

**ACTUARIAL STANDARD
OF PRACTICE
NO. 3**

**PRACTICES RELATING TO
CONTINUING CARE
RETIREMENT COMMUNITIES**

Revised Edition

**Revised by the
Committee on Continuing Care Retirement Communities
of the American Academy of Actuaries**

**Adopted by the
Actuarial Standards Board
July 1994**

(Doc. No. 048)

TABLE OF CONTENTS

Transmittal Memorandum	vi
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PREAMBLE

Section 1. Purpose, Scope, and Effective Date	1
1.1 Purpose	1
1.2 Scope	1
1.3 Effective Date	1
Section 2. Definitions	1
2.1 Additional Fees	1
2.2 Advance Fee	1
2.3 Continuing Care Retirement Community	1
2.4 Fee Structure	2
2.5 Going-Concern Assumption	2
2.6 Health Care Guarantee	2
2.7 Health Center	2
2.8 Life Care Community	2
2.9 Living Unit	2
2.10 Morbidity Rate	2
2.11 Mortality Rate	2
2.12 Nonrefundable Advance Fee	2
2.13 Periodic Fees	2
2.14 Permanent Transfer	2
2.15 Physical Property	3
2.16 Population Flow Projection	3
2.17 Refundable Advance Fee	3
2.18 Residency Agreement	3
2.19 Temporary Transfer	3
2.20 Time Value of Money	3
2.21 Withdrawal Rate	3
Section 3. Background and Historical Issues	3
3.1 Nature of Contract	3
3.2 Fee Structure	3
3.3 Residential Categories	4
3.4 Resident's Continued Ability to Pay Contractual Fees	4
3.5 Need for Application of Actuarial Principles	4

3.6	Development of the Standard	5
Section 4. Current Practices and Alternatives		5
4.1	Actuarial Services	5
4.2	Actuarial Practices	6
4.3	Areas of Differing Practices	6
4.3.1	Refunds	6
4.3.2	Treatment of Physical Property	6
4.3.3	Survivorship versus Life Expectancies	7
4.3.4	Long-Term Debt	7

STANDARD OF PRACTICE

Section 5. Analysis of Issues and Recommended Practices		8
5.1	Conditions for Satisfactory Actuarial Balance	8
5.1.1	Condition 1	8
5.1.2	Condition 2	8
5.1.3	Condition 3	8
5.2	Use of Projected Population Movements	8
5.2.1	Closed Group Projection	9
5.2.2	Closed Group Projection for Future Residents	9
5.2.3	Open Group Projection	9
5.3	Time Value of Money	9
5.4	Actuarial Balance Sheet	9
5.4.1	Assets	9
5.4.2	Liabilities	10
5.5	Cohort Pricing Analysis	10
5.6	Actuarial Asset and Liability Values	10
5.6.1	Future Periodic Fees	10
5.6.2	Value of Physical Property for Assets Currently in Service	10
5.6.3	Future Operating Expenses	11
5.6.4	Value of Future Use of Physical Property	11
5.6.5	Future Refunds	12
5.7	Cash Flow Projections	12
5.8	Volatility and Sensitivity	13
5.9	Use of Approximations	13
5.10	Assumptions	13
5.10.1	Mortality	13
5.10.2	Morbidity	13
5.10.3	Withdrawals	14
5.10.4	Interest and Inflation	14

5.10.5	Use of Comparable Experience	14
5.10.6	Going-Concern Assumption	14
5.10.7	Contingency Margins	14
5.11	Underlying Need to Attract New Residents	15
5.12	Data Reliance	15
5.13	Additional Considerations Affecting a CCRC's Finances	15
5.14	External Restrictions	16
5.15	Comparison of Actuarial and Accounting Methodologies	16
5.16	Opinion as to Feasibility	17
Section 6.	Communications and Disclosures	17
6.1	Scope of Actuarial Report	17
6.2	Material Changes in Assumptions	18
6.3	Frequency of Actuarial Studies	18
6.4	Comment on Actuarial Balance Sheet Deficit	18
6.5	Comment on Going-Concern Assumption	18
6.6	Qualification of Opinion	18
6.7	Affiliation with Another Organization	18
6.8	Material Differences between Accounting and Actuarial Treatment	19
6.9	Deviation from Standard	19
Appendix 1—	Illustrative Formulas for Expensing and Valuing Physical Property	20
Appendix 2—	Comments on the 1993 Exposure Draft and Committee Responses	23

September 1994

TO: Members of Actuarial Organizations Governed by the Standards of the Actuarial Standards Board and Other Persons Interested in Continuing Care Retirement Communities (CCRCs)

FROM: Actuarial Standards Board (ASB)

SUBJ: Revised Actuarial Standard of Practice No. 3

This booklet contains the final version of a revised edition of Actuarial Standard of Practice (ASOP) No. 3, now titled *Practices Relating to Continuing Care Retirement Communities*.

Background

The Committee on Continuing Care Retirement Communities of the American Academy of Actuaries (AAA) prepared a proposed *Statement of Actuarial Standards of Practice Relating to Continuing Care Retirement Communities*, which was submitted to the Interim Actuarial Standards Board (IASB) early in 1986 through the IASB Specialty Committee. In May 1986 the proposed statement was published as an exposure draft. The written comments that were received and the modifications that were made to the standard were described in a committee report published with the final standard, which became effective July 1, 1987. The committee report was omitted from the reprinted standard because of its length, but is available as the 1987 “Report of the Committee on Continuing Care Retirement Communities” from the ASB office in Washington. In 1990 the standard was reprinted by the ASB as ASOP No. 3, *Relating to Continuing Care Retirement Communities*.

