830 - VALUATION OF LIFE INSURANCE POLICIES MODEL REGULATION
(Including the Introduction and Use of New Select Mortality Factors)

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Section 1. Purpose

A. The purpose of this regulation is to provide:

(1) Tables of select mortality factors and rules for their use;

(2) Rules concerning a minimum standard for the valuation of plans with nonlevel premiums or benefits; and

(3) Rules concerning a minimum standard for the valuation of plans with secondary guarantees.

B. The method for calculating basic reserves defined in this regulation will constitute the commissioners' Reserve Valuation Method for policies to which this regulation is applicable.

Section 2. Authority

This regulation is issued under the authority of Section [insert applicable section] of the Insurance Laws of [insert state].

Section 3. Applicability

This regulation shall apply to all life insurance policies, with or without nonforfeiture values, issued on or after the effective date of this regulation, subject to the following exceptions and conditions.

A. Exceptions

(1) This regulation shall not apply to any individual life insurance policy issued on or after the effective date of this regulation if the policy is issued in accordance with and as a result of the exercise of a reentry provision contained in the original life insurance policy of the same or greater face amount, issued before the effective date of this regulation, that guarantees the premium rates of the new policy. This regulation also shall not apply to subsequent policies issued as a result of the exercise of such a provision, or a derivation of the provision, in the new policy.

(2) This regulation shall not apply to any universal life policy that meets all the following requirements:

(a) Secondary guarantee period, if any, is five (5) years or less;

(b) Specified premium for the secondary guarantee period is not less than the net level reserve premium for the secondary guarantee period based on the CSO valuation tables as defined in Section 4F and the applicable valuation interest rate; and

(c) The initial surrender charge is not less than 100 percent of the first year annualized specified premium for the secondary guarantee period.
Drafting Note: Policies with a secondary guarantee are described in Section 7.

(3) This regulation shall not apply to any variable life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

(4) This regulation shall not apply to any variable universal life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

(5) This regulation shall not apply to a group life insurance certificate unless the certificate provides for a stated or implied schedule of maximum gross premiums required in order to continue coverage in force for a period in excess of one year.

B. Conditions

(1) Calculation of the minimum valuation standard for policies with guaranteed nonlevel gross premiums or guaranteed nonlevel benefits (other than universal life policies), or both, shall be in accordance with the provisions of Section 6.

(2) Calculation of the minimum valuation standard for flexible premium and fixed premium universal life insurance policies, that contain provisions resulting in the ability of a policyholder to keep a policy in force over a secondary guarantee period shall be in accordance with the provisions of Section 7.

Section 4. Definitions

For purposes of this regulation:

A. "Basic reserves" means reserves calculated in accordance with Section [cite section of state law comparable to Section 5 of the NAIC Standard Valuation Law].

B. "Contract segmentation method" means the method of dividing the period from issue to mandatory expiration of a policy into successive segments, with the length of each segment being defined as the period from the end of the prior segment (from policy inception, for the first segment) to the end of the latest policy year as determined below. All calculations are made using the 1980 CSO valuation tables, as defined in Subsection F of this section, (or any other valuation mortality table adopted by the

National Association of Insurance Commissioners (NAIC) after the effective date of this regulation and promulgated by regulation by the commissioner for this purpose), and, if elected, the optional minimum mortality standard for deficiency reserves stipulated in Section 5B of this regulation.
The length of a particular contract segment shall be set equal to the minimum of the value t for which Gt is greater than Rt (if Gt never exceeds Rt the segment length is deemed to be the number of years from the beginning of the segment to the mandatory expiration date of the policy), where Gt and Rt are defined as follows:

$$G_t = \frac{GP_{x+k+t}}{GP_{x+k+t-1}}$$

where:

x = original issue age;
k = the number of years from the date of issue to the beginning of the segment;
t = 1, 2, ...; t is reset to 1 at the beginning of each segment;

GPx+k+t-1 = Guaranteed gross premium per thousand of face amount for year t of the segment, ignoring policy fees only if level for the premium paying period of the policy.

$$R_t = \frac{q_{x+k+t}}{q_{x+k+t-1}},$$ However, Rt may be increased or decreased by one percent in any policy year, at the company's option, but Rt shall not be less than one;

where:

x, k and t are as defined above, and

qx+k+t-1 = valuation mortality rate for deficiency reserves in policy year k+t but using the mortality of Section 5B(2) if Section 5B(3) is elected for deficiency reserves.

However, if GPx+k+t is greater than 0 and GPx+k+t-1 is equal to 0, Gt shall be deemed to be 1000. If GPx+k+t and GPx+k+t-1 are both equal to 0, Gt shall be deemed to be 0.

Drafting Note: The purpose of the one percent tolerance in the R factor is to prevent irrational segment lengths due to such things as premium rounding. For example, consider a plan in which gross premiums are designed at some point to be a ratio times the underlying ultimate mortality rates, where the ratio varies by issue age. The resulting segments may be greater than one year, because the guaranteed gross premiums are not expressed in fractional cents. The tolerance factor allows the creation of one year segments for a plan in which premiums parallel the underlying valuation mortality table.

C. "Deficiency reserves" means the excess, if greater than zero, of

(1) Minimum reserves calculated in accordance with Section [cite section of the state law comparable to Section 8 of the NAIC Standard Valuation Law] over

(2) Basic reserves.

D. "Guaranteed gross premiums" means the premiums under a policy of life insurance that are guaranteed and determined at issue.

E. "Maximum valuation interest rates" means the interest rates defined in Section [cite section of state law comparable to Section 4b of the NAIC Standard Valuation Law] (Computation of Minimum Standard by Calendar Year of Issue) that are to be used in determining the minimum standard for the valuation of life insurance policies.

F. "1980 CSO valuation tables" means the Commissioners' 1980 Standard Ordinary Mortality Table (1980 CSO Table) without ten-year selection factors, incorporated into the 1980 amendments to the NAIC Standard Valuation Law, and variations of the 1980 CSO Table approved by the NAIC, such as the smoker and nonsmoker versions approved in December 1983.

Drafting Note: This regulation defines the 1980 CSO Tables without the existing ten -year select mortality factors to assure that, if select mortality factors are elected, only one set of factors may be applied to the base valuation mortality table.

G. "Scheduled gross premium" means the smallest illustrated gross premium at issue for other than universal life insurance policies. For universal life insurance policies, scheduled gross premium means the smallest specified premium described in Section 7A(3), if any, or else the minimum premium described in Section 7A(4).

H. (1) "Segmented reserves" means reserves, calculated using segments produced by the contract segmentation method, equal to the present value of all future guaranteed benefits less the present value of all future net premiums to the mandatory expiration of a policy, where the net premiums within each segment are a uniform percentage of the respective guaranteed gross premiums within the segment. The uniform percentage for each segment is such that, at the beginning of the segment, the present value of the net premiums within the segment equals:

(a) The present value of the death benefits within the segment, plus

(b) The present value of any unusual guaranteed cash value (see Section 6D) occurring at the end of the segment, less

(c) Any unusual guaranteed cash value occurring at the start of the segment, plus

(d) For the first segment only, the excess of the Item (i) over Item (ii), as follows:

(i) A net level annual premium equal to the present value, at the date of issue, of the benefits provided for in the first segment after the first policy year, divided by the present value, at the date of issue, of an annuity of one per year payable on the first and each subsequent anniversary within the first segment on which a premium falls due. However, the net level annual premium shall not exceed the net level annual premium on the nineteen-year premium whole life plan of insurance of the same renewal year equivalent level amount at an age one year higher than the age at issue of the policy.

(ii) A net one year term premium for the benefits provided for in the first policy year.

(2) The length of each segment is determined by the "contract segmentation method," as defined in this section.

(3) The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the sum of the lengths of all segments of the policy.

(4) For both basic reserves and deficiency reserves computed by the segmented method, present values shall include future benefits and net premiums in the current segment and in all subsequent segments.

