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# Outcomes in adulthood among former child welfare services recipients: findings from a Norwegian registry study covering two decades

## Utfall i voksenlivet blant personer som tidligere har mottatt tiltak fra barnevernet: Funn fra en Norsk registerstudie over to tiår

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### ABSTRACT

This article presents outcomes for persons who have been supported by child welfare services (CWS) in Norway. This include persons who were placed in out-of-home care as well as persons who only received in-home support measures (i.e. not removed from the family home). Annual outcome-data was extracted from Norwegian population-based registers covering two decades for all persons receiving CWS in-home support and/or out-of-home care measures as well as for a comparison group of persons without any contact with CWS. This article presents outcomes related to upper secondary school, employment, financial assistance, and health-related benefits according different CWS supports. While the findings are consistent with previous research which highlight poor outcomes among persons who have been supported by CWS, this study provide a more nuanced account for upper secondary education, employment, health related benefits, and financial assistance for Norwegian CWS recipients. Being placed in residential care was a predictor for poorer outcomes. Conversely, being female and parents' completion of upper secondary education were mitigating factors for some outcome variables. In broad terms, the gap in outcomes widened as persons were older (i.e. over time), chiefly as persons in the comparison group improved their outcomes. Further research into these nuances is warranted.

### ABSTRAKT

Denne artikkelen presenterer utfall i voksenlivet for personer som har mottatt tiltak fra barnevernet i Norge, både personer som hadde omsorgstiltak og personer som hadde hjelpetiltak (dvs. barn som ikke var plassert utfor familiehjemmet). Data ble hentet ut fra norske populasjonsbaserte registre som dekket to tiår for alle personer som mottok omsorgstiltak og hjelpetiltak samt en sammenligningsgruppe bestående av personer uten kontakt med barnevernet. Artikkelen presenterer utfall knyttet til gjennomføring av videregående skole, tilknytning til arbeid og mottak av sosialstønad og trygd, for grupper med forskjellige tiltakshistorikk i barnevernet. Funnene i studien samsvarer med tidligere forskning som har identifisert dårligere utfall i

### KEYWORDS

Child welfare services; Norway; population-based study; post-care outcomes

### SØKEORD

Barnevern; Norge; befolkningsbasert studie; utfall i voksenliv

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voksenlivet for personer som har mottatt barneverntiltak, men gir et mer nyansert bilde av hva som kan påvirke utfall i en norsk kontekst. Å ha bodd på barneverninstitusjon økte sannsynligheten for dårlige utfall. I motsetning var det å være kvinne eller at foreldre har gjennomført videregående skole, faktorer med positiv innvirkning på noen områder. I hovedtrekk viser studien at forskjeller i utfall ble større når personene ble eldre. Det er behov for mer forskning på disse nyansene.

## Introduction

Research has consistently identified persons with experiences from Child Welfare Services (CWS), especially out-of-home care placements, at heightened risk of poorer outcomes among most developed countries and within different welfare systems. Poor outcomes have been documented regarding employment (Kääriälä & Hiilamo, 2017; Zinn & Courtney, 2017), education (Kääriälä & Hiilamo, 2017; Kim et al., 2019; Montserrat & Casas, 2018; Refaeli & Strahl, 2014), homeless and housing instability (Bender et al., 2015; Paulsen et al., 2020; Tam et al., 2016; Thoresen & Liddiard, 2011), and physical and mental health (Kääriälä & Hiilamo, 2017; Lehmann et al., 2013), among others. Young adults ageing out of care are among the most vulnerable and socially excluded groups in society (Stein, 2006).

Noting the vulnerability of this group, the aim of this article is to account for the diverse characteristics of persons supported by CWS in Norway and present differentiated outcomes in early adulthood according to different CWS interventions using registry data. This will assist with developing policy recommendations to mitigate social exclusion. Increased understanding of differentiated outcomes may also facilitate more targeted support and interventions. As this article presents findings from a registry study, the following account of previous research in this area is limited to the most pertinent registry and population-based studies.

Forsman et al. (2016) utilised national register data to investigate economic hardship, illicit drug use, and mental health problems among Swedes born in 1973–1978 with previous experience of foster care. Among the 7522 persons who were still residents (and had not passed away) in 2008, they concluded that poor school performance had negative impact on subsequent psychosocial status. Franzén et al. (2008) utilised Swedish registry data to investigate the influence of parental socio-economic background on the risk of entry into out-of-home care among persons born from 1981 to 1996. Risk factors for entering care included single, female head of household; low maternal education; and receipt of social assistance. Vinnerljung et al. (2008) used national registry data related to persons born between 1981 and 1990 to investigate propensity of entering out-of-home care among migrants in Sweden. After adjusting for socio-economic background, they concluded that birth country had no or only moderate impact for the odds of entering care, while socio-economic background had substantial statistical influence. Vinnerljung et al. (2015) utilised longitudinal registry data for persons born in Sweden between 1973 and 1978 to investigate disability pension receipt among former CWS recipients. While the crude odds ratios of disability pension receipt among former CWS recipients were high, these were substantially reduced after adjusting for socio-economic and other background factors.

Frederiksen (2012) utilised Danish register data for persons born between 1981 and 1986 to investigate outcomes for persons placed outside the home as well as for a comparison group consisting of persons never placed outside the home. Participants were followed until they turned 20 years of age. Young adults who had been placed outside the home had poorer outcomes related to educational attainment, employment, disability person and other social security payments, and involvement with the criminal justice system. Residential care was associated with higher crime rates among males.

Sacker et al. (2021) utilised data from the Office for National Statistics Longitudinal Study which contains linked census and life events data for one per cent of the population in England and Wales and is considered a representative sample. The sample has been expanded every decade and includes 5681 persons with a care experience. Given the longitudinal nature of this dataset, variations in trends according to time were identified. Findings included increased mortality among care leavers despite falling rates of premature deaths in the general population. While migrants had poorer outcomes, care experienced migrants were in more advantaged social positions than non-care migrants.

