

NATIONAL BOARD OF PUBLIC HEALTH EXAMINERS

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**Certified in Public Health (CPH) Exam**  
**CONTENT OUTLINE**

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April 2014

# INTRODUCTION

This document was prepared by the National Board of Public Health Examiners for the purpose of developing certification examinations, and maintenance of certification for public health. The outline, which was developed by a committee of practitioners and educators, contains the categories that will be reflected in the certified in public health examination.

Candidates preparing for the CPH certification exam should carefully review the specific content outline of the exam and become familiar with the manner in which the exam is administered.

The CPH exam is administered by AMP by paper-based exam and computer-based exam at various times of the year, within and outside the United States. This content outline was developed as a resource for CPH candidates and should not be considered a definite list of topics which are tested in the CPH exam. Exam questions are subject to change.

Comments or questions about this content outline, should be sent to [info@nbphe.org](mailto:info@nbphe.org).

# Table of Contents

	Percentage of CPH exam	Page
General Principles .....	12.5%.....	1
Biostatistics .....	15%.....	2
Health Policy and Management.....	15%.....	4
Environmental Health Sciences.....	15%.....	6
Epidemiology.....	15%.....	8
Social Behavioral Sciences .....	15%.....	10
Cross-Cutting.....	12.5%	
Communications and Informatics .....		11
Diversity and Culture .....		11
Leadership .....		12
Ethics and Professionalism .....		12
Program Planning and Evaluation .....		13
Public Health Biology.....		13
Systems Thinking .....		14

# General Principles

1. **Definitions of Public Health, Health, Population Health**
2. **Sentinel Events in the History and Development of Public Health**
3. **Core Functions of Public Health**
4. **Essential Services of Public Health**
5. **Public Health Agency Accreditation**
6. **Core Values/Principles/Tenets/Frameworks**
  - A. Population Focus
  - B. Prevention Orientation
  - C. Primary, Secondary, Tertiary Prevention
  - D. Social Justice
  - E. Social Ecological Model
  - F. Life Course Perspective
  - G. Health Equity
7. **Government Responsibility for Public Health in the United States**
  - A. Police Power
  - B. Tenth Amendment
  - C. Legal Basis for Public Health
  - D. Basic Case Law in Public Health
8. **The US Public Health System**
  - A. **Health Objectives for the Nation**
  - B. State Responsibility for Public Health
  - C. State and Local Agencies
  - D. Systems-Level Responsibility, Intersectoral, Public-Private, etc
  - E. Federal Agencies, Relationships to States
  - F. Global Public Health Systems

# Biostatistics

## 1. Visualizing Data

- A. Data Presentation
- B. Kaplan Meier
- C. Simple Regression Lines

## 2. Descriptive Statistics

- A. Central Tendencies and Variability
- B. Frequency
- C. Percentiles and Standardized Scores

## 3. Statistical Probability Distributions

- A. Normal
- B. T Distribution
- C. Binomial
- D. Chi-square
- E. Poisson
- F. F

## 4. Types of Variables and Measurement Scales

- A. Qualitative versus Quantitative Variables
- B. Confounding
- C. Effect Modifiers
- D. Independent versus Dependent Variables
- E. Measurement Scales

## 5. Measurement

- A. Reliability
- B. Validity

## 6. Estimation

- A. Sampling Theory and Central Limit Theorem
- B. Estimation of Population Parameters

**7. Testing Hypotheses**

**8. Concepts of Probability**

- A. Statistical Test Assumptions
- B. Level of Significance
- C. Decision Errors and Statistical Power
- D. Tests for group means (e.g., Z-test, t-test, ANOVA)
- E. Tests for Proportions (e.g., Chi-Square, Tests of Independence)
- F. Goodness of Fit Tests

**9. Risks and Rates**

- A. Odds Ratio, Relative Risk

**10. Correlation and Prediction Methods**

- A. Correlation
- B. Simple Linear Regression
- C. Multiple Regression
- D. Logistic Regression
- E. Survival Analysis

**11. Interpreting Statistical Test Results**

**12. Confidence Intervals**

# Health Policy and Management

## 1. US Health Care Delivery System

- A. Continuum of Care – Primary through Long-Term Care
- B. Not-for-profit, For-profit, Government Organizations
- C. Health Care Financing, Public and Private
- D. Federal programs – Medicare, Medicaid, Tricare, Social Security, Children’s Health Insurance
- E. Patient Protection and Affordable Care Act
  - 1. HIPAA
- F. Health Care Utilization, Elasticity of Demand
- G. Basic Insurance Concepts

