

# Independent assessment of Lapetus methodology for estimating individual lifespans

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# **Independent assessment of Lapetus methodology for estimating individual lifespans**

## **1 Background to engagement**

- 1.1 Lapetus Solutions, Inc. (“Lapetus”) is looking for an independent assessment of their methodology for estimating individual lifespans in association with the underwriting of life settlement policies.
- 1.2 Lapetus has requested Dan Ryan, Lead Catalyst at COIOS Ltd (“COIOS”) to provide such an assessment, as set out in the signed agreement dated 16 April 2025. This independent assessment is restricted to those materials shared by Lapetus with COIOS, as set out in a signed NDA agreement dated 14 April 2025. These materials are described in section 2.
- 1.3 This brief Report sets out a description of the underwriting process as explained by Professor Jay Olshansky, Chief Scientist of Lapetus, in two Zoom meetings on 1 May and 13 May. The Report then provides comments on different aspects of the methodology used in estimating individual lifespans, and identifies a number of areas where changes or clarification could be appropriate.
- 1.4 This Report does not attempt to propose an alternative methodology, and should not be regarded as providing such an alternative methodology. This Report summarises an independent third-party assessment of the Lapetus methodology, and should not be interpreted as an endorsement by COIOS or a personal endorsement of the Lapetus methodology.



## **2 Source materials**

- 2.1 There follows as complete listing of all source materials that were provided by Lapetus to COIOS on 1 May 2025 to support the independent assessment of their methodology to estimate individual life spans. No other analyses or reports produced by Lapetus or information relating to individual life expectancy assessments from the Lapetus database of underwritten lives were shared by Lapetus with COIOS.
- 2.2 It is my understanding that the various reports in respect of particular lives were intended to illustrate the type of reports that are produced, and the selected lives were not intended to be in any way representative of the Lapetus database of lives.

### **Clinical LE Reports**

- Clinical LE Example 1\_Redacted.pdf – Lapetus Clinical Life Expectancy Report on Male aged 70.2 years
- Clinical LE Example 2\_Redacted.pdf – Lapetus Clinical Life Expectancy Report on Female aged 49.0 years

### **Coventry Press Reports**

- Coventry Releases Peer Review of Lapetus Life Expectancy Study (July 22, 2024)
- Coventry Study Find Lapetus Life Expectancies are shorter than competitors in 85% of cases reviewed (May 5, 2024)
- Coventry Flaws in Lapetus Life Expectancy Estimates Exposed in New Study following Olshansky-Buerger Debate at LISA Conference (February 5, 2025)

### **Coventry Studies**

- Lapetus Actual-to-Expected Deaths Study (Daniel Bauer and Nan Zhu, December 2024)
- Lapetus Life Expectancy Comparison Study (Daniel Bauer and Nan Zhu, July 2024)
- Coventry Study of Lapetus Life Expectancies – January 2022 through April 2024
- Response to Coventry Analysis – bullet point document produced by Lapetus

### **Debit Credit Report**

- Clinical\_LE\_report\_for matching Debit Credit.pdf – Lapetus Survival Probability Report on Female aged 77.7 years
- Debit-Credit\_report.pdf – Comparison of survival and mortality curves for Clinical LE and Debit/Credit LE approaches for Female aged 77.7 years
- Debit-Credit\_SUMMARY\_report.pdf – Summary report comparing Clinical LE and Debit/Credit LE approaches for Female aged 77.7 years

### **FAQ**

- Lapetus\_Life Expectancy Methodology.docx.pdf – FAQ relating to Life Expectancy Methodology

### **Reconciliation Reports**

- Reconciliation Report 1- Lapetus Reconciliation Review for Male aged 81.0 years that refers to reports from different LE providers with LE estimate in brackets – Lapetus (LE 52 months), Polaris (LE 115 months), Twentyfirst (LE 135 months), Fasano (LE 114 months)
- Reconciliation Report 2- Lapetus Reconciliation Review for Female aged 63.5 years that refers to reports from different LE providers with LE estimate in brackets – Lapetus (LE 135 months), Polaris (LE 231 months)



