National Institute for Health and Care Excellence

Final

Alcohol interventions in secondary and further education

[D] Cost-effectiveness review for universal and targeted interventions

NICE guideline NG135

Evidence reviews

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Final

These evidence reviews were developed by York Health Economics Consortium

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Contents

Universal classroom-based alcohol interventions (11-18 year olds) (RQ 1.1)

Review question

Review question 1.1 - What universal classroom-based alcohol interventions are effective and cost effective in children and young people aged 11 up to and including 18 years?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria.

Of these, the full-text papers of 31 studies were ordered and assessed for all the review questions (RQs) that have a cost-effectiveness element. Two studies were assessed as meeting the eligibility criteria for research question 1.1 (universal classroom-based interventions for 11-18 year olds). These are summarised in the health economic evidence profile in Appendix B: and the health economic evidence tables below in Table 2 and in Appendix C:.

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 1: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

1

Summary of studies included in the economic evidence review

Table 2: Summary of studies included in the economic evidence review for the classroom based alcohol interventions (11-18 year olds) – RQ 1.1

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Drost 2016 (The Netherlands) Population: Adolescents aged 15-19 years attending school Interventions: Web-based computer-tailored intervention (questionnaire plus game) [a]; Care as usual (CAU)[b] (questionnaire only)	Minor limitations [c]	Partially applicable [d]		Mean cost per student (SD) Health care perspective Web-based computer-tailored intervention: €139.16 (20.77) CAU: €127.45 (68.64) Societal perspective Intervention: €336.45 (53.31) CAU: €263.52 (70.70)	Reduction in weekly alcohol use (glasses) Web-based computer-tailored intervention: -0.78 CAU: -1.51 Reduction in binge drinking occasions Web-based computer-tailored intervention: 0.16 CAU: -0.33	Web-based computer-tailored intervention vs. CAU Health care perspective: €13.76 Societal perspective: €74.03	NR	ICER Health care perspective Per incremental reduction of 1 glass of alcohol per week: €40 Per binge drinking occasion per 30 days: €79 Societal perspective Per incremental reduction of one glass of alcohol per week: €62 Per binge drinking	Probabilistic analysis showed that for low WTP thresholds the probability of the web-based computer tailored intervention being cost-effective over CAU is higher from a health care perspective than it is from the societal perspective. The probability of the web-based computer tailored intervention being cost-effective does not differ much between the two perspectives for WTP thresholds greater than €500.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
								occasion per 30 days: €144	Subgroup analyses showed, from both perspectives and for both outcome measures, that the intervention was cost-effective for older adolescents (aged 17-19 years) and those at a lower educational level and, from a health care perspective, the male and nonreligious adolescent subgroups. The intervention was dominant in various scenarios.
Jones 2007 (UK) Population: Children/adolescents aged 11 to 14 years Interventions: School Health and Harm	Potentially serious limitations [h]	Partially applicable [i]	No decision model was used and treatment effect was evaluated over a 2-year time horizon from published studies that estimated the	Mean cost per student STARS for Families brief intervention: £20.30 SHAHRP: £31.16	Reduction of 30-day heavy use at 2 years [k] STARS: 3.7% Reduction of hazardous/ harmful	SHAHRP vs STARS: £22,969 SFA vs STARS: £107,966 SFA vs SHAHRP: £84,996 [n]	STARS vs SHAHRP: -89.21 STARS vs SFA: 6.09 SHAHRP vs SFA: 95.3 [n]	Average cost per case of hazardous/ harmful drinking averted STARS: £540.25 SHAHRP (20 months): £284.54	NR

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Reduction Programme (SHAHRP) [e]; Lion's Quest 'Skills for Adolescence' (SFA) [f]; Start Taking Alcohol Risks Seriously (STARS) for Families brief intervention [g] Comparator: There was no separate comparator/ control group for this analysis. Interventions were compared with each other.			impact of the programmes in the USA and Australia.	Lion's Quest SFA: £150.72 Total costs per programme [j] STARS: £5,075 SHAHRP: £28,044 SFA: £113,040.50	drinking at 20 months and 32 months [l] SHAHRP 11.0% (20 months) SHAHRP: 1.7% (32 months) Reduction of binge drinking [m] SFA: 0.44% Number of avoided cases [n]: STARS: 9.39 SHAHRP (at 20 months): 98.9 SFA: 3.3			SHAHRP (32 months): £1,869 Lion's Quest SFA: £34,254 Incremental cost per case avoided SHAHRP vs STARS: £257.47 SFA was dominated by both STARS and SHAHRP	

CAU: care as usual; ICER: incremental cost-effectiveness ratio; NR: not reported; SD: standard deviation; SFA: Skills for Adolescence; SHAHRP: School Health and Harm Reduction Programme; STARS: Start Taking Alcohol Risks Seriously; WTP: willingness to pay

