



ACTUARIAL STANDARDS BOARD

● EXPOSURE DRAFT ●

**Proposed Revision of
Actuarial Standard of Practice No. 3**

Continuing Care Retirement Communities

**Comment Deadline
April 30, 2007**

**Developed by the
Task Force to Revise ASOP No. 3 of the
Health Committee of the
Actuarial Standards Board**

**Approved for Exposure by the
Actuarial Standards Board
December 2006**

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December 2006

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

FROM: Actuarial Standards Board (ASB)

SUBJ: Proposed Revision of Actuarial Standard of Practice (ASOP) No. 3

This booklet contains the exposure draft of a proposed revision of ASOP No. 3, now titled *Continuing Care Retirement Communities*. Please review this exposure draft and give the ASB the benefit of your comments and suggestions. Each written response and each response sent by e-mail to the address below will be acknowledged, and all responses will receive appropriate consideration by the drafting committee in preparing the final document for approval by the ASB.

The ASB accepts comments by either electronic or conventional mail. The preferred form is e-mail, as it eases the task of grouping comments by section. However, please feel free to use either form. If you wish to use e-mail, please send a message to **comments@actuary.org**. You may include your comments either in the body of the message or as an attachment prepared in any commonly used word processing format. Please include the phrase “ASOP No. 3 Revision” in the subject line of your message.

If you wish to use conventional mail, please send comments to the following address:

ASOP No. 3 Revision
Actuarial Standards Board
1100 Seventeenth Street, NW, 7th Floor
Washington, DC 20036-4601

Deadline for receipt of responses in the ASB office: **April 30, 2007**

Background

In 1987, the Interim Actuarial Standards Board adopted a document titled *Relating to Continuing Care Retirement Communities (CCRCs)*. In 1990, the ASB revised and reformatted ASOP No. 3, *Relating to Continuing Care Retirement Communities*. In 1994, the ASB adopted another revision titled *Practices Relating to Continuing Care Retirement Communities*. In light of the evolution in practice since then, as well as the adoption of a new format for standards, the ASB believed it was appropriate to revise this standard in order to reflect current, generally accepted actuarial practice.

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Although parts of the existing ASOP that were considered educational in nature were moved to the appendix, some educational material was retained in the body of the proposed revision to reflect the paucity of literature concerning actuarial practice regarding CCRCs.

The proposed revision includes some prescriptive disclosure requirements that the task force believes are appropriate and are intended to raise the quality of actuarial communications regarding CCRCs.

Key Changes

Overall, the task force revised the existing ASOP to provide guidance to actuaries when performing professional services related to a CCRC. The sections of the existing ASOP were reorganized to be consistent with the current ASOP format. The following key changes were made in this proposed revision:

1. Section 1.2, Scope, was expanded to provide examples of services covered by this ASOP.
2. Section 2, Definitions, was changed. The definitions of *actuarial balance sheet*, *cash and investment balance*, *cohort of new residents*, *independent living unit*, *levels of care*, *non-resident*, *resident*, *trend and valuation date* were added to section 2. Definitions of *going-concern assumption*, *life care community*, *mortality rate*, *non-refundable advance fee*, *refundable advance fee*, and *time value of money* were eliminated from section 2, either due to the substance of these items being covered in section 3 or that they were no longer relevant to the context of the current standard.
3. Existing section 3.1, Nature of Contract, was incorporated into the definition of *residency agreement* in section 2.19.
4. Existing section 3.2, Fee Structure, was incorporated into section 3.6.
5. New section 3.2, Determination of Satisfactory Actuarial Balance, was added to define the components included in the determination of satisfactory actuarial balance.
6. New section 3.2.3, Condition 3: Positive Projected Cash and Investment Balances, was modified and the guidance for the minimum cash flow projection period was lowered from 20 years to 10 years.
7. Existing section 3.3, Residential Categories, was modified and added to section 2.11, Levels of Care.
8. Existing section 3.4, Resident's Continued Ability to Pay Contractual Fees, was moved and expanded into section 3.9, Benevolence Funds and Financial Assistance Subsidies.
9. Existing section 3.5, Need for Application of Actuarial Principles, was moved to appendix 1, Background.

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10. New section 3.6.2, Future Additional Fees and Third Party Payments, was added.
11. New section 3.6.7, Value of the Long-Term Debt, was added.
12. New Section 3.8.1, Mortality, Morbidity and Withdrawal Assumptions, was added to provide a list of considerations when selecting such assumptions.
13. New Section 3.8.4, Revenue and Expense Allocation Assumptions, was added.
14. New Section 3.8.6, Reasonableness of Assumptions, was added.
15. Sections 3.9, Benevolence Funds and Financial Assistance Subsidies, 3.10, For-Profit CCRCs, and 3.11, Equity or Cooperative CCRCs, were added because the task force believed that additional guidance was needed in these areas.
16. Section 4, Communications and Disclosures, was modified to add more emphasis on disclosing the actuarial data, assumptions, and methods used in the actuarial analysis.
17. Section 4.3, Deviation from Standard, was updated to the new language proposed by the ASB to be used in all ASOPs.
18. Appendix 1 was updated.

