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Mr Bruce Bonyhady
Chair
National Disability Insurance Agency
GPO Box 700
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Dear Mr Bonyhady

REVIEW OF FINANCIAL SUSTAINABILITY REPORT

This letter reports on my review of the third annual Financial Sustainability Report (FSR) prepared by the scheme actuary, dated September 2016.

Introduction

Subsection 180B(1) of the *National Disability Insurance Scheme (NDIS) Act 2013* provides that the scheme actuary will prepare an annual FSR.

Part 3 of the *NDIS Rules for the Scheme Actuary* (attached) sets out certain requirements in respect of the contents of the FSR.

Under subsection 180E(2) of the NDIS Act, the reviewing actuary is required to review and report on each annual FSR. The Australian Government Actuary has been nominated by the Board to be the reviewing actuary for three years, commencing 1 July 2016.

The FSR has generally satisfied the requirements set out in the Rules. However, a number of the requirements set out in the Rules could not practically be met for this third FSR. Importantly, this has not diminished the value of the FSR.

Key focus

This third FSR focuses very substantially on those aspects of the trial site experience which have most impact on the aggregate cost of individual support packages.

As the scheme is rolled out, aggregate package cost will represent the vast majority of overall scheme cost. Accordingly, the trajectory of aggregate package cost will have a major bearing on financial sustainability.

This third FSR examines how key drivers of aggregate package cost have behaved during the NDIS trials. In this regard, during the third year of trials, sufficient data has become available to allow the scheme actuary to undertake a number of credible analyses of scheme costs, some of which point to adverse trends in the cost trajectory.

Taking all of this together, I am satisfied that the focus on direct scheme cost in this third FSR is warranted.

Baseline projection

The scheme actuary has prepared a so-called baseline projection of scheme cost, based substantially on assumptions underpinning the Productivity Commission estimates which were published in 2011.

In my view, the baseline projection should be considered in two parts:

- the period of transition to full scheme; and
- the full scheme period thereafter.

During the period of transition to full scheme, the baseline projection shows the cost trajectory that would emerge if new participants enter the scheme in line with the agreed phasing schedules and in line with the agreed cost under the bilateral agreements (noting that WA is also included here). I do not believe that this can or should be interpreted as the scheme actuary's best estimate of the cost trajectory that will emerge. Rather this part of the projection merely reflects the current policy position around phasing and funding.

During the period following transition, I think the baseline projection can and should be interpreted as the scheme actuary's best estimate of the cost trajectory that would emerge if:

- transition to full scheme is achieved on time and on budget;
- post-transition, the NDIS is well managed; and
- the eligibility and support provisions of the NDIS remain unchanged and there is no cost-shifting from other sectors to the NDIS.

The baseline projection is important.

It represents the best estimate, on the evidence available to date, of the cost trajectory of a well-functioning NDIS when it reaches full capacity. In this way, it can be taken as a target projection which can be used, for example, to benchmark actual scheme performance against.

Helpfully, at the current time, the baseline projection estimates a cost trajectory which is essentially in line with the funds set aside in the Commonwealth budget.

Now, of course, as new information comes to hand, it may be necessary to revise the baseline or target projection from time to time to ensure that it continues to represent the scheme actuary's current best estimate, on the evidence available, of the cost trajectory of a well-functioning NDIS.

Emerging cost pressures

Notwithstanding that the three year trial period is over, the baseline projection remains substantially unchanged. However, care is needed in interpreting this.

In my view, it should not be assumed that the trial experience has provided empirical support to leave the baseline or target projection essentially unaltered. Rather, as discussed below, the trial site experience has, in a number of areas, not reflected what would be expected in a mature and well-functioning NDIS. Accordingly, the fact that the baseline projection remains unchanged reflects, in my view, the scheme actuary's opinion that aspects of the trial site experience cannot be relied on as reflecting a well-functioning NDIS at this stage.

In fact, the scheme actuary has identified a number of cost pressures which have emerged during the trials and which need to be addressed. These include:

- more children than expected entering the scheme as participants;
- package costs not well aligned to level of need for support; and
- evidence of package creep, where the value of packages is increasing at a rate that would not be sustainable over time.

