

# Intersectional equity in health care: Assessing complex inequalities in primary and secondary care utilization by gender and education in Northern Sweden

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## Research

**Keywords:** intersectionality, inequality, inequity, joint disparity, referent disparity, excess intersectional disparity

**Posted Date:** February 17th, 2020

**DOI:** <https://doi.org/10.21203/rs.2.23734/v1>

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**Version of Record:** A version of this preprint was published on September 11th, 2020. See the published version at <https://doi.org/10.1186/s12939-020-01272-7>.

# Abstract

Background Knowledge remains scarce about inequities in health care utilization between groups defined, not only by single, but by multiple and intersecting social categories. This study aims to estimate intersectional horizontal inequities in health care utilization by gender and educational level in Northern Sweden, applying a novel methodological approach.

Methods Data on participants (N=23587) aged 16-84 years from Northern Sweden came from the 2014 Health on Equal Terms cross sectional survey. Primary (general practitioner) and secondary (specialist doctor) health care utilization and health care needs indicators were self-reported, and sociodemographic information came from registers. Four intersectional categories representing high and low educated men, and high and low educated women, were created, to estimate intersectional (joint, referent, and excess) inequalities, and needs-adjusted horizontal inequities in utilization.

Results Joint inequalities in primary care were large; 8.20 percentage points difference (95%CI: 6.40-9.99) higher utilization among low-educated women than high-educated men. Only the gender referent inequity remained after needs adjustment, with high- (but not low-) educated women utilizing care more frequently than high-educated men (3.66 percentage points difference (95%CI: 2.67-5.25)). In contrast, inequalities in specialist visits were dominated by referent educational inequalities, (5.69 percentage points difference (95%CI: 2.56–6.19), but with no significant horizontal inequity – by gender, education, or their combination – remaining after needs adjustment.

Conclusion This study suggests a complex interaction of gender and educational inequities in access to care in Northern Sweden, with horizontal equity observable for secondary but not primary care. The study thereby illustrates the unique knowledge gained from an intersectional perspective to equity in health care.

## Background

The health care system plays a central role in the achievement of equity in health, and implementing laws and policies that aim to foster health equity is therefore seen as a key global objective (1). Sweden has a reputation of promoting equity in health care, with supporting legislature that places emphasis on needs-based provision of health care (2). Despite this, there is ample evidence on manifest and growing inequities in the Swedish health care system (3,4), including in Northern Sweden (5–7). However, scarce equity in health research in Sweden and globally has considered complex inequities across multiple intersecting social dimensions. The present study seeks to contribute to this line of inquiry by examining complex or intersectional inequities in health care utilization by gender and socioeconomic position in Northern Sweden.

Most health care policy and research has given focus to horizontal equity, which is the provision of equal health care to those with equal health care needs regardless of any other factors, such as socioeconomic position, gender, racial/ethnic differences or place of residence (8,9). These principles are clearly

formulated in the Swedish legislation and policies. For example, the Health and Medical Care Act of 1982/2017 highlights that the overarching goal of the Swedish health care system is the provision of good health and care on equal terms for the entire population (10). The Swedish parliament also agreed in 2003 on a holistic public health policy framework that prioritized health equity, and this emphasis was further strengthened through a revised public health policy bill in April 2018 which specified equitable health as an important goal, and health services as one key target area to reach this goal (11).

Despite these preconditions promoting equity, multi-faceted health care inequalities have been identified in several Swedish studies. For example, evidence points towards under-utilization of services among those with less financial means, single mothers, foreign-born, and with concerns that health care equity is further threatened by marketization of services (5,6,12–17). At the same time, conventional public health research have been criticized for mainly focusing on analysing the effects of single axes of inequality in health, instead calling for greater application of intersectionality-informed approaches in quantitative public health research, especially research on health inequities (18–28). Intersectionality theory is premised on how multiple identities and experiences of marginalization interact (29), and highlights how these resultant effects cannot be simply presumed to be equal to the sum of the individual inequalities i.e. non additivity (30). Bauer (2014), for example, further argued that applying intersectionality provides a more nuanced understanding of the multiple causes, interactions and effects of joint inequalities (31). Hankivsky (2017) also challenges health researchers to integrate intersectionality in understanding connections between biological and social processes in health care (32).