(a) At baseline, students completed a Web-based questionnaire during a school lesson, on the Alcoholic Alert website, the participants entered a game called "Watskeburt" (Dutch slang for "What Happened?!"). In the game, the participant played a character whose goal it was to find out what happened after a night of heavy drinking. Participants received in-game questions concerning alcohol-related sociocognitive factors, including attitude, social influences, self-efficacy expectations, and action plans toward alcohol drinking. A week later, participants were asked to revisit the intervention website to answer questions about their drinking behaviour during the preceding week and then they received computer-tailored feedback on their alcohol use with comparisons to Dutch

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty

drinking guidelines. Participants were also asked whether they had an upcoming event (e.g. party or wedding) in which they were then challenged to drink less than usual. An email, with a reminder of accepting the challenge, was sent to them a day before the event. After the event, they were asked to visit the intervention website and fill in their alcohol use. If the challenge had been failed, they received computer-tailored feedback with tailored advice and had the opportunity to take on a new challenge. If the participant met the challenge, he or she received congratulations and the intervention was completed.

(b) Participants receiving care as usual filled in the Web-based questionnaire on the Alcoholic Alert website at T0 (baseline) and T1, but they did not have access to the "Watskeburt" game and did not receive computer-tailored feedback until after the final measurement.

(c) The study relied on a sound and robust technology. Sources of data were clearly stated and details of results were reported. The issue of uncertainty was extensively investigated.

(d) The study was carried out in The Netherlands, but the type of programme and the target population appear comparable to the UK setting. The economic analysis considered both the perspectives of the health care system and the society (the former is applicable to the UK context).

(e) SHARHP uses education, skills training, small-group decision making, and discussion and activities to encourage positive behavioural change as a result of a better understanding of the negative outcomes of drinking. It is delivered in two phases, over two academic years, in classrooms by trained teachers.

(f) SFA was a classroom curriculum-based program delivered daily, two to three times per week, or weekly depending on the implementation model. The learning model employs inquiry, presentation, discussion, group work, guided practice, and reflection to build positive social behaviours of self-discipline, responsibility, good judgment, and respect for self and others.

(g) STARS for families was a school-based prevention program designed to prevent alcohol use among adolescents. The curriculum includes consultation with nurses and mailed postcards to the adolescent's home.

(h) None of the programmes identified for inclusion in the cost-effectiveness analyses were based in the UK and therefore their impact in the UK setting should be considered in the future with UK studies. The outcomes of each programme (definition of heavy drinking) were slightly different and cannot be compared to each other. No attempt was made to evaluate the impact of cases of heavy drinking avoided in the long-term. No sensitivity analyses were conducted.

(i) UK costs were used for the economic analysis of the interventions, however effectiveness data were obtained from US and Australian studies and the effects of the programmes in the UK population is unknown.

(j) Assuming cohort sizes of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.

(k) Defined as consuming 5 or more drinks in a row during the last 30 days.

(l) Defined as consuming 2 (females) or 4 (males) or more drinks in a row during the last 30 days.

(m) Defined as consuming 3 or more drinks in a row during the last 30 days.

(n) Assuming a cohort size of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.

Evidence statements

- One cost-effectiveness analysis (Drost, 2016) found that a web-based computer-tailored intervention (questionnaire plus game) for reducing alcohol use and binge drinking in adolescents was more costly and more effective in comparison with care as usual (questionnaire only), from both health care and societal perspectives. The intervention might be cost-effective, especially if targeted at specific subgroups. This analysis was assessed as partially applicable to the review question, with minor study limitations.
- One review and cost-effectiveness analysis (Jones, 2007) analysed 3 alcohol use prevention and/or reduction programmes. STARS for Families and SHAHRP were less costly and more beneficial than Lions Quest SFA. Compared to STARS for Families, SHAHRP cost an additional £257.47 to prevent one additional case of hazardous/harmful drinking. This analysis was assessed as partially applicable to the review question, with potentially serious study limitations.

Universal school-based (outside of the classroom) alcohol interventions (11-18 year olds) (RQ 1.2)

Review question

Review question 1.2 - What universal school-based (outside of the classroom) alcohol interventions are effective and cost effective in children and young people aged 11 up to and including 18 years?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. Of these the full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. Two studies were assessed as meeting the eligibility criteria for research question 1.2 (universal interventions outside if the classroom for 11-18 year olds).

These are summarised in the health economic evidence profile in Appendix B: and the health economic evidence tables below in Table 4 and in Appendix C:.

