

STATE OF WISCONSIN
CLASSIFICATION SPECIFICATION

RESEARCH SCIENTIST

I. INTRODUCTION

A. Purpose of This Classification Specification

This classification specification is the basic authority under Wis. Admin. Code ER 2.04 for making classification decisions relative to present and future Research Scientist positions. Positions allocated to this classification are located in the Division of Public Health in the Department of Health and Family Services. This classification specification is not intended to identify every duty which may be assigned to positions, but is intended to serve as a framework for classification decision making in this occupational area.

Classification decisions must be based on the “best fit” of the duties within the existing classification structure. The “best fit” is determined by the majority (i.e., more than 50%) of the work assigned to and performed by the position when compared to the class concepts and definition of this specification or through other methods of position analysis. Position analysis defines the nature and character of the work through the use of any or all of the following: definition statements; listing of areas of specialization; representative examples of work performed; allocation patterns of representative positions; job evaluation guide charts, standards or factors; statements of inclusion and exclusion; licensure or certification requirements; and other such information necessary to facilitate the assignment of positions to the appropriate classification.

B. Inclusions

These professional positions are located within the Department of Health and Family Services, Division of Public Health, in the areas of Epidemiology and Toxicology. Responsibilities include managing and administering research programs per s. 111.81(13), Wis. Stats.

Research Scientists in the field of Epidemiology are responsible for performing work involved in studying the distributions and determinants of morbidity and mortality.

Research Scientists in the field of Toxicology are responsible for performing work to recognize and assess human exposures to toxic substances and their impact on public health.

C. Exclusions

Excluded from this classification are the following types of positions:

1. Positions which meet the statutory definition of supervisor as defined in s. 111.81(19), Wis. Stats., and as administered and interpreted by the Wisconsin Employment Relations Commission.
2. Positions which are, for a majority of the time, engaged in activities not related to the human health impacts of morbidity and mortality, and toxic substance exposure (such as ecological and environmental toxicology activities).

3. Positions which are epidemiologists and are more appropriately identified by the Public Health Educator classification specification.
4. Positions which are epidemiologists and are more appropriately identified by the Environmental Health Specialist classification specification.
5. All other positions which are more appropriately identified by other classification specifications.

D. Entrance Into This Classification

Employees enter positions within this classification by competition.

II. DEFINITIONS

RESEARCH SCIENTIST

Epidemiologist: Positions included in this allocation, design, direct, and conduct multiple, advanced epidemiologic investigations, surveillances, interventions, and program evaluations of maternal and child health, occupational, environmental, communicable disease, injury, health behaviors, and chronic conditions. Positions function at the level of a Principal Investigator (PI) on several projects. These positions are responsible for the scientific conduct of programs and studies. Activities include observing, describing, quantifying, and developing theories about the patterns, characteristics, causes, and prevention of disease and injury affecting population health. Epidemiologic methods are applied to identify and understand causes of public health problems and to plan and evaluate public health interventions to prevent or reduce disease and injury burden, and/or to evaluate outcomes of health service delivery. Work is performed under general supervision.

Examples of Work Performed:

Serves as Principal Investigator* (PI) of a study team on epidemiologic investigations, surveillance, control, or evaluation programs (*responsible for the scientific conduct of the program.)

Designs and develops methods to conduct multiple, regional and/or statewide disease surveillance systems.

Designs and directs the conduct of multiple, large (involving 500 to 1000 individuals or more) or state-wide advanced epidemiologic investigations (e.g., cohort, case-control, stratified sample studies) or public health intervention, in line with program goals.

Designs, directs analysis, and independently analyzes multiple large data sets to discern exposure-disease, confounder, and effect-modifier relationships.

Designs and directs the compilation of investigation, surveillance, or other program data. Designs and directs the methods to be used for advanced statistical and epidemiologic analyses, and increase the rigor of underlying datasets. Uses and directs the utilization of Statistical Analysis System (SAS) and other advanced software packages to produce and display advanced analytic statistics.

Contributes to program activities by serving as lead or first author of the peer-reviewed manuscripts and departmental reports, and PI for grant programs.

Functions as principal investigator during outbreak and other rapid response epidemiologic investigations by designing and directing all phases of study activities; responsible for scientific conduct of the investigation.

Has lead responsibility in the development and production of morbidity and mortality guidelines and control recommendations.

Has lead responsibility in coordinating and providing advanced public health and demographic information (e.g., advanced analytic statistics) to the public, medical community and others.

Provides consultation to other state and federal agencies, local health agencies, private health care providers and other on the design of new or emerging disease detection, prevention, and control programs.