### **3 Assessment of Lapetus methodology**

3.1 In this section, I will describe my understanding of the methodology that Lapetus has used in estimating individual future lifespans. My comments will also explore a number of aspects of the methodology that have been challenged in various reports produced by Coventry, and question assertions made in those reports. The areas that are covered are as follows:

- Quality of medical information and insights shared
- Terminology of life expectancy
- Use of reference mortality table
- Choice between debit-credit and Clinical LE methodologies
- Optimisation - actual/expected vs individual lifespan
- Assessing accuracy of estimated life expectancies
- Explicit statement of future mortality assumptions

#### **Quality of medical information and insights shared**

3.2 The approach adopted by Lapetus in their Clinical Life Expectancy Reports (“CLER”) provides much greater visibility and transparency than other LE providers referenced in the Section 2 materials as to which medical conditions have been recorded and assessed, as well as detailed and comprehensive references to medical cohort studies that were used to assess both the shape and level of any excess mortality in respect of those medical conditions. Such medical cohort studies should take into consideration both the severity of the condition, prescribed treatments and other demographic factors such as age, gender, marital status, smoker status and socio-economic differences.

3.3 In the examples provided, the quality of information and explanation provided by Lapetus is superior, in my opinion, to that of other LE providers, and should be of significant value to any investment clients. The level of medical information and explanation shared in each CLER should improve reproducibility of any assessments.

3.4 My understanding is that Lapetus has constructed a “Hive database” where a considerable number of medical cohort studies covering many different medical conditions have been gathered and analysed. I further understand that the Hive database provides those board-certified doctors tasked by Lapetus to produce estimates of individual future lifespan with comparative mortality information in the form of survival probabilities and mortality hazard ratios for each of the medical conditions likely to be encountered. In my opinion, Board-certified doctors are best placed to fully understand the severity and current treatment of medical conditions, and would be expected to have valuable insights on how the treatment of medical conditions is expected to change in the near to medium term future.

3.5 Once a doctor has carried out an estimation of future lifespan on a particular individual, Lapetus aims to direct any future assessments on the same individual that might be requested by other investment clients of Lapetus to the same doctor that carried out the initial assessment. A separate doctor is only involved if an investment client of Lapetus asks for a second opinion at additional cost or if the first doctor is no longer available. This approach ensures consistency of assessments for a particular individual/patient.

3.6 The additional information provided by the doctor on the stability of the patient’s condition and the potential volatility of the Clinical Life Expectancy given the more detailed information contained in the medical records is highly valuable in providing a more in depth view of the doctor’s expectations for this particular life, and complements the interquartile range that is quoted alongside the mean and median values of the Clinical Life Expectancy. None of these additional measures are provided by the other LE providers based on the various reports that are provided in the section 2 materials.



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- 3.7 The FAQ document provides additional information on the underwriting case review process, whereby individual CLERs are reviewed by Lapetus research scientists with expertise in survival analysis. This review may involve additional requests to the doctor for clarification or supporting evidence for the estimate that they have provided. This compares very favorably with standard practice in life insurance underwriting assessments where reviews are carried out by a senior underwriter or Chief Medical Officer in respect of a percentage of underwriting cases.

### **Terminology of life expectancy**

- 3.8 The various life expectancy reports provided by the other LE providers as referenced in Section 2 do not appear to define what is meant by life expectancy. Lapetus refers in its various reports to Period Life Expectancy. There are a number of different definitions that can be used in respect of life expectancy, with the main distinction being between Period Life Expectancy and Cohort Life Expectancy. A Period Life Expectancy is an artificial actuarial construct that assumes that an individual life experiences mortality rates taken from a 1-dimensional mortality table, and hence there is no allowance for mortality rates changing with future time. In contrast, a Cohort Life Expectancy is calculated on the basis that an individual life experiences the future mortality rates that would apply at each future age in the year when the individual achieves that age. There is no implicit assumption in the definition of a Cohort Life Expectancy that future mortality rates should be lower than current mortality rates, but rather reflects that future mortality rates are not artificially tied to existing current mortality rates.
- 3.9 All LE providers should provide clarity as to which definition of life expectancy is being used to avoid confusion. To the extent that the intention is to provide an estimate of the future lifespan of an individual, it would be more appropriate to refer to Cohort Life Expectancies. Whilst Cohort Life Expectancies are typically used in conjunction with a cohort or population subgroup, these can be used as an estimate for the future lifespan of an individual.

