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EVIDENCE BASED PUBLIC HEALTH POLICY AND PRACTICE

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Background: There is a large body of research on adulthood risk factors for retirement due to disability, but studies on the effect of adverse childhood experiences are scarce.

Aim: To examine whether adverse childhood experiences predict disability retirement.

Methods: Data were derived from the Health and Social Support Study. The information was gathered from postal surveys in 1998 (baseline) and in 2003 (follow-up questionnaire). The analysed data consisted of 8817 non-retired respondents aged 40–54 years (5149 women, 3668 men). Negative childhood experiences, such as financial difficulties, serious conflicts and alcohol-related problems, were assessed at baseline and disability retirement at follow-up.

Results: The risk of disability retirement increased in a dose–response manner with increasing number of childhood adversities. Respondents who had experienced multiple childhood adversities had a 3.46-fold increased risk (95% CI 2.09 to 5.71) of disability retirement compared with those who reported no such adversities. Low socioeconomic status, depression (Beck Depression Inventory-21), use of drugs for somatic diseases as well as health-related risk behaviour, such as smoking, heavy alcohol consumption and obesity, were also predictors of disability retirement. After simultaneous adjustments for all these risk factors, the association between childhood adversities and the risk of disability retirement attenuated, but remained significant (OR 1.90, 95% CI 1.07 to 3.37).

Conclusions: Information on childhood conditions may increase our understanding of the determinants of early retirement, especially due to mental disorders. Childhood adversities should be taken into account when considering determinants of disability retirement and identifying groups at risk.

Early retirement, particularly due to disability, and increasing numbers of older people in populations have aroused growing concerns of financing pension systems in the near future in many industrialised countries. Understanding the determinants of retirement is therefore an area of great interest to both researchers and decision makers. Previous studies have concentrated on adulthood predictors of early retirement, such as health and socioeconomic status (SES),^{1–2} but extending the focus also to cover potential determinants from earlier life circumstances may be justified.

Both economic and emotional difficulties in childhood have repeatedly been associated with adult health and functioning.^{3–7} However, studies on the effect of adverse childhood experiences on the risk of subsequent disability retirement are scarce. In a study of Swedish women, unfavourable conditions during childhood and adolescence (eg, negative feelings from childhood, parents' problems with drinking, not living with both parents at the age of 18 years) predicted disability pension and absence due to sickness in adulthood.⁸ In young Swedish men, adjustments for unfavourable conditions (eg, low social class of origin, father's problem with alcohol abuse, alcohol and drug misuse during upbringing and adolescence, low emotional control) significantly attenuated the risk of disability pension found for lower socioeconomic groups.⁹ However, the potential cumulative effects of multiple childhood adversities on the risk of retirement due to disability were not examined in these studies.

In this study, we investigated whether childhood adversities, such as financial difficulties, serious conflicts, alcohol-related problems and severe illness in the family, predict disability retirement in a large cohort of Finns. We hypothesised that the risk of disability retirement would increase with increasing number of early adversities. To determine the contribution of adult exposures to these associations, analyses were adjusted

for factors such as adulthood SES, health-related risk behaviour, depression and use of drugs for somatic diseases.

METHODS

Data

Data were derived from the Health and Social Support Study, a longitudinal study on a population sample representative of the Finnish population.¹⁰ The baseline survey was carried out by a postal questionnaire during 1998 (n = 25 901; age groups: 20–24, 30–34, 40–44 and 50–54 years). A follow-up questionnaire (response rate 80.2%) was sent during end 2003–beginning 2004 to all those who responded to the first questionnaire. For the purposes of this study, we excluded respondents aged <40 years (n = 9329), those who had retired at baseline in 1998 (n = 509) or those whose main activity could not be determined in 1998 (n = 390) or in 2003 (n = 583, including unclear retirement or employment status). Thus, the final sample consisted of 8817 respondents (5149 women, 3668 men).

