Department of Treasury and Finance

Victoria

Submission on Socio-Demographic Composition

to the

Commonwealth Grants Commission

as part of the

2010 Review

August 2006

Introduction

This submission is in response to the CGC Staff Discussion Paper 2006/01 *Socio-Demographic Composition.*

The main points raised are as follows:

- Disabilities should only be assessed if they are truly independent of State policy;
- Outcome measures should not be used to justify or specify disabilities or cost weights due to policy influence;
- Broader measures of disabilities (whether via the use of broad input indicators, proxy measures or aggregated 2004 Review method measures) will necessarily follow from the aggregation of categories, as well as being consistent with the requirements of the 2010 Review Terms of Reference;
- The continued use of joint factors is supported (assuming the 2004 Review method approach is maintained). Cross tabulations should be aggregated within these; and
- Thresholds with respect to the impact of judgement-based cost weights and the level of disaggregation within disability factors should be implemented. There should also be a *per category* disability threshold in addition to the overall $10 per capita *cross category* threshold for common factors.

Defining Disabilities

The CGC Staff Discussion Paper 2006/01 *Socio-Demographic Composition* raises a few issues with regard to defining disabilities:

- whether indigenous people should be sub-classified according to level of integration and location;
- whether low income thresholds should be adjusted to account for family size and cost of living influences; and
- whether CALD people should be disaggregated into separate groups with differing demand and cost impacts.

It would seem likely that all of the above potential approaches would involve a level of materiality and complexity inconsistent with the general reform approach of the 2010 Review. Also, available data (especially with regard to the first and third points mentioned above) are likely to be insufficiently reliable for such a disaggregation to be made, as data problems are already present at the aggregated level and disaggregation would only further accentuate these.

Combining Disabilities

Categories are currently subdivided into components - the component structure intending to separate expenses within the category that are affected by different combinations of disabilities (or differently calculated factors for the same disability). These component disability factors are then combined to form component factors, and these in turn are weighted by the component weights to arrive at the category factor.

As the CGC explains within Box 2 on page 21 of Volume 1 of the 2006 Update Working Papers, the "combining" of component disability factors (where there is more than one for a component) to arrive at the component factor is done as follows:

> *Combine the factors for a component*
>
> *Combine the factors when more than one is assessed for a component. When the effects of two factors compound one another, they are multiplied. When two factors are independent of one another, they are added. The combined assessment is the component factor.*

The current component category structure "is designed to ensure that, as far as possible, expenses influenced by different disabilities [and these can be multiple] are in different components."[1] The weighting of component factors by component weights goes some way to weighting the importance of disability factors to the overall category factor in terms of the magnitude of category expenses that are affected by the various disabilities.

There is no weighting, however, applied to disability factors within a component that are compounded – typically, they are simply multiplied. That is, each disability factor within the component is given equal weight in this process. In practice, this is unlikely to be the case. Given that the CGC has indicated that categories will no longer be broken down into components,[2] the process of combining disabilities within a category becomes more critical.

It is important that the process used reflects the relative importance to the category of the various disabilities. The use of single, broad indicators for each category would obviate the need for this.

[1] CGC 2006 Update Working Paper Volume 1 page 33.
[2] Indication provided by Malcolm Nicholas at the 10 April 2006 data working party meeting.

Broader Indicators and Proxy Measures

The drive towards simplification as part of the 2010 Review should see the use of disability indicators that are in effect broader than those at present – that is, with less "moving parts." The vast majority of the complexity (as well as the use of judgement) of the current methodology resides in the calculation and application of disability factors.

Further, the use of broader category assessments will necessarily mean that the associated disability factors need to be broader as well. Adding to this need for broader disability measures is the fact that, as Victoria understands, the component structure of categories will no longer be used.

The component category structure is currently used to compute category factors – which are weighted averages (using the component weights) of various combinations of disability factors (with the same disability factor potentially appearing in several components within the one category). Not only is this an extremely complex process, but it also essentially "narrows" the application of individual disability factors, as they are effectively only being applied to a sub-portion of the expenditure within the category. The removal of the component category structure – where the disability factor (or combined disability factor) will become the category factor (as opposed to the component factor at present) – will necessarily mean that the disability factors used must be broader than what they are at present.

