



States of Jersey

Long-Term Care Fund

Actuarial review as at 31 December 2017

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by the Minister for Social Security**

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States of Jersey Long-Term Care Fund

Actuarial review as at 31 December 2017

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Executive Summary

This actuarial review has been carried out, as required by Law, to assess the financial condition of the Jersey Long-Term Care Fund and the adequacy or otherwise of the contributions payable to the Fund to support the benefits provided

Purpose of review

The Long-Term Care (Jersey) Law 2012 introduced the Long-Term Care Fund (LTCF or "Fund") and set out high level principles for the operation of the LTCF. The LTCF provides universal and means-tested benefits to individuals with long term care needs, and is funded through central grants from the States of Jersey and income-related contributions from income tax payers.

Under this Law, there is a requirement for the Minister for Social Security to appoint an actuary to review the LTCF once every three years and report on:

- The financial condition of the Fund; and
- The adequacy or otherwise of the contributions payable to the Fund to support the benefits payable.

Further details of the long term care scheme (including eligibility, benefits provided and financing of the LTCF) are set out in Appendix A.

Format of results

We have projected the finances of the LTCF for the next 25 years on various different assumptions, and then extracted key data for presentation in this report, including:

1. A comparison of the income and expenditure of the LTCF, for each year in the future, to establish whether the contributions will be adequate to meet the benefits in the longer term.
2. A projection of the balance in the LTCF. If the LTCF accumulates a significant positive balance then the investment return will help to finance the benefits. Conversely, if the LTCF balance is projected to go negative then this indicates that the current contributions are inadequate.
3. The "breakeven" contribution rate; that is, the contribution rate that would be required for each year in the future to exactly meet the benefit payments in that year. This represents the contributions that would be required if the LTCF operated on a "pay as you go" basis.
4. A projection of how the total care costs are expected to be shared between individuals and the LTCF. The total costs of long term care will increase inexorably as a result of the ageing of the population. However, the proportion of those costs that are borne by the States is determined by the rules of the LTCF.

The methodology used in the review is described in Appendix B.

Results – Central scenario

The central results set out in this paper ("central scenario") in Section 2 are based on a single set of assumptions derived using a range of data sources either publicly available or provided by various States of Jersey departments. The data sources are listed, and assumptions derivations described, in Appendices C and D.

Key results – Central scenario (all in real terms)

Year	2018	2023	2028	2033	2038	2043
Income	£47.9M	£48.4M	£49.7M	£51.1M	£52.4M	£53.9M
Expenditure	£47.9M	£51.8M	£60.7M	£69.9M	£77.4M	£89.8M
Net Income / (Expenditure)	£0.0M	(£3.4M)	(£11.0M)	(£18.8M)	(£25.0M)	(£35.9M)
Breakeven contribution rate	1.0%	1.2%	1.5%	1.8%	2.1%	2.5%
Projected LTCF balance at start of year	£25.0M	£19.6M	(£10.5M)	(£80.8M)	(£185.0M)	(£330.1M)

It can be observed that **Fund expenditure is estimated to grow at a significantly faster rate than Fund income**. This is primarily due to a rapid projected increase to the population aged over 80 (as a result of increased life expectancies), relative to the more modest projected growth of other age groups.

Given the requirement to avoid a nil balance for practical reasons, it is important that the Fund has sufficient buffer to withstand volatility in expenditure. A minimum level of buffer would be 3 months' worth of expected Fund expenditure.

Under current conditions, the Fund is expected to be in a net expenditure position in the short term. The Fund balance is estimated to reduce to around 3 months' worth of Fund expenditure by 2023 and to nil by 2027.

It can be concluded from the central scenario results that, without a change to the current operation of the Fund (either through a change to benefits or an amendment to the LTC contribution rate), the Fund is not sustainable beyond the immediate future. Indeed, the breakeven LTC contribution rate is estimated to be higher than the current rate of 1% in the short term, rising to 1.5% by 2028 and to 2.5% by 2043.

Risks and uncertainties

Long term sensitivity to assumptions and changes to scheme benefits or contributions

The central scenario results are calculated based on the current LTC scheme rules on benefits and contributions and a wide range of assumptions. In practice, the longer term financial position of the LTCF could differ from the central scenario projections due to:

- Actual experience over the coming years deviating from the "central scenario" assumptions.
- Future changes to the LTC scheme benefits or contributions.

To illustrate how changes to assumptions and future government policy could impact the long term financial position of the LTCF and the adequacy of LTC contribution rates, we have carried out modelling on a range of alternative scenarios (in each case, altering one key parameter).

The main results under each of these alternative scenarios, and a discussion of the conclusions that can be drawn from these, are set out in Section 3 (with detailed results provided in Appendix E). Key findings include the following:

- If individuals all spend six months' longer in long term care than assumed under the central scenario, expenditure would be expected to rise by around 20% (increasing the breakeven LTC contribution rate to almost 3.5% by 2043);
- If the proportion of individuals receiving care in their own homes (rather than an approved care home) were to increase over time, this would be expected to gradually reduce expenditure (as domiciliary care costs are lower than residential care costs, and there are no co-payment costs for domiciliary care), with total expenditure by 2043 reduced by nearly 15%
- If the standard care cost cap were to increase either 3% per year faster (alternatively, slower) than average earnings growth, this would be expected to result in a gradual reduction (increase) to expenditure as more (less) costs are assumed to be met by individuals (with expenditure levels expected to be c.10% lower (higher) by 2043).
- A freeze to the asset disregard level would be expected to reduce the proportion of individuals that would receive means tested support, and therefore reduce long term expenditure.
- The 2018 Budget, anticipates an increase to the LTC contribution rate from 1% to 1.5% from 2020. This is estimated to extend the time until the Fund reaches the minimum buffer level by 13 years (from 2023 to 2036).

Short term volatility of expenditure

In addition, the LTCF would be expected to experience short term volatility in expenditure and we have carried out sensitivity analysis to provide a high level indication of the magnitude of this volatility (set out in Section 4). As the population in care is relatively small, the care needs and characteristics of those in care over time could deviate substantially, and the sensitivity shows the potential impact on the LTCF. The number of people in care in 2018 is expected to be 1,350 and is expected to cost £47.9 million. By 2023, the LTC population will be made up of mostly new people that could have very different care needs, costing up to £4m more or less due to this variation alone.

Key conclusions

Financial position – The LTCF balance is in surplus, but is estimated to reduce to around 3 months' worth of Fund expenditure by 2023 and become negative in 2027

Adequacy of LTC contributions – Current LTC contributions are expected to be inadequate in the medium term, with the breakeven contribution rate rising to 1.5% by 2028 and up to 2.5% by the end of the projection period (2043).

As the Fund was set up in 2013, there is substantial uncertainty over these projections, partly because there is limited historic data on which to base estimates for the future, and partly because there are a relatively small number of people in care at any time, and so there will be significant random statistical variation. .

While there is significant uncertainty in the detail of the projections, and therefore the exact dates at which the Fund will fall below the 3 month level, it is clear that there will be a significant rising trend in expenditure, and the current contribution rate will be inadequate to meet this.

For any immature fund where such uncertainty is present, it is important to acknowledge the volatility of future income/expenditure whilst taking prompt action to safeguard the future sustainability of the Fund when financial concerns are clearly highlighted following actuarial reviews. This is particularly important when operating on a pay as you go (PAYG) basis and with a small reserve balance.

The 2018 Budget anticipates an increase to the LTC contribution rate from 1% to 1.5% from 2020. This is estimated to extend the time until the Fund reaches the level of 3 months average expenditure by 13 years (from 2023 to 2036). This change, or a change of similar magnitude, is vital to ensure the ongoing viability of the Fund.

1. Introduction and Purpose

Following the introduction of the Long-Term Care scheme in 2014, this is the first actuarial review of the Long-Term Care Fund

Legislative requirements

The Long-Term Care (Jersey) Law 2012 introduced the Long-Term Care Fund (LTCF) and set out high level principles for the operation of the Fund including:

- Eligibility conditions for benefits;
- Setting benefit levels;
- Approval of care homes / packages; and
- Procedures for claiming benefits.

Under the Law, the Fund shall be under the control and management of the Minister for Social Security, and there is a requirement for the Minister to appoint an actuary to review the operation of the Law *"during the period ending 31 December in every 3rd year"*.

It is required that, on each review, the actuary should *"make a report to the Minister on the financial condition of the Fund and the adequacy or otherwise of the contributions payable to the Fund to support the benefits under this Law having regard to its liabilities under this Law."*

Current actuarial review

We have projected the finances of the LTCF for the next 25 years on various different assumptions, and then extracted key data for presentation in this report, as follows:

1. A comparison of the income and expenditure of the LTCF, for each year in the future, to establish whether the contributions will be adequate to meet the benefits in the longer term.
2. A projection of the balance in the LTCF. If the LTCF accumulates a significant positive balance then the investment return will help to finance the benefits. Conversely, if the LTCF balance is projected to go negative then this indicates that the current contributions are inadequate.
3. The "breakeven" contribution rate; that is, the contribution rate that would be required for each year in the future to exactly meet the benefit payments in that year. This represents the contributions that would be required if the LTCF operated on a "pay as you go" basis.
4. A projection of how the total care costs are expected to be shared between individuals and the LTCF. The total costs of long term care will increase inexorably as a result of the ageing of the population. However, the proportion of those costs that are borne by the States is determined by the rules of the LTCF.

This report is prepared as part of the first actuarial review of the LTCF (as at 31 December 2017) and includes the following sections:

Section	Description
Executive Summary	A high level summary of the key findings of the actuarial review.
Results of analysis for central scenario	Results of actuarial modelling of the LTCF's income and expenditure, using a base set of parameters and assumptions (the "central scenario"). Including, as required by the above stated Law, specific comments on the financial condition of the Fund and the adequacy or otherwise of Long-Term Care contributions.
Risks and uncertainties	Results of actuarial modelling of the LTCF's income and expenditure on a range of alternative assumptions / scheme parameters, to illustrate the sensitivity to certain factors.
Future sustainability of the Fund	Details of key considerations affecting the future sustainability of the Fund
Appendix A: Description of the Long-Term Care Fund	An overview of the benefits provided by the LTC scheme, and how the LTCF is financed.
Appendix B: Calculation methodology	Details of the actuarial methodology applied for this review.
Appendix C: Data	A list of key data sources used within the review, either directly or to set assumptions required for modelling.
Appendix D: Modelling assumptions	Details of how assumptions underlying the "central scenario" have been derived, using the data sources referenced in Appendix C.
Appendix E: Detailed results	Tables showing results of the central scenario modelling, and all sensitivity runs, in more detail.
Appendix F: Glossary	Descriptions of certain terminology used within the report.
Appendix G: Limitations	Details of certain conditions under which this advice is provided

Next actuarial review

In future, it is envisaged that actuarial reviews of the LTCF will be carried out every four years to fit with the Government's strategic and financial planning cycles, which given the long term nature of the Fund is perfectly reasonable. We note that this will require a change to the Long-Term Care (Jersey) Law 2012.

As such, the next review of the LTCF is expected to be carried out as at 31 December 2021.

2. Results of analysis for central scenario

Below we set out the key results of our actuarial modelling of the LTCF on a base set of parameters and assumptions (the "central scenario")

Modelling approach

A detailed explanation of the calculation methodology used for this actuarial review of the LTCF is set out in Appendix B.

The central scenario

The results shown in this section of the report are based on our "central scenario" assumptions - a central set of assumptions derived using a range of data sources either publicly available or provided by various States of Jersey departments.

It is important to note that the results of the actuarial analysis are highly sensitive to a large number of parameters and assumptions. In order to set assumptions that are considered to be statistically credible, a large amount of directly relevant data is required, typically gathered over a long period of time. As the LTCF is relatively new, there is a limited amount of directly relevant data available which makes it more difficult to set assumptions about the future. As time progresses, more directly relevant data will become available and future reviews will take this into account when setting assumptions.

Details of the central scenario assumptions are set out in Appendix D and the data sources used to derive these assumptions are listed in Appendix C.

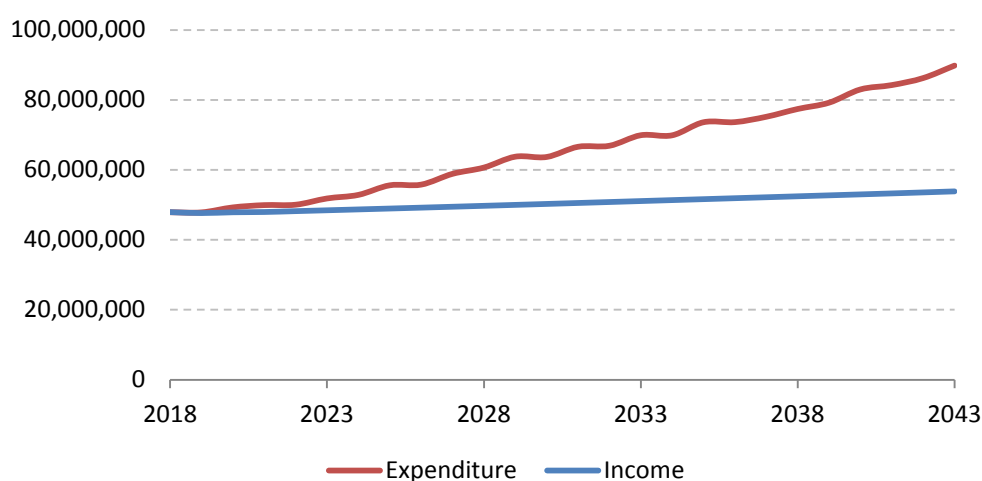
All results are shown in real terms i.e. future nominal levels of income and expenditure have been expressed in "today's money" terms, by discounting back in line with an RPIY assumption of 3% per year.

Results – Projected income and expenditure

Chart 2.1 below shows estimated income (from LTC contributions and States grants) and estimated expenditure (covering universal benefits, means-tested support and administrative costs) over the next 25 years.

The chart highlights the variability in future expenditure from year to year. The reason for this is that there are a relatively small number of people in care at any one time, and this population changes quite rapidly. The population in care in any year is significantly different from those in care the previous year, and so will have different levels of income, assets, care needs etc. This contrasts to expected income which is expected to be less volatile over time.

Chart 2.1: Projection of LTCF income and expenditure (£) – Central Scenario

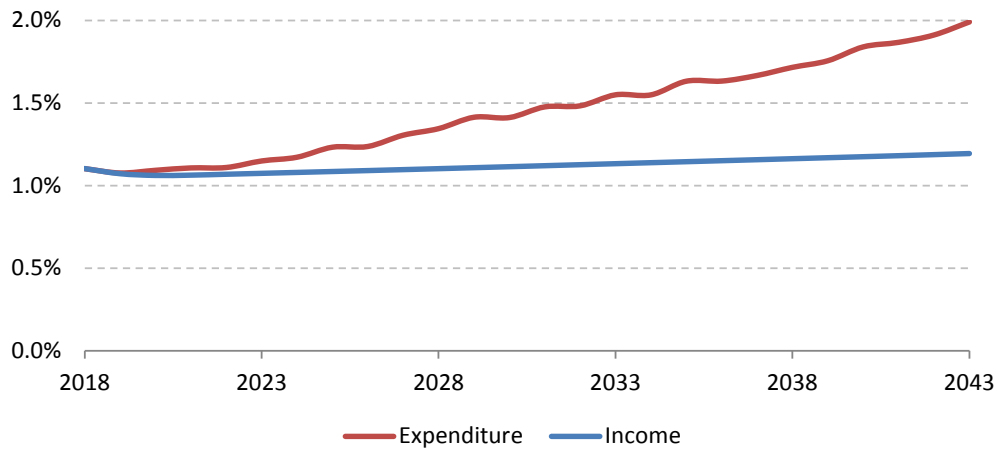


It can be observed that **Fund expenditure is estimated to grow at a significantly faster rate than Fund income**. This is primarily a result of Jersey's ageing population:

- The population aged over 65 is expected to increase from around 18,000 individuals in 2018 to 31,000 individuals in 2043 (an increase of around 72%).
- In particular, the population aged over 80 is expected to increase from around 4,900 individuals in 2018 to 11,300 individuals in 2043 (an increase of around 130%).
 - This is expected to result in rapid growth in the number of individuals requiring long term care, and hence rapid growth in LTCF expenditure.
- By contrast, the working age population (ages 16 to 65) is assumed to rise only steadily (in the base +700 net inward migration scenario), from around 70,000 individuals in 2018 to around 77,000 individuals in 2043 (a rise of around 10%).
 - As it is this latter group that contributes the majority of LTC contributions (supplementing central States grants to the Fund which are assumed to rise in line with RPI), it can be seen that the growth in income is expected to be much slower than the rapid increase in LTCF expenditure.