Revision and Reformatting

In 1992–1993, the AAA Committee on CCRCs made substantive revisions and additions to the 1987 standard. In addition, the standard was reformatted in accordance with the uniform format for standards of practice adopted by the ASB.

Component Approach—One significant change made to this standard is that the *component approach* has been removed as an acceptable actuarial basis for financial management of a CCRC. In projecting liabilities, the component approach focused solely on health care costs, relying on a presumption that nonhealth operations in a

CCRC do not produce substantial actuarial gains or losses. The committee concluded that this presumption can no longer be supported actuarially without applying the elements of a *comprehensive approach* to determine the financial well-being of a CCRC. The committee elected to delete the component approach from the standard.

Fixed Assets—Because of the complexity of the actuarial concepts surrounding the treatment of noninterest-earning assets, other changes have been made to the standard to clarify the actuarial treatment of fixed assets, including physical property replacement costs and associated actuarial asset values. The new section 5.6.2 discusses, and the newly inserted appendix 1 illustrates, one acceptable actuarial treatment of fixed assets.

Accounting Guidelines—In 1990 the American Institute of Certified Public Accountants (AICPA) issued Statement of Position (SOP) 90-8, *Financial Accounting and Reporting by Continuing Care Retirement Communities*. These guidelines for accountants promote uniform reporting in financial statements, but were not designed to provide an authoritative measure of a retirement community's solvency. The accounting guidelines specify a calculation of an obligation to provide future services under existing contracts (the *future services obligation*). Section 5.15 of this revised standard calls attention to the difference between the accounting and actuarial approaches.

NAIC Work Group—Since 1990 a National Association of Insurance Commissioners (NAIC) work group has been developing model regulations for monitoring the financial health of CCRCs. The proposed revision of this standard of practice provides guidance to those involved in determining the long-term financial viability of the CCRC. In developing the revised draft, the CCRC Committee has benefited from discussions among providers, accountants, regulators, and actuaries attending the NAIC work group meetings.

Exposure—Because of the above changes, the CCRC Committee recommended that the revised standard be exposed, with the slightly revised title of *Practices Relating to Continuing Care Retirement Communities*. The standard was exposed with a comment deadline of September 10, 1993. Comments on the exposure draft are discussed in appendix 2.

ASB Action

The Specialty Committee of the ASB approved the document for submission to the ASB as a final standard. The board asked for further revisions, and a task force was formed from the CCRC Committee for this purpose (the CCRC Committee having been discharged with thanks). The CCRC Task Force condensed the standard and also rearranged much of the material. All comments—whether in the form of

suggestions, critiques, or guidance—were much appreciated. The ASB voted in July 1994 to adopt the final revised standard.

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Retirement Communities
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ACTUARIAL STANDARD OF PRACTICE NO. 3

PRACTICES RELATING TO CONTINUING CARE RETIREMENT COMMUNITIES

Revised Edition

PREAMBLE

Section 1. Purpose, Scope, and Effective Date

- 1.1 Purpose—This standard gives advice to an actuary who is serving a continuing care retirement community (CCRC). It focuses on the applications of actuarial techniques to this specialized field.
- 1.2 Scope—This standard applies to actuaries who serve nonprofit and for-profit (proprietary) CCRCs.
- 1.3 Effective Date—The original standard became effective July 1, 1987, and remains in effect until the effective date of the revised version. This revised version will be effective October 1, 1994.

Section 2. Definitions

- 2.1 Additional Fees—Amounts that may be payable, in accordance with a residency agreement, for services made available but not covered by the advance fee and the periodic fees.
- 2.2 Advance Fee—An amount payable by the resident at the inception of a residency agreement. Also known as *entrance fee*, *endowment fee*, *entry fee*, or *founder's fee*.

- 2.3 Continuing Care Retirement Community (CCRC)—A residential facility for retired people that provides stated housekeeping, social, and health-care services in return for some combination of an advance fee, periodic fees, and additional fees.
- 2.4 Fee Structure—The combination of an advance fee, periodic fees, and additional fees set forth in a residency agreement.
- 2.5 Going-Concern Assumption—The assumption that a CCRC is and will remain able to attract new residents to replace existing residents as the latter vacate units.
- 2.6 Health Care Guarantee—A clause in a residency agreement under which access to health care is guaranteed and under which use of health care may be without substantial additional charges either for a stated period, up to a stated limit, or indefinitely.
- 2.7 Health Center—A place associated with a CCRC where health care (primarily bed nursing care) is provided to residents in accordance with a residency agreement.
- 2.8 Life Care Community (LCC)—A CCRC in which nursing care is provided for life without increasing the periodic fee on account of a change in health.
- 2.9 Living Unit—The living quarters specified in a residency agreement for the exclusive use of a resident or pair of residents.
- 2.10 Morbidity Rate—An expression of the probability of incurring an illness or disability requiring the use of a different level of care during a stated time period.
- 2.11 Mortality Rate—An expression of the probability of dying during a stated time period.
- 2.12 Nonrefundable Advance Fee—The portion of an advance fee to which the CCRC is unconditionally entitled under the terms of the residency agreement.
- 2.13 Periodic Fees—Amounts payable periodically (usually monthly) during the existence of a residency agreement.
- 2.14 Permanent Transfer—A move from one level of care to another without expectation of returning to the former level.

