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RESEARCH

Uptake of Attendance Benefit for Children with a Disability in Norway: Impact of Socioeconomic Status and Immigrant Background

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In this study, we examine the take-up of a non-mean tested cash benefit for children with a disability in Norway. We question if the uptake of the attendance benefit varies according to socioeconomic status and immigrant background using administrative register data. The sample in the present study contains all children (N = 335,415) born in the period between 2000 and 2005 in Norway, as well as their mothers. As we do not have sufficient information on the eligibility criteria for the attendance benefit of all children in the sample, we also operate with a subsample of children born with Down syndrome (n = 482), who all met the eligibility criteria. The analyses of attendance benefit uptake are performed using logistic regression analysis. We present the results both on the relative and absolute scales (odds ratios and average marginal effects). The findings show that immigrants have a lower take-up of the attendance benefit for children with a disability compared with the majority of the population. Having low earnings increases the probability of taking up the attendance benefit. Finally, the findings reveal that amongst those who already receive the attendance benefit for their child, there was no social inequality in the rate granted.

Keywords: cash benefit; child disability; SES; immigrant; attendance benefit

Introduction

Children with disabilities are one of the most vulnerable groups in society; more children live with disabilities than previously understood because of improved diagnostic practices (Compas et al. 2012; Halfon and Newacheck 2010). One way to help vulnerable groups is through financial support. In Norway, families caring for children with disabilities may apply for public income support (i.e. attendance benefits), which is intended to compensate for the costs incurred as a result of the children's disabilities. It is important that benefits reach the intended group of people and that there is no social inequality among those who receive them. In particular, if groups with fewer socioeconomic resources have lower uptake rates, this could amplify existing inequalities in health by social background.

Uptake rates refer to the ratio between the number of individuals who receive the benefit and the total number of those who are entitled to it (Hernanz and Pellizzari, 2004). Previous research has revealed the low uptake rates of welfare benefits in many countries, leaving concerns about whether such benefits indeed reach those in need. For example, a summary report from OECD shows that uptake rates range between 40% and 80% (Hernanz and Pellizzari 2004). For benefits targeted at people with disabilities, research on uptake is rare. In a study conducted in the UK, the uptake rates for the disability living allowance were estimated to be between 30% and 70% (Craig and Greenslade 1998). However, very few studies have examined the uptake of benefits targeting children with disabilities. Apart from one study on the uptake of cash benefits for disabled children in Belgium (Vinck, Lebeer, and Van Lancker 2019) and one Norwegian study examining children with asthma (Finnvold 2009), research on the uptake of cash benefits amongst the parents of children with disability is limited.

The aim of the present study is to analyse how the use and take-up of a non-means-tested benefit (i.e. attendance benefit) for children with a disability varies with immigrant background and socioeconomic status (SES). This topic warrants investigation because of the substantial lack of knowledge in this important area of social welfare policy. In a first step, we analyse the variation in the use of this benefit in a large-scale sample of all children born in Norway between 2000 and 2005 (n = 328,790). Unfortunately, we do not have sufficient information on whether these children met the eligibility criteria for the attendance benefit in the total sample, and the variation in benefit use between

groups could also stem from the variation in child health across groups (Halldorsson et al. 2000). Hence, we proceed to analysing a sub-sample of children born with Down syndrome, who are, from a very young age, considered to meet the conditions for entitlement to the attendance benefit (Norwegian Pediatric Association 2009). As all children in this sample are eligible, the analysis yields precise estimates of the variation in benefit uptake by SES and immigrant background.

Health and Care-Related Benefits in Norway

In the Norwegian welfare system, there is a variety of health and care-related benefits and services available to families with children with disabilities (The Norwegian Directorate of Health 2013). These families can apply for cash benefits (i.e. basic benefits and attendance benefits) provided by the state and welfare services (e.g., support personnel, relief, and personal assistance) provided by the municipalities. Parents caring for children with disabilities may also apply for attendance allowances, which compensate for the loss of income related to care responsibilities. Moreover, parents that care for children in need of full-time care and attention may also receive care benefits from the municipality. In the present study, we focus on the uptake of attendance benefits (called 'Hjelpestønad' in Norwegian). Children who need long-term private care and supervision because of a medical condition may be entitled to attendance benefits from the Norwegian Labour and Welfare Administration (NAV). Attendance benefit is a non-means-tested cash benefit adjusted to the severity of increased care needs for which parents need to file in application. The application form needs to specify the private care arrangements taken by the parents or other individuals to cope with the child's increased care needs, or how the benefit will enable them to make private care arrangements. The care needs must last for two to three years or more. The name of the general practitioner must also be provided in the application form, and NAV will then collect the necessary medical information. The benefit is paid at four different rates, reflecting mild to severe care needs and ranging from €128 up to €770 per month. Higher rate attendance benefits are granted in accordance with rates 2, 3, or 4. To assess eligibility for attendance benefits at different rates, NAV considers the degree of physical and psychological functional impairment, the scope of care and supervision needed, the need for stimulation, training, and physical activity, and the extent to which providing the care limits the caregiver. The overall workload of the person providing the care or supervision is the determining factor (Norwegian Labour and Welfare administration 2019). Asthma, Down syndrome, skin disease, and cerebral palsy were the most frequent reasons given for granting the attendance benefit amongst the children in the present sample. Of these diagnoses, only Down syndrome is diagnosed at birth and, therefore, the only diagnosis registered in the Medical Birth Registry of Norway (MBRN). Down syndrome is one of the most common chromosomal abnormalities and is characterised by delayed psychomotor development. Moreover, congenital heart defects are very common in children with Down syndrome, as well as gastrointestinal defects, celiac disease, and hypothyroidism (Weijerman and de Winter 2010). Children born with Down syndrome are, from a very young age, considered to meet the conditions for entitlement to attendance benefits (Norwegian Pediatric Association 2009). Hence, they constitute an ideal sample for studying how parents' background factors influence their benefit take up rate.

