COMMON FALLACIES OF RETIREMENT VILLAGE VALUATIONS

1. Valuations of the interests of managers of retirement villages are needed for: -

    a. AASB 139 purposes;

    b. security purposes and

    c. other reasons.

2. Some such valuations are based on global average turnover rates rather than age and sex specific rates.

3. Such valuations are crude and can seriously mislead as to the true value of a manager's interests in a village. This document describes two common fallacies of such valuations.

Basis of illustrations

4. The illustrations in this document are based on: -

    a. the demographic experience of a large multi site manager's self care residents;

    b. the assumption of a contract with a DMF of 3% of reallocation price per year subject to a maximum of eight years;

    c. a discount rate of 15% per annum and

    d. unit value growth at 5% per annum.

Age distributions do matter

5. The first fallacy of crude valuations is ignoring of the details of the age distribution of residents.

6. Over five years, the manager was exposed to over five hundred years of individual occupancies and 70 residents left the villages.

7. The personal exit rates experienced (individual people's exits divided by average number of people) are set out below.

Valuation of managers' interests in retirement villages
Some common fallacies
Barton Consultancy
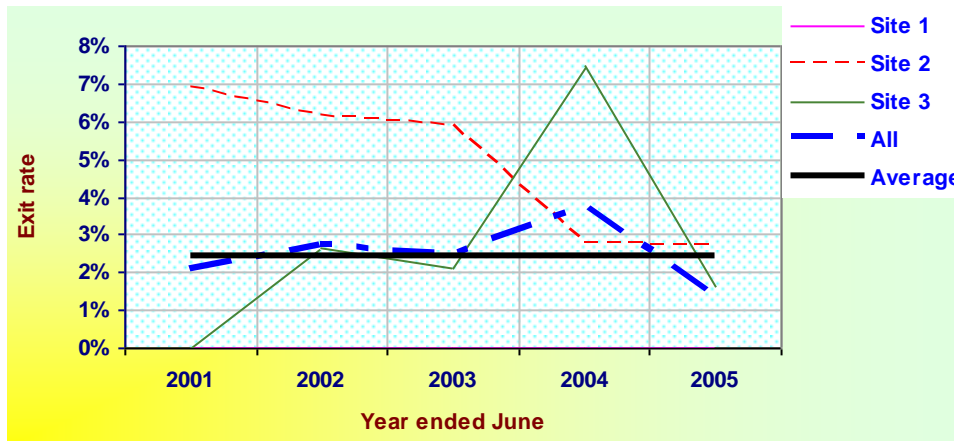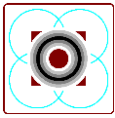Page 2
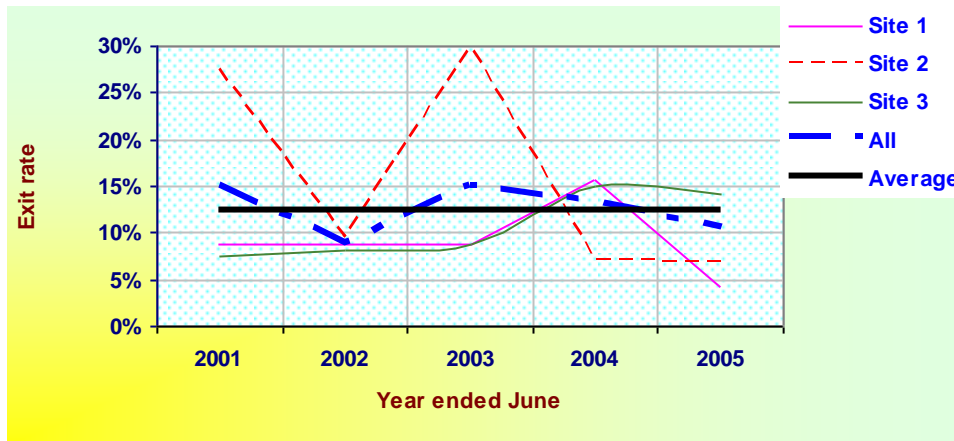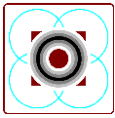
8.   Based on 12.4% (say 12.5%) annual exit rate, one might assume an average occupancy turnover of 8 years.

