

# DRUG & ALCOHOL FINDINGS *Research analysis*

This entry is our analysis of a study considered particularly relevant to improving outcomes from drug or alcohol interventions in the UK. The original study was not published by Findings; click [Title](#) to order a copy. Free reprints may be available from the authors – click [prepared e-mail](#). The summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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## ► [Impact of the introduction and withdrawal of financial incentives on the delivery of alcohol screening and brief advice in English primary health care: an interrupted time-series analysis.](#)

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**O'Donnell A., Angus C., Hanratty B. et al.**

**Addiction: 2019, early view online.**

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*The clearest impact of financial incentives to screen primary care patients in England was the plummeting screening rate after the incentives were withdrawn. If these results are applicable to England as a whole, over the following 21 months withdrawing the payments resulted in 603,719 fewer patients being screened for risky drinking and 27,439 fewer receiving brief advice.*

**SUMMARY** Brief advice in primary care has been shown to reduce heavy drinking and related problems and is endorsed in various guidelines, yet delivery remains low. Offering financial incentives to boost delivery of evidence-based health care interventions is a common strategy, but evidence of impact on quality and efficiency remains inconclusive, particularly in respect of long-term outcomes for patients, and what little data we have on the impact of withdrawing incentives suggests performance is likely to decline, especially for indicators of quality.

In response to disappointing rates of alcohol screening and brief advice, in England [from 1 April 2008](#) the national Directed Enhanced Services scheme to promote preventive care was extended to higher-risk drinking. Under this scheme, primary care practices which choose to opt in were paid a small fee (£2.38 or about three US dollars or just under three Euros) for each newly registered adult patient screened to identify risky drinking using a validated questionnaire. [If the patient screened positive for risky drinking clinicians were also supposed to conduct a more detailed assessment, and then provide a brief intervention or for dependent drinkers, referral to specialist treatment. Though not paid for, practices were required to provide an audit of these activities in order to be paid for screening.]

From 1 April 2015 these provisions were replaced by a [contractual requirement](#) for practices to identify and support higher-risk drinkers among their newly registered adult patients, but they were no longer specifically paid for this work.

The featured study was the first national UK evaluation of the impact of these changes on the extent of alcohol screening and advice in primary care, and internationally the first to assess the impact of withdrawing financial incentives.

Data submitted by over 500 practices in England which had joined a research database system was interrogated to identify the screening records required for payments under the Directed Enhanced Services scheme, and other records indicative of the patient screening positive or being advised about their drinking, as well as information about the patient. Measures were constructed of the proportion of a **adult** patients newly registered with **practice** during the past 12 months who had been recorded as having been screened for higher-risk drinking, the proportion recorded as **screening positive**, and the proportion of these screen-positive patients recorded as having received brief advice about their drinking.



### Key points

From summary and commentary

Between 2008 and 2015, if they opted into the alcohol Directed Enhanced Services scheme GP practices in England could earn a fee for each new patient screened for risky drinking, as long as they audited subsequent assessment and intervention.

Across a sample of over 500 practices, introducing these provisions seemed to have had no effect on the proportion of patients screened but might have increased the (still small) proportion then advised about their drinking.

Clearest impacts came when payments ended, after which the proportion of patients screened fell steeply to below pre-incentive levels and fewer patients drinking risky amounts were advised.

If these results are applicable to England as a whole, over the following 21 months, withdrawing the payments resulted in 603,719 fewer patients being screened for risky drinking and 27,439 fewer receiving brief advice.

These measures were collected for each month from the beginning of 2006 to the end of 2016 (the 'monitoring window'), spanning the start of financial incentives on 1 April 2008 and their withdrawal on 31 March 2015. At issue was whether these changes were respectively associated with increased and decreased rates of screening and brief advice for risky drinking. If they were, it would indicate that the incentives had the intended effect of extending this work, and that their withdrawal led to its contraction. It was not known which of the practices had decided to join the alcohol incentives scheme, so the analyses assessed the effect of making incentives *available*, rather than narrowing in on practices which actually were incentivised. Altogether 4,278,723 newly registered patients were included in the analyses, of whom 59% were recorded as having been screened. Of those screened, just over 8% were recorded as having screened positive for risky drinking, and of these, 11% as having received brief advice, representing just over 0.5% of all newly registered patients.