For an indication of the level of LTCF income/expenditure relative to Jersey's economic output, chart 2.2 below sets out projected income/expenditure as a proportion of Jersey Gross Value Added (GVA). A similar pattern to chart 2.1 can be observed – that is, expenditure growth significantly outstripping income growth.

Chart 2.2: Projection of LTCF income and expenditure (as a proportion of GVA) – Central Scenario

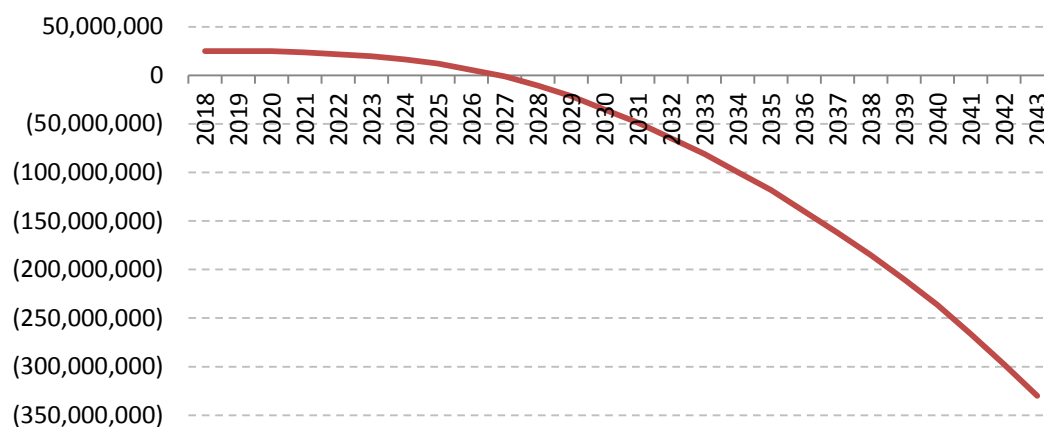


Results – Projected LTCF balance over time

The balance in the LTCF was around £25.1 million as at 31 December 2017. Allowing for assumed nominal investment returns of 3% per year and the projected income and expenditure over the next 25 years, it can be seen (in chart 2.3 below) that the **Fund is estimated to fall below 3 months' worth of expenditure in 2023 and become negative in 2027.**

Full details of the methodology and assumptions used are set out in Appendix B and D respectively.

Chart 2.3: Projection of LTCF balance (£) – Central Scenario



In practice, there is no facility for the Fund to go negative (as this would imply that there are insufficient monies available to pay for the immediate care costs payable). It is therefore important for the States to ensure that the LTCF balance is sufficiently large to avoid the risk of going negative in the short-term. Relative to certain buffer targets:

- The Fund balance is expected to fall below 3 months' worth of expenditure in 2023
- The Fund balance is currently (2018) equal to around 6 months' worth of expenditure

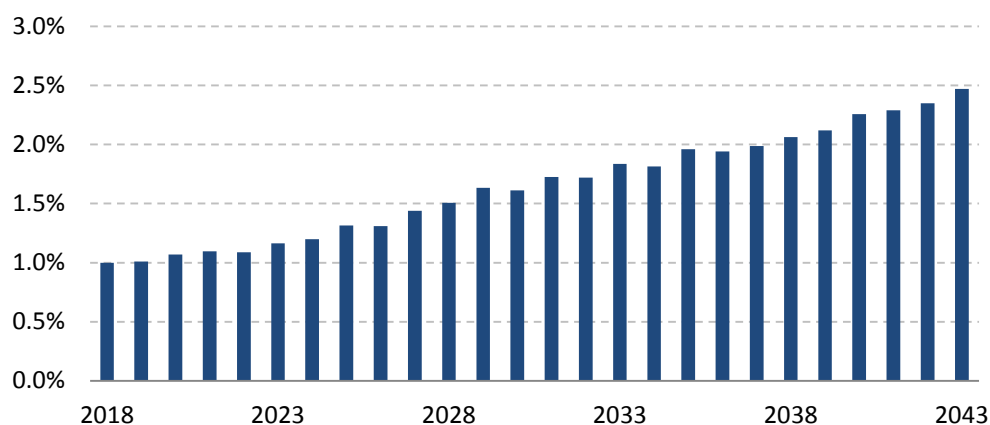
It can be concluded from the above chart and statements that, without a change to the current operation of the Fund (either through a change to benefits or an amendment to the LTC contribution rate), the Fund is not sustainable beyond the immediate future.

Results – Break-even contribution rates

As highlighted in the previous charts in this section, the faster rise in expenditure than income is expected to place significant strain on the LTCF, meaning that – in the absence of a change to the benefits provided - the current level of LTC contributions are expected to be inadequate to support the benefits provided.

To provide an indication of the extent of the inadequacy of current LTC contributions, the following chart (chart 2.4) shows the "breakeven" level of LTC contribution rates (i.e. the level of contribution rates that would be required in each future year for total income to equal total expenditure).

Chart 2.4: "Breakeven" LTCF contribution rate – Central Scenario



It can be seen that:

- a) The current LTC contribution rate (of 1%) is broadly sufficient – together with the central States grant - to cover estimated expenditure in 2018.
- b) By 2028, the breakeven LTC contribution rate rises to around 1.5%
- c) By 2037, the breakeven LTC contribution rate rises to around 2%
- d) By 2043, the breakeven LTC contribution rate rises to around 2.5%

In the following section of this report (Risks and uncertainties), we illustrate how a change to the LTC contribution rate would change the balance between LTCF income and expenditure, and would change the expected profile of the LTCF balance over time.

Results – Share of care costs between the Fund and Individuals

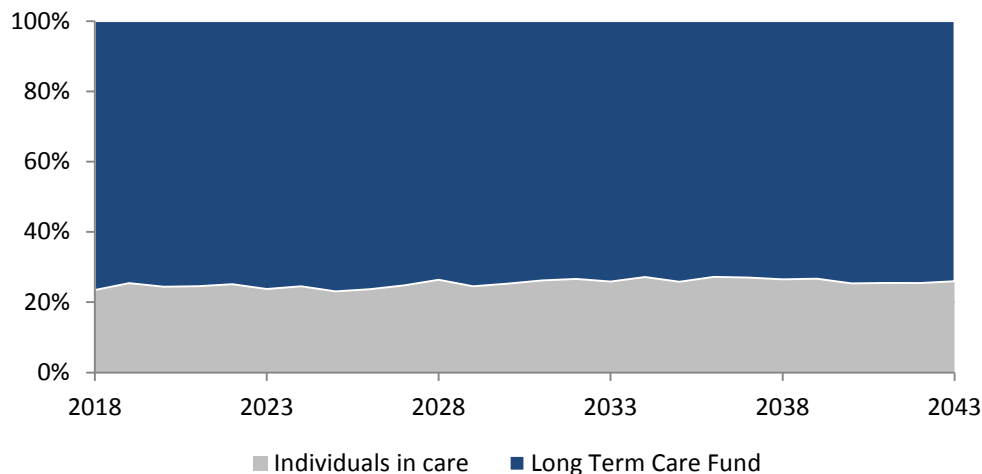
Costs associated with the LTC scheme are shared between individuals receiving care and the LTC Fund. In particular:

- Individuals pay for their care costs until they reach the standard care costs cap, and the cost of their accommodation (standard co-payment) if they are receiving residential care.
- The LTC Fund helps some of these individuals with their costs if their assets and income meet certain criteria.
- In addition, the Fund meets all standard care costs for individuals who have reached the standard care costs cap.
- The Fund meets the cost of all administration requirements of the Scheme.

The chart below (chart 2.5) shows the proportion of gross expenditure met, respectively, by the LTC Fund (blue) and individuals receiving care (grey). It can be seen that, on average, throughout the projection period around 25% of total expenditure is met by individuals. This is not uniform, and ratios for different individuals will significantly differ, for example:

- Some individuals (by virtue of means-tested support) will have all costs paid for by the Fund.
- Some individuals with significant assets / income (and who have yet to reach the standard care costs cap) will meet 100% of expenditure relating to them.

Chart 2.5: Split of total care costs between individuals and the LTCF – Central Scenario



Key conclusions

Financial position – The LTCF balance is in surplus, but is estimated to reduce to 3 months' worth of expenditure in 2023 and to become negative in 2027

Adequacy of LTC contributions – Current LTC contributions are expected to be inadequate in the medium term, with the breakeven contribution rate rising to 1.5% by 2028 and up to 2.5% by the end of the projection period (2043).

3. Risks and uncertainties

The results of the actuarial review are sensitive to the choice of assumptions used for modelling purposes and the parameters of the LTC scheme. Both are explored below.

Sensitivity to modelling assumptions

As stated, the results in the previous section were calculated based on a wide range of assumptions, such as:

- Length of time individuals might spend in long term care
- Jersey population projections
- Proportion of the population requiring long term care
- Level of care required for individuals in long term care
- Proportion of individuals receiving residential and domiciliary care
- Levels of income and assets (liquid and illiquid) for individuals in long term care
- The level of income of individuals paying long term care contributions

In practice, actual experience over the coming years could deviate in any of these areas from the "central scenario" assumptions used in our modelling. To illustrate how such deviations could impact the "central scenario" results, and hence impact the conclusions reached regarding the financial position of the LTCF and the adequacy of LTC contribution rates, we have carried out modelling on a range of alternative scenarios (in each case, altering one key assumption).

The main alternative scenarios modelled, for which results are set out in this section, are as follows:

- 1. Individuals spend more of their life in care** – Re-modelled expenditure assuming individuals spend an additional 6 months in long term care (relative to the central scenario).
- 2. Increase to the proportion of individuals receiving domiciliary care** – Re-modelled expenditure assuming that the number of residential beds remains static (and therefore the proportion of individuals receiving domiciliary care increases over the projection period).

In addition, Appendix E (Detailed results) also sets out results based on some further alternative scenarios:

- **Alternative population projections** – Income and expenditure projections based on Statistics Jersey's +1,000 net inward migration and +325 net inward migration population projections.
- **Change to care cost increases relative to average earnings growth** – Re-modelled expenditure assuming that standard care costs (which largely reflect carer earnings levels) increase at a rate that is 0.5% per year higher or lower than general Jersey average earnings growth.

Credibility of current modelling assumptions

The risk of actual experience deviating from the initial central scenario assumptions is materially higher for this actuarial review of the LTCF than might be the case for a more well-established fund.

Given the LTCF has only been operating in its current format since 2014, there is only a short run of data from which to derive statistically credible modelling assumptions. As a result, a number of assumptions have been derived from alternative sources, for example:

- The distribution for an individual's length of stay in care has been derived from the Personal Social Security Research Unit's (PSSRU) 2011 analysis of BUPA UK data. The UK does not have a comprehensive LTC scheme, so the BUPA population may not be representative of the UK population needing care, and of course there may be differences between the UK and the Jersey population. Nevertheless, this is the best data available to inform this assumption.
- The majority of data used to derive income and asset distributions for individuals in care (relevant for estimating the level of means-tested support) has been taken from Jersey Income Distribution and Census surveys which apply to the full population (not just those who have been in long term care).

Over time, as the LTCF matures there will be a longer run of data that relates specifically to individuals in care. This should allow modelling assumptions to be refined over time, to more closely reflect observed characteristics of Jersey residents that have received long term care. This will improve the accuracy of future projections and provide greater statistical credibility of assumptions used in future actuarial reviews.

Sensitivity 1: Change to the proportion of the population in care

The central scenario assumes that the following projected proportion within each age group that is in care.

- Projected population under age 65 (0.29% in care);
- Projected population aged between 65 and 80 (2.3% in care); and
- Projected population aged over 80 (18.3% in care).

The central scenario also includes an assumption as to the length of time individuals will stay in care, which affects the number of people that reach the care cost cap. In order to better understand the sensitivity of the financing of the LTCF to the average period of time individuals might actually spend in long term care, we have run the same actuarial models assuming that:

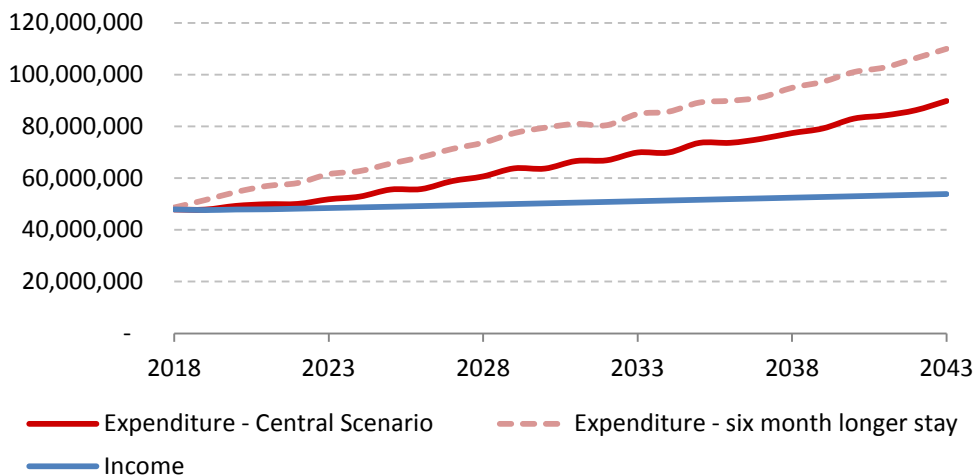
- There is no change to the number of people entering care; but
- New individuals entering care from 2018 onwards spend a further six months in long term care than in the central scenario.

This has the impact of increasing the projected proportion of the population in care over time until this settles to a new long-term proportion:

- Projected population under age 65 (0.32% in care);
- Projected population aged between 65 and 80 (2.8% in care); and
- Projected population aged over 80 (22.0% in care).

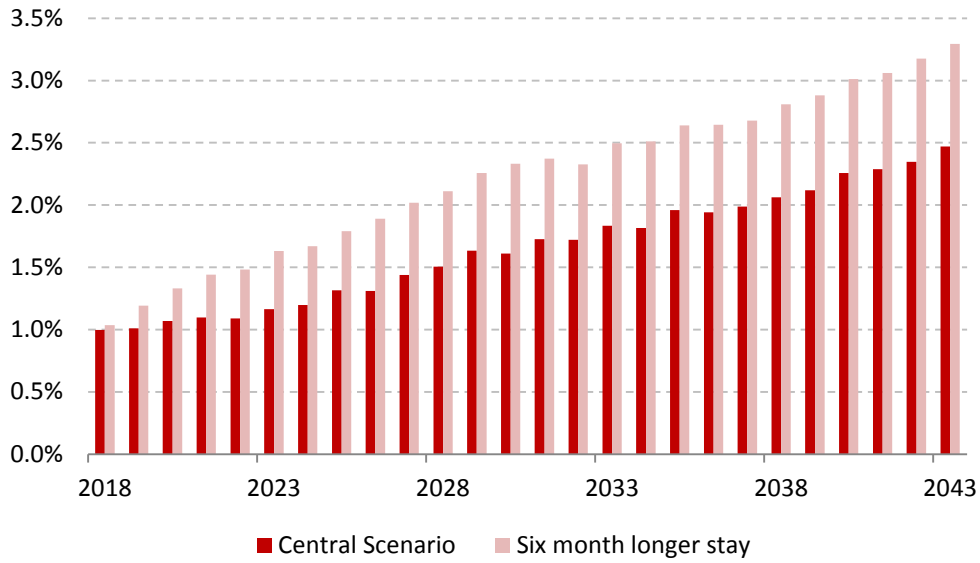
Initially, reviewing the income and expenditure projections (chart 3.1), it can be observed that this change significantly increases projected expenditure (by c.20%). Given that six months is a significant portion of the average length of time individuals are assumed to remain in care for the central scenario, it is unsurprising that an extension of this order has such a material impact on projected expenditure.

