



Financial Incentives for Alcohol Brief Interventions in Primary Care in Scotland

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Summary

This study aimed to provide an overview of the evidence for using remuneration systems for Alcohol Brief Interventions (ABIs) in primary care, to examine the availability of relevant data in Scotland and to explore the views of local and national stakeholders.

There were three strands to the study:

- A rapid literature review on the design and impact of remuneration models on the delivery of screening and/or brief interventions for alcohol in primary care.
- Document and data analysis on remuneration systems from three local health boards and an assessment of the availability and utility of ABI data.
- An interview study with five key local and national stakeholders on the design and impact of remuneration models.

Rapid Review

The rapid literature review indicated that evidence in this area is scarce, particularly in relation to systems implemented in routine practice (1,2).

Whilst impacts on either patient or provider outcomes of interest were mixed, incentives may be an effective implementation strategy to encourage primary care providers to deliver alcohol interventions, particularly when targeted at specific patient populations (2), or when delivered as part of a multi-component approach (3).

There is limited data on the optimum level of incentives required in order to achieve positive effects, although in general, payment schemes that focus on outcomes as opposed to process appear desirable (4,5).

Local Case Studies

Three models of remuneration were examined. Structures and rates of payment varied considerably over time and in different areas: one provided core funding for community nursing; one paid only for brief interventions; and two paid separate incentives for screening and brief interventions. No firm conclusions could be drawn about optimal models or levels of payment or the impact of changes over time.

The ratio of brief interventions to screenings delivered also varied widely across practitioners and areas: no outcome evidence was available to indicate what 'conversion' rate was optimal; and no process evidence was identified to inform what underpinned the variation in rates.

Interview Findings

Interviewees disagreed on whether incentives led to increased delivery of ABIs; however, other benefits cited included that the contracts under which incentives were provided enabled training and monitoring of delivery to be mandated in ways that could not otherwise have been achieved.

Whilst distortions such as misrepresentation or gaming are recognised risks (6) and were acknowledged as possibilities by interviewees, there was little sense that they were widespread problems, and not viewed as fatal flaws in the programme.

Conclusions

Despite the scale and ambition of Scotland's ABI programme, it has failed to contribute substantially to the ABI evidence base, including on important questions such as the impact of financial incentives on ABI delivery, quality and resulting patient outcomes. As the Scottish Government 'refreshes' its national alcohol strategy, there is an opportunity to address this weakness to inform future alcohol policy in Scotland and globally.

1. Introduction

In the mid-2000s, an increasing body of evidence showed that alcohol-related deaths, and especially liver cirrhosis rates, were increasing steeply in Scotland, more so than in other parts of the UK, while death rates were decreasing in other European countries (7). Between 1979 and 2014 the number of alcohol-related deaths approximately doubled (8). In 2014, the age-standardised mortality rate was 31.2 per 100,000 population compared to 18.1 in England, 19.9 in Wales, and 20.3 in Northern Ireland (9). The Scottish Government responded with a high-profile national alcohol strategy, which emphasized the importance of reducing alcohol consumption across the 'whole population', and introduced the flagship policy of minimum unit pricing for alcohol (10,11), which at the time of writing remains subject to legal challenge by corporate alcohol producers.

Prior to the national strategy, the Scottish Government introduced a target for the National Health Service (NHS) in Scotland (known as HEAT Target H4) (12). This target required the NHS to deliver a minimum number of Alcohol Brief Interventions (ABIs) in three priority settings (primary care, A&E, antenatal) from April 2008, and later in a range of other 'wider' settings such as youth services (13,14).

ABIs are heterogeneous interventions (15–18) that include 'short conversations aiming in a non-confrontational way to motivate individuals to think about and/or plan

a change in their drinking behaviour in order to reduce their consumption and/or their risk of harm' (13). Several systematic reviews have found ABIs to be efficacious, primarily in reducing self-reported alcohol consumption (19–21). Debate is ongoing about the validity of self-reported consumption as a predictor of health or other outcomes for patients, and the extent to which current evidence has translated into the implementation of ABIs in routine general practice (22).

ABIs have historically included the use of a screening questionnaire to assess an individual's consumption level and risk of alcohol problems, followed by the provision of personalised feedback to those who might benefit (16). The Scottish Government target built on an earlier national clinical guideline (SIGN Guideline 74 or 'SIGN 74') which recommended the delivery of screening and brief interventions in primary care. SIGN 74 did not recommend universal screening for alcohol problems, but included an extensive list of potential presenting conditions and issues, when screening of the patient was recommended (23).

The national target was divided up into targets for each local health service ('health board') in Scotland which were required to report regularly on implementation progress. The national initiative was well-resourced (10), encouraged local ownership of implementation (12,24), focused on addressing risky drinking rather than alcohol dependence (24,25), and emphasised professional education for nurses and doctors based on interactive skills teaching (25). ABIs were implemented extensively, with delivery of 667,037 ABIs reported over an eight-year period, exceeding the target of 454,854 (26,27). The majority of reported ABIs have been delivered in primary care (59% by April 2015) (27), and each local health board has developed its own local contractual arrangements with general practitioners in primary care, who are independent contractors to the NHS.

These local contractual arrangements for ABI delivery, known as 'Local Enhanced Service' or 'LES' contracts, typically included fees for delivery of screening and/or brief interventions. There were substantial differences between boards across Scotland in the contracts, including in how payments were structured and the level of remuneration (24). Little is known about the availability, depth or quality of delivery data held by local health boards in relation to primary care ABIs, nor about the impact of different models and rates of payment on the implementation of screening and ABIs. Recent decades have witnessed the increased application of performance management tools and techniques such as financial incentives to stimulate improvements in healthcare (28). However evidence of the impact of pay-for-performance on the quality of health provision remains equivocal (29). As the Scottish Government prepares a 'refresh' of the national alcohol strategy, it is timely to consider the importance and optimum use of local contracts and incentives for primary care delivery.

Aim and objectives

The aim of this scoping study was to examine the availability and utility of data relating to, and explore stakeholder views on, remuneration and delivery rates for Alcohol Brief Interventions in Scotland, in order to inform future implementation, and further study.

The objectives of the study were:

- 1 to conduct a rapid literature review on the design and impact of remuneration models on the delivery of screening and/or brief interventions for alcohol in primary care;
- 2 to identify and where possible source data on remuneration systems from three local health boards and assess the availability and utility of ABI data; and
- 3 to explore the views of key local and national stakeholders on the design and impact of remuneration models.

We report separately on each of these strands in the following chapters of this report.

Ethics

Ethical approval for the study was obtained from University of Stirling's ethical committee (SREC 15/16:49). Participants gave full informed consent and were given the opportunity to review the report for accuracy and to ensure they were comfortable with any quotations used prior to publication. No changes were made by participants at this stage. No patient-level data was analysed.

2. Evidence on level and impact of remuneration systems for ABI

Aim & methods

The primary aim of this rapid review was to examine the published literature relating to the design and impact of remuneration models for screening and/or brief intervention for alcohol in primary care.

We searched PubMed for peer-reviewed studies in the public domain, published in English, between 1st January 1990 and 17th May 2016, reporting on the effect of payment systems in delivering ASBI in primary care using search terms relating to: a) alcohol; b) primary care; c) brief interventions; and d) pay for performance/financial incentives. Our full search strategy is outlined in Appendix A.

Overview of studies

We identified 235 titles, of which ten underwent full text review. Of these, four studies met our inclusion criteria (1–3,30) and six studies were excluded (31–35) (see Figure 1 in Appendix A). The findings from the four eligible studies are described narratively below, with data summarized in Table 2 in Appendix A.