Study variables

The outcome variable was self-reported employment status (response options: employed/unemployed/dismissed temporarily/studying/working in own household/disability retired/early retired/partly retired/retired at the official retirement age/doing something else). Respondents who were retired due to disability at follow-up, but not at any form at baseline, (year 1998) were included as incident cases of disability retirement. In Finland, disability pension may be granted to a person (<65 years) who, through illness, has lost his or her ability to work.

At baseline in 1998, the respondents were asked whether they had experienced the following adversities in their childhood: divorce or separation of the parents, long-term financial

Abbreviation: SES, socioeconomic status

Table 1 Distribution of baseline characteristics according to subsequent disability retirement status

	Total number of participants, n (%)	Disability pension, n (%)	p Value for difference between groups (χ^2)
Age (years)			<0.001
40–44	4534 (51.4)	69 (1.5)	
50–54	4283 (48.6)	249 (5.8)	
Gender			<0.001
Women	5149 (58.4)	148 (2.9)	
Men	3668 (41.6)	170 (4.6)	
Number of childhood adversities			<0.001
0	3285 (37.4)	90 (2.7)	
1–2	3901 (44.4)	146 (3.7)	
3–4	1323 (15.1)	60 (4.5)	
5–6	278 (3.2)	21 (7.6)	
Occupational training (SES)			<0.001
University/polytechnic degree	1551 (17.7)	21 (1.4)	
Higher occupational training	2824 (32.2)	63 (2.2)	
Lower occupational training	1874 (21.4)	73 (3.9)	
No training/short training course	2519 (28.7)	161 (6.4)	
Depression (BDI-21)			<0.001
No depression (BDI 0–9)	6960 (79.5)	176 (2.5)	
Mild depression (BDI >9 ≤ 18)	1403 (16.0)	84 (6.0)	
Moderate/severe depression (BDI >18)	389 (4.4)	51 (13.1)	
Use of drugs for somatic diseases*			<0.001
No	7735 (87.9)	195 (2.5)	
Yes	1067 (12.1)	122 (11.4)	
Smoking			<0.001
No	6906 (78.3)	210 (3.0)	
Yes	1911 (21.7)	108 (5.7)	
Alcohol intoxication once a week or more			<0.001
No	8002 (93.9)	270 (3.4)	
Yes	522 (6.1)	34 (6.5)	
Obesity (BMI ≥ 30)			<0.001
No	7682 (87.7)	236 (3.1)	
Yes	1078 (12.3)	78 (7.2)	
Total	8817 (100)	318 (3.6)	

BDI, Beck Depression Inventory; BMI, body mass index; SES, socioeconomic status.

*Use of analgesics, antihypertensives and heart drugs (for >6 months during the previous year).

difficulties in the family, serious conflicts in the family, frequent fear of a family member, severe illness of a family member and alcohol-related problems of a family member (response options: no/yes/do not know or cannot say).^{5–11} A missing answer was classified as not having experienced the adverse childhood circumstance, given that the respondent had replied to at least one of the other specific questions. The items were summed up and divided into four categories (0, 1–2, 3–4 and 5–6 adversities).

The following potential adult risk factors of disability retirement were measured by a questionnaire at baseline in 1998. Depression, as indicated by the 21-item Beck Depression Inventory, was classified into three categories (sum scores 0–9, >9 ≤ 18 and >18 representing no/mild/moderate or severe depression, respectively).^{12–13} SES was measured by occupational training with four categories (no training or short training course/lower occupational training/higher occupational training/university or polytechnic degree). Use of drugs was measured by a question: “how often have you used the following drugs during the previous year?”. Five preset response options were no use, <10 days, 10–59 days, 60–180 and >180 days (over 6 months). Use of drugs for somatic

diseases included analgesics, antihypertensives and heart drugs (>6 months during the previous year, no/yes). Health-related risk behaviour was measured by current smoking (no/yes), drunken once a week or more (no/yes) and obesity (body mass index ≥ 30 kg/m²; no/yes).

The ethical committee of the University of Turku, Turku, Finland has approved the study.

