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ORIGINAL ARTICLE

The Impact of Universal Health Care Programmes on Improving 'Realized Access' to Care for Depression in Chile

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Abstract

Universal health care programmes have the potential to reduce treatment gaps. We explored the potential impact of an equity-oriented universal health care programme on access to care for depression, hypertension and diabetes using data from two nationally representative health surveys in Chile. The likelihood a depressed individual had accessed health care appears to have increased significantly after the programme was introduced whereas those for hypertension and diabetes remained unchanged. Depressed women seem to have benefited mostly from the programme. Universal health care programmes for depression could substantially increase coverage and reduce inequities in access to health care in middle-income countries.

Keywords Universal coverage · Scaling up · Treatment gap · Depressive disorders · Non-communicable diseases

Introduction

The vast treatment gap in mental disorders is the biggest challenge for mental health systems worldwide (Andrade et al. 2014; De Silva et al. 2014; Wang et al. 2007). The mental health treatment gap is large in most countries and income groups, but individuals of lower socio-economic status (SES), who have increased health needs, are even less likely to access health care (Bleich et al. 2012). In the World Mental Health Survey initiative, the treatment gap in Latin American countries was large: only 16–19% of individuals with mood disorders made treatment contact in the first year of onset (Wang et al. 2007).

Ten years ago, the Lancet Mental Health Group made a call for action to scale up mental health services in order to reduce this gap (Chisholm et al. 2007). Also governments and international organizations have for long advocated for policies to reduce inequalities in access to health care (Bleich et al. 2012). There is some evidence of increased priority given to mental health in terms of funding, improved service delivery and integration into primary care (The Lancet 2014; Patel et al. 2011). However, there is very little documentation of the successful implementation and impact of scaled-up programmes (Bleich et al. 2012; Eaton et al. 2011).

Chile is a Latin American middle-income country with marked socio-economic inequalities. Health care is provided by a mixed private/public sector with almost 80%, including almost all those from lower socio-economic status, being catered for the public health care sector (Becerril-Montekio et al. 2011). Currently non-communicable chronic diseases explain the largest proportion of the disease burden nationally (Ministerio de Salud de Chile 2007). Among them, hypertension and diabetes have benefited from established primary care programmes for decades, but there has been no such programme for depression until the early 2000s (Ministerio de Salud de Chile 2001). Correspondingly, the treatment coverage for depression has been very low, particularly among socioeconomically deprived populations (Araya et al. 2006; Vicente et al. 2004). The treatment gap

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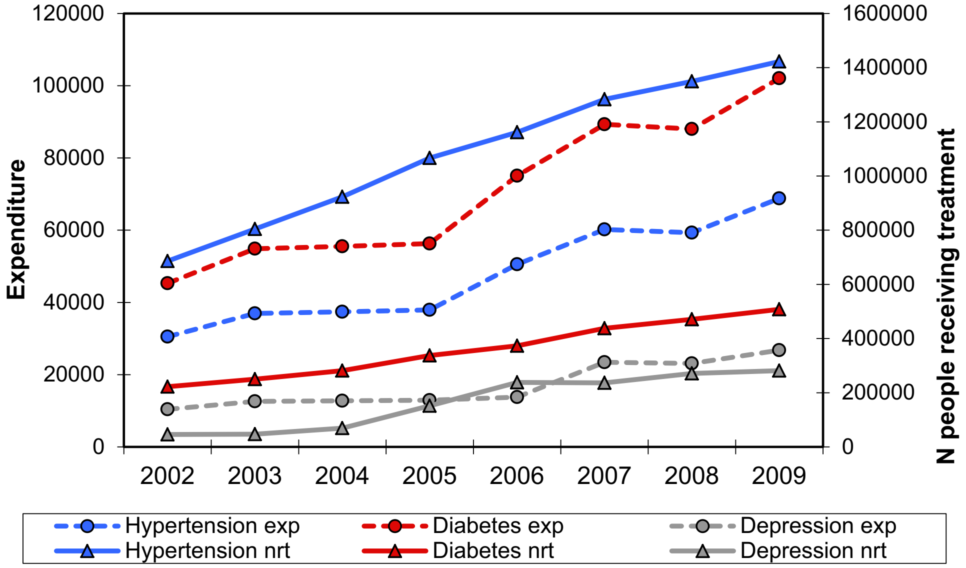

