Data Analysis and Interpretation 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

Data analysis and interpretation in public health is a critical competency for strengthening evidence-based decision making, disease surveillance, and health systems performance. Data Analysis and Interpretation for Public Health Training Course is designed to equip public health professionals with practical and analytical skills in biostatistics, epidemiology, health informatics, data visualization, and predictive analytics. Participants will gain hands-on experience in transforming raw health data into actionable insights using modern tools such as R, Python, Excel, DHIS2, and GIS platforms. The course emphasizes real-world application in monitoring disease trends, outbreak detection, program evaluation, and health policy formulation.

In today's rapidly evolving global health environment, the ability to interpret and communicate health data effectively is essential for improving population health outcomes, epidemic preparedness, and resource allocation efficiency. This course bridges the gap between data collection and decision-making by integrating statistical reasoning, data storytelling, dashboard development, and health intelligence systems. Through interactive learning and case-based practice, participants will develop the capacity to generate insights that support public health interventions, surveillance systems strengthening, and sustainable health planning.

Programme Curriculum

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Course Duration

5 days

Course Objectives

1. Master fundamentals of public health data analysis and interpretation
2. Apply biostatistics techniques for health research and decision-making
3. Understand principles of epidemiological data analysis and surveillance systems
4. Use R and Python for health data analytics and visualization
5. Develop skills in DHIS2 data management and reporting systems
6. Interpret health indicators and performance metrics effectively
7. Conduct trend analysis and outbreak detection modeling
8. Apply predictive analytics in disease forecasting
9. Design interactive public health dashboards and visual reports
10. Integrate GIS mapping for spatial health analysis
11. Strengthen data quality assessment and validation techniques
12. Translate data insights into policy and program recommendations
13. Enhance evidence-based communication for public health stakeholders

Target Audience

- Public Health Officers
- Epidemiologists and Surveillance Officers
- Biostatisticians and Data Analysts
- Health Information System (HIS) Managers
- NGO and Donor Program Officers
- Medical Researchers and Academics
- Health Policy Makers and Planners
- Monitoring & Evaluation (M&E) Specialists

Course Modules

Module 1: Foundations of Public Health Data Science

- Basics of health data types and sources
- Introduction to epidemiological datasets
- Data lifecycle in public health systems
- Role of data in health decision-making

- Ethics and data governance
- **Case Study:** COVID-19 surveillance data interpretation in early outbreak response

Module 2: Biostatistics for Health Analytics

- Descriptive and inferential statistics
- Probability distributions in health data
- Hypothesis testing in clinical studies
- Regression analysis basics
- Statistical significance in health research
- **Case Study:** Maternal mortality risk factor analysis

Module 3: Epidemiological Data Analysis

- Incidence and prevalence calculations
- Outbreak investigation methods
- Cohort and case-control study analysis
- Time-series epidemiological trends
- Disease burden estimation
- **Case Study:** Malaria incidence trend analysis in endemic regions

Module 4: Data Management Using DHIS2 & Health Systems Tools

- DHIS2 data entry and validation
- Health indicators tracking
- Data aggregation and reporting
- Routine health information systems
- Data quality assurance frameworks
- **Case Study:** Immunization coverage monitoring in national programs

Module 5: Data Visualization & Dashboard Development

- Principles of effective data visualization
- Creating dashboards using Excel and Power BI
- Storytelling with health data
- Interactive reporting techniques
- KPI visualization methods
- **Case Study:** HIV program performance dashboard design

Module 6: Advanced Analytics with R and Python

- Data cleaning and preprocessing
- Statistical computing in R
- Python for health data analysis
- Machine learning basics in public health
- Automation of health reports
- **Case Study:** Predicting disease outbreaks using Python models

Module 7: GIS and Spatial Health Analysis

- Introduction to geographic health data
- Mapping disease distribution

- Spatial clustering and hotspot analysis
- Environmental health mapping
- Integration of GIS with surveillance systems
- **Case Study:** Cholera hotspot mapping in urban settlements

Module 8: Data Interpretation & Policy Translation

- Turning data into actionable insights
- Writing analytical public health reports
- Communicating findings to policymakers
- Risk communication strategies
- Evidence-based decision frameworks
- **Case Study:** COVID-19 vaccination policy adjustment based on data trends

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