How personalisation programs are exacerbating socio-economic inequities: findings from budget utilisation in the NDIS

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Abstract

Researchers and policymakers are increasingly concerned that personalisation schemes in social and health care might be worsening social and health inequities. This has been found internationally, where better outcomes from such schemes have been found amongst those who have higher education and more household income. This study looks at one of the world's largest personalisation schemes, the Australian National Disability Insurance Scheme. It found that although the individual budgets provided within the scheme (which are a key feature of personalisation schemes internationally) do not present an equity issue, the ability of participants to 'spend' or effectively use these funds follows a social gradient. That is, those in low socioeconomic areas appear to be less able to spend their allocated budgets on care services. We argue that this points to the need to provide targeted supports for fund implementation in low socio-economic areas. Without effective supports for fund implementation, the NDIS is positioned to worsen existing social inequalities.

Introduction

There is a long running concern, amongst policy makers and academics alike, regarding whether health and social inequities are ameliorated or exacerbated by different forms of social welfare policies (Cohen et al., 2015; Navarro and Shi, 2001). The impact of national welfare policy on health and social inequities has been analysed extensively, in areas ranging from employment to education (Mackenbach, 2014; Navarro and Shi, 2001). Even where the same services are offered 'universally' (where everyone received the same service), their uptake can be unequal (Carey and Crammond, 2017). This was famously highlighted in Hart's (1971) inverse care law, which holds that the availability of good medical care tends to be least available in the areas where it is most needed, and most available in areas where it is least needed.

As new forms of policy design emerge, these concerns persist (G Carey et al., 2019). One of the latest global trends in social and health policy are 'personalisation approaches' (Needham and Glasby, 2014). Personalisation programs are aimed at providing tailored services to citizens based on their particular service needs. They do this through the use of personal budgets or vouchers, with which individuals can purchase services from a service market thereby increasing choice and control (Dickinson, 2017). While personalisation programs are aimed at giving users more choice and control over the services they use, and in turn could be argued to improve equity and outcomes, questions have been raised about their effectiveness. For example, Flemming (2019) found that outcomes of personalisation schemes are variable and not necessarily better than other forms of policy delivery. Meanwhile, emerging research has found that personalisation may in fact create inequities, and exacerbate existing ones (Carey et al., 2019; Malbon et al., 2019).

This paper looks more closely at the question of personalisation and inequality, examining national data from the Australian National Disability Insurance Scheme (NDIS) – one of the largest personalisation programs in the world. We analyse publicly available data about the size of funds and the ability of citizens to utilise these funds by socio-economic index for area (IRSAD); a ranking system for geographic socio-economic status in Australia. This is the best available proxy for the socio-economic position of NDIS participants (as no household income data or the like is collected or released by government). Our findings indicate that the amount of funding in individual budgets does not differ by socio-economic position, however the degree to which participants can utilise their funds does. Our findings suggest that those in lower socio-economic areas are less able to use their individual budgets to purchase the services they need. We argue that this point to the need to provide targeted supports for fund implementation in low socio-economic areas. Without effective supports for fund implementation, the NDIS is positioned to worsen existing social inequalities.

Background

Personalisation programs and equity

Personalisation programs aim to enable citizens to gain highly tailored services specific to their particular service needs (Carey et al., 2018; Dickinson and Glasby, 2010). Within broader debates about the welfare state and its structure, personalisation can be understood as a form of 'particularist' approach to social policy and health care. Particularism aims to address differences between individuals on the basis of diversity of needs, moral frameworks and social expectations. Particularism requires an appreciation of the different social identities of different groups (requiring investigation of values, wants, norms and needs). Particularist principles are said to allow for, and encourage, empowerment and a diversity of supply (e.g. heterogeneous services which take account of cultural and ethnic identities), thereby better catering to different groups and improving inequalities (Carey and Crammond, 2017).