Despite this recent interest for intersectionality in research on health equity, most examples of empirical research on intersectional inequities has focused on disparities in health outcomes rather than on health care services or utilization (33–35). Bastos and colleagues (2018) published one of the few studies on intersectionality in health care utilization and how it is patterned by racial disparities (36). Likewise, whereas multiple novel methodological approaches to analysing intersectional inequalities have been proposed in recent years (37–40), they concern assessment of health inequalities rather than health care inequities. In contrast to the paucity of intersectionality-informed methods for health care inequities, quantitative methods of estimating horizontal inequities have been widely applied in public health research, albeit only in the assessment of “simple” inequities such as income (41) rather than complex inequities. These established methods are based on the principle of adjusting for indicators of health care needs and thereby separating horizontal inequities from inequalities in health care utilization, either by needs-adjustment of conventional regression models or more specialized measures such as the horizontal inequity index (42).

This study seeks to contribute to public health literature by estimating the intersectional inequalities and horizontal inequities in primary and secondary health care utilization by gender and education in Northern Sweden. We will apply a novel methodological approach tailored specifically for this purpose, integrating the method for intersectional inequalities proposed by Jackson (2016) with the established approach of needs-adjustment to assess horizontal equity commonly used in health care research on inequities.

## Methods

### Data collection and sampling

The data was collected through the Health on Equal Terms (HET) cross sectional survey of 2014 in four counties/regions in Northern Sweden (Norrbotten, Västerbotten, Västernorrland and Jämtland/Härjedalen). The HET survey has been implemented annually since 2004 by the Public Health Agency in collaboration with Statistics Sweden and the county councils of Sweden. A two-stage probabilistic sampling was undertaken at county and municipal levels to obtain data through postal questionnaires. Individual questionnaire records were linked with register data from Statistic Sweden. The target population was individuals aged between 16 and 84 years inclusive. There were 25,667 responses yielding a response rate of 49%. Ethical approval was obtained from the Regional Ethical Review Board in Umeå.

### Indicators of health care utilization

To assess health care utilization at the primary health care level, respondents were asked if during the last three months they have visited or been visited by a doctor at the health centre. General Practitioner (GP) visits have been used as proxies for primary health care utilization in previous studies on the HET survey (5–7). Secondary health care utilization was obtained from probing respondents if during the last three months they have visited a doctor (specialist) at the hospital. As in previous studies (7), specialist doctor visits have been used as a proxy for the utilization of secondary, hospital-based, outpatient health care services. The responses were coded as zero for those who reported non-use of general practice/specialist doctors within three months prior to the survey, and one for those who reported use of these services at any time three months prior to the survey

### Indicators of gender and socioeconomic positions

The study overall objective was to estimate intersectional inequalities and horizontal inequities in health care utilization by gender and socioeconomic position. The variable gender was obtained from registry data and coded as men (0) and women (1). Education was selected as an indicator for socioeconomic position and was also obtained from registry data. It was classified according to the official classification of Statistics Sweden (SUN 2000). The education category was dichotomized as low (0) (three years or less of secondary education) and high (1) (more than three years of secondary education).

### Intersectional social positions

A combined categorical variable for education and sex was generated by cross-classifying the binary gender and education variables, thus creating four intersectional positions reflecting different combinations of social advantage/disadvantage: High educated men representing the doubly socially advantaged group; low educated women representing the doubly disadvantaged group; and high-educated women and low-educated men, both representing middle groups at the intersection of the axis of privilege and of marginalization. Note that distinction of advantage/disadvantage (or

privilege/oppression) here is based on the a priori notion of social advantage/disadvantage according to the structural dimensions of education and gender, which may or may not correspond to more/less favourable (health care) outcomes.

## Indicators of health care needs

Previous research has highlighted the importance for the adjustment for health care needs in attempts to establish horizontal equity in health care (5–7) i.e. to separate disparities in health care utilization due to different needs from inequities in care given equal needs. In this study, health care needs were indicated by age, self-rated health, physical limitation, or illness after accident, chronic diseases and mental health status.

**Age:** Participants in the age range 16 to 84 were recruited into the study. Age was coded into an ordinal variable young adulthood (1), middle age (2) and old age (3) for the age ranges 16–35, 36–65 and 66–85 respectively.

**Self-rated health:** The survey participants were asked about how they assessed their state of health. Responses were coded as those who responded good and very good (0) and those who chose fair, poor and very poor (1).

