



# Workshop on Systematic Reviews and Meta-analysis

**Facilitator:**

**Dr. Md. Mizanur Rahman**

Assistant Professor, School of International Health, The University of Tokyo, Japan

**Host:** Global Public Health Research Foundation

**Venue:** Uttara (Sector-10), Dhaka

**Duration:** 3 days (15-17 February 2018)

**Time:** 10:00-17:00

**Content:**

**Day 1: Introduction & literature search**

- Introduction to systematic reviews
- Discuss the purpose and type of systematic reviews
- Develop focused question using PICO method
- Electronic database search and screening
- Data extraction, input and cleaning

**Day 2 Data management search practice**

- Review electronic database search practice
- Introduction to meta-analysis
- Bayesian meta-analysis concept

**Day 3 Meta-analysis using Stata or Review manager**

- Fixed-effect meta-analysis
- Random-effects meta-analysis
- Subgroup analysis
- Sources and measurement of bias
- Quality assessment
- Meta-regression
- Sensitivity analysis

- Bayesian meta-analysis

**NB: Participants are required to bring a laptop to class with EndNote and Stata (version 11 or more) installed.**

### **Description:**

Due to exponentially growing scientific literature, it is critical to synthesize reliable research for evidence-based decision making. Systematic reviews play a vital role for providing updated and reliable synthesis of established evidence. This three-day course covers from fundamental understanding to providing a step-by-step guidance on how to independently conduct a systematic review and meta-analysis. The course covers key topics including developing a focused question and research protocol according to PICO method, literature search and screening, data management and extraction, quality assessment of studies, meta-analytic methods, assessment of bias and heterogeneity, and report writing. The course also presents basic statistical methods such as selection of models for qualitative and quantitative meta-analysis, fixed and random-effects models, subgroup analysis, source of bias, and meta-regression. Participants will have the opportunity to gain practice experience by conducting practical tasks and by the end of the course, they will gain necessary skills to conduct their own high quality systematic review and meta-analysis.

**Course fee:** BDT 4,000 for students and BDT 6,000 for professionals and others (including lunch and snacks). **Please call to Administrative Officer of GPHRF before making a payment (01797-438889).** Course fee is non-refundable.

### **Learning Objectives:**

- Understand the rationale for conducting a systematic review and meta-analysis
- Understand the process related to steps in conducting systematic reviews and meta-analysis
- Be able to formulate a research question and protocol using the PICO framework
- Understand different methods of information and data synthesis based on qualitative and/or quantitative evidence
- Identify, access, and perform literature search using key sources
- Use bibliographic reference-manager software programs to manage studies
- Perform screening of articles according to PRISMA guidelines
- Develop and use a data extraction form to extract relevant outcomes
- Assess quality and validity of studies using a standardized quality appraisal form
- Identify and consider potential sources of bias and heterogeneity within and between included studies

- Synthesize results using meta-analysis in Stata both qualitatively and quantitatively
- Interpret effect size metrics and construct a report to draw relevant conclusions

**Registration: October 10 to December 10, 2017**

**Online Registration form:** <https://goo.gl/forms/EpljnEUZ50OerGpZ2>

**Contact:**

**Global Public Health Research Foundation**

House# 30 (3<sup>rd</sup> floor), Road# 12, Sector# 10, Uttara, Dhaka-1230

Email: [info@gphrf.org](mailto:info@gphrf.org)

Phone: (+88) 02 5509 2268

Mobile: (+88) 01797 438880, 01797 438889