- 2.15 Physical Property—Physical assets such as land, building, furniture, fixtures, or equipment that belong to the community. These assets (excluding land) are assumed to depreciate over their respective lifetimes.
- 2.16 Population Flow Projection—An estimate of the number of residents, and of their characteristics, expected to reside in the community at various future times.
- 2.17 Refundable Advance Fee—The portion of an advance fee, designated in the residency agreement, that is to be returned to the resident or the resident's estate either upon termination of the agreement or upon resale of the unit.
- 2.18 Residency Agreement—The contract between a CCRC and the resident(s) of a living unit (apartment, cottage, villa, health center unit, etc.) in the community.
- 2.19 Temporary Transfer—A move from one level of care to another with the expectation of returning to the former level.
- 2.20 Time Value of Money—The principle that an amount of money available at an earlier point in time has different usefulness and value than the same amount of money has at a later point in time.
- 2.21 Withdrawal Rate—An expression of the probability that a residency agreement will be terminated by the resident's leaving the facility for reasons other than death during a stated period of time.

Section 3. Background and Historical Issues

- 3.1 Nature of Contract—The residency agreement, or contract, between a CCRC and the resident(s) of a living unit defines the services to be provided by the CCRC and the fees to be paid by residents for those services, including the degree to which such services and/or fees may be modified in the future. The contracts are of long duration, and may be for the life of the individual or the life of the survivor of joint residents. The services always include living quarters and access to a health care bed and usually include one or more daily meals, cleaning, flat laundry, transportation, social activities, and so forth.
- 3.2 Fee Structure—The typical fee structure has three parts: (1) an advance fee payable before the resident assumes occupancy, a designated portion of which may be refundable upon termination of the contract; (2) periodic fees that are payable throughout the duration of the contract and that are usually subject to

adjustment to reflect changes in operating costs; and (3) additional fees on an “as used” basis covering services not otherwise provided for in the contract (such as extra meals, guest meals, use of a carport, or health care in excess of any contractual limits).

The advance fees, together with the periodic fees, investment income, and any gifts or other funds, constitute the resources available to finance the CCRC's physical property and basic promised services. Unless provided otherwise by law, residency agreement, or terms of a gift, funds from any such source may be used for any such purpose. The actuary who assesses the financial position or pricing adequacy of a CCRC is concerned with comparing total assets and current and projected revenues with total current and projected expenses. Specific revenues need not be allocated to specific expenses except to the extent that such revenues might be unavailable unless specific expenses are incurred.

- 3.3 Residential Categories—Most residents at any time will be living normally active lives in the independent residential units. Specified health care services are available to such active residents on a temporary basis. The remainder of the residents will have been transferred permanently to the health center. The community may offer more than one level of health care, such as intermediate or skilled nursing care, assisted living or personal care, and home health care.
- 3.4 Resident's Continued Ability to Pay Contractual Fees—Entry into a CCRC usually depends on the resident's continued ability to pay contractual fees. Some CCRCs set aside assets or funds from charitable contributions to assist residents who cannot keep up with periodic fee increases, or who cannot afford the full advance fees. Other CCRCs may include the costs of any assistance in the basic fee structure.
- 3.5 Need for Application of Actuarial Principles—Contractual obligations promised by a CCRC are contingent upon the occurrence, timing, and duration of certain future events. The resident pays for future promised services through a combination of advance and periodic fees, typically before the services are provided. Actuarial methods are therefore needed to establish the fee structure and to measure a community's reserves for the provision of future promised services.

AICPA guidelines for SOP 90-8 use actuarial methods to discount most operating expenses and revenues. The guidelines also allocate entry fees to residents' future lifetimes on a declining scale. These SOP 90-8 guidelines partially reflect actuarial

principles and indicate a growing awareness of the need for actuarial methods to establish fee levels and to measure the financial condition of CCRCs.

- 3.6 Development of the Standard—The AAA Committee on Continuing Care Retirement Communities, created early in 1985, became convinced of the need to define actuarial standards in this specialized field. The committee prepared a proposed *Statement of Actuarial Standards of Practice Relating to Continuing Care Retirement Communities*, which was submitted to the Interim Actuarial Standards Board (IASB) early in 1986 through the IASB Specialty Committee. In May 1986, with the IASB's authorization, the proposed statement was published as an exposure draft, with a comment deadline of September 1, 1986. The committee's report, which is available from the Academy, describes the comment letters that were received and the modifications that were made to the standard, which became effective July 1, 1987.

In 1993, the CCRC standard was reformatted in accordance with the uniform format for standards of practice adopted by the ASB. In addition, the AAA Committee on CCRCs made some substantive revisions and additions to the standard. Those changes were published in an exposure draft in April 1993, and a final version is published herewith that incorporates further editorial revisions. These revisions are discussed in the transmittal memorandum and in appendix 2.

Section 4. Current Practices and Alternatives

- 4.1 Actuarial Services—Actuaries may be called upon to advise the owners, operators, or residents of a CCRC, as well as other professionals, and regulatory bodies. The services that an actuary might be asked to perform include but are not limited to the following:
- a. design and price residency agreements in order to (1) provide for the economic survival of the community in the short and long run; and (2) fairly represent to the user the economic consequences of entering into a residency agreement;
 - b. project future cash flows;
 - c. project changes in the future population of residents and estimate the future needs for health care beds;
 - d. determine actuarial assets and liabilities, and plan for surplus needs;

- e. participate in the design of a CCRC's financial management and accounting systems;
- f. assist in developing financial feasibility studies;
- g. provide appropriate rates of mortality, morbidity, or life expectancy for the community's use; and
- h. perform mortality, morbidity, and withdrawal experience studies.

