### **Important Exam Information:**

<u>Exam Registration</u> Candidates may register online or with an application.

Order Study Notes Study notes are part of the required syllabus and are not

available electronically but may be purchased through

the online store.

Introductory Study Note 
The Introductory Study Note has a complete listing of all study

notes as well as errata and other important information.

Case Study A case study will not be used for this examination.

Past Exams Past Exams from 2000-present are available on SOA website.

Updates Candidates should be sure to check the Updates page on the

exam home page periodically for additional corrections or

notices.

Exam Group/Health Specialty

#### Learning Objectives

1. Understand pricing, risk management, and reserving for individual long duration health contracts such as Disability Income, Long Term Care, Critical Illness, and Medicare Supplement

#### Learning Outcomes

#### The candidate will be able to:

- a) Identify differences between short-duration contracts and long-duration contracts, from the standpoints of pricing and reserving
- b) Evaluate adequacy of long term reserves
- c) Understand and utilize experience studies in setting assumptions for long-duration contracts
- d) Understand reserve calculations / adequacy for long duration-contracts

#### Syllabus Resources

- Individual Insurance, Bluhm
  - Ch. 4 Managing Antiselection
  - Ch. 8 Forecasting and Modeling
  - o Ch. 11 Managing the Business, Sections 11.4-11.6
- GHS-100-14: Pricing Long Term Care, pp.9-22
- GHS-101-14: Pricing Medicare Supplement Benefits, Sections IV & V
- GHS-102-14: Pricing Critical Illness Insurance in Canada
- GHS-103-14: Product Design of Critical Illness Insurance in Canada
- GHS-104-14: Life Insurance Products and Finance, Atkinson and Dallas, Ch. 16, Section 16.2 only
- GHS-114-14: Chapters 16, 18 and 19 of Disability Income Insurance: the Unique Risk, Fifth Edition, Soule
- <u>Claim Reserve Model–How Actuaries Rely Upon the Claim Data They Receive</u>, Long Term Care News, September 2008
- Designing & Pricing LTCI Combination Products, Long Term Care News, December 2004
- ASOP 7, Analysis of Life, Health or Property/Casualty Insurer Cash Flows
- ASOP 22, Statement of Opinion Based on Asset Adequacy Analysis by Actuaries for Life or Health Insurers

Exam Group/Health Specialty

#### Learning Objectives

2. Evaluate the risk associated with health insurance and plan sponsorship and recommend strategies for mitigating the risk

#### **Learning Outcomes**

#### The candidate will be able to:

- a) Evaluate an enterprise risk management (ERM) system, including
  - Describing the components on an ERM program
  - Discussing ERM risks and risks specific to the health insurance industry
  - Describing and recommending methods used to analyze, evaluate and mitigate the risks
- b) Complete a capital needs assessment
  - Understand capital needs for a given insurer
  - Determine actions needed to address issues identified by assessment
  - Describe components of an Economic Capital model
- c) Integrate reinsurance arrangements within an overall risk management strategy of company plan / sponsor
- e) Understand how an Own Risk Solvency Assessment (ORSA) complements and differs from traditional risk assessment
- d) Apply applicable Actuarial Standards of Practice

#### Syllabus Resources

- Group Insurance, Bluhm, 6th Edition, 2012
  - o Ch. 22, Risk-Based Capital Formulas
  - o Ch. 47, Enterprise Risk Management for Group Health Insurers
- Financial Enterprise Risk Management, Sweeting, 2011
  - o Chapter 1, An introduction to enterprise risk management
  - o Chapter 7, Definitions of risk
  - Chapter 8, Risk identification
  - o Chapter 18, Economic capital
- GHS-106-14: Reinsurance for Group Accident & Health Insurance
- GHS-107-14: MCCSR Guideline 2015, Office of the Superintendent of Financial Institutions (OSFI) Sections: 1 (excluding 1.2.6), 2.1, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 10.1, 10.2, 10.3, 10.4, 10.6
- GHS-108-14: Group MCCSR Calculation Study Note 2010
- GHS-115-15: Health Enterprise Risk Management Study Note-Introduction
- GHS-116-15: NAIC Own Risk and Solvency Assessment (ORSA) Guidance Manual, NAIC, July 2014
- A Health Insurance Insolvency Case Study, Health Section News, No 38, 2000, pp.1 & 20-25
- Taking a Closer Look at Enterprise Risk Management, Clark, Kara. Health Section News. August. 2005
- Enterprise Risk Management, Clark, Kara, HealthWatch. January 2006
- ASOP 46: Risk Evaluation in Enterprise Risk Management, ASB Final, through p. 14
- Understanding ORSA Before Implementing It, Risk Management August 2012
- Considerations for Surplus Determination under ACA, HealthWatch, May 2014

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#### Learning Objectives

3. Understand and prepare an actuarial appraisal

#### **Learning Outcomes**

The candidate will be able to:

- a) Differentiate the components of an actuarial appraisal versus an embedded value
- c) Describe an approach for preparing an actuarial appraisal
- d) Describe risks associated with interpreting an actuarial appraisal and an embedded value
- e) Describe principles of applicable Actuarial Standards of Practice

#### Syllabus Resources

- GHS-109-14: The Actuary and Health Insurance Mergers and Acquisitions
- GHS-110-14: Chapter 4 of Mergers and Acquisitions, Toole and Herget
- GHS-111-14: Components of Insurance Firm Value and the Present Value of Liabilities
- GHS-112-14: Simple Embedded Value Example
- GHS-113-14: Embedded Value of Canadian Group Insurance
- SOA Embedded Value Calculation for a Life Insurance Company
- ASOP 19, Appraisals of Casualty, Health and Life Insurance Businesses

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#### Learning Objectives

4. The candidate will understand and apply risk adjustment in the context of predictive modeling

### **Learning Outcomes**

The candidate will be able to:

- a) Develop and evaluate risk adjustments based on commonly used clinical data and grouping methods
- b) Apply risk adjustment to underwriting, pricing, claims and care management situations
- c) Describe typical predictive modeling techniques
- d) Evaluate the appropriateness of each technique

#### Syllabus Resources

- Healthcare Risk Adjustment and Predictive Modeling, Duncan
  - o Ch 2, Models for Predicting Health Costs
  - o Ch 4, Clinical Identification Algorithms
  - o Ch 5, Grouper Models
  - o Ch 6, Development and Construction of DRGs, DCGs, and ETGs
  - o Ch 7, Introduction to Modeling
  - o Ch 14, Risk Adjustment in Medicare
  - o Ch 15, Risk Adjustment and Health Care Reform: The Example of Massachusetts
- ASOP 45 The Use of Health Status Based Risk Adjustment Methodologies