## Main findings

Findings are presented first for the impact of introducing the incentives and then for their withdrawal. Some figures are estimated from charts in the featured article which distilled 'best fit' straight-line trends from the monthly tallies.

### Impact of introducing the incentives

Introducing financial incentives for screening newly registered patients did not seem to affect the proportion screened but was associated with a greater proportion being advised about their drinking. At no time were more than a small minority of patients screened each month and of those showing evidence of risky drinking, few received brief advice. However, if not screened in one month a patient might be screened in another, meaning that within 12 months of registering at a practice about 65% had at some time been screened. Details follow.

Introducing financial incentives was not associated with a significant increase or acceleration in the proportion of newly registered patients screened for risky drinking. From an estimated starting point of about 9 in a 100 patients, the screening rate was rising steadily even before the incentives. While incentives were in place it continued to rise at about the same pace, reaching just over 11 in 100 before incentives ended.

Of screened patients, at the start of the monitoring window just over 10% screened positive. This rate was steadily rising before the incentives, bumped up slightly by just over 1% when they started, but then increased at a pace not significantly different from that before the incentives.

At the start of the monitoring window 1.5% of screen-positive patients were recorded as having been given brief advice, a rate which jumped to roughly 3% when incentives started, and continued to rise to roughly 6% before their withdrawal. Including referral to treatment as well as brief advice left the trends similar, though the figures were higher, reaching nearly 7.5% by the end of the monitoring window.

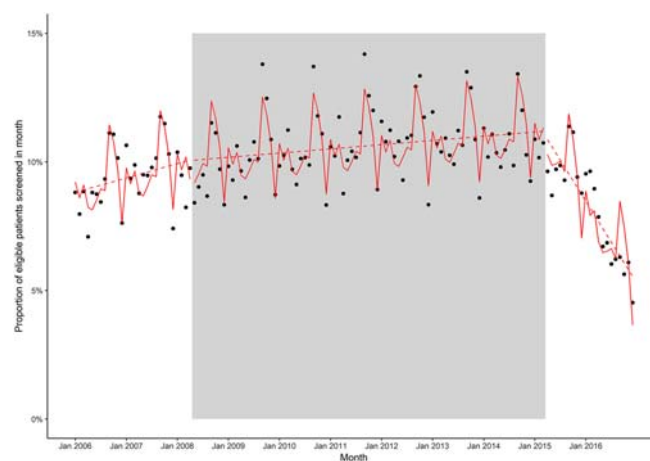
Often screening results were not recorded. To cater for this, instead of the proportion of positive-screen patients recorded as being advised, the analysts plotted the proportion of *all* screened patients who received brief advice or were referred to treatment, regardless of whether they had screened positive. The trends and the increase associated with incentives were similar, though (as expected) the proportion of advised/referred patients was much lower, reaching only about an estimated 2% by the end of the incentives period.

### Ending the incentives

In the 21 months after incentives ended, at practices in the study an estimated 36,223 fewer patients were screened for risky drinking and 1,646 fewer received brief advice, than would have done had incentives continued. The reasons were falls in not just the proportion of patients recorded as having been screened, but also in those who screened positive being given brief advice; details follow.

Withdrawing financial incentives for screening was associated with a significant reversal of the previous upward trend. Between April 2015 and the end of 2016 the proportion of newly registered patients recorded as screened for risky drinking fell from its peak of just over 11% to between 5% and 6% by the end of the monitoring window, less than the roughly 9–10% before incentives started [▶ chart](#) from featured article.

As incentives ended there was an immediate drop of about 3% in proportion of screened patients who scored positive for risky drinking, but thereafter the screen-positive rate increased more steeply than while



Proportion of newly registered patients screened for risky

incentives were in place, until by the end of the monitoring window about 1 in 5 screened patients were being recorded as higher-risk drinkers.