Request for Comments

The Task Force to Revise ASOP No. 3 appreciates comments on all areas of this proposed revision and would like to draw the readers' attention to the following areas in particular:

1. In section 3.2.3, Condition 3: Positive Projected Investment Balances, the cash flow projection period is based on the actuary's professional judgment, with an example noting that the actuary should consider using a minimum number of years, such as 10 years, rather than the 20 years noted in the existing ASOP. Is this appropriate?
2. Section 3.2 requires the CCRC to meet all three conditions for determining satisfactory actuarial balance. Is this appropriate? Is it too strong? Should the CCRC be required to meet the requirements of sections 3.2.1 and 3.2.2 separately or is it adequate to meet both requirements simultaneously? Within what time frame should these conditions be met?
3. Section 3.8.6, Reasonableness of Assumptions, was added. This new language asks the actuary to review all the actuarial assumptions for reasonableness taking into consideration many factors, including the level of surplus and any margins for uncertainty included in the actuarial assumptions. Is this appropriate? If not, how should this section be revised? In particular, what actuarial considerations are appropriate in light of potential future variations in experience from the projection?

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4. Sections 3.9, Benevolence Funds and Financial Assistance Subsidies, 3.10, For-Profit CCRCs, and 3.11, Equity or Cooperative CCRCs, were added because the task force believed that additional guidance was needed in these areas. Are these additional sections appropriate? If not, how should they be revised?
5. In section 4, are the additional disclosure requirements appropriate? If not, what additional disclosure requirements are appropriate?
6. Does the proposed standard codify appropriate actuarial practice? If not, how should it be changed?
7. Is the material in appendix 2 appropriate for inclusion in this actuarial standard of practice?

The ASB reviewed the draft at the December 2006 board meeting and approved its exposure.

Task Force to Revise ASOP No. 3

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**PROPOSED REVISION OF
ACTUARIAL STANDARD OF PRACTICE NO. 3**

CONTINUING CARE RETIREMENT COMMUNITIES

STANDARD OF PRACTICE

Section 1. Purpose, Scope, Cross References, and Effective Date

- 1.1 Purpose—This actuarial standard of practice (ASOP) provides guidance to the actuary when performing professional services related to a continuing care retirement community (CCRC).
- 1.2 Scope—This standard applies to actuaries when performing professional services, including giving advice, in connection with CCRCs (including nonprofit and for-profit entities). These professional services may be performed for owners, operators, current residents, or prospective residents of a CCRC, as well as for other professionals or regulatory bodies.

Examples of the services covered by this ASOP include, but are not limited to, the following:

- a. testing the financial condition of the CCRC for satisfactory actuarial balance;
- b. estimating actuarial values of assets and liabilities;
- c. evaluating the fee structure for existing residents or a cohort of new residents;
- d. developing population projections, including resident movements, independent living unit turnover, and health center utilization;
- e. projecting future cash flows and cash and investment balances;
- f. designing and pricing new residency agreements;
- g. assisting in developing financial feasibility studies;
- h. performing mortality, morbidity, and withdrawal experience studies; and
- i. providing appropriate rates of mortality, morbidity, or life expectancies for the CCRC's use.

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The actuary should comply with this standard except to the extent it may conflict with applicable law (statutes, regulations, and other legally binding authority). If compliance with applicable law requires the actuary to depart from the guidance set forth in this standard, the actuary should refer to section 4 regarding deviation from standard.

- 1.3 Cross References—When this standard refers to the provisions of other documents, the reference includes the referenced documents as they may be amended or restated in the future, and any successor to them, by whatever name called. If any amended or restated document differs materially from the originally referenced document, the actuary should consider the guidance in this standard to the extent it is applicable and appropriate.
- 1.4 Effective Date—This standard is effective for professional services performed in connection with a CCRC on or after four months after adoption by the Actuarial Standards Board.

Section 2. Definitions

The terms below are defined for use in this actuarial standard of practice.

- 2.1 Additional Fee—An amount that may be payable by a resident, in accordance with a residency agreement, for services made available but not covered by the advance fee and the periodic fees (such as guest meals, additional meals, barber/beauty shop, use of a carport, and non-covered health care services).
- 2.2 Actuarial Balance Sheet—A measure of the assets and liabilities, as of the valuation date, associated with current residents.
- 2.3 Advance Fee—An amount payable by a resident at the inception of a residency agreement. The advance fee is usually specified in the residency agreement and is usually payable prior to the resident assuming occupancy of a living unit (sometimes referred to as an *entrance fee*, *endowment fee*, *entry fee*, or *founder's fee*).
- 2.4 Cash and Investment Balance—The value of cash, cash equivalents, and marketable securities of a CCRC (historically referred to as *cash balance* by CCRC practitioners). This excludes the value of the physical property assets of the CCRC.
- 2.5 Cohort of New Residents—A prospective group of residents to the CCRC assumed to have certain statistical or demographic characteristics.
- 2.6 Continuing Care Retirement Community (CCRC)—A residential facility that provides stated housekeeping, social, and health care services in return for some combination of an advance fee, periodic fees, and additional fees.
- 2.7 Fee Structure—A combination of fees that generally include advance fees, periodic fees, and additional fees.

