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► **[Early treatment for women with alcohol addiction \(EWA\) reduces mortality: a randomized controlled trial with long-term register follow-up.](#)**

Gjestad R., Franck J., Lindberg S. et al. [Request reprint](#)
Alcohol and Alcoholism: 2011, 46(2), p. 170–176.

Compared to usual treatment, over the next 27 years introduction of a comprehensively serviced female-only alcohol treatment unit in Sweden substantially extended the lives of its patients – a uniquely convincing demonstration that improving treatment can save lives.

Summary Alarmed by rising numbers of alcohol dependent women and their high death rate, in the 1980s Sweden established a female-only unit at a hospital alcohol treatment centre in the capital Stockholm. Compared to 'treatment as usual' wards and clinics, the Early Treatment for Women with Alcohol Addiction (EWA) unit was better staffed with more doctors and psychologists, and it focused more on the women's psychiatric symptoms and relationships with their (often also alcoholic) partners. It offered individualised treatment including detoxification, inpatient stays, psychotropic medications, disulfiram (a drug which deters drinking due the aversive physical consequences of mixing the two), women-only group therapy two or three times a week, regular contact with a key worker for up to two years, work training, and physiotherapy. A child psychiatrist helped with family and child issues and the woman's partner was invited to participate in the treatment. Abstinence was the intended goal, though social drinking was considered when abstinence was not possible, and proved to be by far the most feasible option. Treatment lasted on average three months longer (eight v. five months) than the mixed-gender usual treatment, which consisted mainly of regular contact with nursing staff and detoxification followed by a disulfiram-based relapse prevention regimen.

In 1983 and 1984, 200 not previously treated women were [consecutively allocated](#) to the new unit or to the centre's mixed gender usual treatment. On average they were in their early 40s. From an [earlier paper](#) it is known that around 90% were employed, they

presented well, were not seriously physically ill, and most were settled with a live-in male partner of whom nearly half were also problem drinkers. Six in 10 had been treated for psychiatric problems and one in four had attempted suicide. Typically they had experienced one of the main indicators of alcohol dependence (loss of control over drinking) for seven years and on average were drinking 15 UK units (120g) of alcohol a day. For most, treatment started with inpatient detoxification, an indicator of the severity of their dependence. The main issue addressed by the study was whether the new unit curbed the worrying death rate among such women despite their being treated for their drink problems in the usual programme. To test this, mortality records were matched to the former patients over the 27 years since they entered the study.

Main findings

Over 27 years, inevitably the proportions of women in the two groups who died would even out; by the end, 38% of the EWA women and 45% formerly in treatment as usual had died, not a statistically significant difference. The main issue was whether the EWA women had survived longer, and they had. The effect was significant overall but concentrated among younger women. Those already 50 when they started EWA treatment died at about the same annual rate as usual treatment patients, but EWA treatment starters aged 30 to 40 survived longer over the first 15 to 20 years than those treated without the EWA enhancements. For example, among 30-year-olds, **about** 97% were still alive 15 years later compared to about 81% of treatment-as-usual patients. Among 40-year-olds, the gap was about the same. Over the first ten years, survival was extended by EWA treatment regardless of whether the patient had been considered severe enough to be treated as an inpatient. This mainly reflected the impact on younger women and older women not considered severely dependent enough to require inpatient treatment.

Surprisingly, attainment of a **social drinking** pattern (abstinence was rare) in the two years after treatment – much more common (48% v. 19%) among the EWA women – was unrelated to death rates over the 27 year follow-up. But among short-term treatment 'failures' who relapsed to non-social drinking, those formerly treated in the EWA unit had a significantly lower death rate than treatment-as-usual patients.

The authors' conclusions

That over the next 20 years younger women treated in the EWA unit lived longer indicates that enhanced treatment had the intended effect and was more effective than treatment as usual. It seems likely that this was at least partly because the unit offered a more comprehensive service which addressed factors related to mortality among female alcoholics and the general population. Among these are early treatment drop-out, severity of drinking and alcohol dependence, medical and mental health problems, coping strategies and relapse prevention, and interpersonal stressors such as work-related problems and living with a partner who is also a heavy drinker. A longer treatment programme (in theory and on average in practice) may also have helped, aided by the unit's willingness to work with each individual's drinking goal without insisting on total abstinence as the only acceptable outcome. So too may have long-term stable contact with treatment staff. Generally lacking from treatment as usual were specific interventions targeting psychiatric co-morbidity, an important influence on outcomes. This greater intensity and extensity of treatment took place in a women-only programme,

making it impossible to disentangle which were the active ingredients. However, the EWA women saw meeting other women with drinking problems as the most important positive influence.

Some findings were difficult to interpret. The apparent impacts on inpatient versus outpatients were confounded by missing data and by differences between the EWA unit and the other units in criteria for inpatient treatment and the availability of beds. The finding that a good drinking outcome in the first two years after treatment was unrelated to mortality could mean these outcomes were not reliably reported, or that over the long follow-up drinking patterns changed sufficiently to make earlier patterns poor predictors of mortality. Interpreting the finding that EWA treatment improved survival among non-social drinkers is complicated by the fact that poorer prognosis women were less likely to be included in this analysis if they had been treated as usual.

