Are socio-economically disadvantaged Australians making more or less use of the Enhanced Primary Care Medicare Benefit Schedule item numbers?

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Abstract

We aimed to examine the relationship between levels of socio-economic disadvantage (measured by the Socio Economic Indexes for Areas [SEIFA] used by the Australian Bureau of Statistics) and uptake of the Enhanced Primary Care (EPC) item numbers on the Medicare Benefits Schedule. Health services are often less likely to reach those that most need them and so it is important to monitor whether disadvantaged communities are accessing EPC. The rates of health assessments, care plans and case conferences are similar in each SEIFA quartile (from advantaged to disadvantaged populations), favouring the more disadvantaged quartiles in some cases. These national trends are not observed in each state and territory. For all EPC services combined, the lowest number of doctors that provide EPC services are found in the 2 most disadvantaged quartiles, yet more EPC services are provided in these quartiles, due to the higher mean and median number of services provided by general practitioners in these quartiles. Overall, populations living in the most disadvantaged quartiles have similar or higher levels of EPC uptake, apparently due, at least in part, to greater than average use of EPC services by general practitioners in these areas.

Introduction

The Enhanced Primary Care (EPC) package was launched by the Federal Government in the 1999 budget, with the aim of improving the health and the quality of life of older Australians, people with chronic conditions, and those with multidisciplinary care needs (Commonwealth Department of Health and Aged Care, 1999). The EPC package comprises a range of initiatives including additional coordinated care trials, chronic disease self-management demonstration projects, establishment of Carelink, and the introduction of new EPC items on the Medicare Benefits Schedule (MBS).

The EPC MBS items allow general practitioners (GPs) to undertake or participate in activities that support the broad aims of the EPC package. Specifically these activities comprise health assessments for older people, care

planning for patients with chronic, complex and on-going care needs, and also multi-disciplinary case conferencing (Commonwealth Department of Health and Aged Care, 1999).

We have previously reported on trends in uptake of items for health assessments (HAs), care plans (CPs) and case conferences (CCs); on variation in uptake between Divisions of General Practice; on characteristics of patients who have had EPC services and general practitioners who have provided these services; and on the variation in levels of uptake of EPC services between medical practices across Divisions of General Practice, and jurisdictions (Wilkinson 2002 a-e).

All too often health services are less likely to reach those that need them most – the disadvantaged. In order to determine whether the EPC MBS items are being less readily accessed by more disadvantaged people we have studied the relationship between socio-economic disadvantage and item number uptake in the first two years of their availability.

Methods

Data source

The General Practice Branch of the Department of Health and Ageing (DoHA) provided us with de-identified unit record data relating to each EPC service rendered between 1 November 1999 and 31 October 2001, and claimed through the Health Insurance Commission (HIC) prior to 31 December 2001. Data were provided under the strict confidentiality provisions of paragraph 130(3)(a) of the Health Insurance Act.

EPC services, patient and practitioner details

EPC services included item numbers in the November 2000 MBS groups A14 Health Assessments (items 700 to 706), and A15 Multidisciplinary Care Plans (items 720 to 730) and Case Conferences (items 734 to 779). We excluded items relating to services by consultant physicians (items 800 to 815).

Each patient, doctor and practice (for those GPs registered with the Practice Incentives Program [PIP] during the period of study) associated with an EPC service was given a scrambled identifier by DoHA (Commonwealth Department of Health and Aged Care, 2001). Each record contained information on the age and gender of the patient. Provider information for each record included age, gender, the year of basic qualification, postcode of practice location, Division of General Practice, and number of non-referred attendances (NRAs) in 12 months to 30 June 2001.

Measures of Socio-Economic Status

SEIFA (Socio-Economic Indexes for Areas) scores were developed by the Australian Bureau of Statistics to characterise measures of the socio-economic status of Australians by geographical area (Australian Bureau of Statistics, 1998). The scores are based on questions asked in the 1996 census data, and are provided at the postcode level. By definition, one quarter of the population lives in each SEIFA quartile, and if EPC services were evenly distributed across Australia irrespective of disadvantage we would expect to see 25% of services in each quartile.

For this study we have used the Index of Relative Socio-Economic Disadvantage, as this is a general socio-economic index, and is widely used for this purpose. The index is based on such factors as percentage of dwellings being rented, percentage of persons unemployed, in relatively unskilled occupations, lacking fluency in English, Aboriginal or Torres Strait Islander status, and relatively low educational attainment.

