Ref No.:

Telephone: 02 6263 4127
Facsimile: 02 6263 2677
E-mail: peter.martin@aga.gov.au

22 October, 2015

Mr Bruce Bonyhady
Chair
National Disability Insurance Agency
GPO Box 700
CANBERRA ACT 2601

Dear Mr Bonyhady

REVIEW OF FINANCIAL SUSTAINABILITY REPORT

This letter reports on my review of the second annual Financial Sustainability Report (FSR) prepared by the scheme actuary.

Background

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. I have been nominated by the Board to be the reviewing actuary for the first three years of the scheme.

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 second FSR. Importantly, this has not diminished the value of the FSR.

Since financial sustainability is inherently a long term concept, my review has focussed on the reasonableness of the scheme actuary's projections of long term costs of the NDIS. I have also considered a number of related issues identified by the scheme actuary in the FSR.

NDIS trials

A key purpose of establishing trial sites was to inform more reliable estimation of full scheme costs. NDIS trials commenced in July 2013 in NSW, Victoria South Australia and Tasmania. In July 2014, new trials sites commenced in the ACT, NT and Western Australia. This FSR has therefore been prepared with the benefit of two years of trial experience from four trial sites across NSW, Victoria, South Australia and Tasmania and a single year of experience from the other trial sites.

Productivity Commission estimates

In 2011, the Productivity Commission (PC) produced estimates of the cost of the NDIS when it is fully rolled out. The assumptions adopted by the PC for that purpose substantially formed the basis for the projections in the first FSR prepared in 2014.

The PC assumptions provide an important benchmark against which to measure the development of trial site experience. Comparison of the actual emerging trial site experience with PC assumptions inevitably informs the assumption setting for the FSR.

Projections of long term cost

In order to prepare long term cost projections, a set of long term assumptions needs to be developed. The key assumptions required are in respect of:

- the numbers of participants when the NDIS reaches full scheme;
- the profile of participants (by age, sex, disability type, disability severity);
- rates of entry into the scheme for new participants entering after the NDIS reaches full scheme;
- rates of exit from the NDIS;
- the cost of participant supports to be funded by the NDIS, disaggregated by age and disability;
- the rate of inflation in those costs;
- the value of any offset to NDIS costs that might emerge under the National Injury Insurance Scheme (NIIS);
- Agency operating costs; and
- future GDP (in order to express long term costs as a percentage of GDP).

I have briefly discussed each of these further below. However, first, I have briefly discussed the idea of a possible framework for incorporating trial site experience into the assumption setting process.

Assumption setting framework

I would expect to see an increasing reliance on the trial site experience in setting assumptions as the volume and reliability of the trial site experience data increases. However, the question of when and how to depart from PC assumptions warrants consideration. This second FSR is the first with a predecessor and, as such, is the first occasion where changes to the assumptions adopted previously must be contemplated.

There are several philosophical approaches that can be taken to resetting the assumptions for a long run projection. It is important to understand the nature and consequences of the different approaches that might be used.

The best approach in any particular situation will depend very heavily on purpose and context. An important feature of the current context is the public communication element of the FSR.

The two approaches described below represent extremes. In practice there are many variants on these. Their purpose is to illustrate the range of possibilities.

'Blank Sheet of Paper Approach'

Under this approach, all previous assumptions are disregarded. In particular, under this approach, the existence of the earlier PC report as a public document and the first FSR would have no bearing on the assumptions to be used for the current valuation.

The 'blank sheet' approach is characterised by frequent revisions to assumptions with consequent volatility in the resulting projections. In the current context, results are likely to be sensitive to certain assumptions, including assumptions which may be hard to set reliably. Volatility needs to be explained. This can be hard to do and, if not done successfully, can undermine the credibility of the results.

'Hang on like Grim Death Approach'

Under this approach, pre-existing assumptions are not changed unless it is unambiguously clear that they must be changed. The existence of an earlier valuation would have a strong bearing on the assumptions to be used for a current valuation. The underlying assumptions would not be changed unless it was very clear that they were no longer appropriate.

The 'hang on' approach is characterised by stable projections with the occasional large structural adjustment which is unambiguously justified by experience and analysis.

Discussion

The main projections in the FSR are long term projections. Costs are projected to the middle of the century. In this circumstance, small changes in the underlying assumptions can result in big changes in the projections. For example, a small change in the assumed long term rate of entry (of new participants) into the NDIS would have a large impact on the projected costs in the long run. There is a sound argument for limiting the risk of introducing unhelpful volatility into the projections by seeking to ensure that revisions to the assumptions are based on 'signal' in the data rather than 'noise'. Unnecessary volatility can be hard to explain and can undermine confidence in the reliability of the projections.

