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Social Inequalities in Mortality

The Increasing Advantage of the Married

Key messages:

- Married individuals live longer than the non-married, and in Norway and some other countries, this mortality gap has become larger over recent decades.
- Among the never-married in Norway, mortality did not fall over the last decades of the 20th century, and in 2005-08, mortality was as high for them as it was for the married three decades earlier.
- The increasing mortality disadvantage of the non-married is particularly alarming in light of the large size of this population group. The group will probably become even larger over the next decades, although this is likely accompanied by an increasing proportion of cohabitants among the non-married, which may diminish their excess mortality compared to the married.
- Should attempts be made to improve the health situation for the non-married in particular, better knowledge about the reasons for their disadvantage would be very helpful.

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Introduction

It is widely known that better educated persons tend to live longer than the less educated. There is apparently less public and political awareness of the fact that marital status is also strongly associated with mortality. Yet, hundreds of studies carried out over more than 150 years have shown that those who are married have better health and live longer than those who are never-married, divorced or widowed. In combination with the large proportion of non-married in European countries, and the likely future increase, such a gap in health and mortality between married and non-married persons may be seen as a major public health challenge. The situation will be particularly worrying if the mortality disadvantage of the non-married increases, as it has done over recent decades in several countries.

Against this backdrop, this policy brief provides insights into the marital status differences in mortality in Norway. Some attention is also devoted to the combined importance of marital status and education to give a fuller description of the social inequality in mortality. A more detailed account of the associations between marital status, education and mortality – and the change over time in these – can be found in two recently published articles by Kravdal (2017) and Kravdal et al. (2018).

Reasons for an association between marriage and mortality

Marriage may be protective for a number of reasons: A partner typically provides emotional and practical support in everyday life and during illness, and may also exert social control on health behaviour. Additionally, those who have a partner are more likely to have children, which may reduce mortality for similar reasons (and have some other effects as well). There are also economic benefits from marriage, not least because of scale advantages. However, it is not only being married, or living in a marriage-like relationship, that improves health and depresses mortality. The quality of the relationship and the characteristics of the partner also matter. For example, just as one's own education and income are important for a person's health, there are likely benefits from the partner's socio-economic resources.

Observed associations between marital status and mortality are also partly a result of selection: A person's general level of knowledge, economic prospects, health and attitudes (including lifestyle preferences) affect his or her chance of forming and remaining in a relationship, as well as later health and mortality. Also, the association between a spouse's characteristics and mortality may be partly a result of selection. For example, various characteristics of the person being studied may have a bearing on his or her chance of attracting, for example, a better educated partner, and also have health implications.

Increasing mortality gap between marital status groups in Norway

According to hazard regression models estimated separately for periods of five (or four) years between 1975 and 2008 for the age group 50-89, never-married men had a 23% higher mortality than the married in 1975-79 (see Figure 1). This excess mortality among the never-married increased to 81% in 2005-08. Among women, the corresponding increase was from 16% to 71%. The mortality disadvantage of the widowed increased less, for both sexes, while that of the divorced increased quite strongly for women, but was stable for men.