Analyses

We have tabulated the number and proportion of EPC services occurring in each SEIFA quartile, and the number of providers who provided EPC services in those quartiles. The number of EPC services per eligible population was calculated for each state and territory using 1996 ABS census data available through HealthWiz 5.0 (http://www.prometheus.com.au/healthwiz/hwiz.htm) with 95% confidence intervals based on the Poisson distribution. For Health Assessments the eligible population was defined as the number of people aged 75 or more in each SEIFA quartile, and the entire population was deemed eligible for care plans and case conferences as the number of people with chronic, complex and ongoing care needs cannot be defined. The overall rate for Australia adjusted for jurisdiction was calculated using Poisson regression.

Results

Services

As shown in Table 1 the rate of health assessments in each SEIFA quartile is very similar. Indeed the highest rate (28.5%) is in the most disadvantaged quartile. For care plans the rates are again very similar in each quartile and the lowest rate (6.9 per 1000 population) is in the most advantaged quartile. For case conferences the rates are again similar in each quartile with the highest rate in quartile 3 and the lowest in the most advantaged quartile. Overall, there is no evidence that populations living in the most disadvantaged quartiles have a lower uptake of EPC services, and there is a trend towards greater uptake in more disadvantaged populations.

Table 2 explores the relationship between SEIFA score and EPC service uptake for each state and territory in Australia. For each service type, an overall rate for Australia, adjusted for jurisdiction, is provided. For health assessments and care plans there is a clear trend in favour of the most disadvantaged quartiles, while for case conferences the spread is more even.

For health assessments (Table 3) the trend in favour of the most disadvantaged quartile is not held in Tasmania and Victoria where rates are higher in the more advantaged quartiles, and Western Australia where the spread is more even. For care plans the national trend is not replicated in most jurisdictions except for Queensland and South Australia. The spread of case conferences across quartiles is fairly even for most jurisdictions.

Table 3 provides the actual number and proportion of each EPC service provided according to each SEIFA quartile. The distribution of health assessments, care plans and case conferences is even across quartiles. Indeed, more disadvantaged quartiles are favoured slightly for health assessments and more substantially for care plans.

Providers

For health assessments (Table 3) the number of EPC providers is lowest in the two most disadvantaged quartiles, yet the number and proportion of services provided is highest in these quartiles. Indeed the mean and median number of services provided, per general practitioner, is higher among the most disadvantaged quartiles.

For care plans a rather different pattern emerges. There are more doctors providing this service in the most disadvantaged quartiles, more services are provided, and mean number of services provided per general practitioner is higher.

For case conferences it is notable that there are substantially fewer doctors providing this service in the most disadvantaged quartile, yet they provide more services in total and provide a greater mean number of services (Table 4). It is notable that 75% of doctors in each quartile are providing three or less case conferences.

For all EPC services combined, the lowest number of providers are found in the two most disadvantaged quartiles, yet most services are provided in these quartiles, due to the higher mean and median number of services provided by each general practitioner in these quartiles.

Discussion

Our findings indicate that uptake for EPC item numbers among more disadvantaged Australian communities (SEIFA quartiles 1&2) is similar to the levels of uptake among more advantaged communities (SEIFA quartiles 3&4). Indeed there is evidence that uptake is higher among disadvantaged than advantaged communities, especially for health assessments.

Interestingly this pattern does not hold for all jurisdictions indicating that it is important to consider and be aware of local factors when monitoring national programs. As absolute levels of uptake for case conferences are low, jurisdictional level variation should be interpreted with caution. However for health assessments and care plans, numbers are much higher and jurisdiction level trends are less likely to be chance findings, although as we have done multiple comparisons in this data set, some caution should be applied. It would be interesting to explore further why the level of care plan uptake seems to be so low among the most disadvantaged SEIFA quartile in Tasmania, and why it is so high in Western Australia. Do these differences reflect systematic bias or simply a system coming into equilibrium as a service evolves?

For health assessments and case conferences, but not for care plans, the number of general practitioners who provide EPC services is lowest in the more disadvantaged SEIFA quartile(s). In most cases the number of services provided is highest in the two most disadvantaged quartiles, despite a smaller number of practitioners providing services; this is because each provider in more disadvantaged areas rendered more services, on average. It is important to note that the number of services provided per doctor is fairly small in all settings and is highly variable. Thus, while the mean number of health assessments per general practitioner ranges from 22 to 25, the median ranges from 8 to 10, indicating that a small number of doctors are responsible for a large number of health assessments. The same interpretation holds for care plans and case conferences.