Statistical methods

The association between childhood adversities and the risk of disability retirement was analysed using binary response logistic regression models with additional adjustments for adult risk factors of disability retirement. Women and men were pooled together because there were no statistically significant interaction effects between genders and other explanatory variables. Age group and gender-adjusted associations between each explanatory variable and disability retirement were examined in model 0. To test the effects of low SES, health-related risk behaviour, depression and use of drugs for somatic diseases on the association between childhood adversities and the risk of disability retirement, sequential additional adjustments were made (models 1–5). The results are presented

Table 2 Crude ORs with 95% CI for adult risk factors of disability retirement (low socioeconomic status, depression, drugs for somatic diseases and health-related risk behaviour) by childhood adversities

Number of childhood adversities	Low occupational training (SES)*	Depression†	Use of drugs for somatic diseases‡	Smoking	Alcohol intoxication once a week or more	Obesity (BMI≥30)
0	1.00	1.00	1.00	1.00	1.00	1.00
1–2	1.14 (1.04 to 1.26)	1.62 (1.24 to 2.12)	1.24 (1.07 to 1.43)	1.10 (0.98 to 1.24)	1.14 (0.93 to 1.41)	1.21 (1.05 to 1.40)
3–4	1.28 (1.13 to 1.46)	3.39 (2.54 to 4.53)	1.31 (1.08 to 1.58)	1.45 (1.25 to 1.68)	1.60 (1.24 to 2.06)	1.02 (0.83 to 1.24)
5–6	1.70 (1.32 to 2.18)	4.36 (2.81 to 6.77)	1.25 (0.87 to 1.81)	1.59 (1.21 to 2.09)	1.89 (1.22 to 2.94)	1.26 (0.88 to 1.80)

BMI, body mass index; SES, socioeconomic status.

*No training/short training course/lower occupational training.

†Moderate/severe depression (Beck Depression Inventory>18).

‡Use of analgesics, antihypertensives and heart drugs (for >6 months during the previous year).

as odds ratios (OR) and their 95% CIs. Statistical modelling was carried out using the SPSS for Windows software, release 12.0.1.

RESULTS

Characteristics of participants and disability retirement during follow-up

During the follow-up, 318 (3.6%) participants retired due to disability. Men and participants aged 50–54 years had a higher incidence of disability retirement than women and those aged 40–44 years at baseline. Those with low SES retired due to disability more often than those with higher SES. Participants with a disability pension had experienced more childhood adversities, were more often depressed and more regularly used drugs for somatic diseases at baseline than those without a disability pension. Smokers, those with heavy alcohol consumption and those with obesity retired more often due to disability retired than those without these risk factors (table 1).

Childhood adversities and related risk factors of disability retirement

Among respondents, 37.4% had experienced no childhood adversity, 44.4% reported 1–2 adversities, 15.1% 3–4 and 3.2% 5–6 adversities. Odds for depression were 4.36 times higher for those with 5–6 childhood adversities than for those with no adversities. The corresponding OR was 1.70 for low SES, 1.59 for current smoking and 1.89 for heavy alcohol use (table 2).

Childhood adversities and the risk of disability retirement

A graded association was found between childhood adversities and the risk of disability retirement. The age- and gender-adjusted ORs indicated a 3.46-fold greater risk of disability retirement when the respondents had experienced several (5–6) childhood adversities. Low SES, depression and regular medication were also strong predictors of disability pension. Respondents with the lowest occupational training had a 4.5-fold greater risk of disability retirement than those with the highest occupational training. The age- and gender-adjusted OR was 6.32 for those respondents with at least moderate depression and 3.91 for respondents that used drugs for somatic diseases regularly. Approximately twofold odds for disability retirement were found for smokers, for those who alcohol intoxication once a week or more and for those with obesity (model 0, table 3).

The effects of SES, health-related risk behaviour, depression and use of drugs for somatic diseases on the association between childhood adversities and the risk of disability retirement were studied by adjustments in models 1–5 (table 3). After adjusting for SES, the OR for the highest number of childhood adversities decreased from 3.46 to 2.92. The OR for the highest number of childhood adversities

decreased from 3.46 to approximately 2.6 when health-related risk behaviour and depression were also adjusted for, but adjustment for use of drugs for somatic diseases had almost no effect on the association. After simultaneous adjustments for all these risk factors in the final model, the association between childhood adversities and the risk of disability retirement further attenuated, but still remained almost twofold.