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:

Table 3: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

Table 4: Summary of studies included in the economic evidence review for school-based (outside of classrooms) alcohol interventions (11-18 year olds) – RQ 1.2

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Drost 2016 (The Netherlands) Population: Adolescents aged 15-19 years attending school Interventions: Web-based computer-tailored intervention (questionnaire plus game) [a]; Care as usual (CAU) [b] (questionnaire only)	Minor limitations [c]	Partially applicable [d]		Mean cost per student (SD) Health care perspective Web-based computer-tailored intervention: €139.16 (20.77) CAU: €127.45 (68.64) Societal perspective Intervention: €336.45 (53.31)	Reduction in weekly alcohol use (glasses) Web-based computer-tailored intervention: -0.78 CAU: -1.51 Reduction in binge drinking occasions Web-based computer-tailored intervention: 0.16 CAU: -0.33	Web-based computer-tailored intervention vs. CAU Health care perspective: €13.76 Societal perspective: €74.03	NR	ICER Health care perspective Per incremental reduction of 1 glass of alcohol per week: €40 Per binge drinking occasion per 30 days: €79 Societal perspective Per incremental reduction of one glass of	The probabilistic analysis showed that for low WTP thresholds the probability of the web-based computer tailored intervention being cost-effective over CAU is higher from a health care perspective than it is from the societal perspective. The probability of the web-based computer tailored intervention being cost-effective does not differ much between the two perspectives for WTP thresholds

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
				CAU: €263.52 (70.70)				alcohol per week: €62 Per binge drinking occasion per 30 days: €144	greater than €500. Subgroup analyses showed, from both perspectives and for both outcome measures, that the intervention was cost-effective for older adolescents (aged 17-19 years) and those at a lower educational level and, from a health care perspective, the male and nonreligious adolescent subgroups. The intervention was dominant in various scenarios.
Jones 2007 (UK)	Potentially serious limitations [h]	Partially applicable [i]	No decision model was used and treatment	Mean cost per student	Reduction of 30-day heavy use at 2 years [k]	SHAHRP vs STARS: £22,969	STARS vs SHAHRP: -89.21	Average cost per case of hazardous/ harmful	NR

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Population: Children/adolescents aged 11 to 14 years Interventions: School Health and Harm Reduction Programme (SHAHRP) [e]; Lion's Quest 'Skills for Adolescence' (SFA) [f]; Start Taking Alcohol Risks Seriously (STARS) for Families brief intervention [g] Comparator: There was no separate comparator/control group for this analysis, interventions were			effect was evaluated over a 2-year time horizon from published studies that estimated the impact of the programmes in the USA and Australia.	STARS for Families brief intervention: £20.30 SHAHRP: £31.16 Lion's Quest SFA: £150.72 Total costs per programme [j] STARS: £5,075 SHAHRP: £28,044 SFA: £113,040.50	STARS: 3.7% Reduction of hazardous/ harmful drinking at 20 months and 32 months [l] SHAHRP 11.0% (20 months) SHAHRP: 1.7% (32 months) Reduction of binge drinking [m] SFA: 0.44% Number of avoided cases [n]: STARS: 9.39	SFA vs STARS: £107,966 SFA vs SHAHRP: £84,996 [n]	STARS vs SFA: 6.09 SHAHRP vs SFA: 95.3 [n]	drinking averted STARS: £540.25 SHAHRP (20 months): £284.54 SHAHRP (32 months): £1,869 Lion's Quest SFA: £34,254 Incremental cost per case avoided SHAHRP vs STARS: £257.47 SFA was dominated by both STARS and SHAHRP	

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
compared with each other.					SHAHRP (at 20 months): 98.9 SFA: 3.3				

CAU: care as usual; ICER: incremental cost-effectiveness ratio; NR: not reported; SD: standard deviation; SFA: Skills for Adolescence; SHAHRP: School Health and Harm Reduction Programme; STARS: Start Taking Alcohol Risks Seriously; WTP: willingness to pay

(a) At baseline, students completed a Web-based questionnaire during a school lesson on the Alcoholic Alert website, the participants entered a game called "Watskeburt" (Dutch slang for "What Happened?!"). In the game, the participant played a character whose goal it was to find out what happened after a night of heavy drinking. Participants received in-game questions concerning alcohol-related sociocognitive factors, including attitude, social influences, self-efficacy expectations, and action plans toward alcohol drinking. A week later, participants were asked to revisit the intervention website to answer questions about their drinking behaviour during the preceding week and then they received computer-tailored feedback on their alcohol use with comparisons to Dutch drinking guidelines. Participants were also asked whether they had an upcoming event (e.g. party or wedding) in which they were then challenged to drink less than usual. An email, with a reminder of accepting the challenge, was sent to them a day before the event. After the event, they were asked to visit the intervention website and fill in their alcohol use. If the challenge had been failed, they received computer-tailored feedback with tailored advice and had the opportunity to take on a new challenge. If the participant met the challenge, he or she received congratulations and the intervention was completed.

(b) Participants receiving care as usual filled in the Web-based questionnaire on the Alcoholic Alert website at T0 (baseline) and T1, but they did not have access to the "Watskeburt" game and did not receive computer-tailored feedback until after the final measurement.

(c) The study relied on a sound and robust technology. Sources of data were clearly stated and details of results were reported. The issue of uncertainty was extensively investigated.