Drafting Note: The segmentation requirement should not be limited to plans with no cash surrender values; otherwise companies could avoid segmentation entirely by designing policies with minimal (positive) cash values. Segmentation for plans with cash surrender values should be based solely upon gross premium levels. Basing segmentation upon the level of cash surrender values introduces complications because of the inter-relationship between minimum cash surrender values and gross premium patterns. The requirements of this regulation relating to reserves for plans with unusual cash values and to reserves if cash values exceed calculated reserves serve to link required reserves and cash surrender values. The calculation of segmented reserves shall not be linked to the occurrence of a positive unitary terminal reserve at the end of a segment. The requirement of this regulation to hold the greater of the segmented reserve or the unitary reserve eliminates the need for any linkage.

I. "Tabular cost of insurance" means the net single premium at the beginning of a policy year for one-year term insurance in the amount of the guaranteed death benefit in that policy year.

J. "Ten-year select factors" means the select factors adopted with the 1980 amendments to the NAIC Standard Valuation Law.

K. (1) "Unitary reserves" means the present value of all future guaranteed benefits less the present value of all future modified net premiums, where:

(a) Guaranteed benefits and modified net premiums are considered to the mandatory expiration of the policy; and

(b) Modified net premiums are a uniform percentage of the respective guaranteed gross premiums, where the uniform percentage is such that, at issue, the present value of the net premiums equals the present value of all death benefits and pure endowments, plus the excess of Item (i) over Item (ii), as follows:

(i) A net level annual premium equal to the present value, at the date of issue, of the benefits provided for after the first policy year, divided by the present value, at the date of issue, of an annuity of one per year payable on the first and each subsequent anniversary of the policy on which a premium falls due. However, the net level annual premium shall not exceed the net level annual premium on the nineteen-year premium whole life plan of insurance of the same renewal year equivalent level amount at an age one year higher than the age at issue of the policy.

(ii) A net one year term premium for the benefits provided for in the first policy year.

(2) The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the length from issue to the mandatory expiration of the policy.
Drafting Note: The purpose of this subsection is to define as specifically as possible what has become commonly called the unitary method. The NAIC Standard Valuation Law does not define the term "unitary" for policies with nonlevel premiums or benefits; its requirement for reserves "computed by a method that is consistent with the principles of the NAIC Standard Valuation Law" has not been uniformly interpreted.

L. "Universal life insurance policy" means any individual life insurance policy under the provisions of which separately identified interest credits (other than in connection with dividend accumulations, premium deposit funds, or other supplementary accounts) and mortality or expense charges are made to the policy.

Section 5. General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves

A. At the election of the company for any one or more specified plans of life insurance, the minimum mortality standard for basic reserves may be calculated using the 1980 CSO valuation tables with select mortality factors (or any other valuation mortality table adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the commissioner for this purpose). If select mortality factors are elected, they may be:

(1) The ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law;

(2) The select mortality factors in the Appendix; or

Drafting Note: The select mortality factors for duration 1 through 15 in the Appendix of this regulation reflect the Society of Actuaries' data for the years 1983 through 1986, split by sex and smoking status, with fifteen years of mortality improvement, based on Society of Actuaries' Projection Scale A applied. A 50% margin was added. The factors were then graded to the 1980 CSO Tables over the next five durations. A 50% margin was deemed appropriate to provide a reasonable margin, with little likelihood that actual experience for significant blocks of business would exceed it.

(3) Any other table of select mortality factors adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the commissioner for the purpose of calculating basic reserves.

B. Deficiency reserves, if any, are calculated for each policy as the excess, if greater than zero, of the quantity A over the basic reserve. The quantity A is obtained by recalculating the basic reserve for the policy using guaranteed gross premiums instead of net premiums when the guaranteed gross premiums are less than the corresponding net premiums. At the election of the company for any one or more specified plans of insurance, the quantity A and the corresponding net premiums used in the determination of quantity A may be based upon the 1980 CSO valuation tables with select mortality factors (or any other valuation mortality table adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the commissioner). If select mortality factors are elected, they may be:

(1) The ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law;

(2) The select mortality factors in the Appendix of this regulation;

Drafting Note: The select mortality factors in the Appendix of this regulation do not reflect the underwriting risk classes that have evolved since the period of the underlying experience. In light of this consideration and the recent recognition of the regulatory value of actuarial opinions, this regulation allows actuarial judgment to be used for deficiency reserves.

(3) For durations in the first segment, X percent of the select mortality factors in the Appendix , subject to the following:

(a) X may vary by policy year, policy form, underwriting classification, issue age, or any other policy factor expected to affect mortality experience;

(b) X shall not be less than twenty percent (20%);

(c) X shall not decrease in any successive policy years;

(d) X is such that, when using the valuation interest rate used for basic reserves, Item (i) is greater than or equal to Item (ii);

(i) The actuarial present value of future death benefits, calculated using the mortality rates resulting from the application of X;

(ii) The actuarial present value of future death benefits calculated using anticipated mortality experience without recognition of mortality improvement beyond the valuation date;

(e) X is such that the mortality rates resulting from the application of X are at least as great as the anticipated mortality experience, without recognition of mortality improvement beyond the valuation date, in each of the first five (5) years after the valuation date;

(f) The appointed actuary shall increase X at any valuation date where it is necessary to continue to meet all the requirements of Subsection B(3);

(g) The appointed actuary may decrease X at any valuation date as long as X does not decrease in any successive policy years and as long as it continues to meet all the requirements of Subsection B(3); and

(h) The appointed actuary shall specifically take into account the adverse effect on expected mortality and lapsation of any anticipated or actual increase in gross premiums.

(i) If X is less than 100 percent at any duration for any policy, the following requirements shall be met:

(i) The appointed actuary shall annually prepare an actuarial opinion and memorandum for the company in conformance with the requirements of Section [insert applicable section for asset adequacy opinion requirement of the Actuarial Opinion and Memorandum Regulation]; and

(ii) The appointed actuary shall annually opine for all policies subject to this regulation as to whether the mortality rates resulting from the application of X meet the requirements of Subsection B(3). This opinion shall be supported by an actuarial report, subject to appropriate Actuarial Standards of Practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries. The X factors shall reflect anticipated future mortality, without recognition of mortality improvement beyond the valuation date, taking into account relevant emerging experience.

(4) Any other table of select mortality factors adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the commissioner for the purpose of calculating deficiency reserves.

C. This subsection applies to both basic reserves and deficiency reserves. Any set of select mortality factors may be used only for the first segment. However, if the first segment is less than ten (10) years, the appropriate ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law may be used thereafter through the tenth policy year from the date of issue.

Drafting Note: This regulation does not allow the use of select mortality factors beyond the first segment. The rationale is that the result of a premium increase that is sufficient to require a new segment will be increased lapsation, leading to mortality deterioration after the increase. Also, for policies that have reentry provisions, select mortality factors shall not be used in segments beginning after reentry unless a new policy is actually issued. However, this regulation allows the use of the ten-year select mortality factors incorporated into the 1980 amendments of the NAIC Standard Valuation Law beyond the first segment (but in no case beyond the tenth policy year) in recognition that the mortality deterioration is unlikely to occur to a significant degree within the first ten (10) years.

D. In determining basic reserves or deficiency reserves, guaranteed gross premiums without policy fees may be used where the calculation involves the guaranteed gross premium but only if the policy fee is a level dollar amount after the first policy year. In determining deficiency reserves, policy fees may be included in guaranteed gross premiums, even if not included in the actual calculation of basic reserves.

E. Reserves for policies that have changes to guaranteed gross premiums, guaranteed benefits, guaranteed charges, or guaranteed credits that are unilaterally made by the insurer after issue and that are effective for more than one year after the date of the change shall be the greatest of the following: (1) reserves calculated ignoring the guarantee, (2) reserves assuming the guarantee was made at issue, and

(3) reserves assuming that the policy was issued on the date of the guarantee.

F. The commissioner may require that the company document the extent of the adequacy of reserves for specified blocks, including but not limited to policies issued prior to the effective date of this regulation. This documentation may include a demonstration of the extent to which aggregation with other non-specified blocks of business is relied upon in the formation of the appointed actuary opinion pursuant to and consistent with the requirements of Section [insert applicable section of asset adequacy opinion requirement of the Actuarial Opinion and Memorandum Regulation].