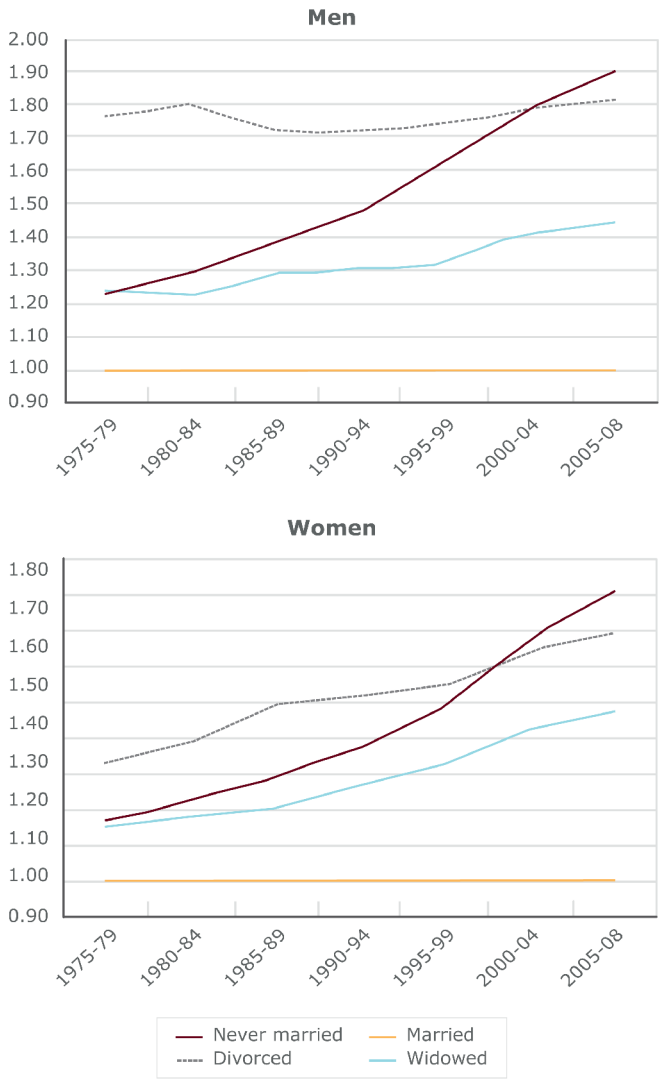

Figure 1: Mortality of non-married individuals relative to that of the married (odds ratios), by period, according to discrete time hazard models where age differences are controlled.
Source: Kravdal et al. (2018)

These numbers were calculated from data for the entire Norwegian population from the Central Population Register. In the supplementary analysis presented below, data on education for every individual and his or her spouse (if any) were also used. These data were extracted from the Educational Database operated by Statistics Norway. Unfortunately, the data did not include information about non-marital cohabitation, which has become common in Norway.

However, we lose an important part of the picture if we only consider the relative differences in mortality. Table 1 shows the development of age-standardised, one-year death probabilities for different marital status groups. Most interestingly, we can see that the aforementioned increase in the mortality of the never-married relative to that of the married is the result of a strong mortality decline among the married, combined with a stable or more modestly declining mortality among the never-married. Among never-married men, there was even a slight increase during the first decade of the study period. In other words, it is not only the relative mortality differences that have increased, but also the absolute. A point worth noting is that the never-married lag 30 years behind the married, in the sense that they had higher death probabilities in 2005-08 than the married in 1975-79.

	Women				Men			
	M	NM	W	D/S	M	NM	W	D/S
1975-79	17.18	20.24	19.44	22.40	29.07	35.32	38.06	46.41
1980-84	15.47	19.08	18.03	20.78	28.08	35.93	34.98	45.63
1985-89	14.69	19.02	17.66	20.86	26.86	37.18	36.61	42.48
1990-94	13.67	19.26	17.00	19.87	24.56	36.58	33.54	39.35
1995-99	12.30	18.76	16.00	18.30	21.75	36.24	30.46	35.71
2000-04	10.85	18.55	15.44	17.32	18.36	33.27	27.98	31.25
2005-08	9.45	17.65	14.07	15.70	15.56	30.00	25.03	27.49

Table 1: Age-standardised, one-year death probabilities (per 1,000) among Norwegian women and men aged 50-89 in 1975-2008 by period.
Source: Kravdal et al. (2018)
Note: M: married; NM: never married; W: widowed; D/S: divorced/separated

› The combined importance of marital status and education of one's self and spouse

When the individuals were grouped by a combination of marital status, their education and their spouse's education, the lowest mortality was observed for those who were married with tertiary education and whose spouse had tertiary education as well (Figure 2).

In 1975-79, mortality was highest among divorced women and men with primary education. Three decades later, mortality was highest among never-married women and men with primary education. In this group, there was even an increase in mortality over much of the study period. In 2005-2008, the remaining life expectancy at age 50 among never-married men with only primary education was almost 10 years shorter than among married men who had a tertiary education and whose spouses also had a tertiary education.