FINDINGS

The featured study comes as close as any, and closer than most, to securely establishing that effective treatment for alcohol dependence appreciably extends the lives of the patients, with what must be consequent benefits for families, employers and the state. Random allocation to enhanced versus what is now known to be relatively ineffective treatment goes part way to the methodologically ideal – but ethically unacceptable – random allocation of dependent drinkers seeking help to 'real' versus 'placebo' treatment. Though less methodologically adequate, other studies have been able to relate the quantity of treatment to trends in deaths from alcohol-related causes, notably liver disease, showing that benefits for patients can cumulate (and perhaps spill-over) to benefits noticeable across a community. To get to this result treatment must reach a high proportion of the heavy drinking population and (the featured study suggests) not just be treatment, but good quality treatment. However, even in relatively rich nations, any realistically conceivable expansion and improvement of treatment is unlikely to match potential public health gains from non-treatment measures applied more or less inescapably across the entire population such as price rises and restrictions on the availability of alcohol. Details below.

About the featured study

The impression from the [two-year follow-up report](#) is of a set of patients who are socially integrated, settled and relatively conventional, but very stressed, depressed and distressed, and coping with this through drink. For many too, their married lives probably revolved around heavy drinking. Unlike some other female caseloads, there is no mention of treatment being forced on them due to child care concerns and 85% were self-referred. As the researchers commented, they seem a previously hidden population of publicly well functioning alcoholics, possibly attracted to services by the availability of specialist woman-only treatment. The implication is that they represented a relatively promising set of patients whose motivation levels were high as in some respects was their 'recovery capital' – they had things worth keeping which they risked losing if their drinking got much worse.

Nevertheless, they needed the extra attention they received in the EWA unit to maximise their progress. Over the next two years it helped normalise relations with partners and children, improve psychological well-being, and prevent relapse requiring inpatient care, needed by 31% of treatment-as-usual patients but just 16% treated in the EWA. Underpinning these gains was a substantial extra reduction in heavy drinking and a more widespread return to social drinking reflected in a variety of measures. Most directly, "alcohol abuse" featuring daily or near-daily drinking was reported by 8% of EWA patients compared to around 30% treated as usual. Already in these two years, a lower death rate was apparent; one former EWA patient died compared to three after usual treatment, all from clearly or possibly alcohol-related causes. There is reason to believe these recorded outcomes understated the benefits of the EWA unit because treatment-as-usual patients doing particularly poorly could not be followed up.

One doubt over whether these findings would be replicated outside the context of a randomised study arises from the **assumption** that the women were attracted to treatment by the existence of the EWA unit. The half who found themselves randomly denied access to it may have fared worse partly due to disappointment and demoralisation rather than simply to lower service levels in the usual wards and clinic. The 'treatment as usual' comparator raises a different question over whether the findings would be replicated in other treatment environments. Detoxification plus disulfiram is **now known** generally to be (except for closely monitored or supervised patients with much to lose from non-compliance) a relatively ineffective treatment. It seems unlikely that the often alcoholic partners were well placed to ensure the women took their disulfiram, and there is no mention of supervision being organised by the treatment service.

Around the same time as the featured study selected its samples, another two samples of women treated at the EWA unit were recruited for **a study** which in 2007 (from 13 to 26 years later) compared their survival rates against local women from the general population matched for age, marital and socioeconomic status, and educational level, but not known to be problem drinkers. Over twice as many of the treated alcoholics died and on average they died four years earlier, shortly before their sixtieth birthdays. Chronic alcohol-related diseases played their part, but the greatest cause of excess and early deaths was what the report described as "external" factors. Possible or actual suicide was also much more frequent. The unusually intensive and comprehensive treatment the EWA women received could be why the excess death rate in this study was, as the authors commented, "substantially lower than [in] almost any other treatment study". The excess death rate compared to the general population was greatest among younger women; 17–39-year-old former EWA patients were four times as likely to have died as their comparators, and their deaths tended to happen in the first five years of the follow-up period while they were still young. It was also the case that in the featured study the life-extending impact of EWA treatment was most noticeable among these younger women, suggesting that without the EWA, the death rate would have been even more excessive.

Alcohol treatment extends lives

Research **has confirmed** the featured study's assumption that extended life is indicative of a good overall outcome from addiction treatment. With less socially integrated and more deprived populations, in the US context stable abstinence has been the only pattern of post-treatment drinking substantially associated with extended life. In contrast, the featured study's patients were relatively advantaged, post-treatment abstinence was rare, and the social and treatment environment were 'friendly' to non-abstinence-based recovery. In this context, continued drinking seemed no barrier to realising the lifesaving potential of alcohol dependence treatment.