I have discussed each of these issues in the sections below.

The scheme actuary has (correctly) noted that new schemes like the NDIS can face teething problems. The benefit, in this case, is that the NDIS uses an insurance-based approach and this has allowed the teething problems and associated cost pressures to be identified. Relevantly, management initiatives are underway.

Prevalence, new entrants and exits

It is important to understand the relationships between new entrant rates, exit rates and prevalence and their impact on scheme costs.

New entrants

New entrants are people who enter the scheme as participants. During trials and during the transition to full scheme, new entrants can be disaggregated into three sub-groups:

- phasing
- unmet need

- new incidence

The phasing sub-group includes people who phase into the scheme as participants who have previously received support under the state and territory or Commonwealth based disability programs. This group will comprise the majority of the new entrants over the trials and during transition.

The unmet need sub-group refers to people who have a disability and are eligible to be an NDIS participant but who have not had support previously under a state or commonwealth based program. The PC estimated that a significant minority of all participants might be in this category. As a general observation, the cost of packages for this group should be less than for the group phasing in.

Finally, new incidence refers to people who have a newly acquired disability. Initially, this group will make the smallest contribution to the number of new entrants. Once full scheme is reached, though, all new entrants will be as a result of new incidence.

New entrant rates refer to rates of new incidence.

At a global level, the new entrant rate can be thought of as the number of new participants (in a period such as a year) per 1,000 people in the general population. New entrant rates can also be expressed by disability group, age etc.

The scheme actuary has assumed a global new entrant rate of 87 per 100,000 people in the general population. This means that she estimates around 22,000 new entrants each year when the scheme reaches full capacity.

At this stage it is hard to test the validity of the new entrant rate assumption. This is because it is difficult to isolate new incidence from unmet need in the new entrant population.

The scheme actuary has observed that in Barwon and part of the Hunter trial site, the number of people approaching the scheme is higher than expected. These sites were fully phased in some time ago.

Exits

Many participants will be participants for life. Therefore they will exit the scheme by reason of death.

However, it is expected that other participants will, in time, be able to live independently without a support package. This is particularly the case for younger participants.

The exit rate refers to the number of participants who exit the scheme in a year (cease individual funded supports) expressed as a proportion of the participant population. Again, exit rates can be expressed by age or disability etc.

The scheme actuary has assumed a global exit rate of 2.1%. This means that in a well-functioning NDIS, at full scheme, she expects more than 10,000 participants to cease receiving individual funded support packages each year.

This can be compared with only 434 participants who had become inactive by the end of the trials.

Prevalence

Unlike new entrant and exit rates, which both consider experience over a period of time, prevalence is a point-in-time measure.

Prevalence refers to the number of participants (at a point in time) expressed as a proportion of the general population.

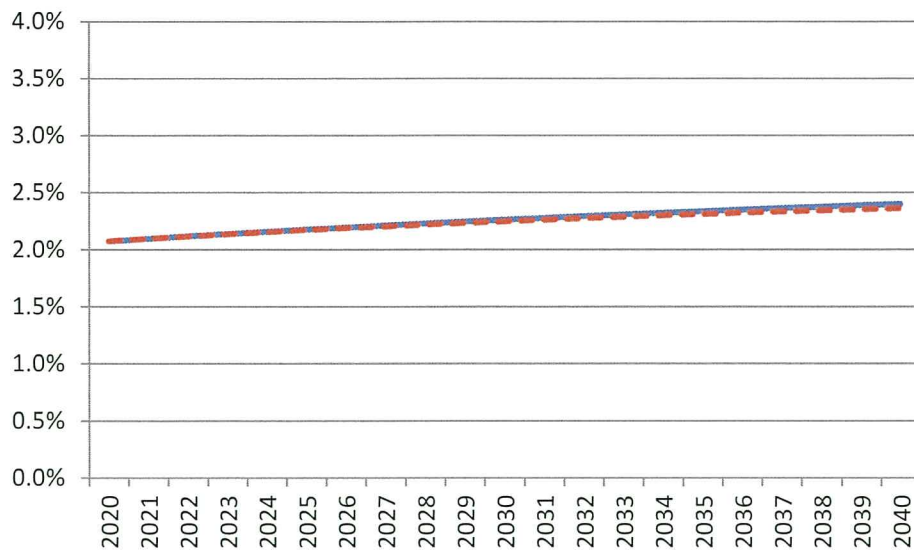
Once the scheme reaches capacity, the trajectory of scheme prevalence will depend entirely on the (actual) new entrant and exit rates.