Fig. 1 Yearly expenditure (exp) in millions of Chilean pesos ($) and number of people receiving treatment (nrt) for depression, diabetes and hypertension (2002–2009)

Sources: Bitran & Assoc. Impacto de las garantías explícitas en salud en producción y en gasto en la red asistencial de salud. 2012. MINSAL; Registros Estadísticos Mensuales (REM), Departamento de Estadísticas e Información de Salud (DEIS), División de Planificación Sanitaria (DIPLAS), Subsecretaría de Salud Pública del Ministerio de Salud, Chile.

in mental health in Chile has been estimated at 73% (Minoletti et al. 2012). However, the number of people actively receiving treatment and the mean public health expenditure for each programme since 2002 has risen constantly in all programmes (Fig. 1). Nevertheless, it can be seen that depression started from a much lower coverage point than hypertension and diabetes; and still remains the programme with the lowest expenditure.

The treatment gap is unequally distributed among social strata; there are marked socio-economic inequalities in the prevalence and access to health care of all these disorders in Chile (Araya et al. 2006; Ministerio de Salud de Chile 2010). To tackle these, in 2005, Chile introduced the *Regime of Explicit Health Guarantees (AUGE)* in 2005 (World Bank 2008). This curative universal health programme guarantees that any citizen, regardless of health insurance, would receive timely and appropriate treatment for 80 diseases, including depression, diabetes, and hypertension (Box 1) (Valdivieso and Montero 2010). Much of this programme is delivered by the vast network of primary care clinics in Chile.

Evidence of universal coverage programs from other countries of varying income levels, such as Turkey (Atun et al. 2013) and the US (Health Affairs Health Policy Brief 2015), show increased access and equity as a result of expanding health care coverage. Also in Chile, AUGE seems to have increased coverage (Bitran et al. 2010). However, little is known about the impact on improving equity in access to services. Furthermore, research from other countries has shown that equity in access improves more in interventions where the initial coverage is limited (Victora et al. 2012). In Chile, the pre-AUGE coverage for conditions such as hypertension and diabetes was already high; whereas for depression it was more limited, and therefore we hypothesize that the impact of AUGE would be more noticeable in access to care for depression.

This study uses data from two national health surveys conducted before and after the implementation of AUGE to assess whether: (1) access to health care changed differently across diseases after AUGE was implemented and if a lower starting coverage for depression resulted in larger improvements compared to hypertension and diabetes; (2) AUGE contributed to reduce inequities in access to care for any of these conditions; and (3) some socio-demographic and clinical factors are associated with increased access, with special interest in reducing inequalities.

Box 1: AUGE Depression Programme, Chile: Guarantees and Components of Treatment Package

The Regime of Explicit Health Guarantees (AUGE) offers guarantees in terms of access, quality, opportunity, and financial protection for prioritized diseases, which numbered 56 originally, and currently 80 conditions are included. Everyone has the right to receive timely and appropriate treatment for these conditions from their private or state health providers. All the listed diseases have a clinical protocol and clear definitions of the guarantees, including maximum waiting time, qualifications of the providers, and a ceiling for co-payments. The guarantees for depression are as follows:

AUGE Guarantees

- Access: Aged 15 or more with one of the diagnosis included in AUGE is entitled to a comprehensive treatment package.
- Opportunity: Treatment offered immediately after diagnosis.
- Financial Protection: Most people are treated for free but a few require to pay co-payments not exceeding 20% of the total cost.
- Quality Protection: Treatment providers need to be approved by Superintendencia de Salud, Ministry of Health.

