2 |  |  |
| Name |  |  |
| Definition |  |  |
| Subgroup 3 |  |  |
| … add rows as needed |  |  |

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| **Section 2: Identifying key endpoints for B-R (Developing a Value Tree)** |

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| **Question** | **Responses** | **Comments** |
| **Benefit #1** | | |
| Name |  |  |
| Definition and benefit window |  |  |
| Key or not key for B-R and rationale |  |  |
| Identified or potential benefit and rationale |  |  |
| Clinical impact / severity |  |  |
| Rationale for inclusion (why is this endpoint included in B-R, if not obvious) |  |  |
| Limitations (cannot be avoided) and uncertainties (potentially mitigatable) of this endpoint |  |  |
| **Benefit #2** | | |
| Name |  |  |
| Definition and benefit window |  |  |
| Key or not key for B-R and rationale |  |  |
| Identified or potential and rationale |  |  |
| Clinical impact / severity |  |  |
| Rationale for inclusion |  |  |
| Limitations of this endpoint |  |  |
| **Benefit #3** | | |
| … add rows as needed |  |  |
|  | | |
| **Risk #1** | | |
| Name |  |  |
| Definition and risk window, if relevant |  |  |
| Key or not key for B-R and rationale |  |  |
| Identified or potential and rationale |  |  |
| Clinical impact / severity |  |  |
| Rationale for inclusion |  |  |
| Limitations (cannot be avoided) and uncertainties (potentially mitigatable) of this endpoint |  |  |
| **Risk #2** | | |
| Name |  |  |
| Definition and risk window, if relevant |  |  |
| Key or not key for B-R and rationale |  |  |
| Identified or potential and rationale |  |  |
| Clinical impact / severity |  |  |
| Rationale for inclusion |  |  |
| Limitations and uncertainties of this endpoint |  |  |
| **Risk #3** | | |
| … add rows as needed |  |  |

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| **Other risks considered** | |
| **Question** | **Responses** |
| **Other risks considered:**  Were other risks considered and not included in the B-R assessment? | 🞎 Yes  🞎 No |
| **Which risks were considered?** |  |
| **Rationale for exclusion** |  |

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| **Section 3: Data sources** |

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| **Source** | **Role in B-R assessment** | **Rationale and Limitations for B-R** |
|  |  |  |
| … add rows as needed |  |  |

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| **Section 4: Statistical methods** |

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| **Overview of approach used to give data in Sections 5 and 6** |

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| **Question** | **Responses** |
| **Date range for data used in analysis:** |  |
| **Vaccine Effectiveness**  What assumptions are used for vaccine effectiveness? What is the rationale? |  |
| **Type of measurements:** e.g., incidence rate, incidence proportion, case count per 1,000,000 vaccinated |  |
| **Population-level modelling:**  Does this analysis include population-level models (see glossary)? | 🞎 Yes  🞎 No |
| **Population-level model summary** (if included) |  |
| Adjustment for strata, pooling of data sources, approach for calculation of the 95% CI) |  |
| **Alternative incidence rates (due to varying transmission intensities):**  If the analyses for B-R data are done under the assumption of several different rates by which the pathogen targeted by the vaccine is infecting the vulnerable population, or different rates of transmission for the virus, name and define the alternatives and their underlying assumptions. Add rows as needed. | |
| Transmission rate 1 | |
| Name |  |
| Definition |  |
| Transmission rate 2 | |
| … add rows as needed |  |
|  | |
| **Scenarios of special interest**  List each scenario for which B-R assessment is of particular interest and their definition. Add rows as needed. | |
| Scenario 1 | |
| Name |  |
| Definition |  |
| Scenario 2 | |
| … add rows as needed |  |

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| **Section 5: Benefit Data** |

**This table should be completed for each combination of comparator, infection/transmission rate, subgroup, and scenario described in the decision context and statistical methods.**

**Table 1. Benefits: Study vaccine vs. comparator, in subgroup, transmission rate, scenario**\*

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cases per 1,000,000\*** | | | | |  | |
| **Endpoint** | **Vaccine of interest\*** | **Comparator\*** | **Cases prevented** | **95% CI lower limit** | **95% CI upper limit** | **NNV†** | **Notes, Uncertainty and Strength of Evidence** |
|  |  |  |  |  |  |  |  |
| add rows as needed |  |  |  |  |  |  |  |

**†**NNV = number needed to vaccinate

\* Table title and column headers should be adjusted to reflect the comparator, subgroup, transmission rate and scenario shown, as appropriate. Confidence interval and NNV columns can be removed if not relevant. Transmission rate and scenario definitions can be given in footnotes.

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| **Section 6: Risk Data and Mitigations** |

**This table should be completed for each combination of comparator, infection/transmission rate, subgroup and scenario described in the decision context and statistical methods.**

**Table 2. Risks: Study vaccine vs. comparator, in subgroup, transmission rate, scenario**\*

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|  | **Cases per 1,000,000\*** | | | | | |  |
| **Endpoint** | **Vaccine\*** | **Comparator\*** | **Cases caused** | **95% CI lower limit** | **95% CI upper limit** | **NNH\*** | **Notes, Uncertainty and Strength of Evidence** |
|  |  |  |  |  |  |  |  |
| add rows as needed |  |  |  |  |  |  |  |

**†**NNH = number needed to harm

\* Table title and column headers should be adjusted to reflect the comparator, subgroup, transmission rate and scenario shown, as appropriate. Confidence interval and NNH columns can be removed if not relevant. Transmission rate and scenario definitions can be given in footnotes.

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| **Mitigation** | **Endpoints Affected** | **Impact of Mitigation: Notes, Uncertainty and Strength of Evidence** |
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| add rows as needed |  |  |

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| **Section 7: Clinical impact / weighting**: **(optional)** |

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| **Question** | **Responses** |
| Is (or will) a preference study being used to support the B-R assessment | Yes / no |
| If yes: | |
| Whose preferences were assessed? (e.g., Subjects with acute onset of disease) |  |
| Research question addressed with study |  |
| What preference method was used? (e.g., qualitative interviews, discrete choice experiment) |  |
| Summary of key results used to support the B-R assessment |  |
| Publication or report on preference study, if any |  |

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| **Section 8: Integrated B-R Assessment** |

**Integrated B-R Assessment (Appendix 2 can be substituted)**

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**Appendix 1: Value Tree (Optional)**

**Appendix 2: Regulatory Benefit-Risk Framework table (optional substitute for Integrated B-R Assessment)**

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| **Dimension** | **Evidence & Uncertainties** | **Conclusions & Reasons** |
| **Analysis of Condition** |  |  |
| **Current Treatment Options** |  |  |
| **Benefits** |  |  |
| **Risks & Risk Management** |  |  |
| **Conclusions Regarding Benefit-Risk** | | |

**References**

1. # Kochhar S et. al., “Benefit-risk assessment of vaccines,” Vaccine, 8 Aug 2023 ([link](https://www.sciencedirect.com/science/article/pii/S0264410X23008721?via%3Dihub))

   # 2 Levitan B et. al., “The Brighton collaboration standardized module for vaccine benefit-risk assessment,” Vaccine, 21 Dec 2023 ([link](https://www.sciencedirect.com/science/article/pii/S0264410X2301109X?via%3Dihub))

   [↑](#footnote-ref-1)
2. 3 A completed module may have blanks for unknown or missing data. [↑](#footnote-ref-2)