WEST VIRGINIA
SECRETARY OF STATE
JOE MANCHIN, III
ADMINISTRATIVE LAW DIVISION

Form #3

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2004 AUG 26 P 2:42

OFFICE WEST VIRGINIA
SECRETARY OF STATE

NOTICE OF AGENCY APPROVAL OF A PROPOSED RULE
AND
FILING WITH THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

AGENCY: Insurance Commissioner TITLE NUMBER: 114

CITE AUTHORITY: WV Code §§33-2-10 & 33-7-9(p)(2)

AMENDMENT TO AN EXISTING RULE: YES ___ NO X

IF YES, SERIES NUMBER OF RULE BEING AMENDED: ___

TITLE OF RULE BEING AMENDED: ___

IF NO, SERIES NUMBER OF RULE BEING PROPOSED: 68

TITLE OF RULE BEING PROPOSED: Valuation of Life Insurance Policies

THE ABOVE PROPOSED LEGISLATIVE RULE HAVING GONE TO A PUBLIC HEARING OR A PUBLIC COMMENT PERIOD IS HEREBY APPROVED BY THE PROMULGATING AGENCY FOR FILING WITH THE SECRETARY OF STATE AND THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE FOR THEIR REVIEW.

Authorized Signature

$11.60

QUESTIONNAIRE

(Please include a copy of this form with each filing of your rule: Notice of Public Hearing or Comment Period, Proposed Rule, and if needed, Emergency and Modified Rule.)

DATE: August 26, 2004

TO: LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

FROM: OFFICE OF THE INSURANCE COMMISSIONER
ATTN: Legal Division
1124 Smith Street
Post Office Box 50540
Charleston, West Virginia 25305-0540

LEGISLATIVE RULE TITLE: VALUATION OF LIFE INSURANCE POLICIES (TITLE 114, SERIES 68)

1. **Authorizing statute(s) citation:**

West Virginia Code §§ 33-2-10 and 33-7-9(p)(2).

2. a. **Date filed in State Register with Notice of Hearing or Public Comment Period:**

June 30, 2004 - Comment Period.

b. **What other notice, including advertising, did you give of the hearing?**

None

c. **Date of Public Hearing(s) *or* Public Comment Period ended:**

Comment period ended July 30, 2004.

d. **Attach list of persons who appeared at hearing, comments received, amendments, reasons for amendments.**

Attached ___X___ **No comments received** _____

e. **Date you filed in State Register the agency approved proposed Legislative Rule following public hearing: (be exact)**

August 26, 2004

f. Name, title, address and phone/fax/e-mail numbers of agency person(s) to receive all *written correspondence* regarding this rule: (Please type)

Victor A. Mullins, Associate Counsel
West Virginia Insurance Commission
Legal Division
P.O. Box 50540
Charleston, WV 25305-0540
Phone: (304) 558-0401, ext. 146
Fax: (304) 558-1362
E-mail: Victor.Mullins@wvinsurance.gov

g. IF DIFFERENT FROM ITEM 'f', please give Name, title, address and phone number(s) of agency person(s) who wrote and/or has responsibility for the contents of this rule: (Please type)

Not applicable

3. If the statute under which you promulgated the submitted rules requires certain findings and determinations to be made as a condition precedent to their promulgation:

a. Give the date upon which you filed in the State Register a notice of the time and place of a hearing for the taking of evidence and a general description of the issues to be decided.

Not applicable

b. Date of hearing or comment period:

Not applicable

c. On what date did you file in the State Register the findings and determinations required together with the reasons therefor?

Not applicable

d. Attach findings and determinations and reasons:

Not applicable

Insurance Commissioner
Title 114, Series 68

ATTACHMENT TO QUESTION 2 (d):

One comment was received from T. Randolph Cox, Attorney at Law, during the comment period in response to the proposed legislative rule. Mr. Cox is counsel for American Council of Life Insurers ("ACLI"). In a letter dated and received on July 30, 2004, Mr. Cox, on behalf of ACLI, comments that ACLI supports the adoption of Series 68. The Commissioner is obviously in agreement with this comment.

RECEIVED
JUL 30 04
LEGAL DIV.
WV INS. DEPT.