**Physical limitation or illness after injury:** This variable was created and treated as categorical. The responses were coded as those who did not have any physical limitation or discomfort of illness after an injury (0) or those who had a physical limitation or illness after injury (1).

**Chronic diseases:** The participants were asked if they had any of the following chronic illnesses; asthma, allergy, diabetes and hypertension. Variables for these individual diseases were created and coded as, did not have the disease (0) and had the disease (1). Those with none of the listed diseases were coded as 0 and those reporting one or more disease were coded as 1.

**Mental Health:** Self-reported mental health symptoms were obtained using the General Health Questionnaire (GHQ)-12 (43), which has been previously applied in mental health assessments, exhibiting good validity, consistency and detecting depressive disorders (44). The GHQ-12 has 12 items which cover symptoms during the previous weeks such as lack of concentration, moodiness and sleeplessness, rated on a four-level Likert scale, averaged and multiplied by 12 to create a final index with range of 0–36 (45). A binary variable was then created with good self-reported mental health coded as good mental health (0) for scores between 0 to 11 and poor mental health (1) for scores greater or equal to 12.

## Statistical analysis

To provide an estimate of the health care utilization disparities we employed as a point of departure the method proposed by Jackson (2016) (38), which has been used in recent reports on intersectional inequalities in health-related outcomes (46,47). This method examines disparities from a multidimensional perspective, based on estimation of four disparities. These are exemplified in this study by the joint, the referent education, the referent gender, and the excess intersectional disparities. The joint disparity (JD) as defined by Jackson (2016) is the prevalence difference between the doubly underprivileged with the doubly privileged groups. The referent disparity for gender ( $RD_g$ ) compares the

health care utilization between men with high education and women with high education. The referent disparity for education ( $RD_e$ ) is the difference in health care utilization between men with high education and men with low education. Finally, the excess intersectional disparity (EID) is the difference between the JD and the combined sum of the referent disparities ( $EID = JD - (RD_g + RD_e)$ ). The EID therefore provides an absolute estimation of the extent to which the joint disparity exceeds the total of the referent disparities (38).

Binomial regression was used to estimate the above disparities and done in two steps, separately for utilization of primary and secondary health care utilization. The first model regressed the outcome health care utilization on the four-category variable for sex and education without adjusting for covariates yielding the raw inequalities in utilization. The second model was adjusted for health care needs (age, self-rated health, physical limitation after injury or illness, chronic diseases and mental health) to estimate horizontal inequities in utilization. Unadjusted inequalities and needs-adjusted horizontal inequities are reported as prevalence difference (PD) with p values and 95% confidence intervals. STATA version 13.1 was used for all the analysis.

## Results

### Descriptive analysis

The characteristics of the study population and the four intersectional groups are summarized in Table 1 below, with 23,587 participants aged between 16 up to 84 years being considered in the statistical analysis. Almost a third (32%) of the respondents had visited a general practitioner at the primary health care centre in the last three months. The results further showed that high educated men used primary health care the least (28%) and low educated women utilized primary health care the most (37%), with the middle groups of low-educated men and high-educated women utilizing to a moderate extent (32%). Compared to general practitioners visits and as expected, less people visited specialist doctors at the hospital (22%). However, the utilization of specialist doctors was lowest in both men and women with higher education (20%), and highest among the lower educated groups (approximately 26%).

When it comes to the health care needs indicators, diverse patterns were seen across the intersectional groups depending on the indicator. Low-educated women and men displayed worse health profiles for most indicators. High-educated women and men in contrast showed better health, with the notable exception being high-educated women reporting the highest frequency of poor mental health across all intersectional groups.

Table 1

Descriptive statistics of key variables by intersectional positions of gender and education

