

PhD in Epidemiology Dissertation Policies

The dissertation for the PhD in Epidemiology must be the product of an empirical research study conducted by the PhD candidate that uses epidemiology research methodology to address an important aspect related to public health. The dissertation should be:

1. Written in a scholarly style.
2. Include thorough literature reviews and development of relevant theoretical frameworks.
3. Include detailed descriptions of research designs, analytic methods, measurement strategies and data collection. The dissertation research may include analysis of existing, secondary data and/or analysis of primary data collected by the candidate.

The dissertation must be the product of epidemiologic research designed to produce new and **significant** knowledge about an important issue in epidemiology, clinical practice or public health. Students are expected to employ rigorous research designs and analytic methodologies that are generally accepted to be state-of-the-art scientific approaches in epidemiologic research.

Regarding the significance of the dissertation research, in most cases the research is expected to produce evidence that supports causal inferences about a phenomenon of interest or that makes significant contributions to the progression of evidence in support of such inferences.

Research that is purely formative or descriptive in nature may not be judged as significant unless the phenomenon of interest and/or the methods being tested are extraordinary in their novelty and innovation.

Moreover, the dissertation research typically will produce evidence that generalizes to settings and populations beyond those directly observed in the investigation, recognizing that there are necessary trade-offs among internal and external validity imposed by logistical and ethical constraints in all empirical research projects.

The dissertation also must be innovative, in the sense that an existing methodology is being applied in a new way or to a new question or problem area, or in the sense that a methodology is extended or modified in a significant way. By virtue of being innovative, the dissertation should produce new knowledge in that it resolves gaps, uncertainties, or controversies in the existing empirical and/or theoretical body of knowledge.

The dissertation committee will be the ultimate judge of the significance, innovation and validity of the dissertation research.

All dissertations must conform to the policies established by the UAMS College of Public Health. The dissertation can take either of two formats, a three-paper format or a monograph format.

Three Paper Format

The first format consists of three publishable, empirical research papers relating to an epidemiologic, clinical or public health issue. The papers should be related, either by their substantive content or by their methodology.

While publish-ability is a necessary condition for the acceptability of the dissertation, the fact that a paper has been published in a peer-reviewed publication does not necessarily make it acceptable for the dissertation.

Each paper must be an empirical research paper that includes an epidemiologic research design, data collection, and appropriate analytic methods of sufficient rigor as deemed by the student's dissertation committee. Review articles (other than meta-analyses), research design articles, and purely theoretical or conceptual articles generally will not count as one of the three required dissertation papers.

On occasion, one or more of the papers may have been published prior to submission of the dissertation, and the published version may be included in the dissertation in lieu of a typescript. However, none of the papers may have been published prior to the student's matriculation into the program, and the majority of the work on the dissertation must be completed after matriculation. The inclusion of any work on the dissertation done prior to passing the comprehensive examination must be approved by both the dissertation committee and the PhD advisory committee.

Material such as literature reviews, theoretical frameworks, detailed description of analytic methods and data—which may be excluded from published versions of papers due to page constraints—must be included in the dissertation, possibly as appendices or as separate background papers.

The dissertation must include an overview summarizing the papers. It must also contain material that describes, in non-technical terms, the implications of the papers' findings for the real world of public health as well as directions for future research that are suggested by the papers' findings and/or limitations. This material may be incorporated into the individual papers (e.g., in discussion sections), or in a separate concluding section of the dissertation.

Monograph Format

The second format alternative is a traditional monograph-style dissertation. Such a dissertation must either:

(a) contain at least three units of empirical research which are independently publishable (which may be organized as chapters) or

(b) be suitable for subsequent publication in book form.

The rules and recommendations described above for the three-paper format regarding prior publication, dissertation summary, and concluding sections apply to a traditional dissertation as well.

Key Content

Regardless of which of the two formats is chosen, the dissertation must include several key elements of content:

- (1) A clear description of the problem under investigation, the empirical research questions of interest, and why these questions are relevant and important from a public health perspective.
- (2) A thorough and comprehensive review of the existing theoretical and empirical literature related to the problem and research questions of interest. The review must make clear what is known about the problem already, what is not yet known, and what are remaining areas of uncertainty or controversy. In doing so, the review must make clear how the dissertation research will contribute new knowledge to the existing body of literature.
- (3) Development of a theoretical framework based on relevant theories that guides the investigation and justifies the research design and analytic methodologies used.
- (4) Description of the research design, the measures of effect to be estimated and analytic methods used in the investigation.
- (5) Description of the key results from all analyses.
- (6) Interpretation of the findings and discussion of the implications of the research for the field of epidemiology, clinical practice or public health, and future research. This discussion should also include an assessment of the limitations of the research in conjunction with the body of knowledge on the topic and their implications for how results should be interpreted and used in the research, policy, and practice communities. The dissertation should translate and apply research findings as clearly and concretely as possible in the form of considerations, recommendations, scenarios and options for the full range of stakeholders likely to share in the benefits and/or costs of the phenomena.

Dissertation Process

Doctoral candidates will be required to complete a **minimum** of 6 hours of dissertation research under the guidance of a Doctoral Dissertation Committee of faculty. PhD candidates must register for at least one credit hour of dissertation for each semester and one credit hour of dissertation for each summer session until the degree is awarded.

The Committee must include at least three faculty members—including at least two primary faculty members in the Department of Epidemiology. With submission of an outside member form and C.V. to the PhD Advisory Committee, and approval of the Doctoral Dissertation Committee and the PhD Advisory Committee, one person who is not a UAMS College of Public Health Faculty member may serve as a fourth member of the Doctoral Dissertation Committee. The Committee must be chaired by a primary faculty member in the Department of Epidemiology who has previously been a member of a dissertation committee (at UAMS or another institution); other faculty members may chair or co-chair a dissertation committee with permission of the PhD Advisory Committee and the chairman of the Department of Epidemiology. The Committee can be appointed at any time after the student has passed his/her doctoral comprehensive examination. At the time of appointment, notification of the committee membership must be forwarded to the PhD Advisory Committee. Any changes to the composition of the Doctoral Dissertation Committee must be made with the approval of the committee chair and the PhD Advisory Committee.

As part of the dissertation research process, candidates **must first successfully develop, defend and receive approval for the written proposal of his/her dissertation research, and then subsequently develop and defend his/her completed dissertation research.** Acceptance of the dissertation proposal will require approval by all members of the Doctoral Dissertation Committee after the candidate's oral defense of the proposal. Dissertation research proposals must also be reviewed and approved by the UAMS Institutional Review Board before the candidate begins the research. Acceptance of the dissertation and award of the PhD will require approval by all members of the Doctoral Dissertation Committee after the candidate's oral, public defense of the dissertation.