Chart 3.1: Projection of LTCF income and expenditure – six month longer stay in care



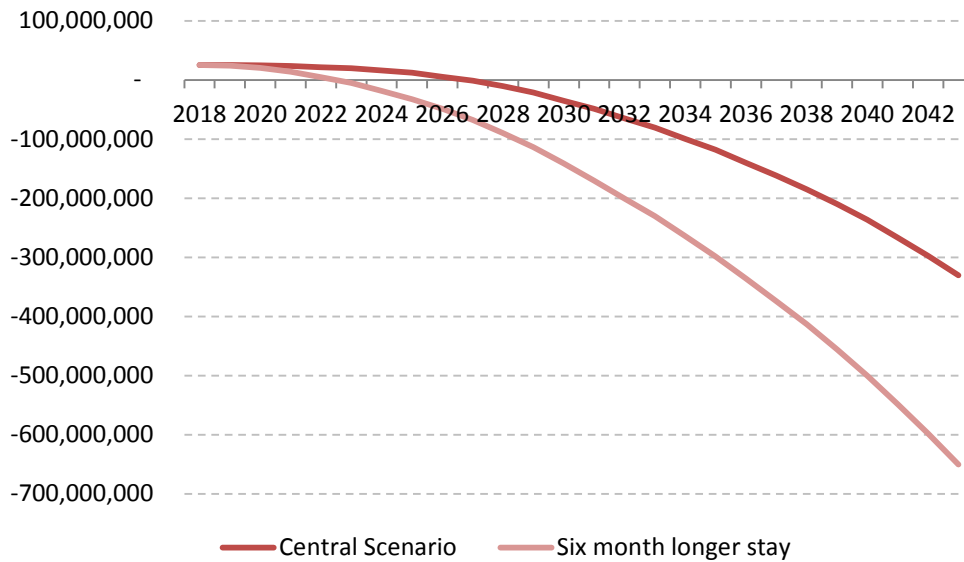
This increase to projected expenditure would lead to a higher cost LTC fund – if States grants are assumed to remain in line with the central scenario, the breakeven LTC contribution rate rises to 1.5% by 2023 and to around 3.3% by 2043 (see chart 3.2).

Chart 3.2: "Breakeven" LTCF contribution rate – six month longer stay in care



In the absence of additional LTC contributions to fund the higher expenditure, the significant deterioration in LTCF balance already projected would occur at a significantly quicker rate (see chart 3.3).

Chart 3.3: Projected LTCF balance – six month longer stay in care



Sensitivity 2: Increase to the proportion of individuals receiving domiciliary care

We understand that various States policies might be expected to lead to an increase in the proportion of individuals receiving long term care in their own homes, rather than approved care homes. Given the costs associated with means-tested support for residential care co-payments, this shift would be expected to slightly reduce the long term expenditure of the LTCF relative to the central scenario.

In this sensitivity we assume that the number of individuals receiving care in approved care homes remains static with any growth in the number of individuals in long term care resulting in more individuals receiving care in their own homes. Table 3.4 shows what this assumption means as a proportion of the total numbers of under and over 65s expected to need long term care in the future.

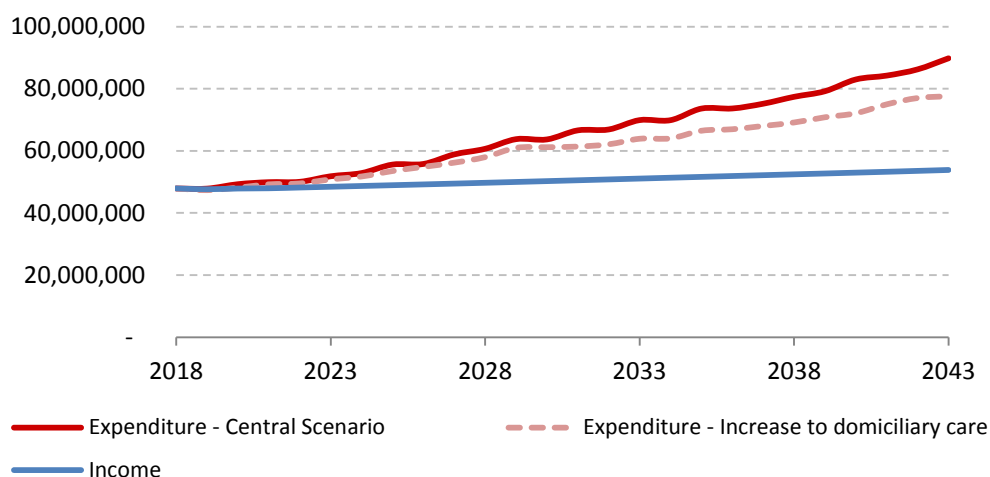
Table 3.4: Assumed proportion of individuals receiving residential care through time in this sensitivity scenario

Year	2018	2023	2028	2033	2038	2043
Under 65s	52.0%	50.0%	48.0%	46.0%	44.0%	42.0%
Over 65s	70.0%	65.0%	60.0%	55.0%	50.0%	45.0%

Note: the remaining proportion of people are assumed to receive long term care in their own homes.

As means-tested support for residential care co-payments is only part of the costs (and the change to the residential / domiciliary balance is gradual), the gradual reduction to projected expenditure is relatively modest (when compared to the impact of other sensitivities observed in this section of the report), however it is still estimated to reduce Fund expenditure by nearly 15% by 2043 (chart 3.5).

Chart 3.5: Projection of LTCF income and expenditure – Increase to the proportion of individuals receiving domiciliary care



Sensitivity to parameters of the LTC scheme

Aside from the assumptions derived for the purpose of our actuarial modelling (and discussed above), the analysis is also based on a range of LTC scheme parameters, such as:

- The level of standard care costs (the cost of long term care for individuals) and standard co-payments (the general living costs for individuals in approved care homes);
- The level of the standard care costs cap (the maximum level of standard care costs to be borne by individuals before the States meets all such costs);
- The level of asset disregard (i.e. the asset value threshold above which means-tested support would not be available); and
- The LTC contribution rate payable by all income tax payers in Jersey to partially finance the LTCF.

For the central scenario, it has been assumed that assumptions set out in Appendix D are borne out in future, i.e. it has been assumed that all the Fund's current parameters will change in line with expected average earnings growth or inflation where appropriate.

Future government changes to any of the LTC scheme parameters could impact the financial position of the LTCF and the adequacy of LTC contribution rates. We have therefore carried out modelling on a further range of alternative scenarios (in each case, altering one key Fund parameter). These are:

3. **Change to the level of the care costs cap** – Expenditure projections based on different growth rates for the care cost cap (which, for the central scenario is assumed to grow in line with average earnings growth), either:
 - Care cost cap frozen throughout the projection period; or
 - Care cost cap rises over the projection period at a rate 3% per year above average earnings growth.
4. **Change to the level of the asset disregard** – Expenditure projections based on a projected level of asset disregard frozen at £419,000 (the current level of the disregard).
5. **Increase to the LTC contribution rate** – Income is projected assuming that the LTC contribution rate rises from 1% to 1.5% from 2020.

Sensitivity 3: Changes to the care cost cap

For the central scenario, the standard care cost cap (the maximum level of standard care costs to be borne by individuals before the States meets all such costs) is assumed to rise in line with growth in underlying standard care costs (both assumed to rise in line with average earnings growth). As a result, the length of time an individual would be expected to remain in care prior to the States meeting all future care costs regardless of an individual's circumstances (i.e. universal benefit) is assumed to remain static over time.

The level of the standard care cost cap does not change unless the Minister for Social Security requests a change. To illustrate the impact that increases in the standard care cost cap might have on the LTCF, we have modelled the cap either:

- Being frozen throughout the projection period; or
- Rising over the projection period at a rate 3% per year above average earnings growth.

It can be seen from the charts below that freezing the care cost cap (charts 3.6, 3.7 and 3.8) would be expected to lead to:

- a) A gradual rise to projected expenditure, as universal benefit from the Fund is gradually triggered earlier during an individual's time in care;
- b) As a result of the increased expenditure, a faster deterioration of the LTCF balance; and
- c) A gradual increase to the breakeven LTC contribution rates (rising to 2.9% by 2043 as opposed to 2.5% on the central scenario).

Chart 3.6: Projection of LTCF income and expenditure – Care cost cap frozen throughout the projection period

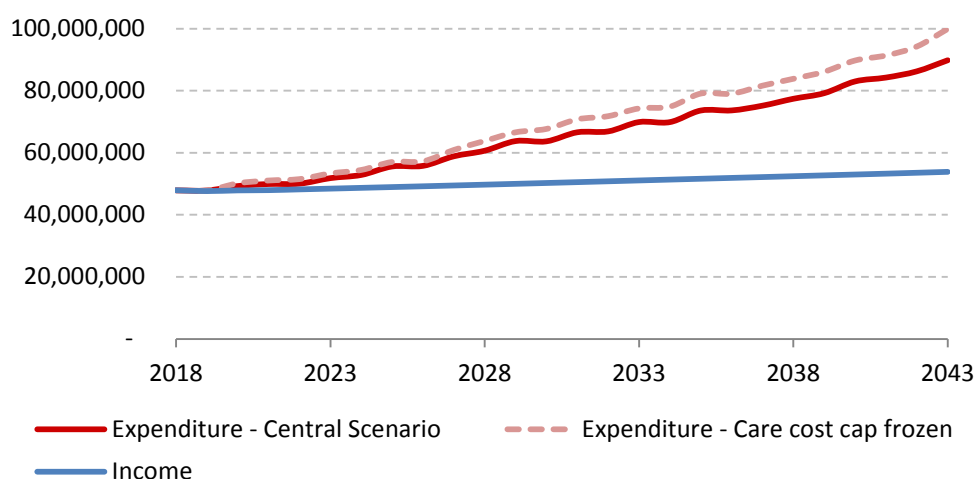


Chart 3.7: Projected LTCF balance – Care cost cap frozen throughout the projection period

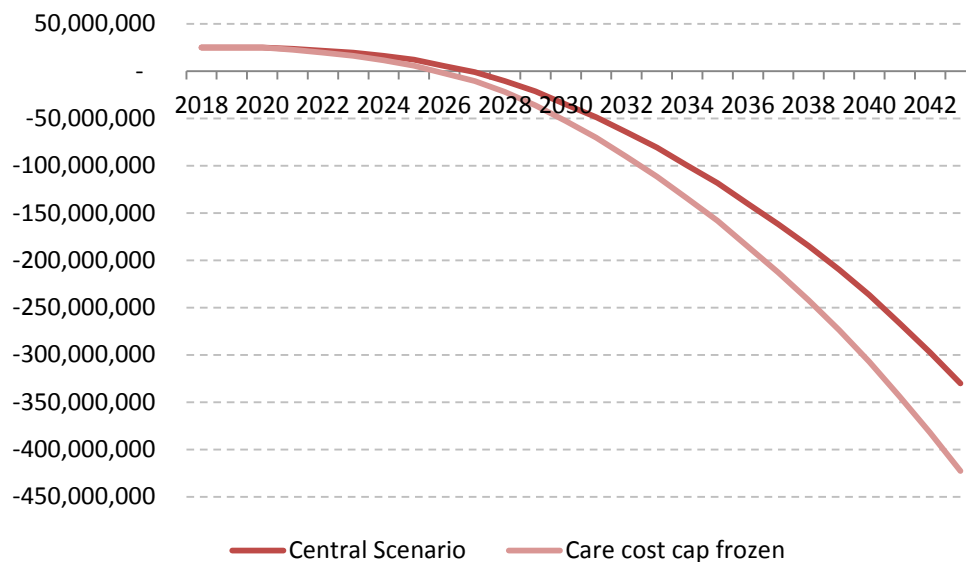
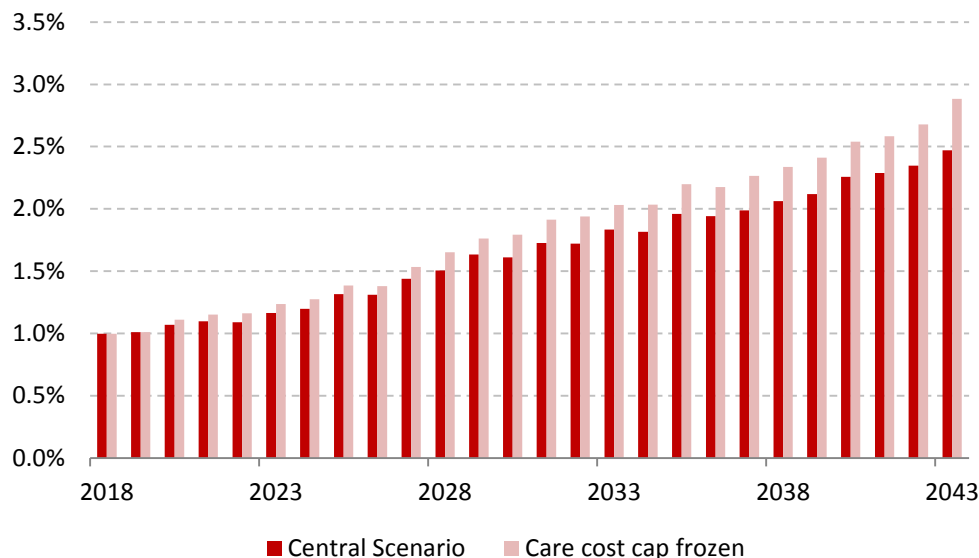


Chart 3.8: "Breakeven" LTCF contribution rate – Care cost cap frozen throughout the projection period



Conversely, if the standard care cost cap were to increase at a rate 3% per year above average earnings growth it can be seen (in charts 3.9, 3.10 and 3.11 below) that this would be expected to lead to:

- a) A gradual reduction to projected expenditure from the Fund, as universal benefit from the Fund is gradually triggered later during an individual's time in care;
- b) As a result of the reduced expenditure, a slower deterioration of the LTCF balance; and
- c) A slower increase to the breakeven LTC contribution rates (with these rising to 2.2% by 2043 as opposed to 2.5% on the central scenario).