At the same time, the projections in the FSR must represent contemporary, rather than historical, estimates of long term cost. A key purpose of the FSR is to provide timely information on future scheme costs, in order to inform government planning for the associated funding commitments. It would be a mistake to delay making changes to the assumptions for too long, particularly in view of the pay-as-you-go funding model that applies to the NDIS. Overemphasising the importance of stability in the projections can mask the impact of genuine changes in the underlying experience. In this circumstance, a large structural change in the projections will emerge, when a series of smaller gradual changes would have been preferable. This sort of result is similarly likely to undermine confidence in the projections. Moreover, it might potentially lead to funding challenges.

The trick is to find the balance between the benefits of stability and the importance of being contemporary. For the current purpose I would not support either the 'blank sheet of paper' approach or the 'hang on like grim death' approach. A degree of judgement will be necessary in deciding if and how to change assumptions. I would suggest that it is appropriate to alter assumptions from one FSR to the next when it appears reasonably likely that the previous assumptions are no longer appropriate. That is, I would suggest a 'balance of probabilities' test rather than a 'virtual certainty test' or 'no test at all'.

My sense is that the scheme actuary is in agreement with this. However, I am not aware of any formal framework in this regard. The need for an agreed framework is something that, in my view, may be worth consideration by the Board.

Next, I turn to the assumptions actually adopted for this FSR.

Numbers of participants when the NDIS reaches full scheme

By 30 June 2015, almost 20,000 participants had been found eligible for the scheme across all trial sites, more than double the number from a year earlier. The Victorian and NSW trial sites cover all ages and now have two years of experience. As such these sites might be expected to increasingly provide the basis for setting assumptions regarding the ultimate numbers of participants in the full scheme.

The Victorian and South Australian trial sites have both seen more young children enter the scheme than would have been expected based on PC estimates. Interestingly, the number of children in the NSW trial site appears more in line with expectations based on PC estimates. This is a good example of the importance of monitoring emerging scheme experience in order to identify, understand and, as needed, respond to pockets of experience which are unexpected. I understand that the Agency is investigating the reasons for this difference in trial site experience. It is also a good example of the type of judgement that will be needed in setting assumptions for FSR projections. In this case, since there are, as yet, unexplained and not fully understood differences in the experience among the trial sites, the scheme actuary has decided to retain the PC assumptions around disability prevalence rates among young children.

More generally, the PC estimates of full scheme numbers have been retained for this FSR. When considered collectively, prevalence rates in the trial sites appear broadly in line with PC estimates.

I regard the decision to retain the PC assumptions as sensible. As I noted last year, this should not be taken to imply that the trial site experience to date supports a view that the PC prevalence assumptions are likely to continue to be the best available. Rather, it reflects the fact that the trial site experience does not at this stage support a conclusion that the PC assumptions are no longer reasonable.

Profile of participants

Subject to my comments above in respect of young children in the Victorian and South Australian trial sites, the age and sex profile of the (limited) trial site experience to date appears broadly consistent with expectations based on the PC work and other available data (eg epidemiological data). The assumptions adopted are, accordingly, based on an amalgamation of data from these sources.

I noted in last year's FSR review that fewer participants had entered the scheme with psychosocial disability than would have been expected based on PC projections. The second year of trial site experience, particularly in Victoria, has been more in line with expectations. Accordingly, the PC assumptions have been retained. At the same time, work within the Agency continues in respect of ensuring scheme access arrangements are appropriate for people with psychosocial disability.

Note that for the purpose of the long term cost projections in the FSR, the key participant profile assumptions were around age and primary disability.

The scheme actuary has noted that autism and intellectual disability (including Down syndrome) are the largest primary disability groups across trial sites. At the same time, she has noted that some planners are experiencing difficulty in nominating a primary disability. A coherent and consistent method for recording disability type is required to ensure efficient benchmarking and monitoring of the types and volumes of supports needed to achieve positive participant outcomes. I understand that this is being pursued within the Agency.

Rates of entry to and exit from the NDIS

For this second annual FSR, assumptions around entry and exit rates were slightly revised, taking into account the experience in trials sites. This related primarily to assumed entry and exit rates among children. The revised assumptions remain coherent. That is, the assumed new entrant rates and exit rates work together in a way which sees a fairly stable age structure (0-64 year olds) among the projected participants over the 30 year projection period. Moreover, they also produce a participant population (0-64 year olds) which represents a fairly steady proportion of the projected total Australian population of 0-64 year olds, in line with disability prevalence rates assumed by the PC.