**drinking each month. The dotted red lines are 'best fit' linear trends distilled from the monthly figures. Gray block is when incentives were available.**

Though rising to roughly 6% while incentives were in place, the proportion of screen-positive patients recorded as having been given brief advice fell substantially when incentives ended, and then continued to fall to roughly 3% by the end of monitoring window. Including referral to treatment as well as brief advice left the trends similar, though the figures were higher, falling to just under 5% by the end of the monitoring window.

Again, to cater for the fact that screening results were often not recorded, the analysts plotted the proportion of *all* screened patients who received brief advice or were referred to treatment. Trends and the decrease associated with the ending of incentives remained similar, though (as expected) the proportion of advised/referred patients was much lower than for screen-positive patients, falling to just over 1% by the end of the monitoring window.

### The authors' conclusions

Removing the Directed Enhanced Services financial incentive led to an immediate and sustained reduction in recorded rates of alcohol screening and brief advice delivered to newly registered adult patients in English primary care. This contrasts with the limited and gradual gains achieved by the introduction of the scheme, though while incentives were in place nearly two-thirds of patients were screened at some time in the 12 months after registering. These findings highlight the potential adverse consequences of short-term financial incentives. Scaling-up the findings to the England as a whole would suggest that by the end of 2016, terminating the incentives resulted in 603,719 fewer patients being screened for higher-risk drinking and 27,439 fewer receiving brief advice.

In the absence of incentives, by the end of the study's monitoring window, and although general practices were contracted to screen and briefly advise new patients, fewer than 3% identified by the study's practices as drinking above recommended limits were recorded as receiving appropriate support.

Importantly, [national data](#) on the delivery of the services GPs are contracted to provide supports the findings on the withdrawal of incentives. In 2014/15, 74% of patients in England were recorded as having been screened for risky drinking within 12 months of registering with a practice, but this fell to 48% in 2015/16 after financial incentives were withdrawn.

Several factors may have contributed to the low delivery of alcohol screening and brief advice. First, is the design of the alcohol Directed Enhanced Services scheme. Other studies have reported that its low remuneration levels meant screening and advice were given lower priority than more lucrative areas of primary care, such as those covered by the [Quality and Outcomes Framework \(QOF\)](#). Further, as clinicians were incentivised for screening alone, subsequent delivery of alcohol advice may have been under-recorded and less prioritised. The distorting effects of incentivising what health care services *do* – as opposed to the outcomes they achieve – have been criticised, [including](#) in 2010 by the UK Government. From a public health perspective, there is limited value in rewarding clinicians for identifying heavy drinkers if those patients are not then offered appropriate support.

Though no other study has assessed the impact of withdrawing financial incentives for preventive alcohol-related interventions in primary care, there is data relating to health-care performance in general. On balance, it appears that the risks of withdrawing incentives may be small when specific clinical practices have already achieved high levels of quality, acceptance and adoption among providers, but without these, outcomes may be more negative. Resistance to routine implementation of alcohol advice in English primary care is well documented. As such, the sharp downward trend in delivery rates of alcohol screening and brief advice once incentives were withdrawn should have been anticipated.

Moreover, even if there were strong support for these activities, applying 'extrinsic' (such as monetary) incentives to promote performance may reduce ('crowd-out') a clinician's intrinsic motivation to deliver care, particularly over the longer term. The featured study's findings also highlight the potential for substantial adverse effects on service provision once payments are withdrawn. Instead of financial incentives, incorporating clinical practices into clinicians' contractual obligations to promote ongoing delivery is an important first step, but must be closely monitored, with clear penalties enforced for under-performance.

An important limitation of the study is that trends between 2006 and 2016 in screening and brief advice could have been affected not just by the alcohol Directed Enhanced Services scheme, but by other factors such as new national guidelines for preventing risky drinking, a change in the UK government, the subsequent re-organisation of primary care and public health, and changes in duty rates for alcoholic beverages. However, a supplementary analysis not reported above did not provide strong support for a single consistent effect of any of

these developments across all outcomes.

Although UK guidelines require every primary care clinical encounter to be recorded in computerised systems, clinicians tend to prioritise recording of data corresponding to the delivery of incentivised areas of care. In the case of alcohol screening and brief advice, concerns about the adverse social and legal consequences of identifying patients with socially stigmatised conditions, and the low priority accorded to recording preventive interventions, has more generally resulted in under-recording of care.