AUGE Package

- Medical consultation with primary care doctor, psychiatrist, or psychologist, or other mental health professionals, as per guidelines.
- Medication such as fluoxetine, venlafaxine, sertraline, paroxetine, lamotrigine, and others, depending on severity
- Group psychosocial intervention, consultation with liaison psychiatry or psychiatrist depending on severity, home visits, admission to hospital.
- Laboratory exams such as blood profile, thyroid hormones, blood drug levels, EEG, and others as per guidelines.

Methods

Two nationally representative cross-sectional household health surveys conducted in 2003 and 2009–2010 were compared. The first survey was undertaken just before the implementation of AUGE in 2005, whilst the second survey was carried out several years after these programmes were introduced. Both surveys were commissioned by the Ministry of Health and conducted by independent academic institutions in Chile.

The surveys were approved by local ethical committees including the Ethics Committee of the Chilean Ministry of Health and the Ethics Committee of the Faculty of Medicine, Pontificia Universidad Catolica de Chile. Written informed consent was obtained from all adult interviewees. Individuals with ages between 16 and 18 years provided assent and parents were requested to provide written consent. The Ethics Committees approved all consent procedures. More information can be found in http://www.epi.minsal.cl.

The samples were nationally representative of occupants of private households aged 16 or older in 2003 and 15 or older in 2009–2010. In order to compare these surveys only those 16 years or older were considered for the analysis. Both samples used probabilistic, multi-stage, and stratified (urban/rural) designs. One eligible individual from each household was randomly chosen and interviewed. In both surveys sampling weights were calculated using the product of inverse probability of selection at each stage. In 2003, 3619 (66%) of the sampled 5469 households took part in the study (Ministerio de Salud de Chile 2001), and in 2010, 5434 (75%) of the sampled 7212 households participated (Araya et al. 2006). Both surveys excluded pregnant women and institutionalized (hospitals or prisons) individuals. More information about the surveys is available elsewhere (Ministerio de Salud de Chile 2003, 2010).

Data were gathered by more than 100 trained interviewers following a strict protocol. Quality controls included field visits by supervisors, telephone checks, and double data entry. Interviews were repeated in a sub-sample to ascertain reliability of responses. Interviewees provided written informed consent.

Recent Depressive Episode

The Spanish abbreviated version of the Composite International Diagnostic Interview Short Form (CIDI-SF) (Kessler et al. 1998; Markkula et al. 2017) was used to establish 12-month prevalence of ICD-10 major depressive episode (MDE). Severity of depressive episodes was defined according to the number of symptoms reported. People taking antidepressant medication who did not currently fulfil criteria for depression were not included as cases of depression because antidepressants are used for a variety of conditions other than depression, particularly in primary care (Noordam et al. 2015).

Recent Hypertension and Diabetes

Hypertension was defined as systolic or diastolic blood pressure over 140 or 90 mmHg respectively, measured after 5 min of rest. Diabetes was defined as single fasting glycaemia over 125 mg/dl. Individuals with normal blood pressure or fasting glycaemia but with a previous diagnosis of hypertension and/or diabetes and currently under treatment were also included as cases.

Realized Access to Health Care for Depression

Realized access to health care was assessed among individuals who filled diagnostic criteria for MDE during the past 12 months according to CIDI-SF. They were inquired whether they had at any point in their lifetime consulted a doctor or been diagnosed with depression by a doctor.

Realized Access to Health Care for Hypertension and/or Diabetes

A question enquiring whether a doctor had diagnosed diabetes and/or hypertension at any point in their lifetime was used to establish realized access to health care for these conditions. Similar to depression, access was only assessed among individuals who filled diagnostic criteria for the disorder.

All questions regarding access to health care services were framed in a similar way in both surveys. In 2003, there were two questions regarding access: one at the end of the depression module, which did not specify a timeframe (lifetime or 12-month), and another at the end of the survey, which specified if the individual had ever been diagnosed by a doctor for different conditions. We carried out a sensitivity analysis using both questions, without any significant changes in almost any of the results with the exception in the interaction analysis that is commented below (data available upon request). We present the results using the question of the depression module from both 2003 and 2009–2010.