## 2. Access, Cost and Quality Considerations

## 3. Global Health Care Systems

- A. Financing and Delivery Models

## 4. US Health Policy

- A. Policy-Making Process
  - 1. Federal
  - 2. State
  - 3. Local
- B. National Advocacy Organizations
- C. Stakeholder Participation
- D. Advocacy – Federal, State and Local Levels
- E. Social Ethics
- F. Health Economics

## 5. Management and Leadership

- A. Organizational Management
  - 1. Organizational Structure
  - 2. Strategic Management and Leadership
  - 3. Program Planning and Marketing
  - 4. Organizational Ethics
  - 5. Accountability

B. Human Resources Management

1. Staffing Principles
2. Recruitment, Motivation, Retention
3. Performance Improvement

C. Financial Management

1. Resource Allocation and Control
2. Budgeting



# Environmental Health Sciences

## 1. Air Quality – Ambient & Indoor

- A. Primary and Secondary Chemical Contaminants
- B. Greenhouse Gases (e.g. CO<sub>2</sub>; CH<sub>4</sub>; etc.)
- C. Difference between Mobile and Stationary Sources
- D. Federal Regulation of Air Quality
  - i. Clean Air Act
  - ii. Criteria Air Pollutants
- E. Chemical, Biological, and Radiological Contaminants of Air
  - i. Major Contaminant Sources and Factors Affecting Indoor Air
  - ii. Environmental Tobacco Smoke (Primary/Second and Third-Hand)

## 2. Water Quality – Resources & Portable Water

- A. Ground Water and Surface Waters
- B. Water Scarcity (Climate Change and Population Growth)
- C. Major Biological and chemical Contaminants Associated with Water Quality and Waterborne Illness
- D. Waterborne Illness and Disease
- E. Municipal (Potable) Water Treatment Versus Waste Water Treatment
- F. Federal Regulation of Water
  - i. Clean Water Act

## 3. Food Quality and Security

- A. Chemical and Biological Contaminants
- B. Foodborne illnesses
- C. Causes of Foodborne Illnesses
- D. Responses of Foodborne Illnesses
- E. Regulatory Responsibilities of FDA, USDA, EPA with Respect to Food

## 4. Built Environment

- A. Planning
- B. Ecosystem
- C. Sustainability and Planning

**5. General Environmental Health**

- A. Chemical, Physical and Biological agents in the environment that affect human health

**6. Occupational Health & Safety – Workplaces and Hazardous Materials**

- A. Major Types/ Sources (Chemical, Physical, Biological Agents)

**7. Toxicological Agents/ Principles**

- A. Principles of Toxicology
- B. Routes of Exposure
- C. Concept of Dose-Response

**8. Infectious and Zoonotic Agents/ Principles**

- A. Zoonosis
- B. Vectors and Vector Control

**9. Global Environmental Health**

- A. Climate Change

**10. Risk Assessment**

- A. Risk Assessment
- B. Risk Communications
- C. Risk Management

**11. Solid and Hazardous Waste**

**12. Environmental Justice**

**13. Injury and Injury Control**

**14. Disaster Preparedness**

# Epidemiology

1. **General Knowledge**
  - A. Definition of and Applications of Epidemiology
  - B. Concept of Risk for Disease
2. **Measures of Disease Frequency**
  - A. Incidence and Prevalence
  - B. Rates
  - C. Ratios
  - D. Proportions
  - E. Standardization
3. **Measures of Association and Effect**
  - A. Concepts
  - B. Comparisons
  - C. Interpretation and Communication
4. **Infectious Disease and Outbreak Investigation**
  - A. Infection and Transmission
  - B. Immunity
  - C. Outbreaks and Investigations
  - D. Disease Surveillance
5. **Study Design**
  - A. Observational
  - B. Experimental
  - C. Cross-Sectional
  - D. Case Control
  - E. Cohort Studies
  - F. Retrospective
  - G. Prospective
6. **Causation and Validity**
  - A. Validity
  - B. Bias
  - C. Confounding
  - D. Causal Criteria
7. **Screening and Screening Policy**
  - A. Screening Policy