Categories/variable name	Total N (%)	High educated men	Low Educated men	High educated women	Low educated women
Sample size	22977 (100%)	5148 (22.40)	5415 (23.60)	6680 (29.10)	5734 (25.00)
Health care utilization					
GP visits	21800				
No	14728 (67.56)	3555 (71.70)	3412 (67.13)	4364 (67.93)	3397 (63.51)
Yes	7072 (32.44)	1403 (28.30)	1657 (32.69)	2060 (32.07)	1952 (36.59)
Specialist visit	21592				
No	16747 (77.56)	3948 (80.10)	3744 (74.40)	5082 (79.94)	3973 (75.33)
Yes	4845 (22.44)	981 (19.90)	1288 (25.60)	1275 (20.06)	1301 (24.67)
Health care needs					
Age in years	22977				
Young age (16–35)	5135 (22.35)	1470 (28.55)	647 (11.95)	2159 (32.32)	859 (14.98)
Middle aged (36–65)	10687 (46.51)	2420 (47.01)	2514 (46.43)	3531 (52.86)	2222 (38.75)
Old age (66–85)	7155 (31.14)	1258 (24.44)	2254 (41.63)	990 (14.82)	2653 (46.27)
Poor Self-rated Health					
No	15464 (68.12)	3891 (76.19)	3310 (61.89)	4918 (74.47)	3345 (59.28)
Yes	7238 (31.88)	1216 (23.81)	2038 (38.11)	1686 (25.53)	2298 (40.72)
Physical Limitations					
No	13326 (58.68)	3119 (60.99)	2941(55.02)	4159 (62.67)	3107 (55.32)

Categories/variable name	Total N (%)	High educated men	Low Educated men	High educated women	Low educated women
Yes	9384 (41.32)	1995 (39.01)	2404 (44.98)	2477 (37.33)	2508 (44.67)
Chronic Disease	22977				
No	10551 (45.92)	2568 (49.88)	2332 (43.07)	3370 (50.45)	2281 (39.78)
Yes	12426 (54.08)	2580 (50.12)	3083 (56.93)	3310 (49.55)	3453 (60.22)
Poor Mental Health	22945				
No	17651(74.83)	4091(80.87)	4161(79.48)	4839(74.12)	4122(74.63)
Yes	5294(22.44)	968(19.13)	1074(20.52)	1690(25.88)	1401(25.37)

The results for GP visits as shown in Table 2 below highlight that the joint disparity in primary health care utilization (i.e. comparing low educated women with highly educated men) was 8.2 percentage points (pp), which was reduced to 2.6 pp ( $p < 0.003$ ) after adjusting for health care needs. The referent gender inequality was 3.8 pp in the crude analysis and changed minimally to 3.7 pp ( $p < 0.001$ ) after needs adjustment. The referent education disparity was 4.4 pp ( $p < 0.001$ ) and was rendered insubstantial (-0.61 pp) and insignificant ( $p = 0.483$ ) after adjusting for health care needs. Lastly, as shown by the small and non-significant prevalence difference (PD) of excess intersectional inequality (0.034 pp and  $p = 0.978$ ) and inequity (-0.42 pp and  $p = 0.727$ ), we concluded that the utilization of health care among the doubly disadvantaged groups was reported to the same frequency as we would have expected from considering the educational and gender disadvantages separately.

Table 2

Estimating intersectional inequalities and horizontal inequities (needs-adjusted) in GP utilization in Northern Sweden.

Inequality	Inequalities		Horizontal inequities	
	Prevalence Difference (95%CI)	P value	Prevalence Difference	P value
Joint	8.20 (6.40–9.99)	< 0.001	2.63 (9.15–4.34)	0.003
Referent SES	4.39 (2.56 – 6.19)	< 0.001	-0.61 (-2.33-1.10)	0.483
Referent gender	3.77 (2.07–5.47)	< 0.001	3.66 (2.67–5.25)	< 0.001
Excess Intersectional	0.034 (-2.46-2.53)	0.978	-0.42 (-0.28-1.93)	0.727

For specialist visits (as shown in Table 3), the joint inequality was in the same direction as for GP visits, although it was markedly smaller (PD = 4.8 pp as compared to 8.2 pp). However, adjusting for health care needs resulted in a non-significant joint inequity for specialist visits (PD = 0.37 pp and p = 0.617). This result showed that the differences in specialist doctor utilization between the two intersectional groups defined as high educated men and low educated women were adequately explained by the differing health care needs between them. Unlike in GP visits, the referent gender (comparing high educated women vs high educated men) inequalities (PD = 0.15 pp and p = 0.839) and inequities (PD = 1.08 pp and p = 0.097) were small and insignificant before and after health needs adjustment.