(d) The study was carried out in The Netherlands, but the type of programme and the target population appear comparable to the UK setting. The economic analysis considered both the perspectives of the health care system and the society (the former is applicable to the UK context).

(e) SHARHP uses education, skills training, small-group decision making, and discussion and activities to encourage positive behavioural change as a result of a better understanding of the negative outcomes of drinking. It is delivered in two phases, over two academic years, in classrooms by trained teachers.

(f) SFA was a classroom curriculum-based program delivered daily, two to three times per week, or weekly depending on the implementation model. The learning model employs inquiry, presentation, discussion, group work, guided practice, and reflection to build positive social behaviours of self-discipline, responsibility, good judgment, and respect for self and others.

(g) STARS for families was a school-based prevention program designed to prevent alcohol use among adolescents. The curriculum includes consultation with nurses and mailed postcards to the adolescent's home.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty

(h) None of the programmes identified for inclusion in the cost-effectiveness analyses were based in the UK and therefore their impact in the UK setting should be considered in the future with UK studies. The outcomes of each programme (definition of heavy drinking) were slightly different and cannot be compared to each other. No attempt was made to evaluate the impact of cases of heavy drinking avoided in the long-term. No sensitivity analyses were conducted.

(i) UK costs were used for the economic analysis of the interventions, however effectiveness data were obtained from US and Australian studies and the effects of the programmes in the UK population is unknown.

(j) Assuming cohort sizes of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.

(k) Defined as consuming 5 or more drinks in a row during the last 30 days.

(l) Defined as consuming 2 (females) or 4 (males) or more drinks in a row during the last 30 days.

(m) Defined as consuming 3 or more drinks in a row during the last 30 days.

(n) Assuming a cohort size of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.

Evidence statements

- One cost-effectiveness analysis (Drost, 2016) found that a web-based computer-tailored intervention (questionnaire plus game) for reducing alcohol use and binge drinking in adolescents was more costly and more effective in comparison with care as usual (questionnaire only), from both health care and societal perspectives. The intervention might be cost-effective, especially if targeted at specific subgroups. This analysis was assessed as partially applicable to the review question with minor study limitations.
- One review and cost-effectiveness analysis (Jones, 2007) analysed 3 alcohol use prevention and reduction programmes. STARS for Families and SHAHRP were less costly and more beneficial than Lions Quest SFA. Compared to STARS for Families, SHAHRP cost an additional £257.47 to prevent one additional case of hazardous/harmful drinking. This analysis was assessed as partially applicable to the review question with potentially serious study limitations.

Universal school-based multi-component alcohol interventions (11-18 year olds) (RQ 1.3)

Review question

Review question 1.3 - What universal school-based multi-component alcohol interventions that include additional components such as family and community activities are effective and cost effective in children and young people aged 11 up to and including and 18 years?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. .Of these he full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. One study was assessed as meeting the eligibility criteria for research question 1.3 (universal multi-component interventions for 11-18 year olds).

This is summarised in the health economic evidence profile in Appendix B: and the health economic evidence tables below in Table 6 and in Appendix C:

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 5: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

Table 6: Summary of studies included in the economic evidence review for universal school-based multi-component alcohol interventions (11-18 year olds) – RQ 1.3

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Sumnall 2017 (UK) Population: Children/ adolescents aged 12 to 13 years in the secondary school setting Interventions: School-based alcohol harm reduction and parental intervention: The Steps Towards Alcohol Misuse Prevention Programme (STAMPP), which combined a	Minor limitations [b]	Applicable [c]		Delivery of STAMPP Mean cost per pupil: £15 Mean cost per school: £818 Mean total costs of pupils' use of public services over the study period (33 months) (95% CI) STAMPP (n=4,256): £2,307.06	Self-reported heavy episode drinking (HED) [d] Percentage of pupils with no HED at baseline STAMPP: 92.2% EAN: 92.4% Percentage of pupils with no HED at 33 months	STAMPP, after follow-up, was cost saving: –£17.19	Prevalence of HED at 33 months follow-up EAN: 26% STAMPP: 17%	Basecase: STAMPP was dominant There was a small cost saving associated with STAMPP (–£17.19) and a significantly greater proportion of pupils experiencing a HED avoided (0.07 or 7%). STAMPP was cost-saving and was beneficial in reducing HED. In this situation, the negative ICER is not	When willingness-to-pay (WTP) per HED avoided thresholds ranged from £0 to £800, the probability of STAMPP being cost-effective vs EAN ranged from 55% to 67%. Uncertainty in the cost-effectiveness of the intervention remained substantial until much higher WTP values, with an 80% probability being displayed at a WTP of £2000.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
school-based alcohol harm reduction curriculum and a brief parental intervention that was designed to support parents/carers in setting family rules around drinking. [a] Comparator: Education as normal (EAN)				(1,989.24 to 2,624.88) EAN (n=4,103): £2,292.11 (1,969.06 to 2,615.15)	STAMPP: 83.0% EAN: 74.4% Percentage of pupils with no HED at 33 months (excluding non-drinkers at baseline) STAMPP: 64.5% EAN: 50.5% No drinking harms at 33 months follow-up STAMPP: 37.6%			calculated, as its magnitude has no meaning. STAMPP has weak dominance over EAN as the difference in costs was not statistically different.	