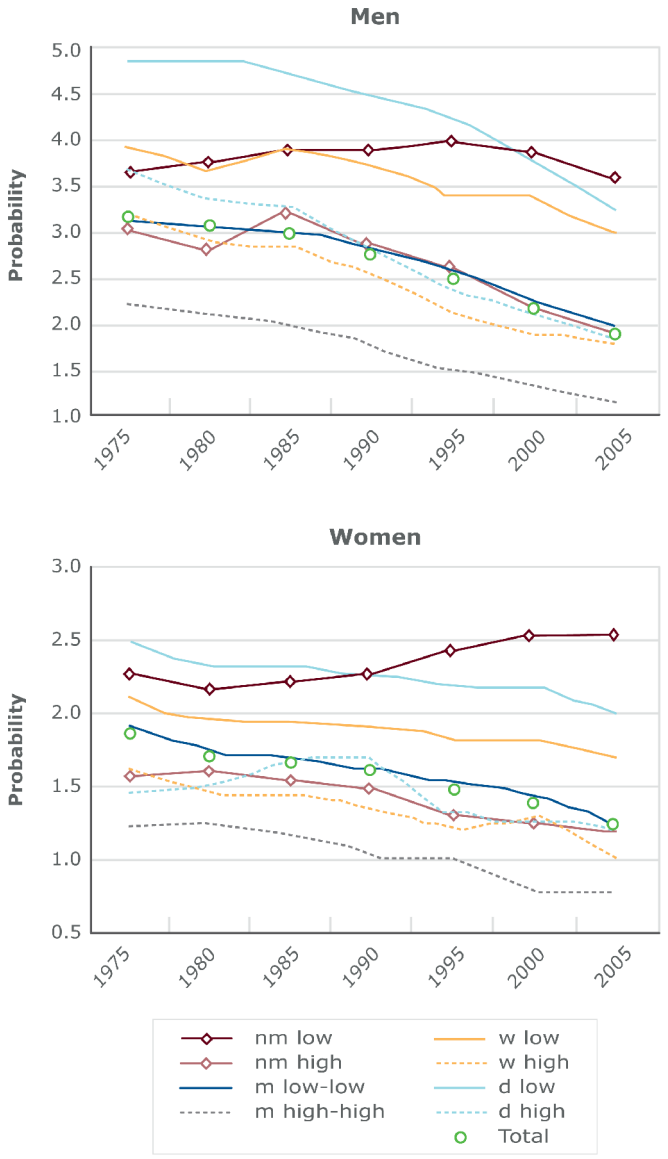

Figure 2: Age-standardised, one-year death probabilities (per 100) for selected marital and educational categories of men and women aged 50-89, Norway 1975-2008.
Source: Kravdal (2017)
Note: nm: never married; m: married; w: widowed; d: divorced/separated; low: primary education; high: tertiary education; low-low and high-high refer to both spouses' education; total: all men or women. 1975 refers to 1975-1979, 1980 refers to 1980-1984, and similarly for other periods; 2005 refers to 2005-2008.

› What we do not know

The increasing mortality disadvantage of the non-married may appear surprising in light of the larger proportion of those cohabiting in this group: One might expect that cohabitation provides protective effects similar to marriage, although not necessarily quite as strong. However, it is possible that a lower mortality among the non-married (because a larger proportion of this group cohabit) may have been accompanied by a corresponding reduction of mortality among the married. This could happen if some couples with relatively poor relationships would have been married in past years, but now cohabit instead (thus leaving the married group with a higher relationship quality, which may have beneficial health effects).

What are the possible reasons for the presumably growing health disadvantage of those who are single? One might speculate whether it is more difficult nowadays to manage life alone because people generally care less about others. However, while an erosion of social cohesion in society has been suggested in the scholarly literature, firm evidence is lacking. Another hypothesis may be that healthcare systems have become more complex, so that it is more difficult to navigate them without support from a partner. One may also wonder whether there is perhaps a general underuse of healthcare among singles, and that this has become more of a disadvantage because the treatment that is offered is better. A Norwegian study indicating underuse of medication for cardiovascular diseases among the non-married, and especially the never-married, gives some support for that idea (Kravdal & Grundy 2014). It is also possible that the selective influences have changed, for instance the extent to which the health status of a person influences his or her chances of entering a relationship, although there is no evidence about such a development. A similar argument could be that a higher relationship quality may now be required for staying in a relationship rather than dissolving it (which may be one of several reasons for rising divorce rates).

› Policy recommendations

The increasing mortality disadvantage of the non-married is particularly alarming in light of the large size of this population group. The group will probably become even larger over the next decades. However, this is likely accompanied by an increasing proportion of cohabitants among the non-married, which may diminish the excess mortality of the non-married compared to the married. In any case, it is time to put the marital status differences in mortality higher on the political agenda.

Most importantly, it may be reasonable to start discussing whether something should be done to improve health and reduce mortality among the non-married in particular, and above all, to reach out to those who are single. This would require more knowledge about the reasons for their (increasing) disadvantage. In other words, it would be helpful to identify whether some of the factors discussed above have contributed more than others, and also explore other possible explanations. If further research reveals, for example, that the non-married have poor health partly because they make too little use of healthcare, one might invite them to a free annual check-up. Alternatively, if it has become increasingly important to have support from a partner during illness, a possible response could be to encourage health personnel to give special attention to those who live alone or to provide additional help in daily life to the singles who struggle with serious chronic diseases. Ideally, one would want to estimate effects of marital status that are not contaminated by selective influences – which is always difficult – because the policy implications would be different if the observed patterns turn out to be largely driven by such mechanisms. To be more explicit, if being non-married or single are not the reasons for poor health, but some other characteristics that have led these individuals into this situation, one may try to target individuals with such characteristics instead – regardless of their marital status.

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