9.   If the rates of termination of contracts, rather than individual person's exits are examined, the chart becomes.


10.   The termination rate of about 2.5% might imply a 40 year turnover period even though this is clearly unlikely.

11.   Adopting an arbitrary turnover period between eight and 40 years clearly invites wide error. More information is obviously required to form a sound basis for the estimates of turnover periods.

Valuation of managers' interests in retirement villages
Some common fallacies
Barton Consultancy   Page 3

12.   More information is often available by taking account of the exact ages and conjugal status of the residents. If this is done, it is possible to compare the death rates with those of the general population. The following chart does this for female residents.
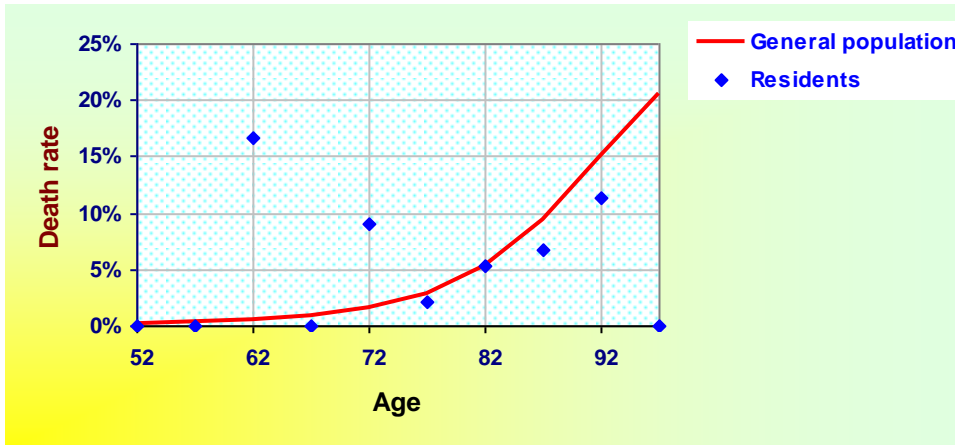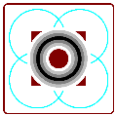

13.   With the exceptions of two age groups, the general sense is that the residents' death rate is somewhat below that of the general population. The aberrations in the chart relate to a single death between 60 and 64 and a large number of deaths ten years older. Overall, the mortality rates suffered by residents are 90% of those of the general population.

14.   In the absence of contrary experience, this practice normally assumes death rates at 85% of population standard rates. The suitability of such an assumption is shown by the following chart depicting actual and expected deaths of female residents.
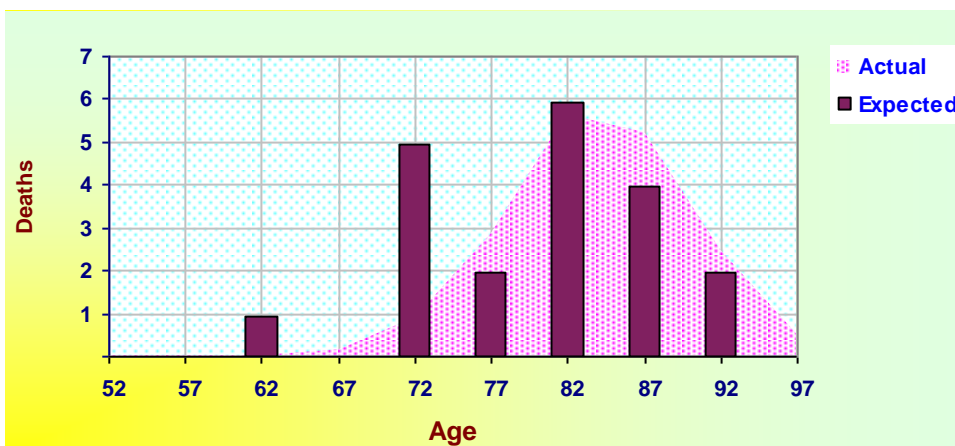
15.   One must allow for exits for reasons of health and voluntary exits. This practice normally assumes health based exits at each age to be 22.5% of population mortality rates.