The referent education inequality was 5.7 pp (slightly higher than for GP visits by about 1 pp) which also became insignificant after adjusting for health care needs (PD = 1.08 pp and p = 0.156). Likewise in the GP visits scenario, the excess intersectional disparity was insignificant before (PD = -1.08 pp and p = 0.344) and after needs adjustment (PD = -1.79 pp and p = 0.077) showing that the utilization of specialist visits for the low educated women was what we would expect by considering the disadvantages of gender and low education separately.

Table 3

Estimating intersectional inequalities and horizontal inequities (needs-adjusted) in specialist doctors utilization in Northern Sweden.

Inequality	Inequalities		Horizontal inequities	
	Prevalence Difference (95%CI)	P value	Prevalence Difference (95%CI)	P value
Joint	4.77 (3.15–6.38)	< 0.001	0.37 (-1.10-1.80)	0.617
Referent SES	5.69 (2.56 – 6.19)	< 0.001	1.08 (-0.41-2.57)	0.156
Referent gender	0.15 (-1.33-1.64)	0.839	1.08 (-0.19-2.35)	0.097
Excess Intersectional	-1.08 (-3.32-1.16)	0.344	-1.79 (-3.77-1.91)	0.077

## Discussion

This study estimated complex inequalities and horizontal inequities in primary and secondary health care utilization in Northern Sweden at the intersection of gender and education. The results illustrate the complexity and unique evidence arising from applying an intersectional perspective. First, we did not find robust evidence for any excess disparity of double (dis)advantage, but rather that the axes of gender and education were independently expressed in health care utilization disparities. Second, low-educated women utilized primary and secondary care considerably more frequently than men, but this inequality was largely (primary care) or completely (secondary care) explained by the greater health care needs of this doubly disadvantaged group. In contrast, high-educated women utilized primary – but not secondary – care to a greater degree than corresponding men, regardless of health care needs. Lastly, the moderately large utilization inequalities rooted in education were completely attributable to different health care needs, both for primary and secondary care. Taken together, the results paint a picture of primary and secondary care in Northern Sweden delivered according to needs when it comes to educational disparities, and with gender inequities disfavouring men remaining in primary care, but which appear equalized at entry to secondary health care.

One of the original tenets of intersectionality theory relates to the double jeopardy of multiple disadvantage - that “the intersectional experience is greater than the sum” (48). This notion has remained central in intersectionality-informed quantitative public health (31) and specifically operationalized in manners such as the excess intersectional disparity, originally defined by Jackson (38) as applied in this study. Whereas we found notable joint disparities observable throughout the analyses, they were not significantly different from the sum of the two referent disparities of gender and education, thereby not corroborating the double jeopardy hypothesis for these given outcomes and axes of inequality. It should be noted that the double jeopardy hypothesis indeed has been challenged as an oversimplified model, with conflicting empirical support (49) and critique for a simplified focus on “extreme groups” in any given intersectional space (35).

Nevertheless, our results unequivocally demonstrate that the doubly disadvantaged group of low educated women indeed report generally poor health and higher need of health care, and that this manifest disadvantage did not completely explain their high primary care usage (seen in the joint inequity). Despite their quite distinct structural position, health profile, and lower crude utilization of health care, even higher primary care utilization given equal needs was reported by high-educated women (as seen in the referent gender inequity). In our results gender thus had a profound effect in shaping health care utilization, particularly at the primary care level, which is consistent with other studies that reported higher utilization of health care amongst women as compared to men (50–54). The share of primary health care utilization not attributable to care needs among low- and high-educated women could possibly be explained by unobserved health care needs specifically relevant to women, such as maternity, gynaecological care and other aspects of women’s health. However, the inequalities could also be explained by the impact of lower health care seeking behavior amongst men as compared to women, e.g. comparable to the previously reported difficulties to reach and engage Northern Swedish men for health promotion (55). In this sense, despite their socially advantaged position, men are disadvantaged from seeking health care due to masculinity norms, which may portray them as weak if they seek health care

even if they are in need (50). On the other hand, one can also construe this observation as women using health seeking behaviors to successfully leverage the structural disadvantages of gender and low education, and resultantly partly compensate for their poor health.