While personalisation programs have common aims, such as enabling citizens in personal goal setting and enabling choice and control, there are differences in the design and delivery of specific systems. Dickinson (2017) highlights differences in personalisation models, including variation in:

- what individuals are allowed to spend money on;
- who manages this money/resources;
- levels of scrutiny over its use;
- the mechanisms through which choice and control are operationalised (e.g. service markets or other arrangements)

The most common mechanisms and administrative arrangement for enabling or operationalizing personalization is market structures, whereby participants purchase services from 'market-like' arrangements (Dickinson and Glasby, 2010).

How personalisation schemes are designed and administered has implications for the experiences of different social groups using them and, in turn, inequality (G Carey et al., 2019). The design, governance and administrative processes within a personalisation program influences the level and type of administrative and negotiation skills required to successfully engage in and benefit from personalisation schemes (Manthorpe et al. 2015; Moran et al. 2012; Netten et al. 2012; Warr et al. 2017). In the UK, research has shown that people are more likely to benefit from personalisation if they are employed, have surplus financial resources, are educated and have strong social networks (Needham and Glasby, 2014). In Australia, research indicates that people with higher incomes and education levels are more likely to get their support needs met (Malbon et al., 2019; Mavromaras et al., 2016). A recent meta-review of international evidence shows that experiences of personalisation are positively associated with a range of factors that can be considered proxies for socio-economic position, including income, education and bridging social capital (Carey et al., 2019). Flemming et al (2019) conducted a systematic review of personalization programs worldwide, and found that they are administratively complex in nature and often difficult for citizens to negotiate as a result.

Within social welfare debates there is growing attention on the potential for personalisation schemes to benefit higher socio-economic groups more than lower socio-economic group (see: G Carey et al., 2019; Malbon et al., 2019). Malbon et al. (2019) found that active control over spending NDIS funds (known as 'self management'), access to robust disability service markets and bureaucratic accessibility all contribute to how a citizen derives benefit from the NDIS. Further, Carey et al. has emphasised the impact of class on the design and implementation of personalisation schemes, noting that the increased advocacy required to navigate highly complex administrative schemes developed by middle class bureaucrats means that very principles that underpin personalisation schemes can leave particular social groups vulnerable, while

"privileging users who have the best capacity to navigate the system" who are often from higher socio-economic backgrounds (Carey et al. 2019: 8).

<u>The National Disability Insurance Scheme</u>

The National Disability Insurance Scheme (NDIS) is a personalisation program for the support of people with significant and permanent disability in Australia (Productivity Commission, 2011). The NDIS currently supports around 400,000 people, 150,000 of whom are receiving disability support for the first time (NDIS, 2020). First proposed in 2010, the program passed through a series of trial stages before beginning national implementation in 2017 (Buckmaster, 2018). The NDIS uses the mechanism of individual budgets to allocate funds to people with disability according to their disability related needs and goals. These NDIS budgets are then available to be spent by the person with disability or their agents in the disability care market, according to rules set by the NDIS.

There are two aspects to individual NDIS funding (also known as 'plans'). There is the process for determining the amount of funding that a person with disability will be allocated to spend on their care to meet their self-defined goals (known as the 'planning meeting'). Following the determination of funds, there is the process of spending or ultilising the funds in which a person with disability or their agents contract a set of service providers using the NDIS funds (known as 'plan implementation').

Early concern about equity in the NDIS related to whether people of the same disability were receiving similar levels of NDIS funding (Mavromaras et al., 2016). Later concerns revolve around whether and how NDIS funds are spent on care (see Malbon et al., 2019), with Carey et al. (2019) contending the theory that NDIS benefit may be related to class status.

The National Disability Insurance Agency (NDIA) has concluded that higher fund spend (titled 'plan utilisation') is associated with better health and social outcomes for NDIS participants in both childhood and as adults., Because prices are standardised in the NDIS, a greater rate of fund spend translates to a greater amount of services accessed. For those in early childhood, the NDIA conclude that "Higher baseline plan [fund] utilisation is a strong predictor of a positive response across all five areas surveyed." (p6). Similarly, for adults they conclude that "Higher baseline plan [fund] utilisation is a strong predictor of a positive response across all eight [service] domains."

To better define this issue, we sought to establish whether NDIS data shows difference in both NDIS funding allocated and NDIS funding spent according to geographical socio-economic status.