Access to health services is a complex concept, and its different aspects are difficult to measure in a national health survey. In this survey, we have only considered what Andersen describes in his behavioural model as ‘realized access’, which refers to the actual use of health services (Andersen 1995), in contrast with the concept of ‘effective access’ introduced later. Some authors also include ascertaining the presence of an identified need in this definition (referred to as ‘true or normative need’), and in keeping with this, we have only considered access for individuals with an identified need (confirmed diagnosis) (Andersen 1995; Shengelia et al. 2005).

Educational Level

This was divided in three categories: (1) ≤ 8 years (primary school); (2) 8–12 years (secondary school); and (3) ≥ 12 years. This was the only variable depicting socioeconomic status available in both surveys.

Data Analysis

All analyses were performed using sampling probability weights to provide estimates at country level. A complete dataset was used for all analyses. First, we carried out a descriptive analysis in order to explore differences over time and according to the condition of interest. Special attention was paid to overlapping confidence intervals in order to ascertain statistically significant differences. Second, we compared the proportion of cases that had access to health care for each condition in total, and stratified according to age, sex, and educational status. The statistical significance of any changes across the two surveys was estimated with chi square for complex samples. Third, we analysed factors (age, sex, educational status, severity and access to health care for other co-morbid conditions) associated with increased odds of access to health care for cases of each disease in both surveys separately, to explore whether factors associated with improved access had changed in the observation period. Fourth, we merged both databases and performed logistic regression models exploring the odds of cases accessing (‘realized access’) health care in 2009–2010 compared to that in 2003, adjusting for potential confounders. Finally, we explored potential interactions between the above-mentioned factors and access to health care according to the year the survey was conducted. In order to do this, we created a variable depicting the year the survey was conducted (i.e. 2003 = 0; 2009–2010 = 1). This allows exploring differences over time of realized access (interaction tests in most cases), adjusting by potential confounders. Analyses were performed with R software version 2.10.1.

Results

In 2010, the level of education in the population was higher than in 2003 (Table 1). The point prevalence estimates of all conditions remained relatively unchanged since 2003 after considering overlapping confidence intervals.

Realized Access to health care appears to have increased significantly for depression and remained largely unchanged for diabetes and hypertension (Table 1). The proportion of depressed people who reported access to medical consultation in 2003 [35.9% (95% CI 30.0–41.9)] was noticeably lower than for cases of diabetes [67.2% (95% CI 59.0–75.3)] or hypertension [62.0% (95% CI 57.8–66.2)]. Despite the apparent increase in access over time, the proportion of depressed people reporting utilization of health care in 2009–2010 was still lower than that for diabetes or hypertension.

Table 2 shows access to health care for 2003 and 2009–2010 separately for each condition and according to age, sex and educational level. There were differences in

Table 1 Characteristics of the samples for the National Health Surveys in 2003 and 2009–2010

	2003		2009–2010	
Sample (n)	3292		4521	
Sample weighted (n)	10,500,418		12,415,306	
	%	95% CI	%	95% CI
Socio-demographic				
Age				
16–29 years (%)	29.9	27.1–32.7%	29.7	27.2–32.1%
30–59 years (%)	54.7	51.9–57.5%	52.6	50.0–55.1%
> 59 years (%)	15.4	13.8–17.0%	17.7	16.0–19.5%
Sex				
Female (%)	51.2	48.4–54.0%	51.8	49.2–54.4%
Education				
>12 years (%)	19.1	16.7–21.6%	24.6	22.2–27.1%
8–12 years (%)	55.9	53.1–58.7%	56.8	54.2–59.3%
<8 years (%)	25.0	22.9–27.1%	18.6	16.8–20.4%
Health-related				
Prevalence (%)				
Depression	23.5	21.0–25.9%	20.2	18.2–22.3%
Hypertension	30.3	28.0–32.6%	27.6	25.4–29.8%
Diabetes	5.4	4.5–6.3%	6.9	5.7–8.0%
Access to health care (%)				
Depression	35.9	30.0–41.9%	52.1	46.4–57.7%
Hypertension	62.0	57.8–66.2%	66.8	62.4–71.1%
Diabetes	67.2	59.0–75.3%	72.1	64.4–79.7%