Valuation of managers' interests in retirement villages
Some common fallacies
Barton Consultancy

Page 4

Voluntary exits tend not to be age related and are assumed to be a constant rate regardless of age.

16.   Armed with more refined assumptions one can make more informed estimates of expected occupancy terms. The overall remaining expectancy of the population was 6.4 years.

17.   With detailed knowledge (and hence assumptions) of the age, sex and conjugal distribution of new entrants, one can estimate the average term of a newly entering resident.

18.   *The above confirms the folly of discarding residents' age and sex data in forming turnover expectations.*

Not every one leaves when expected

19.   Even when an occupancy expectation is correctly determined, it is fallacious to assume that termination will happen when expected. This assumption can lead to significant errors in the valuation of managers' interests.

20.   The example below relates to a hypothetical new entrant but could equally relate to an individual current occupancy. The reason the new entrant is used will be explained below.

21.   On certain new entrant and exit assumptions, the spread of exits of couples and individuals of each sex is as set out below.
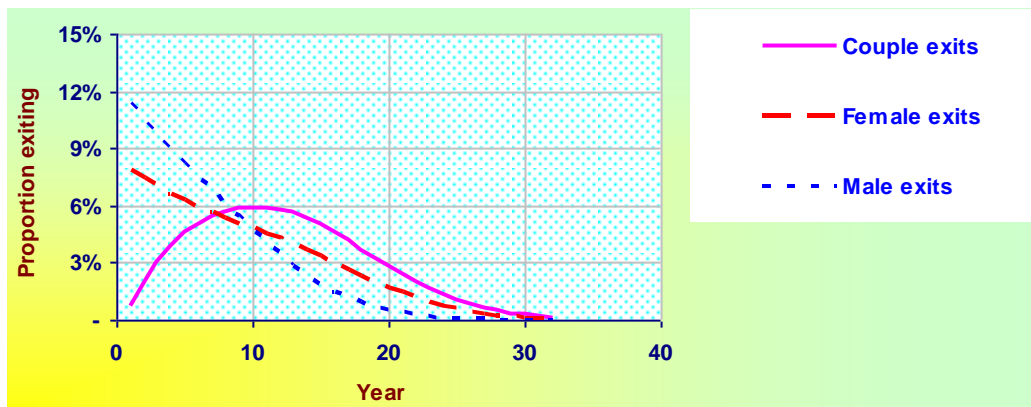
22.   Weighting for the proportions of each group, the overall projection of exits is as set out below, together with the expectancy of those exits.
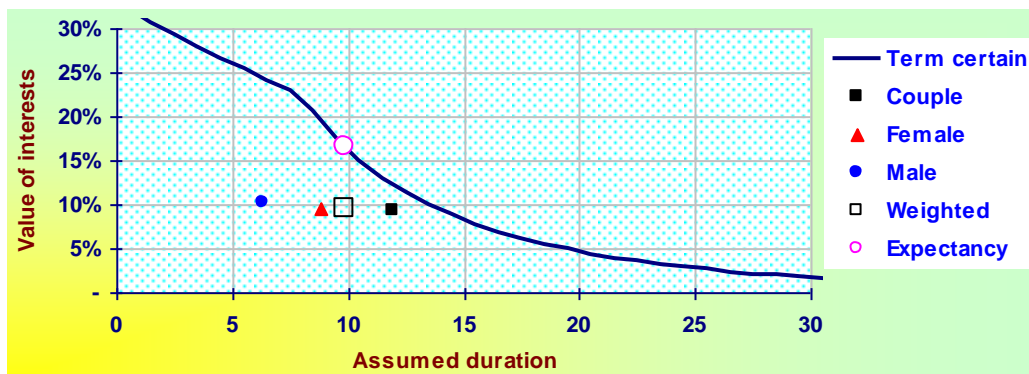
Valuation of managers' interests in retirement villages
Some common fallacies
Barton Consultancy   Page 5
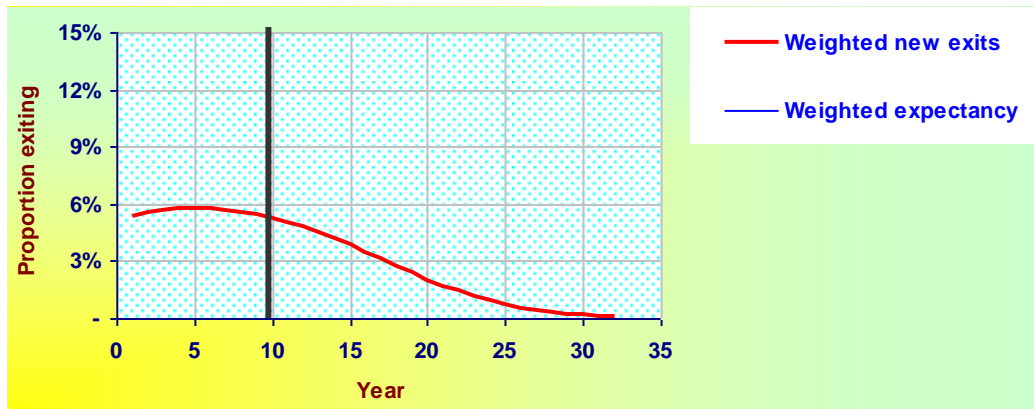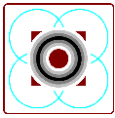
23. While the average occupancy period is around ten years, clearly not all exits will occur at that time.
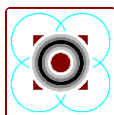
24. The *expectation of* the *present values* of payments to the manager *is not* the same as the *present value of* payments assuming all exits occur at the *expected* 9.83 years. This is because of the interplay between: -