Section 6. Calculation of Minimum Valuation Standard for Policies with Guaranteed Nonlevel Gross Premiums or Guaranteed Nonlevel Benefits (Other than Universal Life Policies)

A. Basic Reserves
Basic reserves shall be calculated as the greater of the segmented reserves and the unitary reserves. Both the segmented reserves and the unitary reserves for any policy shall use the same valuation mortality table and selection factors. At the option of the insurer, in calculating segmented reserves and net premiums, either of the adjustments described in Paragraph (1) or (2) below may be made:

(1) Treat the unitary reserve, if greater than zero, applicable at the end of each segment as a pure endowment and subtract the unitary reserve, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

(2) Treat the guaranteed cash surrender value, if greater than zero, applicable at the end of each segment as a pure endowment; and subtract the guaranteed cash surrender value, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

B. Deficiency Reserves

(1) The deficiency reserve at any duration shall be calculated:

(a) On a unitary basis if the corresponding basic reserve determined by Subsection A is unitary;

(b) On a segmented basis if the corresponding basic reserve determined by Subsection A is segmented; or

(c) On the segmented basis if the corresponding basic reserve determined by Subsection A is equal to both the segmented reserve and the unitary reserve.

(2) This subsection shall apply to any policy for which the guaranteed gross premium at any duration is less than the corresponding modified net premium calculated by the method used in determining the basic reserves, but using the minimum valuation standards of mortality (specified in Section 5B) and rate of interest.

(3) Deficiency reserves, if any, shall be calculated for each policy as the excess if greater than zero, for the current and all remaining periods, of the quantity A over the basic reserve, where A is obtained as indicated in Section 5B.

(4) For deficiency reserves determined on a segmented basis, the quantity A is determined using segment lengths equal to those determined for segmented basic reserves.

C. Minimum Value

Basic reserves may not be less than the tabular cost of insurance for the balance of the policy year, if mean reserves are used. Basic reserves may not be less than the tabular cost of insurance for the balance of the current modal period or to the paid-to-date, if later, but not beyond the next policy anniversary, if mid-terminal reserves are used. The tabular cost of insurance shall use the same valuation mortality table and interest rates as that used for the calculation of the segmented reserves. However, if select mortality factors are used, they shall be the ten-year select factors incorporated into the 1980 amendments of the NAIC Standard Valuation Law. In no case may total reserves (including basic reserves, deficiency reserves and any reserves held for supplemental benefits that would expire upon contract termination) be less than the amount that the policyowner would receive (including the cash surrender value of the supplemental benefits, if any, referred to above), exclusive of any deduction for policy loans, upon termination of the policy.

D. Unusual Pattern of Guaranteed Cash Surrender Values

Drafting Note: This requirement is independent of both the segmentation process and the unitary process. After the greater of the segmented or the unitary reserve has been determined, then this subsection imposes an additional floor on the ultimate reserve. The purpose of this subsection is to assure adequate funding of significant increases in guaranteed cash surrender values.

(1) For any policy with an unusual pattern of guaranteed cash surrender values, the reserves actually held prior to the first unusual guaranteed cash surrender value shall not be less than the reserves calculated by treating the first unusual guaranteed cash surrender value as a pure endowment and treating the policy as an n year policy providing term insurance plus a pure endowment equal to the unusual cash surrender value, where n is the number of years from the date of issue to the date the unusual cash surrender value is scheduled.

(2) The reserves actually held subsequent to any unusual guaranteed cash surrender value shall not be less than the reserves calculated by treating the policy as an n year policy providing term insurance plus a pure endowment equal to the next unusual guaranteed cash surrender value, and treating any unusual guaranteed cash surrender value at the end of the prior segment as a net single premium, where

(a) n is the number of years from the date of the last unusual guaranteed cash surrender value prior to the valuation date to the earlier of:

(i) The date of the next unusual guaranteed cash surrender value, if any, that is scheduled after the valuation date; or

(ii) The mandatory expiration date of the policy; and

(b) The net premium for a given year during the n year period is equal to the product of the net to gross ratio and the respective gross premium; and

(c) The net to gross ratio is equal to Item (i) divided by Item (ii) as follows:

(i) The present value, at the beginning of the n year period, of death benefits payable during the n year period plus the present value, at the beginning of the n year period, of the next unusual guaranteed cash surrender value, if any, minus the amount of the last unusual guaranteed cash surrender value, if any, scheduled at the beginning of the n year period.

(ii) The present value, at the beginning of the n year period, of the scheduled gross premiums payable during the n year period.

(3) For purposes of this subsection, a policy is considered to have an unusual pattern of guaranteed cash surrender values if any future guaranteed cash surrender value exceeds the prior year's guaranteed cash surrender value by more than the sum of:

(a) One hundred ten percent (110%) of the scheduled gross premium for that year;

(b) One hundred ten percent (110%) of one year's accrued interest on the sum of the prior year's guaranteed cash surrender value and the scheduled gross premium using the nonforfeiture interest rate used for calculating policy guaranteed cash surrender values; and

(c) Five percent (5%) of the first policy year surrender charge, if any.

E. Optional Exemption for Yearly Renewable Term Reinsurance. At the option of the company, the following approach for reserves on YRT reinsurance may be used:

Drafting Note: Traditional reserves for yearly renewable term (YRT) reinsurance, the calculations of which this section describes, are already adequate and sufficient. However, without this option in the regulation, YRT reinsurance would be subject to the more complex segmentation calculations.

(1) Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

(2) Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in Subsection C.

(3) Deficiency reserves.

(a) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

(b) Deficiency reserves shall never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with Subparagraph (a) above.

(4) For purposes of this subsection, the calculations use the maximum valuation interest rate and the 1980 CSO mortality tables with or without ten-year select mortality factors, or any other table adopted after the effective date of this regulation by the NAIC and promulgated by regulation by the commissioner for this purpose.

(5) A reinsurance agreement shall be considered YRT reinsurance for purposes of this subsection if only the mortality risk is reinsured.

(6) If the assuming company chooses this optional exemption, the ceding company's reinsurance reserve credit shall be limited to the amount of reserve held by the assuming company for the affected policies.

F. Optional Exemption for Attained-Age-Based Yearly Renewable Term Life Insurance Policies. At the option of the company, the following approach for reserves for attained-age-based YRT life insurance policies may be used:

Drafting Note: Traditional reserves for attained-age-based YRT policies, the calculations of which this subsection describes, are already adequate and sufficient. However, without this option in the regulation, these policies would be subject to the more complex segmentation calculations.

(1) Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

(2) Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in Subsection 6C.

(3) Deficiency reserves.

(a) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

(b) Deficiency reserves shall never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with Subparagraph (a) above.

(4) For purposes of this subsection, the calculations use the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten-year select mortality factors, or any other table adopted after the effective date of this regulation by the NAIC and promulgated by regulation by the commissioner for this purpose.

(5) A policy shall be considered an attained-age-based YRT life insurance policy for purposes of this subsection if:

(a) The premium rates (on both the initial current premium scale and the guaranteed maximum premium scale) are based upon the attained age of the insured such that the rate for any given policy at a given attained age of the insured is independent of the year the policy was issued; and

(b) The premium rates (on both the initial current premium scale and the guaranteed maximum premium scale) are the same as the premium rates for policies covering all insureds of the same sex, risk class, plan of insurance and attained age.

(6) For policies that become attained-age-based YRT policies after an initial period of coverage, the approach of this subsection may be used after the initial period if:

(a) The initial period is constant for all insureds of the same sex, risk class and plan of insurance; or

(b) The initial period runs to a common attained age for all insureds of the same sex, risk class and plan of insurance; and

(c) After the initial period of coverage, the policy meets the conditions of Paragraph (5) above.

(7) If this election is made, this approach shall be applied in determining reserves for all attained-age-based YRT life insurance policies issued on or after the effective date of this regulation.

G. Exemption from Unitary Reserves for Certain n-Year Renewable Term Life Insurance Polices. Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met:

Drafting Note: Without this exemption, companies issuing certain n-year renewable term policies could be forced to hold reserves higher than n-year term reserves, even though in many cases gross premiums are well above valuation mortality rates.