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
					EAN: 32.3%				

EAN: education as normal; HED: heavy episode drinking; ICER: incremental cost-effectiveness ratio; NR: not reported; SD: standard deviation; STAMPP: The Steps Towards Alcohol Misuse Prevention Programme; WTP: willingness to pay

(a) The STAMPP programme rationale was that stricter parental/carer rules and attitudes towards alcohol would reinforce learning and skills development in the classroom. The classroom component was the School Health and Alcohol Harm Reduction Project (SHAHRP) which combined a harm reduction philosophy with skills training, education and activities designed to encourage positive behavioural change. It was a curriculum-based programme that was delivered in two phases over a 2-year period. The intervention was interactive, and was developmentally and experientially relevant to recipients' drinking trajectories. The brief intervention delivered to intervention pupils' parent(s)/carer(s) comprised a short, standardised presentation delivered by a trained facilitator (independent of the trial team) at specially arranged evenings on school premises. The presentation included an overview of the Chief Medical Officer's 2009 guidelines for drinking in childhood, information on alcohol prevalence in young people, corrected (under)estimates of youth drinking rates and highlighted the importance of setting strict family rules around alcohol. The presentation was followed by a brief discussion on setting and implementing authoritative family rules on alcohol. All intervention pupils' parents/carers were followed up by a mailed leaflet, whether or not they attended the parents' evening, which provided a summary of the key information delivered in the evening and coincided with phase 2 of the classroom intervention.

(b) The study relied on a sound and robust clinical study. Sources of data were clearly stated and details of results were reported. The issue of uncertainty was extensively investigated. Impact on quality of life was not considered.

(c) The study was conducted in Northern Ireland and Scotland.

(d) Defined as the self-reported number of occasions in the previous 30 days on which male students consumed ≥ 6 units of alcohol or female students consumed ≥ 4.5 units in a single episode.

Evidence statements

- One cost-effectiveness analysis (Sumnall, 2017) assessed a combined school-based and parental intervention (The Steps Towards Alcohol Misuse Prevention Programme: STAMPP) to reduce self-reported alcohol use for school adolescents aged 12 to 13 years. The results provide some support for the cost-effectiveness of STAMPP in reducing heavy episodic (binge) drinking, but not for reducing self-reported alcohol-related harms. This analysis was assessed as applicable to the review question with minor limitations.

School-based targeted alcohol interventions and pastoral support (11-18 year olds) (RQ 2.1)

Review question

Review question 2.1 - What school-based targeted1 alcohol interventions and pastoral support are effective and cost effective in children and young people aged 11 up to and including 18 years?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria Of these, the full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. One study was assessed as meeting the eligibility criteria for research question 2.1 (targeted interventions for 11-18 year olds).

This is summarised in the health economic evidence profile in Appendix B: and the health economic evidence tables below in Table 8 and in Appendix C:.

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 7: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

Table 8: Summary of studies included in the economic evidence review for school-based targeted alcohol interventions and pastoral support (11-18 year olds) – RQ 2.1

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Newbury-Birch 2018 (UK) Population: Teenagers aged 14-15 in the school setting Interventions: Alcohol screening and brief motivational intervention plus educational leaflet [a]. Standard usual practice: a healthy lifestyles	Potentially serious limitations [b]	Partially applicable [c]	Many methodological details, especially on the economic analysis, were lacking in this "first look" summary document. The authors had doubts as to whether any cost savings were real or an artefact of imprecise cost data.	NR	Total number of standard drinks consumed (units), [d] in the last 28 days, as measured using the 28-day Timeline Follow-Back Intervention (median): 7.3 Usual practice (median): 7.7	Brief intervention vs. usual practice Average annual net cost saving: £1,324 (95% CI: -£5,277, £1,727)	Brief intervention vs. usual practice Difference in median total units of alcohol in past 28 days: 0.8 (95% CI -2.5 to 4.0) The difference was not statistically significant	NR	The authors stated that there was a 77% probability of the brief intervention being cost-effective compared with usual practice. A stochastic analysis was presumably conducted but not described.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
information leaflet only									

CI: confidence interval; NR: not reported

(a) A 30-minute one-to-one structured intervention session based on motivational interviewing principles with a member of trained school staff (learning mentor) and given an alcohol leaflet.

(b) The study is based on a randomised controlled trial that should ensure high internal validity. However, very little information about the economic analysis is reported in this "first look" summary.

(c) The study was conducted in North East, North West, South East and London, England, but the precise cost and economic evaluation methodology are not well reported in this summary document.

(d) Where one standard drink equates to eight grams of pure ethanol.