SPILMAN THOMAS & BATTLE, PLLC
ATTORNEYS AT LAW

(304) 340-3829
tcox@spilmanlaw.com

July 30, 2004

HAND-DELIVERY

Mary Jane Pickens, Counsel
West Virginia Insurance Commission
1124 Smith Street
P. O. Box 50540
Charleston, West Virginia 25305-0540

Re: Comments to Series 68 and 69

Dear Ms. Pickens:

This letter is submitted on behalf of the American Council of Life Insurers (ACLI), a national life insurance trade association whose 368 life insurance company members account for approximately 70% of the life insurance sold in the state of West Virginia. We appreciate the opportunity to comment on the above-captioned proposed regulations.

SERIES 69

The series 69 regulations would recognize the 2001 CSO Mortality Table for Use in Determining Minimum Reserve Liabilities and Nonforfeiture Benefits. Under federal income tax law, the 2001 CSO Table can be used to determine life insurance company reserve deductions once a minimum of 26 states have adopted them.

Because 26 states have now adopted the 2001 CSO Table, the Internal Revenue Service will authorize its use commencing January 1, 2005. Operating under the 2001 CSO Table will allow life insurers to establish lower reserves than would have been required under the 1980 CSO Table, which in turn will permit them to reduce the premium costs consumers will pay for their life insurance. Accordingly, the proposed rule's January 1, 2006 effective date will significantly delay the ability of West Virginia consumers to benefit from lower premium costs, and also will have adverse tax consequences on life insurers doing business in the state.

ACLI therefore respectfully requests that section 3.1 of the proposed rule be amended to provide that the 2001 CSO Table may be used as the minimum standard for policies issued on or after January 1, 2005, rather than January 1, 2006 as proposed. In the alternative, ACLI would request that the Commissioner consider issuing an emergency rule to effect this amendment.

SERIES 68

ACLI supports the adoption of Series 68 – "New rules regarding the valuation of life insurance policies."

ACLI greatly appreciates the consideration of its comments. If you have any questions, please do not hesitate to contact me.

Sincerely yours,

T. Randolph Cox
Counsel, ACLI

TRC/lb;317411.2
cc: Bruce Ferguson

Insurance Commissioner
Legislative Rule
Title 114, Series 68

VALUATION OF LIFE INSURANCE POLICIES

TITLE 114, SERIES 68

BRIEF SUMMARY OF RULE

This rule will establish a minimum standard for the valuation of life insurance policies with nonlevel premiums or benefits and with secondary guarantees. This rule, which was adopted by the National Association of Insurance Commissioners as a model regulation in 1998, sets forth an actuarial formula for calculating life insurance policy reserves and includes tables of select mortality factors. Subject to certain exceptions, the rule will apply to all life insurance policies, with or without nonforfeiture values, issued on or after the rule's effective date. The majority of states have adopted the above-mentioned model regulation. Accordingly, this rule will further promote national uniformity in insurance regulation.

Insurance Commissioner
Legislative Rule
Title 114, Series 68

VALUATION OF LIFE INSURANCE POLICIES

TITLE 114, SERIES 68

STATEMENT OF CIRCUMSTANCES

In 1997, after the National Association of Insurance Commissioners adopted a model regulation concerning the valuation of life insurance policies, the Legislature authorized promulgation of a rule that was ultimately designated as WV 114CSR49. Soon after its promulgation, concern arose that compliance with the rule in West Virginia would be difficult since it was not a uniformly adopted rule among the states. In 1999, S.B. 214 was passed to retroactively deauthorize the rule. Today, a majority of states have adopted a revised version of the NAIC model regulation. Therefore, it is now appropriate for West Virginia to also adopt this rule to promote national uniformity in insurance regulation. The proposed rule sets forth an actuarial formula for calculating life insurance policy reserves and includes tables of select mortality factors.

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: Valuation of Life Insurance Policies
Title 114, Series 68

Type of Rule: __X__ **Legislative** ___**Interpretive** ____**Procedural**

Agency: Insurance Commissioner

Address: Post Office Box 50540
1124 Smith Street, Greenbrooke Building
Charleston, West Virginia 25305-0540

==========

1. Effect of Proposed Rule

	ANNUAL		FISCAL YEAR		
	Increase	Decrease	Current	Next	Thereafter
ESTIMATED TOTAL COST	None	None	None	None	None
PERSONAL SERVICES	None	None	None	None	None
CURRENT EXPENSE	None	None	None	None	None
REPAIRS AND ALTERNATIONS	None	None	None	None	None
EQUIPMENT	None	None	None	None	None
OTHER	None	None	None	None	None

2. Explanation of above estimates:

The rule will have no additional fiscal impact upon state, local or federal government.