Previous Research: The Theoretical Framework and the Hypotheses

The few studies that have examined the take up of cash benefits amongst children with disabilities point to considerable non-uptake, as well as socioeconomic and geographic differences. A study from Belgium (Vinck, Lebeer, and Van Lancker 2019) using both register data and semi-structured interviews report that around 10% of children with a disability do not receive supplemental child benefits because their families do not apply for them or they drop out during the application process. Finnvold (2009) uses administrative Norwegian register data combined with survey data and examines the process of uptake of cash benefits amongst children with a reported diagnosis of asthma. The study reports geographic and socioeconomic variation in the uptake. The county differences in uptake rate range from 10.5 recipients per 1,000 children to 1.5 recipients per 1,000 children.

Individuals need to overcome several barriers before they can claim the cash benefit. There are several possible explanations for non-uptake. Lack of information, transaction cost, and stigma are often discussed in the literature as explanations for non-uptake (Currie 2004). Sometimes, individuals are uninformed about the financial support that is available to them, or they do not know how to apply for the benefit. Information costs refer to expenditures of time and effort that are required to obtain information about the claiming process (Hernanz and Pellizzari 2004). Understanding the application procedures involves costs in terms of time and effort, and for some individuals, these costs are too high. Previous research shows that informing individuals about their eligibility is significant for uptake. For example, Daponte, Sanders, and Tailor (1999) show that providing information about individuals' eligibility increases the participation rate in the Food Stamp Program (i.e provides nutrition benefits to supplement the food budget of needy families). Similarly, there are reasons to believe that information also will affect take up of cash benefit among parents caring for children with disability.

Transaction costs also appear to be an important determinant of uptake. Some application procedures require substantial documentations and visits to the doctor and to the welfare insurance office. For some individuals, the process of uptake can be perceived as quite demanding; consequently, they do not apply for the benefit or they drop out of the application process. Vinck et al. (2019) conducted semi-structured interviews with experts and parents of children with a disability who are entitled to supplementary child benefits in Belgium. The results of the study

point to the fragmented organisation of policy measures at different administrative levels in Belgium, which leads to the lower take up of benefits. Moreover, the study shows that the parents incur substantial transaction costs from gathering documentation and doing physical visits to doctors, which have implications for uptake. Finally, the study also reports that the lack of information about the benefit seems to be an important determinant of non-uptake. In a study conducted in the US, Bitler, Currie, and Scholz (2003) report that transaction costs matter for participation in The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The study shows that when more frequent visits to the WIC office are obligatory, the participation rate in the program decreases.

Stigma is another factor that also may have implications for uptake. Some welfare programs may be particularly stigmatising; as a result, individuals choose not to claim, although they are eligible and in need of the benefit (Hernanz and Pellizzari 2004).

The application process can be difficult and complex, and the costs related to this process may be higher for some groups than others (Hernanz and Pellizzari 2004). Currie (2000) finds that the children of immigrants are less likely to take up Medicaid (i.e. federal and state program that helps with medical costs for people with limited income and resources) when they meet the criteria for eligibility. Moreover, one study reports that immigrant families caring for children with disabilities use welfare services to a lesser extent than do the majority of the population (Kittelsaa 2012).

There can be many reasons why immigrants have a lower uptake than the majority of the population. It is not unreasonable to suppose that immigrant parents face higher costs related to the application process. Immigrant parents may be unaware of the benefits and eligibility rules, and they may also incur higher transaction costs related to the application process (e.g. participation in interviews, obtaining documents, and filling out forms). This may be due to their little knowledge of the welfare system and of health and welfare workers' roles, and/or they may experience language barriers and lack a social network (Berg 2012). Several studies indicate that speaking the language of the host country is essential to obtain access to health and welfare benefits (Raghavan and Small 2004; Bywaters et al. 2003). In the application process, parents must interact with health and/or welfare professionals, and the communication most likely has implications for uptake. Alternative explanations for low take up have also been advanced. Bywaters et al. (2003) argue that institutional and structural discrimination is the main problem for parents caring for children with disabilities, resulting in low access to appropriate service and poor material circumstances. A recent but small Norwegian study by Albertini, Lidén, and Kvarme (2017) finds that immigrant parents caring for children with disabilities experience frequent instances of incomplete information and application refusals in the application process, so their trust in welfare schemes has considerably been reduced. Based on this literature review, we expect that immigrant mothers are less likely to take up the attendance benefit for their child compared with non-immigrant mothers (Hypothesis 1).