## Child welfare services in Norway

Norway has a comprehensive social welfare system, which also extends to its approach to CWS. Historically, Norway has been categorised or described as a 'social-democratic' welfare state (Esping-Andersen, 1990) where policies and practices aim to enhance labour force participation and independence, facilitating opportunities for women in particular (Pösö et al., 2014). This approach is rooted within a broader or more holistic approach to social welfare and welfare services, with extensive government provided public services funded by relatively high taxes.

CWS in the Scandinavian countries emphasise in-home services rather than out-of-home care placements (Pösö et al., 2014), and is often referred to as a family service system (Berrick et al., 2015; Kääriälä & Hiilamo, 2017). Norwegian CWS can broadly be divided into in-home support measures and out-of-home care placements. Four out of five CWS measures in Norway are in-home support measures and only 17.9 per cent of children supported by CWS were placed in out-of-home care in 2019 (Statistics Norway, 2020). In-home support measures may include financial assistance; parenting and counselling support; psycho-social interventions to redress challenging behaviour; mental health conditions; and/or drug, alcohol, and substance abuse; as well as other support measures which may include childcare, respite care, educational support such as tutoring, and leisure activities. Out-of-home care placements include foster and residential care, although residential care is typically reserved for adolescents and youth who receive psycho-social or behaviour support and interventions. Both in-home support and out-of-home care measures may be voluntary or mandated by CWS through care or support orders (Statistics Norway, 2020). There are a range of rationales for CWS involvement, ranging from suspicion of abuse and/or neglect, the young persons' psycho-social or behaviour challenges, as well as parent/s temporary or permanent inability to look after the child or young person through for example illness, disability, or even death. Furthermore, CWS in Norway has a statutory responsibility for most unaccompanied refugees and asylum-seeking minors. However, given the different reason for CWS supporting this sub-group, unaccompanied refugees and asylum-seeking minors have been excluded from the analysis in this article.

In most jurisdictions, CWS measures and support end when a person reaches the age of maturity, which is 18 years of age in Norway, sometimes also referred to as 'aging out of care'. However, the benefit of transitional support is increasingly being recognised and advocated for, and at the time of the study CWS measures in Norway could be provided until the person was 22 years of age. As such, in-home support measures as well as out-of-home care measures can be extended after the person turns 18 years of age, or CWS may provide additional measures to support transition to independence. In 2019, 7583 persons aged 18–22 received CWS measures (13.9 per cent of all measures). The majority, 6776 persons (89.4 per cent), received in-home support measures, while only 807 persons (10.6 per cent) received out-of-home care measures (Statistics Norway, 2020). Measures provided to persons aged 18–22 years are referred to as after-care in the Norwegian context and would be similar, but perhaps more comprehensive, to post-care support elsewhere. Aftercare was extended until the age of 25 in 2020. There are only two criteria for receiving after-care: firstly, the person must have received support from CWS prior to turning 18 years of age, and secondly, the person must consent to after-care. In addition, decisions to discontinue measures at the age

of 18 or the rejection of measures after the persons turns 18 years of age have to be individual decisions argued from the point of the best interest of the focal person (Paulsen et al., 2020).

## Methodology

This study used data from multiple Norwegian registries which were prepared by Statistics Norway (SSB). The production of official statistics in Norway covers most aspects of society and relies on official registers and other administrative data. Norway has a long tradition of national registers with high quality data on an individualised level that include health and socio-economic indicators. These registers have person-identifiable records that are encrypted and allow for the identification and linking of persons across registers. Each person-identifiable record also has a family-identifiable record, enabling identification of family members.

Eleven variables were retrieved from the *CWS Register, FD-Trygd* (which is a historical event database covering social security and welfare benefits), the *National Education Database*, and *Population Statistics* (see Table 1) for this study to examine pathways and outcomes for young people who received CWS in-home support and/or out-of-home care measures. The data was extracted in 2019 by SSB and covered two decades: 1994–2014 inclusive. Access to register data in Norway is governed by strict regulations and ethical guidelines, particularly for linking data across multiple registers. The study was granted approval following recommendations from Norwegian centre for research data (NSD) and The Norwegian Directorate for Children, Youth and Family Affairs (Bufdir). The process of obtaining permissions and accessing registry data took several years.

## Study population, registers, and variables

This article utilises registry data originally obtained for an after-care study. The study population comprised all young adults, born from 1983 to 1996, who received CWS measures at any point in time between 1994 and 2014, excluding unaccompanied refugees and asylum-seeking minors, and a comparison group of persons without any contact with CWS. The study population consisted of 87,915 young adults in the CWS group and 13,106 young adults in the comparison group, all aged between 18 and 31 in 2014 (see Table 2). As the comparison group was originally designed to match the after-care cohort, there are some limitations to the study design. The proportion of comparison group participants with a migrant background (30.7 per cent) is higher than among all Norwegians in this age group (21 per cent) ([www.ssb.no](http://www.ssb.no)). Initial analysis, however, including weighting the sample, indicated that this oversampling of immigrants in the comparison group did not affect outcome trends. Therefore, outcomes presented in the findings section refer to the CWS and comparison group cohorts without weights, noting this caveat.