All included studies were based in primary care settings and covered a range of countries (UK, USA, Australia, Catalonia, Poland, Netherlands and Sweden). Study design varied. One eligible paper reported on a cluster randomized controlled trial to test different strategies aimed at increasing rates of screening and brief intervention delivery in routine practice (3). Another paper summarized the findings of a retrospective longitudinal study drawing on routine primary care data to evaluate the impact of a targeted incentive scheme (the Quality and Outcomes Framework (QOF+)) on alcohol screening rates amongst a specific patient population (2). One study drew on a range of existing routine cost and prevalence data sources to model the cost-effectiveness of four different strategies to increase delivery of screening and brief interventions in Australia (30). The final included paper used mixed methods (interviews and documentary analysis) to assess the level of state Medicaid payments in place to support the delivery of screening and brief alcohol interventions in the USA (1).

Findings

This rapid review found limited evidence on either the rate or impact of reimbursement schemes for the delivery of screening and brief interventions for alcohol. Only four studies were identified, of which just two reported on payment schemes which had been implemented in routine practice as opposed to within a research context (1,2). Incentives paid to providers for screening patients for risky drinking ranged from approximately £5.11 (€6) to £7.67 (€9). Only one study reported specific intervention delivery payments, which ranged from approximately £11.56 (€13.50) to £21.40 (€25) (3).

Overall, there was some evidence of effectiveness for the use of financial incentives to encourage primary care providers to screen patients for risky drinking, and to deliver brief interventions to those in need of further support. Two studies reported a significant rise in screening rates as a result of the introduction of respective payment schemes (2,3). However, there was limited data to assess their impact on the delivery of subsequent advice/interventions for alcohol, or on the effectiveness of such schemes on other important outcomes of interest such as patient alcohol consumption. Shanahan et al provide a hypothetical assessment of the potential of financial incentives to reduce overall consumption amongst patients when introduced within the Australian primary care context (30). However their study suggested that payments

were substantially less effective than alternative strategies such as the introduction of a computerised reminder system and academic detailing. Also described as ‘educational outreach’, academic detailing involves a range of techniques aimed at improving intervention delivery or prescribing practice, most commonly via the use of trained “detailers” (usually clinicians) conducting face-to-face visits with physicians to encourage adoption of a desired behaviour pattern (36). Shanahan et al acknowledged that the fact they assessed the impact of single rather than combined implementation strategies represents a key limitation of their modelling study (previous evidence suggests multifaceted strategies are more likely to be effective (37)).

Importantly, Anderson et al provide the only example of a study which sought to test the impact of a combination of strategies on reported screening and brief alcohol intervention delivery rates (as well as being the only experimental design study we identified). Whilst training/support and financial reimbursement were both effective when introduced in isolation, the greatest impacts were realized via the implementation of multi-component strategies, specifically a combination of both training/support *and* financial reimbursement (3).

Conclusion

Whilst the literature is limited, the available evidence suggests that financial incentives may be an effective strategy to encourage primary care providers to screen patients and/or deliver alcohol screening or brief interventions. Current literature suggests that targeting specific patient populations (2), and delivering incentives as part of a multi-component approach (3) may be important for success.

The implications of these findings are discussed further in Section 5 below.

3. Remuneration system in Scotland: Case studies from three local health boards

Aim and methods

This scoping exercise aimed to identify, and where possible source, relevant data from three local health boards in Scotland, and to assess the availability and utility of the data.

In consultation with the Project Advisory Group, we identified key contacts within six local health boards who were first approached in March 2016. An email request was sent explaining the purpose of the study and enquiring about the availability of data on ABI delivery and the Local Enhanced Service contract documentation for the health board. Those initially contacted were encouraged to put the research team in touch with a more relevant colleague where appropriate, and all such contacts were then followed up. All those contacted were encouraged to provide information covering the period since the inception of the national ABI target in 2008, and specifically in relation to any changes to the system or contracts over time.

The main source of information was current and previous LES contracts for each of the health boards. The contracts were analysed to assess how each health board had specified expectations of general practitioners who signed up to the contract, and the funding models established. Some health boards also provided examples of the type of data they collect for monitoring purposes. When contacting the health boards requesting information on their data collection, it was emphasised that patient-level data collected by the health board should be described, but should not be shared with the research team, and no such data was collected.

The implications arising from the case studies are discussed further in Section 5 below.

Findings

Based on the level of detail provided, three health boards (Lanarkshire, Lothian, and Tayside) were selected as case studies for reporting. Each case study below was shared with the main contact in the area to check for accuracy prior to publication.

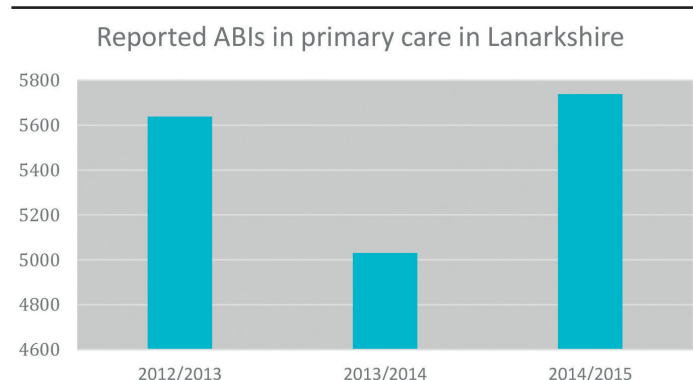
Setting-specific data on ABI delivery within health boards showing reported delivery in primary care separated from other settings, is only publically available for the years 2012/13 to 2014/15 (38–40), and is included in the case studies below.

Case study 1: Lanarkshire

The estimated population of Lanarkshire health board area in mid-2014 is 653,310 (41). Over the three years, the number of ABIs reported in primary care varied from about 5,000 to 5,700 as shown in Figure 1 below (42). This represents a delivery rate of approximately 9 ABIs per 1,000 population in 2014/15.

FIGURE 1

ABIs delivered in primary care in Lanarkshire since 2012/2013



Contractual Arrangements

A Local Enhanced Service contract for delivery of alcohol screening in primary care was in place in Lanarkshire from 2008 to 2011. A copy of the contract was not provided but we were informed that during that time period general practitioners (GPs, primary care doctors) were paid a fee for each patient they screened only, with no fee in place for the delivery of a brief intervention where indicated following screening. This was felt to have resulted in a high level of reported screening but a low level of subsequent ABI delivery (though no figures were available) – known as a low ‘conversion rate’.

From 2011 onwards, funding was no longer allocated to a Local Enhanced Service contract but instead used to establish a performance framework under which the funding was used to pay for additional community nursing capacity. This was intended to free up community nurses across the area to provide ABIs.

Data Collection

Under this arrangement, all ABIs delivered were reported to a central data analyst using a standard form and entered into a database. The form includes patient-level data (such as community health index (CHI) number, date of birth, demographics etc.), the Fast Alcohol Screening Test (FAST) questions (43) and requires information on the practitioner who has delivered the intervention. An ABI would not count towards the allocated target unless delivered by a practitioner who was recorded as having received ABI training. The ABI training courses offered by Lanarkshire were based on the national ABI training materials (25) and were normally one day in duration.

Conversion Rates

Data provided for the quarter from October to December 2015 show the conversion rate of reported screenings to brief interventions in primary care (therefore community nursing under this scheme) was 41%, or 1 ABI delivered for every 2.45 screenings undertaken. The conversion rate in community mental health teams was 16%, and in antenatal settings the rate was 0.15% (2 ABIs delivered from 1,333 screenings).