However, immigrants obtain country-specific human capital, such as language skills and cultural knowledge, through the time they spend in the host country, and these are assumed to reduce their immigrant disadvantage (Chiswick and Miller 2003). In line with this, participation in Norwegian society over time will most likely result in better knowledge of the welfare system and better skills in the Norwegian language, which will result in lower claiming costs related to the application process.

Moreover, there are reasons to believe that highly educated parents have lower transaction costs compared with less-educated parents. Education may serve as a proxy for an individual's ability to deal with the application process (Kayser and Frick 2001). Highly educated parents are likely to be better able at filling out application forms and communicating with health and welfare personnel. Moreover, it is also possible that health and welfare professionals are more attentive to the needs of highly educated parents' children. For example, Finnvold (2009) shows that there is a lower threshold for receiving cash benefits for a child with asthma amongst highly educated parents. The study also reports that highly educated parents are less likely to experience a delay in the application process compared with less-educated parents. Thus, we might expect that highly educated mothers are more likely to take up the attendance benefit for their child than less-educated mothers are (Hypothesis 2).

Economic determinants may also influence the uptake process. Both the amount of money that is possible to receive and the estimated length of the claim are important in this context (Hernanz and Pellizzari 2004). Previous research shows that families with a low income are more likely to take up welfare benefits than wealthy families are (e.g. Bargain, Immervoll, and Viitamäki 2012). According to standard cost-benefit theory, choosing to claim a benefit involves a comparison of the cost of the claiming process with considerations of the profit from that action. Individuals will apply for the benefit if the potential gain of claiming the benefit are high enough to compensate for the cost of claiming it (Hernanz and Pellizzari 2004). For those with high earnings, receiving the attendance benefit for their disabled child is not likely to make a large difference in the family economy. However, for those with low earnings, the attendance benefit can be an important contribution to the family income. We therefore expect to find that mothers with high earnings are less likely to take up the attendance benefit for their child compared with mothers with low earnings (hypothesis 3).

Data

The register data were obtained from the MBRN, which contains information on all births in Norway, and are linked to the National Education Database and the Historical Event Database (FD-Trygd) of Statistics Norway. The FD-Trygd panel database contains information on mothers' country of origin, age, employment, labour income, and receipt of attendance benefits. The MBRN provides information on children with congenital disorders and serious illnesses,

date of birth, gender of the child, and mothers' relationship status at birth. The sample consists of all children born in Norway between 2000 and 2005, as well as the mothers of these children (N = 328,790). From the same sample, we also operate with a subsample of all children born with Down syndrome (N = 482). The sample is restricted to those who are present in the country in the last observation year.

Dependent variables

The two dependent variables for the study are binary response data. The first dependent variable indicates whether a mother has received the attendance benefit (yes = 1, no = 0) for her child. The second dependent variable indicates whether a mother has received a higher rate of attendance benefit (i.e. rates 2–4) (yes = 1, no = 0). Information on children's attendance benefit was obtained from the FD-Trygd Statistics Norway database.

Independent variables

Mothers' immigrant backgrounds are measured as a dummy variable that takes the value of 1 if the mother is born outside Norway and 0 otherwise. The variable length of residency in Norway ranges from 1 to 44 years. *Mothers' educational levels* are divided into two levels and coded as 0 for high school education or below, or 1 for any college/university education. *Labour income* is measured as a dummy variable that takes the value 1 if the labour earnings less than or equal to (<=) median income or 0 if the labour earnings is greater than (>) median income. The *age* of the mother at birth is measured as the number of years. *Marital status* at birth (i.e. whether the mother was married or cohabiting) is also used as a dummy variable, which takes a value of 1 if the mother was single at birth or 0 otherwise. The diagnosis of *Down syndrome* was derived from the MBRN. The classification is based on ICD-10 diagnosis codes. *Age of the child* is also adjusted for in the analysis and ranges from 3 to 8 years.