An actuary may be engaged to perform any of the above tasks or to contribute actuarial elements of a task to be performed by another person. An actuary may also be engaged to conduct other actuarial work in connection with a CCRC, or to review work done by others.

- 4.2 Actuarial Practices—The actuarial practices used in CCRC valuation and pricing are comparable to those used for life insurance, health insurance, and annuities. In addition, CCRCs present several unique items.

Current actuarial practices for CCRCs generally are well established. However, areas in which there have been alternative practices are described in section 4.3.

- 4.3 Areas of Differing Practices—Certain unique aspects of CCRC operations have resulted in significantly different treatment of certain financial items.

4.3.1 Refunds—Some financial analyses assume that refunds of a resident's advance fee will come from the resale and reoccupancy of the resident's unit. Consequently, these analyses did not include an estimate of the future liability for refunds of the advance fees. This approach may introduce inequities between generations of community residents, and may understate the fees required from future residents, leading to cash flow problems in future years.

4.3.2 Treatment of Physical Property—Much of the residents' cost of services is the cost of providing access to and use of the physical property of the community. Various methods have been used in the past to allocate the costs of a resident's use of these physical assets to various years, and to various cohorts of residents. Certain methods allocated the cost on an accounting basis without reflecting the time value of money. These methods fail to properly reflect the opportunity cost of funds used to

acquire the assets, and produce inconsistent values for assets from year to year.

Other methods did not reflect the continued costs associated with the replacement of existing assets at the end of the assets' useful lifetimes, or did not utilize an inflation rate to develop the replacement cost. This treatment understates the lifetime cost of services promised to a resident.

- 4.3.3 Survivorship versus Life Expectancies—Some financial analyses have been performed by assuming an average life expectancy and allocating a portion of a resident's lifetime to each level of care. This method produces a crude approximation to the results that would be achieved using survivorship models, and is not recommended.
- 4.3.4 Long-Term Debt—Some financial analyses have used the outstanding balance of the long-term debt as the actuarial liability in the actuarial balance sheet. Depending on the relationship of the debt instrument interest rate to the discount rate, the debt will not be properly valued.

STANDARD OF PRACTICE

Section 5. Analysis of Issues and Recommended Practices

- 5.1 Conditions for Satisfactory Actuarial Balance—The financial condition of a CCRC is considered in satisfactory actuarial balance if the following three conditions are met:
- 5.1.1 Condition 1—The resources available for current residents, including the actuarial present value of periodic fees expected to be paid in the future by such residents, are greater than or equal to the actuarial present value of the expected costs of meeting all remaining obligations to such residents under their contracts, with appropriate provision for surplus. This is tested by the actuarial balance sheet (see section 5.4).
- 5.1.2 Condition 2—For a typical cohort of new residents, the sum of the advance fee paid at or before occupancy plus the actuarial present value at occupancy of the new residents' expected future periodic fees is greater than or equal to the actuarial present value at occupancy of the costs of meeting all obligations assumed by the CCRC for that cohort, with appropriate provision for surplus. This is tested by the cohort pricing analysis (see section 5.5).
- 5.1.3 Condition 3—Positive cash balances are projected with respect to current and future residents for a period of at least 20 years. This is tested by the cash flow projection (see section 5.7).
- 5.2 Use of Projected Population Movements—The development of the actuarial balance sheet, the cohort pricing analysis, and the cash flow projection (for conditions 1, 2, and 3 above) should be based respectively on the three types of population projections described below. Each of these projections uses appropriate assumptions for mortality, morbidity, and withdrawal. The actuary should project the number of survivors by level of care or residency, including the projected number of independent living units occupied, for each future year. Generally, it is necessary to develop assumptions separately by age, sex, couple status, level of care, and variations in contract provisions. Assumptions may also be differentiated according to time since entry into the community, or according to time since the last change in health care status.

- 5.2.1 Closed Group Projection—Solvency tests for condition 1 (see section 5.1.1 above) use a population projection that is performed solely with respect to current residents on the valuation date. It projects the surviving residents' movements through various levels of care until contract termination by death or withdrawal. This projection is closed to new residents and is referred to as a *closed group projection*.
- 5.2.2 Closed Group Projection for Future Residents—Solvency tests for condition 2 (see section 5.1.2 above) use another type of population projection, which is also a closed group projection but is performed solely with respect to a cohort of future new residents.
- 5.2.3 Open Group Projection—Solvency tests for condition 3 (see section 5.1.3 above) use a population projection that tracks residents in the facility on the valuation date together with their expected replacements into the future. As units are vacated due to permanent transfer to the health center, death, or withdrawal from the community, new residents are assumed to fill these vacancies. This projection is open to new residents and is referred to as an *open group projection*.
- 5.3 Time Value of Money—All financial items should be put on a comparable basis by determining the present value of assets, liabilities, and future transactions as of the same date.
- 5.4 Actuarial Balance Sheet—The *actuarial balance sheet* is a cumulative measure of the assets and liabilities, as of the valuation date, associated with past and present residents. Actuarial present values described in sections 5.4.1 and 5.4.2 are used in developing the balance sheet items.
- 5.4.1 Assets—The value of some asset items in the actuarial balance sheet includes cash and receivables taken directly from the accounting balance sheet.

The actuarial present value of future periodic fees is described in section 5.6.1, and the actuarial value of physical property for assets currently in service is described in section 5.6.2. The *actuarial value of physical property for assets currently in service* is the present value of the annual capital expenses associated with assets in service as of the valuation date.

5.4.2 Liabilities—The value of some liability items in the actuarial balance sheet includes accruals and deposits in escrow taken directly from the accounting balance sheet.