Methods

Data sources

<u>Socio-Economic Indexes for Areas (SEIFA)</u>

The most common and robust indices of Australian socio-economic disadvantage are calculated every five years using the Australian Census. Known as SEIFA, it includes four indices that reflect relative advantage and disadvantage. This study used the 2016 Index of Relative Socio-economic Advantage and Disadvantage (IRSAD), which summarises the economic and social conditions for individuals and households within particular areas (ABS, 2020). This particular Index reflects not only a lack of advantage (represented by a low score) but also areas of relative greater general advantage (represented by high scores). The Index is constructed by the Australian Bureau of Statistics, and is comprised of variables including proportion of households with low income, proportion of houses with no internet connection, and the proportion of people with long-term health conditions or disability and need assistance with core activities. The IRSAD is reported against Local Government Areas (LGAs), an approximation of gazetted local government boundaries as defined by individual Australian States and Territories. There are 562 LGAs in Australia.

NDIS Participant Funds and Utilisation

The NDIA provides quarterly data updates on participant numbers and average support budgets, split geographically by LGA and NDIA service district. There are 86 NDIA service districts that group together multiple LGAs; mapping against 2016 geographic boundaries is made available by the NDIA and was used for this analysis (NDIA, 2016). The latest data, reported in June 2020, was used for this analysis.

Quarterly updates of averaged fund utilisation are reported across State/Territory, service district, support class (4 categories - capacity building, capital, or core, and 'all'), disability group (16 categories - 15 NDIS identified groups, and 'all'), supported independent living (SIL) or supported disability accommodation (SDA) (3 categories – yes, no, and 'all'), and age band (10 categories - 0 to 6, 7 to 14, 15 to 18, 19 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65+, and 'all'). For the purpose of this analysis, 'all' categories were used for support class and age. Further, unless noted, utilisation rates for participants receiving supported independent living or in supported disability accommodation were excluded, as it was assumed that the majority of budgets would be used for participants requiring essential assisted living care.

Data aggregation

Participant utilisation is only provided at the NDIA service district level so could not be compared directly to LGA IRSAD scores. Average IRSAD scores were calculated by aggregating the IRSAD score for all LGAs within each service district area. Data were aggregated using Pivot Tables and VLOOKUP functions in Microsoft Excel.

Analysis approach

Descriptive analysis was undertaken of average individual fund amounts and rates of utilisation for each State and Territory. Relationships between relative advantage or disadvantage and NDIS budgets and fund utilisation were analysed using linear regression modelling. The independent variable was the average IRSAD score for each NDIA service district. Pearson's correlations were used to explore the strength of relationship between the various disability types and the utilisation of individual funds. All analysis was conducted in SPSS Statistics v.25.

Results

Table 1 summarises State and Territory IRSAD scores, alongside average approved budgets and average rates of utilisation. IRSAD scores ranged between 697 and 1131, with higher scores indicating higher levels of relative advantage. The national average approved NDIS budget was $75,047 (SD $29,932), and an average only 57.14% of budgets were being used (SD 8.70). The Northern Territory had scores indicating the greatest disadvantage across the country, as well as the highest average approved NDIS budget. The Northern Territory has the highest proportion of people living in remote and very remote communities, as well as the highest proportion of Aboriginal and Torres Strait Islander residents – both factors associated with greater need for health and social supports. The ability to access appropriate NDIS services appear to be lacking in the Northern Territory – the average utilisation rate across all disabilities for the Territory was 42%. In contrast, the Australian Capital Territory is the smallest Territory within the country and had the highest average scores of relative advantage across the country. It also had substantially higher average rates of utilisation across all disabilities (66%), while also having a lower average approved budget of $62,000, compared to the national average of $75,047.62.

The linear regression equations are shown in Equations 1 and 2. Linear regression results are shown in Table 2. Linear regression showed a significant negative relationship between IRSAD scores and approved budgets, whereby higher IRSAD scores, or higher levels of relative advantage (β = -0.293, p = .007), predicted lower average approved budgets (see Figure 1). The overall model fit was R^2 = .086 (explaining 8.6% of variance in the model).