Statistical Methods

Descriptive analyses are presented with means (SD) and proportions (%). The analyses of attendance benefit take up by mothers' country of origin and SES were performed using multiple logistic regression analyses. We present the results on both a relative scale (odds ratios [ORs]) and an absolute scale (average marginal effects [AME]), both with 95% confidence intervals. Unlike ORs, AMEs are not influenced by the amount of unexplained variance in the model, and AMEs can therefore be compared across models and samples (Mood 2010). The marginal effects for the categorical variables indicate how P (Y = 1) changes as the categorical independent variable changes from 0 to 1, holding all other independent variables equal. For continuous independent variables, the marginal effect measures the instantaneous rate of change (Williams 2012). We used robust standard errors. Statistical analysis was performed using STATA® 14, computing AMEs with the margins command. The statistical significance level was set to $p < 0.05$.

Ethical Consideration

The study was approved by the Regional Committee for Medical Research Ethics in south-eastern Norway. The Norwegian Data Protection Authority granted permission to access all the databases and records without written consent from the study participants. The data were depersonalised and made anonymous by Statistic Statistics Norway. All data will be deleted at the completion of the project.

Results

Starting with the descriptive results, we can see that 2.6% of the total sample of mothers received the attendance benefit for their disabled child (**Table 1**). Approximately 16% of the mothers in the sample had an immigrant background, and their mean length of residency in Norway was around nine years. Their mean age at birth was 29 years. Mothers who received the attendance benefit were less likely to have any college or university education, had labour earnings above the median income and were married/cohabiting compared with those mothers who did not receive the attendance benefit. The mean age of the children was approximately six years. More boys than girls received the attendance benefit.

Estimates from the logistic regression of the probability of receiving the attendance benefit for a child in the full sample (Model 1) are shown in **Table 2** as ORs and AMEs. Note that this sample includes both eligible and illegible children, so group differences likely reflect a combination of differentials in child health and differentials intake up given health. The non-immigrant mothers had 1.28 times higher odds of receiving the attendance benefit compared with immigrant mothers ($p < 0.05$). It pertains to a difference of 0.6 percentage points on an absolute scale, reflecting that the overall level of benefit use is low in the full sample (**Table 1**). The finding that immigrant mothers are less likely to take up the attendance benefit for their child compared with non-immigrant mothers supports Hypothesis 1. Turning to socioeconomic variables, we can see that mothers with any college education or university education had 19% lower odds (0.5 percentage points lower probability) of receiving the attendance benefit compared with those with upper secondary education and below ($p < 0.05$). Therefore, we reject Hypothesis 2, which indicates a higher benefit use for the highly educated. Mothers with a labour income below the median income have 1.4 times higher odds (0.9 percentage points higher probability) of receiving the attendance benefit compared with mothers with a labour income above the median income. This supports Hypothesis 3, stating that mothers with high earnings are less likely to take up the attendance benefit compared with mothers with low earnings. Regarding the control variables, **Table 2** shows that

Table 1: Characteristics of the study population, presented as mean (SD) and proportion. The sample is from birth cohorts in 2000–2005.

	Full sample	
	Receiving the attendance benefit	**Not receiving the attendance benefit**
Attendance benefit (%)	2.64	97.36
Characteristic of the mother		
Non-immigrant (%)	84.29	83.06
Immigrant (%)	15.71	16.94
Length of residency at birth (yrs)	9.04 (8.95)	8.54 (8.98)
Upper secondary education and below (%)	62.85	54.92
Any college/university education (%)	37.15	45.08
<= median income (%)	57.21	47.08
> Median income (%)	42.79	52.32
Single mother (%)	9.78	7.52
Married/cohabiting (%)	90.22	92.48
Age at birth (yrs)	29.41 (5.21)	29.45 (5.02)
Characteristic of the child		
Age (yrs)	5.89 (1.65)	5.49 (1.71)
Total	9043	326372

Table 2: Model 1: Logistic regression with regard to the uptake of the attendance benefit for children with a disability by socioeconomic status and immigrant background. OR (95% CI) and average marginal effects. The sample is from birth cohorts in 2000–2005, n = 335.415.

	OR	AME		
	OR (95% CI)	**Coeff.**	**St. error**	**P-value**
Characteristic of the mother				
Non-immigrant[a]	1.28 (1.15–1.42)	0.006	0.001	0.000
Length of residency	1.03 (1.01–1.05)	0.000	0.000	0.002
Length of residency quadratic term	0.99 (0.98–0.99)	–0.000	0.000	0.021
Any college/university education[b]	0.81 (0.77–0.84)	–0.005	0.000	0.000
<= median income[c]	1.44 (1.38–1.51)	0.009	0.000	0.000
Single mother at birth[d]	1.18 (1.10–1.27)	0.005	0.001	0.000
Age at child birth	1.01 (1.00–1.01)	0.000	0.000	0.000
Age of the child	1.14 (1.13–1.16)	0.003	0.000	0.000
Constant	0.006 (0.00–0.00)			

Reference categories: [a] 'Immigrant'; [b] 'Upper secondary education and below'; [c] '> Median income'; [d] 'Married/cohabiting at birth'.

the odds of receiving the attendance benefit are 1.18 times higher (0.5 percentage points) for single mothers than for mothers who are married or cohabiting. Length of residency in Norway, the age of the mother and the age of the child increase the odds of receiving the attendance benefit.

