

211 CMR 39.00: ANNUITY MORTALITY TABLES FOR USE IN DETERMINING RESERVE LIABILITIES FOR ANNUITIES

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39.01: Purpose

The purpose of 211 CMR 39.00 is to recognize the following mortality tables for use in determining the minimum standard of valuation for annuity and pure endowment contracts: the 1983 Table “a”, the 1983 Group Annuity Mortality (1983 GAM) Table, the Annuity 2000 Mortality Table, the 2012 Individual Annuity Reserving (2012 IAR) Table and the 1994 Group Annuity Reserving (1994 GAR) Table.

39.02: Definitions

(1) As used in 211 CMR 39.00, 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.

(2) As used in 211 CMR 39.00 1983 GAM Table means that mortality table developed by the Society of Actuaries Committee on Annuities and adopted as a recognized mortality table for annuities in December 1983 by the National Association of Insurance Commissioners.

(3) As used in 211 CMR 39.00 1994 GAR Table means that mortality table developed by the Society of Actuaries Group Annuity Valuation Table Task Force and shown on pages 866-867 of Volume XLVII of the *Transactions of the Society of Actuaries* (1995).

(4) As used in 211 CMR 39.00 Annuity 2000 Mortality Table means that mortality table developed by the Society of Actuaries Committee on Life Insurance Research and shown on page 240 of Volume XLVII of the *Transactions of the Society of Actuaries* (1995).

(5) As used in 211 CMR 39.00 Period Table means a table of mortality rates applicable to a given calendar year (the Period).

(6) As used in 211 CMR 39.00 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.

(7) As used in 211 CMR 39.00 2012 IAR Mortality Table means that Generational mortality table developed by the Society of Actuaries Committee on Life Insurance Research and containing rates, q_x^{2012+n} , derived from a combination of the 2012 IAM Period table and Projection Scale G2, using the methodology stated in 211 CMR 39.04.

(8) As used in 211 CMR 39.00 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, q_x^{2012} , developed by the Society of Actuaries Committee on Life Insurance Research.

(9) As used in 211 CMR 39.00 Projection Scale G2 (Scale G2) is a table of annual rates, $G2_x$, 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.

39.03: Individual Annuity or Pure Endowment Contracts

- (1) Except as provided in 211 CMR 39.03(2) and (3), the 1983 Table “a” is recognized and approved as an individual annuity mortality table for valuation and, at the option of the company, may be used for the purpose of determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after June, 1982.
- (2) Except as provided in 211 CMR 39.03(3), either the 1983 Table “a” or the Annuity 2000 Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after December 19, 1996.
- (3) Except as provided in 211 CMR 39.03(4), the Annuity 2000 Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after January 1, 2001.
- (4) Except as provided in 211 CMR 39.03(5), the 2012 IAR Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after January 1, 2016.
- (5) 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, 1998, solely when the contract is based on life contingencies and is issued to fund periodic benefits arising from:
 - (a) Settlements of various forms of claims pertaining to court settlements or out of court settlements from tort actions;
 - (b) Settlements involving similar actions such as workers’ compensation claims; or
 - (c) Settlements of long term disability claims where a temporary or life annuity has been used in *lieu* of continuing disability payments.

39.04: Application of the 2012 IAR Mortality Table

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

$$q_x^{2012+n} = q_x^{2012}(1 - G2_x)^n$$

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, $q_x^{2012} = 0.741$.

$q_x^{2013} = 0.741 * (1 - 0.010)^1 = 0.73359$, which is rounded to 0.734.

$q_x^{2014} = 0.741 * (1 - 0.010)^2 = 0.7262541$, 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} .

39.05: Group Annuity or Pure Endowment Contracts

- (1) Except as provided in 211 CMR 39.05(2) and (3), the 1983 GAM Table, the 1983 Table “a” and the 1994 GAR Table are recognized and approved as group annuity mortality tables for valuation and, at the option of the company, any one of these tables may be used for purposes of valuation for an annuity or pure endowment purchased on or after June, 1982 under a group annuity or pure endowment contract.
- (2) Except as provided in 211 CMR 39.05(3), either the 1983 GAM Table or the 1994 GAR Table shall be used for determining the minimum standard of valuation for any annuity or pure endowment purchased on or after December 19, 1996 under a group annuity or pure endowment contract.
- (3) The 1994 GAR Table shall be used for determining the minimum standard of valuation for any annuity or pure endowment purchased on or after January 1, 2001 under a group annuity or pure endowment contract.

39.06: 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:

$$q_x^{1994+n} = q_x^{1994} (1 - AA_x)^n$$

where the q_x^{1994} and AA_x s are as specified in the 1994 GAR Table.

39.07: Annuities Subject to M.G.L. c. 175, § 120F

The annuity reserve requirements of M.G.L. c. 175, § 9, subsections 2(a) and (b), apply to the group and individual annuity and pure endowment contracts that are subject to the requirements of M.G.L. c.175, § 120F. In complying with those reserve requirements, companies shall apply the applicable mortality tables specified in 211 CMR 39.03 through 39.05 or such other mortality tables as may be permitted under law, modified as appropriate to reflect a gender neutral or gender blended basis.

39.08: Severability

If any provision of 211 CMR 39.00 or its application to any person or circumstances is for any reason held to be invalid, the remainder of 211 CMR 39.00 and the application of its provisions to other persons or circumstances shall not be affected.

REGULATORY AUTHORITY

211 CMR 39.00: M.G.L. c. 175, § 9.