The absence of horizontal inequities in specialist visits across all the four intersectional categories is in stark contrast to the substantial joint and referent gender inequities in general practitioner utilization. The comparatively equitable use of specialist visits could be reflective of the underlying forces that determine usage at each level of the Swedish health care system. As access to specialist doctors is mostly based on referrals from the primary health care level, this pattern may be indicative of greater equity within the health care system itself. Specifically, the access to primary health care is contingent on women or men's differential health seeking behaviour as discussed above, but when inside the system, both men and women end up accessing specialists more equally because the decision lies with the primary health care doctors responsible for referrals. In this sense, our results could reflect an equalizing effect of referral in the health care system in Northern Sweden that is linking those with greater health care needs at the primary level to specialist care. Another possible explanation could be that when faced with more serious health needs that require specialist care, men may not be negatively influenced by masculinity norms which otherwise may refrain them from seeking care.

The results showed no education-related intersectional inequities in accessing primary or secondary health care in Northern Sweden. This adds to previous studies on simple, non-intersectional, socioeconomic inequities in health care utilization from the same context, including small horizontal inequities in general practitioner visits, no inequities in specialist visit usage or hospitalizations (7), and among young adults, large income-related but no education-related inequities in youth clinics utilization (5,7). While we indeed found large educational inequalities in both health and health care usage, they were in proportion to each other; i.e. health care utilization was commensurate to need, as posited by the principle of horizontal equity. The Swedish health care system is considered progressive and traditionally framed around the Beveridge model of health care financing, where health care is financed by general taxation thus promoting universal health access. Even though there has been a successively increased market-orientation and privatization of Swedish primary health care that may impact negatively on health care equity (3), Northern Sweden has been a region less affected by these developments (56). We conclude that health care at the primary health care level was utilized according to needs amongst intersectional groups of different educational level in this study. This finding could reflect the inherent impact of universal health coverage mitigating classism in the health system.

## Limitations

Although this study proposes a refinement to existing quantitative methods in assessing intersectionality in health care, we have noted some limitations that should be considered. Firstly, our method proposes adjusting for health care needs to assess horizontal (in)equity, and consequently, there is a risk of underestimation of health care needs as it is theoretically impossible to capture all health care needs. For instance, and as noted above, we could not provide adjustments for women's health needs such as

maternal health care needs, gynaecological requirements or other women reproductive health needs, as this information was not available in the survey data. Nevertheless, we tried to capture several facets of health care needs that have also been applied in previous literature (5–7). Secondly, although the response rate was 49%, we could not establish the demographic and social characteristics of the non-respondents and this may introduce some selection bias into our study. The response rate nonetheless is comparable to most studies conducted in the same setting with reliable results. Finally, we cannot draw any causal inferences from our study as our data was collected from a cross-sectional survey

## Conclusions

The present study employed an intersectional approach to assess horizontal inequity by gender and educational level in Swedish primary and secondary outpatient care. The study suggests that whereas utilization of specialist care in Northern Sweden roughly follows the principle of horizontal equity along and across these two axes of inequality, men seem to be disadvantaged when it comes to primary care utilization given their health care needs. This suggests that the mode of access to specialist care in the Swedish health care system may work in an equalizing manner, largely compensating for initial inequities when accessing primary care. The study also illustrates how structurally advantaged groups may be entangled in complex processes that may not be captured by traditional assessment of inequalities or horizontal equity. Swedish health care policy makers and researchers therefore need to pay attention to intersectional inequities that can be perceived to be advantaged, and targeting pathways to accessing primary care, for example health promotion messages that addresses masculinity norms of poor perceptions of health risk, severity of illness and low need for health care among men. Moreover, greater attention needs to be paid to instruments adequately capturing health care needs of women when estimating of horizontal equity among intersectional groups.

## Abbreviations

HET-Health on Equal Terms

GP- General Practitioner

GHQ-General Health Questionnaire

JD- Joint Disparity

RDg- Referent Disparity for gender

RDe- Referent Disparity for education

EID- Excess Intersectional Disparity

PD- Prevalence Difference

## **Declarations**

### **Ethics approval and consent to participate**

**All participants in the HET survey gave their informed consent for the data to be used for research purposes. The use of the “Health in equal terms” survey in the present study was reviewed and approved by the ethical committee at the Regional Ethical Review Board in Umeå (2015/134-31Ö).**

### **Consent for publication**

Not Applicable

### **Availability of data and materials**

**Access to the data used in the current study is managed by the register holders, the respective County Council/Region, and data are as such not publicly available.**

### **Competing interests**

The authors declare that they have no competing interests

### **Funding**

**Part of this work was supported by Forte - Swedish Research Council for Health, Working Life and Welfare [grant number 2016-00236].**

### **Authors contributions**

FNN and PEG developed the research idea, analysed and interpreted the data. FNN was a major contributor in writing the manuscript. MSS, PAM and PEG supervised the methods and revised the manuscript. All authors read and approved the manuscript.