It is not yet possible to estimate what impact the NDIS might eventually have on the age structure or number of participants in the long run and a set of assumptions that result in a stable age structure and population is entirely reasonable.

Distribution of cost of participant supports to be funded by the NDIS

The actual trial site distributions of support package cost[1] observed during the trials so far warrant discussion.

Noticeably fewer participants have low cost support packages (less than $10,000 pa) at the end of two years of trials than might have been expected, based on PC estimates. This represents a continuation of the experience observed during the first year of trials and is a consistent feature of the experience across all trial sites. At the same time, there are fewer than expected participants with support packages of between around $30,000 and $100,000. It appears that both of these observations might be associated with a 'clumping' of participants with packages in the $10,000 to $30,000 range.

The distribution of package costs should be aligned with the distribution of support needs. Ideally, the distribution of support needs would, in turn, sensibly reflect an underlying 'disability severity' distribution which can be benchmarked to population statistics. A reliable tool(s) to assess 'disability severity' and to align measured severity levels with appropriate reference packages is desirable. Without such a tool(s) there is a risk that the basis for determining the level of individual support packages may not be sufficiently robust. Similarly, without the necessary participant severity data, it will not be possible to properly monitor the appropriateness of package cost decisions. This suggests that work to identify verifiable severity measurement tools and to collect the right severity data is needed. In practice, however, for some disabilities (including the most common disability types among NDIS participants) the level of support need is unlikely to be perfectly correlated to a measurement of 'disability severity' which can be readily benchmarked to population statistics. Other variables (such as the level and availability of family support) will play a part. This means that the range of package costs around verifiable[2] severity measures may be somewhat wide. The trick will be to find ways to narrow this range to the extent possible, including by incorporating these other variables into the assessment process. I note that

[1] this refers to the numbers of participants with different support package amounts
[2] that is, able to be benchmarked to population statistics

work is underway to address all of these related issues: identification of appropriate verifiable severity indicators, identification of other variables that affect (funded) support needs, data collection and reference package development. I see this initiative as high priority.

Although the distribution of participant numbers across the package cost continuum is different from expected, the impacts of these variations on total cost appear largely offsetting. That is, the total cost of packages to date is in line with PC expectations. In this regard, total scheme cost is influenced more by the number of participants with high cost support packages than it is by the number of participants with low cost support packages. For example, an additional 15 high cost participants (> $100,000) would have the same impact on total costs as an additional 200 low cost participants (<$30,000).

For the purpose of the long term cost projections in the FSR, the key assumptions were around the *distribution of package costs* by age and disability type. Package costs have been assumed to generally increase with age – the oldest participants are assumed to have package costs more than three times those of the youngest participants. Generally the assumed package cost distribution is very similar to that assumed last year.

Cost inflation

The rate of inflation in scheme costs will have a significant impact on long term costs.

In last year's review of the FSR I noted the possibility of extraordinary cost inflation which might emerge for a number of reasons, for example:

- without proper controls and discipline, Agency decision making around support packages might lead to a form of package creep; or

- if there is an imbalance between demand for support from participants and supply of support from the service provider sector, the price of support might increase faster than general (wage) inflation.

In respect of the first source of extraordinary cost inflation[3] mentioned above, the scheme actuary has, indeed, observed some evidence that some participant plans have increased at a faster rate than might have been expected upon renewal. This is a cause for concern and needs to be addressed. At the same time, this experience provides a good example of the potential benefits of actuarial monitoring of scheme experience as it emerges. Of course, those benefits can only be realised if the necessary remedial action is undertaken. This needs to be followed closely.

Notwithstanding this second year experience, no allowance has been made for any extraordinary cost inflation in setting the assumptions. That is, costs have been assumed to increase in line with underlying inflationary forces only.

---

[3] In the second FSR it is referred to as superimposed inflation

I support the scheme actuary's decision not to allow for any extraordinary cost inflation in these projections. Rather, in setting the cost inflation assumption, the scheme actuary has had regard to expected underlying inflation and has implicitly assumed disciplined Agency management and sufficient supply to match support needs. Monitoring the actual cost inflation as it emerges against the assumed cost inflation will, of course, be a critical part of the actuarial oversight of the scheme.

NIIS offset

The scheme actuary has assumed an 'offset' to the NDIS costs in respect of both future catastrophic injuries after the full scheme rollout is completed and a number of existing participants of certain injury schemes.

The assumptions adopted appear realistic although they have been set within a context of substantial uncertainty regarding the eventual number of NIIS participants, related in part to the eventual scope of the NIIS.