## The CWS register

This is the primary data source for this article and is drawn from Statistics Norway's data on the use of CWS measures and investigations (child welfare data). The register was established in 1993 and consists of annual data for individuals who have received any CWS measure. As the data for the first year of the register is somewhat incomplete, the study has utilised data from 1994 onwards. Measures that an individual receives after coming of legal age (turning 18 years old) are considered 'after-care'. A person can receive several types of measures in the same year, making the potential permutations of measures complex. The richness in the data has to be balanced with the need for broader categories to identify trends and highlight outcomes. An additional challenge in composing these categories is that data is only available from 1994 onwards. Thus, it is not possible to create a complete history of measure for older persons. Rather than disregarding these participants, who provide the longest tail of outcome data, a slightly differentiated approach was adopted elaborated on below. This resulted in the clustering of measures into eight CWS categories and the comparison group participants. The findings presented in this article are clustered according to the following nine categories:

**Table 1.** List of national registers and data used in the study.

National register	Variables	Description	Categories
The CWS Register	CWS measures	Type of CWS measure (in-home support, foster care, and residential care), age when in receipt of measure, and duration of measure.	<ol style="list-style-type: none"> <li>1. Comparison group: no CWS history.</li> <li>2. Early childhood: no CWS measure after six years of age.</li> <li>3. Only in-home support: no out-of-home care measure.</li> <li>4. Only CWS when 17–18: only CWS measures the year turning 18.</li> <li>5. Short-term foster care: less than six years.</li> <li>6. Long-term foster care: six years or more.</li> <li>7. Short-term residential care: less than three years.</li> <li>8. Both foster- and residential- care: combination of foster home and (short-term) residential care.</li> <li>9. Long-term residential care: three years or more, independent of other measures (including foster care).</li> </ol>
	Complexity	Number of different reasons for receiving measures from CWS.	Range 0–11
	After-care	All persons received measurement from CWS between the age of 19–23.	0=False, 1=True
The National Population Register	Age		Range 18–31
	Female		0=False, 1=True
	Immigrant	All persons not born in Norway to Norwegian-born parents. Unaccompanied refugees and asylum-seeking minors are excluded from this study.	0=False, 1=True
National Education Database	Parent completed upper secondary school		0=False, 1=True
	Participant completed upper secondary education		0=False, 1=True
The historical event database FD-Trygd	Employed	In paid employment during the reference year.	0=False, 1=True
	Recipient of Health-related benefits	In receipt of the permanent disability pension or work assessment allowance.	0=False, 1=True
	Recipient of Financial assistance	In receipt of temporary financial assistance.	0=False, 1=True

Note: CWS: Child Welfare Services.

- (1) Comparison group (no CWS history)
- (2) Early childhood (CWS only prior to the calendar year when turning six for participants born in 1988 or later, but up to the year turning 11 for participants born in 1983–1987<sup>1</sup>)
- (3) Only in-home support (only support measures, no out-of-home care measure)
- (4) Only CWS when 17–18 (either in-home support measures or out-of-home care measures but only during the calendar year when turning eighteen)<sup>2</sup>
- (5) ST foster care (short-term foster care, less than six years after the age of six)
- (6) LT foster care (long-term foster care of six years or more, after the age of six)

- (7) ST residential care (short-term residential care, less than three years after the age of twelve<sup>3</sup>)
- (8) Both foster- and residential- care (but not residential care exceeding three years)
- (9) LT residential care (long-term residential care, three years or more after the age of twelve<sup>3</sup>)

The categorisation of these CWS measures also includes a judgement of the 'weight' or severity of the interventions, with an attempted ranking from 'lighter' to 'heavier' measures. In broad terms, residential care is considered heavier, foster care medium, and only in-home support or early intervention lighter. This may be consistent with previous research identifying particularly poor outcomes for persons who have been in residential care or qualitative accounts of residential care typically being reserved for individuals with the most complex needs including challenging behaviours, poor mental health, drug and alcohol addictions, and broader psycho-social challenges. This concept of weight has been carried over to the interpretation of data when a person received multiple CWS measures. Data was considered annually, and the heaviest measure recorded for the respective year. For example, if a person had a foster care placement and received in-home support measures during the same reference year, the CWS measure recorded was foster care. The accumulated recorded measures for all years determined the categorisation of the CWS for each individual.<sup>4</sup>

These CWS measure categorisations are broad, and it would be possible to utilise and present a more nuanced scale of length of in-home support measures, foster care, and residential care. However, simple tests revealed that a more nuanced approach added little to the analysis, and for ease of interpretation of the findings, the CWS measures have therefore only divided into these eight categories. It is also acknowledged that the label 'short-term' for measures that last for up to 6 years may be somewhat inaccurate, particularly for people who experience these measures themselves, but the term has been chosen as an antonym to long-term.

The CWS register includes 'causes' for implementing the measures, with thirteen possible categories. Some are broad and may be viewed as 'buckets', such as 'conditions in the home' or 'other' and may therefore not accurately record the circumstances leading up to the implementation of CWS measures. Although these categories may not be mutually exclusive, and circumstances may change over time as new decisions are made and measures implemented, multiple causes may be interpreted as a proxy indicator of 'Complexity'. Thus, in the findings section, the *Complexity* variable reflects the number of recorded reason/s for CWS measures. This quantitative operationalisation of *Complexity* does not take into account the level of severity for the respective CWS measure (arguably, there is a higher degree of severity attached to 'abuse' relative to 'neglect'). This approach varies slightly from that adopted by Östberg (2010) who investigated whether three or more identified reported challenges constitute a predictor for implementing CWS measures.

### **The National Education Database**

Information from the National Education Database has been linked to enable the identification of upper secondary education completion for both participants and their parents.