Summary of Remuneration Model

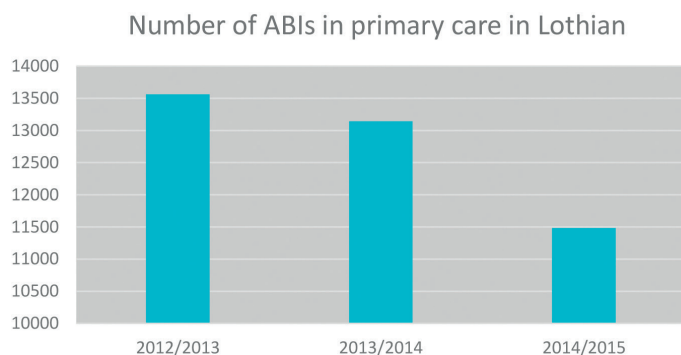
- Payment for additional nursing capacity only, no payment per individual screening or intervention delivered.
- Conversion rate: 1 ABI per 2.45 people screened using FAST.
- ABIs only counted towards figures if delivered by a trained practitioner and were recorded using a standardized paper form.

Case Study 2: Lothian

Lothian is the second largest health board in Scotland, with a mid-2014 estimated population of 858,090 people (41). ABI delivery in primary care in Lothian fell between 2012 and 2015 as shown in Figure 2 but is relatively high across the period at approximately 13.5 ABIs per 1000 population over 2014/15. Across the three years, overall ABI delivery exceeded the target set for Lothian by a considerable margin (134% of target in 2014/15). The decrease in ABIs delivered in primary care over this time coincided with a decrease across all three priority settings.

FIGURE 2

ABIs delivered in Lothian since 2012/2013 in primary care



Contractual Arrangements

A Local Enhanced Service contract has been in place in Lothian since 2008/2009 and has been revised several times. The payment per ABI reported remained at £30 throughout that period, with no more than one ABI per individual patient reimbursable per year. In the 2008/2009 contract only, a payment of £20 was available for providing a follow-up consultation within 12 months of the delivery of the initial ABI but this was subsequently dropped.

In the 2015/2016 contract the payment system changed from remunerating practices based on delivery reported retrospectively, to paying practices up front based on an allocated number of ABIs based on the number of patients in the practice (known as 'list size'). In this system, money was reclaimed from GP practices who did not deliver their allocated interventions and redistributed to those who had reached their allocation. Available funds for payments under the LES contract for the year 2016/17 were reduced from £200K to £100K, due to cutbacks in Alcohol and

Drug Partnership funding. It is unclear what impact this may have on delivery levels. The basic rate of £30 per intervention is still paid, but for a smaller allocated number of ABIs per practice.

Under the first LES contract in 2008/09, an engagement fee of £600 was included for infrastructure and also to support the requirement that within the first 12 months of the contract, at least one clinician from each contracted practice had to attend training. The national ABI two-day training course (25) delivered by NHS Lothian was the recommended course. A half-day practice-based course was also offered. The later contracts include information about available training and state that when an intervention is delivered it is assumed that the practitioner has "a basic professional level of health behaviour change expertise and communications skills (covered by the training programme)". Unlike in Lanarkshire, no mechanism is in place to require that ABIs contributing to the reported figures are delivered only by trained practitioners.

Data Collection

There were some variations in the LES contracts in Lothian over the years, but all included a requirement to submit regular reports on ABI delivery. Until 2012/13, ABI delivery data was gathered through dedicated care management and data collection screens provided by NHS Lothian on the Albasoft EScro software system. Demographic data on each individual patient is automatically included in the submitted reports for each reported ABI, as recorded on the EScro system, however the range/quality/ completeness of data included is unknown.

Although the contract recommends that practices record screening results and consumption, without payment for screening, data about screening may not have been well-completed and it is not therefore possible to calculate a reliable conversion rate for screenings versus ABI delivery.

Screening & Brief Intervention Model

Rather than universal screening, the contracts mandate "opportunistic" screening of patients "with clinical at-risk presentations according to SIGN 74". In all versions of the contracts it was stated that a standard screening tool should be used, for example FAST, 5-SHOT, or CAGE (43–45). Minor changes were made over time to restrict eligibility to patients over 16 years of age and to refer to 'appropriate' practice-employed staff as well as GPs. In the two latest contracts reviewed, information on access to an online training module for ABI was also included.

A brief description is included in the contracts of what is expected in an Alcohol Brief Intervention. The intervention should be offered and delivered 'within current or further consultation as deemed appropriate to those who screen positive'; of up to ten minutes duration; and requires skills and expertise in behaviour change in the practitioner. Although not required, each contract includes guidance on blood tests for biomarkers of alcohol abuse and their limitations.

Summary of Remuneration Model

Payment for Brief Intervention only, therefore conversion rate unreliable. Payment of £30 per intervention but up to a limited number of interventions per practice.

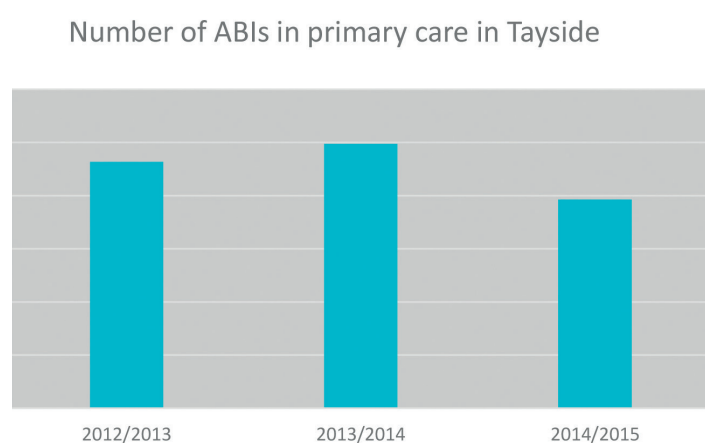
The LES contract mandated training for practitioners and submission of regular delivery data which was collected on each individual patient receiving a BI on the electronic patient record (EScro).

Case Study 3: Tayside

With an estimated mid-2014 population of 413,800 people (41), Tayside delivered 3,929 ABIs in primary care in 2014/2015, a rate of approximately 9.5 ABIs per 1,000 of population. Delivery fell in 2014/15 compared with earlier years (Figure 3).

FIGURE 3

ABIs delivered in Tayside since 2012/2013 in primary care



Contractual Arrangements

A LES contract has been in place in Tayside since approximately 2008. Early on (though it is unclear from the contracts received how long this arrangement was in place), a fixed fee of £20 per intervention was paid, without separate fee for screening. From 1st July 2008, a payment of £2.20 was made for each patient screened and £9 per ABI delivered. From 1st April 2010 onwards, £10 was paid per BI delivered with £15 per ABI delivered paid over and above individual practice targets.

Two additional lump sums were included in the contracts: £250 per practice for 'audit and concluding work'; and £500 as an "engagement and preparation fee" and to cover participation in training. Prior to service commencement, at least one named individual from each practice team was required to have "completed an approved NHS Tayside short training session on Brief Interventions and cascaded training to team members within the practice".

Data Collection

All participating practices were required to: 1) develop and maintain a register of patients with a positive FAST screen record; and 2) record all related information in a consistent manner using agreed Read codes for screening, Brief Intervention and consumption status. Read codes were specified in the contracts e.g. code "9k11 Alcohol consumption counselling" was used as a proxy for brief intervention. Practices made returns every six months.

From April 2014, practices were also required to record reasons for not delivering ABIs to patients and specialist referrals made. The contract also states that "practices would have an opportunity to contribute towards more detailed audit of clinical outcomes at a regional level, to ensure maximum learning from the outcomes associated with this LES at a regional level". Gender, postcode, FAST screening score, and date of birth data for each screening and ABI delivered were collected in an audit in 2014.

The audit report included information on conversion rates for a six-month period in 2014, in which for Tayside as a whole, one ABI was delivered for every 12 screenings. This figure masks wide variation across the region, with a 1:7 ratio in Dundee, 1:26 in Perth and Kinross, and 1:29 in Angus.