(1) The policy consists of a series of n-year periods, including the first period and all renewal periods, where n is the same for each period, except that for the final renewal period, n may be truncated or extended to reach the expiry age, provided that this final renewal period is less than 10 years and less than twice the size of the earlier n-year periods, and for each period, the premium rates on both the initial current premium scale and the guaranteed maximum premium scale are level;

(2) The guaranteed gross premiums in all n-year periods are not less than the corresponding net premiums based upon the 1980 CSO Table with or without the ten-year select mortality factors; and

(3) There are no cash surrender values in any policy year.

H. Exemption from Unitary Reserves for Certain Juvenile Policies

Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met, based upon the initial current premium scale at issue:

(1) At issue, the insured is age twenty-four (24) or younger;

(2) Until the insured reaches the end of the juvenile period, which shall occur at or before age twenty-five (25), the gross premiums and death benefits are level, and there are no cash surrender values; and

(3) After the end of the juvenile period, gross premiums are level for the remainder of the premium paying period, and death benefits are level for the remainder of the life of the policy.

Drafting Note: The jumping juvenile policy described has traditionally been valued in two segments. This exemption will allow that practice to continue without requiring the calculation of reserves on a unitary basis. However, within each segment, both basic and deficiency reserves shall comply with the segmented reserve requirements.

Section 7. Calculation of Minimum Valuation Standard for Flexible Premium and Fixed Premium Universal Life Insurance Policies That Contain Provisions Resulting in the Ability of a Policyowner to Keep a Policy in Force Over a Secondary Guarantee Period

A. General

(1) Policies with a secondary guarantee include:

(a) A policy with a guarantee that the policy will remain in force at the original schedule of benefits, subject only to the payment of specified premiums;

(b) A policy in which the minimum premium at any duration is less than the corresponding one year valuation premium, calculated using the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten-year select mortality factors, or any other table adopted after the effective date of this regulation by the NAIC and promulgated by regulation by the commissioner for this purpose; or

(c) A policy with any combination of Subparagraph (a) and (b).

Drafting Note: Universal life and variable universal life policies with secondary guarantees that meet the requirements of Section 3A(2) are not subject to this regulation.

(2) A secondary guarantee period is the period for which the policy is guaranteed to remain in force subject only to a secondary guarantee. When a policy contains more than one secondary guarantee, the minimum reserve shall be the greatest of the respective minimum reserves at that valuation date of each unexpired secondary guarantee, ignoring all other secondary guarantees.Secondary guarantees that are unilaterally changed by the insurer after issue shall be considered to have been made at issue. Reserves described in Subsections B and C below shall be recalculated from issue to reflect these changes.

(3) Specified premiums mean the premiums specified in the policy, the payment of which guarantees that the policy will remain in force at the original schedule of benefits, but which otherwise would be insufficient to keep the policy in force in the absence of the guarantee if maximum mortality and expense charges and minimum interest credits were made and any applicable surrender charges were assessed.

(4) For purposes of this section, the minimum premium for any policy year is the premium that, when paid into a policy with a zero account value at the beginning of the policy year, produces a zero account value at the end of the policy year. The minimum premium calculation shall use the policy cost factors (including mortality charges, loads and expense charges) and the interest crediting rate, which are all guaranteed at issue.

(5) The one-year valuation premium means the net one-year premium based upon the original schedule of benefits for a given policy year. The one-year valuation premiums for all policy years are calculated at issue. The select mortality factors defined in Section 5B(2), (3), and (4) may not be used to calculate the one-year valuation premiums.

(6) The one-year valuation premium should reflect the frequency of fund processing, as well as the distribution of deaths assumption employed in the calculation of the monthly mortality charges to the fund.

B. Basic Reserves for the Secondary Guarantees

Basic reserves for the secondary guarantees shall be the segmented reserves for the secondary guarantee period. In calculating the segments and the segmented reserves, the gross premiums shall be set equal to the specified premiums, if any, or otherwise to the minimum premiums, that keep the policy in force and the segments will be determined according to the contract segmentation method as defined in Section 4B.

C. Deficiency Reserves for the Secondary Guarantees

Deficiency reserves, if any, for the secondary guarantees shall be calculated for the secondary guarantee period in the same manner as described in Section 6B with gross premiums set equal to the specified premiums, if any, or otherwise to the minimum premiums that keep the policy in force.

D. Minimum Reserves

The minimum reserves during the secondary guarantee period are the greater of:

(1) The basic reserves for the secondary guarantee plus the deficiency reserve, if any, for the secondary guarantees; or

(2) The minimum reserves required by other rules or regulations governing universal life plans.

Section 8. Effective Date

This regulation shall become effective January 1, 2000.

Appendix. Select Mortality Factors

SELECT MORTALITY FACTORS

This appendix contains tables of select mortality factors that are the bases to which the respective percentage of Section 5A(2), 5B(2) and 5B(3) are applied.

The six tables of select mortality factors contained herein include: (1) male aggregate, (2) male nonsmoker, (3) male smoker, (4) female aggregate, (5) female nonsmoker, and (6) female smoker.

These tables apply to both age last birthday and age nearest birthday mortality tables.

For sex-blended mortality tables, compute select mortality factors in the same proportion as the underlying mortality. For example, for the 1980 CSO-B Table, the calculated select mortality factors are eighty percent (80%) of the appropriate male table in this Appendix, plus twenty percent (20%) of the appropriate female table in this Appendix.

SELECT MORTALITY FACTORS

Male, Aggregate

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	96	98	98	99	99	100	100	90	92	92	92	92	93	93	96	97	98	98	99	100
19	83	84	84	87	87	87	79	79	79	81	81	82	82	82	85	88	91	94	97	100
20	69	71	71	74	74	69	69	67	69	70	71	71	71	71	74	79	84	90	95	100
21	66	68	69	71	66	66	67	66	67	70	70	70	70	71	71	77	83	88	94	100
22	65	66	66	63	63	64	64	64	65	68	68	68	68	69	71	77	83	88	94	100
23	62	63	59	60	62	62	63	63	64	65	65	67	67	69	70	76	82	88	94	100
24	60	56	56	59	59	60	61	61	61	64	64	64	66	67	70	76	82	88	94	100
25	52	53	55	56	58	58	60	60	60	63	62	63	64	67	69	75	81	88	94	100
26	51	52	55	56	58	58	57	61	61	62	63	64	66	69	66	73	80	86	93	100
27	51	52	55	57	58	60	61	61	60	63	63	64	67	66	67	74	80	87	93	100
28	49	51	56	58	60	60	61	62	62	63	64	66	65	66	68	74	81	87	94	100
29	49	51	56	58	60	61	62	62	62	64	64	62	66	67	70	76	82	88	94	100
30	49	50	56	58	60	60	62	63	63	64	62	63	67	68	71	77	83	88	94	100
31	47	50	56	58	60	62	63	64	64	62	63	66	68	70	72	78	83	89	94	100

Male, Aggregate

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
32	46	49	56	59	60	62	63	66	62	63	66	67	70	72	73	78	84	89	95	100
33	43	49	56	59	62	63	64	62	65	66	67	70	72	73	75	80	85	90	95	100
34	42	47	56	60	62	63	61	63	66	67	70	71	73	75	76	81	86	90	95	100
35	40	47	56	60	63	61	62	65	67	68	71	73	74	76	76	81	86	90	95	100
36	38	42	56	60	59	61	63	65	67	68	70	72	74	76	77	82	86	91	95	100
37	38	45	56	57	61	62	63	65	67	68	70	72	74	76	76	81	86	90	95	100
38	37	44	53	58	61	62	65	66	67	69	69	73	75	76	77	82	86	91	95	100
39	37	41	53	58	62	63	65	65	66	68	69	72	74	76	76	81	86	90	95	100
40	34	40	53	58	62	63	65	65	66	68	68	71	75	76	77	82	86	91	95	100
41	34	41	53	58	62	63	65	64	64	66	68	70	74	76	77	82	86	91	95	100