The associations estimated for the full sample in Model 1 are likely to be influenced by a mix of the parent's capacity to apply for the attendance benefit and the parent's probability of having a child with a medical condition that qualifies for the benefit. In particular, the lower probability of receiving benefits for highly educated mothers may be linked, on average, to their capability to have healthier children. To hold eligibility constant, we present the results from Model 2 (**Table 3**), which is identical to Model 1 but is estimated on a limited sample of children with Down syndrome,

Table 3: Model 2: Logistic regression with regard to the uptake of the attendance benefit for children with Down syndrome by socioeconomic status and immigrant background. OR (95% CI) and average marginal effects. The sample is from birth cohorts in 2000–2005, n = 482.

	OR	AME		
	OR (95% CI)	**Coeff.**	**St.error**	**P-value**
Characteristic of the mother				
Non-immigrant[a]	20.11 (6.76–59.81)	0.262	0.066	0.000
Length of residency	1.07 (1.02–1.13)	0.003	0.001	0.007
Any college/university education[b]	1.76 (0.70–4.39)	0.024	0.019	0.219
<= median income[c]	3.61 (1.20–10.79)	0.056	0.022	0.014
Single mother at birth[d]	0.41 (0.09–1.82)	–0.048	0.050	0.340
Age at child birth	1.00 (0.93–1.08)	0.000	0.001	0.886
Age of the child	1.31 (0.97–1.77)	0.011	0.006	0.076
Constant	0.21 (0.01– 2.42)			

Reference categories: [a] 'Immigrant'; [b] 'Upper secondary education and below'; [c] '> Median income'; [d] 'Married/cohabiting at birth.' Length of residency quadratic term was not significant and was omitted because of collinearity.

who are all eligible for the benefit. The descriptive statistics for this sample are found in **Table 5**. The non-immigrant mothers now have 20.1 times higher odds (26 percentage points higher probability) of receiving the attendance benefit than do immigrant mothers. Hypothesis 1 is again supported, but the magnitude of differences increases manifold when child health is held constant. There were no significant educational differences in the take up of the attendance benefit. Whilst the point estimate suggests a higher uptake amongst mothers with a higher educational attainment, the difference is no longer statistically significant ($p > 0.05$), and the expectation of educational differences (H2) is not supported. We note that in this smaller sample, we are underpowered to capture anything but very large differences between groups. Mothers with a labour income below the median income have 3.61 times higher odds (6 percentage points higher probability) of receiving the attendance benefit than mothers with a labour income above the median income are, supporting Hypothesis 3.

In sum, estimating the model on both a full population sample and a restricted full eligibility sample has yielded some interesting differences. Most importantly, the negative educational gradient found in the full sample is reversed and loses statistical significance in the restricted sample. The uptake is higher amongst immigrant mothers and mothers with below-median earnings in both samples, but the differences are larger in the restricted full eligibility sample.

Our final analysis concerns the variation in the size of benefits amongst the mothers who receive any benefits. The attendance benefit is paid at different rates and ranges from 1 to 4. In Model 3 (**Table 4**), we compare the probability of receiving higher benefits (rates 2–4) with the minimum benefits (rate 1) in the restricted (Down syndrome) sample. The estimates of Model 3 show no statistically significant difference in receiving a higher attendance benefit rate with respect to immigrant background, educational level, and income. The results also demonstrate that amongst those who already receive the attendance benefit, there was no social inequality in the rate granted.

Discussion

In this study, we have examined the impact of SES and immigrant background on the uptake of the attendance benefit. We proposed three hypotheses, which are as follows: Hypothesis 1 was based on the assumption that the information cost and the transaction cost are higher amongst immigrants, and it predicted that the take up is lower amongst immigrant mothers than amongst the non-immigrant mothers; Hypothesis 2 was based on the assumption that highly educated individuals have a lower transaction cost than less-educated individuals, and it predicted a higher take up amongst the highly educated; Hypothesis 3 was derived from standard cost–benefit theory, and it predicted that mothers with high earnings are less likely to take up the attendance benefit compared with mothers with low earnings.

In the empirical analyses, we found that immigrant mothers are less likely to take up the attendance benefit for their child compared with non-immigrant mothers. This result may reflect lower rate of child disability and morbidity among immigrants referred to as 'the healthy immigrant effect' (e.g. Jackson, Kiernan, and McLanahan 2012; Farré 2016). In the analysis conducted on the sample of children with Down syndrome, we also found that immigrant mothers are less likely than the non-immigrant mothers to uptake the attendance benefit. The difference in the restricted sample is larger by an order of magnitude than the full sample. This result indicates that immigrants have a lower take up of the attendance benefit for their child even if they are eligible, and they most likely experience barriers in the uptake process. This supports Hypothesis 1 and demonstrates that immigrant mothers receive the attendance benefit for their child

Table 4: Model 3: Logistic regression with regard to the uptake of a higher rate of attendance benefits for children with Down syndrome amongst those receiving the attendance benefit by socioeconomic status and immigrant background. OR (95% CI) and average marginal effects. The sample is from birth cohorts in 2000–2005, n = 457.