In the analyses of specific childhood adversities (data not shown in tables), frequent fear of a family member showed the strongest association (OR 1.94, 95% CI 1.45 to 2.59), followed by severe illness of a family member (OR 1.55, 95% CI 1.23 to 1.96), serious conflicts in the family (OR 1.53, 95% CI 1.19 to 1.97), long-term financial difficulties in the family (OR 1.52, 95% CI 1.20 to 1.92) and alcohol-related problems of a family member (OR 1.38, 95% CI 1.07 to 1.80). Divorce or separation of parents was not associated with the risk of disability retirement. After adjustment for SES, health-related risk behaviour, depression and use of drugs for somatic diseases, the association between frequent fear of a family member and disability retirement remained significant (OR 1.43, 95% CI 1.04 to 1.96).

We tested the effects of job strain and interpersonal conflicts at work on the association between childhood adversities and the risk of disability retirement among those respondents regularly working at the baseline (n = 7807). Adjusting for job strain and interpersonal conflicts at work had almost no effect on the association between childhood adversities and the risk of disability retirement (multiple adversities: OR 3.39, 95% CI 1.79 to 6.41). We also tested the associations among respondents with no significant depression. The associations were similar or closely similar to the ones shown here (data not shown in tables).

DISCUSSION

This 5-year prospective population-based study showed a graded association between childhood adversities and increased incidence of disability retirement. After simultaneous adjustments for various other risk factors (low SES, depression, drugs for somatic diseases, health-related risk behaviour), the association between childhood adversities and the risk of disability retirement attenuated, but remained significant, showing a dose–response relationship. Earlier research on the effect of adverse childhood experiences on the risk of disability retirement is scarce and has ignored the potential cumulative effects of multiple childhood adversities on the risk of disability retirement.

Our findings are in accordance with the results of the previous study where unfavourable conditions during childhood and adolescence predicted disability pension and long-term absence due to sickness in adulthood among Swedish women.⁸ Early disability pensions and conditions during childhood and adolescence among young Swedish men were

Table 3 Logistic regression models (ORs with 95% CI) of the risk of disability retirement with additional adjustments for adult risk factors (low socioeconomic status, health-related risk behaviour, depression and use of drugs for somatic diseases)

	Model 0: age-adjusted and gender-adjusted	Model 1: 0-SES	Model 2: 0-health behaviour	Model 3: 0+ depression	Model 4: 0+ somatic diseases	Model 5: 0+1+2+3+4
Number of childhood adversities						
0	1.00	1.00	1.00	1.00	1.00	1.00
1-2	1.34 (1.02 to 1.75)	1.26 (0.97 to 1.66)	1.28 (0.97 to 1.69)	1.18 (0.90 to 1.56)	1.31 (1.00 to 1.72)	1.12 (0.84 to 1.50)
3-4	1.86 (1.32 to 2.60)	1.71 (1.22 to 2.40)	1.68 (1.19 to 2.39)	1.47 (1.04 to 2.08)	1.78 (1.27 to 2.51)	1.32 (0.92 to 1.90)
5-6	3.46 (2.09 to 5.71)	2.92 (1.76 to 4.85)	2.56 (1.47 to 4.46)	2.55 (1.51 to 4.31)	3.28 (1.95 to 5.52)	1.90 (1.07 to 3.37)
SES						
University/polytechnic degree	1.00	1.00				1.00
Higher occupational training	1.82 (1.11 to 3.00)	1.79 (1.08 to 2.95)				1.89 (1.10 to 3.24)
Lower occupational training	3.06 (1.87 to 5.00)	2.94 (1.80 to 4.81)				2.72 (1.59 to 4.66)
No training/short training course	4.50 (2.83 to 7.13)	4.26 (2.68 to 6.77)				3.74 (2.25 to 6.21)
Smoking						
No	1.00		1.00			1.00
Yes	2.11 (1.66 to 2.69)		2.06 (1.60 to 2.64)			1.66 (1.28 to 2.16)
Alcohol intoxication once a week or more						
No	1.00		1.00			1.00
Yes	1.94 (1.32 to 2.85)		1.59 (1.07 to 2.35)			1.08 (0.71 to 1.65)
Obesity (BMI ≥ 30)						
No	1.00		1.00			1.00
Yes	2.21 (1.70 to 2.90)		2.18 (1.65 to 2.88)			1.58 (1.18 to 2.12)
Depression (BDI ≥ 21)						
No depression (BDI 0-9)	1.00			1.00		1.00
Mild depression (BDI ≥ 9 ≤ 18)	2.45 (1.87 to 3.21)			2.34 (1.79 to 3.08)		2.03 (1.52 to 2.70)
Moderate/severe depression (BDI > 18)	6.32 (4.50 to 8.87)			5.79 (4.10 to 8.17)		4.23 (2.91 to 6.14)
Use of drugs for somatic diseases*						
No	1.00				1.00	1.00
Yes	3.91 (3.07 to 4.98)				3.88 (3.05 to 4.95)	3.04 (2.34 to 3.96)