However, when looking at the predictive value of relative advantage and disadvantage in relation to fund utilisation rate, a significantly different relationship was observed (see Figure 2). Higher levels of advantage (β = .501, p < .001) predicted higher average rates of utilisation for 'all' disability types (excluding SIL and SDA clients), explaining 28% of model variance. That is, for an area such as the Australian Capital Territory, with the highest average IRSAD in the country (1089), clients with NDIS fund are also, on average, using a greater proportion of their allotted budget (66%). In contrast, a state such as Tasmania, which has an average IRSAD score (929.55) compared to the national average, predicts that clients on average utilise less of their budgets (59%). These two analyses indicate that while clients living in areas of greater disadvantage are being approved for higher individual funds, they utilise a smaller proportion of their funds compared to clients living in more advantaged areas.

Two considerations were added to the analysis to test this finding. First, it is possible that because clients living in areas of greater disadvantage are being approved for higher budgets, there is a greater amount to be spent. This could result in lower utilisation rates despite using the same volume of services as clients living in areas of greater advantage. Second, the average approved budget amounts provided by the NDIS include budgets for Supported Independent Living (SIL) and Supported Disability Accommodation (SDA). SIL and SDA refer to group home arrangements where people with disability live in group homes with services provided by virtue of living in the home. It is possible that utilisation rates could be higher when including clients who are receiving this daily living support.

To address both of these points, hierarchical regression was conducted, to explore whether the average approved budget amount was predictive of utilisation, above the prediction variance already explained by average IRSAD scores (see Table 3). This regression was conducted first on the average utilisation rate across all disability types, excluding clients receiving SIL or SDA.

If higher total approved budgets were significantly predictive of lower rates of utilisation, it would be expected that there would be a significant negative relationship between approved budgets and utilisation. In both utilisation rates including and excluding SIL and SDA, this was not found to be the case. When predicting utilisation rates that excluded SIL and SDA, the average approved budget amount did not significantly contribute to the model above what was already predicted by average IRSAD scores (β = -.097, p = .323). This suggests that the approved budget amount is not contributing significantly to predicting the degree of fund utilisation across all disability types.

When looking at average fund utilisation rate including clients receiving SIL and SDA, the average score for advantage was still a significant predictor, such that living in more advantaged areas predicted higher rates of fund utilisation (β = .391, p < .001), however explained less model variance (14.2%) compared to predicting utilisation when SIL and SDA clients were excluded. This suggests that socioeconomic advantage may be less of a predictive factor for utilisation for clients who are receiving support through SIL or SDA, however this predictive relationship is still significant. Average approved budget amount did not significantly predict utilisation rates (β = .058, p = .586), nor did it significantly contribute to the amount of variance accounted for by the regression model.

Because utilisation rates included in this analysis are averaged across all 15 disability categories, the predictive relationship between relative advantage and utilisation rates of specific disability groups are not explored and were not input individually into the regression model due to the low observation size. Whether there were differences in utilisation depending on disability groups was a matter of interest, so correlations between average IRSAD scores and average utilisation rate were conducted (Table 4). The correlations were run for average utilisation rates when both excluding and including SIL and SDA. When excluding SIL and SDA, all relationships were positive and significant, except for utilisation rates for other neurological conditions, and psychosocial disability. This means that for most disability groups, greater levels of relative advantage was related to higher rates of budget utilisation. Looking at R^2 values to explain the variance explained IRSAD, the relationship was particularly strong for global developmental delay (R^2 = .235), developmental delay (R^2 = .213), multiple sclerosis (R^2 = .209), autism (R^2 = .177), and other sensory/speech conditions (R^2 = .158).

Correlations between average IRSAD scores and utilisation rates across the disability groups which included clients receiving either SIL or SDA had similar results, in which there were significant positive correlations between average IRSAD and utilisation rates across disability groups, except for other neurological conditions, psychosocial disability, and intellectual disability. Variance explained by IRSAD was also similar across most disability groups, and did not differ substantially from R^2 values reported when SIL and SDA clients were excluded. Two notable exceptions were the degree of variance explained in utilisation rates for Autism, which decreased from 17.7% of variance explained when excluding SIL and SDA to 8.8% when SIL and SDA clients were included, and Intellectual Disability (6.8% when excluding SIL and SDA, 3.7% when SIL and SDA included). This suggests that the role of receiving daily essential living care is a contributor to how NDIS funds are utilised, and this is likely to vary across disability types depending on needs and services that are required.