Chart 3.9: Projection of LTCF income and expenditure – Care cost cap rises by 3% per year above average earnings growth

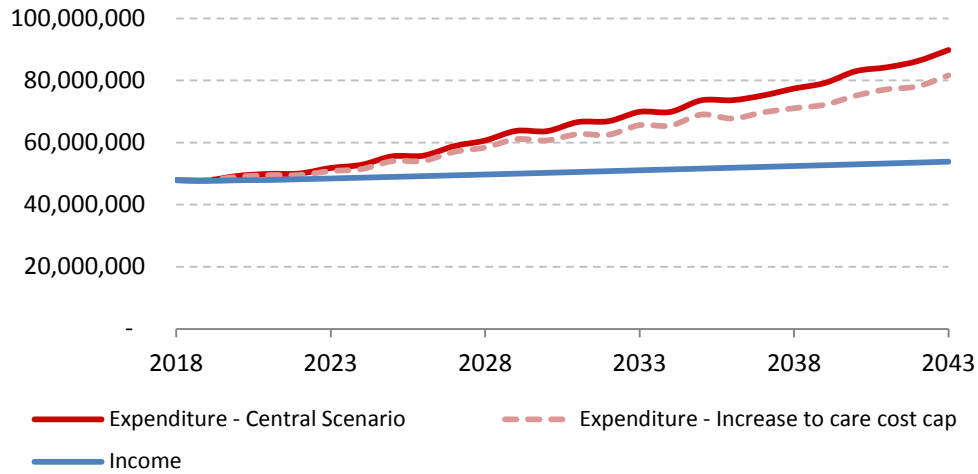


Chart 3.10: Projected LTCF balance – Care cost cap rises by 3% per year above average earnings growth

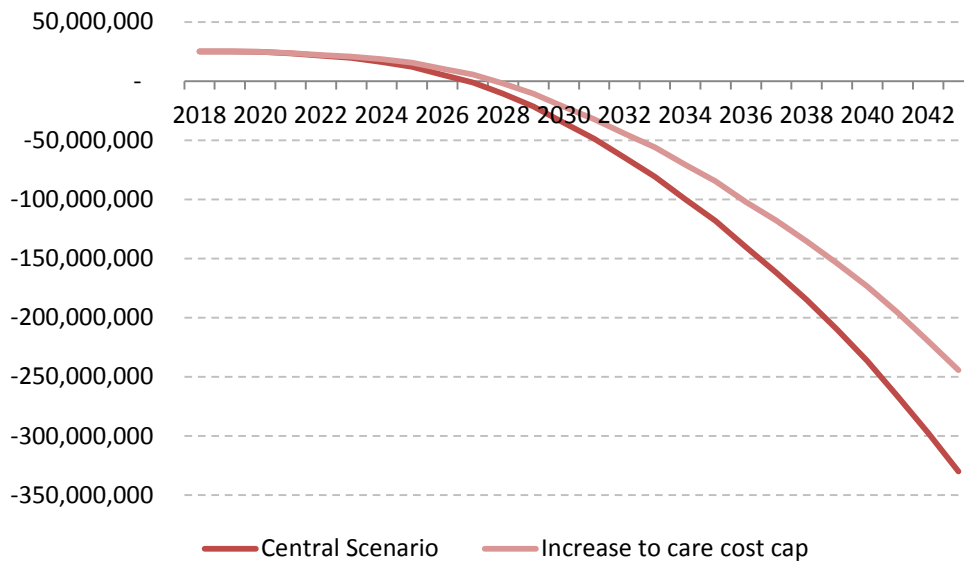
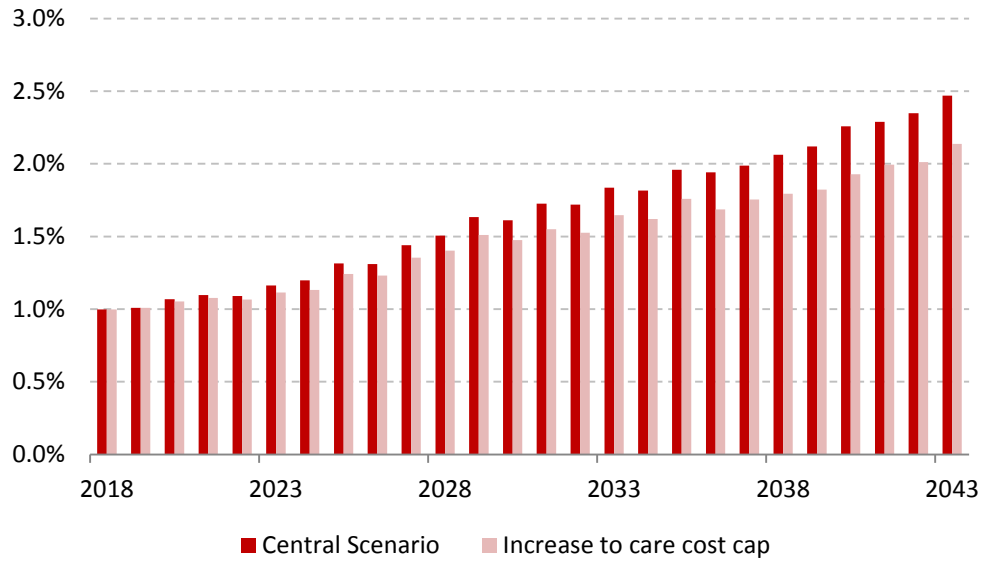


Chart 3.11: "Breakeven" LTCF contribution rate – Care cost cap rises by 3% per year above average earnings growth



Sensitivity 4: Changes to the level of asset disregard

Under the LTC scheme rules, means-tested support from the Fund is only available to individuals with assets less than the "asset disregard" level (currently £419,000).

For the central scenario, this asset disregard level is assumed to rise in line with average earnings growth, which means the asset disregard is expected to increase from £419,000 in 2018 to £850,000 in 2043. As the central scenario also assumes that income and asset levels will rise in line with average earnings growth, the asset disregard level is, in relative terms, assumed to be static.

By its nature, the asset disregard level has a large impact on the respective shares of expenditure met by the Fund and by individuals (particularly, for those individuals with assets close to the asset disregard level).

The level of the asset disregard does not increase unless the Minister for Social Security requests it. Therefore, it is possible that this might not necessarily rise in line with wealth levels which we assume will increase as quickly as average earnings growth. To illustrate the impact that changes to the asset disregard level might have on the LTCF, we have also modelled the asset disregard being frozen at £419,000 (the current level of the disregard) throughout the projection period.

Freezing the asset disregard gradually diminishes the generosity of the scheme. It means that as the asset levels of the population are expected to increase in the future, fewer people requiring long term care will receive help from the LTCF towards their care costs (and some people will receive less help from the LTCF). Because of the long time period involved, a cap of £419,000 in 2043 is equivalent to a cap of £204,000 in today's money.

It can be seen from the charts below that freezing the asset disregard level (charts 3.12, 3.13, 3.14 and 3.15) would be expected to lead to:

- a) A gradual reduction to projected expenditure, as gradually a smaller proportion of individuals are eligible for mean-tested support;
- b) As a result of the reduced expenditure, a slower deterioration of the LTCF balance;
- c) A slower increase to the breakeven LTC contribution rates (with these rising to 2.2% by 2043 as opposed to 2.5% on the central scenario); and
- d) A gradual increase to the proportion of expenditure met by individuals, on average, (from 26% in 2018 to 30% by 2043).

Chart 3.12: Projection of LTCF income and expenditure – Asset disregard frozen at £419,000 throughout projection period

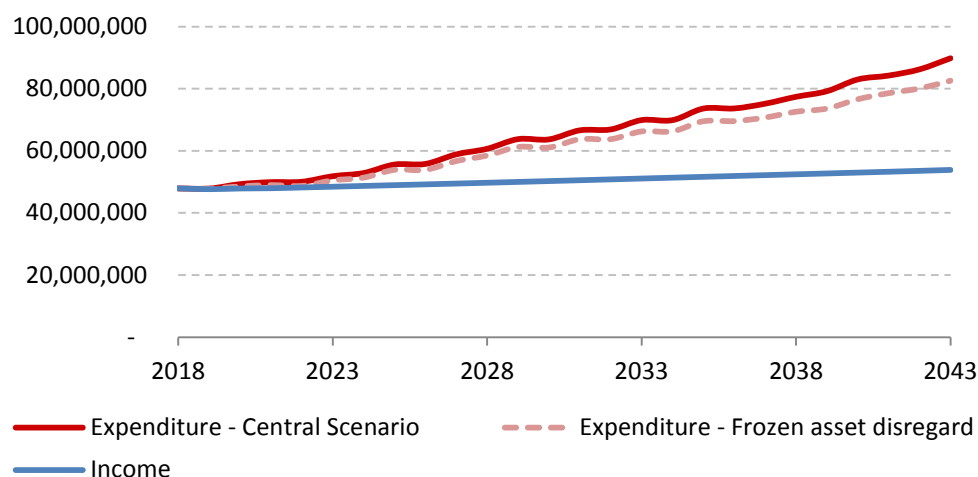


Chart 3.13: Projected LTCF balance – Asset disregard frozen at £419,000 throughout projection period

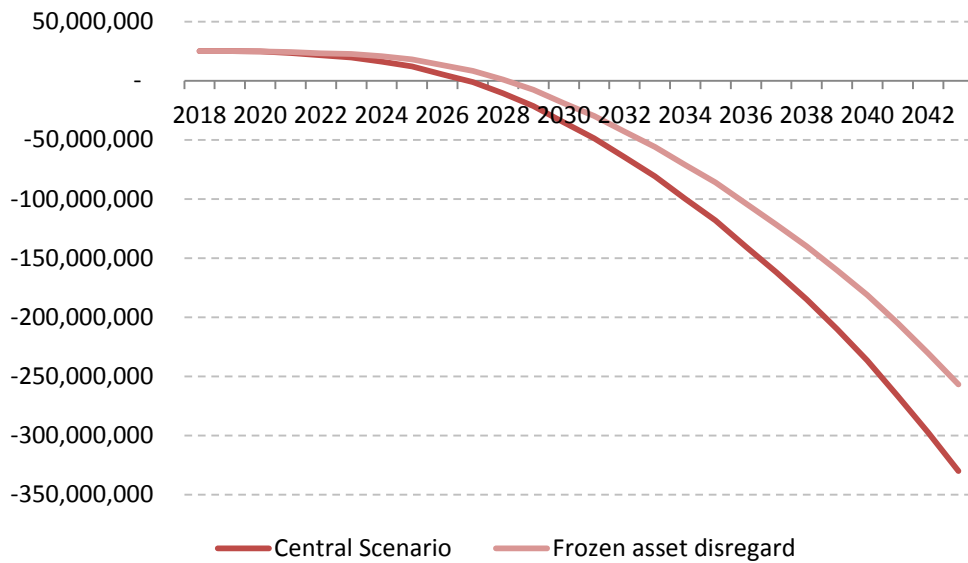


Chart 3.14: "Breakeven" LTCF contribution rate – Asset disregard frozen at £419,000 throughout projection period

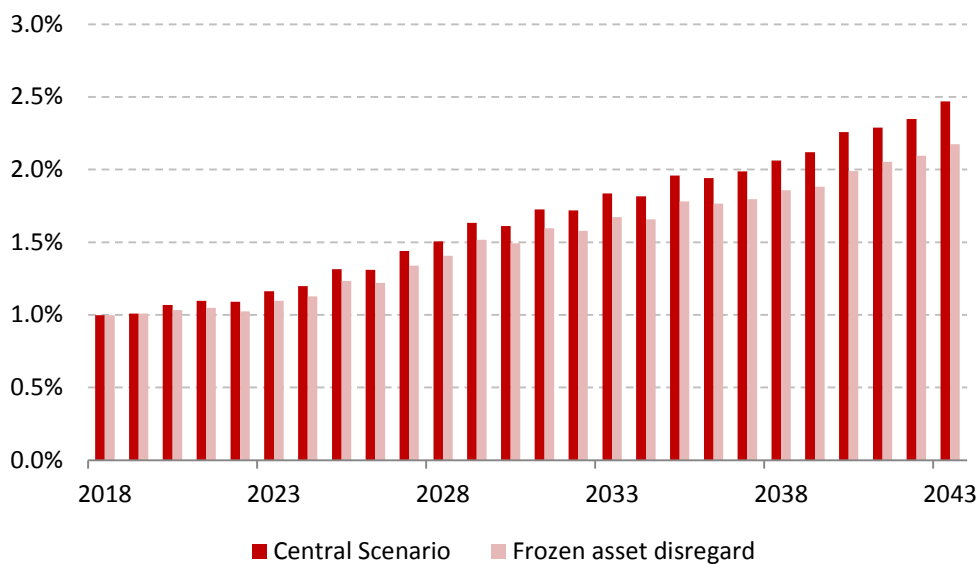
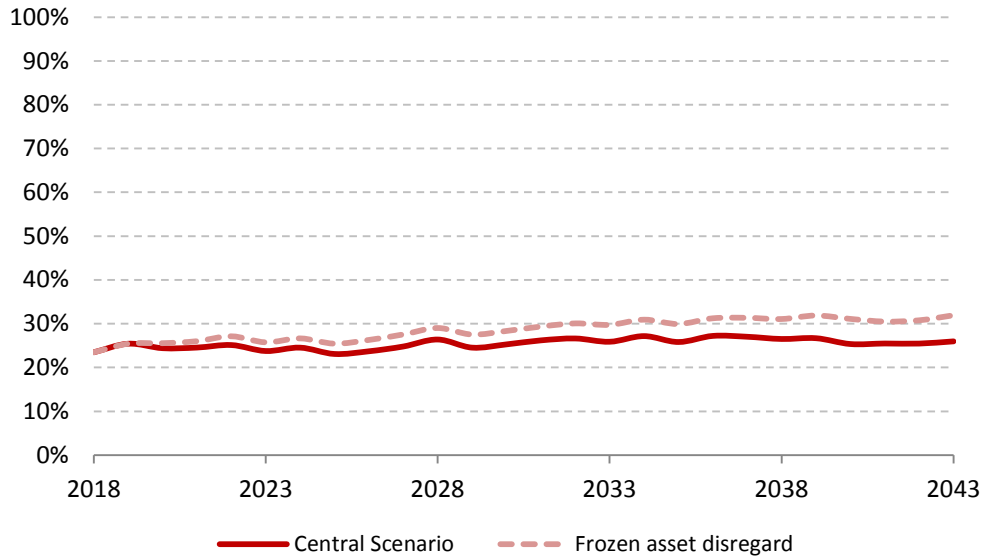


Chart 3.15: Share of care costs – Asset disregard frozen at £419,000 throughout projection period



Sensitivity 5: Increases to LTC contribution rate

Since the inception of the LTC scheme it has been anticipated that the contribution rate would be required to increase over time. In particular, in 2013, the Minister for Social Security advised that an increase in LTC contribution rate to just below 3% was likely to be required by 2044. Further, in the 2018 Budget forecasts, the intention to increase the rate from 1% to 1.5% with effect from 2020 was set out.

It is clear from the central scenario modelling that the current 1% LTC contribution rate is expected to be inadequate, with breakeven contribution rates rising to 1.5% by 2028, 2% by 2037 and 2.5% by 2043. The LTCF balance is, under the central scenario, estimated to hit the minimum level of three months' benefits in 2023.

To avoid this happening, it is highly likely that either benefits would need to be reshaped (to provide a lower cost scheme) or income (LTC contributions or central grants) would need to increase.

As shown in sensitivities 3 and 4, whilst increases to the standard care cost cap or reductions to the asset disregard do reduce projected expenditure and breakeven LTC contribution rates, as the current LTC contribution rate is still shown to be inadequate in the long term the LTCF balance is still assumed to be exhausted in the short to medium term.

We have therefore modelled how an increase to the LTC contribution rate to 1.5% from 2020, as set out in the 2018 Budget, would be expected to change the financial position of the LTCF. As shown in charts 3.16 and 3.17:

- Projected income rises by just over £10 million (20%) from 2020 onwards;
- This results in an increase in the time taken for the expenditure of the Fund to overtake income received (from 2021 to 2027);
- As a result of the short-term net income position and investment returns on a larger LTCF balance, the LTCF balance is expected to grow until 2028, before reducing (as expenditure overtakes income), extending the time until the Fund hits the minimum level from 2023 to 2036.