### **The FD-Trygd Register**

The FD-Trygd Register is a historical event database with substantial employment and social security information. *Employed* in the findings section refers to if the person was employed at any point during the reference year, without further consideration of hours of work, salary, or permanency. *Health-related benefits* include disability pension and work assessment allowance. The disability pension is provided by the Norwegian national social insurance scheme to ensure income for persons who have at least a fifty per cent permanent reduction in capacity to earn an income due to illness, injury, or defect. This is granted if there is no prospect of improving earning capacity or the ability to work. A work assessment allowance is temporary and provides an income in periods of illness or injury, including for periods when a person needs assistance to return to work. Eligibility



**Table 2.** Sociodemographic characteristics, outcomes, and confounders in per cent and (n). *N* = 101,021.

	Comparison group	CWS group Total	CWS group disaggregated by support or care measure							
			Early childhood	Only in-home support	Only CWS when 17–18	ST foster care	LT foster care	ST residential care	Both foster- and residential care	LT residential care
Per cent of CWS <i>N</i> = 101,021	13.0 (13,106)	87.0 (87,915)	6.8 (6,016)	63.8 (56,082)	1.6 (1,362)	9.6 (8,477)	4.4 (3,840)	7.9 (6,906)	4.3 (3,761)	1.7 (1,471)
<b>Sociodemographic characteristics</b>										
Age (mean)	23.79	23.65	23.27	23.56	23.79	23.90	23.75	24.07	24.09	24.28
Female	49.2 (6,154)	46.2 (40,608)	47.0 (2,825)	44.5 (24,959)	37.0 (504) <sup>a</sup>	54.6 (4,626)	46.7 (1,792)	48.1 (3,323)	52.3 (1,965)	41.7 (614)
Parent completed upper secondary education	91.0 (9,799)	69.5 (59,557)	74.9 (4,945)	72.1 (39,845)		65.3 (5,363)	48.6 (1,851)	69.7 (4,625)	56.9 (2,108)	56.6 (820)
Immigrant	30.7 (4,017)	28.7 (25,185)	28.4 (1,710)	27.7 (15,523)	66.8 (910)	29.4 (2,496)	15.1 (581)	36.1 (2,494)	27.7 (1,043)	29.1 (428)
<b>CWS characteristics</b>										
Complexity (mean)	N/A	2.01	1.26	1.70	1.28 <sup>b</sup>	2.66	3.52	2.38	3.48	3.69
After-care	N/A	19.6 (17,265)	0.0 (2)	6.5 (3,664)		36.9 (3,128)	83.6 (3,210)	37.7 (2,606)	62.6 (2,355)	63.8 (938)
<b>Outcomes</b>										
Completed upper secondary education	71.2 (8,291)	32.5 (27,942)	41.0 (2,405)	34.3 (18,934)	20.2 (247)	33.7 (2,803)	38.1 (1,442)	17.7 (1,175)	20.6 (760)	13.0 (176)
Employed	68.0 (8,909)	54.8 (48,159)	61.7 (3,713)	57.4 (32,205)	55.1 (751)	55.0 (4,664)	55.3 (2,123)	39.6 (2,736)	40.4 (1,521)	30.3 (446)
Recipient of Health-related benefits	3.6 (468)	17.3 (15,236)	12.6 (758)	15.3 (8,551)	11.7 (159)	17.4 (1,471)	21.8 (837)	26.7 (1,844)	27.9 (1,048)	38.6 (568)
Recipient of Financial assistance	3.1 (403)	20.9 (18,397)	14.3 (862)	18.1 (10,130)	28.9 (394)	22.5 (1,904)	16.7 (641)	35.8 (2,470)	35.6 (1,340)	44.6 (656)

Note: CWS: Child Welfare Services; ST: Short-term; LT: Long-term.

<sup>a</sup>Missing data exceeded fifty per cent, possibly due to high proportion of immigrants. Among the 544 persons with data, 74.8 per cent of parents completed upper secondary education.

<sup>b</sup>It is difficult to differentiate between care and aftercare for this sub-group.



includes at least a fifty per cent reduction in the ability to work, while in contrast to the disability pension, there are future employability prospects, possibly following treatment or employment support measures. The work assessment allowance is generally only available for a period of up to three years. *Financial assistance* provides temporary income for subsistence.

### **The population register**

The population register includes multiple sociodemographic variables for the Norwegian population, including migration background. Drawing on the population register, a variable labelled 'Immigrant' has been constructed. Immigrants (value = 1) are all persons not born in Norway, while non-immigrants are born in Norway to Norwegian-born parents (value = 0).

### **Analysis**

The variables extracted from the registers accounted for above and summarised in [Table 1](#) were selected as previous CWS research has identified these as either outcomes affected by CWS support history or otherwise associated with differentiated outcomes compared to persons without a history of CWS. Statistical analysis was carried out using the STATA software package version 14.2 Special Edition (StataCorp, 2015). The main aim of the analysis was to describe and explore differentiated outcomes across multiple variables: completion of upper secondary education, employment, receipt of health-related benefits, and receipt of financial assistance in early adulthood among persons receiving different interventions from CWS in Norway, and further describe how do these outcomes changed over time (as participants age). In addition to descriptive analysis, multivariate analyses explored the association between confounders such as gender, parents' completion of upper secondary school, migrant background, history of measures, rationale for these measures (Complexity), after-care, and dependent variables. These associations were investigated between groups (CWS group and comparison group) and by using different models related to the four outcome variables (completed upper secondary education, in employment, receipt of health-related benefits, and receipt of financial assistance). It should be emphasised that regressions models only calculate associations between variables and may not be used to infer casual relationships.

The four outcome variables are dichotomous. While the convention is to carry out logistic regression for binary variables, there are several limitations to that approach for this dataset. Firstly, odds ratios cannot be interpreted as effect measures as they also reflect the degree of unobserved heterogeneity in the model (Mood, 2010). Secondly, odds ratios cannot be compared for similar models across groups or with different independent variables (*ibid*). As both these conditions are present in the models in this study, standardised beta coefficient OLS regressions are considered more useful as it allows for comparing estimates between groups and models. However, to compare effect size across groups, it is required that the dependent variables are continuous (Holm et al., 2015). Previous analysis has concluded that there is limited practical difference between the logistic and OLS regression, leading to the recommendation of carrying out standard OLS regression analysis (Hellevik, 2009). While both OLS and logistic regression were initially carried out for this study, which confirmed limited differences and similar patterns using either approach, this study used standardised effect coefficients in OLS regression to compare estimates between groups and models. Noting these limitations, the specific estimates presented in this article should be interpreted with caution.

