**Course Description**

Systematic reviews and meta-analyses are critical for evidence-based clinical and public health practice. The widespread and growing application of systematic reviews to synthesize evidence on key research and clinical questions makes it useful for health professionals to be able to understand and critique this research design. This course will provide a detailed description of the systematic review process, discuss the strengths and limitations of the method, and provide step-by-step guidance on how to actually perform a systematic review.

**Course Objectives:**

1. Describe the benefit of evidence based health care
2. Introduce the overview of Systematic Review and Meta-analysis
3. Develop review question and state the inclusion and exclusion criteria for the review question
4. State the procedure of protocol development
5. Demonstrate PROSPERO registration for the review topic
6. Describe the search strategy
7. Define MeSH term and demonstrate how to check if the word is a MeSH
8. Demonstrate the search procedure and identify articles for review
9. Apply critical appraisal tools and apprise the selected article
10. Determine the quality of the article
11. Develop data extraction tool and pre-test
12. Apply qualitative synthesis and present results
13. Summarize the result and interpreted the findings
14. Describe meta-analysis
15. Demonstrate the softwares (stata)
16. Estimate the pooled effect of the articles
17. Test the assumptions of meta-analysis
18. Present the results and interprate
19. Describe evidence grading and demonstrate