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- 2.8 Health Care Guarantee—A clause in a residency agreement guaranteeing access to health care and defining the type of health care services to be provided to the resident. These health care services may be offered with or without additional charges to the periodic fees.
- 2.9 Health Center—A facility associated with a CCRC where health care is provided to residents in accordance with the residency agreement. The health center typically includes some combination of assisted living, special care, and nursing care units. Non-residents may also live in the health center.
- 2.10 Independent Living Unit—Living quarters designed for residents capable of living independently. A resident could receive home health care in the independent living unit, but a resident who needs full-time health care on either a temporary or permanent basis is normally transferred to the health center.
- 2.11 Levels of Care—Varying degrees of care, which are based on a resident’s health status. Typical levels of care include independent living units, assisted living units, nursing care units, and special care units. The levels of care may be dictated by state licensure.
- 2.12 Living Unit—The various living quarters of a CCRC, including independent living units and health center units.
- 2.13 Morbidity Rate—The probability of incurring an illness or disability requiring the transfer to a different level of care. The permanent transfer rates and the temporary transfer rates together comprise the morbidity rates.
- 2.14 Non-Resident—A person living in the CCRC who has signed an agreement without a health care guarantee. Non-residents normally pay for all health care services received on a fee for service basis.
- 2.15 Periodic Fee—Amounts payable by a resident periodically (usually monthly) during the existence of a residency agreement. The periodic fees are typically adjusted from time to time to reflect changes in operating costs.
- 2.16 Permanent Transfer—A move from one level of care to another level of care without expectation of returning to the former level of care.
- 2.17 Physical Property—Physical assets, such as land, building, furniture, fixtures, or equipment, which belong to the CCRC. These assets, excluding land, are assumed to depreciate over their respective lifetimes. These assets are also referred to as the fixed assets of the CCRC.
- 2.18 Population Projection—An estimate of the number of residents expected to live in the CCRC at various future times.

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- 2.19 Residency Agreement—The contract between one or more individuals and the CCRC that describes the services to be provided and the obligations of the parties. The contracts are usually of long duration and may be for the life of the individual or the life of the survivor of joint individuals. The residency agreement describes the health care guarantee, if any, and any portion of the advance fee that would be refundable upon termination of the residency agreement.
- 2.20 Resident—A person living in the CCRC who has signed a residency agreement with a health care guarantee.
- 2.21 Temporary Transfer—A move from one level of care to another level of care with the expectation of returning to the former level of care.
- 2.22 Trend—Measure of rates of change, over time, that affects revenues, costs, or actuarial assumptions.
- 2.23 Withdrawal Rate—The probability that a residency agreement will be terminated by the resident's leaving the CCRC for reasons other than death.
- 2.24 Valuation Date—The date at which the values of the assets and liabilities of the CCRC are determined.

Section 3. Analysis of Issues and Recommended Practices

- 3.1 Introduction—When providing professional services related to a CCRC, the actuary should consider the relevant financial items associated with the CCRC, current residents, new residents, and levels of care provided, as well as relevant policy provisions and applicable law. The actuary should use methods and assumptions that are, in the actuary's professional judgment, appropriate in light of the scope and purpose of the assignment.
- 3.2 Determination of Satisfactory Actuarial Balance—In determining whether the CCRC is in satisfactory actuarial balance at the valuation date, the actuary should evaluate whether the CCRC meets all of the following three conditions.
- 3.2.1 Condition 1: Adequate Resources for Current Residents—The resources available to the CCRC related to current residents include any existing resources for the current residents plus the actuarial present value of future resources, such as periodic fees expected to be paid in the future by such residents.

The actuary may consider these resources adequate if they are greater than or equal to any existing liabilities for the current residents plus the actuarial present value of the expected costs associated with the obligations to such residents under their contracts. The actuary should determine if this condition is satisfied through the use of the actuarial balance sheet (see section 3.4).

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A proposed CCRC is not required to meet this condition to be in satisfactory actuarial balance. The actuary should start evaluating this condition for a new CCRC when the block of current residents is of sufficient size to make this determination. For example, the actuary may evaluate this condition at the earlier of three years after opening or when the CCRC reaches its targeted occupancy.

- 3.2.2 Condition 2: Adequate Fee Structure for a Cohort of New Residents—For a cohort of new residents, the expected fees are 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.

The actuary may consider the fee structure adequate if the expected fees are greater than or equal to the actuarial present value at occupancy of the costs associated with the obligations assumed by the CCRC for that cohort. The actuary should determine if this condition is satisfied through the use of the cohort pricing analysis (see section 3.5).

- 3.2.3 Condition 3: Positive Projected Cash and Investment Balances—The actuary should project cash and investment balances over the projection period. This projection should include revenue and expenses from all known sources, including current and new residents and non-residents.

The actuary should choose a projection period that extends to a point at which, in the actuary's professional judgment, the use of a longer period would not materially affect the results. The actuary may consider using a minimum number of years in the projection period, such as ten years.

The actuary may consider the cash and investment balances adequate if these balances are positive in each projection year. The actuary should determine if this condition is satisfied through the use of the cash flow projection (see section 3.7).