3. Objectives of these rules:

These rules are intended to provide a minimum standard for the valuation of life insurance policies with nonlevel premiums or benefits and with secondary guarantees. The rule sets forth an actuarial formula for calculating life insurance policy reserves and includes tables of select mortality factors. With a few exceptions, the rule will apply to all life insurance policies, with or without nonforfeiture values, issued on or after the rule's effective date.

Rule Title: Valuation of Life Insurance Policies
Title 114, Series 68

4. Explanation of Overall Economic Impact of Proposed Rule.

A. Economic Impact on State Government.

None

B. Economic Impact on Political Subdivisions; Specific Industries; Specific groups of Citizens.

This rule should have no economic impact on political subdivisions. It will only have an economic impact on certain insurance companies or their customers to the extent that the rule provides standards that may not currently be followed by the insurance industry with respect to the valuation of life insurance policy reserves. The rule will have no economic impact on specific groups of citizens.

C. Economic Impact on Citizens/Public at Large.

There could be an economic impact to citizens or the public at large as a result of the promulgation of this rule, to the extent that it places minimum standards to be followed by insurance companies with respect to the valuation of life insurance policy reserves. Life insurance premiums charged to citizens may be affected by these new standards.

Date: August 26, 2004

Signature of Agency Head or Authorized Representative

Jane L. Cline, Insurance Commissioner

114CSR68

LEGISLATIVE RULE
INSURANCE COMMISSIONER

SERIES 68
VALUATION OF LIFE INSURANCE POLICIES

Section

114-68-1. General.

114-68-2. Applicability.

114-68-3. Definitions.

114-68-4. General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves.

114-68-5. Calculation of Minimum Valuation Standard for Policies with Guaranteed Nonlevel Gross Premiums or Guaranteed Nonlevel Benefits (Other Than Universal Life Insurance Policies).

114-68-6. 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.

Appendix A. Select Mortality Factors.

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SECRETARY OF STATE

114CSR68

LEGISLATIVE RULE
INSURANCE COMMISSIONER

SERIES 68
VALUATION OF LIFE INSURANCE POLICIES

§114-68-1. General.

1.1. Scope.

a. The purpose of this rule 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 rule will constitute the commissioner's reserve valuation method for policies to which this rule is applicable.

1.2. Authority. -- This rule is promulgated pursuant to the authority of W. Va. Code §§33-2-10 and 33-7-9(p)(2).

1.3. Filing Date. --

1.4. Effective Date. --

§114-68-2. Applicability.

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

2.2. Exceptions.

a. This rule shall not apply to any individual life insurance policy issued on or after the effective date of this rule 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 rule, that guarantees the premium rates of the new policy. This rule 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.

b. This rule shall not apply to any universal life policy that meets all the following requirements:

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

2. 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 subsection 3.6 of this rule and the applicable valuation interest rate; and

3. The initial surrender charge is not less than one hundred percent (100%) of the first year annualized specified premium for the secondary guarantee period.

c. This rule 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.

d. This rule 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.

e. This rule 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.

2.3. Conditions.

a. Calculation of the minimum valuation standard for policies with guaranteed nonlevel gross premiums or guaranteed nonlevel benefits (other than universal life insurance policies), or both, shall be in accordance with the provisions of section 5 of this rule.

b. 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 6 of this rule.

§114-68-3. Definitions.

3.1. "Basic reserves" means reserves calculated in accordance with the principles of W. Va. Code §33-7-9(g).

3.2. "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 3.6 of this rule, or any other valuation mortality table adopted by the National Association of Insurance Commissioners (NAIC) after the effective date of this rule and promulgated by rule by the commissioner for this purpose, and, if elected, the optional minimum mortality standard for deficiency reserves stipulated in subsection 4.2 of this rule. 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:

$$Gt = \frac{GPx+k+t}{GPx+k+t-1}$$

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.

$$Rt = \frac{qx+k+t}{qx+k+t-1},$$ 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 subdivision b of subsection 4.2 of this rule if subdivision c of subsection 4.2 of this rule 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.

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

a. Minimum reserves calculated in accordance with the principles of W. Va. Code §33-7-9(k) over

b. Basic reserves.