### **Use of reference mortality table**

- 3.10 The various reports shared from Coventry question the use of a general population mortality table, such as produced by the Human Mortality Database (HMD) as a reference mortality table rather than a standard insurance table such as the 2015 Valuation Basic Table (2015VBT). It is common practice for actuaries operating in different countries to use general population mortality tables as a reference table, particularly when using medical cohort studies to assess the excess mortality associated with a particular medical condition.
- 3.11 The application of relative findings from medical cohort studies to a standard insurance table without suitable adjustment runs the risk of double counting. For example, mortality improvements from smoking cessation in the general population are conditional on historical levels of smoking prevalence in the general population, and should be viewed in that context. The application of such changes to an insured population without adjustment would be inappropriate as the level of smoking prevalence in an insured population is typically lower.
- 3.12 That said, the use of such population mortality tables should be combined with temporal and level adjustments to reflect how mortality experience is expected to differ between the assessed individual and the general population. This could, for example, include adjustments in respect of socio-economic group, reflecting that individuals in higher socio-economic groups may have access to better health care or may have different behavioural risks that would influence the starting mortality rate at the point of underwriting.
- 3.13 My understanding is that Professors Olshansky & Carnes have developed mortality adjustment factors in respect of educational attainment, whereby those individuals with higher educational attainment are expected to have lower mortality rates in current and future years. Education attainment is a widely used alternative to socio-economic groupings for setting expectations over future mortality. I further



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understand that this information on the impact of educational attainment on future mortality has been shared with the doctors, and that this information has been incorporated by the doctors in their estimation of individual future lifespan. I have not seen these mortality adjustment factors, nor have been able to independently verify their application, and moreover the doctors do not separately identify the contribution of these adjustments to their overall assessment of individual future lifespan. However, the application of such adjustment factors would achieve some of the segmentation that would be required to set future mortality rates appropriate to a selected population subgroup.

### **Choice between debit-credit and clinical LE methodology**

- 3.14 The debit-credit methodology is used widely in life protection underwriting, including term life, whole of life and critical illness products. The methodology assumes that the excess mortality associated with a particular medical condition can be expressed in terms of a multiple of an underlying mortality table calibrated to healthy lives, and that this mortality multiplier applies to a wide range of future ages. Debits and credits tend to be considered in 25% increments, or “tables.” Even under this methodology it is necessary to define an age when the excess mortality will start to run off as previously healthy individuals form a progressively greater and greater proportion of the overall population at the highest ages.
- 3.15 That said, whilst this approach can be a reasonable approximation for future mortality rates associated with particular chronic diseases such as diabetes, the shape of excess mortality of other medical conditions, such as cancer and respiratory disease, is very different with often very high excess mortality at the point of diagnosis that reduces exponentially thereafter. Unadjusted use of a debit-credit methodology to model the pattern of future mortality rates for individuals with such conditions is inappropriate and will produce much shorter predictions of individual lifespan than are typically seen from cancer cohort studies such as SEER and CONCORD.

### **Optimisation – actual/expected vs individual lifespan**

- 3.16 In their reports, Lapetus presents survival probabilities that are based on multiples of lifetables such as those from HMD, where the multiple is selected to produce an equivalent period life expectancy to the Clinical LE estimated by the doctor. One of the challenges from the various Coventry reports is that analyses of mortality experience so far from Lapetus against these derived expected mortality rates show relatively low actual to expected, or A/E, ratios, and this is posited as contrary evidence to the suitability of Lapetus’ mortality assumptions. In discussion with Professor Olshansky, he states that this is an expected outcome of “an approach that optimises A/E ratios as opposed to one that aims to optimise estimation of individual lifespan”, and also that the Lapetus experience is relatively short with no policies having been written more than 3 years ago.
- 3.17 There is no guarantee that accurate modelling of short term mortality provides a realistic or plausible estimation of individual future lifespan. However, it is also not helpful to publish a set of survival probabilities derived from the application of lifetable if these illustrative survival probabilities differ significantly from the pattern of survival probabilities that the doctors would expect over the remaining lifespan of the individual. Sharing the doctors’ expectations over future survival probabilities directly would provide a clear indication as to whether the early expected mortality predicted by the doctors was consistent with that seen during the early years of the contract, and act as a litmus test over the likely accuracy of the doctors’ predictions.
- 3.18 From discussion with Professor Olshansky over the methodology adopted by the doctors, my expectation is that the distribution of deaths around the predicted lifespan should be more tightly focused than would be produced by applying a multiple to an underlying lifetable, reflecting the fact that each doctor is providing a highly specific estimate of future lifespan for that particular individual, rather than the pattern of deaths that would be seen if a cohort of lives was tracked over time.