Discussion

This study sought to understand how socio-economic position may affect individual fund allocation and utilisation in the NDIS, as a means by which to investigate both specific issues within the NDIS regarding equity as well as broader emerging questions about personalisation schemes and inequality.

The regression in Fig. 1 demonstrates that where there are higher rates of relative advantage approved budgets are, on average, of a lower amount – suggesting an inverse relationship between the size of a participants budget and their socio-economic area/position. Possible explanations for this are that there are less people with disability in these more advantaged areas, people with disability with less high needs or less people with a disability significant enough to quality for the NDIS living in these areas. Information is not currently available to better understand the underlying drivers for the findings presented in Fig. 1. However, it appears that concerns that people with higher socio-economic positions, who might be better equipped to navigate the administration of the NDIS, raised by Malbon et al. (2019) and Carey et al. (2019) are not borne out in the data with regard to obtaining budgets. At the planning stage, it appears that the NDIS administrative system is managing to uphold equity principles in the approving and allocation of budgets.

The next linear regression analysis focused on the budget utilisation rates of the approved NDIS funds. The budget utilisation rate is the percentage of an NDIS budget that a person spent on their care over a year. This is referred to as 'plan implementation' within the NDIS and, in short refers to whether participants were actually able to spend the individual budget they were given for disability care services. We found that people living in areas of higher advantage had significantly higher rates of utilisation. People in less advantaged areas are not spending as great a percentage of their NDIS budget as people living in more advantaged areas. This means that while budget size may be equitable, the ability of individuals to use this government money they have been recognised as needing to support their care needs appears to be unequally distributed – favouring those in higher socio-economic areas. Including average approved budget amounts in hierarchical multiple regression showed that changes in budget amount did not appear to be a predictor of utilisation rates. This means that the results of unequal budget spending hold even taking into account that people in lower socio-economic areas are typically allocated a higher budget to spend from. When considering the utilisation of NDIS budgets, the concerns about inequitable access raised in Malbon et al. (2019) and Carey et al. (2019) are borne out.

It is worth noting that the variance explained by IRSAD was also similar across most disability groups, and did not differ substantially when SIL and SDA clients were excluded. Thus, disability type does not account for the findings that budget utilisation is affected by socio-economic position (using our proxy of IRSAD). Two notable exceptions to this were the degree of variance explained in utilisation rates for Autism, which decreased from 17.7% of variance explained when excluding SIL and SDA to 8.8% when SIL and SDA clients were included, and Intellectual Disability (6.8% when excluding SIL and SDA, 3.7% when SIL and SDA included). This suggests that the role of receiving daily essential living care is a contributor to how NDIS funds are utilised, and this is likely to vary across disability types depending on needs and services that are required. However, the overall finding that budget utilisation is lower in lower socio-economic areas still stands.

This finding is significant both for the NDIS and for personalisation programs internationally. It indicates that participants living in lower socio-economic areas (or of low socio-economic status) require additional supports in implementing or using their personalised budgets. In short, it is not enough for government to look at the overall sum of money given to determine if personalisation schemes are functioning effectively and equitable – they need to also look at if that money is being spent. Our analysis does not enable us to examine the causes of this underspend, but it does suggest that more attention needs to be given to this issue. Budget underspend can emerge from a range of issues, including but not limited to:

- The availability of the right or desired service in a local area (including both a complete absence of the service, or long wait lists)
- The NDIS plan and associated budget does not contain the right types and/or amount of supports for the participant's needs
- The need is periodic or episodic, such as in some mental health based conditions, and is included in the individual funds in the case of a need that has not yet arisen

- The capacity of the NDIS participant has increased and the service is no longer needed
- The capacity of the NDIS participants to contract services is affected by the social determinants to health

In the NDIS, fund underspend and delays in implementing budgets have been a longstanding issue within the scheme as a whole (NDIA, 2019). However, until now budget underspend has been presumed to be a whole of scheme issue, rather than associated with specific groups (and in particular, an equity issue). This indicates that further investigation through qualitative work is urgently needed in the NDIS to understand why inequitable budget spend is occuring.