42	34	43	53	58	61	62	63	63	63	64	66	69	72	75	77	82	86	91	95	100
43	34	43	54	59	60	61	63	62	62	64	66	67	72	74	77	82	86	91	95	100
44	34	44	54	58	59	60	61	60	61	62	64	67	71	74	77	82	86	91	95	100
45	34	45	53	58	59	60	60	60	59	60	63	66	71	74	77	82	86	91	95	100
46	31	43	52	56	57	58	59	59	59	60	63	67	71	74	75	80	85	90	95	100
47	32	42	50	53	55	56	57	58	59	60	65	68	71	74	75	80	85	90	95	100
48	32	41	47	52	54	56	57	57	57	61	65	68	72	73	74	79	84	90	95	100
49	30	40	46	49	52	54	55	56	57	61	66	69	72	73	74	79	84	90	95	100

Male, Aggregate

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
50	30	38	44	47	51	53	54	56	57	61	66	71	72	73	75	80	85	90	95	100
51	28	37	42	46	49	53	54	56	57	61	66	71	72	73	75	80	85	90	95	100
52	28	35	41	45	49	51	54	56	57	61	66	71	72	74	75	80	85	90	100	100
53	27	35	39	44	48	51	53	55	57	61	67	71	74	75	76	81	86	100	100	100
54	27	33	38	44	48	50	53	55	57	61	67	72	74	75	76	81	100	100	100	100
55	25	32	37	43	47	50	53	55	57	61	68	72	74	75	78	100	100	100	100	100
56	25	32	37	43	47	49	51	54	56	61	67	70	73	74	100	100	100	100	100	100
57	24	31	38	43	47	49	51	54	56	59	66	69	72	100	100	100	100	100	100	100
58	24	31	38	43	48	48	50	53	56	59	64	67	100	100	100	100	100	100	100	100
59	23	30	39	43	48	48	51	53	55	58	63	100	100	100	100	100	100	100	100	100
60	23	30	39	43	48	47	50	52	53	57	100	100	100	100	100	100	100	100	100	100
61	23	30	39	43	49	49	50	52	53	75	100	100	100	100	100	100	100	100	100	100
62	23	30	39	44	49	49	51	52	75	75	100	100	100	100	100	100	100	100	100	100
63	22	30	39	45	50	50	52	75	75	75	100	100	100	100	100	100	100	100	100	100
64	22	30	39	45	50	51	75	75	75	75	100	100	100	100	100	100	100	100	100	100
65	22	30	39	45	50	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
66	22	30	39	45	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
67	22	30	39	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100

Male, Aggregate

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+

68	23	32	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
69	23	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
70	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
71	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
72	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
73	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
74	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
75	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
76	48	52	55	60	60	65	70	70	70	100	100	100	100	100	100	100	100	100	100	100
77	48	52	55	60	60	65	70	70	100	100	100	100	100	100	100	100	100	100	100	100
78	48	52	55	60	60	65	70	100	100	100	100	100	100	100	100	100	100	100	100	100
79	48	52	55	60	60	65	100	100	100	100	100	100	100	100	100	100	100	100	100	100
80	48	52	55	60	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
81	48	52	55	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
82	48	52	55	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
83	48	52	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Male, Non-Smoker

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	93	95	96	98	99	100	100	90	92	92	92	92	95	95	96	97	98	98	99	100
19	80	81	83	86	87	87	79	79	79	81	81	82	83	83	86	89	92	94	97	100
20	65	68	69	72	74	69	69	67	69	70	71	71	72	72	75	80	85	90	95	100
21	63	66	68	71	66	66	67	66	67	70	70	70	71	71	73	78	84	89	95	100
22	62	65	66	62	63	64	64	64	67	68	68	68	70	70	73	78	84	89	95	10

																				0
23	60	62	58	60	62	62	63	63	64	67	68	68	67	69	71	77	83	88	94	100
24	59	55	56	58	59	60	61	61	63	65	67	66	66	69	71	77	83	88	94	100
25	52	53	55	56	58	58	60	60	61	64	64	64	64	67	70	76	82	88	94	100
26	51	53	55	56	58	60	61	61	61	63	64	64	66	69	67	74	80	87	93	100
27	51	52	55	58	60	60	61	61	62	63	64	66	67	66	67	74	80	87	93	100
28	49	52	57	58	60	61	63	62	62	64	66	66	63	66	68	74	81	87	94	100
29	49	51	57	60	61	61	62	62	63	64	66	63	65	67	68	74	81	87	94	100
30	49	51	57	60	61	62	63	63	63	64	62	63	66	68	70	76	82	88	94	100
31	47	50	57	60	60	62	63	64	64	62	63	65	67	70	71	77	83	88	94	100
32	46	50	57	60	62	63	64	64	62	63	65	66	68	71	72	78	83	89	94	100

Male, Non-Smoker

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
33	45	49	56	60	62	63	64	62	63	65	66	68	71	73	74	79	84	90	95	100
34	43	48	56	62	63	64	62	62	65	66	67	70	72	74	74	79	84	90	95	100
35	41	47	56	62	63	61	62	63	66	67	68	70	72	74	75	80	85	90	95	100
36	40	47	56	62	59	61	62	63	66	67	68	70	72	74	75	80	85	90	95	100
37	38	45	56	58	59	61	62	63	66	67	67	69	71	73	74	79	84	90	95	100
38	38	45	53	58	61	62	63	65	65	67	68	70	72	74	73	78	84	89	95	100
39	37	41	53	58	61	62	63	64	65	67	68	70	71	73	73	78	84	89	95	100
40	34	41	53	58	61	62	63	64	64	66	67	69	71	73	72	78	83	89	94	100
41	34	41	53	58	61	61	62	62	63	65	65	67	69	71	71	77	83	88	94	100
42	34	43	53	58	60	61	62	61	61	63	64	66	67	69	71	77	83	88	94	100
43	32	43	53	58	60	61	60	60	60	60	62	64	66	68	69	75	81	88	94	100
44	32	44	52	57	59	60	60	59	59	58	60	62	65	67	69	75	81	88	94	100
45	32	44	52	57	59	60	59	57	57	57	59	61	63	66	68	74	81	87	94	100
46	32	42	50	54	56	57	57	56	55	56	59	61	63	65	67	74	80	87	93	100
47	30	40	48	52	54	55	55	54	54	55	59	61	62	63	66	73	80	86	93	100
48	30	40	46	49	51	52	53	53	54	55	57	61	62	63	63	70	78	85	93	100
49	29	39	43	48	50	51	50	51	53	54	57	61	61	62	62	70	77	85	92	100
50	29	37	42	45	47	48	49	50	51	54	57	61	61	61	61	69	77	84	92	100

Male, Non-Smoker

Issue															Duration					
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
51	27	35	40	43	45	47	48	50	51	53	57	60	61	61	62	70	77	85	92	100
52	27	34	39	42	44	45	48	49	50	53	56	60	60	62	62	70	77	85	100	100
53	25	31	37	41	44	45	47	49	50	51	56	59	61	61	62	70	77	100	100	100
54	25	30	36	39	43	44	47	48	49	51	55	59	59	61	62	70	100	100	100	100

55	24	29	35	38	42	43	45	48	49	50	56	58	59	61	62	100	100	100	100	100
56	23	29	35	38	42	42	44	47	48	50	55	57	58	59	100	100	100	100	100	100
57	23	28	35	38	42	42	43	45	47	49	53	55	56	100	100	100	100	100	100	100
58	22	28	33	37	41	41	43	45	45	47	51	53	100	100	100	100	100	100	100	100
59	22	26	33	37	41	41	42	44	44	46	50	100	100	100	100	100	100	100	100	100
60	20	26	33	37	41	40	41	42	42	45	100	100	100	100	100	100	100	100	100	100
61	20	26	33	37	41	40	41	42	42	75	100	100	100	100	100	100	100	100	100	100
62	19	25	32	38	40	40	41	42	75	75	100	100	100	100	100	100	100	100	100	100
63	19	25	33	36	40	40	41	75	75	75	100	100	100	100	100	100	100	100	100	100
64	18	24	32	36	39	40	75	75	75	75	100	100	100	100	100	100	100	100	100	100
65	18	24	32	36	39	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
66	18	24	32	36	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
67	18	24	32	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
68	18	24	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100