Chart 3.16: Projection of LTCF income and expenditure – LTC contribution rate of 1.5% from 2020

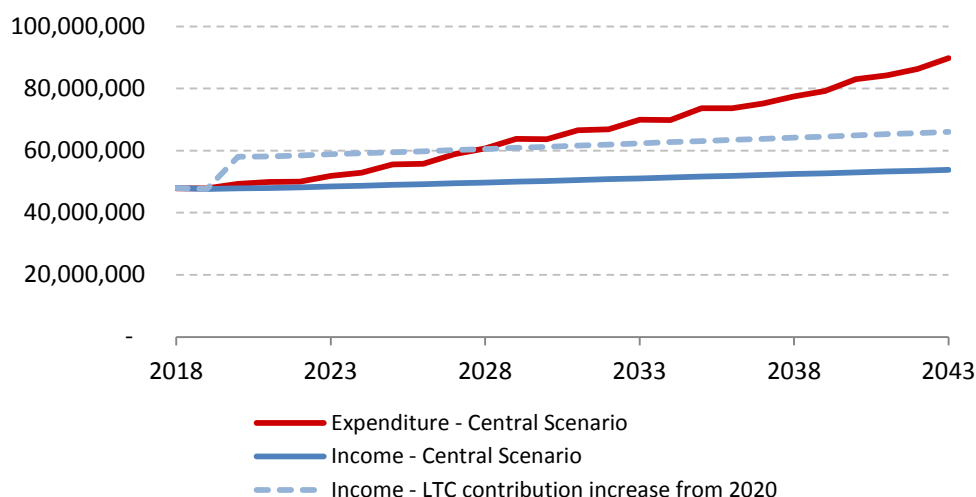
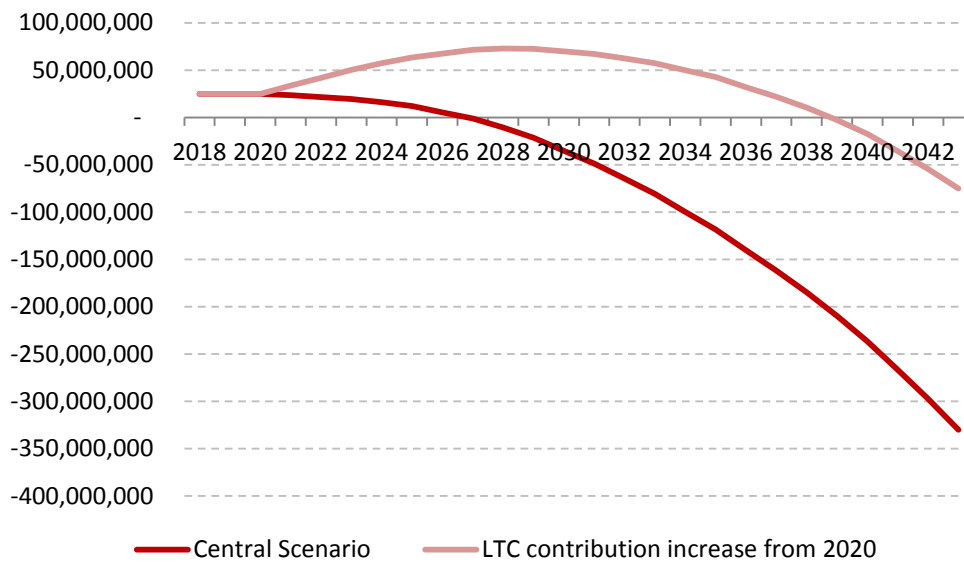


Chart 3.17: Projected LTCF balance – LTC contribution rate of 1.5% from 2020



Summary

We have considered the sensitivity of the results to some key assumptions about the future – the amount of their lives that individuals spend in care, and the extent to which care is domiciliary rather than residential. We have also considered the sensitivity to certain important features of the benefit design – the level of the care cost cap and the amount of the asset disregard. This analysis showed that the results are highly sensitive to these points, but the effects emerge gradually over time.

We have also examined the impact of an increase in the contribution rate to 1.5%. This has a substantial positive impact on the finances of the Fund in the short and medium term, and would render the Fund relatively robust to risks in the short to medium term.

4. Future sustainability of the Fund

As this is the first actuarial review of the Fund, consideration should be given to key risks which may affect the short and long term sustainability of the Fund and its ability to support the LTC scheme.

Initial review

As the Fund was established relatively recently (2013) it is important to consider its ability to withstand volatility in expenditure going forwards. This has added importance as the Fund's current assets and contribution rates are insufficient to meet the future demand of the LTC scheme without a change to either contributions or benefits. Some key areas are considered within this section.

Timing of increase to the LTC contribution rate

When considering a change to the LTC contribution rate or any of the LTCF parameters, the following might be considered:

Buffers for caution – As noted throughout this paper, there is a significant degree of uncertainty relating to projected levels of LTCF expenditure (both in the long-term and short-term). As it is not feasible for the Fund to become negative, there is a material risk to the Fund's viability if the Fund balance is allowed to reduce too much before action is taken. As a result, it may be prudent to:

- a) Ensure changes required for long term Fund sustainability are made earlier;
- b) Consider an appropriate level for a 'minimum' LTCF balance, to provide a suitable buffer against adverse short term experience.

Intergenerational fairness - Our modelling indicates a strong likelihood of the LTCF being unsustainable in the long-term; structural changes earlier would spread the burden across generations, whereas delaying action until 'crisis points' in time could disadvantage the current younger populations to the benefit of older age groups.

Given that the Fund is relatively new, taking action in the short-term that would ensure the Fund's sustainability in the medium term would provide a period of time to observe and gather data on long term care populations. This will enable future projections to be made with greater confidence, as they will be based on a larger volume of directly relevant data.

Short-term volatility in LTCF expenditure

The sensitivities in Section 3 illustrate the long-term variability of results to changes in Fund parameters or assumptions made.

It should also be noted that there will be additional volatility in annual expenditure from the LTCF because the population in care will substantially change each year (the average length of stay in care is just over 2 years).

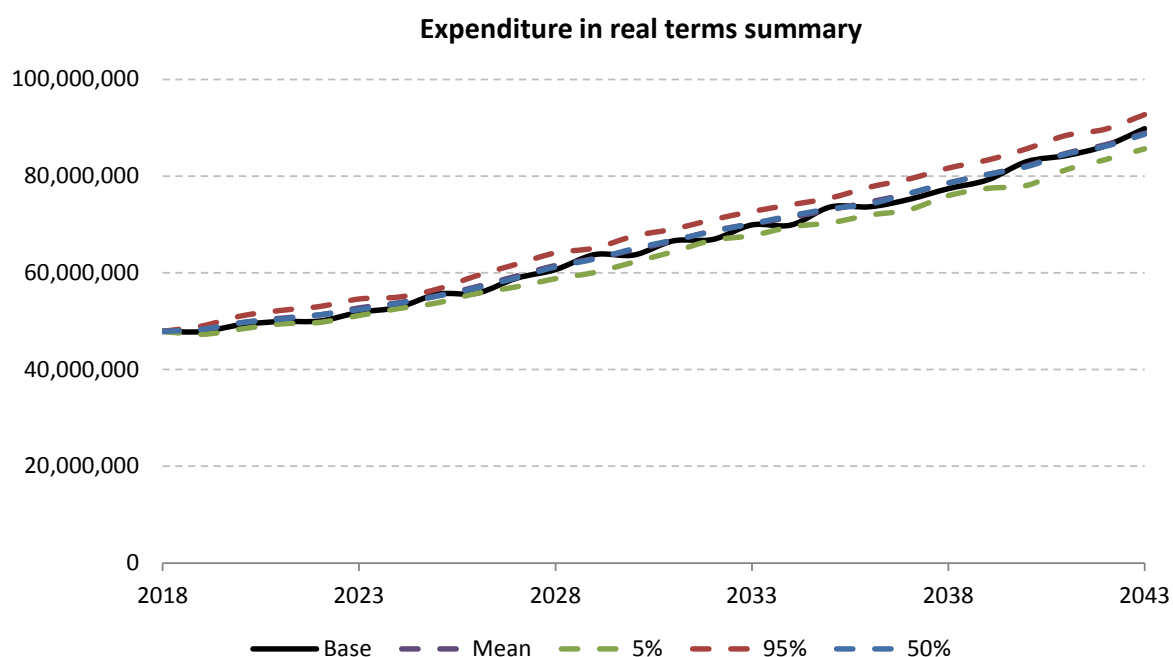
The new cohort of individuals in care (which make up a fairly small proportion of the overall population of Jersey) could, as a group, exhibit particular characteristics that happen to lead to significantly higher or lower expenditure from the Fund.

To illustrate this short-term volatility, we have run our central scenario analysis many times, each time generating new simulated care populations (see Appendix B for further details of the methodology applied for the actuarial modelling) so that in any given year the populations in care might exhibit very different:

- Income levels
- Levels of liquid and illiquid assets
- Length of stay in care

Random variation

Chart 4.1: Volatility over the next 25 years arising from generating different simulated care populations (expenditure in real terms - central scenario shown in black)



It can be observed from chart 4.1 that, whilst the general pattern of LTCF expenditure growth is broadly similar, there is a reasonable degree of volatility around that expenditure in any given year.

For example, in the early years the gap between the largest and smallest modelled levels of real expenditure is around £4 million a year (almost 10% of total expenditure), indicating that expenditure swings of this level could be experienced purely as a result of the change in care population and their associated characteristics (ignoring all other longer-term assumptions).

Further, our models assume that the proportion of individuals requiring care at each care level remains in line with current observed patterns. However, in the short-term, one specific cohort of individuals in care might experience, on average, materially higher care needs than the last (purely due to random fluctuation rather than any long-term systematic trend).

As an example of the short-term impact of such additional volatility, we can model the change in estimated expenditure in 2020 if the cohort of individuals in care in that year experience higher care needs than assumed in the central scenario runs, as follows:

Care level	1	2	3	4
Proportion of over 65s in residential care at each level (central scenario)	20%	33%	15%	32%
Proportion of over 65s in domiciliary care at each level (central scenario)	36%	19%	14%	31%
Proportion of over 65s in residential care at each level (sensitivity)	10%	33%	15%	42%
Proportion of over 65s in domiciliary care at each level (sensitivity)	26%	19%	14%	41%

In this scenario, estimated expenditure for 2020 increases by around £3 - 4 million (directly as a result of the higher assumed care needs of the population in care in 2020).

The following chart illustrates the impact on expenditure were the care population to immediately exhibit these materially higher care needs than our central scenario over the period of projection.

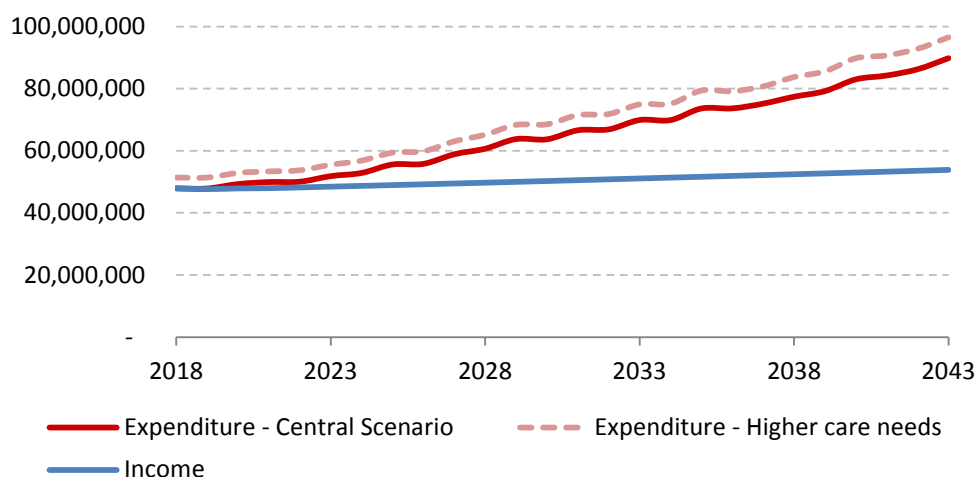
It can be seen that, in addition to the short term volatility that differing care needs of successive cohorts in care might create, if the distribution of care needs is heavier than estimated under the central scenario, this could have a significant impact on the long-term cost of the Fund.

The levels of volatility in the Fund suggest that in each year the Fund's costs may be up to:

- £4 million a year higher or lower depending on the incomes and assets of the people in long term care at the time
- £4 million a year higher or lower depending on the care needs of the people in long term care at the time

These risks are typically independent of one another, meaning that it is unlikely that they would both hit the LTCF at once. We expect the overall variation in LTCF expenditure will generally be less than £4 million a year, but it is possible it could be more than this in some extreme years highlighting the need to consider this volatility when assessing the level of future contributions and benefits.

Chart 4.2: Simulated care population exhibits a higher level of care needs



Summary

As the Fund is immature, there is inevitable uncertainty about future income and expenditure. From an expenditure point of view, the population requiring long term care substantially changes each year, and with this their overall care needs and incomes and assets will vary too.

This might lead to LTCF expenditure being £4m higher or lower than might otherwise be expected from year to year.

It is therefore important to have an adequate financial buffer to safeguard the future viability of the Fund.

Also, as the modelling shows that costs will rise significantly in future, early action would help to spread the burden more fairly across the generations.

Appendix A: Description of the Long-Term Care scheme

An overview of the benefits provided by the Long-Term Care scheme, and how the Long-Term Care Fund is financed.

Introduction

The Long-Term Care Fund (LTCF) was set up to provide means-tested financial support to people with long term care (LTC) needs and to support individuals once their standard care costs reach a capped amount.

It also provides secured loans to homeowners that might otherwise be required to sell their homes to pay for their care costs.

Financing the Long-Term Care Fund

The ring-fenced LTCF was set up at the end of 2013 to allow LTC benefits to be paid from July 2014. The LTCF is designed to collect LTC contributions from tax payers and makes benefit payments to eligible individuals.

In 2014, all the funding for the LTCF was provided by the States directly, however, since 2015 contributions have also been collected from Jersey residents. The States will continue to pay money into the fund every year.

From January 2015, the LTC contribution rate of 0.5% was collected from Jersey residents who had an income high enough to pay income tax.

From January 2016, the contribution rate for individuals was set at 1% with the intention of holding that rate for at least the following three years.

Eligibility

The LTC scheme provides long term care benefits for adults over the age of 18 who have lived in Jersey for a continuous period of 10 years.

To qualify for the LTC scheme each individual must be assessed by a healthcare professional who will carry out an assessment in line with the following care levels.

Care Level	Description	Qualifies for Long Term Care
	Needs a minimal level of support	No
	Needs a low level of support	No
Level 1	Needs a moderate level of support	Yes
Level 2	Needs a high level of support	Yes
Level 3	Needs a very high level of support	Yes
Level 4	Needs an extremely high level of support	Yes

If an individual is assessed as having a Level 1 care need or higher then they will qualify for the LTC scheme.

The LTC scheme covers costs associated with long term care whether provided in a care home (Residential Care) or in an individual's own home (Domiciliary Care). A care home must be registered under the Nursing and Residential Homes (Jersey) Law 1994 and be approved under the LTC Law. Similarly, any care package provided to an individual at home must be done so by a care provider approved by the Minister of Health and Social Services.

Costs covered by the Long Term Care scheme

The costs covered by the LTC scheme are broken down as follows;

- Standard care costs
- Standard co-payment
- Additional costs

Standard care costs

Standard care costs are determined as a weekly amount and vary with the assessed level of care under the LTC scheme as follows.

Care Level	Standard care cost (p/w)			
	2015	From 01/01/2016	From 1/4/2017	From 1/1/2018
Level 1	£353.15	£359.52	£369.18	£374.78
Level 2	£539.07	£548.80	£563.50	£571.97
Level 3	£779.24	£793.31	£814.52	£826.77
Level 4	£979.86	£997.50	£1,024.10	£1,039.50

These standard care costs apply whether an individual receives care at home or in a care home. Means-tested financial assistance will be available for certain individuals to help them to meet standard care costs.

Standard co-payment

The standard co-payment applies to all individuals who receive long term care in a care home and is £331.94 per week from 1 January 2018.

The total cost of care in a care home covered by the Long-Term Care scheme is deemed to be equal to the standard care cost plus the standard co-payment. The actual co-payment will vary depending on the care home chosen by individuals as different care homes charge different amounts depending on the level of care and facilities provided.

The co-payment does not count towards the care costs cap and will always remain the responsibility of the individual. Means-tested financial assistance will be available for certain individuals to help them to meet the standard co-payment.