Screening & Brief Intervention Model

Practices were asked to screen patients opportunistically guided by SIGN74 but with an explicit focus on patient groups with occupational, social, psychiatric and physical conditions. From 1st April 2009, new patient registrations checks and pregnancy booking in appointments to LES were the focus for opportunistic screening. Practices were advised to use the FAST (43) and the associated Read code (388u).

Participating practices were contracted to "deliver brief interventions and offer support to carry out behaviour change." The contracts also advised that "Information provided to patients should include written and verbal information about safe levels and patterns of drinking. Wherever possible brief interventions (usually of between 3-10 minutes duration) should be delivered within the consultation". Practices were also advised to provide patients with information on support services and refer to specialist services 'where appropriate'.

Summary of Remuneration Model

- £2.20 paid per FAST screen; £10 paid per ABI delivered.
- Average conversion rate: 1 ABI per 12 people screened using FAST.
- The LES contract mandated training for practitioners, use of standard Read codes, reporting every six months, and participation in audit.

4. Interviews with local and national key informants

Aim and methods

The aim of the interview study was to explore the views of key local and national stakeholders on the design and impact of remuneration models in Scotland.

Sample

Interviewees included local and national stakeholders identified via snowball sampling from the Project Advisory Group and through initial health board contacts. Four key people were interviewed from three different health boards, including one who also had national experience. A fifth interview was with an individual who had a national role in relation to the ABI target. One of the five interviewees was a GP. No-one declined to be interviewed, but one additional national informant with whom an interview had been arranged was not included due to sickness absence. Owing to the small potential sample of interviewees for this study, we do not provide any further details in order to protect the identity of the participants.

Interview arrangements

Five interviews in total were conducted averaging 41 minutes in duration (range 28 to 51 minutes) between May and June 2016 by Dr Niamh Fitzgerald. All interviews were conducted by telephone as we have found this to be preferred by participants in a similar previous study (46). Prior to the interview, each participant was sent an overview of the topic guide, a participant information sheet, and a consent form to keep for their records (Appendix B). At the time of the interview, verbal consent from participants was recorded as the consent form was read verbatim to the participant by the interviewer. All interviews were transcribed verbatim by a professional transcriber, and supplemented with notes from the interviews taken by Dr Niamh Fitzgerald. Where appropriate, some interviewees provided additional supporting documentation relating to the issues discussed.

Analysis

Dr Lisa Schölin conducted thematic analysis on all interviews, mapping the themes arising onto a matrix to explore the different views across the local/national interviews. Dr Lisa Schölin used this to write the first draft of the findings. Dr Niamh Fitzgerald independently analysed all the interviews, and wrote the final draft of the findings in consultation with Dr Lisa Schölin.

Findings

The interviews revealed a variety of views regarding the remuneration system for ABIs. Local key informants described both positive and negative aspects of the remuneration systems in Scottish primary care established under the national ABI programme, including the extent to which, and how, financial incentives impacted on screening and ABI delivery. Three overarching topics emerged as follows:

- i benefits of financial incentives to support the implementation of screening and Brief Interventions in primary care
- ii optimal models and levels of incentive, and
- iii unintended or negative aspects of incentives.

Benefits of financial incentives

There was no overall consensus on whether financial incentives for GPs were worthwhile. Some argued that they had negative consequences (see below). Others felt that they were necessary, with one arguing that it was unlikely that GPs were already delivering ABIs, given the experience in some areas with high levels of incentive:

"I've also heard people say that we already do this, it's kind of teaching your granny to suck eggs type thing which made it all the more remarkable that in some areas they had huge incentives on the table and it didn't make a blind bit of difference. So if somebody's already doing something and somebody's offering you £50 to tick a box saying you've done it and people weren't doing that, that leads me to think why?" [Interview 5]

Others reported a level of acceptance from the start of the ABI programme that delivery in primary care would need to be incentivized financially to ensure some consistency in performance and delivery of ABIs.

"If you ask nicely many GP practices in primary care will do additional stuff, but if you want to ensure that it happens in a consistent way across the piece it has to be part of the contract. It needs to be negotiated as part of the national contract or you need to negotiate that locally...so although some people find it difficult to get their heads around why the GPs get paid to do things separately, that's just the way the NHS is set up and works." [Interview 1]

"I definitely think it would be on the back-burner [without incentives]" "It was obviously, it's an extended contract, it's not part of their work, they weren't going to do it in any systematic way without being paid." [Interview 4]

There was a risk, they felt, that delivery would fall away if financial incentives were withdrawn.

"[Our] experience would suggest that some practices would carry on doing it, probably because they hadn't noticed they had stopped being paid, but in terms of being able to 'keep the pot boiling' so to speak, to use that kind of analogy, I think the pot would start to simmer, and then go cold." [Interview 1]

Participants emphasized a further benefit of having incentives in place through a local contract, which was the ability to mandate participation in training and data collection to those professionals who were signed up to the contract. In Lanarkshire, where the funding was used to pay for community nursing, the conditions on that funding also mandated training and data collection. In two areas, at least one member of staff in each GP practice had to attend training in order to be eligible for payment under the Local Enhanced Service contract. This was thought to lead to greater alcohol awareness and confidence in discussing alcohol:

"[Without the contract and associated training], what they wouldn't be able to do is know what's in a unit and that alcohol awareness...I think...that backed up their knowledge if you like. I think a lot of them would be, you know, keen to discuss alcohol, but maybe a bit more confident, a bit more aware after [training]... it's about getting them trained, a complete cohort of a service that are aware and that are following the same kind of guidelines. I think that's where the payment comes in, it does give you a bit of an ability to know that these people have all been trained." [Interview number withheld]

Under the LES contracts in some areas, GP practices were also required to participate in audit and provide data to the health board about delivery. It was not obvious how that would be possible without incentives. Furthermore, it was suggested that this benefit may only be possible with a local enhanced contract, and would not be easy to mandate if ABI delivery were included in a national GP contract.

"If you want your fee, you are being paid a fee to participate in audit. If you do not provide us with this data, you do not get your fee... We're able to get the data because we're paying for it." [Interview number withheld]

"[For other datasets in primary care] we can go and get that data, but it's not so easy. We don't have it in the kind of details that allows us to go 'oh I wonder why that's happening in that area or in that practice.'" [Interview number withheld]

Optimal models and levels of incentive

Participants discussed the different models of remuneration in place in primary care, including whether to pay separately for individual components of ABI (screening, brief intervention and/or follow up). Amongst

those who supported incentive payments, there was a consensus that it was better to have separate payments for screenings and brief interventions delivered, rather than paying only for ABI delivery as whole.

"I would have preferred, looking back, that we tied it up with the screening and, you know, even split the payment but that's not the way we did it" [Participant].