- 3.3 Projected Population Movements—The actuary should base the development of the actuarial balance sheet (see section 3.4), the cohort pricing analysis (see section 3.5), and the cash flow projection (see section 3.7) respectively on the three types of population projections described below, using appropriate assumptions for mortality, morbidity, and withdrawal. The actuary should project the residents' movements through various levels of care, the number of surviving residents by level of care status, and the projected number of independent living units occupied.

- 3.3.1 Closed-Group Projection of Current Residents—When testing for condition 1 (see sections 3.2.1 and 3.4), the actuary should use a population projection that is performed solely with respect to current residents on the valuation date. The actuary should project the surviving residents' movements through various levels of care until contract termination by death or withdrawal. This projection excludes new residents and non-residents.

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- 3.3.2 Closed-Group Projection of a Cohort of New Residents—When testing for condition 2 (see sections 3.2.2 and 3.5), the actuary should use a population projection that is performed solely with respect to a cohort of new residents. The actuary should project the surviving residents' movements through various levels of care until contract termination by death or withdrawal. This projection excludes non-residents.
- 3.3.3 Open-Group Projection—When testing for condition 3 (see sections 3.2.3 and 3.7), the actuary should use a population projection that tracks residents in the CCRC on the valuation date together with expected new residents consistent with assumed occupancy levels. The actuary should reflect non-residents in this population projection if they will fill unoccupied units or beds in various levels of care consistent with assumed occupancy levels.
- 3.4 Actuarial Balance Sheet—The actuary should consider the guidance below when developing the actuarial balance sheet.
- 3.4.1 Assets—The actuary should estimate the following: the actuarial present value of future periodic fees (described in section 3.6.1), the actuarial present value of future additional fees and third party payments (described in section 3.6.2), and the actuarial value of physical property for assets currently in service (described in section 3.6.3).
- The actuary should reflect in the actuarial balance sheet other assets from the accounting balance sheet as appropriate, in the actuary's professional judgment. These assets generally include such items as cash and investment balances, current receivables, and other items not specifically reflected in the above guidance.
- 3.4.2 Liabilities—The actuary should estimate the following: the actuarial present value of the future use of physical property (described in section 3.6.4), the actuarial present value of future operating expenses (described in section 3.6.5), the actuarial present value of future refunds (described in section 3.6.6), and the actuarial present value of the long-term debt (described in section 3.6.7).
- The actuary should reflect in the actuarial balance sheet other liabilities from the accounting balance sheet as appropriate, in the actuary's professional judgment. These liabilities generally include such items as current payables, resident deposits, fees paid in advance, short-term debt obligations, and other items not specifically reflected in the above guidance.
- 3.5 Cohort Pricing Analysis—The actuary should develop the cohort pricing analysis based on the present value of revenues and expenses associated with a cohort of new residents.

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The revenues include the advance fees, the actuarial present value of future periodic fees (described in section 3.6.1), and the actuarial present value of future additional fees and third party payments (described in section 3.6.2).

The expenses include the actuarial present value of the future use of physical property (described in section 3.6.4), the actuarial present value of future operating expenses (described in section 3.6.5), and the actuarial present value of future refunds (described in section 3.6.6).

The actuary may consider, subject to disclosure, the use of expense levels consistent with the targeted number of residents when there is expected to be a material change in the population, such as growth resulting from new construction.

3.6 Actuarial Asset and Liability Values—When developing the actuarial balance sheet or the cohort pricing analysis, the actuary should develop the following present value items.

3.6.1 Future Periodic Fees—The actuary should estimate the actuarial present value of future periodic fees by projecting the fees payable by the surviving residents of the appropriate closed-group population in each level of care 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.

3.6.2 Future Additional Fees and Third Party Payments—The actuary should estimate the actuarial present value of future additional fees (such as guest meals and additional meals) and payments to the CCRC from third party payers (such as Medicare, Medicaid, and other insurance), if applicable, by projecting the additional revenue payable by, or on behalf of, the surviving residents of the appropriate closed-group population in each level of care in each future year and discounting the result back to the valuation date. The estimate of these future revenues should usually reflect current experience adjusted for projected future increases to such revenues.

3.6.3 Physical Property for Assets Currently in Service—The actuary should estimate the actuarial value of physical property for assets currently in service as the present value of the projected remaining annual capital expense charges associated with assets in service as of the valuation date.

The actuary should estimate the annual capital expense charge for the use of an asset for each year using its useful lifetime. The projected annual capital expense charge consists of the imputed interest charge for the use of the asset plus the change in asset value from one year to the next. In calculating the capital expense charges, the actuary should use a rate consistent with the cost of capital at the time the asset was originally put into service.

3.6.4 Future Use of Physical Property—The actuary should estimate the actuarial present value of the future use of physical property by taking the projected annual

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capital expense charges for both the current and replacement fixed assets allocated to the surviving residents of the appropriate closed-group population in each future year and discounting the result back to the valuation date. The actuary should use a methodology to estimate the annual capital expense charges that is consistent with the methodology used in section 3.6.3.