While the issue of budget underspend and what is occurring in low-socio-economic areas requires more detailed investigation, there are some shifts to the administrative structures of the NDIS that could be undertaken based on the data presented in this article. The NDIS has a position known as 'local area coordinators' (Malbon and Carey, 2020; Productivity Commission, 2011). Local area coordinators meet face-to-face with NDIS participants both at the planning stage and, once the budget is approved, to help participants implement these their budgets and access services. As a result of pressure in the roll out of the scheme, local area coordinators have been pulled away from implementation work to focus on planning work (Carey et al., 2019; Malbon and Carey, 2020). The have been calls from government reviews, as well as academics studying the scheme, to reinstate the local area coordinator position as one that provides an interface between participants and the service providers, in order to help budget utilisation (Malbon and Carey, 2020; Tune, 2019). The fact that people in low socio-economic areas area struggling to utilise their NDIS budgets puts renewed emphasis on these calls.

In previous research into inequalities in personalisation, Malbon et al. (2019) and Carey et al. (2019) found that the administrative complexity of such schemes may present problems for equity. They argued that both empirical research, and sociological theories of class, indicate that those in lower socio-economic positions are less likely to have the skills and resources to successfully navigate complex administrative schemes. The findings of this article are consistent with these arguments, in that low socio-economic groups may be struggling to navigate the implementation stage of their budgets, pointing to the need to provide more targeted supports to these groups. Without effective supports for plan implementation and budget utilisation, the NDIS is positioned to worsen existing social inequalities.

Conclusion

Our study found that people living in low socio-economic areas are less likely to successfully utilise their NDIS budgets than those in more affluent areas. This points to the very real possibility that the NDIS, in its current administrative and bureaucratic structure, is entrenching social inequalities. While more in-depth qualitative research is needed into what is occurring for participants in low socioeconomic areas that is leading to poorer budget utilisation, the national quantitative data and findings indicate that more targeted support for budget implementation is needed in lower socio-economic areas.

Data Declaration

The dataset generated and analysed during the current study are available in the Open Science Framework repository: https://osf.io/8dxkn/

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Tables

Table 1: Average index scores for relative disadvantage, approved NDIS budget, and rate of plan utilisation, by State and Territory.

State/Territory *(N NDIA service districts)*	Average ISRAD	Average Approved NDIS Budget ($)	Average rate of plan utilisation (%)
All *(84)*	964.37 (78.02)	75,047.62 (29,932.42)	57.14 (8.70)
Australian Capital Territory *(1)*	1,089.00	62,000	66.00
New South Wales *(16)*	990.92 (62.75)	71,312.50 (6,838.31)	63.00 (6.60)
Northern Territory *(7)*	842.37 (135.27)	136,857.14 (48,450.76)	42.57 (10.29)
Queensland *(13)*	942.45 (71.30)	74,000 (11,165.42)	60.92 (2.90)
South Australia *(12)*	964.55 (53.15)	67,416.67 (9,287.90)	54.92 (8.59)
Tasmania *(4)*	929.55 (32.15)	83,000.00 (10,360.18)	59.00 (8.16)
Victoria *(18)*	987.68 (45.19)	58,000.00 (16,215.46)	59.11 (4.92)
Western Australia *(12)*	990.20 (65.08)	67,500.00 (23,380.26)	51.75 (8.86)
Other Territories *(1)*	957.00	186,000	56.00

Notes: Standard deviations are shown in parentheses. Based on June, 2020 data

Equation 1: $Average\ approved\ NDIS\ budget = 183270.14 - 0.293\ IRSAD + \mu$

Equation 2: $Average\ utilisation\ rate = 0.002 + 0.530\ IRSAD + \mu$

Table 2: Linear regression of average index scores for relative disadvantage predicting averaged approved budgets and averaged rates of utilisation