It can be seen that the scheme actuary expects the participant population to increase by around 12,000 per year when the scheme reaches full capacity (22,000 new entrants minus 10,000 exits). This is slightly faster than the expected rate of growth in the Australian population, with the difference relating to the ageing in the scheme of participants over 65 years old.

Scheme costs are impacted directly by prevalence.

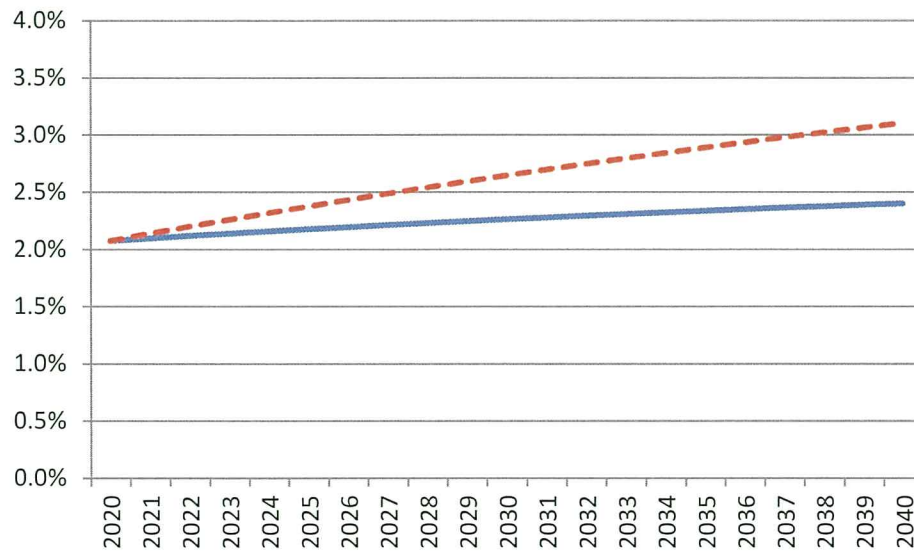
If prevalence is higher than expected, then scheme costs will be higher than expected, all else equal. The size of the impact on scheme costs will depend on the size of packages that are provided to the “additional” participants.

Scheme costs are not directly impacted by either new entrant rates or exit rates in isolation. For example, if new entrant rates and exit rates are both higher than expected, there may not be a significant impact on scheme costs. The chart below provides a crude illustration – showing the projected prevalence on two bases: first (solid blue line), based on the assumed new entrant and exit rates; and, second (dashed red line), on the assumption that new entrant rates are 25% higher than expected and exit rates are 50% higher than expected. (Prevalence gradually increases as a result of participants aged over 65 remaining in the scheme.) Under both of these scenarios, prevalence is similar.



However, if higher than expected new entrant rates are not offset by higher exit rates (or are compounded by lower than expected exit rates), prevalence will increase and this will result in higher than expected scheme costs.

The chart below illustrates roughly what happens if new entrant rates are 25% higher than expected (110 new entrants per 100,000 people in the population instead of 87) and exit rates are about 40% lower than expected (1.2% instead of 2.1%).



After 10 years, prevalence is around 15% higher than expected. All else equal, this would mean scheme cost of 15% more than expected.

Example - Barwon

Barwon was “fully phased in” by around December 2014.

Despite that, around 100-200 people are still approaching the scheme each month. This compares with an estimated new entrant rate for Barwon of around 20 per month.

The scheme actuary prepared an illustrative projection for Barwon which assumed:

- an additional 50 new entrants per month in the first year before the new entrant rate returned to its expected level (20 per month). Over 10 years, this is similar to a new entrant rate that is 25% higher than expected.
- exit rates of 1.2% pa in line with the trial site experience rather than 2.1% pa

That projection was intended to illustrate what Barwon would look like if it was possible to get the new entrant experience 'under control' after only a year but if the exit experience persisted at the low rates observed during trial. In line with the above, it showed deterioration in scheme costs of around 15% after 10 years.