- 3.6.5 Future Operating Expenses—The actuary should estimate the actuarial present value of future operating expenses by taking the operating expenses allocated to the surviving residents of the appropriate closed-group population in each future year and discounting the result back to the valuation date. The actuary should exclude from future operating expenses (a) future capital expenditures, which are discussed in section 3.6.4; and (b) the future long-term debt interest and principal payments, which are discussed in section 3.6.7.

When estimating future operating expenses, the actuary should reflect future cost trends and reflect underlying expense consumption patterns in the allocation. The actuary should allocate expenses across the various levels of care and within each level of care on an appropriate basis such as per person, per unit, or per square foot.

- 3.6.6 Future Refunds—The actuary should estimate the actuarial present value of future refunds by estimating the amount of refund due each terminating resident of the appropriate closed-group population in each future year and discounting the amounts back to the valuation date. The actuary should base the estimate of the refund due each terminating resident each future year on the terms of the residency agreement assumed to be applicable to that resident.

- 3.6.7 Value of Long-Term Debt—The actuary should estimate the actuarial present value of long-term debt as the discounted value of the projected remaining principal and interest payments as of the valuation date. The present value of long-term debt may be different than the amount on the accounting balance sheet depending on the relationship between the discount rate and the actual interest rate on the debt.

- 3.7 Cash Flow Projections—The actuary should perform cash flow projections over the projection period using open-group methods and should reflect the projected financial effects of existing residents, new residents replacing existing residents, and non-residents to the extent living unit capacity allows. The actuary should select assumptions in the cash flow projections that are consistent with those used in the development of the actuarial balance sheet and cohort pricing analysis (see sections 3.4 and 3.5).

The actuary should reflect revenues from all known sources (such as advance fees, periodic fees, additional fees, payments from non-residents, reimbursements from Medicare or other third party payer, and investment income). The actuary should reflect expenses from all known sources (such as operating expenses, capital expenditures, debt

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interest and principal payments, any cost of using an offsite health facility, and refunds of advance fees).

The cash flow projection should show the cash and investment balances at the beginning and end of each projection year.

The actuary should consider the guidance in ASOP No. 7, *Analysis of Life, Health, or Property/Casualty Insurer Cash Flows*, when choosing assumptions for cash flow projections.

3.8 Selection of Actuarial Assumptions—The actuary should consider the guidance below when selecting assumptions for performing actuarial analyses covered by this ASOP.

3.8.1 Mortality, Morbidity, and Withdrawal Assumptions—In selecting assumptions for rates of mortality, morbidity and withdrawal, the actuary should consider which of the following, in the actuary’s professional judgment, are appropriate to reflect in each of these assumptions:

- a. age and gender;
- b. health characteristics;
- c. permanent and temporary transfer patterns;
- d. level of care status and expected differences in experience between residents in different levels of care;
- e. time elapsed since the last change in the level of care;
- f. single or joint occupancy;
- g. profile of new residents who are expected to enter the CCRC when vacancies occur;
- h. time elapsed since the resident entered the CCRC;
- i. actual experience of the CCRC and the credibility of the experience;
- j. contractual guarantees, such as health care guarantees and advance fee refunds; and
- k. operational policies and practices of the CCRC, such as transfer policies.

The actuary should consider trend assumptions for rates of mortality, morbidity, and withdrawal that are reasonable, in the actuary’s professional judgment. In selecting trend assumptions, the actuary should consider and review appropriate

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data. These data may include past trend experience studies, past projections of trends or appropriate industry studies.

- 3.8.2 Trend Assumptions for Fees and Expenses—The actuary should set trend assumptions for periodic fees, advance fees, additional fees, and other revenue items. The actuary should also set trend assumptions for operating expenses, capital expenditures, and other expense items. The actuary may use different trend assumptions, as appropriate, for various categories of revenues and expenses. In setting trend assumptions for periodic fees, the actuary should also take into account practical, competitive, and contractual considerations.

The actuary should select assumptions as to future trends in periodic fees that are consistent with the trend assumptions that are used in projecting future expenses. If the actuary uses different trend assumptions for periodic fees and operating expenses, the actuary should disclose this difference in an appropriate actuarial communication.

- 3.8.3 Investment and Discount Rate Assumptions—The actuary should select investment and discount rate assumptions that are individually reasonable, mutually consistent, and reflective of the long-term nature of the contracts.

a. Investment Rate—The actuary should consider the past investment performance, short- and long-term market expectations, and the future investment strategy of the CCRC to estimate investment income for the cash flow projection.

b. Discount Rate—The actuary should use a discount rate to estimate actuarial present values that, in the actuary's professional judgment, is reasonable and appropriate, and is consistent with the investment rate.

- 3.8.4 Revenue and Expense Allocation Assumptions—The actuary should assume an allocation of general revenues and expenses to the various levels of care, and to current and new residents. The actuary should consider whether the sum of all allocated expenses reconciles to the total projected expenses of the CCRC.