	Average approved NDIS budget			Average utilisation rate		
	B	*SE B*	*β*	*B*	*SE B*	*β*
Constant	183270.14	39195.27		.002	.101	
Average ISRAD	-112.22	40.51	-.293	.001	.000	.530
R^2	.086			.281		

* p < .05, ** p < .01, *** p < .001

Table 3: Summary of Multiple Regression Analysis for Variables Predicting Plan Utilisation (All Disability types) (N = 84)

	Average utilisation rate - Exclude SILSDA			Average utilisation rate - Include SILSDA		
	B	SE B	β	B	SE B	β
Step 1						
Constant	.002	.101		.191	.119	
Average ISRAD	.001	.000	.530***	.000	.000	.391***
R^2	.272			.142		
						Step 2
Constant	.054	.114		.157	.135	
Average ISRAD	.001	.000	.501***	.000	.000	.408***
Average Approved NDIS Budget	.000	.000	-.097	.000	.000	.058
R^2	.272			.135		
R^2 Change	.009, ns			.003, ns		

* p < .05, ** p < .01, *** p < .001

Table 4: Correlations between plan utilisation by disability type and averaged ISRAD scores.

	Excluding Supported Independent Living and Supported Disability Accommodation		Including Supported Independent Living and Supported Disability Accommodation	
	Average ISRAD	R^2	Average ISRAD	R^2
Acquired brain injury - % utilised	.302**	.091	.245*	.060
Autism - % utilised	.421***	.177	.297**	.088
Cerebral Palsy - % utilised	.306**	.094	.281**	.079
Developmental delay - % utilised	.462***	.213	.461***	.213
Global developmental delay - % utilised	.485***	.235	.485***	.235
Hearing impairment - % utilised	.322**	.104	.311**	.097
Intellectual disability - % utilised	.261**	.068	.191	.037
Multiple Sclerosis - % utilised	.457***	.209	.457***	.209
Other - % utilised	.331**	.110	.363**	.132
Other neurological - % utilised	.170	.029	.154	.029
Other physical - % utilised	.289**	.083	.268*	.072
Other sensory/speech - % utilised	.397***	.158	.397***	.158
Psychosocial disability - % utilised	.163	.027	.107	.027
Spinal cord injury - % utilised	.298**	.089	.284**	.081
Stroke - % utilised	.303**	.092	.265*	.070
Visual impairment - % utilised	.330**	.109	.317**	.101

*Correlation significance < .05, **Correlation significant < .01, ***Correlation significant < .001