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## Assessing accuracy of estimated life expectancies

- 3.19 In the Coventry study “Lapetus Life Expectancy Comparison Study”, the authors observe that over the period from January 2022 to April 2024 inclusive, comparisons between Lapetus estimates of Clinical LE and expected life expectancies by other LE providers indicate that the Lapetus estimate is shorter for 85% of underwritten cases, and that the average difference is 31 months. The comparison makes a number of assumptions that are unlikely to be correct or appropriate:
- All assessments on a particular individual are assumed to be based on the same set of medical records. Medical summaries are likely to vary and develop over time.
  - If assessments were carried out on different dates by different providers, estimated life expectancies from the first assessment should be reduced by the difference in date between the different assessments. Such an approach ignores survivorship bias in that the individual has survived the period in between.
  - The assertion that the choice of reference mortality table is responsible for the Lapetus estimates being shorter on average for 85% of underwritten cases. There are likely to be a range of other factors, such as allowance for future mortality improvements and allowances for subgroup population mortality. But moreover, the assertion assumes that the estimated life expectancies from other LE providers should be held as a reference point, but without any evidence of the long-term accuracy of such predictions.
- 3.20 The question of accuracy of estimated life expectancies is explicitly raised in the Coventry report, and also in the extract from the “Letter from the CEO” in the same report. It is only possible to determine accuracy by comparing those individuals that have already died with those that should have died. From discussions with Professor Olshansky, which mirrors comments made in the Coventry report, I understand that a more recent internal study by Lapetus on 106 deaths with matched medical records in December 2024 identified that the average individual Lapetus LE was 48 months longer than observed age at death, as compared to 55 months longer on average for the two other LE providers.
- 3.21 I have not seen this internal report nor the underlying data but have the following observations based on the reported evidence:
- Lapetus has proved to produce more accurate estimates in respect of this select group of lives
  - The internal study would counter the assertion that estimated Lapetus LE are too short for this particular population in that the expected age at death is greater than the observed age at death.
  - The internal study is only considering the experience of 106 deaths as compared to 3,845 lives that were quoted on by Lapetus between January 2022 and April 2024.
  - The internal study does not consider those who were expected to die but as yet have not. Only longer-term follow up will determine how accurate the assessments were across a cohort of lives defined in terms of year of underwriting rather than one defined by year of death.
  - These tracked lives are likely to be more impaired given that the period of follow-up is limited to 6 years, and it is not necessarily the case that better accuracy in respect of such lives will translate into better accuracy in respect of less impaired lives. However, this is no direct evidence at this stage to suggest that the life estimates produced by other LE providers will prove to be more accurate for such lives.

## Explicit statement of future mortality assumptions

- 3.22 The calculation of individual future lifespans requires assumptions as to future mortality rates. There continues to be debate throughout the actuarial and demographic world over how future mortality rates will change, whether this is in terms of improvements or deteriorations. There are a number of areas in the Lapetus