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

3.5. "Maximum valuation interest rates" means the interest rates defined in W. Va. Code §33-7-9(f)(2) that are to be used in determining the minimum standard for the valuation of life insurance policies.

3.6. "1980 CSO valuation tables" means the National Association of Insurance Commissioners' 1980 standard ordinary mortality table (1980 CSO Table), without ten-year select mortality factors, incorporated into the 1980 amendments to the NAIC standard valuation law and referred to in W. Va. Code §33-7-9(d)(1)(C), and variations of the 1980 CSO Table approved by the NAIC, such as the smoker and nonsmoker versions approved in December 1983.

3.7. "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 subdivision c of subsection 6.1 of this rule, if any, or else the minimum premium described in subdivision d of subsection 6.1 of this rule.

3.8. "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 gross premiums within the segment.

a. 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:

1. The present value of the death benefits within the segment; plus

2. The present value of any unusual guaranteed cash surrender value (see subsection 5.4 of this rule) occurring at the end of the segment; less

3. Any unusual guaranteed cash value occurring at the start of the segment; plus

4. For the first segment only, the excess of the quantity described in subparagraph A of this paragraph over the quantity described in subparagraph B of this paragraph.

A. 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.

B. A net one-year term premium for the benefits provided for in the first policy year.

b. The length of each segment is determined by the contract segmentation method, as defined in this section.

c. 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.

d. 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.

3.9. "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.

3.10. "Ten-year select factors" means the select factors adopted with the 1980 amendments to the NAIC standard valuation law and referred to in W. Va. Code §33-7-9(d)(1)(C)(ii).

3.11. "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 the quantity described in paragraph 1 of this subdivision over the quantity described in paragraph 2 of this subdivision.

1. 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.

2. A net one-year term premium for the benefits provided for in the first policy year.

c. 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.

3.12. "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.

§114-68-4. General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves.

4.1. 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 rule and promulgated by rule by the commissioner for this purpose. If select mortality factors are elected, they may be:

a. The ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law and referred to in W. Va. Code §33-7-9(d)(1)(C)(ii);

b. The select mortality factors in Appendix A of this rule; or

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

4.2. 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 rule and promulgated by rule by the commissioner. If select mortality factors are elected, they may be:

a. The ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law and referred to in W. Va. Code §33-7-9(d)(1)(C)(ii);

b. The select mortality factors in Appendix A of this rule;

c. For durations in the first segment, X percent of the select mortality factors in Appendix A of this rule, subject to the following:

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

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

3. X shall not decrease in any successive policy years;

4. X is such that, when using the valuation interest rate used for basic reserves, subparagraph A of this paragraph is greater than or equal to subparagraph B of this paragraph;

A. The actuarial present value of future death benefits, calculated using the mortality rates resulting from the application of X;

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

5. 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;

6. The appointed actuary shall increase X at any valuation date where it is necessary to continue to meet all the requirements of this subdivision;

7. 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 this subdivision;

8. 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;

9. If X is less than one hundred percent (100%) at any duration for any policy, the following requirements shall be met:

A. The appointed actuary shall annually prepare an actuarial opinion and memorandum for the company in conformance with the requirements of WV 114CSR41; and

B. The appointed actuary shall annually opine for all policies subject to this rule as to whether the mortality rates resulting from the application of X meet the requirements of this subdivision. 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.

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

4.3. 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 and referred to in W. Va. Code §33-7-9(d)(1)(C)(ii) may be used thereafter through the tenth policy year from the date of issue.

4.4. 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.

4.5. 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:

a. Reserves calculated ignoring the guarantee;

b. Reserves assuming the guarantee was made at issue; and

c. Reserves assuming that the policy was issued on the date of the guarantee.

4.6. 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 rule. 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 WV 114CSR41.

§114-68-5. Calculation of Minimum Valuation Standard for Policies with Guaranteed Nonlevel Gross Premiums or Guaranteed Nonlevel Benefits (Other Than Universal Life Insurance Policies).

5.1. 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 select factors. At the option of the insurer, in calculating segmented reserves and net premiums, either of the adjustments described in subdivisions a and b of this subsection may be made:

a. 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.

b. 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.

5.2. Deficiency Reserves.

a. The deficiency reserve at any duration shall be calculated:

1. On a unitary basis if the corresponding basic reserve determined by subsection 5.1 of this rule is unitary;

2. On a segmented basis if the corresponding basic reserve determined by subsection 5.1 of this rule is segmented; or

3. On a segmented basis if the corresponding basic reserve determined by subsection 5.1 of this rule is equal to both the segmented reserve and the unitary reserve.

b. 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 subsection 4.2 of this rule) and rate of interest.

c. 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 quantity A is obtained as indicated in subsection 4.2 of this rule.