"And what difference do you think it would have made then if you'd split it?" [Interviewer]

"Well I think you'd be able to see how many screens went on to do an intervention and you'd be able to identify that. I mean there is information about screening but it's not robust enough to mean anything very much." [Participant] [Interview number withheld]

Referring to a payment model that paid only for ABIs not screening, one participant suggested:

"It was perhaps inadvertently encouraging the delivery of brief interventions, whether that was the right outcome from the screening or the right thing to do other than a referral; that was the concern. That it was incentivising the delivery of something without actually the evidence of that's why it's being delivered, through a structured screening." [Interview number withheld]

Another commented on the risk of only incentivising screening:

"I think the other risk is that if you incentivise at the wrong stage then you might put unnecessary focus on that, so if you incentivise on screening rather than on the intervention then you end up screening a lot of people but not actually delivering a lot of ABIs." [Interview number withheld]

Some participants referred to the issue raised above of the 'conversion rate' from screening to ABI delivery, that is, for every brief intervention, how many screenings were reported. There were diverging views on what the 'right' conversion rate should be. One participant suggested that a 1:3 or 1:4 ratio was indicative of GPs 'perhaps subconsciously pre-selecting patients they might screen' who are more likely to screen positive, whereas a 1:25 was seen as indicating that the alcohol screening has been 'included in a suite of screening that they're doing' or based on new patient registrations. Another commented:

"Well, we pay now only for brief interventions, the [previous] contract ... paid for screenings and that was stopped as I said and then it was changed to actual alcohol brief interventions. And having a much more targeted approach because the GPs screen[ed] everybody basically. And didn't deliver very many ABIs." [Interview number withheld]

It was not clear on what evidence the judgements were being made about conversion rates; however, participants reported that, in line with the national guidance, the local contracts were not intended to incentivize universal

screening. As described in Section 3 above, most referred to the SIGN Guideline Annex 2 (23) that outlined a wide range of circumstances and conditions which may be linked to or affected by alcohol consumption. This was seen as more focused and better than universal screening, even though it was acknowledged as quite broad:

“We came back again, just to restate the previous guidance we’d given about who should be screened and it is this fairly inclusive list of people who present with this range of problems and presentations, that it should not be part of blanket, it should not be a blanket screening programme.” [Interview 1]

“I think one of the things in the contract said that it had to be linked to the SIGN 74 guidelines, you know, in other words that when they came through the door and had another issue and that was all on the [electronic patient record] screen, the links to the SIGN guidelines... but obviously that’s part of the training about the conditions you would expect to have or could be affected by an alcohol component...it was meant to be ...targeted to people who it would seem there was an alcohol component to their presentation...” [Interview 4]

In addition to incentives, participants discussed the importance of other aspects of the implementation effort in securing delivery of ABIs. These included:

- providing practice-based training;
- involving a GP champion in supporting practices and resolving difficulties;
- ensuring practices have the materials and resources needed for ABI delivery;
- the value of having a history of ABI work initiated prior to the national programme;
- the importance of local funding from the national ABI programme;
- setting delivery targets for each local area within a health board; and
- commitment from management and other staff.

The last point above, was particularly highlighted by one participant as seemingly more important than the specific level of remuneration provided.

“One of them was offering like really huge money per ABI delivered and it didn’t seem to make any difference in that area, like the GPs just weren’t delivering it at that point and even this kind of fairly large amount of money was not enough to spark them into action. And then equally there were boards who were offering fairly minimal rewards for people doing it and they had good activity and good numbers...my interpretation at the time was it wasn’t the payment that was making the difference, it was the people on the ground who were driving the programmes. So if you had a really good local infrastructure set up and a really kind of strong backing by the senior management locally as well as the people on the ground and good local champions in all

the right places they were the things that made people deliver, it wasn’t the money thing that made people deliver. It made very little difference to be honest.”
[Interview number withheld]

Whilst reduced funding in Lothian was not perceived to have affected delivery, the figures showed that delivery of ABIs fell over the same time period as funding was reduced.

Unintended or negative aspects of incentives

Two participants felt that incentives for GPs were not the best use of funding, both arguing that other staff within primary care, including nurses, were better placed to deliver alcohol screening and Brief Interventions. One of them, a GP, felt that GPs should focus their time on ‘chronically ill patients’ – and on the “parts of the job that only [GPs] can do” [Interview 3]. This participant felt that GPs used their professional judgement to deliver ‘less formalised’ ABIs anyway as part of a normal consultation “if we feel that somebody needs an intervention or advice or whatever” without incentives and that the incentive formalized (in their view unnecessarily) the way in which that intervention was delivered.

“I think really what [an incentive] does is focuses people to address that specific issue and spend, probably well, because it was more formalized and there were like hoops to jump through then whoever was doing it had to follow that rather than go with their own clinical judgement....I don’t personally think that it adds anything to what I would normally do apart from take time away from something else I might have to focus on in that consultation.” [Interview 3]

They also felt that it was not the most appropriate way to fund GP services going forward.

“So it’s about providing the money there for the GPs to provide the needs of the community, and incentivising things, I don’t think, is something that we would really be interested in in the future because we want to get away from this piecemeal payment of a wee bit here and a wee bit there, because that’s not how practices can be financially stable if they’re relying on these bits and pieces” [Interview 3].

The other participant felt that it was sometimes nurses who delivered the interventions under the local enhanced service contract that was in place with GP practices anyway, and that the LES offered poorer value for money than investment of the funding into community nursing instead. They noted that once this was done, GPs no longer recorded ABI delivery in that health board and that it is unclear whether those GPs continued in the absence of an incentive. The participant then added that “GPs are very driven by incentives” [Interview number withheld].

The main risk of incentives noted by participants was that people might be “just kind of ticking a box to get the money”, but this was not felt to have been happening on

a large scale, and appeared to be more of a risk where payment was made for screening, and especially if only for screening.

"I think the main unintended consequence of the incentive is that people just kind of are ticking a box to get the money. People who, so that the programme looks as if it's busier than it actually is because people just see it as a way to, yes, record activity that's not actually happening or to deliver maybe substandard activity in that way because they know it's not being reviewed, inspected, checked in that way. It doesn't matter what they do, as long as they tick that box they were going to get the payment. So I think that's a risk... But largely you've got to trust the information that comes back but yes I think ABIs have happened during the course of the programme, I think there's no doubt about that." [Interview 5].

"I think human nature being what it was...so somebody walking in to a GP's surgery door, here's Mrs. McGlumphy, she'll still be drinking, we better screen her and deliver a BI and I'll press the button and get paid for it. Rather than here's Mrs. McGlumphy, that's the third time this year she's been in with vague abdominal pains, I'll ask her about her drinking... It's not acceptable for everybody over 65 coming in for their flu jab to be screened and for you to claim your [screening fee]... There is still the suspicion that there may be pressure from practice managers to make sure you do the screenings. And that's understandable." [Interview 1]

The extent to which the incentives were seen as valuable may have varied across GPs. One participant stated that *"these sort of enhanced services are given to [GPs] for very little money and actually the [GP] practice usually ends up not making anything out of them anyway"*. Three other participants noted that consistent delivery across GP practices was never achieved anyway.

"There remains inconsistencies in delivery, there are some practices that just don't participate or don't record or report. We don't necessarily think that they're not doing it but they've decided that the work involved in recording and reporting and participating in audit isn't worth the money we're offering. We think, we don't know. And there is variation, that sometimes is not always clear as to why some practices, so [practices in one urban area] probably accounts for almost half our activity." [Interview 1]

"The money was clawed back [from those who had under-delivered] but it was then distributed to the practices who had over demonstrated their delivery... And there's a couple of wee one man bands who don't do it at all, are not signed up to the [LES]"

"...say there was 1,000 ABIs delivered in a health board over the course of a month... they weren't equally spread among the health board or the GPs in that health board. It tended to be a small number of [GPs] propping up each board for the targets... So if one of those GPs

went off sick or moved away or something then the risk was quite severe, that that health board wouldn't make its target numbers... So across the country...there was never uniform buy-in by GPs for ABIs. There was by a significant minority is probably the best way to describe them but there wasn't a majority of GPs delivering ABIs all over the place, not at all."

One participant saw the lack of national co-ordination or evaluation of the local arrangements for ABI delivery in primary care as a missed opportunity, and described in detail how it could have been done differently to learn for the future.

"a lot of these decisions on incentives were locally led. There was no kind of pre-defined incentivisation scheme from central government...there was a lot of national support materials that a lot of people were involved in but I don't think there was anything specific in those support materials about incentivisation and mapping out different incentivisation models, that was largely absent from them."

"I think we all know Scotland missed a trick in terms of how they evaluated the national programme. There could have been national effectiveness evidence generated through that and a natural experiment of how that went ahead and what difference that made to people's outcomes. But we weren't able to do that."