**FINDINGS COMMENTARY** The findings reinforce other evidence that to persuade GPs to routinely do what (rightly or wrongly) goes against the grain of how they work with patients will take higher payments than the £2.38 per screen of the Directed Enhanced Services scheme – especially since any subsequent advice was unfunded. If anything, the upward trend in recorded screening rates before the incentives started levelled off once they were in place, not the intended impact. Once payments ended the screening rate fell to below pre-incentives levels – an effect, but one the opposite of that intended by the scheme. The findings are a testament to the obstacles to widespread, routine alcohol screening and brief intervention in primary care, including a focus on dependence and very heavy use, [short consultation times](#), and the related trend for some surgeries to insist on dealing with just [one problem](#) during a consultation.

From a purely economic point of view, screening a patient for risky drinking gained a small reward which might have been greater had that time been used for activities incentivised under the [Quality and Outcomes Framework \(QOF\)](#), and opened up the possibility of being ethically and contractually obliged to intervene if a patient was recorded as screening positive, interventions which attracted no remuneration. Nevertheless, the proportion of screen-positive patients advised about their drinking increased during the incentives period, perhaps a response to the need to audit such interventions to receive payment for screening. The study was unable to determine the degree to which this rise was due to more patients being adequately advised, more being advised but inadequately, or more advice being recorded.

Set against the economics is the clinical imperative to identify risks to the patient's health, but for sub-dependent and not very heavy drinking, these may not seem a priority, and clinicians may feel that very heavy drinking will in any event become apparent. Even if there is a desire to tackle sub-dependent drinking, the evidence is [not that convincing](#) that screening and brief intervention do promote health – among the reasons why in 2017 the UK National Screening Committee [rejected](#) a universal alcohol screening programme. And even if the evidence *were* convincing, the possibility that strong incentives would nevertheless be needed arises from the nature of screening and brief interventions – that they take advantage of encounters in which sub-dependent drinking is not naturally on the agenda; one way or another, it has to be inserted. Often this is because the *individual's* health is the main concern for the staff involved, not the grand scheme of public health, for which barely noticeable and/or patchy individual improvements lower down the severity scales may cumulate to a worthwhile effect.

Once incentives ended, recorded screening rates fell to below those before the incentives were applied. This may have been because there was no longer a financial incentive to record screening, or may have been a real dip in screening – the counterproductive effect highlighted by the researchers. At the same time the proportion of screenings which revealed risky drinking was trending upwards, yet of these screen-positive patients, an increasingly smaller proportion were advised or referred to treatment. It is possible that screening was increasingly reserved for patients most likely to be heavy drinkers, and also possible that without having to audit post-screening interventions in order to be paid for screening, clinicians intervened less often and/or recorded intervening less often. The overall impression is of a quite rapid reversion to selective screening of patients most likely to be heavy drinkers and to a reluctance to intervene in such a formal way that it should be recorded and followed up. "Reversion" is perhaps the wrong word, since even during the incentives period this seemed the dominant approach. Any small impacts on screening and brief intervention practice gained by the incentives had not become embedded sufficiently to survive their withdrawal.

The main limitation on the study is the lack of a comparison jurisdiction in which incentives were not applied at all, but which ideally would have been subject to the same remaining influences on screening and brief intervention rates as England. Such a comparison would have been better able to isolate the advent and withdrawal of incentives as the cause of any changes in activity. Without this, for example, the possibility remains that instead of being ineffective, incentives helped maintain the

already existing upward trend in the screening rate, and that this rate would have dipped without the incentives. However, the timing of the impacts associated with the withdrawal of incentives and their sharpness and consistency make it highly likely that they were caused by and not just coincidental with the withdrawal.

### Related studies

Payments are **not sufficient** in themselves to ensure implementation and quality, but interviewed in 2015, GPs in Scotland **saw them** as a key component. More was needed, in particular the well organised and well resourced training and support found important in the multi-national 'ODHIN' trial **described below**, and the frequently cited need for sufficient time – especially time to individualise the approach rather than abruptly raising the issue and repeating screening and intervention scripts. Such resources can raise quality, but in primary care, experience shows that the public health bedrock of quantity will be lacking unless incentives are strong enough to counter the obstacles to alcohol screening and brief intervention.