### **Results**

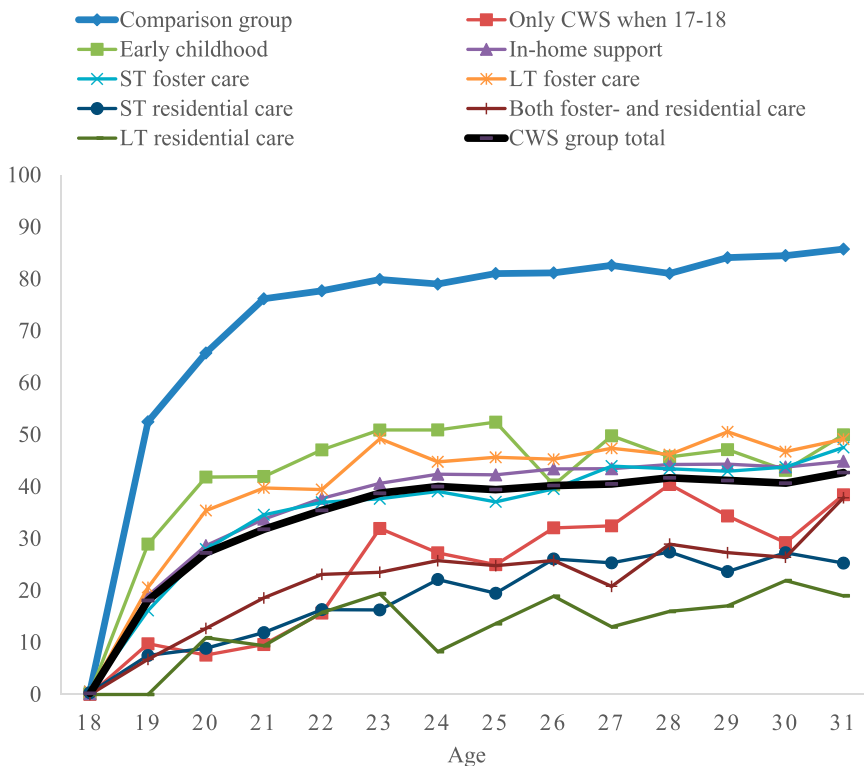
The sociodemographic characteristics, outcome variables, and CWS characteristics are presented in [Table 2](#) for the comparison group, whole CWS group, and CWS sub-groups disaggregated according to support or care measures. The frequencies presented in [Table 2](#) illustrate that the age is similar for the comparison group and all persons in the CWS group, there are slightly more males in the CWS,

and there are more immigrants in the comparison group (as accounted for earlier). However, there is a substantial difference with regards to parents' completion of upper secondary education (21.5 percentage points) between these two groups. The differences between these two groups are also substantial with regards to all four outcome variables: completion of upper secondary education, employment, receipt of health-related benefits, and receipt of financial assistance.

Table 2 also illustrates different characteristics and outcomes among the disaggregated CWS sub-group according to support or care measures. Females are underrepresented among the sub-groups who received CWS only when 17–18 and long-term residential care, but overrepresented in short-term foster care and combined foster- and residential care sub-groups. The proportion of parents who had completed upper secondary education was higher for the early childhood and only in-home support CWS sub-groups, but particularly low for the long-term foster care sub-group. The proportion of CWS recipients with an immigrant background was particularly high for persons only receiving CWS when 17–18, but also high within the short-term residential care sub-group. It was substantially lower for the long-term foster care sub-group. It is possible that this is partly associated with length of time in Norway. A more detailed account of differentiated outcomes across the different CWS sub-groups follows, but in broad terms, outcomes appeared poorer among persons with 'heavier' CWS care measures such as residential care.

### Completion of upper secondary education

Figure 1 plots the proportion of participants who had completed upper secondary education in 2014 across the different groups by age. It is normative to complete upper secondary education in the calendar year when turning 19 in Norway. However, some young people require additional time



**Figure 1.** Proportion completed upper secondary education by 2014 by age (in per cent).

Note: CWS: Child Welfare Services; ST: Short-term; LT: Long-term.

to complete upper secondary education, particularly persons undertaking a vocational stream that is typically four years compared to the typical three years in the generalist or academic stream.

While the upper secondary education completion rates among young adults in the complete CWS group was about half that of the comparison group, participants with residential care experience had the lowest completion rates among all the CWS sub-groups. The completion rate for both the comparison group and complete CWS group increased by about fifty per cent in the first two years after the normative upper secondary education completion age, possibly reflecting persons in the vocational upper secondary education stream. However, the gap between upper secondary education completion rates between the complete CWS group and comparison group increase up to 21 years of age (gap 44.4 per cent) before it marginally decreased towards the age of 24 (gap 38.9 per cent), before again widening towards 31 years of age (gap 43.8 per cent). This may suggest that persons supported by CWS on average require a longer time to complete upper secondary education. However, while some young adults in the comparison group endeavour to complete upper secondary school in their mid- to late 20s, this is less frequent among persons who have been supported by CWS.