Male, Non-Smoker

Issue															Duration					
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
69	18	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
70	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
71	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
72	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
73	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
74	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
75	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
76	48	52	55	60	60	65	70	70	70	100	100	100	100	100	100	100	100	100	100	100
77	48	52	55	60	60	65	70	70	100	100	100	100	100	100	100	100	100	100	100	100
78	48	52	55	60	60	65	70	100	100	100	100	100	100	100	100	100	100	100	100	100
79	48	52	55	60	60	65	100	100	100	100	100	100	100	100	100	100	100	100	100	100
80	48	52	55	60	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81	48	52	55	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
82	48	52	55	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
83	48	52	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Male, Smoker

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
19	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
20	98	100	100	100	100	100	100	99	99	99	100	99	99	99	100	100	100	100	100	100
21	95	98	99	100	95	96	96	95	96	97	97	96	96	96	96	97	98	98	99	100
22	92	95	96	90	90	93	93	92	93	95	95	93	93	92	93	94	96	97	99	100
23	90	92	85	88	88	89	89	89	90	90	90	90	89	90	92	94	95	97	98	100
24	87	81	82	85	84	86	88	86	86	88	88	86	86	88	89	91	93	96	98	100
25	77	78	79	82	81	83	83	82	83	85	84	84	84	85	86	89	92	94	97	100
26	75	77	79	82	82	83	83	82	83	84	84	84	84	85	81	85	89	92	96	100
27	73	75	78	82	82	83	83	82	82	82	82	84	84	80	81	85	89	92	96	100
28	71	73	79	82	81	82	83	81	81	82	82	82	80	80	81	85	89	92	96	100
29	69	72	78	81	81	82	82	81	81	81	81	77	80	80	81	85	89	92	96	100
30	68	71	78	81	81	81	82	81	81	81	76	77	80	80	81	85	89	92	96	100
31	65	70	77	81	79	81	82	81	81	76	77	79	81	81	83	86	90	93	97	100
32	63	67	77	78	79	81	81	81	76	77	77	80	83	83	85	88	91	94	97	100

Male, Smoker

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+

33	60	65	74	78	79	79	81	76	77	77	79	80	83	85	85	88	91	94	97	100
34	57	62	74	77	79	79	75	76	77	79	79	81	83	85	87	90	92	95	97	100
35	53	60	73	77	79	75	75	76	77	79	80	82	84	86	88	90	93	95	98	100
36	52	59	71	75	74	75	75	76	77	79	79	81	83	85	87	90	92	95	97	100
37	49	58	70	71	74	74	75	76	77	78	79	81	84	86	86	89	92	94	97	100
38	48	55	66	70	72	74	74	75	76	78	79	81	83	85	87	90	92	95	97	100
39	45	50	65	70	72	72	74	74	75	77	79	81	84	86	86	89	92	94	97	100
40	41	49	63	68	71	72	73	74	74	76	78	80	83	85	86	89	92	94	97	100
41	40	49	63	68	71	72	72	72	73	75	76	78	81	84	85	88	91	94	97	100
42	40	49	62	68	70	71	71	71	71	73	75	76	81	83	85	88	91	94	97	100
43	39	50	62	67	69	69	70	70	70	71	73	76	79	83	85	88	91	94	97	100
44	39	50	60	66	68	69	68	69	69	69	71	74	79	81	85	88	91	94	97	100
45	37	50	60	66	68	68	68	67	67	67	69	73	78	81	85	88	91	94	97	100
46	37	48	58	63	65	67	66	66	66	67	71	74	78	81	84	87	90	94	97	100
47	36	47	55	61	63	64	64	64	65	67	71	75	79	81	84	87	90	94	97	100
48	35	46	53	58	60	62	63	63	65	67	72	75	79	81	83	86	90	93	97	100
49	34	45	51	56	58	59	61	62	63	67	72	77	80	81	83	86	90	93	97	100
50	34	43	49	53	55	57	60	61	63	67	73	78	80	81	81	85	89	92	96	100

Male, Smoker

Issue															Duration					
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
51	32	42	47	52	55	57	60	61	63	67	73	78	80	83	84	87	90	94	97	100
52	32	40	46	50	54	56	60	61	63	67	73	78	81	84	85	88	91	94	100	100
53	30	37	44	49	54	56	59	61	65	67	74	79	83	85	87	90	92	100	100	100
54	30	36	43	48	53	55	59	61	65	67	74	80	84	85	89	91	100	100	100	100
55	29	35	42	47	53	55	59	61	65	67	75	80	84	86	90	100	100	100	100	100
56	28	35	42	47	53	55	57	60	63	68	74	79	83	85	100	100	100	100	100	100
57	28	35	42	47	53	54	57	60	64	67	74	78	81	100	100	100	100	100	100	100
58	26	33	43	48	54	54	56	59	63	67	73	78	100	100	100	100	100	100	100	100
59	26	33	43	48	54	53	57	59	63	66	73	100	100	100	100	100	100	100	100	100
60	25	33	43	48	54	53	56	58	62	66	100	100	100	100	100	100	100	100	100	100
61	25	33	43	49	55	55	57	59	63	75	100	100	100	100	100	100	100	100	100	100
62	25	33	43	50	56	56	58	61	75	75	100	100	100	100	100	100	100	100	100	100
63	24	33	45	51	56	56	59	75	75	75	100	100	100	100	100	100	100	100	100	100
64	24	34	45	51	57	57	75	75	75	75	100	100	100	100	100	100	100	100	100	100
65	24	34	45	52	57	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
66	24	35	45	53	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
67	2	3	4	6	6	6	7	7	7	7	10	10	10	10	10	10	10	10	10	10

	5	5	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	25	36	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100

Male, Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
69	27	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
70	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
71	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
72	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
73	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
74	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
75	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
76	48	52	55	60	60	65	70	70	70	100	100	100	100	100	100	100	100	100	100	100
77	48	52	55	60	60	65	70	70	100	100	100	100	100	100	100	100	100	100	100	100
78	48	52	55	60	60	65	70	100	100	100	100	100	100	100	100	100	100	100	100	100
79	48	52	55	60	60	65	100	100	100	100	100	100	100	100	100	100	100	100	100	100
80	48	52	55	60	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
81	48	52	55	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
82	48	52	55	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
83	48	52	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Female, Aggregate

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	99	100	100	100	100	100	100	100	93	95	96	97	97	100	100	100	100	100	100	100
18	83	83	84	84	84	84	86	78	78	79	82	84	85	88	88	90	93	95	98	100
19	65	66	68	68	68	68	63	63	64	66	69	71	72	74	75	80	85	90	95	10

0

20	48	50	51	51	51	47	48	48	49	51	56	57	58	61	63	70	78	85	93	100
21	47	48	50	51	47	47	48	49	51	53	57	60	61	64	64	71	78	86	93	100
22	44	47	48	45	47	47	48	49	53	54	60	61	63	64	66	73	80	86	93	100
23	42	45	44	45	47	47	49	51	53	54	61	64	64	67	69	75	81	88	94	100
24	39	40	42	44	47	47	50	51	54	56	64	64	66	69	70	76	82	88	94	100
25	34	38	41	44	47	47	50	53	56	57	64	67	69	71	73	78	84	89	95	100
26	34	38	41	45	49	49	51	56	58	59	66	69	70	73	70	76	82	88	94	100
27	34	38	41	47	50	51	54	57	59	60	69	70	73	70	71	77	83	88	94	100
28	34	37	43	47	53	53	56	59	62	63	70	73	70	72	74	79	84	90	95	100
29	34	38	43	49	54	56	58	60	63	64	73	70	72	74	75	80	85	90	95	100
30	35	38	43	50	56	56	59	63	66	67	70	71	74	75	76	81	86	90	95	100
31	35	38	43	51	56	58	60	64	67	65	71	72	74	75	76	81	86	90	95	100
32	35	39	45	51	56	59	63	66	65	66	72	72	75	76	76	81	86	90	95	100