The *actuarial present value of the long-term debt* is the discounted value of the principal and interest stream as of the valuation date.

The actuarial present value of future operating expenses is described in section 5.6.3. The actuarial present value of the future use of physical property is described in section 5.6.4. The actuarial present value of future refunds is described in section 5.6.5.

5.5 Cohort Pricing Analysis—The *cohort pricing analysis* is based on the prospective revenues and expenses associated with a cohort of residents entering the facility.

The revenues include the advance fees and the actuarial present value of future periodic fees described in section 5.6.1.

The actuarial present value of future operating expenses is described in section 5.6.3. The actuarial present value of the future use of physical property is described in section 5.6.4. The actuarial present value of future refunds is described in section 5.6.5.

5.6 Actuarial Asset and Liability Values—The development of the actuarial balance sheet and cohort pricing analysis requires the development of certain present value items allocated to the closed group of surviving residents and cohort of new residents, respectively. These items include the present values of future periodic fees, physical property for assets currently in service, future operating expenses, future use of physical property, and refunds.

5.6.1 Future Periodic Fees—The present value of future periodic fees should be determined by projecting the fees payable by surviving residents in each future year, and discounting the result back to the valuation date. The estimate of future fees will usually reflect current rates adjusted for projected future fee increases. Projected fee inflation should reflect appropriate practical, competitive, contractual, and economic considerations.

5.6.2 Value of Physical Property for Assets Currently in Service—Part of the cost of residing in a CCRC is for the use of the physical property. It is

necessary to allocate an appropriate part of the value of the assets in service, as of the valuation date, to current residents (and, for purposes of section 5.5, to a typical cohort of new residents). An acceptable way of valuing and allocating the cost of physical property in order to set contract fees and measure liabilities includes steps (a) and (b) as discussed below and is illustrated in appendix 1.

- a. Each item of property is assigned an assumed useful lifetime and an appropriate rate of inflation. In the case of land, the expected useful lifetime may be perpetual.
- b. The annual capital expense for the use of an asset is developed for each year using its useful lifetime and is calculated as one of a series of annual amounts. The present value of this series, discounted to the time of acquisition, equals the cost of the asset. This series of annual amounts may be decreasing, level, or increasing. The discounted value of the asset at any later measurement date equals the discounted value of the remaining expense stream. (Appendix 1 presents illustrative formulas for expensing and valuing physical property.)

5.6.3 Future Operating Expenses—The value of future operating expenses in question for each future year should be developed by allocating the portion of the expenses represented by the appropriate closed group population projection (or other allocation base), and discounting the result back to the valuation date. The estimate of future operating expenses should reflect future cost inflation, and the allocation should reflect underlying expense consumption patterns. For example, certain health center expenses may be allocated in proportion to the number of occupied beds.

5.6.4 Value of Future Use of Physical Property—Based on the length of resident survivorship, and on the useful life of the buildings, etc., current residents will require the use of not only the current fixed assets, but also of the replacements for such assets. The *actuarial present value of the future use of physical property* is the discounted value of the expense for the physical property and its replacement. The expense stream as of the valuation date is described in section 5.6.2. The development of the annual capital expense stream and allocation to the survivorship group is described below in steps (a), (b), and (c).

- a. It is assumed that each asset will be replaced at the end of its useful lifetime with a new asset. The cost of the new asset is assumed to equal the original cost indexed for inflation. The asset is continually replaced at the end of successive useful lifetimes. A calculation under section 5.6.2(b) is made for each such replacement during the survivorship of the closed group being valued.
- b. The part of each future year's capital expense that relates to a specific closed group is determined by estimating the ratio of closed group use to total community use. The ratio may be in proportion to population, to number of community occupied beds or units, to square footage, or to some other appropriate measure. For years during fill-up or material change in population, it may be appropriate to substitute a target or ultimate level of use for the actual estimated level of total use.
- c. The current actuarial liability for the promised future use of a physical asset (and its replacements) with respect to a specific closed group is the sum (for all years) of the part of such capital expense in each future year related to the group or cohort of residents, as determined in (b), discounted to the valuation date.

This method of assigning the expense for asset use, determining the asset's actuarial value, and determining the liability for asset use, is designed to provide for equity among generations of residents.

Appendix 1 illustrates the foregoing relationships, with the allocation in (b) performed on a per-resident basis.

- 5.6.5 Future Refunds—The value of future refunds is obtained from an estimate of the amounts and timing of refunds, which are then discounted back to the valuation date.
- 5.7 Cash Flow Projections—Cash flow projections are performed using open group methods and should reflect the financial effects of new residents replacing existing residents. The assumptions used in cash flow projections should be consistent with those used in the development of other solvency measures.
- 5.8 Volatility and Sensitivity—The actuary should indicate a volatility range for possible results differing from those projected, and/or show how calculated results

will vary if the experience differs materially from the assumptions used. Because of the small population of a CCRC, results may differ substantially from expected values due solely to random variation.

- 5.9 Use of Approximations—The use of approximations is acceptable if the actuary is prepared to demonstrate that the result does not differ materially from the result obtained from using more precise methods or assumptions.

In making a decision as to materiality, the actuary should compare the aggregate effect on the balance sheet surplus or deficit with the total liabilities. The actuary should take into account the effect that differences may have on an informed user's decision. Any item that, in the actuary's opinion, is likely to require a fee increase that is greater than the marketplace can stand should be considered material.