# Acknowledgements

We thank the four counties/regions in Northern Sweden (Norrbotten, Västerbotten, Västernorrland and Jämtland/Härjedalen) for giving us access to the HET 2014 survey data. The study was conducted as part of Norrland Observatory for Equity in Health and Health Care.

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## Figures

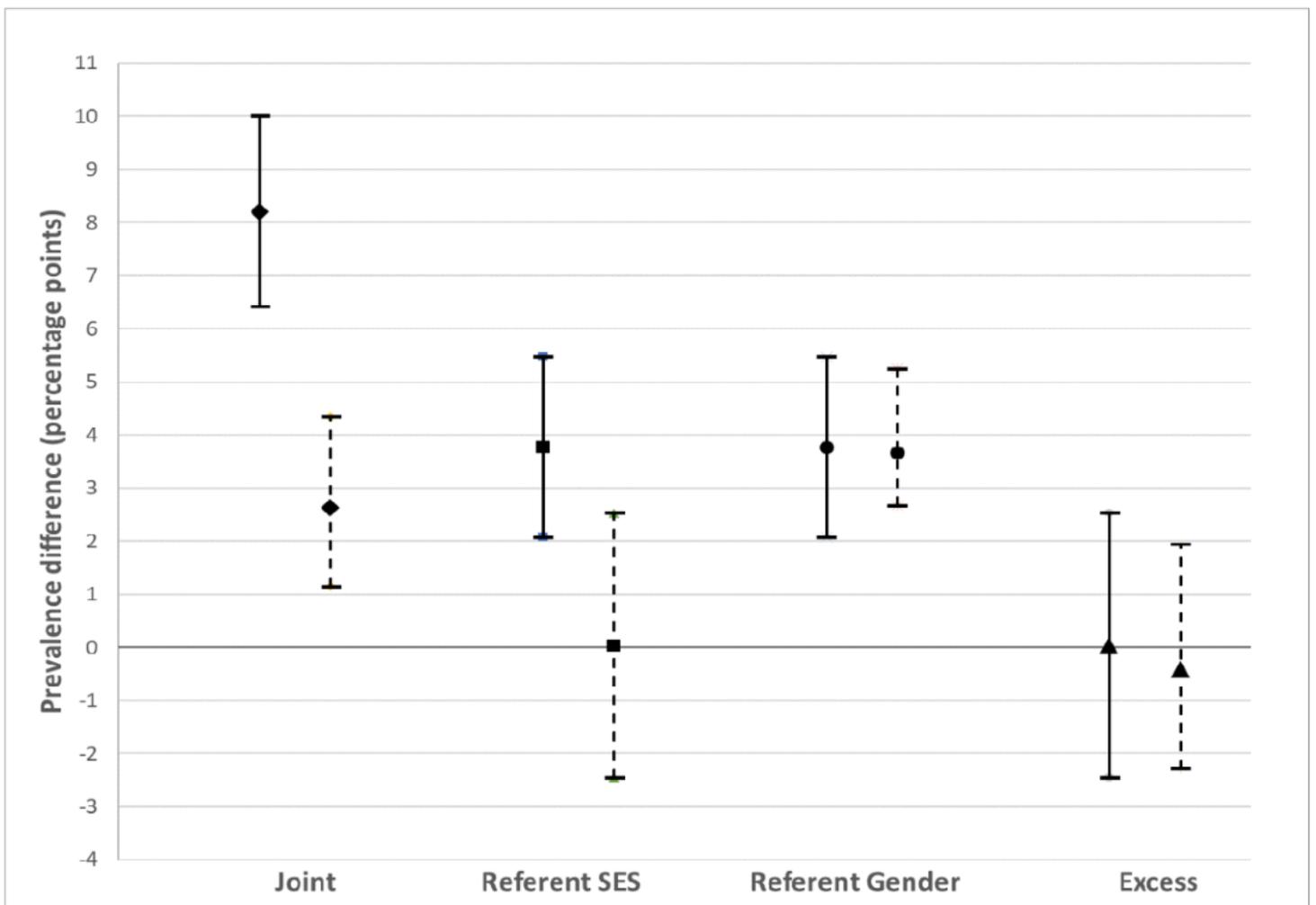


Figure 1

Intersectional inequalities (solid lines) and inequities (dashed lines) in GP utilization in Northern Sweden.