	OR	AME		
	OR (95% CI)	**Coeff.**	**St.error**	**P-value**
Characteristic of the mother				
Non-immigrant[a]	2.02 (0.70–5.81)	0.064	0.058	0.268
Length of residency	1.03 (0.97–1.09)	0.002	0.002	0.311
Any college/university education[b]	0.69 (0.34–1.39)	–0.027	0.026	0.300
<= median income[c]	0.89 (0.43–1.82)	–0.008	0.027	0.753
Single mother at birth[d]	0.69 (0.21–2.17)	–0.031	0.05	0.573
Age at child birth	0.98 (0.91–1.05)	–0.001	0.002	0.604
Age of the child	1.46 (1.18–1.80)	0.028	0.008	0.001
Constant	1.92 (0.12–30.10)	0.615	0.076	0.000

Reference categories: [a] 'Immigrant'; [b] 'Upper secondary education and below'; [c] '> Median income'; [d] 'Married/cohabiting at birth.' Length of residency quadratic term was not significant and was omitted because of collinearity.

Table 5: Characteristics of the study population (children with Down syndrome), presented as mean (SD) and proportion. The sample is from birth cohorts in 2000–2005.

	Sample of children with Down syndrome	
	Receiving the attendance benefit	**Not receiving the attendance benefit**
Attendance benefit (%)	94.81	5.19
Characteristic of the mother		
Non-immigrant (%)	97.47	2.53
Immigrant (%)	82.56	17.44
Length of residency at birth (yrs)	11.31 (11.02)	6.46 (4.08)
Upper secondary education and below (%)	50	64
Any college/university education (%)	50	36
<= median income (%)	49	40
> Median income (%)	50	60
Single mother (%)	9	12
Married/cohabiting (%)	91	88
Age at birth (yrs)	33.18 (5.69)	32.8 (4.65)
Characteristic of the child		
Age (yrs)	5.61 (1.65)	4.96 (1.61)
Total	457	25

Note: Crosstabs between immigrants/non-immigrants and uptake of attendance benefit shows that non-immigrants mothers are 15 percentage points more likely to receive attendance benefit compared to the immigrant mothers, Chi quadrat value = 31.968, p value = 0.000.

to a lesser degree than do the non-immigrant mothers. These results corroborate previous research findings showing that immigrants are less likely to take up welfare benefits and services compared with the non-immigrant mothers of the population (Hatton et al. 2003; Raghavan and Small 2004; Currie 2000; Bywaters et al. 2003). One possible explanation for this may be their lack of awareness of this benefit and the eligibility rules. Moreover, immigrants may also incur higher transaction costs related to the application process because of their little knowledge about the welfare system and/or the language barriers they face. Immigrants may lack country-specific human capital, such as skills in the Norwegian language, cultural skills, social networks, and knowledge in the Norwegian welfare system, which

possibly have implications for uptake. In the analyses in which we examined the uptake of a higher rate of benefits amongst those who receive the attendance benefit (**Table 4**), the result shows that there were differences between immigrant mothers and non-immigrant mothers in the rate granted. This finding indicates that the lower uptake amongst immigrants that we observed in **Table 3** are probably due to the failure of immigrant mothers to apply for the benefit because they lack information about it or the transaction costs are too high. General practitioner, community nurses and other health personnel that meet these families can play a valuable role in supporting the parents and to ensure that their information needs are fulfilled. As we do not find any immigrant disadvantages in the rate granted amongst those who receive the attendance benefit for their child, it is less likely that the reason for the lower uptake amongst immigrants is due to discrimination in the uptake process.

The analysis in the present study also shows that highly educated mothers were less likely to take up the attendance benefit compared with less-educated mothers in the full sample. These results reject Hypothesis 2. The result may reflect the higher prevalence of child disability amongst those with a low SES (Shahtahmasebi et al. 2011), and, therefore, highly educated mothers have a lower take up of the attendance benefit compared with less-educated mothers. However, in the analysis conducted on the sample of children with Down syndrome in which we restricted the analysis to those who are eligible, the opposite results were found; highly educated mothers were found to have a higher uptake than less educated mothers. However, this result was not statistically significant.

The final major finding in the empirical analysis is that mothers with low earnings are more likely to take up the attendance benefit for their child compared with mothers with high earnings. This holds in the full sample, and the association is amplified when only children with Down syndrome are considered. This result supports Hypothesis 3 and is consistent with the findings of previous research (Bargain, Immervoll, and Viitamäki 2012). It indicates that economic context is an important determinant of uptake. Mothers with low earnings are more likely to receive the attendance benefit, and this may be because the cash benefit is an important contribution to the family economy; for mothers with high earnings, however, the benefit may be less important.