### Participation in employment

Figure 2 plots the proportion of participants who were employed in 2014 across the different groups by age. While the gap between participants in the comparison group and complete CWS group is smaller than for completion of upper secondary education, there are similarities. A larger proportion of participants in the comparison group was employed than for the complete CWS group. However,

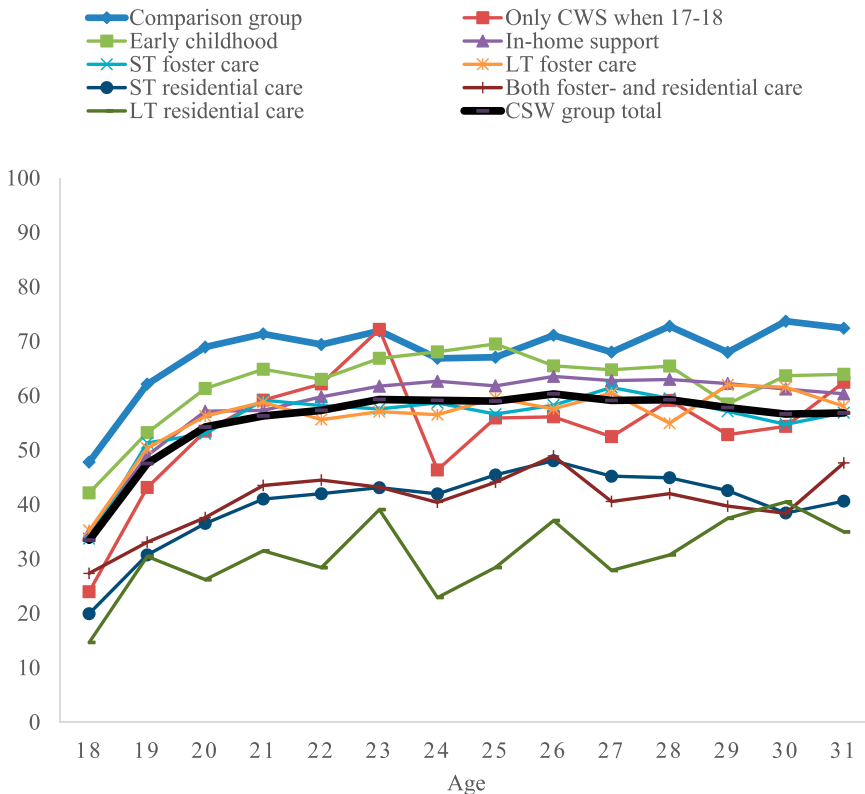


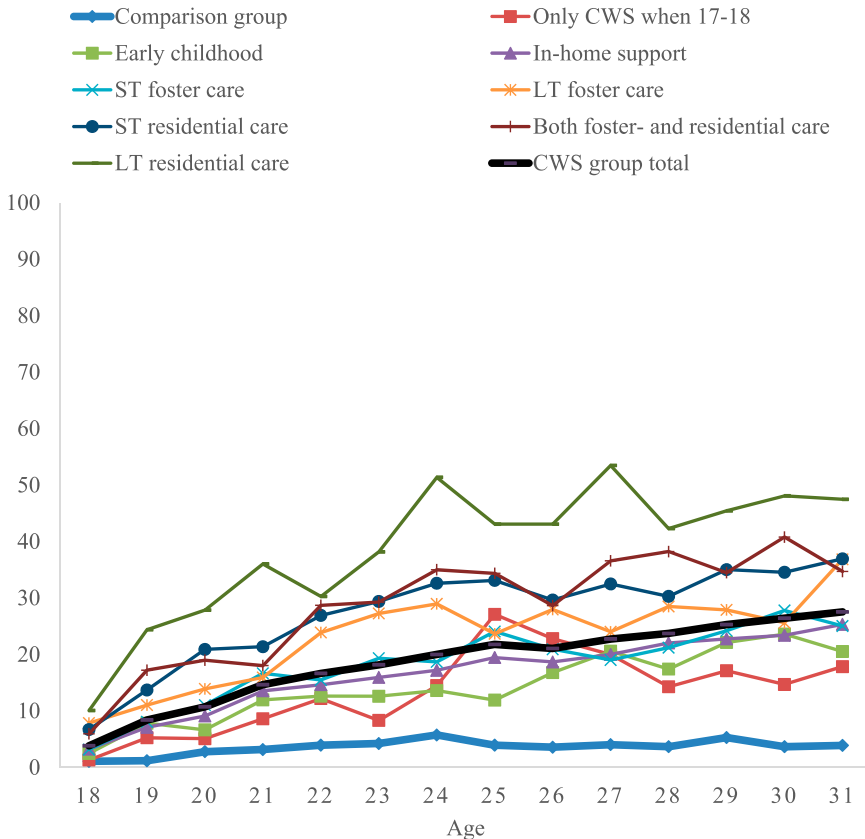
Figure 2. Proportion employed in 2014 by age (in per cent).

Note: CWS: Child Welfare Services; ST: Short-term; LT: Long-term.

fluctuations in the employment gap between these two groups according to age were mainly due to slight variations in the proportion employed among comparison group participants. It is possible that other factors, such as participation in higher education (or attaining upper secondary education) and having children, affected these groups differently, although this study did not obtain sufficient data on these variables to explore such interactions. A lower proportion of young adults with residential care experiences were employed compared to the other CWS sub-groups, as was the case with regards to completion of upper secondary education. The disparity in employment for participants in the residential care sub-groups compared to other CWS sub-groups is similar to that of the complete CWS group relative to the comparison group.

