Statistical Software for Public Health Training Course

Professional Development Training Course Outline

Category	Public Health	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Public health professionals today operate in a highly data-driven environment where evidence-based decision-making, epidemiological surveillance, predictive analytics, and health systems research are essential for improving healthcare outcomes. The increasing demand for real-time health intelligence, biostatistical analysis, disease modeling, and data visualization has made statistical software proficiency a critical competency for researchers, epidemiologists, monitoring and evaluation specialists, and healthcare managers. Statistical Software for Public Health Training Course equips participants with practical skills in R, SPSS, and Stata to manage, analyze, interpret, and visualize complex public health datasets effectively.

The course emphasizes hands-on learning using real-world public health datasets and modern analytical approaches aligned with global health trends such as digital health analytics, epidemiological intelligence, health informatics, machine learning in healthcare, advanced biostatistics, data governance, and predictive public health modeling. Participants will gain competencies in statistical programming, quantitative research methods, data management, survey analysis, regression modeling, and evidence generation for policy formulation and program evaluation. The training integrates practical exercises, case studies, and interactive workshops to ensure participants can confidently apply statistical techniques to solve current and emerging public health challenges.

Programme Curriculum

Statistical Software for Public Health Training Course

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Course Duration

5 days

Course Objectives

By the end of the training, participants will be able to:

1. Apply advanced biostatistics techniques using modern statistical software platforms.
2. Perform epidemiological data analysis for disease surveillance and outbreak investigations.
3. Conduct data cleaning, transformation, and validation for large public health datasets.
4. Generate interactive data visualizations and dashboards for health reporting.
5. Execute predictive analytics and health forecasting using statistical models.
6. Analyze health survey and demographic data using sampling and weighting techniques.
7. Perform regression modeling and multivariate analysis for public health research.
8. Utilize machine learning applications in healthcare analytics.
9. Interpret and communicate evidence-based public health findings effectively.
10. Conduct monitoring and evaluation (M&E) analytics for donor-funded programs.
11. Develop reproducible research workflows using statistical programming and automation.
12. Apply health informatics and digital health analytics in decision-making.
13. Strengthen competencies in research data management, statistical reporting, and policy analysis.

Target Audience

1. Public Health Officers
2. Epidemiologists and Disease Surveillance Officers
3. Monitoring & Evaluation (M&E) Specialists
4. Health Researchers and Biostatisticians
5. Medical and Healthcare Professionals
6. NGO and Development Program Staff
7. University Lecturers and Graduate Students
8. Data Analysts and Health Information Officers

Course Modules

Module 1: Introduction to Statistical Software in Public Health

- Overview of public health analytics

- Introduction to R, SPSS, and STATA interfaces
- Installing packages and managing datasets
- Public health data structures and formats
- Ethical considerations and data governance
- **Case Study:** Analysis of national health survey data for disease prevalence estimation.

Module 2: Data Management and Cleaning

- Data importing and exporting techniques
- Data transformation and recoding
- Missing data management strategies
- Data validation and quality assurance
- Creating analysis-ready datasets
- **Case Study:** Cleaning COVID-19 surveillance datasets for epidemiological reporting.

Module 3: Descriptive Statistics and Data Visualization

- Measures of central tendency and dispersion
- Frequency tables and cross-tabulations
- Advanced charts and dashboards
- Geographic and spatial health visualization
- Automated reporting techniques
- **Case Study:** Visualizing maternal and child health indicators across regions.

Module 4: Biostatistics and Inferential Analysis

- Hypothesis testing methods
- Confidence intervals and significance testing
- Correlation and association analysis
- Parametric and non-parametric tests
- Interpretation of statistical outputs
- **Case Study:** Comparing treatment outcomes between intervention groups.

Module 5: Regression Modeling and Predictive Analytics

- Linear regression analysis
- Logistic regression for health outcomes
- Survival analysis techniques
- Predictive modeling in healthcare
- Model diagnostics and validation
- **Case Study:** Predicting malaria risk factors using demographic and environmental variables.

Module 6: Epidemiological and Survey Data Analysis

- Disease surveillance analytics
- Incidence and prevalence calculations
- Sampling methodologies and weighting
- Complex survey data analysis
- Time-series analysis for outbreaks
- **Case Study:** Outbreak investigation and trend analysis for infectious diseases.

Module 7: Machine Learning and Advanced Analytics

- Introduction to machine learning in public health
- Classification and clustering techniques
- Decision trees and random forests
- Health risk prediction models
- AI-driven health analytics applications
- **Case Study:** Machine learning model for predicting hospital readmissions.

Module 8: Reporting, Interpretation, and Decision Support

- Statistical reporting standards
- Developing evidence-based recommendations
- Policy-oriented data interpretation
- Presentation of analytical findings
- Reproducible research documentation
- **Case Study:** Developing a public health policy brief from analyzed survey data.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org **or call** *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com