- 5.10 Assumptions—The calculation of actuarial present values and fees requires the use of assumptions as to mortality, morbidity, withdrawal, interest, inflation, changes in periodic fees, changes in advance fees, revenues, expenses, and any other pertinent contingencies. For purposes of population flow projections, assumptions are also needed about the profile of new residents who will enter the community when vacancies occur, by age, sex, health characteristics, and single versus double occupancies.

Mortality and morbidity rates will differ according to the resident's age, sex, and health status (and may also vary by couple status). Withdrawal rates may differ according to the sex of the resident and whether the resident is part of a double occupancy. Select and ultimate rates should be considered for all of the preceding assumptions.

- 5.10.1 Mortality—Mortality assumptions should reflect the expected difference in experience between residents in independent living units and those in the health center. Also, the actuary should reflect those factors that are likely to cause the mortality to differ from the general population. In the absence of other guiding criteria, the actuary may conclude that the shape of the mortality curve is similar to that of the mortality curve of annuitants.

- 5.10.2 Morbidity—In selecting morbidity assumptions, the actuary should recognize how the CCRC's practices in declaring permanent transfers can affect morbidity rates and subsequent mortality rates in each level of care.

5.10.3 Withdrawals—The experience of the community, the characteristics of its residents, and its provisions for advance fee refunds should be taken into account when selecting withdrawal assumptions.

5.10.4 Interest and Inflation—Assumptions as to rates of interest and inflation should be mutually consistent and should be based on expectations over the full terms of the contracts with present residents. The actuary may find it reasonable to use different inflation rates for various categories of revenues and expenses. If relatively high inflation rates are assumed for any period, the actuary should consider what is likely to be a reasonable relationship between interest and inflation rates in such a period.

The assumptions as to future increases in periodic fees should be consistent with the inflation assumption that is used to increase expected expenses. If the actuary uses fee increase assumptions that exceed the expense inflation assumptions, the actuarial report and any actuarial opinion should identify any such excess and include appropriate comment. In calculating the present value of advance fee refunds, circumstances may exist where it would be appropriate to select a different interest assumption from that used in computing the present value of future expenses and future periodic fees.

5.10.5 Use of Comparable Experience—The experience of a CCRC should help an actuary in selecting or adjusting assumptions. But the CCRC's relatively small population prevents full statistical credibility in the selection of mortality and morbidity assumptions. Therefore, it is appropriate to compare the particular CCRC's experience with a broader base of comparable experience, and to draw on this broader base as needed in developing assumptions.

5.10.6 Going-Concern Assumption—Closed group valuations and open group projections both rely on assumptions as to the continuation of the CCRC and its future level of occupancy. Such assumptions should be stated and, like other assumptions, routinely reviewed for reasonableness.

5.10.7 Contingency Margins—When selecting assumptions, the actuary for a CCRC should bear in mind four considerations:

- a. overly conservative assumptions lead to redundant fees, so that the current generation of residents subsidizes those who become residents later;

- b. overly optimistic assumptions are likely to result in future generations of residents being called on to subsidize the current generation;
- c. residency agreements sometimes provide that periodic fees may be restricted to certain rates of increase; and
- d. the size of a CCRC's resident population will lead to inherent variability of outcomes.

5.11 Underlying Need to Attract New Residents—High occupancy, sound pricing, and effective financial management are keys to the successful operation of a CCRC. The ability of a CCRC to attract new residents to fill vacancies will depend on keeping the CCRC competitive as to its physical property, its fee schedule, and the general attractiveness of its whole environment. An actuary engaged to advise either a prospective CCRC about its financial feasibility or an existing CCRC about its financial planning and accounting should be alert for circumstances that might throw doubt on the CCRC's future ability to attract new residents. If the actuary becomes aware of such circumstances, the actuary should note such in his or her report.

5.12 Data Reliance—An actuary depends on information furnished by the operators of a CCRC in several important respects: historical demographic data as a partial basis for developing assumptions, current and projected demographic and cost data, and current financial data. In using such information, the actuary should follow Actuarial Standard of Practice No. 23, *Data Quality*.

In addition, the actuary may rely on other appropriate persons in developing an opinion as to whether management is giving adequate attention to physical plant maintenance and replacement.

5.13 Additional Considerations Affecting a CCRC's Finances—The actuary should understand the scope of the CCRC's promises to residents and prospective residents and the nature of its fee structure. This knowledge can be obtained from the applicable residency agreements, the Disclosure Statement, and any other reasonable source of information about the CCRC. In interpreting these documents, the actuary should be aware of the following:

- a. the admission criteria and how they are applied;

- b. the terms of the residency agreement, and any limitations on the period for which promises are made;
- c. any limitations on the CCRC's ability to change future periodic fees;
- d. any consequences of the resident's inability to pay any future fees;
- e. any provision for refunding the advance fee;
- f. any limitation on the services provided, and any requirement of additional charges for services;
- g. any contract provisions for prepaid health care or for additional charges if a resident receives health care;
- h. any affiliation with another entity, and the extent to which any such entity would assume responsibility for the CCRC's obligations;
- i. any provision or circumstance that may throw doubt on the CCRC's ability to remain a going concern; and
- j. any other matter that may have a material effect on the CCRC's future cash flows.

5.14 External Restrictions—The actuary should be familiar with any restrictions on the CCRC from external sources. These restrictions include laws or regulations applicable to CCRCs by the appropriate jurisdiction. Examples include a state's Medicaid reimbursement policy, or regulations restricting the use of health center beds by non-lifecare residents. In addition, the actuary should be familiar with any lender-imposed restrictions, including debt-service coverage ratios and cash reserves.