BDI, Beck Depression Inventory; BMI, body mass index; SES, socioeconomic status.

*Use of analgesics, antihypertensives and heart drugs (for >6 months during the previous year).

What this paper adds

- Previous studies on the determinants of retirement due to disability have concentrated on adulthood risk factors such as poor physical health and low socioeconomic status.
- Extending the focus also to cover potential determinants from early-life circumstances may increase our understanding of the complex process and determinants of early retirement, especially owing to mental disorders.
- Our study shows that the risk of disability retirement increases in a dose-response manner with increasing number of childhood adversities.
- After adjustments for adulthood risk factors, such as low socioeconomic status and health-related risk behaviour, the association between childhood adversities and the risk of disability retirement attenuated, but remained significant.

previously studied.⁹ In this study, it was concluded that unfavourable conditions during childhood and adolescence were of major importance in understanding the social class gradient in disability pensions among young men. As suggested in these previous studies, conditions during childhood may affect health behaviour and conditions during adult life. Our results also highlight the importance of early-life exposures to the later risk of chronic diseases and disability retirement.

A life-course approach provides three conceptual models to interpret associations between early-life exposures and adult health.^{4 14} The latency model suggests a direct effect of childhood conditions on adult health regardless of conditions during adult life, the pathway model proposes an indirect effect maintaining that childhood conditions affect adult health through adult conditions and the cumulative model assumes that both childhood and adulthood conditions are important to adult health.^{4 6 15} In our study, the association between childhood adversities and the risk of disability retirement attenuated, but remained significant after simultaneous adjustments for low SES, health-related risk behaviour, depression and use of drugs for somatic diseases. This finding supports the latency model. However, additional adjustments for depression and health-related risk behaviour decreased the odds of disability retirement for childhood adversities more than any other adult risk factor, suggesting that, especially, mental problems and risk behaviour in adulthood, at least partly, mediate the effect of childhood adversities on the risk of disability retirement, a finding in accordance with the pathway model. As multiple factors in adulthood also remained significant predictors of disability pension, our study is also in line with the cumulative model.

Adverse childhood experiences were previously associated with decreasing optimism in adulthood in a dose-response manner, suggesting that the more adverse the childhood experiences, the more profound the effects on the development of personality.¹¹ It is evident that disability retirement is affected by many individual and societal factors, but exposure to negative emotional events during childhood may affect the way of coping with the negative life events in adulthood and increase the risk of depression and disability retirement, especially due to mental disorders. However, this potential mechanism could not be tested in this study.