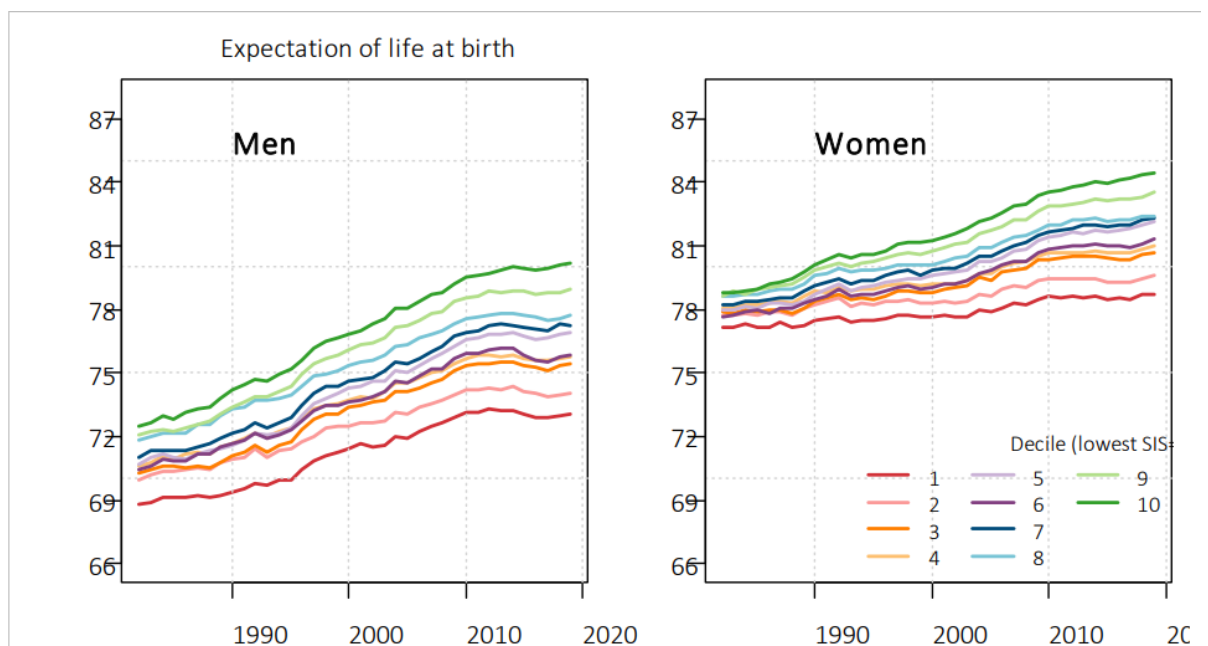
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reports where the passage of time is not recognized explicitly, and current or historical mortality rates and ratios are assumed to apply in the future without describing the assumptions that are being made. These include:

- Reference to period life expectancy as opposed to cohort life expectancy
- Applying unadjusted hazard mortality ratios from historical cohort studies to the year when the life is underwritten
- Reference to which calendar year is selected from HMD database given that the mortality table for the year of underwriting will not be available: the multiple quoted in the report is derived from determining what multiple needs to be applied to the mortality rates from a particular calendar year to achieve equivalence to the Clinical LE estimated by the doctors.

- 3.23 My understanding from exchanges with Professor Olshansky is that the lack of explicit references to future mortality assumptions in the Lapetus reports reflects an assessment that it would be overly optimistic to assume any future mortality improvements given recent US mortality experience, and that it is more realistic to assume that recent mortality rates will persist at the current level into the future.
- 3.24 My further understanding is that these views have been openly shared by Lapetus with investment clients. It would therefore assist both clarity and reproducibility if this implicit assumption was explicitly stated in the various Lapetus reports. This would also avoid other LE providers being able to imply that other aspects of the Lapetus LE methodology may be insufficiently realistic.
- 3.25 That said, [research](#) presented to the SOA by Dr. Magali Barbieri at University of California, Berkeley, who is one of the co-directors of the Human Mortality Database, illustrates how mortality differentials for both men and women in the USA have been widening over the period up to 2019. Charts from this research are replicated in Graph 3.1 below. This graph illustrates that the higher socio-economic groups have seen mortality improvements in recent years, even if mortality rates across the entire population have been static or worsening. This would appear to challenge the assumption that it is realistic to use recent mortality experience as a guide to future mortality experience for these sub-cohorts.

**Graph 3.1 – Expectation of Life at Birth (in years) in the USA by socioeconomic decile & sex, 1982-2019 (Human Mortality Database)**



- 3.26 Further, it would be my recommendation to provide further commentary in the Lapetus reports to explain why an assumption of no further change in mortality rates is



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appropriate, as future mortality rates should reflect the combined impact on the selected population of future changes in the prevalence of behavioural risks, wider use of existing treatments and the introduction of new treatments. Lapetus does make direct and explicit adjustments in its reports for the possibility of current treatments or interventions that may slow, delay or reverse the ageing process. However, the resulting changes in life expectancy from other factors would still be expected to impact estimations of individual lifespan, even if these represent “manufactured time achieved at significant cost”.