5.15 Comparison of Actuarial and Accounting Methodologies—The tests of actuarial balance specified in this standard differ from the corresponding financial statements prepared for CCRCs under current accounting principles (AICPA Statement of Position 90-8). The accounting analyses promote uniform reporting among CCRCs, without providing an authoritative measure of the CCRC's ability to meet its long-term obligations. The actuary should be prepared to explain the differences between accounting and actuarial methodologies.

- 5.16 Opinion as to Feasibility—An actuary's opinion as to the feasibility of a proposed CCRC should be based, at a minimum, on the following:
- a. a market study, or demand analysis, acceptable as a reasonable basis for judging whether or not the proposed CCRC is likely to achieve acceptable occupancy rates (a market study may also be used to define the initial population's demographics);
 - b. an appraisal of the economic viability of the proposed contract between the CCRC and its residents;
 - c. an evaluation of the pricing structure and the adequacy of the fees to meet future obligations, including recognition of the likely actuarial deficit that will occur during fill-up;
 - d. an appraisal of the proposed admissions policies as to the health and financial requirements of prospective residents;
 - e. a projection of future population flows and health care bed needs;
 - f. a pro forma balance sheet as of the commencement of operations, taking into account the expected development and construction costs and the probable funding resources, including advance fees and any indebtedness; and
 - g. a cash flow projection for at least the first 20 years of operations.

Section 6. Communications and Disclosures

- 6.1 Scope of Actuarial Report—All actuarial communications, including but not limited to actuarial reports, statements of actuarial opinion, and statements of actuarial review, are subject to the profession's standards for communication of findings. An actuary's report or opinion should make clear the scope of the engagement and any limitations on the applicability of the report or opinion. The actuarial report should describe the actuarial data, assumptions, and methods. It should include a statement of the actuary's opinion as to (a) whether the data and assumptions used are appropriate; (b) whether the methods employed are consistent with sound actuarial principles and practices; and (c) whether provision has been made for all actuarial liabilities and related statement items that ought to be recognized.

- 6.2 Material Changes in Assumptions—Material changes in actuarial assumptions from those previously used should be disclosed in the actuarial report, and their effects noted. Such disclosures should not be limited to factors explicitly assumed, but should include reference to the handling, or absence of handling, of such factors as the actuary deems pertinent.
- 6.3 Frequency of Actuarial Studies—The actuary should recommend the frequency of future actuarial reports. The frequency of such reports depends on numerous internal and external factors that affect the CCRC's financial stability.
- Internal factors include the age of the CCRC; projected occupancy patterns; contractual provisions, such as health care guarantees and advance fee refund provisions; and the ability to raise periodic fees. External factors include the competitive environment, interest rate environment, and inflation rates.
- CCRCs operating in a volatile environment should have frequent actuarial studies. In this case, the actuary may recommend annual actuarial reports. CCRCs operating in a more stable environment may have actuarial studies performed on a triennial basis.
- 6.4 Comment on Actuarial Balance Sheet Deficit—If the actuarial balance sheet shows a deficit, the actuary should clearly state the implications of the deficit. The actuarial report should describe management's plans for handling the deficit and the actuary's comments thereon. If the solution requires additional periodic fee increases, the report's description of the plan to handle the deficit should note the extent to which future periodic fees are assumed to increase more than the expense inflation assumption.
- 6.5 Comment on Going-Concern Assumption—The actuary should disclose and evaluate any questions about the going-concern assumption.
- 6.6 Qualification of Opinion—If the actuary is unable to form a needed opinion, or if the opinion is adverse or qualified, the statement of actuarial opinion and the actuarial report should specifically state the reason.
- 6.7 Affiliation with Another Organization—If the CCRC is affiliated with another entity that is expected to assume any responsibility for the CCRC's obligations, the actuarial report should contain a comment as to the extent, if any, to which the community may depend on such affiliate for assistance.

- 6.8 Material Differences between Accounting and Actuarial Treatment—The actuarial report should include an explanation of any respect in which the assignment is materially affected by any difference between accounting practices and actuarial principles.
- 6.9 Deviation from Standard—An actuary must be prepared to justify the use of any procedures that depart materially from those set forth in this standard and must include, in any actuarial communication disclosing the results of the procedures, an appropriate statement with respect to the nature, rationale, and effect of such departures.

Appendix 1

Illustrative Formulas for Expensing and Valuing Physical Property

Note: These formulas illustrate allocations on a per-resident basis. Other allocation bases may be more appropriate for certain assets.

A. Relationships of Asset Cost, Asset Value, and Open Group Annual Expense

- e = Expected years of the asset's useful lifetime.
- E_n = Annual expense in year n for use of the asset. For simplicity in these illustrations, we assume it is payable at the end of the year.
- j = Assumed annual rate of increase in E . Note that j could be zero. Setting $j = k$ makes it possible to anticipate a smooth progression in annual expense at the time the asset is replaced when its useful lifetime ends. (It is not necessary that E_n 's form a geometric series. However, in this example the E_n 's do form such a series.)
- k = Assumed annual rate of increase in replacement cost of A .
- i = Assumed annual rate of return on investments.
- v = $1/(1 + i)$.
- A_o = Acquisition cost of the asset.

$$A_o = v \text{ C } E_1 + v^2 \text{ C } E_2 + \dots + v^e \text{ C } E_e.$$

From this we obtain

$$E_1 = \frac{A_o \text{ C } (i - j)}{1 - [v \text{ C } (1 + j)]^e}, \quad \text{provided } i < > j$$

V_n = Value of the current asset at duration n , where $n < e$.

$$V_n = v \text{ C } E_{n+1} + v^2 \text{ C } E_{n+2} + \dots + v^{e-n} \text{ C } E_e.$$

From this we obtain

$$E_{n+1} = i \text{ C } V_n + (V_n - V_{n+1}).$$

This shows that the annual expense for a physical asset consists of the interest that is forgone (because it is not an interest-earning investment), plus the reduction in asset value from one year to the next.