In my view, it will be important for the scheme to consider developing a strategy for managing participant exit rates. A sustainable scheme cost trajectory will require that exit rates are consistent with new entrant rates.

Prevalence and PEDI-CAT

The scheme actuary has reported that prevalence rates among children in a number of trial sites including ACT, Barwon and SA could turn out to be much higher than expected.

For ACT 7-14 year olds, for example, actual prevalence is 3.2% while potential prevalence is more than 7%. In other words, if all ACT 7-14 year olds who are known to the scheme are eventually accepted as participants, then prevalence would be more than 7% for this age group. Since scheme funding is based on a prevalence rate of 2.9% for this age group, this sort of outcome would have a significant adverse impact on scheme costs. The discussion above noted that scheme costs are directly influenced by prevalence. Notably, 7% is more than double 2.9%.

Related to the higher than expected observed prevalence among young participants, the scheme actuary reported that 30-40% of a sample of more than 4,000 participants aged 0-18 were assessed as having no deficits relative to expected for their age group when assessed using the PEDI-CAT. If this experience were typical of the young participant population, then assessing eligibility using the PEDI-CAT would be expected to see prevalence at around the rates expected (rather than the higher observed prevalence). It seems logical to pursue the use of the PEDI-CAT as part of the eligibility process for children.

Package costs

In the same way that scheme costs will be influenced directly by prevalence, they are also highly dependent on the size of individual packages that are provided to participants.

The statement below from the NDIS insurance principles manual is pertinent:

the processes and decisions around individual packages represent the single most important financial risk management effort that the NDIS will undertake

Distribution

The PC established a benchmark package cost distribution based on its expectations around:

- the number of participants in certain age and severity bands
- the average package size needed to fund reasonable and necessary supports in the same age and severity bands

Since the commencement of trials the actual observed package cost distribution has been very different from the benchmark PC distribution. Further, the extent and shape of the difference has been consistent across trial sites and across time.

Given the consistency of the trial site experience, it would be reasonable to ask whether the PC had it wrong and, in fact, the trial site experience is more indicative and should be relied upon. After all, a key purpose of the trials was to inform more reliable estimation of full scheme costs.

However, this third FSR reports on some important (and sobering) analysis of package costs. In particular, a hindsight analysis indicates that only around 1 in 3 adult packages appear to fall within plus or minus 50% of the benchmark package for the particular age/disability/severity category.

This provides strong evidence that the trials site package cost distribution should not be relied on as a good indicator of the appropriate package cost distribution. At the same time, however, it does not (yet) follow that the PC had it right. In my view, we are still some way short of knowing what the 'correct' package cost distribution looks like.

The next stage for the rollout of the scheme will be important as it will see application of the newly developed first plan process, whereby more detailed and objective guidance is available to planners as they make their decisions around package size.

While this represents a welcome and necessary step forward, I do not believe that it should be assumed that this will be the end of the matter. Rather, it should be expected that the first plan process is dynamic. Reference packages should be evaluated and revised regularly as relevant information, including on participant outcomes, comes to hand. Following any revision, guidance for planners will need to be prepared. A framework and structure to support this control cycle approach is needed. Importantly, real time feedback will be required on the alignment of package sizes with assessed level of need for support over the next few months as plans are approved for a rapidly growing participant cohort. The ICT infrastructure needs to be in place to support this.

Inflation

The discussion above was focussed on getting the support package right the first time. This is obviously an essential ingredient in a well-functioning NDIS.

However, the initial package for a participant will typically be the first in a long series of packages. Many participants will be participants for life. This means that packages will be re-assessed regularly, potentially over many years.

Superimposed inflation refers to inflation over and above the expected inflation due to wage growth and ageing. Superimposed inflation in package costs could present a major risk to the sustainability of the scheme if not controlled. This is also recognised in the insurance principles manual:

this risk is further exaggerated because ... an NDIS participant is a participant for life... [scheme] management involves a whole time series of subjective judgements around the size of the support package to be provided in any single case, likely over many years.

