

TITLE 230 – DEPARTMENT OF BUSINESS REGULATION

CHAPTER 20 – INSURANCE

SUBCHAPTER 25 – LIFE AND ANNUITIES

PART 9 - Annuity Mortality Table for use in Determining Reserve Liabilities for Annuities

9.1 Authority

This Part promulgated by the Director of Business Regulation pursuant to R.I. Gen. Laws § 27-4.5-11.

9.2 Purpose

The purpose of this Part is to define terms used in R.I. Gen. Laws § 27-4.5-4: to specify the application of the 1994 GAR Table and, as provided in R.I. Gen. Laws § 27-4.5-4(c), to recognize the 1983 Table "a" for certain special benefits and to specify the application of the 2012 Individual Annuity Reserving (2012 IAR) Table.

9.3 Definitions

- A. As used in this Part "1983 Table 'a'" means that mortality table developed by the Society of Actuaries Committee to Recommend a New Mortality Basis for Individual Annuity Valuation and adopted as a recognized mortality table for annuities in June 1982 by the National Association of Insurance Commissioners. [See 1982 Proceedings of the NAIC II, page 454.]
- B. As used in R.I. Gen. Laws § 27-4.5-4 and this Part, "1994 GAR Table" means that mortality table developed by the Society of Actuaries Group Annuity Valuation Table Task Force and shown at XLVII Transactions of the Society of Actuaries 866-867 (1995).
- C. As used in R.I. Gen. Laws § 27-4.5-4 and this Part, "Annuity 2000 Mortality Table" means that mortality table developed by the Society of Actuaries Committee on Life Insurance Research and shown at XLVII Transactions of the Society of Actuaries 240 (1995).
- D. As used in this Part, "Period table" means a table of mortality rates applicable to a given calendar year (the Period).

- E. As used in this Part, “Generational mortality table” means a mortality table containing a set of mortality rates that decrease for a given age from one year to the next based on a combination of a Period table and a projection scale containing rates of mortality improvement.
- F. As used in this Part “2012 IAR Table” means that Generational mortality table developed by the Society of Actuaries Committee on Life Insurance Research and containing rates, qx_{2012+n} , derived from a combination of the 2012 IAM Period Table and Projection Scale G2, using the methodology stated in § 9.6 of this Part.
- G. As used in this Part, “2012 Individual Annuity Mortality Period Life (2012 IAM Period) Table” means the Period table containing loaded mortality rates for calendar year 2012. This table contains rates, qx_{2012} , developed by the Society of Actuaries Committee on Life Insurance Research and is shown in Appendices I-II which have been included in a bulletin issued for that purpose and available on the Department’s website.
- H. As used in this Part, “Projection Scale G2 (Scale G2)” is a table of annual rates, $G2x$, of mortality improvement by age for projecting future mortality rates beyond calendar year 2012. This table was developed by the Society of Actuaries Committee on Life Insurance Research and is shown in Appendices III-IV which have been included in a bulletin issued for that purpose and available on the Department’s website.

9.4 Individual Annuity or Pure Endowment Contracts

- A. R.I. Gen. Laws §§ 27-4.5-4(a) and (b) shall apply as provided in those sections, except that, as provided in R.I. Gen. Laws § 27-4.5-4(c), the following § 9.4(B) of this Part shall apply to the special benefits described therein.
- B. The 1983 Table "a" without projection is to be used for determining the minimum standards of valuation for an individual annuity or pure endowment contract issued on or after January 1, 2000, solely when the contract is based on life contingencies and is issued to fund periodic benefits arising from:
 - 1. Settlements of various forms of claims pertaining to court settlements or out of court settlements from tort actions;
 - 2. Settlements involving similar actions such as worker's compensation claims; or
 - 3. Settlements of long term disability claims where a temporary or life annuity has been used in lieu of continuing disability payments.

- C. As provided in R.I. Gen. Laws § 27-4.5-4(b); The 2012 IAR is adopted as the standard for individual annuities issued on or after January 1, 2015, with the exception of the products covered by B. above.

9.5 Application of the 1994 GAR Table

In using the 1994 GAR Table, the mortality rate for a person age x in year $(1994 + n)$ is calculated as follows:

$$q_{x^{1994+n}} = q_{x^{1994}} (1 - A_{Ax}^s)^n$$

where $q_{x^{1994}}$ and A_{Ax}^s are as specified in the 1994 GAR Table.

9.6 Application of the 2012 IAR Mortality Table

- A. In using the 2012 IAR Mortality Table, the mortality rate for a person age x in year $(2012 + n)$ is calculated as follows:

$$q_{x^{(2012+n)}} = q_{x^{2012}} [(1 - G_2)_x]^n$$

The resulting $q_{x^{2012+n}}$ shall be rounded to three decimal places per 1,000, e.g., 0.741 deaths per 1,000. Also, the rounding shall occur according to the formula above, starting at the 2012 period table rate.

- For example, for a male age 30, $q_{x^{2012}} = 0.741$.

$$q_{x^{2013}} = 0.741 * (1 - 0.010)^1 = 0.73359 \text{ which is rounded to } 0.734.$$

$$q_{x^{2014}} = 0.741 * (1 - 0.010)^2 = 0.7262541 \text{ which is rounded to } 0.726.$$

A method leading to incorrect rounding would be to calculate $q_{x^{2014}}$ as $q_{x^{2013}} * (1 - 0.010)$ or $0.734 * 0.99 = 0.727$. It is incorrect to use the already rounded $q_{x^{2013}}$ to calculate $q_{x^{2014}}$.

9.7 Severability

If any provision of this Part or its application to any person or circumstances is for any reason held to be invalid, the remainder of the Part and the application of its provisions to other persons or circumstances shall not be affected.

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**TITLE 230 - DEPARTMENT OF BUSINESS REGULATION (INCLUDES
THE OFFICE OF THE HEALTH INSURANCE COMMISSIONER)**

CHAPTER 20 - INSURANCE

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**PART 9 - ANNUITY MORTALITY TABLES (FORMERLY INSURANCE REGULATION
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