The importance of adequate payments **was apparent** in England where between 2014 and 2016 well over 9 in 10 risky drinkers seen by their GPs in the past year did not recall being advised about their drinking. It was not that the clinicians were reluctant to address any lifestyle issue; smokers were eight times more likely than risky drinkers to recall their consumption being addressed. The reason may have been that **then** and **now**, the major incentives system for primary care – the Quality and Outcomes Framework (QOF) – financially rewarded practices for documenting and responding to smoking but **not drinking**. In the absence of these incentives, talking about alcohol was largely reserved for very heavy and potentially dependent drinkers, contrary to the role of screening programmes in ensuring that *non-obvious* risks are not overlooked.

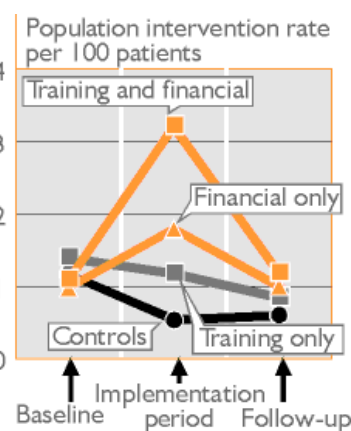
In part that was the message also to emerge from comparing the records of primary care practices in northern England which in 2010–2011 were or were not incentivised under local schemes and/or the national Directed Enhanced Services scheme to screen for risky drinking. The national scheme concerned only newly registered patients. The incentives **appeared to** substantially raise the proportion of newly registered patients recorded as screened (often by practice nurses) in a year from under 1% in non-incentivised practices to about 48%. However, even when incentivised by the local scheme, payments did little or nothing to induce practices to undertake more widespread screening. Without incentives the recorded screening rate among all patients registered with the practices was virtually zero. With them it rose to about 4%, but **nearly all these** were in fact newly registered patients. Interviews with GPs suggested that the more lucrative and embedded QOF incentive system would have been more effective, but would still run up against reluctance to depart from patient-centred practice and scepticism about the effectiveness of brief alcohol interventions.

Between 2008 and 2011 the proposition that the QOF would work better **had been investigated** in London, where a borough had implemented an extension to the scheme which allowed it to pay substantial amounts to general practices for alcohol screening and intervention for mental health patients or those at risk of or experiencing cardiovascular conditions. The effect was dramatic, raising the previously negligible screening rate to the point where nearly two-thirds of targeted patients were screened, compared to just 15% (itself an improvement on past performance) of patients whose screening did not attract extra payments. Also, a greater proportion (87% v. 74%) of targeted patients who had screened positive then received a brief intervention, but as in the 'ODHIN' trial (**below**), by far the greatest impact was on the screening rate. Payments here may have allied with a greater appreciation on the part of clinicians of the clinical importance of limiting drinking in these particularly vulnerable patients as opposed to patients in general.

That alignment of influences also possibly accounts for the impact of a national version of the scheme tested in London. Though **withdrawn** from 2019/20, in 2011 the QOF incentive system was amended nationally to specifically incentivise screening for risky drinking (previously merged with other lifestyle issues) among primary care patients suffering from serious mental illness, including schizophrenia and psychoses. Across the UK **the effect** was similar to that seen **in London**. Before any incentives, the proportion of patients whose drinking was recorded had been about the same for those with and without the relevant mental health diagnosis. After 2011, for those with the targeted

diagnoses the annual rate jumped to reach 723 out of 1000 while it lagged at 184 among other patients. By far the greatest effect was seen when alcohol was specified rather than merged with other lifestyle issues. Though among patients with the targeted diagnoses recording of drinking was now the norm, just 5% were known to have been identified by a recognised screening test, raising concerns over the quality of the identifications. The same research team [observed a similar pattern](#) among people with bipolar disorder.