The PC assumed that there should be zero 'superimposed' inflation in package costs (in a well-functioning NDIS).

The scheme actuary has, however, observed superimposed inflation in the trial experience.

She notes that, for those participants who have had more than one package (more than half of all participants during trial), package size increased by around 6% pa over and above the increases expected due to normal inflation and ageing.

This sort of superimposed inflation is unsustainable.

Even a very low level of superimposed inflation will compound over time, if not controlled.

While the roll-out of the first plan process is an important development aimed at ensuring that the size of the initial package provided to a participant is properly aligned with the level of need for support, other considerations are involved at subsequent planning transactions (eg plan review). I think there is a need for the scheme to develop and implement a policy around the plan review and plan amendment processes. That policy needs to comprehend and address the threat that superimposed inflation will present to sustainability if not controlled.

The role of projections

Actuarial management of the long term financial risks in long tail schemes (like pension funds and accident compensation schemes) is typically centred on balance sheet management. A key element is the scheme liability which is the present value of the future lifetime costs associated with existing claimants. That is, the scheme liability is the sum of a vector of discounted future cashflows. It is a neat summary figure. The scheme liability is compared with available assets. The aim with these schemes is to remain 'fully funded' – that is, to ensure that the scheme liability is in line with the available assets.

Like pension funds and accident compensation schemes, the NDIS is a long tail scheme. However, the NDIS is not fully funded and a balance sheet approach is not appropriate. In my view, the best available approach to actuarial management of long term risks is to use projections.

First, a baseline projection which represents the cost trajectory for a well-functioning NDIS should be prepared. This will require the actuary's best estimates around the prevalence trajectory as well as the package cost trajectory (having regard to underlying inflationary and ageing forces as well as the impact of other forces such as the NIIS). Among other things, the baseline projection should provide a signal to governments about the actuary's best estimate of the required funding trajectory (for a well-functioning NDIS). In a sense, this projection plays the same role as the available assets in a typical context.

Second, a projection(s) which sets out estimates of the scheme's actual cost trajectory can be compared with the baseline projection to assess progress. This projection should take into account the unfolding scheme experience. If this projection differs from the baseline projection, it can be used as a benchmark against which to measure the effectiveness of management action designed to return the NDIS to a more sustainable cost trajectory. In a sense, this projection plays the same role as the scheme liability in a typical context.

In this third FSR, it has only been possible for the actuary to prepare a naïve second projection, by taking into account certain features of the actual trial site experience and applying these to the Barwon and Hunter trial sites. These projections are naïve in the sense that they assume the experience observed during the trials (and discussed above) will persist into the future. In other words they ignore the management initiatives that have been implemented to deal with issues around high prevalence among children and poor alignment of package costs with level of need for support. Nonetheless, although these projections are naïve, in my view, they provide a useful benchmark against which to evaluate the effectiveness of the management responses as the transition to full scheme begins.

Insurance approach

This third FSR has identified a number of cost pressures that have emerged during trials.

Under the NDIS insurance approach, emerging scheme experience is continuously monitored and analysed in order to provide real time feedback to management. The objective is to ensure that any pressures on the scheme are identified early so that management responses can be put in place to respond to these pressures.

The recent experience of the scheme presents a good example of the NDIS insurance approach in action. Without proper management attention, the pressures discussed above would put the scheme onto an inappropriate trajectory. However, since the NDIS applies an insurance based approach, the pressures listed above have been identified during 2015-16 and management responses are being implemented. Ongoing monitoring and actuarial analysis will provide feedback on the effectiveness of the initiatives.

Ramp up

The year ahead is an important one in the life of the scheme. The important initiatives mentioned above have the potential of ensuring that eligibility assessments are soundly based and that support packages provided to new participants are properly aligned with a robust assessment of their level of need for support.

However, at the same time as these important initiatives are being rolled out, the number of new participants who will enter the scheme will grow significantly.

Expectations are high regarding phasing targets. In this environment, in particular, it will be challenging but essential that the scheme remains disciplined and consistent in its transactions with new participants. Rapid growth in any organization presents a risk to prudential management. Indeed, APRA uses rapid growth as a warning light in its prudential oversight toolkit. This highlights the potential risk that rapid expansion (that the NDIS must now undergo) can present and further emphasizes the importance of discipline in the period ahead.