- 3.8.5 Going-Concern Assumption—The actuarial balance sheet, the cohort pricing analysis, and the cash flow projection rely on assumptions predicated on the ongoing financial viability and continuation of the CCRC. This implies that the CCRC will be able to maintain appropriate occupancy levels by attracting new residents to replace existing residents as the latter vacate units. The actuary should consider the ability of the CCRC to attract new residents or any other known, significant circumstances that, in the actuary's professional judgment, may affect the CCRC's ability to remain a going concern.

- 3.8.6 Reasonableness of Assumptions—The actuary should review the assumptions for reasonableness. The assumptions should be reasonable, in the actuary's

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professional judgment, in the aggregate and for each assumption individually, using relevant information available to the actuary.

In reviewing the assumptions for reasonableness, the actuary may consider such factors as the following:

- a. the purpose of the measurement;
- b. the frequency with which the projections are expected to be updated;
- c. the length of the projection period;
- d. the sensitivity of the projections to the effect of variations in key actuarial assumptions;
- e. the potential variability of the assumption;
- f. the size of the CCRC's resident population;
- g. the ability to increase fees or decrease expenses in future periods;
- h. the level of surplus available to provide for adverse fluctuation; and
- i. any significant margins for uncertainty which have been included in the actuarial assumptions.

- 3.9 Benevolence Funds and Financial Assistance Subsidies—The actuary should consider both the funds available and the potential future liabilities for residents who do not pay the full scheduled fees. For example, some CCRCs may set aside assets or funds from charitable contributions to assist residents who cannot afford the full scheduled fees, the periodic fee increases or advance fees. Other CCRCs may include the costs of any assistance in the basic fee structure.
- 3.10 For-Profit CCRCs—When performing professional services with respect to for-profit CCRCs, the actuary should consider the nature and financial implications of the ownership arrangement, including owner's equity, past and possible future equity distributions, and historical and future capital expenditures funded by the owner.
- 3.11 Equity or Cooperative CCRCs—The actuary should consider the nature and financial implications of any ownership arrangement, including advance fee payments and refunds, and the value of assets invested in the physical property and the replacement costs of these fixed assets. For example, in some CCRCs, residents may either own a particular unit or a membership in the CCRC.
- 3.12 Additional Considerations Affecting a CCRC's Finances—The actuary should consider the scope of the CCRC's commitments to current and prospective residents and the

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nature of its fee structure. The actuary may obtain this knowledge from the applicable residency agreements and any other reasonable source of information about the CCRC. When interpreting these documents, the actuary should consider 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 commitments are made;
 - c. any known, significant limitations on the CCRC's ability to change future periodic fees;
 - d. any provision for refunding the advance fee;
 - e. any limitation on the services provided and any requirement of additional charges for services;
 - f. any contract provisions for prepaid health care or for additional charges if a resident receives health care;
 - g. any affiliation with another entity and the extent to which any such entity would assume responsibility for the CCRC's obligations; and
 - h. any other matter that, in the actuary's professional judgment, is expected to have a material effect on the CCRC's current or future financial statements.
- 3.13 External Restrictions—The actuary should consider restrictions on the CCRC from external sources, such as applicable law, regulation, or other binding authority. Examples include a state's Medicaid reimbursement policy or regulations restricting the use of health center beds by non-residents. In addition, the actuary should consider any lender-imposed restrictions, including debt-service coverage ratios and cash reserves.
- 3.14 Reliance on Data or Other Information Supplied by Others—When relying on data or other information supplied by others, the actuary should refer to ASOP No. 23, *Data Quality*, for guidance.
- 3.15 Documentation—The actuary should prepare and retain appropriate documentation regarding the methods, assumptions, procedures, and the sources of the data used. The documentation should be in a form such that another actuary qualified in the same practice area could assess the reasonableness of the actuary's work, and should be sufficient to comply with the disclosure requirements in section 4.

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Section 4. Communications and Disclosures

- 4.1 Communications and Disclosures—When issuing actuarial communications under this standard, the actuary should refer to ASOP No. 23 and ASOP No. 41, *Actuarial Communications*. In addition, the actuary should disclose the following items in an actuarial communication:
- 4.1.1 Actuarial Data, Assumptions, and Methods—The actuarial communication should describe the actuarial data, assumptions, and methods used in performing the actuarial analysis, including the following:
- a. summary of historical resident data and population statistics for residents as of the valuation date;
 - b. historical and current financial data used to produce the actuarial balance sheet, cohort pricing analysis, and cash flow projections;
 - c. assumed rates of mortality, morbidity, withdrawal, and occupancy;
 - d. assumptions and methodology used in performing the population projections;
 - e. investment and discount rates;
 - f. trend rates for revenues and expenses, and the relationship between the two;
 - g. assumptions and methodology used to value and depreciate the physical property;
 - h. assumptions and methodology used to estimate each actuarial present value;
 - i. assumptions and methodology used for any significant margin for uncertainty, or a similar adjustment or provision, included in the actuarial valuation, including any significant assumptions affecting the valuation regarding surplus available to provide for adverse fluctuations;
 - j. assumptions and methodology used to allocate general revenue and expenses; and
 - k. any material changes in assumptions or methods from the most recent analysis.