Female, Aggregate

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
33	36	39	44	52	58	62	64	65	66	67	72	74	75	76	76	81	86	90	95	100
34	36	40	45	52	58	63	63	66	67	68	74	74	76	76	76	81	86	90	95	100
35	36	40	45	53	59	61	65	67	68	70	75	74	75	76	75	80	85	90	95	100
36	36	40	45	53	55	62	65	67	68	70	74	74	74	75	75	80	85	90	95	100
37	36	41	47	52	57	62	65	67	68	69	72	72	73	75	74	79	84	90	95	100
38	34	41	44	52	57	63	66	68	69	70	72	71	72	74	75	80	85	90	95	100
39	34	40	45	53	58	63	66	68	69	69	70	70	70	73	74	79	84	90	95	100
40	32	40	45	53	58	65	65	67	68	69	70	69	70	73	73	78	84	89	95	100
41	32	40	45	53	57	63	64	67	68	68	69	69	69	73	74	79	84	90	95	100
42	32	40	45	52	56	61	63	65	66	68	69	68	70	74	75	80	85	90	95	100
43	31	39	45	51	55	59	61	65	65	66	68	69	69	74	77	82	86	91	95	100
44	31	39	45	50	54	58	61	63	64	66	67	68	71	75	78	82	87	91	96	100
45	31	38	44	49	53	56	59	62	63	65	67	68	71	77	79	83	87	92	96	100
46	29	37	43	48	51	54	59	62	63	65	67	69	71	77	78	82	87	91	96	100
47	28	35	41	46	49	54	57	61	62	66	68	69	71	77	77	82	86	91	95	100
48	28	35	41	44	49	52	57	61	63	66	68	71	72	75	77	82	86	91	95	100
49	26	34	39	43	47	52	55	61	63	67	69	71	72	75	75	80	85	90	95	100
50	25	32	38	41	46	50	55	61	63	67	69	72	72	75	74	79	84	90	95	100

Female, Aggregate

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
51	25	32	38	41	45	50	55	61	63	66	68	69	71	74	74	79	84	90	95	100

52	23	30	36	41	45	51	56	61	62	65	66	68	68	73	73	78	84	89	100	100
53	23	30	36	41	47	51	56	61	62	63	65	66	68	72	72	78	83	100	100	100
54	22	29	35	41	47	53	57	61	61	62	62	66	66	69	70	76	100	100	100	100
55	22	29	35	41	47	53	57	61	61	61	62	63	64	68	69	100	100	100	100	100
56	22	29	35	41	45	51	56	59	60	61	62	63	64	67	100	100	100	100	100	100
57	22	29	35	41	45	50	54	56	58	59	61	62	63	100	100	100	100	100	100	100
58	22	30	36	41	44	49	53	56	57	57	61	62	100	100	100	100	100	100	100	100
59	22	30	36	41	44	48	51	53	55	56	59	100	100	100	100	100	100	100	100	100
60	22	30	36	41	43	47	50	51	53	55	100	100	100	100	100	100	100	100	100	100
61	22	29	35	39	42	46	49	50	52	80	100	100	100	100	100	100	100	100	100	100
62	20	28	33	39	41	45	47	49	80	80	100	100	100	100	100	100	100	100	100	100
63	20	28	33	38	41	44	46	80	80	80	100	100	100	100	100	100	100	100	100	100
64	19	27	32	36	40	42	80	80	80	80	100	100	100	100	100	100	100	100	100	100
65	19	25	30	35	39	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
66	19	25	30	35	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
67	19	25	30	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
68	19	25	68	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100

Female, Aggregate

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
69	19	64	68	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
70	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
71	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
72	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
73	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
74	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
75	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
76	60	60	64	68	68	72	75	75	80	100	100	100	100	100	100	100	100	100	100	100
77	60	60	64	68	68	72	75	75	10	10	10	10	10	10	10	10	10	10	10	10

									0	0	0	0	0	0	0	0	0	0	0	0
78	60	60	64	68	68	72	75	100	100	100	100	100	100	100	100	100	100	100	100	100
79	60	60	64	68	68	72	100	100	100	100	100	100	100	100	100	100	100	100	100	100
80	60	60	64	68	68	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
81	60	60	64	68	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
82	60	60	64	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
83	60	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Female, Non-Smoker

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	96	98	98	98	98	99	99	99	92	92	93	95	95	97	99	99	99	100	100	100
18	78	80	80	80	80	81	81	74	75	75	78	79	82	83	85	88	91	94	97	100
19	60	62	63	63	63	65	59	59	60	60	64	67	67	70	72	78	83	89	94	100
20	42	44	45	45	45	42	42	42	45	45	50	51	53	56	58	66	75	83	92	100
21	41	42	44	45	41	42	42	44	47	47	51	53	54	57	59	67	75	84	92	100
22	39	41	44	41	41	42	44	45	49	49	54	56	57	58	60	68	76	84	92	100
23	38	41	38	40	41	42	44	46	49	50	56	57	58	60	62	70	77	85	92	100
24	36	36	38	40	41	42	46	47	50	51	58	59	60	62	63	70	78	85	93	100
25	32	34	37	40	41	43	46	49	51	53	59	60	62	63	64	71	78	86	93	100
26	32	34	37	41	43	45	47	50	53	53	60	62	63	64	62	70	77	85	92	100
27	32	34	38	43	46	47	49	51	53	55	62	63	64	62	62	70	77	85	92	100
28	30	34	39	43	47	49	51	53	56	58	63	63	61	62	63	70	78	85	93	100
29	30	35	40	45	50	51	52	55	58	59	64	61	62	63	63	70	78	85	93	100
30	31	35	40	46	51	52	53	56	59	60	62	62	63	65	65	72	79	86	93	100
31	31	35	40	46	51	53	55	58	60	58	62	62	63	65	65	72	79	86	93	100

32	32	35	40	45	51	53	56	59	57	58	62	63	63	65	64	71	78	86	93	100

Female, Non-Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
33	32	36	41	47	52	55	58	55	58	59	63	63	65	65	65	72	79	86	93	100
34	33	36	41	47	52	55	55	57	58	59	63	65	64	65	64	71	78	86	93	100
35	33	36	41	47	52	53	57	58	59	61	63	64	64	64	64	71	78	86	93	100
36	33	36	41	47	49	53	57	58	59	61	63	64	63	64	63	70	78	85	93	100
37	32	36	41	44	49	53	57	58	59	60	62	62	61	62	63	70	78	85	93	100
38	32	37	39	45	50	54	57	58	60	60	61	61	61	62	61	69	77	84	92	100
39	30	35	39	45	50	54	57	58	60	59	60	60	59	60	61	69	77	84	92	100
40	28	35	39	45	50	54	56	57	59	59	60	59	59	59	60	68	76	84	92	100
41	28	35	39	45	49	52	55	55	58	57	58	59	58	59	60	68	76	84	92	100
42	27	35	39	44	49	52	54	55	56	57	57	57	58	60	61	69	77	84	92	100
43	27	34	39	44	47	50	53	53	55	55	56	57	56	60	61	69	77	84	92	100
44	26	34	38	42	47	50	52	53	54	55	55	55	56	61	62	70	77	85	92	100
45	26	33	38	42	45	48	51	51	52	53	54	55	56	61	62	70	77	85	92	100
46	24	32	37	40	43	47	49	51	52	53	54	55	56	60	61	69	77	84	92	100
47	24	30	35	39	42	45	47	49	51	53	54	55	56	59	60	68	76	84	92	100
48	23	30	35	37	40	44	47	49	50	53	54	55	55	59	57	66	74	83	91	100
49	23	29	33	35	39	42	45	48	50	53	54	55	55	57	56	65	74	82	91	100
50	21	27	32	34	37	41	44	48	50	53	54	55	55	56	55	64	73	82	91	100