Those individuals that receive care in their own home do not need to make the standard co-payment as they meet their own living costs.

Additional costs

Additional costs relate to those costs that exceed the total co-payment for those individuals receiving LTC in a care home, i.e. for those individuals that choose a care package which costs more than £331.94 per week.

Additional costs for those individuals receiving care at home reflect those costs above the standard care cost.

Means-tested financial assistance, in the form of a loan secured against the individual's property, is available to help meet standard and additional costs up to a certain limit.

Care costs cap

The care costs cap sets a limit on the amount of standard care costs that anyone has to meet themselves. Once the cap is reached an individual will receive the universal LTC benefit which covers the standard care costs for the rest of their time receiving care. Individuals are still expected to meet the standard co-payment and any agreed additional costs.

The value of the cap is fixed for all individuals at £55,300 from 1 January 2018.

Eligible applicants with a partner who also receives LTC benefit will have a combined care cost cap of £82,950 from 1 January 2018.

Benefits available under the LTC scheme

The benefits available under the LTCF are broken down into three areas;

- LTC benefit
- LTC means-tested support
- LTC property loan

LTC benefit

The LTC benefit applies to standard care costs.

The LTC benefit is available once an individual reaches the care costs cap of £55,300 (or £82,950 for a couple) and is paid weekly standard care cost rate. The weekly standard care cost rate depends on each person's care level or care package.

This benefit is available to all eligible individuals and is not means-tested.

LTC means-tested support

LTC support can apply to both standard care costs and the standard co-payment.

LTC support is mean tested and is based on the household income and the value of assets held which includes the family home.

In particular, a benefit calculation is carried out which determines the level of support available.

Where the value of assets, including property and savings is less than £419,000, this amount is excluded from the benefit calculation. These individuals can request LTC support with standard care costs and standard co-payment.

The level of support available will vary based on income, family situation and care level and LTC support is paid to make up any shortfall in standard care costs.

Where the value of assets is above £419,000, individuals may be able to request support through a LTC property loan.

LTC property loan

LTC property loans are secured against the value of a family home and are available to help with standard care costs, standard co-payment and additional costs.

Subject to certain limits, the amount of an LTC property loan is based on the value of assets, income, family situation and care level. Individuals are always expected to pay income towards LTC costs.

The maximum amount of additional costs that can be covered by a LTC property loan is £331.94 per week.

LTC property loans are repaid when the family home next changes hand. Interest is charged on the balance of the loan at a rate equal to 0.5% above the Bank of England base rate.

Assets and asset disregard

An important driver for the introduction of the LTC Fund was to improve financial support for home owners facing high care bills.

The benefits under the LTC Fund, in particular LTC support and LTC property loan are directly linked to the value of an individual's assets including their family home.

The total exemption amount (or asset disregard) of £419,000 is typically designed to protect £394,000 in respect of the value of a family home and £25,000 in respect of other assets, i.e. individuals are not required to use up this value of their assets to meet the standard care cost or the standard co-payment.

Assets held by individuals above £419,000 are expected to be used towards meeting the standard care cost or standard co-payment before any further support is made available.

Appendix B: Calculation methodology

The approach used to model LTCF income and expenditure sources is set out below.

Overview

For the purpose of this actuarial review, the underlying methodology for projecting core expenditure from the long term care fund (excluding administrative costs) consists of three parts:

- 1. Simulation of an artificial population**
- 2. Projection of long term care costs for the artificial population**
- 3. Scaling cost projections to full Jersey population projections**

Separately, the LTC model will project Fund administration costs for future years, and the various sources of income (long term care contributions and central States grants).

To make these projections requires a large number of assumptions about the future. We have made assumptions that we believe are appropriate for a projection over the next 25 years, based on the scheme as it currently is.

Calculation methodology

The calculation methodology used in our modelling is based on a constructed artificial population requiring long-term care that reflects the characteristics of the population of Jersey over time, in order to estimate the future long-term care needs and financial position of the population. This can be used to inform the long-term care costs over time, and the contributions required from individuals and the States of Jersey.

We have used this approach because there a very large number of variables which affect the cost of the benefit, and the simulated population allows us to make random selections for these variables from appropriate probability distributions, and also allows us to vary those selections to understand the potential effect of random variation.

Based on the artificial population, we calculate the care costs that would be borne by the individuals in the population and by the States of Jersey, and then scale these care costs to the projected actual long-term care population.

Individuals are allowed to enter and leave the LTC scheme each quarter over a given year, and are assumed to either be in domiciliary or residential care.

This methodology focuses on the assumptions around how the characteristics of the population may change over time. This increases the appropriateness of long-term projections of the costs in respect of the LTCF, but at the expense of accuracy of modelling the actual population care costs in the very short term.

The calculation methodology adopted is consistent with the approach taken in similar previous exercises conducted by Oxera Consulting and Professor John Forder and Jose-Luis Fernandez. We believe this approach to still be reasonable, and ensures that the results are broadly comparable to the previous exercises.

Simulation of an artificial population

An artificial population is determined by considering the characteristics of the individuals that are likely to enter the LTC scheme. Assumptions are made regarding an individual's:

- Length of stay
- Care level upon entry
- Level of income
- Level of liquid assets
- Level of illiquid assets

These assumptions are based on a variety of data sources provided to us by the States of Jersey departments.

This allows us to construct an artificial population comprising 21,000 members entering care over a 35 year period from 2008 to 2043.

See Appendix D for details on the assumptions used to determine the characteristics of individuals within the artificial population.

There may be differing views on how these assumptions should be set now and in the future. By simulating an artificial population, we can more easily run simulations that adjust the population to fit different views on how the assumptions may change.

Projection of long-term care costs for the artificial population

To project the long-term care costs for the artificial population, we consider each individual in the population in turn. The overall care costs for each individual are projected based on their time of entry into care, length of stay, care level upon entry and details on their income and assets upon entry.

The care costs are then split into those paid from the individual's income, liquid assets and illiquid assets. They also include care costs paid by the States of Jersey, split by means-tested payments and universal benefits.

Scaling cost projections to full Jersey population projections

Population projections for Jersey have been provided based on a number of different scenarios for future inward net migration:

- **Central Scenario:** Net inward migration of 700 individuals
- **Sensitivity 1:** Net inward migration of 1,000 individuals
- **Sensitivity 2:** Net inward migration of 325 individuals

Based on the projected population numbers under the different scenarios, the number of individuals in care in each future year has been estimated – assuming the proportions of under 65s, 65-80 year olds and over 80s requiring long term care remain static - which we then compare to the number of individuals in care within our simulated population.

We have then scaled the care costs inferred from our simulated population to estimate the care costs for the projection populations in care (based on Jersey population projections) in each future year.

LTCF income projections

The income received by the LTCF comes from a long-term care contribution rate paid by income tax payers and forecast grants made by the States of Jersey. The long-term care contribution rate is 1% and the current forecast grant paid by the States of Jersey is £28.7M over 2018. Assumptions are made around how this income may increase over time based on future growth rates, population projections and grants that have been budgeted for.

The methodology adopted will allow us to consider any changes to the income received by the LTCF so the costs of the LTC scheme may be met.

Alternative methodologies considered for the actuarial review

We considered using the approach of estimating:

1. the population in care, by applying an age dependent probability of being in care to the projected population; and
2. the average payment payable to a person in care, from the history of payments since the LTC scheme started.

The estimated cost would then just be the product of these two numbers.

The main problem with such an approach is that, as the average payment to a person in care is a result of the complex interaction of a number of variables, this would not give any indication of the sensitivity of the results to changes in those variables.

Appendix C: Data

Below we summarise the various data sources used to set assumptions for modelling of LTCF expenditure and income

Data sources

In order to set the various assumptions required for modelling the expenditure and income for the LTCF, we analysed a range of sources of data. This included the following data sources:

- Statistics Jersey's (formerly the Jersey Statistics Unit) 2016 population projections
- Long term care policy trends data set (produced by Statistics Unit)
- 2012 Care home census
- Personal Social Security Research Unit's (PSSRU) analysis of BUPA UK data in January 2011
- Income Distribution Survey 2014/15
- Census 2011
- Jersey house price index (HPI)
- States of Jersey 2018 Budget
- Fiscal Policy Panel (FPP) August 2018 economic assumptions paper
- LTCF parameters spread sheet (provided by Social Security department)
- Current demographic data for individuals in long-term care (provided by Social Security department)
- Income tax per capita data (provided by Treasury and Resources department)
- States grant amounts and forecasts (P140/2013) and future expectations regarding underspends
- Emails provided by Social Security department providing other information

Availability of data specific to the States of Jersey LTCF

The data on the LTC scheme is of high quality, but because it has only been operating in its current format since 2014, there is a short run of data from which to derive statistically credible modelling assumptions. As a result, a number of assumptions have been derived from alternative sources. However, we are satisfied that the data available and the assumptions derived remain appropriate for this review and fit for purpose in assessing the LTCF.

Over time, as the LTC scheme matures a longer run of data will be collected that relates specifically to individuals in care. This should allow modelling assumptions to be refined over time, to more closely reflect observed characteristics of Jersey residents that have received long term care. In particular, a longer series of data on the following will enable significant improvement to the assumptions:

- the level of assets of people in care;
- the movement of people between care levels;
- the proportion of the population in care at various ages; and
- the length of time spent in care.

Data for future reviews

We will work closely with the Social Security Department to ensure that appropriate data in relation to the operation of the Long-Term Care scheme is collected and maintained over future years. This will enable assumptions set for future actuarial reviews of the LTCF to be based on more established datasets that are specific to both Jersey's population and the Long-Term Care scheme itself.

Appendix D: Modelling assumptions

This section sets out how assumptions underlying our "central scenario" for modelling have been derived, using the data sources referred to in the previous section

Population projections

Full Jersey population projections

We have been provided with statistics from the 2016 Jersey population projections produced by Statistics Jersey.

This provides various projections of the population, by age and gender, under certain scenarios.

Following discussion with the Social Security department, it has been agreed that the central scenario for the actuarial review of the LTCF will be modelled assuming that Jersey's future population is in line with the +700 net inward migration scenario set out within the 2016 projections.

Table D1: Population projections for +700 net inward migration scenario

Year	0-15 years	Aged 16 to 64	Aged 65 to 79	Aged 80+	Total
2015	17,300	68,600	12,200	4,500	102,600
2020	18,300	70,400	13,700	5,200	107,600
2025	18,900	71,900	15,800	5,900	112,500
2030	19,200	72,900	17,700	7,400	117,200
2035	19,700	74,000	19,500	8,700	121,900
2040	20,300	76,000	19,600	10,200	126,100
2045	21,000	78,100	19,200	12,100	130,400
2050	21,700	80,200	18,900	13,500	134,300
2055	22,300	82,400	19,500	14,000	138,200
2060	22,800	84,500	20,200	14,400	141,900
2065	23,200	86,700	20,900	14,900	145,700
2070	23,700	88,900	21,500	15,700	149,800

Sensitivity analysis

Sensitivity analysis has been carried out based on Statistics Jersey's +325 net inward migration and +1,000 net inward migration scenarios.

Table D2: Population projections for +325 net inward migration scenario

Year	0-15 years	Aged 16 to 64	Aged 65 to 79	Aged 80+	Total
2015	17,300	68,600	12,200	4,500	102,600
2020	17,900	68,900	13,700	5,200	105,700
2025	18,000	68,800	15,700	5,900	108,400
2030	17,800	68,100	17,600	7,400	110,900
2035	17,800	67,400	19,200	8,600	113,000
2040	17,900	67,600	19,200	10,200	114,900
2045	18,200	67,800	18,500	12,000	116,500
2050	18,400	68,100	17,900	13,300	117,700
2055	18,500	68,500	18,000	13,700	118,700
2060	18,500	68,900	18,200	14,000	119,600
2065	18,500	69,400	18,400	14,200	120,500
2070	18,600	69,900	18,500	14,600	121,600

Table D3: Population projections for +1,000 net inward migration scenario

Year	0-15 years	Aged 16 to 64	Aged 65 to 79	Aged 80+	Total
2015	17,300	68,600	12,200	4,500	102,600
2020	18,600	71,700	13,700	5,200	109,200
2025	19,600	74,400	15,800	5,900	115,700
2030	20,300	76,700	17,800	7,400	122,200
2035	21,200	79,200	19,700	8,700	128,800
2040	22,200	82,700	20,000	10,300	135,200
2045	23,200	86,300	19,800	12,100	141,400
2050	24,300	89,900	19,800	13,700	147,700
2055	25,300	93,500	20,700	14,200	153,700
2060	26,100	97,000	21,800	14,800	159,700
2065	27,000	100,600	22,900	15,500	166,000
2070	27,900	104,200	23,900	16,500	172,500

Populations in long term care

Given that no specific projections are produced for the future population in long term care, it was proposed that the proportion of the population in care would be set based on current observed levels, and assumed to remain static. Implicitly, this ignores any impact of future changes in policy.

The long-term care LTC Policy Trends Datasets spread sheet provided set out demographic information for 1,348 current claimants for the month commencing 1 March 2018:

Table D4: Age distribution of claimants (rounded to the nearest 10)

Age band	Number of claimants
18-19	10
20-29	50
30-39	30
40-49	30
50-59	90
60-69	90
70-79	230
80-89	540
90-99	270
100+	10
Total	1,350

We have split the age distribution of claimants into three age groups and calculated the proportion within each age group that is in care.

- Projected population under age 65 (0.29% in care);
- Projected population aged between 65 and 80 (2.3% in care); and
- Projected population aged over 80 (18.3% in care).

We assume that the proportions of the population in long term care remain in line with those observed at March 2018 across the three age groups as the population is projected through time. The projected numbers in long term care therefore move in line with the change in population numbers in each age group.

In addition, the demographic data for individuals in long-term care split out the proportion of claimants in domiciliary or residential care as follows (rounded to the nearest 10 individuals):

Table D5: Current numbers of individuals receiving residential and domiciliary care

Age band	Domiciliary	Residential	Total
Under 65s	120	140	260
Over 65s	320	770	1,090
			1,350

As a result, we have assumed that:

- 52% of long term claimants aged under 65 would receive care in an approved care home (with 48% receiving domiciliary care); and
- 70% of long term claimants aged over 65 would receive care in an approved care home (with 30% receiving domiciliary care).

We have assumed that these ratios remain the same over the projection period (other than the sensitivity to this assumption) and that there are no policy actions to adjust these ratios going forwards.

Simulated population assumptions

Income distribution

In order to model the distribution of income on entering care, we initially built up an income distribution as follows:

1. Estimating the proportion of pensioners in certain income quintiles

Data provided to us by Statistics Jersey used for the 2014/15 Income Distribution Survey (IDS) shows the proportion of individuals in each income quintile that correspond to pensioner households as follows:

- £0 - £23,000 (31.6%)
- £23,000 – £30,900 (22.2%)
- £30,900 – £41,000 (16.4%)
- £41,000 – £57,700 (15.5%)
- £57,700+ (14.3%)

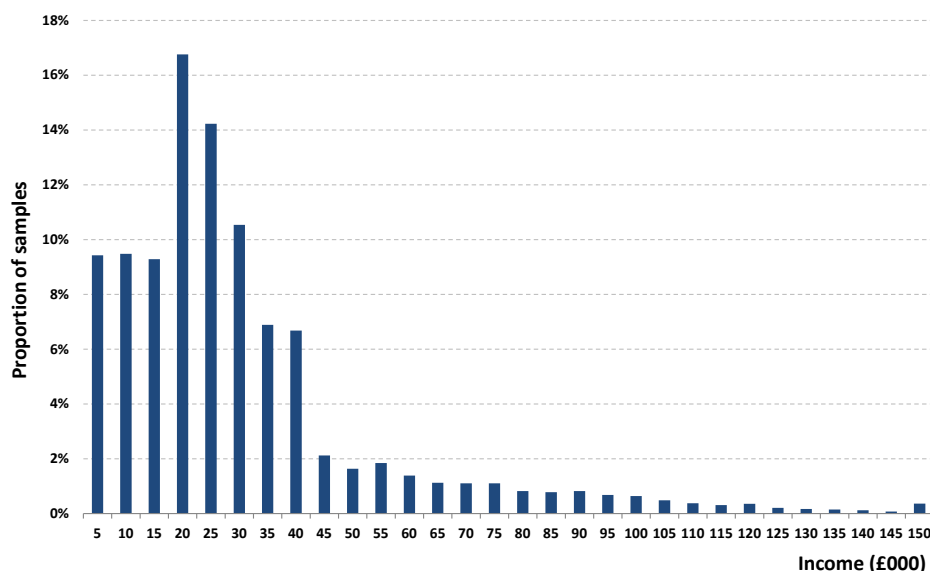
These income figures are equivalised (adjusted for household makeup/size) and are before housing costs are considered. We make an adjustment to incomes for housing costs separately. This is discussed later in the report.