The CGC has proposed (and the Terms of Reference require) an initial examination of the use of single broad measures being applied to categories to account for the impact of a particular disability factor. Victoria supports this examination.

However, Victoria's position is that only broad "input" indicators be examined – such as pertaining to the total population, or numbers in a population sub-group. The use of broad "outcome" indicators – such as literacy rates, morbidity rates and so on, should not be examined. This is because they are clearly influenced by policy, and their usage would introduce an element of "design inefficiency" into the assessment methodology. This logic follows from the pillars. Disabilities are related to what States' do (ie input costs), not what States' achieve (outputs and outcomes).

That is, a State implementing ineffective policy (which would be reflected in these broad outcome indicators) would effectively be partially compensated as a result, whilst a State making gains in efficiency and effectiveness in the delivery of State services would effectively be partially penalised as a result. Victoria believes that improvements in policy effectiveness should be rewarded (as in the NRA area), or at the very least, not penalised.

By the same token, reference to such outcome measures should not be used as justification for disabilities, or as justification for cost weights in disabilities, for the same reasons – namely, that they are capturing policy influences as well. The CGC currently makes reference to broad outcome measures such as morbidity rates, literacy

rates and so on, as justification for the inclusion of an indigeneity SDC disability,[3] as well as for the cost weights applied within the calculation of this disability.[4] As indicated in Victoria's submission *HFE Architecture and Contemporaneity,* such outcome measures also capture the impact of government policy. Consequently, these "disabilities" so measured are not in fact consistent with the most important criteria for a disability: that they be free from policy influence.

Further comments on broader indicators – as they pertain to the areas of Health and Education – are to be found at the end of this submission.

Joint and Separate Factors

Should the CGC persist with using the current methodological approach to the measurement of SDC disability factors, Victoria supports the continued use of joint factors. This is because it is essential to recognise the interaction between these factors, and avoid the situation of "double counting" if they are simply added together (which should only occur with independent factors).

Victoria agrees with the proposed approach to minimising the number of cells with cross-tabulations. This process is consistent with the notions of simplicity and materiality.

Use and Cost Weights

The CGC has pointed to the protocols of the Data Working Party Final Report as guiding the work in this area.

Victoria would like to again indicate its dissenting view (mentioned in the Report) with regard to the data quality protocols. Victoria disagrees that the least preferred option in dealing with unsatisfactory data is to eliminate the assessment. Too much emphasis has been placed on the notion of finding, or generating, data (or even where this is not the case, substituting in judgement) to fit the methodology, and too little emphasis has been given to the notion of designing the methodology around the available data which is of sufficient quality. The onus of proof should be on demonstration that a disability exists and can be accurately calibrated with robust, quality data (free from other influences), given the significant financial consequences.

In the area of SDC disabilities, the cost weights associated with indigeneity (for example) are largely based on judgement due to the absence of quality data. It is doubtful that robust, national data sets specifying the cost of unit service provision to account for these factors (and isolating the impact of these factors from all other influences, SDC related or not) could ever be generated.

[3] 2004 Review Working papers Volume 7 page 187.
[4] 2004 Review Working papers Volume 7 page 190.

Materiality Thresholds

Victoria agrees that the $10 per capita threshold for a particular SDC disability characteristic should apply to the effect across all categories. However, there should also be a minimum threshold applied to the impact within *each category* to avoid the situation where, for example, a characteristic may exceed the $10 per capita threshold within one assessment category, and yet has an insignificant impact (say, less than $1) in other categories, yet is still retained in these other categories on the basis of its overall impact.

The proposed $3 threshold to apply to "minor adjustments" should also apply to the use of cost weights, to eliminate cost weights which have an immaterial effect. Note that the threshold should be applied with respect to each individual application of the cost weight, and not to the overall impact across all categories.