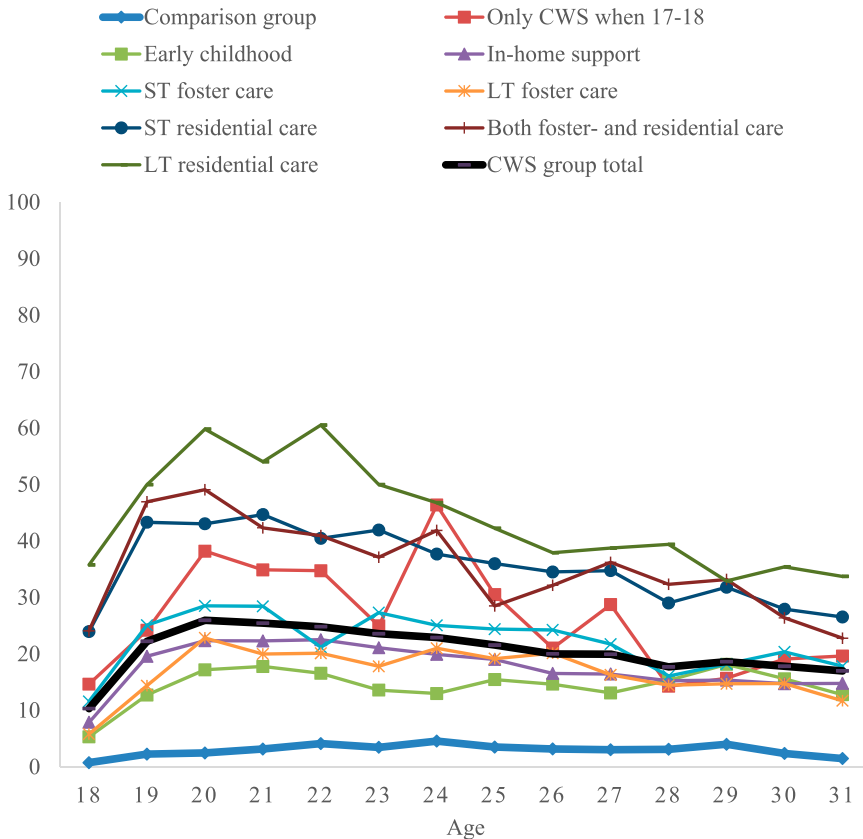
**Receipt of health-related benefits and financial assistance**

Figures 3 and 4 plot the proportions of participants who were in receipt of health-related benefits and financial assistance in 2014 across the different groups by age. As these are intended as complementary social security measures, it is reasonable to review these in parallel. Participants in the complete CWS group have a greater probability of receiving either health-related benefits or financial assistance. The proportion of comparison group participants who receive either social security measure fluctuates only marginally according to age. Reviewing participants in the complete CWS group, the proportion who receives financial assistance decreases with age while the proportion who receives health-related benefits increases by age. This may relate to the eligibility



**Figure 3.** Proportion who received health related benefits in 2014 by age (in per cent).

Note: CWS: Child Welfare Services; ST: Short-term; LT: Long-term.



**Figure 4.** Proportion who received financial assistance in 2014 by age (in per cent).

Note: CWS: Child Welfare Services; ST: Short-term; LT: Long-term.

criteria and typically prolonged process for receipt of health-related benefits (e.g. permanency of incapacity which may be more difficult to document at a younger age). Persons may therefore receive financial assistance while an application for health-related benefits is assessed. A higher proportion of persons with residential care experiences receive either health-related benefits or financial assistance compared with the other CWS sub-groups.

### **Sociodemographic and CWS factors associated with outcome variables**

The results indicate that persons with residential care experiences, especially long-term residential care, are at heightened risk of poor outcomes. Young adults with long-term foster care experience, despite low parental education and multiple recorded reasons for out-of-home care placements (complexity) (see Table 2) do relatively better with regards to the four outcomes investigated in this study. A substantially higher proportion of participants in long-term foster care received after-care compared with any other CWS sub-group (83.6 per cent compared to 19.6 for the complete CWS group), which may indicate that after-care may have a mitigating effect on poor outcomes.

To explore confounders, associations, and interplay related to outcome variables, multiple linear regression (OLS) on the outcome variables as well as independent regression analysis for both the complete CWS group and comparison group were carried out, presented in Table 3. The findings in Table 3 are similar to those presented in Figures 1–4, although more synthesised in this table. Even when controlling for confounders, residential care was negatively associated with all

**Table 3.** Linear regression of outcomes with standardised regression coefficients (not true = 0; true = 1).

	Completed upper secondary education		Employed		Received health-related benefits		Received financial assistance	
	CWS	Comparison group	CWS	Comparison group	CWS	Comparison group	CWS	Comparison group
CWS group (Early childhood reference)								
Only CWS when 17–18	–0.03***		–0.00		0.00		0.01***	
Only in-home support	–0.06***		–0.02**		–0.02*		0.02*	
ST foster care	–0.03***		–0.01		–0.02***		0.02**	
LT foster care	0.02***		0.00		–0.01		–0.04***	
ST residential care	–0.13***		–0.07***		0.03***		0.09***	
Both foster- and residential care	–0.07***		–0.04***		0.01*		0.05***	
LT residential care	–0.06***		–0.04***		0.03***		0.05***	
Complexity	–0.06***		–0.06***		0.07***		0.07***	
After-care	–0.01		–0.02***		0.03***		0.04***	
Completed upper secondary education	–	–	0.29***	0.16***	–0.24***	–0.22***	–0.23***	–0.18***
Age (18–31)	0.22***	0.34***	0.04***	0.11***	0.22***	0.15***	0.02***	0.06***
Female	0.10***	0.09***	–0.01***	0.02**	0.04***	0.03***	–0.01*	–0.00
Parent completed upper secondary education	0.11***	0.12***	0.00	–0.02	0.01**	–0.02	–0.04***	–0.07***
Immigrant	0.05***	–0.02*	–0.01**	–0.08***	–0.06***	0.00	–0.02***	0.01
R <sup>2</sup>	0.09	0.14	0.11	0.06	0.11	0.05	0.09	0.04

Note: CWS: Child Welfare Services; ST: Short-term; LT: Long-term. Standardised regression coefficients (0 = False 1 = True). \* $p \leq 0.05$ . \*\* $p \leq 0.01$ . \*\*\* $p \leq 0.001$ .

outcome variables. On the other hand, long-term foster care was associated positively with completing upper secondary school and receipt of financial assistance (lower need of financial assistance). Complexity was negatively associated with the outcome variables, indicating a greater vulnerability among participants with a greater number of recorded reasons for receipt of CWS measures. However, these confounders only account for about ten per cent of the variance. As such, there is substantial variance unaccounted for and further research to enhanced knowledge of associations between the confounders and CWS measures is warranted.