2. Estimating the level of income for individuals within each income quintile

We have assumed that, within each income quintile, incomes are uniformly distributed.

For individuals in the top income quintile, we have assumed a half-normal distribution (upper 50% of a Normal distribution) centred at £57,700 with a large standard deviation (£60,000) to allow for very high income earners, but with a cap on income of £150,000. This approximation at high income levels is not material for the modelling as the relevant information for this group is that means testing will not apply (which would remain correct at all earnings levels over £57,700).

Chart D6: Assumed income distribution for individuals in long term care



3. Experience adjustment

The above analysis implicitly assumes that individuals in long term care would represent a cross-section of the general population by age. In practice, the proportion of individuals at older ages (e.g. aged over 80) in long term care is significantly higher than the proportion of individuals at such ages in the general population (so the long-term care population is skewed towards older ages).

As income levels after age 65 tend to reduce with age, one would expect the actual income levels of individuals in care to be lower than implied by the distribution on the previous page.

Our modelling also uses income figures that are representative of individuals in the population, rather than income figures equivalised for households. Equivalisation adjusts the income figures to reflect that a single person living on their own may be considered to have a higher income than a couple with the same total income. Since most pensioner households would be comprised of a single adult or two adults, equivalisation has the effect of increasing the income figures for individuals.

Based on the observed levels of States expenditure for current individuals in long term care (which are in part driven by income levels for individuals in care), we have applied a scaling factor of 70% to the income distribution on the previous page for the over 65 care population.

Comments on this assumption

Aside from the short-term adjustment made, there are effects in the data sources (such as equivalisation of incomes in the IDS) that, if reliably removed, would change the above income distributions. However, such adjustments are non-trivial. Similarly, the data is not directly referenced from populations that have been in receipt of long-term care (owing to the lack of available data given the immaturity of the LTCF).

As the LTCF matures, we expect to gather more directly relevant data on incomes for individuals in long term care in order to improve the credibility of this assumption.

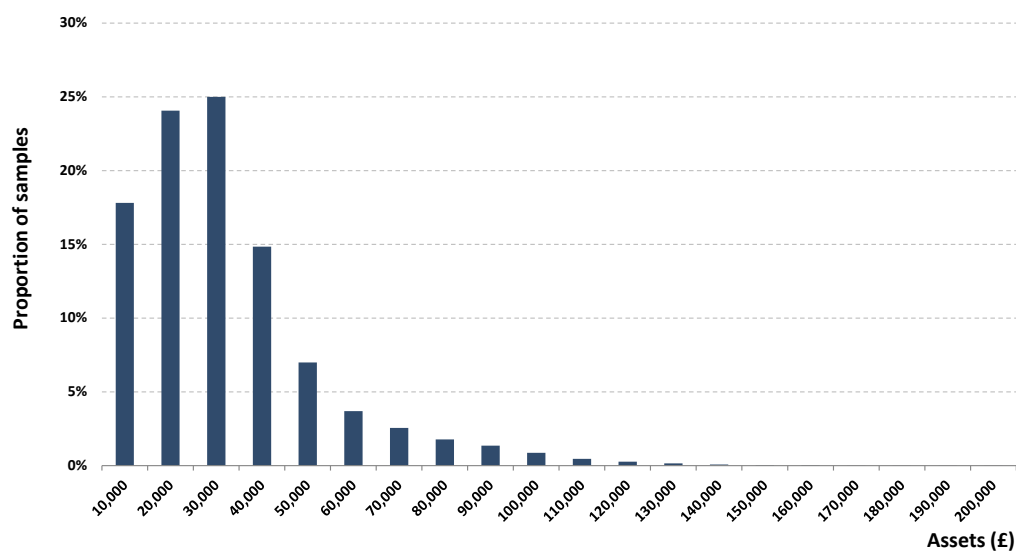
Liquid asset distribution

There is relatively little recent data available in order to derive a reliable assumption for the link between an individual's income and the level of liquid assets held.

For their previous analysis of the LTCF, Oxera stated that – based on an analysis of the 2002 Income Distribution Survey - they assumed a normal distribution for liquid assets with the mean related to income based on a linear regression model. We have deduced this as Mean liquid assets = £3,250 + Income * 0.77; Standard deviation = £9,400. In order to provide an up to date assumption we have increased the figure of £3,250 to allow for average earnings increases between 2002 and 2017; the assumption used is therefore;

Mean liquid assets = £5,270 + Income * 0.77; Standard deviation = £9,400

Chart D7: Assumed liquid assets distribution for individuals in long term care



Non-liquid asset distribution (over 65s)

For the purpose of this review, we have assumed that non-liquid assets at the point of entering care are made up entirely of property assets, which is consistent with previous modelling carried out by Oxera at the time of establishing the Fund.

Based on information available in the 2014/15 Income Distribution Survey IDS 2014/15, the 2011 Census and Jersey House Price Index (HPI), we have determined a property value distribution as follows:

1. Estimating the proportion of over 65s that own property

Data provided to us by Statistics Jersey used for the 2014/15 Income Distribution Survey states that, for pensioner households, 68% are owner-occupied.

Based on this data, we initially assumed that 68% of individuals aged over 65 and entering long term care own their own home, and modelled this for the simulated population using a uniform distribution.

This has been sense checked against the following ownership statistics in the 2011 Census (which showed for all pensioner categories, that 69% of households were owner-occupied), providing some further assurance to the assumption adopted.

Table D8: Household ownership data from 2011 Census

APPENDIX C – DATA TABLES

Table A13: Household type by tenure – private dwellings in Jersey 2011, excluding vacant dwellings

Household type	Owner-occupied	States, housing trust, parish rental	Qualified rental	Staff or service accom.	Registered lodging house	Lodger in private household	Other non-qualified accom.	All
Single adult	2,540	950	2,270	440	270	400	750	7,600
Couple (adult)	3,420	240	1,550	280	190	260	720	6,660
Single parent (with dependent children)	500	780	340	20	10	40	80	1,770
Single parent (all children 16 years or above)	760	490	200	10	~	10	20	1,500
Couple with dependent children	4,610	780	1,340	210	100	160	570	7,770
Couple with children (all children 16 years or above)	2,250	390	300	70	~	10	40	3,070
Couple (one pensioner)	1,000	120	160	20	~	~	20	1,320
Single pensioner	2,770	1,380	600	30	10	30	40	4,860
Two or more pensioners	3,200	370	270	20	~	~	40	3,940
Two or more unrelated persons	380	20	350	80	30	70	130	1,070
Other	1,150	140	430	100	20	80	150	2,070
All	22,570	5,660	7,810	1,270	650	1,070	2,560	41,600

~ indicates a value less than 10. All other numbers have been independently rounded to the nearest 10.

2. Estimating the type of property owned

Data provided to us by Statistics Jersey also sets out the number of pensioner households with 1, 2, 3, and 4+ bedrooms

Table D9: Household type data from Statistics Jersey

Household type	Number of bedrooms			
	1	2	3	4+
Non-qualified accommodation	90	40	30	10
Owner-occupied	490	1660	2460	1370
Qualified rent	460	280	90	40
Social rent	1500	220	20	0

3. Model house prices for each type of property

The latest Jersey House Price Index (HPI) has mean property prices for 1/2/3/4 bedroom houses – we have applied this to estimate house prices for all individuals assumed to own a particular type of property.

For each property type, we have assumed different normal distributions, whose mean price and standard deviations are derived from information contained in the HPI data.

4. Experience adjustment

The above analysis implicitly assumes that individuals in long term care have similar home ownership statistics to the general population by age. In practice, this may not be the case.

Based on the observed levels of current individuals in long term care that receive means-tested LTC support (which is only available for individuals with assets valued below the asset disregard level), this suggests that individuals currently in care have lower illiquid assets than would be implied by the distribution described above. We have therefore adjusted the proportion of over 65s assumed to own their own home to be 45%.

To the extent that home ownership levels exceed this assumption (and assuming all else unchanged) Fund expenditure would be lower than estimated in the central scenario.

Notes on reliability of this assumption

It should be noted that information used to build up a non-liquid asset distribution is independent and may not be directly applicable for individuals entering long term care. However, as there isn't enough data on house ownership (including the type of housing and values) for individuals receiving long term care yet, it would not be feasible to refine the assumption at this stage.

We recommend collecting more detailed data on home ownership / property type and property value for individuals entering care, so that this assumption can be refined for future actuarial reviews (with any statistically credible deviation for individuals entering long term care from the observed analysis for the wider pensioner population reflected).

Non-liquid asset distribution (under 65s)

Data provided to us by Statistics Jersey used for the 2014/15 Income Distribution Survey states that, for pensioner households, 51% are owner-occupied.

It is likely that home ownership among adults in care will be lower than for the population as a whole, because at least some adults in care will not have had the earnings opportunity to enable them to purchase their own home.

Considering the observed levels of current individuals in long term care that receive means-tested LTC support (which is only available for individuals with assets valued below the asset disregard level), we have assumed the proportion of under 65s assumed to own their own home to be 40%.

To the extent that home ownership levels exceed this assumption (and assuming all else unchanged) Fund expenditure would be lower than estimated in the central scenario.

We have then made the same assumptions around the type of home ownership and property values as for over 65s.

Length of stay in care

Because individuals meet care costs up to the time they reach the care cost cap, it is necessary to make an assumption about the length of time people spend in care. In line with the Personal Social Security Research Unit's (PSSRU) 2011 analysis of BUPA UK data, the length of time in care appears to follow an exponential distribution.

Based on the average period of time in care (residential or domiciliary) of 2.5 years for the over 65s, we have modelled the length of stay in care for this group as an exponential distribution with a lambda value of 0.4. For the under 65s we have modelled the length of stay in care for this group using a lambda value of 0.21.

It is assumed that length of stay in care is independent of income and assets – this simplification is aimed at minimising complexity in the modelling, it also reflects the limited amount of data currently available as a result of the relatively short period of time that the LTCF has existed and the number of individuals in care.

Notes on reliability of this assumption

The assumption relies on data for UK individuals receiving long term care within residential homes in the UK, so whilst informative may not be directly applicable to Jersey's population and comprehensive long term care system. As the LTCF is in its early years, there is so far insufficient data available on the length of time Jersey citizens spend in long term care to make reliable assumptions about the future. This is an area where it should be feasible to collect data in future to allow better assumptions to be developed for future reviews (such data will emerge over future review cycles, with statistical credibility increasing over time as the quantum of data increases).

This assumption is only used to determine the split of costs between the individual and the LTCF; it does not affect the number of people assumed to be in care. For the under 65s, the assumption implies that most will reach the care cost cap, so the results are not very sensitive to the precise level of the assumption.

Level of care needs

As the LTCF is in its early years, there is little available data on how individuals' long term care needs evolve over time. Over time, as the LTCF matures a longer run of data will be collected that relates specifically to individuals in care. This should allow modelling assumptions to be refined over time, to more closely reflect observed characteristics of Jersey residents that have received long term care.

Further to this, the data provided on long term care needs also appears to have been refined significantly over recent months and years (only recently providing a thorough breakdown of individuals in care between care levels 1, 2, 3 and 4).

A breakdown of individuals in long term care as at 31 March 2018 (shown in the demographic data provided) was as follows:

Table D10: Care levels for individuals in long term care in March 2018

Age	Care Assessment Care Level				Total
	1	2	3	4	
Over 65	270	310	170	340	1,090
Under 65	40	40	40	140	260

For the purpose of this review, we have assumed that the proportion of individuals in each care level are in line with those observed for individuals in long term care at 31 March 2018 (shown below) and will remain static over the projection period.

Table D11: Assumed future proportions of individuals in each care level

Care level	1	2	3	4
Proportion of individuals in this care level – over 65	25%	28%	16%	31%
Proportion of individuals in this care level – under 65	16%	13%	16%	54%

We assume that there is no change in an individual's care level once over time under the central scenario.

Individuals with partners also in care

In the demographic data provided, it is estimated that around 40 of the current individuals in long term care (as at March 2018) also have a partner in long term care.

Although there is a reduced care cost cap for couples, given the small proportion of individuals with a partner in care (c.3%), we have ignored the additional complexity of partners in care for our modelling.

Long Term Care scheme parameters

Standard care costs

2018 costs

Standard care costs represent the notional cost of an individual's care (residential or domiciliary), the rate at which an individual's costs build up to the standard care costs cap (after which the States funds care for individuals at the same rates). This amount differs by care level, and the costs set for 2018 are as follows:

Table D12: Standard care costs from 1 January 2018

Care level	Standard care costs (per week)	Number of weeks to reach standard care costs cap (£55,300)
1	£374.78	148 weeks
2	£571.97	97 weeks
3	£826.77	67 weeks
4	£1,039.50	53 weeks

Actual care costs

Whilst actual care costs for individuals in residential care are typically in line with the standard care costs, those for individuals in domiciliary care tend to be lower than standard care costs. For expenditure projections, actual domiciliary care costs have been assumed to be 70% of the level of residential care costs for over 65s and 80% of the level of residential care costs for under 65s.

Assumed future increases

Our modelling has allowed for these rates in 2018, a 1.5% increase in 2019 and increases in line with the assumption for long-term average earnings increases (3% per year) thereafter.

Care costs cap

The level of the standard care costs cap (the point after which the States funds care for individuals, irrespective of their income and assets) is £55,300 for 2018.

As for the standard care costs, we have assumed that this will receive a 1.5% increase in 2019 and will increase in line with the assumption for long-term average earnings increases (3% per year) thereafter.

As noted in the previous section of this paper, although there is a reduced care cost cap for couples both in care (£82,950 rather than £55,300 each), given the small proportion of individuals with a partner in care (c.3%), we have ignored the additional complexity of partners in care for our modelling.

Standard co-payment

2018 costs

Where individuals receive residential care, standard co-payments represent the standard cost to an individual of accommodation within a care home.

The 2018 standard co-payment is £331.94 per week (for all care levels), and is assumed to increase at 1.5% in 2019 and in line with the assumption for long-term average earnings increases (3% per year) thereafter. Actual costs will vary.

Asset disregard

For the purpose of support from the States towards long term care costs, the asset disregard level is £419,000 (i.e. individuals with assets less than £419,000 may be eligible to receive means-tested support from the States towards their long term care costs).

We have assumed that this will remain fixed during 2018 and 2019 and will increase in line with the assumption for long-term average earnings increases (3% per year) thereafter.

Principal property and other assets disregards

Where an individual's assets exceeds the asset disregard level (£419,000 for 2018), there are protections in place to protect a minimum value of an individual's principal residence and other assets.

The principal property exemption is designed to protect the first £394,000 (2018) in respect of the individual's house (meaning this would not need to be drawn upon to fund standard care costs or standard co-payments). The principal property exemption has been assumed to remain fixed in 2018 and 2019 and increase at 3% per year (the assumption for long-term average earnings increases) thereafter.

The other assets exemption is designed to protect the first £25,000 (2018) of the individual's other assets. Again, this exemption level is assumed to be fixed in 2018 and 2019 and increase by 3% per year thereafter.