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- 4.1.2 Results of Conditions for Satisfactory Actuarial Balance and Qualification of Opinion—The actuarial communication should disclose the actuarial balance sheet, the cohort pricing analysis, and the cash and investment balances at the beginning and end of each projection year, which were prepared to test the three conditions in section 3.2, and state whether or not each condition is met.

If one or more of the three conditions is not met, the actuary should make disclosures according to the following:

- a. Condition 1: Actuarial Balance Sheet Deficit—If the actuarial balance sheet shows a deficit (regardless of the results of conditions 2 and 3), the actuary should state the implications of the deficit. The actuarial communication should describe management’s plans for handling the deficit, if known, and the actuary’s comments thereon, if any;
- b. Condition 2: Cohort Pricing Analysis Deficit or Inadequacy—If the cohort pricing analysis indicates a deficit or inadequacy, the actuary should state the implications of the pricing inadequacy, including the projected impact on the actuarial balance sheet in the future. The actuarial communication should describe management’s plans for handling the pricing inadequacy, if known, and the actuary’s comments thereon, if any;
- c. Condition 3: Negative Cash and Investment Balances on the Cash Flow Projection—If the cash flow projection indicates negative or declining cash and investment balances over the projection period, the actuary should state the implications of the projected negative or declining cash and investment balances. If the cash flow projection indicates negative cash and investment balances, the actuarial communication should describe management’s plans for handling the negative cash and investment balances, including the estimated time before positive cash and investment balances are achieved, if known, and the actuary’s comments thereon, if any; and
- d. Qualification of Opinion—If the actuary is unable to form the needed opinion regarding whether the CCRC is in satisfactory actuarial balance, or if the opinion is adverse (due to failing one or more of the above conditions), or otherwise qualified, then the statement of actuarial opinion and the actuarial communication should explain why the actuary is unable to form an unqualified favorable opinion.

- 4.1.3 Specific Disclosures—The actuary should specifically disclose the following in an actuarial communication:

- a. any significant issues regarding the going-concern assumption;
- b. any assistance assumed to be derived from dedicated benevolence funds;

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- c. any significant issues related to for-profit CCRCs;
- d. any significant issues regarding equity and cooperative CCRCs;
- e. any significant issues regarding proposed CCRCs;
- f. any significant issues regarding the reasonableness of the actuarial assumptions;
- g. that actual experience may significantly differ from projected experience;
- h. that measurements made at a future date may differ significantly from the current measurement due to potential volatility in an actuarial assumption (for example, present value calculations, periodic fee analyses or population projections);
- i. the results of any sensitivity tests performed; and
- j. any additional issues not addressed elsewhere in section 4 that, in the actuary's professional judgment, are expected to have a material impact on the actuarial analyses.

4.2 Prescribed Statement of Actuarial Opinion—This ASOP does not require a prescribed statement of actuarial opinion (PSAO) as described in the *Qualification Standards for Prescribed Statements of Actuarial Opinion* promulgated by the American Academy of Actuaries. However, law, regulation, or accounting requirements may also apply to an actuarial communication prepared under this standard, and as a result such actuarial communication may be a PSAO.

4.3 Deviation from Standard—If, in the actuary's professional judgment, the actuary has deviated materially from the guidance set forth elsewhere in this standard, the actuary can still comply with this standard by applying the following sections as appropriate:

4.3.1 Material Deviations to Comply with Applicable Law—If compliance with applicable law requires the actuary to deviate materially from the guidance set forth in this standard, the actuary should disclose that the assignment was prepared in compliance with applicable law, and the actuary should disclose the specific purpose of the assignment and indicate that the work product may not be appropriate for other purposes. The actuary should use professional judgment to determine whether additional disclosure would be appropriate in light of the purpose of the assignment and the intended users of the actuarial communication.

4.3.2 Other Material Deviations—The actuary's communication should disclose any other material deviation from the guidance set forth in this standard. The actuary should consider whether, in the actuary's professional judgment, it would be

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appropriate and practical to provide the reasons for, or to quantify the expected impact of, such deviation. The actuary should be prepared to explain the deviation to a principal, another actuary, or other intended users of the actuary's communication. The actuary should also be prepared to justify the deviation to the actuarial profession's disciplinary bodies.

Appendix 1

Background and Current Practices

Note: This appendix is provided for informational purposes, but is not part of the standard of practice.

Background

Certain contractual obligations of a CCRC are contingent upon the occurrence, timing, and duration of certain future events. The resident typically pays for such future promised services through a combination of advance and periodic fees, typically before the services are provided. Actuarial methods are used to establish the fee structure and to measure the CCRC's liabilities for the provision of future promised services.

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.

Current Practices

Current actuarial practices for CCRCs are generally now well established. Prior to the release of the first edition of this ASOP and the release of subsequent educational material by various entities, actuaries used differing analytical approaches. These approaches included differing methods to determine closed and open-group resident projections, projected refunds, physical property valuations, long-term debt, and other items. While historically differences did exist, these differences have now mostly been eliminated and standardized practices have evolved.

Appendix 2

Illustrative Capital Expense Charge Development and Physical Property Valuation

Note: This appendix is provided for informational purposes, but is not part of the standard of practice.