Nevertheless, overall, our analyses indicate that uptake of EPC MBS items among disadvantaged communities was no lower, and perhaps was a little higher, than among advantaged communities, at least in the first two years of the item's availability. This seems to have been driven by a higher number of services than average rendered per general practitioner working in these areas. Our data provide no information on quality of service provided.

It will be important to monitor this situation over time as there is a risk that services tend to be delivered to easier to reach communities that are perhaps at times less needy of them. It could be argued that more disadvantaged communities are likely to be more in need of EPC services, and that a fairly equal uptake distribution is some cause for concern, with a stronger bias in favour of disadvantage being preferable.

Our previous analyses of these data have demonstrated substantial variation in levels of uptake of the various items of service, change in levels of uptake over time, and variation across geographical area, as well as variation by a range of characteristics of general practitioner and patient. It is encouraging that there is limited evidence of variation in uptake by socio-economic status.

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Table 1: Rate (per eligible population) of health assessments, care plans and case conferences for each quartile of SEIFA Relative Index of Socio-Economic Disadvantage with 95% confidence interval

Quartile of SEIFA level of disadvantage	Health assessment (per 100 population aged 75+)	Care plan (per 1,000 population)	Case conference (per 1,000 population)
1 (most disadvantage)	28.5 (28.2, 28.7)	9.2 (9.1, 9.3)	0.84 (0.81, 0.88)
2	27.4 (27.2, 27.7)	9.9 (9.8, 10.0)	0.81 (0.78, 0.84)
3	27.2 (27.0, 27.4)	8.6 (8.5, 8.7)	0.88 (0.85, 0.91)
4 (least disadvantage)	25.1 (24.9, 25.4)	6.9 (6.9, 7.0)	0.76 (0.73, 0.79)

Table 2: Rate of EPC services and 95% confidence interval for each state, and for Australia adjusted for jurisdiction for each quartile of SEIFA Relative Index of Socio-Economic Disadvantage

Type of EPC service	1 (most disadvantage)	2	3	4 (least disadvantage)
HA (per 100 populationaged 75+)				
ACT		3.6 (2.6, 4.9)	14.0 (13.1, 14.8)	
NSW	28.1 (27.7, 28.4)	28.8 (28.4, 29.2)	22.5 (22.2, 22.9)	20.9 (20.6, 21.2)
NT	10.7 (8.5, 13.4)	16.0 (11.7, 22.0)	9.4 (7.9, 11.1)	
Qld	25.6 (25.2, 26.1)	26.2 (25.7, 26.6)	27.4 (26.9, 28.0)	19.7 (19.0, 20.4)
SA	40.6 (39.7, 41.4)	37.5 (36.6, 38.4)	28.2 (27.3, 29.0)	39.2 (38.3, 40.1)
Tas	26.2 (25.2, 27.2)	25.2 (22.9, 27.7)	30.0 (28.6, 31.4)	29.8 (28.0, 31.6)
Vic	28.1 (27.6, 28.6)	24.4 (23.9, 24.8)	33.4 (33.0, 33.9)	29.2 (28.8, 29.6)
WA	23.2 (22.4, 24.0)	23.1 (22.4, 23.8)	24.4 (23.7, 25.2)	25.1 (24.5, 25.8)
Australia (adjusted for jurisdiction)	23.3 (22.9, 23.8)	22.8 (22.3, 23.2)	22.5 (22.1, 22.9)	20.9 (20.5, 21.3)
CP (per 1,000 population)				
ACT			0.4 (0.2, 0.8)	2.3 (2.1, 2.5)
NSW	8.5 (8.4, 8.7)	10.9 (10.7, 11.1)	8.4 (8.2, 8.5)	4.8 (4.7, 5.0)
NT	2.9 (2.5, 3.4)	5.7 (4.8, 6.7)	5.2 (4.8, 5.7)	
Qld	11.4 (11.2, 11.7)	8.8 (8.6, 8.9)	7.1 (6.9, 7.3)	6.6 (6.3, 6.8)
SA	14.7 (14.3, 15.0)	13.3 (12.9, 13.8)	18.7 (18.1, 19.3)	8.5 (8.1, 8.8)
Tas	2.5 (2.3, 2.8)	11.8 (10.3, 13.5)	7.1 (6.6, 7.7)	3.0 (2.6, 3.5)
Vic	8.0 (7.8, 8.2)	8.0 (7.8, 8.2)	8.2 (8.1, 8.4)	8.5 (8.3, 8.7)
WA	7.4 (7.1, 7.7)	10.3 (10.0, 10.6)	10.3 (9.9, 10.6)	11.7 (11.4, 12.0)
Australia (adjusted for jurisdiction)	7.0 (6.8, 7.1)	7.5 (7.3, 7.6)	6.7 (6.6, 6.8)	5.4 (5.3, 5.5)
CC (per 1,000 population)				
ACT			1.24 (0.83, 1.87)	0.60 (0.51, 0.71)
NSW	0.68 (0.64, 0.73)	0.71 (0.67, 0.76)	1.04 (0.97, 1.10)	0.56 (0.52, 0.60)
NT	3.54 (3.06, 4.09)	0.17 (0.07, 0.47)	0.97 (0.80, 1.19)	
Qld	0.84 (0.78, 0.91)	0.76 (0.71, 0.82)	0.58 (0.52, 0.64)	1.18 (1.05, 1.33)
SA	1.37 (1.26, 1.50)	1.80 (1.65, 1.97)	1.51 (1.30, 1.75)	0.65 (0.55, 0.76)
Tas	0.63 (0.52, 0.76)	0.52 (0.26, 1.05)	0.75 (0.59, 0.95)	1.59 (1.26, 2.00)
Vic	0.69 (0.63, 0.75)	0.69 (0.63, 0.76)	0.98 (0.92, 1.05)	0.83 (0.78, 0.88)
WA	0.84 (0.72, 0.97)	0.80 (0.70, 0.90)	0.52 (0.44, 0.61)	1.03 (0.93, 1.14)
Australia (adjusted for jurisdiction)	0.90 (0.86, 0.94)	0.89 (0.85, 0.93)	0.97 (0.92, 1.01)	0.84 (0.81, 0.88)