Our findings that low SES, depression, drugs for somatic diseases, smoking, heavy alcohol consumption and obesity increased the risk of disability retirement, are in line with the

Policy implications

- The significance of childhood adversities should be taken into account when considering both the determinants of disability retirement and identifying groups at risk.
- Our findings highlight the longlasting effect of childhood circumstances on adult health and functioning.
- Thus, early-stage recognition and prevention of adverse childhood circumstances should be promoted.

results of the previous studies on the risk factors of disability retirement.¹⁶⁻²³ As shown in an earlier study conducted with this population sample,⁵ childhood adversities was strongly correlated with depression in adulthood. In addition, childhood adversities were associated with other known risk factors of disability retirement: lower SES, use of drugs for somatic diseases, current smoking, heavy alcohol consumption and obesity.

The strength of our study includes the large nationwide population sample with a prospective study design and good response rate of the follow-up questionnaire (80.2%, year 2003). According to a non-response analysis at follow-up, loss to follow-up was higher in men, in younger age groups, in lower SES groups and among those with at least moderate depression, those who smoke and heavy alcohol consumption. However, the differences between respondents and non-respondents were relatively small, and thus we consider a major selection bias unlikely. The comprehensive questionnaire and repeated measures offered us excellent opportunities to consider general significant covariates including health-related behaviour and mood-related measures. However, the possibility of residual confounding by unmeasured factors cannot be eliminated. Further research is needed, for example, to take into account influence of genetic and fetal exposure, as indicated by birth weight and maternal smoking in pregnancy (data on these variables were not available).

A weakness of the study is a relatively low baseline response rate. However, a careful non-response analysis at baseline (year 1998) indicated that the most important demographic and the physical health-related differences between the respondents and the non-respondents were small.¹⁰ The retrospective nature of the question on childhood adversities may also be considered a weakness in this study. However, the reliability of the answers on childhood adversities was tested in a previous study conducted with this population sample.⁷ The κ coefficient varied between 0.56 and 0.90, which indicates that retrospective data on childhood adversities are likely to be reliable. Long-term regular use of drugs can be regarded as a relatively reliable measure of chronic somatic diseases.²⁴ In addition, the regular use of drugs for somatic diseases was strongly associated with the risk of disability retirement. However, misclassification because of undiagnosed morbidity and illnesses not requiring drugs remains a potential source of error that may lead to underestimation of associations. An additional weakness is that, on the basis of current data, we have no knowledge of the reasons of retirement and deaths during the follow-up period. In 2003, the main reasons for disability retirement in the same age groups used in this study were musculoskeletal (35%), mental (26%) and cardiovascular diseases (11%).²⁵ The lack of data on mortality presumably attenuated the associations found in this study.

CONCLUSIONS

In conclusion, this study shows that adverse childhood experiences increased the risk of disability retirement in a

dose–response manner. Early life experiences and both emotional and economic circumstances during childhood may have profound effects, especially on mental health and the way of coping with different life events through an individual's life course. The significance of childhood adversities should be taken into account when considering both the determinants of disability retirement, especially due to mental disorders, and the preventive strategies. Further studies are needed to investigate whether the effect of adverse childhood experiences on the risk of subsequent disability retirement differs in various disease groups. In addition, studies need to investigate the effects of both genetic and environmental factors throughout the life course on the risk of chronic diseases and disability.

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only intends to be an opportunity to think about this issue on a concrete basis. Rather, we expected Hanewinkel *et al* to use more convincing arguments and challenge the central points of our criticisms, namely that the evidence for the efficacy of the smokefree class competition is not established beyond the short term, and that this approach raises serious ethical issues. The Cochrane review summarises the situation when it concludes that: "incentives and competitions do not appear to enhance long term cessation rates, with early success tending to dissipate when the rewards are no longer offered."² We can understand that this conclusion is difficult to accept for the stakeholders of this programme. Hanewinkel *et al* do not reject our assertion that the central principle of this competition is to apply negative peer pressure on smokers. Rather, they cite two studies, from Switzerland and Wales, suggesting that bullying and violence were not higher in participating classes than in control classes. However, the Swiss study compared classes that chose to participate with classes that chose not to. Thus it is not clear whether these results are attributable to the competition itself or to selection bias. No reference is given for the study in Wales, which apparently is not a randomised trial either.