Further evidence of the influence of payments comes from the multi-national 'ODHIN' European implementation trial. Its findings [chart right](#)) suggested that continuing financial incentives for clinicians and/or their workplaces help extend any benefits to the greatest number of patients, though still a small minority because clinicians preferred to raise drinking only when it seemed relevant. This study was conducted in 2012 and 2013, within the period of the featured study, but its incentives for screening were greater than in the scheme investigated by the featured study and incentives were also applied to brief advice. In England these payments [were set](#) at £4.80 per patient screened and £20 per positive-screen patient advised about their risky drinking. Though critical, in ODHIN payments were not all there was to boosting implementation; they worked best with training and support for clinicians, and interventions which they felt appropriate – specifically, not 'merely' referring patients to a website.




### Incentives have their risks

Strong incentives can boost screening and intervention but the stronger they are, the greater the risk of unwelcome distortion in both recording and practice. Without professional commitment, the figures may be manipulated to record phantom interventions, [believed](#) to have happened at some primary care practices paid for intervening in England, and in Scotland among health staff working in non-primary care settings. [Their accounts](#) suggested that targets created "perverse incentives to maximise reporting of [alcohol brief intervention] delivery". Some GPs in Scotland [also acknowledged](#) that payments might divert them from what they felt was their proper role and could lead to 'box-ticking', though they doubted this had been widespread.

The GPs were alluding to the possibility that when screening and intervention *are* conducted, staff may do the minimum to attract payments or meet targets. Resulting quality may be so poor that little impact can be expected. Just such a scenario was suggested by initial results from primary care clinics in the US 'VA' health care system for ex-military personnel, where managers lose out financially if their services do not meet numerical targets. Screening was incentivised to near universal levels and (where doctors knew management expected this) electronic prompts led to a recorded 71% of positive-screen patients being advised, but screening [seemingly missed](#) many risky drinkers, and advice had [little if any impact](#) on drinking.

Most disappointing was a study of an entire VA region conducted soon after the VA had implemented a national performance measure incentivising brief intervention, aided by an electronic clinical reminder available to all facilities. Records [revealed](#) that risky drinkers identified through screening and re-screened around a year later were [no more likely](#) to have [remitted](#) from risky drinking if their records indicated they had participated in a brief intervention than if they had not. Another finding was that just 28% of these repeat-screen patients had been advised about their drinking, and they tended to be the heaviest drinkers.

More anecdotally, among general practices incentivised by payments, quality deficits have been observed in England (1 2) and in Scotland, where some practitioners [were said](#) to have adopted a relatively "perfunctory" approach to advising patients. From the borough of

Haringey in London comes a revealing account of what can happen;  [unfold](#) the supplementary text to read.

 [Close supplementary text](#)

The example dates from a time when alcohol screening and advice were something general practices could contract into locally as a 'directed enhanced service'. Under [the scheme](#) they were paid for each newly registering patient they screened, but were also required to conduct and record further assessment of positive-screen patients and resulting brief interventions or referrals.

Though the borough was not known for low levels of drinking, across the 29 practices in the scheme, only 2% of patients screened positive, wildly below 25–30% expectations. Some practices screened all newly registering patients, others just a quarter. One which screened all found every one of them to be a risky drinker, while most found none at all. In 2009/10, as a result of the scheme just 10 patients were referred for specialist treatment.

Surprised at how few problem drinkers were identified, the area's drug and alcohol treatment service initiated an [on-site audit](#) of four GP practices, visits which revealed some of the reasons for the shortfalls. Most practices had done no training to support the scheme, and most too used the wrong versions of standard screening questions or in effect substituted their own. Two of the four did not respond to risky drinkers with face-to-face advice, and those which did neither systematised the advice nor provided a leaflet for patients to take away. One practice offered no intervention at all to patients unless they scored as probable dependent drinkers. Across all the practices, even these patients were rarely referred for treatment.

On close inspection, the 'system' could not really be termed a system at all. This was just one area, but it shows what *can* happen, and what can be uncovered by a close, on-the-ground look behind the statistics.

 [Close supplementary text](#)

For more on the research and for policy developments on extending screening and brief interventions for risky drinking in the UK, see the [relevant cell](#) of the Alcohol Treatment Matrix.

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