Evidence statements

One cost-effectiveness analysis (Newbury-Birch, 2018), assessed alcohol screening on alcohol issues, conducted by learning mentors, in risky drinkers aged 14 to 15 years, compared to standard usual practice. The intervention had a 77% probability of being cost-effective compared with usual practice. This analysis was assessed as partially applicable to the review question, with potentially serious study limitations.

Universal classroom-based alcohol programmes (18-25 year olds with SEND) (RQ 3.1)

Review question

Review question 3.1 - What universal classroom-based alcohol programmes are effective and cost effective among young people aged 18 up to and including 25 years with SEND?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. .

Of these, the full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. No studies were assessed as meeting the eligibility criteria for research question 3.1 (universal classroom-based interventions for young people with SEND aged 18-25 years).

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 9: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

No eligible economic studies were identified.

Evidence statements

No eligible studies were identified.

Universal school-based (outside the classroom) alcohol interventions (18-25 year olds with SEND) (RQ 3.2)

Review question

Review question 3.2 - What universal school-based (outside the classroom) alcohol interventions are effective and cost effective among young people aged 18 up to and including 25 years with SEND?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. Of these, the full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. No studies were assessed as meeting the eligibility criteria for research question 3.2 (universal interventions based outside the classroom for young people with SEND aged 18-25 years. One reviewer assessed all of the full texts and a second reviewer blind-screened 10%. The level of agreement between the two reviewers was 100%.

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 10: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

No eligible economic studies were identified.

Evidence statements

No eligible studies were identified.

Universal school-based multi-component alcohol interventions (18-25 year olds with SEND) (RQ 3.3)

Review question

Review question 3.3 - What universal school-based multi-component alcohol interventions that include additional components such as family and community activities are effective and cost effective among young people aged 18 up to and including 25 years with SEND?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. Of these, the full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. No studies were assessed as meeting the eligibility criteria for research question 3.3 9universal multi-component intervention for young people with SEND aged 18-25 years).

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 11: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	2
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

No eligible economic studies were identified.

Evidence statements

No eligible studies were identified.

School-based targeted alcohol interventions and pastoral support (18-25 year olds with SEND) (RQ 4.1)

Review question

Review question 4.1 - What school-based targeted alcohol interventions and pastoral support are effective and cost effective among young people aged 18 up to and including 25 years with SEND?

Economic evidence

Included studies

In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. In total 865 records were identified through systematic searches and were assessed against the eligibility criteria. Of these, the full-text papers of 31 studies were ordered and assessed for all the RQs that have a cost-effectiveness element. No studies were assessed as meeting the eligibility criteria for research question 4.1 (targeted interventions for young people with SEND aged 18-25 years).

Excluded studies

27 full text studies were excluded for the whole review. The studies and the reasons for their exclusion are listed in Appendix B:.

Table 12: Summary of economic study selection across guideline

Stage of selection	Number of studies
Screened	865
Ordered	31
Excluded	27
Included (guideline-wide)	4
RQ 1.1 Universal classroom (11-18 years)	2
RQ 1.2 Universal outside the classroom (11-18 years)	0
RQ 1.3 Universal multicomponent (11-18 years)	1
RQ 2.1 Targeted (11-18 years)	1
RQ 3.1 Universal classroom (18-25 years SEND)	0
RQ 3.2 Universal outside the classroom (18-25 years SEND)	0
RQ 3.3 Universal multicomponent (18-25 years SEND)	0
RQ 4.1 Targeted (18-25 years SEND)	0

Summary of studies included in the economic evidence review

No eligible economic studies were identified.

Evidence statements

No eligible studies were identified.

References

1. Drost RMWA, Paulus ATG, Jander AF, Mercken L, de Vries H, Ruwaard D*, et al.* A web-based computer-tailored alcohol prevention program for adolescents: Cost-effectiveness and intersectoral costs and benefits. J Med Internet Res. 2016;18(4):e93.

2. Jones L, James M, Jefferson T, Lushey C, Morleo M, Stokes E*, et al.* A review of the effectiveness and cost-effectiveness of interventions delivered in primary and secondary schools to prevent and/or reduce alcohol use by young people under 18 years old. Liverpool: National Collaborating Centre for Drug Prevention; 2007. Available from: https://www.nice.org.uk/guidance/ph7/evidence/effectiveness-and-cost-effectivenessreview-pdf-369704701.

3. Sumnall H, Agus A, Cole J, Doherty P, Foxcroft D, Harvey S*, et al.* Steps Towards Alcohol Misuse Prevention Programme (STAMPP): a school- and community-based cluster randomised controlled trial. Southampton: Public Health Research; 2017. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28406601.