Female, Non-Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
51	21	26	30	34	37	41	44	48	49	51	53	53	54	55	55	64	73	82	91	100
52	20	25	30	33	37	41	44	47	48	50	50	51	51	55	53	62	72	81	100	100
53	19	24	29	32	37	41	43	47	48	48	49	49	51	52	52	62	71	100	100	100
54	18	24	29	32	37	41	43	45	47	47	47	49	49	51	51	61	100	100	100	100
55	18	23	28	32	37	41	43	45	45	45	46	46	47	50	50	100	100	100	100	100
56	18	23	28	32	36	39	42	44	44	45	46	46	46	49	100	100	100	100	100	100
57	18	23	28	31	35	38	41	42	44	44	45	45	46	100	100	100	100	100	100	100
58	17	23	26	31	35	36	38	41	41	42	45	45	100	100	100	100	100	100	100	100
59	17	23	26	30	33	35	38	39	40	41	44	100	100	100	100	100	100	100	100	100
60	17	23	26	30	32	34	36	38	39	40	100	100	100	100	100	100	100	100	100	100
61	17	22	25	29	32	33	35	36	38	80	100	100	100	100	100	100	100	100	100	100
62	16	22	25	28	30	32	34	35	80	80	100	100	100	100	100	100	100	100	100	100
63	16	20	24	28	30	32	34	80	80	80	100	100	100	100	100	100	100	100	100	100
64	1	2	2	2	2	3	8	8	8	8	10	10	10	10	10	10	10	10	10	10

	4	1	4	7	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	15	19	23	25	28	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
66	15	19	23	25	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
67	15	19	22	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
68	13	18	68	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100

Female, Non-Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
69	13	64	68	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
70	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
71	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
72	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
73	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
74	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
75	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
76	60	60	64	68	68	72	75	75	80	100	100	100	100	100	100	100	100	100	100	100
77	60	60	64	68	68	72	75	75	100	100	100	100	100	100	100	100	100	100	100	100
78	60	60	64	68	68	72	75	100	100	100	100	100	100	100	100	100	100	100	100	100
79	60	60	64	68	68	72	100	100	100	100	100	100	100	100	100	100	100	100	100	100
80	60	60	64	68	68	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
81	60	60	64	68	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
82	60	60	64	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
83	60	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Female, Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	99	100	100	100	100	100	100	95	96	97	100	100	100	100	100	100	100	100	100	100
19	87	89	92	92	92	92	84	84	86	86	92	93	95	96	99	99	99	100	100	100
20	74	77	80	80	80	73	73	73	75	77	83	83	86	88	90	92	94	96	98	100
21	71	74	78	78	71	71	73	74	77	79	85	86	88	89	90	92	94	96	98	100
22	68	71	75	70	71	71	73	74	78	79	88	90	89	89	92	94	95	97	98	100
23	65	69	67	70	70	70	73	77	79	81	89	90	90	92	92	94	95	97	98	100
24	62	60	64	69	70	70	74	77	79	81	92	90	92	93	93	94	96	97	99	100
25	53	58	63	67	69	70	74	78	81	82	92	93	93	95	95	96	97	98	99	100
26	53	58	63	69	71	72	75	79	82	82	93	93	95	96	90	92	94	96	98	100
27	52	56	63	70	74	74	78	81	82	84	93	95	95	90	90	92	94	96	98	100
28	52	56	64	71	75	77	79	82	85	86	95	95	90	92	92	94	95	97	98	100
29	51	56	64	71	78	78	81	84	86	88	95	90	90	92	92	94	95	97	98	100
30	51	56	64	72	79	79	82	85	88	89	90	90	92	93	93	94	96	97	99	100
31	51	56	64	72	78	81	84	84	88	84	90	90	92	93	93	94	96	97	99	100
32	51	56	64	71	78	81	85	86	84	85	90	90	92	94	93	94	96	97	99	100

Female, Smoker

Issue														Duration						
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
33	51	57	62	71	78	82	85	83	84	85	90	92	93	93	93	94	96	97	99	100
34	51	56	62	71	78	82	81	83	85	86	90	92	92	94	93	94	96	97	99	100
35	51	56	62	71	78	79	83	84	85	86	90	91	91	93	93	94	96	97	99	100
36	49	56	62	71	74	79	83	84	85	86	90	90	91	93	92	94	95	97	98	100
37	48	55	62	67	74	79	83	84	85	86	89	90	89	92	91	93	95	96	98	100
38	47	55	57	66	72	77	81	84	86	86	87	88	88	90	91	93	95	96	98	100
39	45	50	57	66	72	77	81	83	85	86	86	87	86	89	90	92	94	96	98	100
40	41	50	57	66	72	77	81	83	84	85	86	86	86	89	89	91	93	96	98	100
41	40	50	57	65	71	76	79	81	83	84	85	86	85	89	90	92	94	96	98	100
42	40	49	57	65	69	74	77	80	82	83	84	85	86	90	92	94	95	97	98	100
43	39	49	55	63	69	73	76	78	80	82	83	84	85	92	93	94	96	97	99	100
44	39	48	55	62	67	71	75	78	80	80	82	84	86	93	96	97	98	98	99	100
45	37	47	55	61	65	70	73	76	78	80	81	84	86	94	97	98	98	99	99	100
46	36	46	53	59	63	68	71	75	77	79	83	85	86	93	96	97	98	98	99	100
47	34	44	51	57	62	66	70	75	77	80	83	85	86	93	94	95	96	98	99	100
48	34	44	50	54	60	64	69	74	77	80	84	86	87	92	92	94	95	97	98	100
49	33	42	48	53	58	63	68	74	77	81	84	86	87	92	91	93	95	96	98	100
50	31	41	46	51	57	61	67	74	77	81	85	87	87	91	90	92	94	96	98	100

Female, Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
51	30	39	45	51	56	61	67	74	75	80	83	85	85	90	90	92	94	96	98	100
52	29	38	45	50	56	62	68	74	75	79	81	83	84	90	90	92	94	96	100	100
53	28	37	43	49	57	62	68	73	74	77	79	81	83	89	89	91	93	100	100	100
54	28	36	43	49	57	63	69	73	74	75	78	80	81	87	89	91	100	100	100	100
55	26	35	42	49	57	63	69	73	73	74	76	78	79	86	87	100	100	100	100	100
56	26	35	42	49	56	62	67	71	72	74	76	78	79	85	100	100	100	100	100	100
57	26	35	42	49	55	61	66	69	72	73	76	78	79	100	100	100	100	100	100	100
58	28	36	43	49	55	59	63	68	69	72	76	78	100	100	100	100	100	100	100	100
59	28	36	43	49	54	57	63	67	68	70	76	100	100	100	100	100	100	100	100	100
60	28	36	43	49	53	57	61	64	67	69	100	100	100	100	100	100	100	100	100	100
61	26	35	42	48	52	56	59	63	66	80	100	100	100	100	100	100	100	100	100	100
62	26	33	41	47	51	55	58	62	80	80	100	100	100	100	100	100	100	100	100	100
63	25	33	41	46	51	55	57	80	80	80	100	100	100	100	100	100	100	100	100	100
64	25	33	40	45	50	53	80	80	80	80	100	100	100	100	100	100	100	100	100	100
65	24	32	39	44	49	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
66	24	32	39	44	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
67	24	32	39	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
68	24	32	68	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100

Female, Smoker

Issue Age	Duration 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
69	24	64	68	72	72	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
70	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
71	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
72	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
73	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
74	60	60	64	68	68	72	75	75	80	80	10	10	10	10	10	10	10	10	10	10

											0	0	0	0	0	0	0	0	0	0
75	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100	100	100	100	100	100
76	60	60	64	68	68	72	75	75	80	100	100	100	100	100	100	100	100	100	100	100
77	60	60	64	68	68	72	75	75	100	100	100	100	100	100	100	100	100	100	100	100
78	60	60	64	68	68	72	75	100	100	100	100	100	100	100	100	100	100	100	100	100
79	60	60	64	68	68	72	100	100	100	100	100	100	100	100	100	100	100	100	100	100
80	60	60	64	68	68	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
81	60	60	64	68	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
82	60	60	64	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
83	60	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Legislative History (all references are to the Proceedings of the NAIC).

1994 Proc. 4th Quarter 17, 26, 653, 1098, 1126-1159 (adopted).

1998 Proc. 4th Quarter 15-16, 17, 608, 978, 1126-1148 (amended and reprinted).

--------------------------- END OF MODEL ACT --------------------------