Table 3: Distribution of EPC services and doctors providing EPC services by SEIFA Index of Relative Socio-Economic Disadvantage

Type of EPC service	SEIFA Quartile	Number of providers	% Providers	Number of services	% Services	Average	SD	Min	Max	Median	Q1	Q3
Health Assessments	1	2,429	23.7	59,857	26.6	24.6	37.3	1	361	10	3	30
	2	2,479	24.2	55,132	24.5	22.2	35.1	1	343	9	3	27
	3	2,596	25.4	54,408	24.2	21.0	33.4	1	260	8	2	24
	4	2,727	26.7	55,315	24.6	20.3	33.9	1	354	8	2	22
	Total	9,584*	100.0	224,712	100.0	22.0	34.9	1	361	8	3	25
Care Plans	1	1,492	24.9	35,420	26.6	23.7	58.0	1	663	6	2	20
	2	1,569	26.2	36,885	27.7	23.5	66.2	1	1,712	6	2	23
	3	1,473	24.6	33,138	24.9	22.5	60.3	1	1,218	5	2	18
	4	1,455	24.3	27,550	20.7	18.9	45.0	1	748	5	1	16
	Total	5,693*	100.0	132,993	100.0	22.2	58.1	1	1,712	5	2	19
Case Conferences	1	699	22.9	2,916	25.8	4.2	12.0	1	223	1	1	3
	2	799	26.1	2,795	24.7	3.5	6.0	1	70	1	1	3
	3	768	25.1	2,850	25.2	3.7	9.7	1	172	1	1	3
	4	791	25.9	2,741	24.3	3.5	6.2	1	74	1	1	3
	Total	3,004*	100.0	11,302	100.0	3.7	8.7	1	223	1	1	3
All EPC services	1	2,903	23.7	98,193	26.6	33.8	66.7	1	926	10	3	35
	2	2,980	24.4	94,812	25.7	31.8	68.5	1	1,756	10	3	34
	3	3,111	25.4	90,396	24.5	29.1	62.5	1	1,464	8	3	29
	4	3,243	26.5	85,606	23.2	26.4	51.2	1	795	8	2	26
	Total	11,334*	100.0	369,007	100.0	30.2	62.4	1	1,756	9	3	31

* The total number of providers is less than the sum of providers in each quartile, as some GPs practiced in more than one SEIFA quartile during the two years.

SD – standard deviation, Q1–25th centile, Q3 – 75th centile