"If I was starting again I would have...I would try and have either different models in different areas or a uniform model across the country and try and kind of compare and contrast and do it that way and then have a much more closer scrutiny of it over time to see how it's worked and evaluate it rather than what happened, just leave everybody to their own devices and then try and scrap for information after that to see if it worked and not really fully understand what went on. I think this turned into probably being quite a key component of the programme that was never really fully understood and the fact that you can't get information on it, like six years down the line, it's pretty poor actually because there was such a lot going on in that area at the time. So that's the way I would do it...pilot different approaches."

"It all seems really obvious now but yes. Even if it doesn't work at least you've got the learning there and it means the next time you come round to doing something like this you go all right well we tried to incentivise for ABIs in 2010 and it didn't work so we're not going to do it that way, we'll try and do it a different way."

This participant summed up their views on incentives for ABI in primary care as follows:

"To summarise I think we still don't know if incentivisation is a good thing for ABIs in Primary Care because it was never, I don't think it was ever studied properly from start to finish".

Discussion

Prior evidence on the impact of remuneration in relation to Alcohol Brief Interventions is scarce, particularly in relation to systems implemented in routine practice (1,2). Impact on either patient or provider outcomes of interest were mixed, however incentives may be an effective implementation strategy to encourage primary care providers to deliver alcohol interventions including screening. Incentives may have a particular impact when targeted at specific patient populations (2), or when delivered as part of a multi-component approach (3). Data is limited on the optimum level of incentive to achieve positive effects, although in general, payment schemes that focus on outcomes rather than processes appear desirable (4,5). Routine data sources, such as electronic patient record codes (e.g. 'GP Read Codes'), provide a potential means of assessing the impact of financial incentives on healthcare where primary care practices are required to collect such data to qualify for payment (47). There are recognised limitations of such routine data sources as proxy measures of delivery, particularly in terms of their sensitivity to capture the management and treatment of complex and chronic conditions such as alcohol use disorders (48,49).

Local data reported here suggests that the opportunity to study robustly the use of remuneration systems in Scotland was largely missed, as health boards designed (and modified) their models without evaluating their effectiveness. Both models and rates of remuneration were changed over time, and could have been the subject of study as natural experiments. Interviews with local and national participants indicated that the decisions to change remuneration systems were based on a combination of local intelligence gathering and some shared learning nationally; but that assumptions about the likely impact of such changes on outcomes were not tested.

There was a general consensus that paying separately for both screening and intervention delivery was better than paying only for one or the other. This enabled monitoring of the 'conversion rate' from screenings to interventions delivered. These rates varied across practitioners and areas e.g. 1:2.5 interventions to screenings delivered in Tayside, where delivery was largely by GPs versus 1:12 in Lanarkshire led by community nurses. There were differing views on the optimal rate. No outcome evidence was available to enable any conclusion as to the optimal conversion rate to be drawn, and there was no process evaluation which could inform what drove the rates in practice. Amongst other possibilities, such differences may indicate differences in levels of alcohol problems amongst the population accessing the service, the willingness of the population to disclose such problems to different practitioners or the choice of patients being identified for screening. Each possible explanation raises further questions about implementation and effectiveness beyond

the scope of this study, not least about the role of primary care in addressing alcohol dependence (50), and calls for careful reflection on the aims and target groups for ABI programmes.

One identified recent study in Europe (including the UK) found that incentives (and training) increased the reported delivery of alcohol screening by primary care doctors (3). It cannot be assumed that such increases in recorded screening reflect a change in what happened with patients; it is possible that incentives improve recording and reporting of conversations that were happening anyway (51). Distortions such as misrepresentation or gaming are recognised risks (6). Whilst both possibilities were acknowledged by interviewees in this study, there was little sense that such distortions were widespread problems, and they were not viewed as fatal flaws in the programme. Incentives were also seen as having other potential benefits: facilitating monitoring of delivery in ways that could not otherwise have been achieved, and formalising or enhancing the quality and skill in conversations about alcohol that may have already been taking place (51). Other UK studies published since our review are supportive of incentives as an implementation strategy (52,53).

The lack of understanding of what kind of enhanced skills or quality of brief intervention might actually improve patient outcomes has been a recognised gap in brief intervention research for years (15,54). Further study, including analysis of recordings of consultations (obtained with permission) could enable basic assessments of quality and contribute to a better understanding of the mechanisms through which such conversations may successfully change patient behaviour (18,54). Remuneration schemes could mandate such data collection, perhaps with additional incentives for a selection of 'reference' or 'research leading' GP practices.

Scotland's ongoing programme of ABIs is rare, if not unique, in scale and scope globally; although Sweden and Finland have had national programmes that have been evaluated via cross-sectional questionnaires with primary care doctors (55–58). The level of public investment in the Scottish programme could be seen as having carried with it a responsibility to contribute to the wider ABI evidence base, and at the same time inform decisions about the future of the programme (including financial incentives) in Scotland. Current evidence cannot guide decisions even on the optimal level of incentives for delivery of ABIs as comparable pilots were not established from the start of the programme. The future of the programme is uncertain, as the new contract for GPs in Scotland places health promotion activity clearly within the remit of the wider primary care team, not with doctors, (59) and the Scottish Government awaits the findings of a review of targets for health and social care led by Sir Harry Burns (60).

After falls between 2009 and 2013, alcohol sales in Scotland have increased recently, and levels of consumption remain high with an average of 10.7L of pure alcohol per adult sold in 2015 (equating to 20.8 units per

adult per week), 20% higher than in England/Wales (61). There were almost 35,000 alcohol-related hospitalizations in 2015–2016 (62). Whilst legislative measures addressing affordability, availability and marketing are likely to be more effective in preventing such harms, health professionals are treating people suffering from conditions that may be caused or aggravated by alcohol consumption every day. There is ample evidence to suggest that opportunities to help are missed (63–66), but much less to guide what form that help should take, and how best to incentivise or train practitioners to provide it (18,66–69).

The failure to contribute to longstanding research questions about Alcohol Brief Intervention implementation, quality and outcomes in primary care is a serious and abiding weakness of the otherwise widely-admired Scottish national alcohol programme. As the Scottish Government 'refreshes' their national alcohol strategy, there is an opportunity to address this weakness by ensuring that robust and focused research is built into future programmes to inform alcohol policy in Scotland and globally.

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Appendix A – additional information on rapid literature review

Search strategy

We searched PubMed for peer-reviewed studies in the public domain, published in English, between 1st January 1990 and 17th May 2016, reporting on the effect of payment systems in delivering ASBI in primary care using search terms relating to: a) alcohol; b) primary care; c) brief interventions; and d) pay for performance/financial incentives (see Table 1 for detailed search terms). The searches were conducted on 17th May 2016. Based on a scoping exercise of the review topic in the Cochrane Library (2,29,70) types of studies eligible for inclusion included randomized control trials, non-randomized trials, controlled before-after studies, interrupted time series studies, and longitudinal studies.

The setting of interest in regards to intervention and participants was primary health care, which includes services that are 'immediately accessible' with patients presenting with different problems or conditions. These services are not reached through referral from another service. Any setting in Western Europe and English-speaking countries outside of Western Europe were considered for inclusion.

Titles and abstracts were assessed by Dr Lisa Schölin to exclude irrelevant papers. The full text of each remaining article was reviewed by Dr Amy O'Donnell to determine eligibility. An electronic data abstraction form was used to extract specific study characteristics.

Results

We identified 235 titles, of which 10 underwent full text review. Of these, four studies met our inclusion criteria (1–3,30) and six studies were excluded (31–35) (see Figure 1). The findings from the four eligible studies are described narratively below, with data summarized in Table 2.