There should also be a threshold applied to the maximum impact (say, $10 per capita) that a *judgement* based cost weight can have. This too should be applied with respect to each individual application of the cost weight, and not to the overall impact across all categories. There should be some limit placed on the extent to which judgement can be used to influence the overall distribution of funding, as robustness and reliability are inversely related to the extent of the use of judgement. The CGC has indicated this before: "… too much judgement in deciding the use and cost weights to be applied should be avoided…"[5] This intention is consistent with the imposition of a suitably material threshold.

A "disaggregation threshold", similar to the one described in Issues Paper 2006-02 *Approach to Disaggregation* of $30 per capita as being applicable to the disaggregation of categories (that is, used for determining when a disaggregated assessment is materially different from a more aggregated one) should also be applied to the disaggregation of disability factors.

Note that Victoria is of the view that the process of developing a more aggregated assessment category structure logically should not, *ceteris paribus*, lead to a change in the overall redistribution of grants arising from each disability factor. Naturally, changes in the redistribution arising from individual disability factors may change as the result of the imposition of stricter robustness and data quality thresholds, the imposition of higher materiality thresholds, from changing views on the nature of the underlying disability itself (such as arising from technological advancements) and so on.

[5] CGC Information Paper 2002/1 *Guidelines for Implementing Horizontal Fiscal Equalisation*, page 41.

Health Indicators

In the area of health, categories which align with broad cost drivers and associated disabilities could include:

- Acute care (inpatient care and mental health services). This would capture factors associated with the provision and use of services in institutional settings; and
- Outpatient services, community care, aged and disable services and public health. This would capture factors associated with the provision and use of services in non-institutional settings.

The existing *Inpatient Services* assessment is extremely complex, using a 2,080 cell matrix. Simplification of socio-demographic disabilities could substantially increase transparency, understanding and confidence in this assessment.

Indicators of need should be based in the first case on the population cohorts that most intensively utilise the services.

For example, use needs for acute health services could be accounted for through the target population for acute health services (the whole population), adjusted by age. Age is a primary driver of acute health care utilisation, capturing many of the factors of health status (e.g. prevalence of disease, impairment, restrictions on participation and proximity to death) associated with more intensive acute service use). Importantly, it is one of few factors that are clearly free of policy influences. Its importance is reflected in its inclusion as a component of indexation of AHCA funding (although not in the distribution of funding between States). Data is available and reliable, and not subject to judgement based adjustment.

Age bands should be relatively broad to reflect relevant cost drivers (i.e. capture very young and those over 65 and 75[6]) while minimising data requirements. For example, based on *estimated resident population* by age, 30 June 2004 ('000) could be:

	NSW	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*
0–4 years	0.97	0.94	0.99	0.96	0.88	0.96	0.95	1.35
5–64 years	0.98	0.98	1.00	1.00	0.97	0.97	1.03	1.06
65-74	1.13	1.11	1.04	1.02	1.21	1.22	0.82	0.46
75+	1.19	1.18	1.01	0.97	1.38	1.23	0.77	0.28

Source: ABS *Australian Demographic Statistics, June Quarter 2004*, Cat. no. 3101.0, in Productivity Commission (2006) *Report on Government Services 2006*

[6] Broadly indicated by *Australian Health Expenditure by Age Group, 2001* (AIHW, 2004)

Education Indicators

The use of broad indicators lends itself well to the socio-demographic factors affecting the cost of schools education. Broad measures are least prone to the policy differences between State governments. International experience and economic analysis show that there is no one-best funding model for primary and secondary education, and while Victoria may choose to collect data and distribute funds based on certain factors, different States will act in different ways.

The main determinant of funding need is the population of school age (5-17 years). While there are some clear links between educational outcomes and particular socio-demographic factors, such as household income, research shows that the links are very complicated and not easily connected to measurable data. Issues such as parental role models are most significant, which may be related to income but not in a simple way. Consequently school funding needs are not easily linked to data which is collected in a consistent way nationwide.

Within Victoria, funding for government schools takes into socio-demographic factors of population size, language background, and a measure of socioeconomic status derived from information collected by schools about parental occupation. The information about parental occupation is not transferable to GST funding distribution, mainly because: there is no nationwide collection of comparable data; and the data is not collected with regard to non-government school enrolments.