In the case of land, the annual expense consists of the interest that is forgone, *minus* the assumed capital *appreciation* (provided $j = k < i$).

B. Relationship of Closed Group Liability with Open Group Expense

P_n = Projected total population at duration n , determined on an open group basis. Depending on the circumstances, a reasonable approximation for P may be a constant number equalling the current population.

C_n = Projected surviving population at duration n from a specified closed group. The closed group may be the closed group of current residents, or the closed group for a cohort of new residents.

If a part of a given facility is used for persons not under contract, only the fraction devoted to those under contract should be considered. One way of accomplishing this is to include those not under contract in P_n , but not in C_n .

$$R_{n+1} = \frac{C_n + C_{n+1}}{P_n + P_{n+1}},$$

representing the ratio of the projected closed group population to the projected total population.

L_n = Liability at duration n for the future use of the asset and its replacements by a specific closed group.

$$L_n = v \text{ } \textcircled{C} \text{ } R_{n+1} \text{ } \textcircled{C} \text{ } E_{n+1} + v^2 \text{ } \textcircled{C} \text{ } R_{n+2} \text{ } \textcircled{C} \text{ } E_{n+2} + \dots + v^{e-n} \text{ } \textcircled{C} \text{ } R_e \text{ } \textcircled{C} \text{ } E_e$$

$$+ v^{e-n+1} \text{ } \textcircled{C} \text{ } R_{e+1} \text{ } \textcircled{C} \text{ } E_{e+1} + v^{e-n+2} \text{ } \textcircled{C} \text{ } R_{e+2} \text{ } \textcircled{C} \text{ } E_{e+2} + \dots + v^{2e-n} \text{ } \textcircled{C} \text{ } R_{2e} \text{ } \textcircled{C} \text{ } E_{2e}$$

$$+ \dots + \text{until } R = 0.$$

Appendix 2

Comments on the 1993 Exposure Draft and Committee Responses

Eight letters of comment were received. The CCRC Committee reviewed these and made the following report. Summaries of substantive issues raised in the letters are in lightface, and committee responses in **boldface**.

General

Two commentators objected to this standard's inclusion of extensive educational material as not being appropriate for a standard of practice. **The committee condensed the standard in response to these suggestions. The educational material was incorporated into a Society of Actuaries Study Note.**

Several commentators suggested including additional information in section 5—for example, a recommendation that assumptions be compared with the experience of other CCRCs, or a discussion of the causes and effects of selection due to withdrawals. **The committee concluded that the standard should not contain any additional educational material.**

Definitions

Several commentators offered suggestions to clarify or improve the wording of certain definitions. Some suggestions were to broaden definitions by using more generic wording. **Since this standard is focused on continuing care retirement communities, the committee chose to keep the wording of definitions specific to the CCRC context in most of these cases.**

One letter pointed out that the definition of *time value of money* (section 2.20) in the exposure draft differed from the definition in the draft *Glossary of Actuarial Terms* scheduled to be exposed for professional review in October 1993. **The committee agreed to substitute the *Glossary* definition for the one in the draft standard.**

Accumulation of Surplus

In one letter, it was noted that section 5.7 of the exposure draft referred to an *actuarial equation* that was not defined in the standard. **This section has been deleted.**

Laws and Regulations

A commentator said that the standard not only requires an actuary to be familiar with applicable laws and regulations, but also to abide by them and to note the consequences of divergence, if any, from actuarial standards. **The standard now includes only the established deviation clause (see section 6.9).**

Closed and Open Group Methods

Several commentators requested that more material be included regarding the use of the closed group method and the attendant allocation of costs during fill-up or other periods of substantial change in population. **Additional wording was added to section 5.6.4(b) to indicate that costs should be allocated over an ultimate or target population rather than the expected population for years during fill-up or other periods of substantial change in population.**

Actuarially Determined Items

One letter questioned the wording, *future payments on existing debt*. **The section containing this wording was deleted.**

Calculation of Actuarial Present Values

One commentator suggested clarification of the relationship of various rates in the use of present values. **The committee changed the wording to clarify this point.**

Multiple Decrement Model

It was noted by a commentator that in the section discussing the multiple decrement model, an expressed ratio lacked a denominator. Another letter said that if a

hypothetical census is used, it should be disclosed. **The section discussing this method was deleted.**

Frequency of Actuarial Studies

A writer commented that the determination of how frequently an actuarial study will be performed is not in the control of the actuary, but rather in the control of the client, the CCRC, or regulators. **Recognizing this reality, but noting that this standard is also of interest to other professionals and to regulators, the committee believes the actuary should recommend the frequency of actuarial reports. Section 6.3 now discusses this responsibility.**

Interest and Inflation

Several commentators indicated some confusion related to the interest and inflation discussion. **A change was made to remove references to interest assumptions when comparisons of inflation assumptions on revenues and expenses are being discussed.**

Contingency Margins

The question was raised whether regulatory or contractual limits on fee increases should be mentioned. **This point is covered in sections 5.13 and 5.14.**

Appendix

Two letters included comments about the need for technical or typographical corrections in the examples. **Corrections were made.**

In addition to the above items, a number of useful editorial changes were suggested. The committee thanks everyone who took the time and made the effort to submit written comments.