access to care for cases of depression among all age ranges, women, those with lower and intermediate educational levels, and with depression of moderate or lower severity. As for individuals with diabetes, the only sub-group that seemed to have had an increase in access were women. However, there was a marked decrease in access among higher-educated individuals with diabetes. Access to care for males with hypertension increased from the low starting levels in 2003.

In the analysis including both surveys, the likelihood that a depressed individual would have accessed health care for depression increased significantly from 2003 to 2009–2010 [OR 1.85 (95% CI 1.31–3.62)], after adjusting for sex, age, education, and access to health care linked to co-morbid disease. The odds of accessing health care did not change significantly in the intervening period for individuals with hypertension [OR 1.17 (95% CI 0.89–1.54)] or diabetes [OR 1.02 (95% CI 0.58–1.79)] in the fully adjusted models.

Analyses restricted to each survey separately showed that the factors associated with increased likelihood of access to health care for depression in 2003 were sex, level of education and the severity of the condition (Table 3). In 2009–2010, women continued to have better access, and the difference between age groups also reached significance, with those aged 59 and older being almost three times more likely to report access to health care. Additionally, differences in educational levels and increased realized access observed in 2003 were attenuated in 2009–2010.

The only factor associated with an increased likelihood of access to health care for individuals with diabetes in 2003 was higher level of education but this was no longer present in 2009–2010, while in 2009–2010, female gender and having a comorbid condition were associated with better access. As for hypertension, women were more likely to access health care in both surveys. Access to care for a co-morbid condition (depression or diabetes) also increased the likelihood of accessing care in 2009–2010.

The only statistically significant interactions across study years were found for those between sex and increased access for both depression ($p < 0.01$) and diabetes ($p < 0.01$), after adjusting for all the other variables in the models. For depression, in the sensitivity analysis carried out using another question about access to care (as described in Methods) we observed a statistically significant difference across years when comparing those with 8–12 years of education compared to those with the highest level of education, but this potential interaction did not reach statistical significance in the main analysis ($p = 0.072$).

Table 2 Access to health care for depression, hypertension and diabetes stratified by age, sex, and educational level in 2003 (n = 3292) and 2009–2010 (n = 4521)