Figures

R² Linear = 0.086
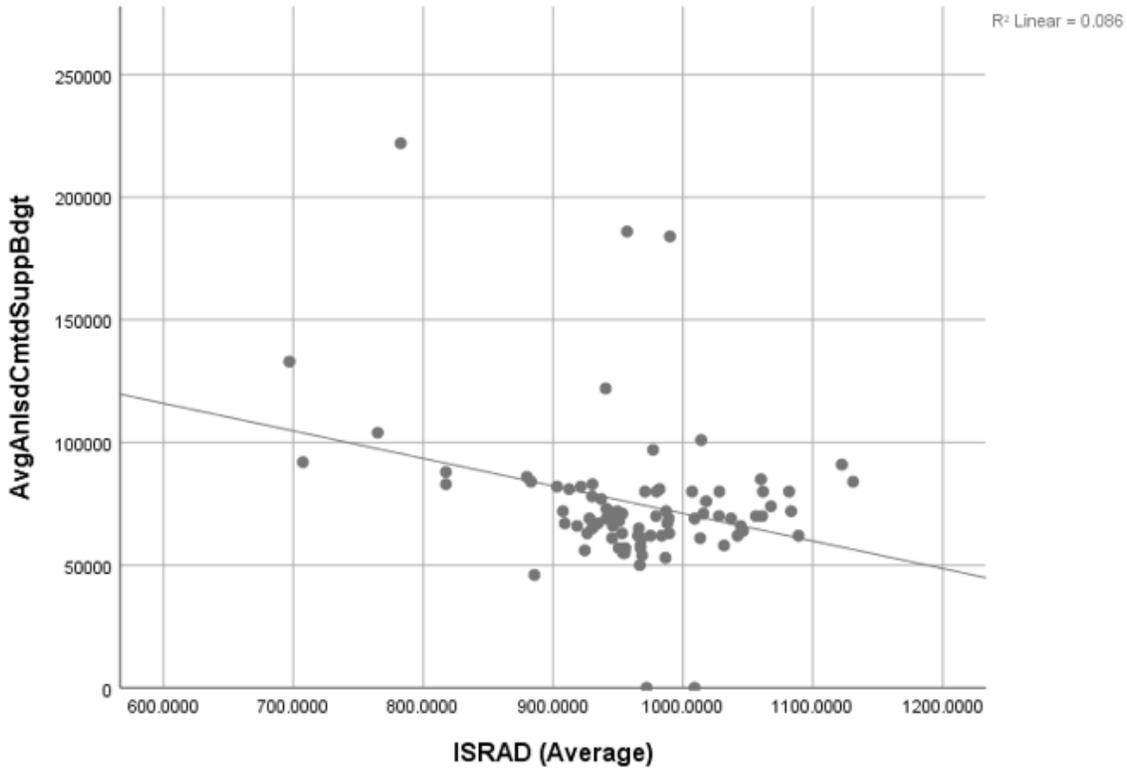
Figure 1

Relationship between relative disadvantage and average approved budget

R² Linear = 0.281
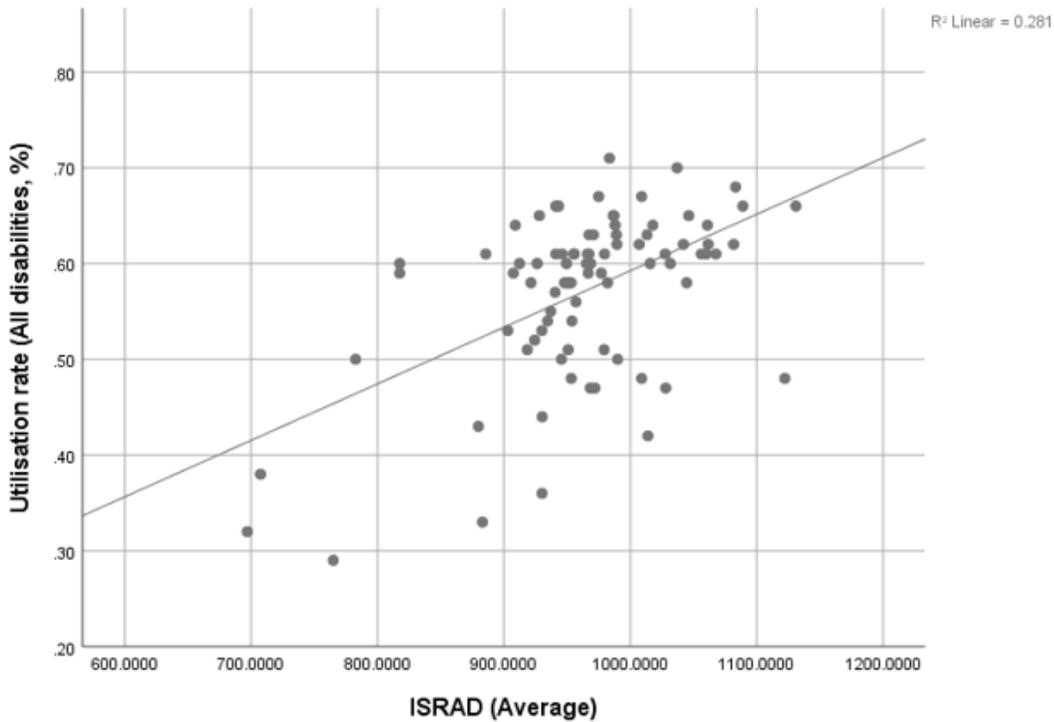
Figure 2

Relationship between relative disadvantage and utilisation rate of approved budgets (all disability types)