## **4 Further commentary on clarity and reproducibility in Lapetus reports**

4.1 In this section, I will provide further commentary on a number of issues that should either be addressed or referenced to ensure clarity and reproducibility of findings in the Lapetus reports. The areas that are covered are as follows:

- Correct reference to Valuation Basic Table
- Differences in quoted life expectancies according to two methodologies used by Lapetus
- Unwinding the effects of underwriting on mortality
- Impact of biased or limited medical information

### **Correct reference to Valuation Basic Table**

4.2 The Society of Actuaries (“SOA”) release regular mortality tables for use in valuing life protection policies, with 2015 VBT being released in 2018. The SOA also release sets of mortality improvement factors varying by age and calendar year that are intended to be used with the Valuation Basic Tables to allow mortality rates to be calculated for future years. Any reference to a particular VBT should both identify the particular table that is being used, such as 2015 VBT, and apply the mortality improvement factors that are released in conjunction with that table.

4.3 For more recent reports, Lapetus is producing two different perspectives on likely future lifespan by setting out estimates according to a) Clinical Life Expectancy and b) a debit-credit methodology based on a 2015VBT. In the latter case, Lapetus provides a multiple that should be applied to the underlying table and the resulting future life expectancy. Based on the examples provided, it would appear that the future life expectancy based on 2015 VBT does not allow for the mortality improvement factors set out by the SOA for that table. Any deviation from the methodology should be accompanied by an explanatory note from Lapetus, as unexplained changes could lead to misunderstandings or inability to replicate the quoted estimated life expectancy.

### **Differences in quoted life expectancies according to two methodologies used by Lapetus**

4.4 In the section 2 materials, Lapetus provides an example case where life expectancies are quoted against the debit-credit and Clinical LE methodologies. It is my understanding that this example case is not intended to be either typical or representative of the database of Lapetus underwriting cases. This example case involves a female who is 77.7 years at outset, with an assessed biological age of 75.9 years.

4.5 The mean life expectancy according to the debit-credit methodology is 174.7 months, whilst that according to the Clinical LE methodology is 108.9 months with an interquartile range of 98-132 months. I have been able to verify these life expectancy estimates are consistent with the information provided on mortality multiples and underlying reference mortality tables, without adjustment for future changes in mortality.

4.6 The 2015 VBT mortality table reflects the lighter mortality experience of a more selected and higher socio-economic group within the general population. If both methodologies were to produce the same mean life expectancy, solving for a mortality multiplier relative to 2015 VBT should produce a higher multiple than using a HMD mortality table. For the example case provided, the solved mortality multiple for the Clinical LE estimate using the HMD mortality table is higher at 140% than the 79% when applying the debit-credit scoring methodology against 2015 VBT. This reflects the significant difference in the estimated life expectancies according to the two different methodologies.



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- 4.7 In discussion with Professor Olshansky, I understand that the purpose of providing estimates according to different methodologies is to give Lapetus' investment clients a broader perspective on the range of LE that could be reasonably estimated by different methodologies, and hence a direct assessment of model risk. However, the scale of the differences in estimated life expectancies between the two methodologies may lead investment clients to question the validity of the Clinical LE estimate, and the differences in estimated life expectancy are so significant as to question whether an appropriate value can be placed on the associated life settlement contract. At current interest rates, a reduction in estimated life expectancy of 5.5 years would be equivalent to a reduction of 25% in the value of the contract.