	Depression			Hypertension			Diabetes		
	2003	2009–2010	P	2003	2009–2010	P	2003	2009–2010	P
	% (95% CI)	% (95% CI)		% (95% CI)	% (95% CI)		% (95% CI)	% (95% CI)	
Age									
16–29	29.1 (17.4–40.7)	49.4 (38.4–60.3)	0.016	35.4 (16.8–54.1)	55.3 (33.9–80.0)	0.208	24.8 (− 18.8–68.4)	11.3 (− 14.2–36.7)	0.575
30–59	37.8 (30.2–45.6)	48.9 (41.4–56.5)	0.047	58.1 (52.3–63.9)	61.4 (54.7–68.0)	0.465	63.1 (50.9–75.2)	69.3 (59.0–79.7)	0.438
> 59	43.9 (29.5–58.4)	71.5 (61.5–81.6)	0.003	72.9 (67.6–78.3)	73.9 (68.5–79.3)	0.800	75.4 (64.6–86.2)	75.5 (64.0–87.1)	0.984
Sex									
Women	40.2 (32.9–47.5)	62.8 (56.9–68.8)	0.000	76.9 (72.0–81.7)	77.1 (72.7–81.6)	0.939	65.2 (54.1–76.4)	83.2 (76.7–89.7)	0.004
Men	27.4 (17.1–37.7)	26.3 (16.2–36,3)	0.879	47.9 (41.7–54.0)	56.9 (50.1–63.8)	0.056	69.0 (57.1–80.9)	57.1 (42.2–72.0)	0.219
Education									
> 12 years	50.7 (33.2–68.2)	54.2 (41.6–66.9)	0.746	47.7 (31.8–63.7)	65.3 (52.6–78.0)	0.093	91.5 (79.2–103.9)	61.8 (35.3–88.4)	0.032
8–12 years	32.0 (24.9–39.1)	50.6 (43.2–58.0)	0.000	58.3 (51.8–64.9)	64.5 (58.3–70.7)	0.178	62.6 (48.7–76.5)	70.8 (60.0–81.6)	0.357
< 8 years	31.6 (24.2–38.9)	54.0 (42.0–66.1)	0.002	69.3 (64.7–75.0)	70.6 (63.6–77.6)	0.863	68.3 (57.4–79.1)	77.8 (68.6–87.0)	0.188
Severity[a]									
Mild–moderate	32.5 (26.3–38.8)	48.8 (42.7–55.0)	0.000	–	–	–	–	–	–
Severe	61.1 (45.8–76.3)	68.6 (55.7–81.6)	0.458	–	–	–	–	–	–

[a] Severity of symptoms is a variable only available for depression

Table 3 Factors influencing access to health care for depression, hypertension, and diabetes in 2003 (n = 3292) and 2009–2010 (n = 4521)

	Depression[b]		Hypertension[b]		Diabetes[b]	
	2003	2009–2010	2003	2009–2010	2003	2009–2010
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age						
16–29 years	1.00	1.00	1.00	1.00	1.00	1.00
30–59 years	1.81 (0.94–3.48)	1.07 (0.60–1.92)	2.11 (0.82–5.41)	1.03 (0.35–3.03)	3.48 (0.36–33.7)	5.54 (0.62–49.2)
> 59 years	2.51 (0.92–6.79)	3.08 (1.38–6.89)	3.35 (1.25–8.95)	1.63 (0.54–4.93)	6.79 (0.78–67.9)	6.80 (0.71–65.4)
Sex						
Men	1.00	1.00	1.00	1.00	1.00	1.00
Women	1.88 (1.07–3.31)	4.75 (2.71–8.32)	3.13 (2.15–4.57)	2.04 (1.39–3.01)	0.86 (0.39–1.92)	3.54 (1.68–7.49)
Education						
< 8 years	1.00	1.00	1.00	1.00	1.00	1.00
8–12 years	1.33 (0.73–2.44)	1.10 (0.63–1.93)	0.84 (0.57–1.23)	1.02 (0.64–1.62)	1.19 (0.48–2.93)	1.00 (0.41–2.46)
> 12 years	3.54 (1.48–8.47)	1.77 (0.83–3.76)	0.75 (0.37–1.52)	1.05 (0.52–2.10)	6.86 (1.09–43.2)	0.77 (0.22–2.70)
Access to care for co-morbid condition						
No	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.17 (0.66–2.06)	0.81 (0.45–1.47)	1.48 (0.85–2.58)	2.53 (1.41–4.55)	1.80 (0.83–3.92)	3.96 (1.82–8.61)
Severity[a]						
Mild–moderate	1.00	1.00	–	–	–	–
Severe	3.52 (1.65–7.53)	2.03 (0.99–4.19)	–	–	–	–

All logistic regression models were adjusted by age, sex, education, and co-morbidity of the other conditions

[a] Severity of symptoms is a variable only available for depression

[b] Tests for interaction accounting for changes in time are reported in text

Discussion

As far as we are aware, this is the first study from a middle-income country exploring the impact on access and equity of coverage for a scaled up universal mental health programme in contrast with other chronic health conditions. In the two cross-sectional studies before and after the implementation of the programme, there was a clear increase in self-reported access to health care for individuals with depression, that was not observed for diabetes and hypertension, but levels of realized access were already much higher for these conditions in 2003, supporting the notion that more noticeable improvements in realized access are seen when the coverage is more limited in one particular service category compared to others (Barros et al. 2012; Moreno-Serra and Smith 2012; Victora et al. 2012).