As population size is the key driver of socio-demographic cost, it could work as a broad measure. Further disaggregation is problematic despite the conceptual arguments about the impact.

The table below shows a simple calculation of an SDC factor for all schools education in comparison to the CGC update factors. The "average CGC SDC factor" is a weighted average of the CGC's socio-demographic factor for the four separate school subcategories. This is compared to a factor calculated using the total population aged 5-17, using ABS data. There may also need to be an adjustment to account for federal government funding of non-government schools. However, as an initial calculation it is remarkably close to the 2006 update outcomes, at least in the 5 largest States.

Comparison of age-based socio-demographic factor for schools funding

	NSW	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*	*Aust*
CGC 2006 update factors									
Government primary	0.99420	0.98205	1.02724	0.98412	0.92623	1.18219	0.91101	1.53552	1.00000
Non-government primary	1.02805	1.07402	0.89753	0.90377	1.02635	0.85798	1.36854	0.72023	1.00000
Government secondary	0.97171	0.90365	1.10981	1.10162	0.98049	1.05449	0.99101	1.22347	1.00000
Non-government secondary	0.94893	0.99810	1.03284	1.17116	0.97272	0.76848	1.28457	0.72854	1.00000
Average CGC SDC factor (1)	0.98750	0.98274	1.03217	1.03857	0.96597	1.05341	1.09814	1.27720	1.00000
Factor based on age 5-17 (2)	0.98876	0.97307	1.04009	1.03534	0.95612	1.03234	0.99077	1.18747	1.00000
Difference (1-2)	-0.00127	0.00967	-0.00792	0.00324	0.00985	0.02107	0.10737	0.08973	0.00000

(1) Weighted average of the CGC socio-demographic factor for the four schools subcategories. Weighted according to notional enrolments as calculated and reported by the CGC in the 2006 Update (volume 3).

(2) Factor = (proportion of state population aged 5-17 years ÷ proportion of Australian population aged 5-17 years). Population data is from ABS *Australian Demographic Statistics, June Quarter 2004*, Cat. no. 3201.0

Use of proxy measures

Further disaggregation through proxy measures introduces difficulty separating the policy differences between States. Establishing the impact of socio-economic disadvantage on education funding in particular is necessarily subjective. Proxies would need to be widely accepted as major factors in order to avoid the continual disaggregation which leads to reliance on unreliable data and blurring with policy factors. For example, disaggregation of education data, based on the 2001 census, has led to the apportioned notional enrolments for secondary schools being broken into 160 subgroups. Even in a state the size of Victoria, cost weights are applied to estimated populations as small as three students (high socio-economic, low-fluency, indigenous persons in major metropolitan areas). Thirty three of the 160 subgroups have between 1 and 100 students.

The employment status of parents seems to be emerging as an agreed significant factor, and could offer opportunity for proxy measures, since there is an ABS measure available of employment in households with a child aged 15 or under. Alternatively other proxies might be the proportion of population who are recipients of income support payments with dependent children, or NESB households. A major advantage of such proxies is that the data is collected on a consistent basis nationwide, and does not require further or more specific data collection by State administrators. It will not remove the need for some judgement about cost weights, but the impact of those judgements would be more transparent that those within the current calculations.

Improving the 2004 Approach

The proposed approach to minimising the number of cells with cross-tabulations seems sensible for education. This may help reduce the number of judgements required at highly disaggregated levels of data and therefore make the impact of those judgements on relativities and GST grants. That approach could be conducted so as to use available, and avoid requesting special data collections from the states. Such an approach would be consistent with the goals of achieving greater simplicity, accountability and transparency.

Pursuing additional data collections (as alluded to in paragraph 62), while attempting to reduce the use of judgements, will further complicate processes for states without reliably improving outcomes. In the case of education, developing cost-weights for individual student socio-demographic characteristics cannot be separated from policy, nor does it take into account the “club” nature of school services, where essentially the same service is available to all students attending one school, but those services may vary between schools. That is, further data collections will not “get closer to the true value”. Judgements are a necessity of a disaggregated approach and the best methodologies will make those transparent.