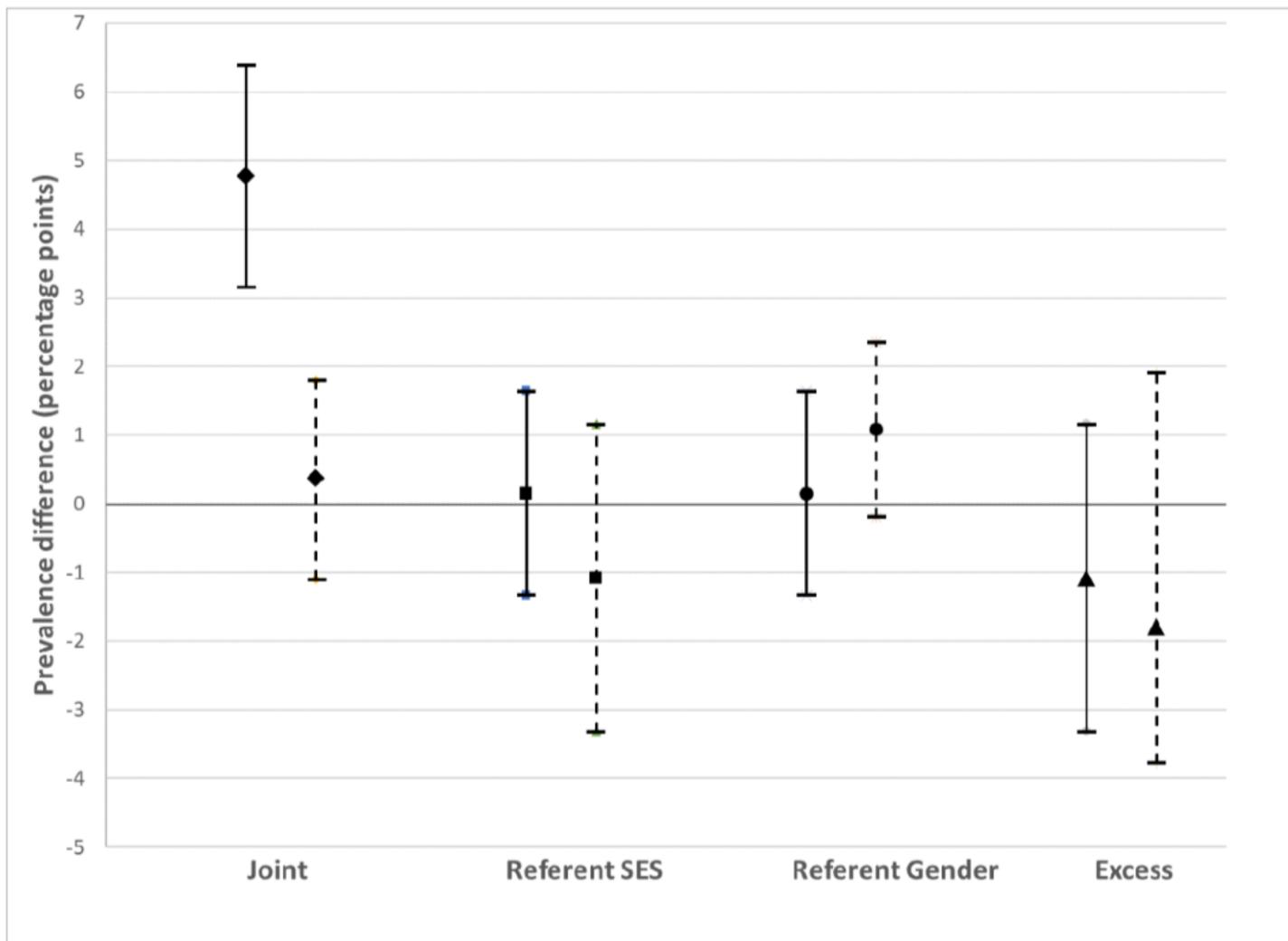


Figure 2

Intersectional inequalities (solid lines) and inequities (dashed lines) in specialist doctor utilization in Northern Sweden.