It is noteworthy that, when implemented, the NIIS will have an increasing impact on NDIS costs. The full impact will not be realised for at least sixty years.

Agency operating costs

Agency operating costs have been assumed to be 7 per cent of annual full scheme support package costs. This is unchanged from last year.

Last year I observed that my sense was that this might be more likely to be on the low side than on the high side. I remain of that view.

It is, of course, to be expected that operating costs will represent a much bigger proportion of support package costs before the ramp up to full scheme. It is also important to note that, while the Agency should always strive hard to operate as efficiently as possible, unless the operating budget is adequate, ongoing financial sustainability cannot be assured. Indeed, relatively small investments in operating expenditure could have a major impact on controlling direct support costs.

Future GDP

The assumptions around future GDP have been derived from Treasury projections and are reasonable.

General conclusions on the assumptions and the projections

I am satisfied that the assumptions adopted by the scheme actuary are reasonable for the purpose of obtaining a realistic projection of long term scheme costs.

Having regard to the assumptions adopted by the scheme actuary, I have carried out high level reasonableness checks on the long term cost projections themselves. That is, I have sought to ensure that the projections are consistent with the adopted assumptions.

I have been able to broadly replicate the scheme actuary's projections and therefore I am satisfied that the projections are consistent with the assumptions adopted.

In my view, the projections of long term cost expressed as a percentage of GDP are more meaningful than the dollar value projections.

Finally, as discussed above, I suggest that the Board consider a framework for guiding the resetting of assumptions at future FSR's.

Related Issues

The scheme actuary has identified a number of issues which have implications for the financial sustainability of the scheme and which, in my view, warrant careful consideration. I have mentioned a number of important issues briefly below.

Analysis of Newcastle and Barwon trial sites

The scheme actuary has carried out an instructive analysis of the NSW and Victorian trial site experience. In particular, she has sought to estimate the total cost of those trial sites when fully phased in, based on the observed participant number and package cost experience to date, along with certain assumptions about other people who are currently not participants but who might become participants. In other words, those estimates are based on the trial site experience and not on the PC assumptions.

Interestingly, the resulting estimates are close to the estimates that would have been obtained by adopting PC assumptions for those trial sites. Although it is too early to draw scheme-wide conclusions from this analysis, it provides a good deal of support for the retention of the PC assumptions for this current FSR.

IT system

I note that funding for a new ICT system was provided in the 2015 Commonwealth Budget. This is an important development. It will now be important for the Agency to ensure that the system which is ultimately delivered is the system it needs.

Unless the IT system is fit for purpose, it will not be possible for the Agency to give adequate effect to its obligation to adopt an 'insurance based approach' to the delivery of the NDIS.

Ramp up to full scheme

The projections in the FSR see the scheme ramping up quickly over a three year period from the end of the trials in mid-2016.

The transition to full scheme cannot happen successfully before the creation of sufficient additional capacity in the service sector.

The FSR projections over the period of the ramp up to full scheme implicitly assume that the supply side of the equation can take care of itself without any impact on the price of supports. They have been prepared in a way that is intended to align with the current policy settings around the ramp up to full scheme. As a result of this, the FSR projections cannot be taken as an indication that the trajectory from trials to full scheme is easily manageable.

Put simply, if the ramp up to full scheme happens at a rate faster than the service provider sector can accommodate, then this will present a risk to both scheme cost and scheme credibility.

While the pace of the ramp up is ultimately a matter for governments, the Board needs to be in a position to provide input, including to Governments. In my view, it is not the role of the scheme actuary to contemplate the pace at which the service provider sector might realistically grow without any impact on prices. This is not an actuarial question but it is an important question.

This suggests that the Board needs to consider how it might assess, monitor and project service sector capability and readiness.

Mainstream services

It seems inevitable that the line between the NDIS and mainstream systems (health, education, housing, transport, employment and justice) will be somewhat blurry. Despite that, I found the discussion around this issue in the FSR concerning.

The success of the NDIS depends on a sound interface with mainstream systems.

In my view an important area of focus before the end of the trials should be to get these arrangements agreed coherently, transparently and efficiently. This will demand substantial effort.

Over 65s

The FSR has again highlighted that, in the medium term, the costs associated with participants aged more than 65 will increase and become a significant proportion of the overall scheme cost.

Older-aged NDIS participants will represent a relatively small proportion of the total population aged more than 65. I noted last year that it would be problematic if more (disability) supports are available to older-aged NDIS participants than to other older-aged people who acquire disability after reaching age 65. This remains an issue in my view not only for management of the NDIS but also in respect of broader policy settings.

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

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.