Designs protocols for the collection and review of information, literature and/or records on epidemiologic issues.

Toxicologist: Employees in this allocation design and conduct toxicological studies for chemical-induced injuries or illnesses that are of public health concern. Toxicologists review the occurrence of and potential for human exposure to chemicals, and study and describe the resultant or potential risks. Toxicologists review chemical exposure data from environmental, residential or occupational settings to assess risk to human health, and perform multimedia exposure modeling. These positions provide toxicological evaluations to Division staff, other State agencies, and local health departments; design and conduct health risk assessments, and formulate and communicate subsequent public health recommendations. Responsibilities include investigating and characterizing human injuries and illnesses that result from exposure to toxic chemicals, formulating recommendations on safe levels of human exposure to harmful chemicals, and conducting statewide toxicologic surveillance activities relating to health outcomes and chemical exposure. Toxicologists respond to non-routine requests for toxicological information requiring the use of professional judgment in the evaluation of inconclusive or incomplete data, and integrate toxicological and risk assessment principles to evaluate and implement public health interventions that reduce the incidence and severity of chemical-induced illnesses such as cancer, birth defects, and neurological diseases. Work is performed under general supervision.

Advanced principles of toxicology, human pathology, physiologic and environmental chemistry, biostatistics, risk assessment, and public health have been learned prior to entrance into this classification. Advanced principles of toxicology include physiologically based pharmacokinetics, tissue dosimetry, molecular mechanisms of toxicity, and evaluation of human biomarkers of exposure. Positions in this classification design and conduct group and case study toxicity investigations; and design and prepare complex risk assessments (e.g. health risks associated with simultaneous exposure to multiple chemicals and multiple pathways). These positions also prepare risk assessments to support and evaluate regulatory programs administered by other departments, such as Natural Resources and Agriculture, Trade and Consumer Protection. In addition, they prepare detailed scientific, toxicological reports and back ground document that summarize their major findings and recommendations.

Examples of Work Performed:

Serves as Principal Investigator* (PI) of a study team on toxicological investigations and basic research on chemical-induced human morbidity and mortality (*responsible for the scientific conduct of the program.)

Serves as Lead Toxicologist Consultant on epidemiological investigations of chemically induced human illness, including exposure assessment, dose vs. response analysis, and risk characterization.

Serves as Toxicologist – Consultant to Chief Medical officers (CMO's) and other staff. Provide toxicological, technical assistance to CMOs for the analysis of clinical data in cases where human exposure to toxicants is suspected.

Develops and evaluates health-based regulatory policies. Examples include health-based groundwater and air quality standards administered by the Department of Natural Resources, and pesticide use policies implemented by the Department of Agriculture, Trade and Consumer Protect.

Designs, directs, and reviews human-health risk assessment paradigms incorporating complex analyses, such as probabilistic risk characterization (i.e. Monte Carlo analysis).

Designs and directs toxicological case studies of exposure incidents that may have resulted in human illness or injury.

Prepares detailed scientific, toxicological reports for publication in peer-reviewed professional journals.

Designs, develops, and presents educational materials to inform professionals such as physicians, allied health care providers, and the regulatory community on timely toxicology issues.

Serves as a consultation resource to health care professionals, emergency responders, and others for general information on toxic substances, or for guidance in scenarios in which exposure of concern may have occurred, including the retrieval and interpretation of toxicological data from TOMES or other data bases on hazardous materials on substances.

Serves as principal contact with federal agencies such as the Centers for Disease Control, the Food and Drug Administration, and the Environmental Protection Agency in enlisting federal assistance with issues relating to human exposure to toxic substances in Wisconsin.

Develops and presents graduate-level lectures in human health risk assessment with University of Wisconsin faculty.

Serves as an expert witness in legal proceedings and present the Department in hearings and court cases involving the regulation of human exposure to toxic substances.

III. QUALIFICATIONS

The qualifications required for these positions will be determined at the time of recruitment. Such determinations will be made based on an analysis of the goals and worker activities performed and by an identification of the education, training, work, or other life experience which would provide reasonable assurance that the knowledge and skills required upon appointment have been acquired.

IV. ADMINISTRATIVE INFORMATION

This classification was created effective December 5, 1999 and announced in Bulletin DCLR/SC-106 as a result of abolishing the Research Scientist 1 thru 4 series. Only one level within that series was being

utilized. The classification was modified effective March 10, 2013 and announced in Bulletin OSER-0322-MRS/SC to reflect changes to the definition language that better define the demographer work performed in the Epidemiologist allocation.

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