S180E(3)

Finally, in accordance with subsection 180E(3) of the NDIS Act, I note that the Agency has taken the steps necessary for me to undertake this review.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Peter Martin', with a stylized, cursive script.

Peter Martin

Australian Government Actuary

Part 3 Content of annual financial sustainability report

8. GENERAL ASSESSMENT AND RECOMMENDATIONS

The scheme actuary must include the following matters in an annual financial sustainability report:

- (a) an overall assessment of the financial sustainability of the NDIS that identifies the key risks and issues impacting on the financial sustainability of the NDIS;
- (b) a discussion of the key risks and issues identified and, where these have an adverse impact on financial sustainability, recommendations designed to manage the risks or address the issues.

9. RECENT EXPERIENCE

The scheme actuary must include the following matters in an annual financial sustainability report:

- (c) a summary of the participant data at the effective date of the annual financial sustainability report;
- (d) a section that identifies and comments on significant features or trends in the recent experience of the NDIS, including any impacts due to external factors, and covers the following:
 - (i) changes in the number and characteristics of participants (including in relation to access criteria and assessed support needs);
 - (ii) changes in the distribution of support package costs;
 - (iii) participant outcomes;
 - (iv) the Agency's operating expense experience;
 - (v) the total cost of the NDIS;
 - (vi) deviations in actual experience from expected experience, and the reasons for the deviations;
 - (vii) any other relevant experience, including the use of innovative approaches;
- (e) comments on any steps taken or proposed by the Board and senior management of the Agency to address areas of deviation and adverse experience;
- (f) any recommendations of the scheme actuary in relation to areas of deviation and adverse experience.

10. PROJECTIONS

The scheme actuary must include the following matters in an annual financial sustainability report:

- (g) projections of future experience in the form of the best estimates of the following matters, with discussions of the projections:
 - (i) future expenditure on care and support—presented as a set of cashflow projections over the long run, both in future dollar terms and as a percentage of GDP;
 - (ii) lifetime cost of care and support to standardised new entrant cohorts—presented in the form of net present values, both in discounted dollar terms and as a percentage of GDP;
 - (iii) future expenditure on care and support to current participants on the assumption of no change in the scheme design—presented in the form of a projection of net present values, both in discounted dollar terms and as a percentage of GDP;
- (h) a discussion of any changes in the projections since the previous annual financial sustainability report or other more recent set of projections provided by the scheme actuary to the Board, including the reasons for the change and any implications for the financial sustainability of the NDIS;
- (i) any recommendations of the scheme actuary in relation to any adverse changes in the projections;
- (j) a justification of the methodology and key assumptions used to prepare the projections;
- (k) comments on the extent to which the valuation assumptions are based on the historical experience of the NDIS and, if the assumptions have changed since the previous annual financial sustainability report, the reasons for that change and the consequences of the change;
- (l) a practical discussion of the level of uncertainty that surrounds the projection, including sensitivity or scenario analysis, a discussion of the main drivers of uncertainty, and any recommendations of the scheme actuary for managing uncertainty.

11. ADMINISTRATIVE INFRASTRUCTURE, PROCESSES AND RISK MANAGEMENT

The scheme actuary must include the following matters in an annual financial sustainability report:

- (m) a discussion of the Agency's administrative infrastructure, its administrative processes and risk management arrangements (***risk management arrangements*** are defined in section 3);
- (n) comments on the adequacy of the Agency's processes, including on the suitability and adequacy of:
 - (i) any decision support tools; and

- (ii) its data and information systems; and
- (iii) its processes for monitoring emerging experience and responding to adverse movements in emerging experience;
- (o) any recommendations of the scheme actuary in relation to any inadequacies.

12. OTHER MATERIAL MATTERS

The scheme actuary must include the following matters in an annual financial sustainability report:

- (p) a section identifying and discussing any other matters that the scheme actuary believes are material to the financial sustainability of the NDIS;
- (q) comments on the extent to which any previous recommendations have been acted on by the Agency.