## **Unwinding the effects of underwriting on mortality**

- 4.8 It is widely observed in life insurance underwriting that mortality experience in the years immediately after underwriting in the group that was underwritten is lower than in the group that either did not present for underwriting or failed to meet the terms of the underwriting process. This leads to a "select period" where expected mortality rates are lower than the eventual ultimate mortality when the benefits of underwriting have worn off, as medical conditions either develop de novo or become manifest having been subclinical.
- 4.9 This "select period" is likely to be reflected in the pattern of survival predicted by doctors in assessing the Clinical Life Expectancy, in that few or no deaths would be expected in the initial months/years outside of accidental deaths. This represents a further justification for why it is not necessary to impose a separate "select period" adjustment in conjunction with Clinical Life Expectancy estimated for a particular individual by a board-certified doctor. Both the understanding and reproducibility of the Lapetus reports would be improved if this was explicitly stated in the explanatory text.

## **Impact of limited or biased medical information**

- 4.10 In our exchanges, Professor Olshansky highlighted that the doctors are expected to make their assessment of Clinical Life Expectancy on the evidence presented, and only the evidence presented. In my wider experience of underwriting different types of products, including life insurance, critical illness and annuities, I am aware that the nature of the product can influence the level of medical disclosures. For example, it is not atypical for the severity and extent of medical conditions on underwriting questionnaires to be under-represented on life insurance policies but to be over-represented on enhanced or impaired annuity products.
- 4.11 Professor Olshansky noted that the wording in the reliances and limitations of each report highlight that each assessment is dependent on the information that is provided, and requires that the "client acknowledges that there may be information that materially affects a life expectancy estimate of an insured that has not been provided to Lapetus and which could materially alter any life expectancy estimate provided by Lapetus to Client, and Lapetus disclaims all liability related to such information."
- 4.12 Given the lack of an unified medical record for each individual and the potentially long duration between underwriting dates and the date of death, it may not be possible to demonstrate retrospectively that the information provided at the point of underwriting was inaccurate, and hence investment clients should consider the risks of over- or under-disclosure in assessing the value associated with individual life settlements according to the predicted life expectancy.



## **5 Reliances and limitations**

### **Introduction**

- 5.1 The recipient (the “Recipient”) of this Report is the organisation addressed in the covering e-mail to this Report.

### **Reliances**

- 5.2 In carrying out our analysis and producing this Report we have relied without independent verification upon the accuracy and completeness of the data and information provided to us, both in written and oral form, by Lapetus Solutions as described in Section 2. In particular, reliance has been placed on further oral information provided by Professor Jay Olshansky in two Zoom meetings on 1 May 2025 and 13 May 2025.

### **Limitations**

- 5.3 The Report has been prepared by COIOS Limited on an agreed basis to meet the specific purposes of the Recipient, and must not be relied upon for any other purpose. The Report has been prepared for use by persons technically competent in the areas covered. Except with the written consent of COIOS Limited, the Report and any written or oral information or advice provided by COIOS Limited must not be reproduced, distributed or communicated in whole or in part to any other person, or be relied upon by any other person. Any reference to COIOS Limited in any report, accounts or other published documents is not authorised without our prior written consent.
- 5.4 The Report must be considered in its entirety as individual sections, if considered in isolation, may be misleading. Draft versions of the Report must not be relied upon by any person for any purpose. No reliance should be placed on any advice not given in writing. If reliance is placed contrary to the guidelines set out above, COIOS Limited disclaim any and all liability which may arise.
- 5.5 Assumptions are made about future experience, including mortality and morbidity. These assumptions have been made on the basis of reasonable estimates. However, actual future experience is likely to differ from these assumptions, due to random fluctuations and other factors. Such variations in experience could have a significant effect on the results and conclusions of this Report. No warranty is given by COIOS Limited that the assumptions made in this Report will be reflected in actual future experience.
- 5.6 This Report was based on data available to COIOS Limited at, or prior to, 13 May 2025, and takes no account of developments after that date. COIOS Limited is under no obligation to update or correct inaccuracies which may become apparent in the Report.
- 5.7 This Report is subject to the terms and limitations, including limitation of liability, set out in our consultancy service agreement with the Recipient.



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### Legal jurisdiction

- 5.8 This Report will be governed by and construed in accordance with the laws of the State of North Carolina and the parties submit to the exclusive jurisdiction of the courts of the State of North Carolina in connection with all disputes and differences arising out of, under or in connection with this Report. If any part of a provision of this Report is held invalid, illegal or unenforceable then the remainder of such provision shall remain valid and enforceable to the fullest extent permitted by law.

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