**About ShinyBHB**

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**ShinyBHB** is a comprehensive application package written in the Rprogram Shiny to conduct Bayesian historical borrowing. Two general approaches to historical borrowing can be implemented in ShinyBHB: *static borrowing*, where prior strength does not automatically vary based on the similarity between the historical data and the current data, and *dynamic borrowing*, where a hyperprior is specified to indicate the researcher’s judgement regarding the similarity between the historical data and the current data, and the heterogeneity between the historical data and the current data is accounted for by the joint prior. The backend program for ShinyBHB is written with Stan. ShinyBHB provides user-friendly and flexible features, including

**Types of data structures**

1. Cross-sectional single-level or multilevel data structures.
2. Longitudinal multilevel data structures (note that data must be in long format)

**Methods of static borrowing**

1. No borrowing – including Bayesian linear regression on current data using non-informative or informative priors.
2. Pooling (also known at *Integrative Data Analysis*)
3. Power priors – allowing the user to control the power parameter
4. Bayesian synthesis using aggregated data priors.

**Methods of dynamic borrowing**

1. Commensurate priors
2. Bayesian dynamic borrowing

**Interface**

1. Flexible model building via xxxxx
2. Computational diagnostics
3. Output available in LaTeX format

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**Relevant Supporting Documents**