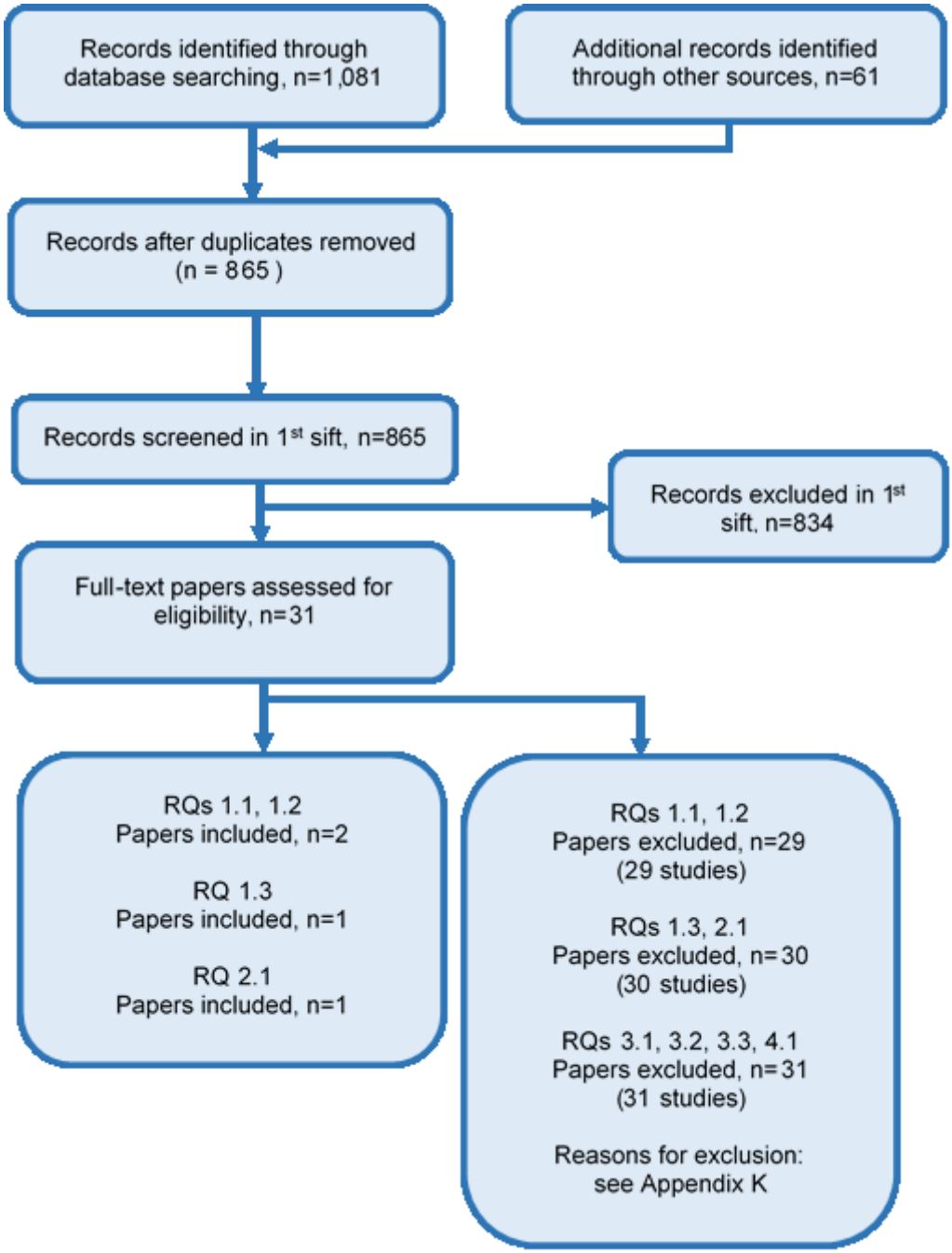
4. Newbury-Birch D, Scott S, O'Donnell A, Coulton S, Howel D, McColl E*, et al.* A pilot feasibility cluster randomised controlled trial of screening and brief alcohol intervention to prevent hazardous drinking in young people aged 14-15 years in a high school setting (SIPS JR-HIGH). Southampton: National Institute for Health Research; 2014. Available from: https://www.ncbi.nlm.nih.gov/pubmed/25642576.

Appendices

Appendix A: Economic evidence study selection

The following flowchart shows the record selection process for all eight review questions.

Flow chart of economic evidence study selection for the guideline



Appendix B: Economic evidence tables

B.1 Summary of studies included in the economic evidence review for the school and college based alcohol interventions for RQ 1.1 and 1.2

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Drost 2016 (The Netherlands) Population: Adolescents aged 15-19 years attending school Interventions: Web-based computer-tailored intervention (questionnaire plus game) [a]; Care as usual (CAU) [b] (questionnaire only)	Minor limitations [c]	Partially applicable [d]		Mean cost per student (SD) Health care perspective Web-based computer-tailored intervention: €139.16 (20.77) CAU: €127.45 (68.64) Societal perspective Intervention: €336.45 (53.31)	Reduction in weekly alcohol use (glasses) Web-based computer-tailored intervention: -0.78 CAU: -1.51 Reduction in binge drinking occasions Web-based computer-tailored	Web-based computer-tailored intervention vs. CAU Health care perspective: €13.76 Societal perspective: €74.03	NR	ICER Health care perspective Per incremental reduction of 1 glass of alcohol per week: €40 Per binge drinking occasion per 30 days: €79 Societal perspective Per incremental reduction of one glass of	The probabilistic analysis showed that for low WTP thresholds the probability of the web-based computer tailored intervention being cost-effective over CAU is higher from a health care perspective than it is from the societal perspective. The probability of the web-based computer tailored intervention being cost-effective does not differ much between the two