Although in the crude analyses women, those with lower levels of education, and cases with mild to moderate severity of depression showed increased realized access, the tests of interaction showed that only women benefited from an increased realized access over time. The effects of education and depression severity on realized access appeared to be moderated by gender, in that improvements in access were concentrated among women with lower educational attainment and less severe depressive symptoms.

With the exception of women with diabetes, there were no significant increases in realized access to health care for individuals with diabetes or hypertension in relation to any of the socio-demographic variables.

These findings contribute to the evidence supporting the introduction of universal mental health programmes aiming to increase access with an emphasis on redressing inequities in treatment coverage in middle-income countries. Socio-economic inequalities in access to health care for depressed individuals in 2003 were similar to those reported in a previous Chilean study, confirming the stability of this situation prior to the introduction of the AUGE program (Araya et al. 2006). Interestingly, the level of access to care for depressed individuals achieved in 2009–2010 is similar to that reported from some high-income countries (Demyttenaere et al. 2004; Wang et al. 2007). Unsurprisingly, access to treatment for depression was associated with severity of depression in 2003, as reported in other studies (Wang et al. 2007), but this association disappeared in 2009–2010, suggesting that when services are generally lacking, more severe conditions take priority, but as more resources become available, milder disorders are also treated.

Access to health care for hypertension or diabetes did not seem to increase noticeably after the introduction of the programmes, but coverage was already high in 2003. Earlier studies using register data have reported similar findings

(Bitran et al. 2010). However, the volume of people receiving treatment for hypertension and diabetes continued to increase over the years, as seen in Fig. 1. This is most likely due to the accumulation of cases receiving treatment for hypertension and diabetes over the years. This build-up of cases receiving treatment is probably lower for depression because this illness follows an episodic course with people discharged after recovering from an acute episode, and possibly more marked now that milder cases are also accessing treatment.

An apparent reduction of socio-economic inequalities for access to care for individuals with diabetes was at the expense of a reduction in access for those with higher educational levels. There are no clear explanations for this finding. People with higher levels of education are more likely to have private insurance where there are fewer incentives for preventive interventions, but this finding was not replicated for hypertension, and this puzzling phenomenon requires further analysis.

Our findings do not lend support to the inverse equity hypothesis (Victora et al. 2000), which states that new universal health programmes tend to initially increase inequity by reaching preferentially the better off when these programmes are introduced. A recent study on inequities in maternal and child health interventions also showed that this hypothesis did not apply when countries deliberately adopt scaling up strategies aimed at rapidly reaching the poorest, with increases in coverage among the poorest primarily driving reduction in inequities (Victora et al. 2012).

Women seemed to have benefited greatly from these programmes in terms of access to health care. Interestingly, there is also evidence suggesting that women might have better access to health care than men for other conditions included in AUGE, such as acute myocardial infarction with a noticeable decrease in mortality (Valdivieso and Montero 2010). A recent study highlighted the fact that private providers tend to discriminate against women in Chile, discouraging their entry into their systems through higher premiums or co-payments (Ewig and Palmucci 2012). In this respect it is encouraging that the universal health programmes studied here benefited women regardless of their health insurance. The bulk of these new programmes is delivered in primary care clinics, and it is well known that low-income women are several times more likely to consult primary care in Chile and elsewhere.

The prevalence of depression was high in comparison to global and earlier national estimates (Araya et al. 2001; Bromet et al. 2011; Ferrari et al. 2013b; Steel et al. 2014; Vicente et al. 2006). This may be partly explained by the use of the CIDI-SF instrument, which does not apply exclusion criteria, and therefore includes all depressive disorders as well as depressive symptoms due to bereavement, substance abuse or physical conditions. The instrument has, however, been used successfully in other population surveys where it has yielded only slightly higher prevalences than the full version of the CIDI (Patten et al. 2000, 2015). The high prevalence of depression in the Chilean National Health Survey is discussed in more detail in another publication (Markkula et al. 2017).