For a programme of this importance (600 000 participants and millions of euros every year), conducted for so many years, the absence of an in-depth evaluation of its potential adverse effects is a serious shortcoming—in particular because negative peer pressure is applied on youthful smokers, who represent a more psychologically vulnerable group than non-smokers. As for the other points, non-voluntary cotinine tests were conducted in Switzerland until 2004, and we maintain that this competition lacks a sound basis in behaviour theory. Our hope is that this interesting exchange will raise renewed interest in the psychosocial and ethical issues in school prevention, and stimulate a commitment to seriously evaluate the positive and negative effects of the smokefree class competition.

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BOOK REVIEW

Social injustice and public health

Edited by Barry S Levy, Victor W Sidel. Published by Oxford University Press, Oxford, 2006, £35.99 (hardback), pp 529. ISBN 0-19-517185-3

This edited collection is divided into four parts. Part I, consisting of only one chapter authored by the editors, provides a useful and necessary summary of the nature of social injustice and public health. This includes relevant definitions and useful reference material—for example, a copy of the Universal Declaration of Human Rights. Part II outlines the ways in which the health of specific population groups is affected by social injustice. The chapters in this section focus on both well-described populations—for example, those from lower socioeconomic groups, ethnic minorities and women—and more marginalised groups who generally receive less attention. The inclusion of chapters focusing on incarcerated people, homeless people and forced migrant populations from a public health perspective makes for a refreshing change.

Part III considers the process by which social injustice can affect health. Chapters focus on medical care, infectious diseases and occupational safety, among other issues. A real strength of the book comes in part IV, in which several perspectives on "what needs to be done" are outlined. This series of chapters attempts to make explicit links, obviously based on particular political viewpoints, between explanatory models of social injustice and health, to public health practice. This is the

element that is often missing within the inequalities literature.

The collection of chapters fits together very well despite the large number of authors involved and the wide range of topics covered. A real strength of the book is that the chapters can be used as stand-alone texts, the understanding of which does not depend on having read previous sections. Generally, the chapters are well written, using good examples and a wide range of presentation styles (eg, graphs, tables and figures) to keep the reader engaged. The chapters provide good summary overviews of the topics under discussion and provide a good start for further reading. One potential criticism is the strong American focus; although most chapters do make attempts to draw upon international examples, the strong use of Americanised definitions and data is apparent. The book offers itself to several audiences, including both practitioners and students over a wide range of disciplines, including medicine, nursing, social services and law. This is perhaps the case, but more so in the US than for an international audience.

Joy Adamson

CORRECTIONS

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M S Kaplan, N Huguet, B H McFarland, *et al*. Suicide among male veterans: a prospective population-based study (*J Epidemiol Community Health* 2007;**61**:619–24). In the second sentence of the Results section of the Abstract of this paper "(adjusted hazard ratio 2.04, 95% CI 1.10 to 3.80)" should be "(adjusted hazard ratio 2.13, 95% CI 1.14 to 3.99)".

doi: 10.1136/jech.2006.052670corr1

K Harkonmäki, K Korkeila, J Vahtera, *et al*. Childhood adversities as a predictor of disability retirement (*J Epidemiol Community Health* 2007;**61**:479–84). The author affiliation of Markku Koskenvuo was published incorrectly; it is actually University of Helsinki. We apologise for this error.

Webcast: International Forum on Quality and Safety in Health Care

Plenary sessions at this year's International Forum on Quality and Safety in Health Care were filmed and broadcast live over the internet. The sessions are still available to view free, on demand and at your own convenience at <http://barcelona.bmj.com>. Each session is accompanied by a panel discussion.

The webcast includes the following, in either English or Spanish translation:

- **Donald M Berwick**: Can health care ever be safe?
- **Richard Smith**: What the quality movement can learn from other social movements
- **Lucian Leape and Linda Kenney**: When things go wrong: communicating about adverse events
- **John Prooi and Harry Molendijk**: Partnering for patient safety