All included studies were based in primary care settings and covered a range of countries (UK, USA, Australia, Catalonia, Poland, Netherlands and Sweden). Study design varied. One eligible paper reported on a cluster randomized controlled trial to test different strategies aimed at increasing rates of screening and brief intervention delivery in routine practice (3). Another paper summarized the findings of a retrospective longitudinal study drawing on routine primary care data to evaluate the impact of a targeted incentive scheme (QOF+) on alcohol screening rates amongst a specific patient population (2). One study drew on a range of existing routine cost and prevalence data sources to model the cost-effectiveness of four different strategies to increase delivery of screening and brief interventions in Australia (30). The final included paper used mixed methods (interviews and documentary analysis) to assess the level of state Medicaid payments in place to support the delivery of screening and brief alcohol interventions in the USA (1).

Specific objectives were twofold:

- 1 To identify what payment systems have been introduced to support the delivery of screening and/or brief interventions for alcohol in primary care?
- 2 To assess what the evidence can tell us about the likely impact of these payment systems on ASBI delivery rates?

FIGURE 1
Flowchart for Review

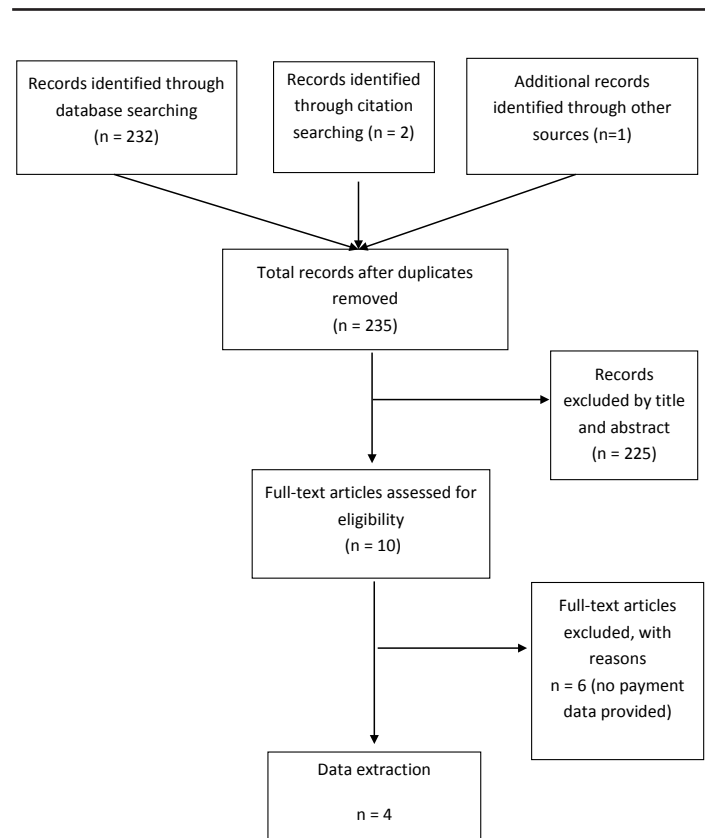


TABLE 1
PubMed search terms

Concept	Search Term
Drinking alcohol terms	Alcohol*[tiab] OR "Alcohol drinking"[mesh] OR "Alcohol induced disorders"[mesh] OR "Alcohol related disorders"[mesh] OR "Alcoholic intoxication"[mesh] OR Alcoholism[mesh] OR "Binge drinking"[mesh] OR Drinking[tiab] OR Ethanol[mesh]
Screening / brief interventions terms	((behavior*[tiab] OR behaviour*[tiab] OR brief[tiab] OR early[tiab] OR lifestyle[tiab] OR minimal[tiab] OR opportunistic[tiab] OR structured[tiab]) AND (advice[tiab] OR consultation[tiab] OR counseling[tiab] OR counselling[tiab] OR intervention*[tiab] OR screening[tiab] OR treatment[tiab])) OR "Harm Reduction"[Mesh] OR "harm reduction"[tiab] OR "Motivational Interviewing"[mesh] OR ((motivational[tiab] OR counseling[tiab] OR counselling[tiab]) AND (interview[tiab] OR intervention[tiab]))
Primary care terms	"Attitude of Health Personnel"[mesh] OR "community care"[tiab] OR "Community Health Services"[mesh] OR doctor[tiab] OR doctors[tiab] OR "family medicine"[tiab] OR "Family Practice"[mesh] OR "family practice"[tiab] OR "general practice"[tiab] OR "general practices"[tiab] OR "general practitioner"[tiab] OR "general practitioners"[tiab] OR "Patient Care Management"[Mesh] OR "Patient Care"[Mesh] OR Physician*[tiab] OR "Physician Incentive Plans"[mesh] OR "Physicians, Primary Care"[mesh] OR "Primary Care Nursing"[Mesh] OR "Primary Care"[tiab] OR "Primary Health Care"[mesh] OR "Primary Health Care"[tiab] OR "Primary Healthcare"[tiab]
Payment / remuneration terms	bonus*[tiab] OR "co-pay"[tiab] OR compensat*[tiab] OR contribution[tiab] OR "Employee Incentive Plans"[Mesh] OR "fee for"[tiab] OR "fee per"[tiab] OR fees[tiab] OR incentiv*[tiab] OR monet*[tiab] OR monetary[tiab] OR "P4P"[tiab] OR pay*[tiab] OR "performance based"[tiab] OR "Physician Incentive Plans"[mesh] OR "pre-pay"[tiab] OR profit*[tiab] OR "Prospective payment system"[mesh] OR "Reimbursement, Incentive"[mesh] OR reimburse*[tiab] OR remunerat*[tiab] OR "results based"[tiab] OR reward*[tiab]