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

5.3. 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 and referred to in W. Va. Code §33-7-9(d)(1)(C)(ii). 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.

5.4. Unusual Pattern of Guaranteed Cash Surrender Values.

a. 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.

b. 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:

1. 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:

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

B. The mandatory expiration date of the policy; and

2. 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

3. The net to gross ratio is equal to the quantity described in subparagraph A of this paragraph divided by the quantity described in subparagraph B of this paragraph.

A. 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.

B. The present value, at the beginning of the n-year period, of the scheduled gross premiums payable during the n-year period.

c. For purposes of this subsection, a policy is considered to have an unusual pattern or guaranteed cash surrender values if any future guaranteed cash surrender value exceeds the prior years guaranteed cash surrender value by more than the sum of:

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

2. 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

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

5.5. Optional Exemption for Yearly Renewable Term (YRT) Reinsurance. -- At the option of the company, the following approach for reserves on YRT reinsurance may be used.

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

b. Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in subsection 5.3 of this rule.

c. Deficiency reserves.

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

2. 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 paragraph 1 of this subdivision.

d. 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 rule by the NAIC and promulgated by rule by the commissioner for this purpose.

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

f. 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.

5.6. Optional Exemption for Attained-Age-Based Yearly Renewable Term (YRT) 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:

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

b. Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in subsection 5.3 of this rule.

c. Deficiency reserves.

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

2. 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 paragraph 1 of this subdivision.

d. 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 rule by the NAIC and promulgated by rule by the commissioner for this purpose.

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

1. 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

2. 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.

f. For policies that become attained-age-based YRT life insurance policies after an initial period of coverage, the approach of this subsection may be used after the initial period if:

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

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

3. After the initial period of coverage, the policy meets the conditions of subdivision e of subsection 5.6 of this rule.

g. If this election is made, this approach must be applied in determining reserves for all attained-age-based YRT life insurance policies issued on or after the effective date of this rule.

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

a. 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 ten (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;

b. 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

c. There are no cash surrender value in any policy year.

5.8. 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:

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

b. 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

c. 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.

§114-68-6. 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.

6.1. General.

a. Policies with a secondary guarantee include:

1. 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;

2. A policy in which the minimum premium at any future 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 rule by the NAIC and promulgated by rule by the commissioner for this purpose; or

3. A policy with any combination of the features described in paragraphs 1 and 2 of this subdivision.

b. 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 6.2 and 6.3 of this rule shall be recalculated from issue to reflect these changes.

c. 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.

d. For purposes of this subdivision, 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.

e. 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 subdivisions b, c and d, of subsection 4.2 of this rule may not be used to calculate the one-year valuation premiums.

f. 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.

6.2. 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 subsection 3.2 of this rule.

6.3. 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 subsection 5.2 of this rule with gross premiums set equal to the specified premiums, if any, or otherwise to the minimum premiums that keep the policy in force.

6.4. Minimum Reserves. -- The minimum reserves during the secondary guarantee period are the greater of:

a. The basic reserves for the secondary guarantee plus the deficiency reserve, if any, for the secondary guarantees; or

b. The minimum reserves required by other rules governing universal life plans.

APPENDIX A

SELECT MORTALITY FACTORS

This Appendix contains select mortality factors that are the bases to which the respective percentages of subdivisions b and c of subsection 4.1 of this rule and subdivisions b and c of subsection 4.2 of this rule are applied.

The six tables of select mortality factors contained herein include: (1) male aggregate, (2) male nonsmokers, (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 base 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
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

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+**
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
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
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

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+
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 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	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	100
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

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+**
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
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 Age	Duration 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
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

Male, 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+
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, 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	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

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+
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
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
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

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+
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	25	35	45	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
68	25	36	55	60	60	65	70	70	70	70	100	100	100	100	100	100	100	100	100	100
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	100
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
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

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+
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
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
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

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+
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, 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+
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

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+
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
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

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+
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
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	14	21	24	27	29	30	80	80	80	80	100	100	100	100	100	100	100	100	100	100
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
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

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+
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	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	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

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+
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
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
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

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+
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
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	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