Property loan

Claim demographics data received from the States of Jersey sets out that, of the 1,300 individuals currently in long term care, less than 20 use a Property Bond to meet care costs. (There are also around 70 bonds outstanding, some of which pre-date the LTC scheme.)

As this only equates to around 1% of the total claimant population, and is therefore unlikely to have a material impact on the results of the actuarial review, property bonds have been excluded from our modelling.

Expenses that can be set against income for financial assessment

Where individuals have total assets less than the Asset Disregard level (£419,000 for 2018), they may be eligible for LTC support, based on their level of income.

In assessing how much of an individual's income might be required to pay for their care (after the deduction of certain allowable expenses), the following assumptions have been made for certain categories of allowable expenses.

Table D13: Assumptions for allowable expenses

Expense category	Amount per week
Living expenses	£382
Rental/Mortgage expenses	£150
Personal allowance	£35.70
Other expenses (including income tax, LTC contributions, social security contributions and other miscellaneous expenses)	£0

Administration costs

The 2018 Budget projected the costs of running the Long Term Care scheme as follows:

Table D14: Projected administration costs in 2018 Budget

Year	Administration costs
2018	£1,470,000
2019	£1,340,000
2020	£1,340,000
2021	£1,440,000
2022	£1,340,000
2023	£1,340,000

We have assumed that, from 2022 onwards, the administration costs for the scheme would increase in line with assumed long-term average earnings increases (3% per year).

Sources of income

Long term care tax contributions

Long term care contributions are currently in line with 1% of taxable earnings up to the Upper Earning Limit (UEL - £170,256 for 2018).

Page 136 of the 2018 Budget set out estimated LTC charges based on personal income tax projections for 2018-2021, assuming that the LTC contribution rate were to rise to 1.5% from 2020.

For the purpose of the central scenario in this review, it has been assumed that the LTC contribution rate will remain at 1%, and beyond 2021, we have increased long term care contributions in line with:

- a) Assumed average earnings growth of 3% per year; and
- b) Changes to the under 65 and over 65 populations in line with the base population projections. This has been estimated from income tax data by applying weightings based on over 65s contributing 75p of income tax per capita for each £1 per capita of income tax paid by under 65s.

States grants

The forecast States grants to the LTCF are taken from the 2019 Budget – Social Security Funds Appendix as follows:

Table D15: Projected levels of States grants to LTCF

Year	Forecast grants
2018	£28,706,378
2019	£28,878,601
2020	£29,600,566
2021	£30,577,385
2022	£31,586,438
2023	£32,628,791

We have assumed that grants are in line with the forecast amounts above, and increase by 3.3% per year thereafter (i.e. in line with assumed long term RPI growth).

Contributions from the States during the Fund set up

In previous years, the LTCF has received additional contributions from the States of Jersey as part of the setting up of the scheme. Social Security has confirmed that there is no expectation of further contributions in future from the States. As such, **we have assumed there will be no further such contributions to the Fund.**

Economic assumptions

Fiscal Policy Panel economic assumptions

Our modelling uses relevant long-term economic assumptions contained in the Fiscal Policy Panel (FPP) August 2018 paper dated 2 August 2018. The assumptions used in our modelling are as follows:

Table D16: August 2018 economic assumptions

Long-term assumption	(per year)
RPI	3.3%
RPIY	3.0%
Nominal GVA	3.0%
Real GVA	0.0%
Average Earnings	3.0%
House Prices	3.0%

Investment returns

Return on LTCF balance

As at 31 December 2017, there was a balance of £25.1 million in the LTCF.

The current strategic asset allocation for the LTCF is 50% Cash and 50% Absolute Return Bonds. This is a reasonable allocation when the Fund represents only 6 months payments, and it is therefore operating as just a little more than a cash float. At present cash rates, the expected return on this fund is a little over 2%, but this may be expected to rise as cash rates rise, so we have assumed an average nominal return of 3% per year over the next 25 years.

If the Fund were more of a long term investment fund, then a less conservative investment strategy would be possible, enabling a higher investment return to be targeted.

Appendix E: Detailed results

Detailed results of all modelling runs discussed in this report

Central scenario

Table E1: Detailed results – Central scenario

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	51,827,000	60,662,000	69,902,000	77,405,000	89,813,000
Net Income / (Expenditure) (£)	31,000	-3,380,000	-10,938,000	-18,820,000	-24,959,000	-35,961,000
Breakeven contribution rate	1.0%	1.2%	1.5%	1.8%	2.1%	2.5%
Projected LTCF balance at start of year (£)	25,000,000	19,622,000	-10,545,000	-80,848,000	-184,958,000	-330,088,000
Projected number of people in care	1,350	1,500	1,770	2,030	2,290	2,570

Sensitivity 1: Longer average length of stay in care

This sensitivity assumes that all individuals spend an additional 6 months in long term care (relative to the central scenario).

Table E2: Longer average length of stay in care

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	48,647,000	61,529,000	73,681,000	84,777,000	94,911,000	109,964,000
Net Income / (Expenditure) (£)	-729,000	-13,082,000	-23,957,000	-33,695,000	-42,465,000	-56,112,000
Breakeven contribution rate	1.0%	1.6%	2.1%	2.5%	2.8%	3.3%
Projected LTCF balance at start of year (£)	25,000,000	-5,276,000	-89,754,000	-230,395,000	-413,044,000	-650,352,000

Sensitivity 2: Increase to the proportion of individuals receiving domiciliary care

This sensitivity assumes that the number of residential beds remains static (and therefore the proportion of individuals receiving domiciliary care increases over the projection period).

Table E3: Increase to the proportion of individuals receiving domiciliary care

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	50,810,000	57,983,000	63,900,000	69,138,000	77,601,000
Net Income / (Expenditure) (£)	31,000	-2,363,000	-8,259,000	-12,818,000	-16,692,000	-23,749,000
Breakeven contribution rate	1.0%	1.1%	1.4%	1.6%	1.7%	2.0%
Projected LTCF balance at start of year (£)	25,000,000	22,458,000	89,000	-52,227,000	-123,498,000	-222,608,000

Sensitivity 3: Changes to the care cost cap

These sensitivities assume different rates of growth in the care cost cap (which, for the central scenario is assumed to grow in line with average earnings growth), either:

- Care cost cap frozen throughout the projection period; or
- Care cost cap rises over the projection period at a rate 3% per year above average earnings growth.

Table E4: Care cost cap frozen throughout the projection period

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	53,338,000	63,805,000	74,298,000	83,845,000	99,919,000
Net Income / (Expenditure) (£)	31,000	-4,891,000	-14,081,000	-23,216,000	-31,399,000	-46,067,000
Breakeven contribution rate	1.0%	1.2%	1.7%	2.0%	2.3%	2.9%
Projected LTCF balance at start of year (£)	25,000,000	16,150,000	-22,099,000	-111,452,000	-242,253,000	-422,608,000

Table E5: Care cost cap rises by 3% per year above average earnings growth

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	50,821,000	58,418,000	65,632,000	71,067,000	81,671,000
Net Income / (Expenditure) (£)	31,000	-2,374,000	-8,694,000	-14,550,000	-18,621,000	-27,819,000
Breakeven contribution rate	1.0%	1.1%	1.4%	1.6%	1.8%	2.1%
Projected LTCF balance at start of year (£)	25,000,000	20,822,000	-1,917,000	-56,074,000	-135,560,000	-244,241,000

Sensitivity 4: Changes to the level of asset disregard

This sensitivity assumes the level of asset disregard is frozen at £419,000 throughout the projection period.

Table E6: Asset disregard frozen at £419,000 throughout projection period

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	50,476,000	58,497,000	66,259,000	72,602,000	82,585,000
Net Income / (Expenditure) (£)	31,000	-2,029,000	-8,773,000	-15,177,000	-20,156,000	-28,733,000
Breakeven contribution rate	1.0%	1.1%	1.4%	1.7%	1.9%	2.2%
Projected LTCF balance at start of year (£)	25,000,000	22,665,000	1,092,000	-55,918,000	-140,168,000	-256,707,000

Sensitivity 5: Increases to LTC contribution rate

This sensitivity assumes that the LTC contribution rate rises from 1% to 1.5% from 2020.

Table E7: LTC contribution rate of 1.5% from 2020

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	58,804,000	60,516,000	62,348,000	64,184,000	66,082,000
Expenditure (£)	47,887,000	51,827,000	60,662,000	69,902,000	77,405,000	89,813,000
Net Income / (Expenditure) (£)	31,000	6,977,000	-146,000	-7,554,000	-13,221,000	-23,731,000
Breakeven contribution rate	1.0%	1.2%	1.5%	1.8%	2.1%	2.5%
Projected LTCF balance at start of year (£)	25,000,000	50,282,000	72,760,000	57,361,000	10,530,000	-74,950,000

Additional sensitivity: Alternative population projections

These sensitivities project income and expenditure based on Statistics Jersey's +1,000 net inward migration and +325 net inward migration population projections.

Table E8: Net inward migration of 1,000 individuals

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,559,000	50,115,000	51,742,000	53,389,000	55,095,000
Expenditure (£)	47,887,000	52,040,000	61,111,000	70,638,000	78,438,000	91,356,000
Net Income / (Expenditure) (£)	31,000	-3,481,000	-10,996,000	-18,896,000	-25,049,000	-36,261,000
Breakeven contribution rate	1.0%	1.2%	1.5%	1.8%	2.0%	2.4%
Projected LTCF balance at start of year (£)	25,000,000	19,256,000	-11,334,000	-81,933,000	-186,537,000	-332,499,000

Table E9: Net inward migration of 325 individuals

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,302,000	49,228,000	50,259,000	51,284,000	52,335,000
Expenditure (£)	47,887,000	51,560,000	60,098,000	68,976,000	76,106,000	87,873,000
Net Income / (Expenditure) (£)	31,000	-3,258,000	-10,870,000	-18,717,000	-24,822,000	-35,538,000
Breakeven contribution rate	1.0%	1.2%	1.5%	1.9%	2.1%	2.5%
Projected LTCF balance at start of year (£)	25,000,000	20,080,000	-9,575,000	-79,510,000	-182,933,000	-326,861,000

Additional sensitivity: Changes to care cost increases relative to average earnings growth

These sensitivities assume that standard care costs (which largely reflect carer earnings levels) increase at a rate that is 0.5% per year higher or lower than general Jersey average earnings growth.

Table E10: Standard care costs increase 0.5% per year quicker than Jersey average earnings growth

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	52,887,000	64,743,000	75,966,000	86,376,000	102,125,000
Net Income / (Expenditure) (£)	31,000	-4,440,000	-15,019,000	-24,884,000	-33,930,000	-48,273,000
Breakeven contribution rate	1.0%	1.2%	1.7%	2.1%	2.4%	3.0%
Projected LTCF balance at start of year (£)	25,000,000	17,570,000	-22,964,000	-116,722,000	-256,922,000	-453,156,000

Table E11: Standard care costs increase 0.5% per year slower than Jersey average earnings growth

Year	2018	2023	2028	2033	2038	2043
Income (£)	47,918,000	48,447,000	49,724,000	51,082,000	52,446,000	53,852,000
Expenditure (£)	47,887,000	50,716,000	57,999,000	65,468,000	70,777,000	80,583,000
Net Income / (Expenditure) (£)	31,000	-2,269,000	-8,275,000	-14,386,000	-18,331,000	-26,731,000
Breakeven contribution rate	1.0%	1.1%	1.4%	1.6%	1.8%	2.1%
Projected LTCF balance at start of year (£)	25,000,000	21,658,000	-392,000	-53,530,000	-131,457,000	-238,870,000

Appendix F: Glossary

This section provides a fuller description of certain terminology used within the report.

Terminology	Description
Additional costs	<p>If you are in a care home, additional costs are those that are over and above the standard co-payment of £331.94 a week.</p> <p>If you are receiving care at home, additional costs are any care costs that are over and above the level of the standard care cost appropriate to your assessed care level.</p>
Care costs cap	The lifetime cap relating to the standard care costs that an individual has to accumulate before they become eligible to receive the long-term care benefit.
Care level	The level of care required as assessed by an approved healthcare professional.
Co-payment	<p>The living costs of being in a care home.</p> <p>Under the LTC Fund, gross care home fees are made up of the standard care cost plus the co-payment.</p> <p>The co-payment can include additional costs as well as the standard co-payment.</p>
Gross fees	The total of an individual's LTC costs, including standard care costs, the standard co-payment and any additional costs.
LTC benefit	<p>The long-term care benefit available to anyone whose standard care costs have reached the care costs cap.</p> <p>This universal benefit is paid regardless of an individual's financial situation.</p> <p>The LTC benefit is set at the same rate as the standard care cost for each assessed care level.</p>
LTC property loan	<p>A loan to assist with any form of LTC cost if the income and assets of an individual and their partner are insufficient to cover these costs.</p> <p>The debt builds up as care costs accumulate and is formally registered against Jersey property using a Social Security hypothec.</p> <p>The loan is normally repaid when the property next changes hands.</p> <p>Interest is charged on the loan at the prevailing Bank of England base rate plus 0.5%.</p>

LTC support	Means-tested financial help that is available if the income and assets of an individual and their partner are insufficient to cover their standard care costs and/or standard co-payment.
Other assets exemption	The other assets exemption is designed to protect a minimum value of “cash” assets in addition to the value of the family home. The exemption protects the claimant from needing to use any of the exempted assets to meet their standard care costs and, if in a care home, their standard co-payment.
Principal property exemption	The principal property exemption is designed to protect the value of the family home. The exemption protects the property owner from needing to use any of the exempted value of the family home to meet their standard care costs and standard co-payment. However, if a claimant chooses a care home with a higher co-payment or a care package at home that is above the standard care cost for their care level then this can be met through a property loan, which can draw on assets below the principal property exemption.
Social Security hypothec	The means by which a charge is placed on any Jersey freehold property held by the claimant and/or their partner to secure a loan from Social Security to pay their standard care costs, standard co-payment or additional costs.
Standard care cost(s)	A weekly standard care cost is set for each care level. Every week someone is in care, they build up their standard care costs at the rate applicable to their assessed level of care. These standard care costs count towards the care costs cap.
Standard co-payment	The standard co-payment is £331.94 a week. Co-payments do not count towards the care costs cap and are not covered by the LTC benefit. LTC support and LTC property loans can assist with the standard co-payment.

Appendix G: Limitations

Please see below for details of certain conditions under which our advice is provided.

- This report and any enclosures or attachments are prepared on the understanding that it is solely for the benefit of the addressee(s).
- Whilst we understand that this report may be made publicly available, in providing this report, we do not accept or assume any responsibility for any other purpose or to anyone other than the addressee(s) of this report.
- We do not accept or assume any responsibility for any action taken in the event that this report is reproduced, distributed, translated or communicated to anyone else other than the addressee(s) of this report.
- We neither warrant nor represent (either expressly or by implication) to any third party who receives this report that the information in the report is fair, accurate or complete, whether at the date of its preparation or at any other time.
- This report has been prepared based on our understanding of the addressee's requirements as set out in the invitation to tender dated December 2017 and as set out in Section 1. Further advice should be sought where this analysis is intended to be used for any other purpose.
- With respect to data on which we have relied in producing our report, whilst we have taken certain limited steps to satisfy ourselves that the data provided to us by the addressee(s) is of a quality sufficient for the purposes of our investigation, including carrying out certain basic tests for the purpose of detecting manifest inconsistencies, it is not possible for us to confirm the accuracy or completeness of the detailed information provided.
- This report was based on data available to us as at the effective date of the report and takes no account of developments after that date except where explicitly stated otherwise.
- This report constitutes actuarial advice and should be read by suitably qualified persons in the detail covered. The report should be read in full to ensure conclusions are not reached based on individual sections alone.
- Our report does not represent legal or investment advice. Specialist advice in these areas should be sought where required.

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