   a.   the effects of discounting and capital growth ;

   b.   the effects of the eight year cap on DMFs in this particular example and

   c.   the distribution of exits over up to thirty years,

25. The line entitled "term certain" on the following chart shows the value of the manager's interests as a proportion of the purchase price assuming all occupancies end at the fixed durations. In particular, the white circle shows the value assuming all occupancies terminate at the expectancy of 9.83 years. The chart also shows the value of the manager's interests and the expected duration of occupancies of: -

   a.   single entrants of each sex;

   b.   couples and

   c.   the weighted average of single entrants and couples.

Valuation of managers' interests in retirement villages
Some common fallacies
Barton Consultancy

Page 6

26.   The chart shows that assuming all entrants stay for exactly 9.83 years, the value of the manager's interests is 16.67% of the purchase price (white circle). In contrast, the value assuming weighted average new entrants experiencing exit rates related to their age and sex (open square) is 9.53%.

27.   The occupancy expectation of the weighted average new entrants (being an average of all sexes and conjugal conditions and allowing for a range of occupancies for each group) is the same 9.83 years, but the value of interests is less than 60% of the value assuming a fixed occupancy.

28.   *This is a measure of the overstatement of the crude calculation.*

Valuation factors

29.   The reason for using the hypothetical new entrant in the above analysis was to introduce the concept of the valuation factor. This measure, 9.53% in this case, encapsulates the: -

>   **a.**   contractual basis;
>   **b.**   financial assumptions and
>   **c.**   demographic assumptions

underlying the valuation.

30.   These factors provide a convenient method of examining the effects of: -

>   **a.**   a change of contract basis in an existing village or an alternative contract basis in a new village;
>   **b.**   a marketing campaign aimed to change entry ages and
>   **c.**   a change in the economic climate.

Conclusion

31.   Barton Consultancy Pty Ltd holds copyright to this document but it may be reproduced with attribution.

32.   Enquiries or comments are welcome.

Dennis Barton
Director
Barton Consultancy Pty Ltd
08 9225 5899
Barton@Actuary.com.au