The prevalence of depression remained relatively unchanged despite increase in access to health care. Similar findings have been reported in the United Kingdom (Brugha et al. 2004), Canada (Patten et al. 2015) and globally (Ferrari et al. 2013a). The prevalence of depression is likely to be influenced by factors other than access to treatment, which may not have changed or even worsened during the intervening period. In fact, it has been assessed that with a 50% coverage of optimal combination treatment, the incidence of depression would only be reduced by 9% due to a decrease in recurrent cases, and therefore little, if any, reduction would be expected over such a short observation period (Dan Chisholm et al. 2004, 2016). This paper, however, has been criticized because no reduction in prevalence has been observed despite increased treatment rates (Jorm et al. 2016). Population level changes in prevalence of depression are influenced by a number of factors in addition to access to care, such as demographic changes, quality of the healthcare provided, or other contextual changes (Jorm 2011).

Strengths and Limitations

This is a unique study that takes advantage of two national health surveys using virtually the same methodology before and after the introduction of these national health programmes. However, there are also some limitations to our study. Although these were large surveys of nationally representative samples with robust methodologies and high response rates, they were not designed to assess the impact of AUGE, and the before and after design of this study merely suggests a possible temporal association. However, we were unable to identify any other major contextual factor that might explain this noticeable increase on coverage other than the large increase in supply of services, especially for those of lower socio-economic status.

Access was only assessed in relation to self-reported consultations; we do not have data on service use to corroborate self-reported information. Further, we only had information on lifetime access to services, as opposed to a 12-month period, but we could not identify any other factor that could explain a difference in lifetime access. The participation rates of the surveys (66 and 75%) were acceptable, but there is always a risk of selection bias due to non-participation, which may influence the results. Unfortunately, the 2003 survey did not collect information about the type of health insurance of interviewees to allow assessing differences between public and private sub-systems. We were only able to assess access to diagnosis, not quality of the care received. Critics of the AUGE programme have raised concerns that the quality of the programme is not being monitored closely so as to ensure compliance with the clinical guidelines suggested (Ewig and Palmucci 2012), which is a problem in newly introduced programmes in countries with all levels of development (Barbui et al. 2014). Assessment of quality of care received and effective coverage would be a necessary next step in evaluating the impact of the programme. Finally, we only had one measure of socioeconomic status available, namely education. We are aware that not all socio-economic indicators show similar associations with depression (Araya et al. 2003). It would have been useful to have information on income, for example, to assess the impact on inequalities more thoroughly.

Conclusion

The recent findings of the Global Burden of Disease study showed that mental disorders continue to be a pressing global health problem (Vos et al. 2013). Despite efforts to close the treatment gap, a recent review failed to find a single documentation of a successful scaling up of mental health care from low- and middle-income countries (Eaton et al. 2011). The findings of our study are a unique example of national policies and programmes suggesting a noticeable impact in reducing the treatment gap and redressing the marked socioeconomic inequalities in access to treatment for depression. Moreover, it is reassuring to confirm the rule that starting from low coverage augur better results, and that the new programmes do not necessarily lead to an uncontrollable increase in costs. These are all powerful reasons to motivate other low- and middle-income countries to introduce the long overdue scale-up of mental health programmes.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval The surveys were approved by local ethical committees including the Ethics Committee of the Chilean Ministry of Health and the Ethics Committee of the Faculty of Medicine, Pontificia Universidad Catolica de Chile. Written informed consent was obtained from all adult interviewees. Individuals with ages between 16 and 18 years provided assent and parents were requested to provide written consent. The Ethics Committees approved all consent procedures. More information can be found in http://www.epi.minsal.cl.

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