Genomic and Personalized Medicine Insurance Training Course

Professional Development Training Course Outline

Category	Insurance	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The intersection of genomic science, personalized medicine, and health insurance is transforming modern healthcare. Training Course on Genomic and Personalized Medicine Insurance is designed to equip healthcare professionals, insurance experts, and policy decision-makers with a deep understanding of genomic innovations, precision-based treatments, and the evolving insurance coverage landscape. As genetic testing and biomarker-based therapies become integral to clinical practice, knowledge of how these services are financed and insured is critical for delivering value-based care.

Through this course, learners will explore the intricacies of health policy, underwriting genomic risks, payer-provider dynamics, and ethical-legal implications in the genomic era. The course blends real-world case studies, emerging insurance models, and regulatory frameworks to prepare participants for active roles in precision health insurance policy development, risk modeling, and claims adjudication involving genomic technologies.

Programme Curriculum

Genomic and Personalized Medicine Insurance Training Course

Introduction

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Course Objectives

1. Understand the fundamentals of genomics and personalized medicine in clinical settings.
2. Analyze the impact of genetic testing on insurance underwriting practices.
3. Identify the legal and ethical challenges in genomic insurance.
4. Evaluate reimbursement models for genomic diagnostics and treatments.
5. Examine the role of AI-driven health risk assessment in insurance.
6. Understand genomic data privacy laws (e.g., GINA, HIPAA).
7. Explore cost-effectiveness analysis of personalized treatments.
8. Develop policies for genomic claims adjudication.
9. Assess the role of biomarkers in risk stratification and coverage.
10. Interpret policy language that includes genomic coverage clauses.
11. Design insurance models for population genomics.
12. Learn how payors evaluate evidence for genomic medicine coverage.
13. Create communication strategies for genomics-informed policies.

Target Audiences

1. Health insurance professionals
2. Genomics and biotech executives
3. Healthcare policy makers
4. Actuaries and risk analysts
5. Medical practitioners and genetic counselors
6. Legal experts in healthcare compliance
7. Biomedical researchers and data scientists
8. Healthcare administrators and payors

Course Duration: 10 days

Course Modules

Module 1: Introduction to Genomics and Personalized Medicine

- Fundamentals of genomics and epigenetics
- Concepts of personalized and precision medicine
- Applications in disease prevention and treatment
- Overview of molecular diagnostics
- Ethical implications of genetic data use
- **Case Study**: BRCA mutation testing and insurance coverage

Module 2: Genetic Testing and Health Insurance

- Types of genetic tests (clinical vs. DTC)
- Insurance classification of genetic services
- Role of genetic counseling in claims
- Documentation for reimbursement
- Legal basis for test coverage
- **Case Study**: Denial of coverage for pharmacogenetic testing

Module 3: Insurance Underwriting and Genomic Risk

- Traditional vs. genomic risk assessment

- Personalized risk profiles
- Impact on premium pricing
- Use of polygenic risk scores
- Adverse selection concerns
- **Case Study**: Genomic scoring in life insurance

Module 4: Reimbursement Policies and Coding

- CPT and ICD coding for genetic tests
- Payer review processes
- Evidence requirements for reimbursement
- Role of MACs and CMS
- Gaps in current reimbursement systems
- **Case Study**: CMS denial of Next-Gen Sequencing panel

Module 5: Legal and Ethical Considerations

- GINA and anti-discrimination laws
- HIPAA compliance and genomic data
- Ethical dilemmas in family disclosures
- Informed consent in testing
- Liability in misinterpreting results
- **Case Study**: Genetic discrimination litigation

Module 6: Data Privacy and Security in Genomics

- Data encryption and access controls
- Risks of re-identification
- Consent management
- Privacy regulations across jurisdictions
- AI and secure genomic analytics
- **Case Study**: Breach of genetic database and insurer action

Module 7: Role of Biomarkers in Risk Stratification

- Types of biomarkers
- Predictive vs. diagnostic use
- Biomarker qualification in insurance
- Use in oncology risk pools
- Regulatory considerations
- **Case Study**: Biomarker-driven claims for lung cancer therapy

Module 8: Precision Medicine in Chronic Disease Management

- Use in diabetes, cardiovascular, rare diseases
- Predictive analytics and insurance planning
- ROI analysis for payers
- Bundled payment strategies
- Preventive care personalization
- **Case Study**: Reimbursement model for genomic-guided diabetes care

Module 9: Population Genomics and Actuarial Science

- Community-level genomics
- Aggregate risk modeling
- Social determinants and polygenic risks

- Population-based screening
- Implications for public insurance
- **Case Study**: Actuarial modeling for Medicare genomic pilot

Module 10: AI and Machine Learning in Genomic Insurance

- Predictive modeling techniques
- Integration of EHR and genetic data
- AI in fraud detection
- Automation in claims decisioning
- Bias in algorithms and risk adjustment
- **Case Study**: AI-assisted underwriting in personalized plans

Module 11: Genomic Counseling and Patient Education

- Role of certified counselors
- Patient understanding and compliance
- Counseling documentation for insurers
- Ethical counseling frameworks
- Virtual counseling models
- **Case Study**: Genetic counseling claims validation

Module 12: Designing Genomics-Inclusive Policies

- Drafting genomic policy inclusions
- Limitations and exclusions
- Coverage eligibility and prior authorization
- Transparency in benefits
- Interoperability with EHR systems
- **Case Study**: Commercial plan with tiered genomic benefits

Module 13: International Perspectives in Genomic Insurance

- EU GDPR and genomic data
- UK NHS Genomic Medicine Service
- Canada’s genetic non-discrimination act
- Asia-Pacific coverage policies
- Harmonization efforts and global initiatives
- **Case Study**: Comparing genomic coverage between U.S. and Europe

Module 14: Disparities in Access to Genomic Medicine

- Socioeconomic barriers
- Minority inclusion in genomic studies
- Medicaid and genomics
- Policy interventions for equity
- Community genomics programs
- **Case Study**: Medicaid denial for genetic epilepsy panel

Module 15: Future Trends and Innovations

- Whole genome sequencing coverage
- Blockchain for genomic data management
- Next-gen policy innovation
- Interdisciplinary payer collaboration
- Employer-sponsored genomic benefits

- **Case Study**: Employer insurance covering whole exome sequencing

Training Methodology

- Interactive expert-led lectures and panel discussions
- Real-life case study analysis and application
- Scenario-based group activities and policy drafting
- Self-paced reading and video modules
- Post-module quizzes and a final evaluation project

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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

Register Online Now

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