TABLE 2
Summary of findings

Author(s), year	Aim, methods	Setting (country), No. participants	Incentive scheme, Payment level	Key findings
Shanahan et al, 2006 (30)	<p>Aim: To assess the relative cost effectiveness of four strategies (academic detailing, computerised reminder systems, target payments and interactive continuing medical education) to increase the provision of screening and brief interventions</p> <p>Methods: Cost-effectiveness study using economic modelling approach. Key outcomes of interest: change in annual alcohol consumption in grams and ICER (cost per standard drink avoided)</p>	Primary care (Australia), N/A (modelling based on full GP population n = 21, 671 GPs)	<p>Practice Incentive Programme (PIP) = one-off and / or annual payment paid to the practice for registering with a programme. Payment level is based on no. eligible patients enrolled in the practice. Study used AUS\$0.25¹ per enrolled patient for modelling purposes.</p> <p>Service Incentive Payments (SIP) = are paid for the provision of a specific service. Study used AUS\$10¹ per screen for modelling purposes (AUS\$5 and AUS\$15 for sensitivity analyses).</p>	<p>Targeted payments were the least efficient strategy to increase GPs provision of SBI, resulting in reduction of 45,618 grams alcohol per week with ICER of AUS\$691.</p> <p>This compared to computerised reminder system and academic detailing which resulted in reductions of 85,370 and 79,371 grams/alcohol, with an ICER of AUS\$91 and \$50 respectively.</p> <p>Limitations: modelling based on available cost and prevalence data; impact of single strategies only.</p>
Fussell et al, 2011 (1)	<p>Aim: To assess state Medicaid activity to implement Healthcare Common Procedure Code System Codes and pay for screening and brief intervention.</p>	Healthcare settings (USA), 37 interviews; 7 email correspondents.	<p>Medicaid reimbursement for delivery of screening and brief interventions for alcohol.</p> <p>State level payments ranged from \$20 in Iowa to \$116.60 in Alaska.</p>	No relevant findings – focus was on the coding for reimbursement as opposed to any impact on patient or provider outcomes.
	<p>Methods: Telephone interviews and email correspondence with Medicaid representatives plus web-based searches of Medicaid fee schedules.</p>			
Hamilton et al, 2013 (2)	<p>Aim: To assess the impact of a local pay-for-performance programme on delivery of ASBI in UK primary care.</p> <p>Methods: Longitudinal study using data from 2008 to 2011 with logistic regression to examine disparities in ASBI delivery.</p>	Primary care (London, UK), 30 general practices covering 211, 834 registered patients of which 45,040 were targeted by the incentive scheme.	<p>QOF+ incentivized participating practices to screen patients with cardiovascular conditions, mental health conditions and patients on the cardiovascular risk register.</p> <p>Practices were paid up to £5,607 for screening and delivering an intervention to all eligible patients.</p>	<p>QOF+ increased recorded screening rates in both eligible and non-eligible patients. No. of eligible patients with record of screening increased from 4.8% to 65.7%; non-eligible from 0.32% to 14.7%. (Both groups adjusted odds ratio (AOR) = 72.0, 95% CI 12.1-427.7, p<0.001; eligible patients only AOR 7.54, CI 5.67-10.01, p<0.001).</p> <p>Limitations: study design limits extent to which effects can be attributed to incentives alone.</p>
Anderson et al, 2016 (3)	<p>Aim: To test if training and support (TS), financial reimbursement (FR), and option of referring screen-positive patients to an internet-based method of giving advice (eBI) can increase primary health care providers' delivery of AUDIT-C based screening and advice to heavy drinkers.</p> <p>Design Cluster randomized factorial trial with 12-week implementation and measurement period. Primary outcome was proportion of eligible patients 18+ screened in 12 week period.</p>	Primary care (Catalonia, England, Netherlands, Poland & Sweden), 120 general practices (24 per country)	<p>Practices were paid for screening and advice activities during the 12-week implementation period. Incentive rates varied by country: Catalonia = max ceiling rate of €250 with fees calculated on average individual performance; England = max ceiling rate of €2200, with €6 per screening & €25 per advice; Netherlands = max ceiling rate €1250, with €9 per screening & €13.50 per advice; Sweden = max ceiling rate of €3300 with €2 per screening & €15 per advice.</p>	<p>Combination of TS + FR was most effective in increasing rate of screening patients for alcohol consumption. Ratio of logged proportion screened during 12 week period was: 1.48 (95% CI 1.13-1.95) for TS v no-TS; 2.00 (95% CI 1.56-2.56) for FR v no-FR; with e-BI not leading to any increase. TS + FR was 2.34 (95% CI 1.77-3.10); TS + FR + eBI was 1.68 (95% CI 1.11-2.53).</p> <p>Limitations: relied on volunteer practices which may not be representative; measured provider behavior outcomes rather than patient outcomes; relatively short time period of intervention; only covered patients 18+.</p>

¹ 2004 values

Appendix B



Remuneration for Alcohol Brief Interventions in Primary Care: A Scoping Study

**Dr Niamh Fitzgerald (University of Stirling), Dr Lisa Schölin (University of Stirling),
Dr Amy O'Donnell (Newcastle University)**

You are being invited to take part in a study of remuneration for brief interventions in primary care. Before you decide if you want to take part in the study it is important that you understand what the study is about. Please read the following information, and if you have any questions do not hesitate to contact the Principal Investigator (PI).

What is the purpose of the study?

The aim of this scoping study is to assess the availability and usefulness of data relating to remuneration and delivery rates for alcohol brief interventions in Scotland, in order to facilitate a rapid review of such data, and to inform future remuneration systems and further research on the use of payments to incentivise alcohol brief intervention delivery.

Why have I been invited to take part?

You have been invited to take part due to your experience and/or knowledge of primary care contracts and/or available data and financial incentives on alcohol brief interventions in Scotland.

Do I have to take part?

You decide if you want to take part in the study. If you choose to take part you will be asked to confirm that you give the researcher the right to use what you say for the purpose of this study.

What if I change my mind about taking part?

You can choose to withdraw from the study at any time without giving any reason for doing so.

What will taking part in this study involve?

If you choose to take part in the study, you will be interviewed by Niamh Fitzgerald or Lisa Schölin about your views on remuneration systems for alcohol screening and alcohol brief interventions. The interview will take approximately one hour and will be audio recorded with your permission.

What happens next?

If you decide to take part in the study, an interview will be scheduled on a time convenient for you. The interview can be conducted either in person or over telephone.

Will I benefit from taking part?

There are no direct benefits for you from taking part in this study, however the results will help inform further research in this area which can improve the delivery of alcohol brief interventions in primary care.

Are there any risks involved in taking part?

There are no anticipated risks with taking part in this study.

Will I be paid to take part?

No financial incentive will be provided for taking part in this study.

Will I be able to be identified from the results?

All data will be treated confidentially and the information you provide will be anonymised so that you cannot be identified.

What will happen to the results of the research study?

The findings from this study will provide insights into the data available on remuneration systems on alcohol screening and brief intervention. The results will be written up as a report to the funder and/or for peer reviewed publication or conference presentation. As this is a scoping study, the results will inform future discussions around payment for ABIs and future research.

Who is organising and funding the research? Who has approved the research?

This research has been approved by the School of Health Sciences Research Ethics Committee (SREC) at University of Stirling (SREC 15/16 - Paper No.49 - Version 1). The project is funded by the Scottish Health Action on Alcohol Problems (SHAAP).

For further information please contact one of the researchers below.

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Remuneration for Alcohol Brief Interventions in Primary Care: A Scoping Study

- Consent form -

**Dr Niamh Fitzgerald (University of Stirling), Dr Lisa Schölin (University of Stirling),
Dr Amy O'Donnell (Newcastle University)**

To be read out to participants for verbal consent

I have been provided information about the study and been given appropriate time to consider the information, ask questions, and have had any queries satisfactorily answered

I understand that I taking part in this study is voluntary and that I can choose to withdraw from the research at any time without having to give a reason for doing so and this will not affect my legal rights

I understand that any information I provide will be treated confidentially and anonymised

I agree to this interview being audio recorded

I understand that anonymised verbatim quotes may be used in publications resulting from this study

I agree to take part in the study

Date	Signature of researcher taking consent:
------	---

Topic Guide for Interviews

1 Please describe your current role and any previous role/responsibility/involvement in relation to financial incentives for alcohol brief interventions in primary care?

Prompts:

- a E.g. can you remember when you first started to work on this agenda? What was your role? How did it come about?

2 Going back to the initiation of alcohol brief interventions in your health board area/in Scotland, can you describe the establishment of related financial incentives?

Prompts:

- a What options were considered?
- b Who was involved in the discussions?
- c What incentive system was set up at that time?
- d How were any incentives contractually established?
- e What was the rationale for the decisions made?
- f What were your impressions of how the ABI initiative was perceived by others?

3 What data collection was established regarding ABIs?

Prompts:

- a What data was collected – data items, frequency of returns etc.? What was contractually required/not?
- b How was the data collected?
- c Who collected the data?
- d What support was provided to enable data collection? (training, printed guidance, computer templates)
- e What is your view on the quality of the data collected? Have any steps been taken to monitor/evaluate data quality?
- f What data is currently available? Who owns the data? What could be shared with researchers (under appropriate safeguards) for future analysis?

4 Did the financial incentives change over time? If so, how/why?

Prompts:

- a What led to the changes?
- b What incentive system was then established?
- c What was the rationale for the decisions made?
- d Were there any associated changes to the data collection? If so, repeat prompts for question 3.

5 What do you think of financial incentives for alcohol brief interventions and their impact?

Prompts:

- a Do they have their intended impact? In what circumstances?
- b What is the best level and structure for such incentives?
- c What, if any, are the unintended consequences of financial incentives? In what circumstances?

6 From all that you've mentioned, what would you pick out as the key lessons for others considering financial incentives for alcohol brief interventions in primary care settings?

7. Can we have a copy of any contracts, templates, and guidance materials provided?

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