Attempts to assess this potential **have been complicated** by the fact that some forms of treatment (such as inpatient detoxification) are indicative of poor outcomes. The more of this kind of treatment someone has undergone, the less their chances of survival – not necessarily because the treatment has been counterproductive, but because the repeated need for it is a marker of severe and intractable dependence. Methodologically, the ideal solution is to randomly deny treatment to some severely alcoholic would-be patients, and to offer it to others, but such an experiment would be unethical. The featured study goes part way to this ideal by randomly allocating patients to a relatively ineffective treatment (closer along the quality spectrum to no treatment at all) or to one designed and expected to be much more effective. Its finding that 'more' treatment means more years of life saved – in pharmaceutical terms, a dose-related response – is a strong indication that treatment can be an active ingredient in saving lives.

Random allocation makes the featured study a possibly unique advance on studies which have simply related the quantity of treatment (marked by availability, funding or numbers of patients) to trends in the death rate. Despite attempts to statistically eliminate confounding influences like changes in alcohol price and availability, these still complicate the attribution of death rate changes to treatment expansion. Nevertheless, together these offer persuasive evidence that provided on a large enough scale, treatment (even 'treatment as usual')

benefits patients and perhaps also their associates and others sufficiently for the impact to be noticeable in alcohol-related death rates across the entire population.

A [notable example](#) took advantage of the considerable state-funded expansion of alcoholism treatment in the US state of North Carolina in the early 1970s to show that treatment extended the lives of heavy drinkers who would otherwise have died sooner of cirrhosis of the liver – a condition related to heavy prolonged drinking but which can be stabilised by stopping drinking, and whose precursors can be reversed by the same tactic. A [review](#) of similar studies has assessed the evidence that at a community level (city, state or country) treatment's impacts cumulate into worthwhile reductions in alcohol-related problems. Evidence (mostly from North America) was strongest for cirrhosis of the liver. At varying time lags, greater participation in conventional treatment and in AA were associated with fewer cirrhosis cases and deaths. There was also some evidence for an impact on accidents and drink-driving incidents. Importantly, these benefits could not be explained by changes in the availability and overall consumption of alcohol. Mathematical models suggested that increased participation in treatment/AA alone could have accounted for all the reductions in cirrhosis deaths in the USA and Ontario in the 1970s and '80s.

[Another review](#) focused on the area where the previous review found the evidence less convincing – the impact of treatment and allied interventions with problem drinkers on injuries and deaths due to accidents. The search uncovered 19 relevant randomised controlled trials, seven of which compared intervention to no intervention (as opposed to another intervention). In nearly all cases, intervention reduced injuries, in some cases substantially. This was true whether the recorded outcomes were fatal injuries, non-fatal injuries, violence, or motor vehicle crashes and injuries. The authors' conclusion that "interventions to reduce problem drinking could have an important effect on the incidence of injuries and deaths" was expressed tentatively because of the poor quality of many of the studies and small sample sizes.

Not the main lever at a population level

Though treatment can extend the lives of the patients, and on a large enough scale and in sufficient quality may also affect alcohol-related deaths across a community, it is generally accepted ([1 2](#)) that it is not the major policy tool for improving health and avoiding early deaths across an entire community. Globally, [injuries account](#) for the largest portion of the alcohol-attributable burden of ill health. Many result from accidents caused by periodic intoxication not susceptible to or not considered appropriate (by the drinkers and by the wider society) for treatment interventions; for a given amount of drinking, the risk is [actually higher](#) among people who do not usually drink heavily rather than more treatment-appropriate heavy drinkers. Chronic disease too can be caused or aggravated by drinking levels well below those typical of treatment caseloads.

The World Health Organisation [has concluded](#) that in countries such as the UK, with a high prevalence of hazardous drinking, raising alcohol tax rates would have the greatest yet least resource-intensive impact on public health. Next most cost-effective were licensing controls which reduced hours of sale and advertising bans. Applying this model across the Australian population, it [has been calculated](#) that health gains in terms of disability adjusted life years would be greater from population-wide interventions (taxation, advertising or licensing controls, random breath testing, and drink-driving campaigns) than from interventions which target risky (brief advice) or dependent drinkers (residential treatment with or without naltrexone-based aftercare).

Assessing all the available evidence, alcohol policy experts [judged](#) that the most effective, evidence-based policy approaches to reduce alcohol-related harm are measures restricting the affordability, availability and accessibility of alcohol. Among these are alcohol tax rises and limiting the opening hours, locations and density of alcohol outlets, and enforcement of a minimum purchase age. What these measures have going for them is their financial feasibility and their more or less inescapable application (to the degree that the regulations can be enforced) across the entire population. In contrast and despite its effectiveness for the patients, alcohol treatment can be expensive to implement and maintain, and benefits are focused on individuals who volunteer for or are identified and directed in to treatment. Nevertheless, as the studies cited above confirm, the experts

added the rider that treatment can curb population levels of alcohol consumption and resultant harm if implemented and accessed on a large enough scale.

This draft entry is currently subject to consultation and correction by the study authors and other experts.

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