Comparing the complete CWS group and comparison groups reveal some striking differences with regards to the confounders' associations with the outcome variables. Firstly, completion of upper secondary education has a stronger association with employment in the complete CWS group relative to the comparison group ( $\beta = 0.29$  and  $\beta = 0.16$  respectively). For completion of upper secondary education and employment, age has a stronger association in the comparison group, as illustrated in [Figures 1 and 2](#), where the gaps between the groups increase with age. There are only marginal differences between the complete CWS and comparison groups regarding gender and parents' education as associations with the outcome variables. Being an immigrant, on the other hand, has a positive association with completion of upper secondary education for the complete CWS group ( $\beta = 0.05$ ), which is reversed for the comparison group ( $\beta = -0.02$ ). Being an immigrant has a stronger negative association with employment for participants in the comparison group than the complete CSW group ( $\beta = -0.08$  and  $\beta = -0.01$  respectively) and has a significant negative association with receipt of health-related benefits ( $\beta = -0.06$ ) and financial assistance ( $\beta = -0.02$ ) for the complete CWS group (less likely to receive social security benefits), while there are no significant associations for the comparison group.

## Discussion

As noted earlier, the aim of this article is to account for and present differentiated characteristics and outcomes for persons supported by CWS in Norway to facilitate the development of more targeted policy recommendations, supports, and interventions. Consistent with previous research, this study identified relatively poor overall outcomes among persons with CWS experiences compared to peers without CWS experiences. The study identified differentiated outcomes among youth with immigrant background, which has also been illustrated in a recent UK study (Sacker et al., 2021). While immigrants have poorer outcomes than the other CWS recipients, these are better than among immigrants without CWS support, suggesting a positive CWS effect for this subgroup.

Previous studies suggest that persons who have been in foster care may have better outcomes compared persons who have been in residential care (Kääriälä & Hiilamo, 2017; Sacker et al., 2021). While this association was also identified in this study, there was also a strong association between after-care and long-term foster care, but not for other CWS sub-groups. As after-care has been identified as a measure to mitigate poor outcomes, and persons who have been in residential care have been identified as at heightened risk of poor outcomes, it may be advantageous to review policies and practices related to after-care given its limited use among residential care sub-groups. This is particularly pertinent with regards to improving policies and practices to maximise the benefits of after-care.

A recent Australian study which utilised registry data to identify outcomes and service use among care-leavers provided substantial policy and practice recommendations with particular emphasis on housing, meaningful participation, and post-care support to enhance outcomes among care-leavers (Martin et al., 2021). It would be interesting to conduct a similar analysis of the interrelationships between outcomes, policies, and practices in the Norwegian CWS context, although insight into some of these issues may require qualitative research approaches. Such a study may identify additional or targeted support measures and strategies to enhance outcomes among persons supported by CWS.



Residential care had a particularly strong association with poor outcomes in this study. This study cannot identify if there are other factors, for example risk factors for being in residential care, that are associated with these outcomes. Further research may be warranted to identify and distinguish between quality of support prior to placement in out-of-home care, differentiations according to in-care measures, as well as post-care support or after-care. Special attention may be warranted to unpack the complexities of residential care placements. Furthermore, the importance of upper-secondary school completion is highlighted in this study and it is important that CWS facilitates this for people they support. This study has presented differentiated outcomes and associations for different CWS sub-groups which provide a more nuanced account. It reinforces the diversity among people with CWS experiences, and may facilitate a more differentiated approach for providing supportive policies and practices to enhance outcomes.

### **Strengths and limitations**

This paper has increased insight into outcomes for persons supported by CWS in Norway. A major strength is that the study includes whole of CWS population which provide precise insight into outcomes. Noting this, there are also several limitations to the study. Firstly, the use of stratifications for sampling the comparison group may have skewed the proportion of immigrants. This may have been a result of the dataset this article presents was originally extracted for an after-care study. Secondly, utilising a sample for the comparison group rather than a whole-of-population approach may temper the generalisability of these findings. However, within the guidelines to access registers in Norway, this is the prevailing approach. Thirdly, as with any register study, there are potential limitations within the registers and possibility of linkage errors. However, as this potential error relates to both the CWS and comparison groups it is unlikely to have impacted the trends presented in the paper.

### **Notes**

1. Rather than exclude five year of data due to inconsistent data for a single variable, the 'early childhood' category refers to CWS services prior to the year when turning six for persons born in 1988, prior to the year turning seven for persons born in 1987, prior to the year turning eight for persons born in 1986, prior to the year turning nine for persons born in 1985, prior to the year turning ten for persons born in 1984, and prior to the year turning eleven for persons born in 1983.
2. Persons who received CWS during the year when turning eighteen may have been referred by for example youth justice, drug and alcohol, mental health, or social services, or otherwise have become known to CWS due to other vulnerabilities. It is likely that this sub-group reflect youth with specific challenges.
3. It is extremely rare for persons under the age of 12 to be in residential care in Norway, as most CWS institutions have specifically been developed as therapeutic or support interventions for teenagers.
4. 'Early childhood' measures referred to a longer time-period for persons born prior to 1988. Conversely, the time-frame for these participants to be in foster care is shorter than for the participants born in 1988 or later.

### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

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**Senior Researcher Stian H. Thoresen** is an experienced researcher in the area of vulnerable and excluded populations, including young people leaving state out-of-home care and persons with disabilities, with an emphasis on transition to adulthood.

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