Several limitations should be acknowledged. For one, we lack information on the number of eligible children for the attendance benefit in the total sample. We attempted to address this limitation by including a sample of children whose eligibility criteria are known, but we were unable to address this for children with other health conditions, thereby possibly limiting the external validity of the study. Another limitation is that the number of immigrants caring for children with disabilities is relatively small, so distinguishing between different immigrant groups is not possible. Immigrant groups in Norway come from a wide range of countries and from very different cultural backgrounds, and we might miss the differences between immigrant groups by using a broad category. Another limitation is that we lack data on the household income, which most likely affects the probability of claiming the benefit.

Conclusion

This article shows that immigrant mothers have a lower level of use of the attendance benefit for their child compared with the non-immigrant mothers of the population. The difference is particularly large in a subsample of children who are all eligible for the benefit. With these results, there is reason to believe that immigrants face barriers in the uptake process that have negative implications for uptake. This indicates a process of cumulative disadvantage, in which children with health problems obtain less access to public support than they are entitled to if their parents are less familiar with the systems of Norwegian welfare states. There is no reason to expect that the need for support for health problems is lower amongst children with an immigrant background. Some challenges, such as language acquisition, may even be amplified at the intersection of certain health challenges and a bilingual background.

Moreover, the analysis shows that those with low earnings are more likely to take up the attendance benefit for their child than those with higher earnings. This result indicates that economic needs seem to affect the probability of applying for the benefit and that those with fewer economic resources, all else being equal, do not face larger barriers in the application process. The difference remains when eligibility is held constant. This particular group difference in take up may contribute to weakening the social differentials in health, as relatively more resources are transferred to groups that have relatively less.

Moreover, the results demonstrate that amongst those who already receive the attendance benefit for their child, there is no social inequality involved in the rate granted. More research, however, is needed to be closer to answering the question of inequality by SES and immigrant status in the uptake of welfare benefits for children with disabilities. In the present study, we have examined the uptake of attendance benefits provided by the state. There are reasons to believe that there are similar patterns in the services provided by municipalities. Future work should also focus on the uptake of health care services (i.e., support personnel, relief and user-controlled personal assistance) provided by municipalities.

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Competing Interests
The authors have no competing interests to declare.

Author Contributions
IB and ME designed the study. IB performed the data analysis, organised and cleaned the data for analysis and drafted the manuscript. IB, ME and RKH participated in the interpretation of the data and critical revisions of the manuscript. All the authors read and approved the final manuscript.

References
Albertini, Elena Früh, Hilde Lidén, and Lisbeth Gravdal Kvarme. 2017. "Tillit til velferdstjenester?" *Tidsskrift for velferdsforskning* 20(03): 191–208. DOI: https://doi.org/10.18261/issn.2464-3076-2017-03-02

Bargain, Olivier, Herwig Immervoll, and Heikki Viitamäki. 2012. "No Claim, No Pain. Measuring the Non-Uptake of Social Assistance Using Register Data." *The Journal of Economic Inequality* 10(3): 375–395. DOI: https://doi.org/10.1007/s10888-010-9158-8

Berg, Berit. 2012. *Innvandring og funksjonshemming*. Oslo: Universitetsforlaget.

Bitler, Marianne P., Janet Currie, and John Karl Scholz. 2003. "WIC Eligibility and Participation." *The Journal of Human Resources* 38: 1139–1179. DOI: https://doi.org/10.2307/3558984

Bywaters, Paul, Zoebia Ali, Qulsom Fazil, Louise M. Wallace, and Gurnam Singh. 2003. "Attitudes Towards Disability amongst Pakistani and Bangladeshi Parents of Disabled Children in the UK: Considerations for Service Providers and the Disability Movement." *Health & Social Care in the Community* 11(6): 502–509. DOI: https://doi.org/10.1046/j.1365-2524.2003.00456.x

Chiswick, Barry R., and Paul W. Miller. 2003. "The Complementarity of Language and Other Human Capital: Immigrant Earnings in Canada." *Economics of Education Review* 22(5): 469–480. DOI: https://doi.org/10.1016/S0272-7757(03)00037-2

Compas, Bruce, Sarah S. Jaser, Madeleine J. Dunn, and Erin M. Rodriguez. 2012. "Coping with Chronic Illness in Childhood and Adolescence." *Annual Review of Clinical Psychology* 8(1): 455–480. DOI: https://doi.org/10.1146/annurev-clinpsy-032511-143108

Craig, Peter, and Mary Greenslade. 1998. "Preliminary Results from the 1997/98 Disability Survey Follow on to the Family Resources Survey March 1998."

Currie, Janet. 2000. "Do Children of Immigrants Make Differential Use of Public Health Insurance?" In *Issues in the Economic of Immigration*, edited by George Borjas. Chicago: University of Chicago Press for NBER.