The physical property, or fixed assets, of a CCRC are a significant asset of the CCRC, and also a significant cost to the residents of the CCRC. In order to provide for equity among generations of residents, it is necessary to allocate an appropriate part of the cost of the use of physical property to current residents as of the valuation date, and to the cohort of new residents.

The method described in this appendix for developing and assigning the annual capital expense charge for asset use, determining the asset's actuarial value, and determining the liability for asset use, is one illustrative method designed to provide for equity among generations of residents. (Illustrative formulas for expensing and valuing physical property are presented at the end of this appendix.)

Physical property assets may be valued and depreciated using level, decreasing or increasing depreciation methodologies based on actuarial principles, the nature of the underlying assets and other factors.

Capital Expense (Imputed Interest plus Depreciation) Charges—The annual capital expense charge for physical property consists of the imputed interest for the use of the asset, or opportunity cost of using cash resources for purchasing a fixed asset (because it is not an interest-earning investment), plus the change in asset value from one year to the next.

- a. Each item of physical property is assigned an assumed useful lifetime and an appropriate rate of inflation. While GAAP expected lifetimes might be available, alternative lifetimes may be available from other sources such as engineering studies performed by the client. In the case of land, the expected useful lifetime may be perpetual.
- b. The annual capital expense charge 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.
- c. In similar fashion, capital expense charges are developed for physical property assumed to be purchased in future years. 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.

An approximation of these replacement costs that better reflects the expected magnitude and timing of future capital expenditures may also be used. These approximations reflect

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a sufficient level of future capital expenditures necessary to maintain the physical property for future use.

Capital expense charges are developed for the following items:

- a. Actuarial value of physical property for assets currently in service—reflected as an asset on the actuarial balance sheet;
- b. Actuarial present value of future use of physical property consumed by current residents throughout their respective lifetimes—reflected as a liability on the actuarial balance sheet; and
- c. Actuarial present value for future use of physical property consumed by a hypothetical group of prospective residents—reflected as a liability on the cohort pricing analysis.

Value of Physical Property for Assets Currently in Service—The actuarial value of each asset is the discounted value (without survivorship) of the remaining annual capital expense charges as of the valuation date. The sum of these values for all such assets in service as of the valuation date is reflected as an asset on the actuarial balance sheet.

Value of Future Use of Physical Property for Existing Residents—The actuarial present value of the future use of physical property for existing residents is the discounted value (with survivorship) of the annual capital expense charges for the physical property, *and* its replacements, allocated to existing residents as of the valuation date.

- a. The part of each future year's capital expense charge that relates to the existing residents as of the valuation date is determined by estimating the ratio of the existing resident survivorship group use to total CCRC use. The ratio may be in proportion to population, to number of CCRC 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.
- b. The current actuarial liability for the promised future use of a physical asset (and its replacements) with respect to the existing resident closed group is the sum (for all years) of the part of such capital expense charge in each future year related to the existing closed group, as determined in (a), discounted to the valuation date.

Value of Future Use of Physical Property for the New Entrant Cohort—The actuarial present value of the future use of physical property for the new entrant cohort is the discounted value (with survivorship) of the annual capital expense charges for the physical property, and its replacements, allocated to the new entrant cohort closed group.

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- a. The part of each future year's capital expense charge that relates to the new entrant cohort is determined by estimating the ratio of the new entrant cohort survivorship group use to total CCRC use.
- b. The current actuarial liability for the promised future use of a physical asset (and its replacements) with respect to the new entrant cohort is the sum (for all years) of the part of such capital expense charge in each future year related to the new entrant cohort closed group, as determined in (a), discounted to the valuation date.

**Illustrative Formulas for Expensing
and Valuing Physical Property**

Note: These formulas illustrate allocations on a per-resident basis. Other allocation bases such as units, beds, square footage, etc. 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 discount, or cost of capital, rate.
- v = $1/(1 + i)$.
- A_0 = Acquisition cost of the asset.

$$A_0 = v \cdot E_1 + v^2 \cdot E_2 + \dots + v^e \cdot E_e.$$

From this we obtain

$$E_1 = \frac{A_0 \cdot (i - j)}{1 - [v \cdot (1 + j)]^e}, \quad \text{provided } i < > j$$

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

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

From this we obtain

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

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 change in asset value from one year to the next. In the case of land, the annual expense consists of only the interest that is foregone, since there is no assumed change in asset value (lifetime is perpetual).

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 equaling 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 CCRC 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 .

$$R_{n+1} = \frac{C_n + C_{n+1}}{P_n + P_{n+1}}, \text{ representing the ratio of the projected closed group population to the projected total population.}$$

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

$$\begin{aligned} L_n = & v \cdot R_{n+1} \cdot E_{n+1} + v^2 \cdot R_{n+2} \cdot E_{n+2} + \dots + v^{e-n} \cdot R_e \cdot E_e \\ & + v^{e-n+1} \cdot R_{e+1} \cdot E_{e+1} + v^{e-n+2} \cdot R_{e+2} \cdot E_{e+2} + \dots + v^{2e-n} \cdot R_{2e} \cdot E_{2e} \\ & + \dots + \text{until } R = 0. \end{aligned}$$