- B. Sensitivity
- C. Specificity
- D. Positive and Negative Predictive Value
- E. Ethical Principles of Epidemiology

# Social Behavioral Sciences

## 1. Theories, Concepts, and Models

- A. Levels of Intervention
  - i. Intrapersonal Level
  - ii. Interpersonal Level
  - iii. Community Level
  - iv. Societal Level
- B. Health Belief Model
- C. Theory of Planned Behavior
- D. Trans-theoretical Model of Change
- E. Social Cognitive Theory
- F. Diffusion of Innovation Theory

## 2. Intervention Strategies

- A. Evidence-Based Practice
- B. Adapting Programs to Specific Populations
- C. Social marketing
- D. Social Ecological Model
- E. Social Support

## 3. Social and Behavioral Determinants of Health

## 4. Mental Health and Addiction

# Communications and Informatics

1. **Public Health Information Infrastructure**
2. **Message Design**
3. **Communication Theories and Strategies**
4. **Informatics Theories and Strategies**
5. **Legal and Ethical Issues in Information Technology**
6. **Audience Issues**
  - A. Individual, Community, Institutional
  - B. Legislative Testimony
  - C. Legal Testimony
7. **Using Informatics Tools to Promote Public Health**
8. **Informatics and Communications as Advocacy Tools**
9. **Media**
10. **Risk Communication**

# Diversity and Culture

1. **History of Definitions, Perceptions of Race and Ethnicity, Data Collection**
2. **Cultural Competence, Principles, and Practices**
3. **Health Disparities**
4. **Availability, Accessibility, Acceptability of Services**
5. **Culturally Appropriate Community Engagement and Empowerment**
6. **Community Based Participatory Research**
7. **Health Literacy**
  - A. Assuring Accurate Cross-Cultural Communication
  - B. Cultural Influences on Communication
8. **Cultural Influences on Behavior, including Health-Seeking Behavior**
9. **Environmental Justice and Equity**

# Leadership

1. **Attributes**
  - A. Visionary
  - B. Inspiring
  - C. Mentoring
  - D. Risk-Taking
  - E. Motivating Others for Problem-Solving and Decision-Making
2. **Leadership Theories and Principles**
3. **Vision, Mission, Values, Goals, and Objectives**
4. **Communicating, Listening, and Responding**
5. **Problem Solving and Conflict Resolution**
6. **Leadership vs Management**
7. **Team Building**
8. **Engaging Stakeholders, Building Coalitions**
9. **Social Justice and Human Rights Principles**
10. **Advocacy**

# Ethics and Professionalism

1. **Principles**
  - A. Ethical Principles
  - B. Ethical Analysis
  - C. Code of Ethics
2. **Protection of Human Subjects**
3. **Evidence-Based Planning and Evaluation**
4. **Fiduciary Responsibilities**
5. **Population vs Individual Ethical Considerations**
6. **Impact of Legal and Regulatory Environments on Research and Practice**

# Program Planning and Evaluation

1. **Needs Assessment**
2. **Stakeholder Involvement and Feedback**
3. **Fidelity to Program Design in Implementation**
4. **Identifying Intervention and Prevention Strategies**
5. **Vision, Mission, Goals and Values**
6. **Setting Priorities and Measureable Objectives**
7. **Developing Programs and Policies**
8. **Developing Program Budgets**
9. **Evaluation Methods and Designs**
  - A. Measuring Efficiency
  - B. Measuring Effectiveness
  - C. Formative, Summative, etc.
10. **Communicating Evaluation Results**
11. **Measuring Effectiveness**

# Public Health Biology

1. **Host Susceptibility, Genetic Factors, and Immunologic Response**
2. **Biologic and Molecular Basis for Public Health**
3. **Genetics and Genomics**
4. **Agent Virulence, Pathogenesis, and Treatment Resistance**
5. **Modes of Disease Transmission**



# Systems Thinking

1. **Characteristics of a System**
2. **Systems Theory**
  - A. Feedback loops
  - B. Stocks and Flows
3. **Measurement of System Changes**
4. **Effects of Globalization on Human Health**
5. **Determinants of Health Status – Biologic, Sociocultural, etc.**
6. **Public Health Relationships with Other Public Systems**