Currie, Janet. 2004. "The Take Up of Social Benefits." National Bureau of Economic Research Working Paper Series (10488). DOI: https://doi.org/10.3386/w10488

Daponte, Beth Osborne, Seth Sanders, and Lowell Taylor. 1999. "Why Do Low-Income Households Not Use Food Stamps? Evidence from an Experiment." *The Journal of Human Resources* 34(3): 612–628. DOI: https://doi.org/10.2307/146382

Farré, Lídia. 2016. "New Evidence on the Healthy Immigrant Effect." *Journal of Population Economics* 29(2): 365–394. DOI: https://doi.org/10.1007/s00148-015-0578-4

Finnvold, Jon Erik. 2009. "Socio-Spatial Inequalities and the Distribution of Cash Benefits to Asthmatic Children in Norway." *International Journal of Health Geographics* 8(1): 22. DOI: https://doi.org/10.1186/1476-072X-8-22

Halfon, Neal, and Paul W. Newacheck. 2010. "Evolving Notions of Childhood Chronic Illness." *JAMA* 303(7): 665–666. DOI: https://doi.org/10.1001/jama.2010.130

Halldórsson, Matthias, Anton E. Kunst, Lennart KÖHler, and Johan P. Mackenbach. 2000. "Socioeconomic Inequalities in the Health of Children and Adolescents: A Comparative Study of the Five Nordic Countries." *European Journal of Public Health* 10(4): 281–288. DOI: https://doi.org/10.1093/eurpub/10.4.281

Hatton, Chris, Yasmeen Akram, Janet Robertson, Robina Shah, and Eric Emerson. 2003. "The Disclosure Process and its Impact on South Asian Families with a Child with Severe Intellectual Disabilities." *Journal of Applied Research in Intellectual Disabilities* 16(3): 177–188. DOI: https://doi.org/10.1046/j.1468-3148.2003.00167.x

Hernanz, V., F. Malherbet, and M. Pellizzari. 2004. *Uptake of Welfare Benefits in OECD Countries*. OECD Publishing.

Jackson, M. I., K. Kiernan, and S. McLanahan. 2012. "Immigrant-Native Differences in Child Health: Does Maternal Education Narrow or Widen the Gap?" *Child Development* 83(5): 1501–9. DOI: https://doi.org/10.1111/j.1467-8624.2012.01811.x

Kayser, Hilke, and Joachim R. Frick. 2001. "Take It or Leave It: (Non-)Uptake Behavior of Social Assistance in Germany." *Journal of Applied Social Science Studies* 1(12): 27–58.

Kittelsaa, Anna. 2012. "Erfaringer fra møter med familier og hjelpeapparatet." In *Innvandrings- og funksjonshemming*, edited by Berit Berg, 103–128. Oslo: Universitetsforlaget.
Mood, Carina. 2010. "Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It." *European Sociological Review* 26(1): 67–82.DOI: https://doi.org/10.1093/esr/jcp006
Norwegian Labour and Welfare Administration. 2019. "Auxiliary Benefit." Accessed January. https://www.nav.no/no/Person/Familie/Grunn+og+hjelpestonad.
Norwegian Pediatric Association. 2009. "Down Syndrome: Medical Aspects and Follow Up." https://www.helsebiblioteket.no/pediatriveiledere?key=146204&menuitemkeylev1=5962&menuitemkeylev2=5973.
Raghavan, Raghu, and Neil Small. 2004. "Cultural Diversity and Intellectual Disability." *Current Opinion in Psychiatry* 17(5): 371–375. DOI: https://doi.org/10.1097/01.yco.0000139972.60436.e7
Shahtahmasebi, Said, Eric Emerson, Damon Berridge, and Gillian Lancaster. 2011. "Child Disability and the Dynamics of Family Poverty, Hardship, and Financial Strain: Evidence from the UK." *Journal of Social Policy* 40(4): 653–673. DOI: https://doi.org/10.1017/S0047279410000905
The Norwegian Directorate of Health. 2013. *Barn og unge med nedsatt funksjonsevne—hvilke rettigheter har familien?* Oslo: Helsedirektoratet, Avdeling Rehabilitering og sjeldne funksjonshemninger.
Vinck, Julie, Jo Lebeer, and Wim Van Lancker. 2019. "Non-Take Up of the Supplemental Child Benefit for Children with a Disability in Belgium: A Mixed-Method Approach." *Social Policy & Administration* 53(3): 357–384. DOI: https://doi.org/10.1111/spol.12457
Weijerman, Michel, and Peter de Winter. 2010. "Clinical Practice. The Care of Children with Down Syndrome." *European Journal of Pediatrics* 169(12): 1445–1452. DOI: https://doi.org/10.1007/s00431-010-1253-0
Williams, Richard. 2012. "Using the Margins Command to Estimate and Interpret Adjusted Predictions and Marginal Effects." *The Stata Journal* 12(2): 308–331. DOI: https://doi.org/10.1177/1536867X1201200209

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