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
				CAU: €263.52 (70.70)	intervention : 0.16 CAU: -0.33			alcohol per week: €62 Per binge drinking occasion per 30 days: €144	perspectives for WTP thresholds greater than €500. Subgroup analyses showed, from both perspectives and for both outcome measures, that the intervention was cost-effective for older adolescents (aged 17-19 years) and those at a lower educational level and, from a health care perspective, the male and nonreligious adolescent subgroups. The intervention was dominant in various scenarios.
Jones 2007 (UK)	Potentially serious limitations [h]	Partially applicable [i]	No decision model was used and	Mean cost per student	Reduction of 30-day	SHAHRP vs STARS: £22,969	STARS vs SHAHRP: -89.21	Average cost per case of hazardous/	NR

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Population: Children/adolescents aged 11 to 14 years Interventions: School Health and Harm Reduction Programme (SHAHRP) [e]; Lion's Quest 'Skills for Adolescence' (SFA) [f]; Start Taking Alcohol Risks Seriously (STARS) for Families brief intervention [g] Comparator: There was no separate comparator/control group for this analysis, interventions were compared with each other.			treatment effect was evaluated over a 2-year time horizon from published studies that estimated the impact of the programmes in the USA and Australia.	STARS for Families brief intervention: £20.30 SHAHRP: £31.16 Lion's Quest SFA: £150.72 Total costs per programme [j] STARS: £5,075 SHAHRP: £28,044 SFA: £113,040.50	heavy use at 2 years [k] STARS: 3.7% Reduction of hazardous/ harmful drinking at 20 months and 32 months [l] SHAHRP 11.0% (20 months) SHAHRP: 1.7% (32 months) Reduction of binge drinking [m] SFA: 0.44% Number of avoided cases [n]: STARS: 9.39	SFA vs STARS: £107,966 SFA vs SHAHRP: £84,996 [n]	STARS vs SFA: 6.09 SHAHRP vs SFA: 95.3 [n]	harmful drinking averted STARS: £540.25 SHAHRP (20 months): £284.54 SHAHRP (32 months): £1,869 Lion's Quest SFA: £34,254 Incremental cost per case avoided SHAHRP vs STARS: £257.47 SFA was dominated by both STARS and SHAHRP	

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
					SHAHRP (at 20 months): 98.9 SFA: 3.3				

CAU: care as usual; ICER: incremental cost-effectiveness ratio; NR: not reported; SD: standard deviation; SFA: Skills for Adolescence; SHAHRP: School Health and Harm Reduction Programme; STARS: Start Taking Alcohol Risks Seriously; WTP: willingness to pay

(a) At baseline, students completed a Web-based questionnaire during a school lesson on the Alcoholic Alert website, the participants entered a game called "Watskeburt" (Dutch slang for "What Happened?!"). In the game, the participant played a character whose goal it was to find out what happened after a night of heavy drinking. Participants received in-game questions concerning alcohol-related sociocognitive factors, including attitude, social influences, self-efficacy expectations, and action plans toward alcohol drinking. A week later, participants were asked to revisit the intervention website to answer questions about their drinking behaviour during the preceding week and then they received computer-tailored feedback on their alcohol use with comparisons to Dutch drinking guidelines. Participants were also asked whether they had an upcoming event (e.g. party or wedding) in which they were then challenged to drink less than usual. An email, with a reminder of accepting the challenge, was sent to them a day before the event. After the event, they were asked to visit the intervention website and fill in their alcohol use. If the challenge had been failed, they received computer-tailored feedback with tailored advice and had the opportunity to take on a new challenge. If the participant met the challenge, he or she received congratulations and the intervention was completed.

(b) Participants receiving care as usual also filled in the web-based questionnaire at T0 (baseline) and T1, but they did not have access to the game and did not receive computer-tailored feedback until after the final measurement.

(c) The study relied on a sound and robust technology. Sources of data were clearly stated and details of results were reported. The issue of uncertainty was extensively investigated.

(d) The study was carried out in The Netherlands, but the type of programme and the target population appear comparable to the UK setting. The economic analysis considered both the perspectives of the health care system and the society (the former is applicable to the UK context).

(e) SHARHP uses education, skills training, small-group decision making, and discussion and activities to encourage positive behavioural change as a result of a better understanding of the negative outcomes of drinking. It is delivered in two phases, over two academic years, in classrooms by trained teachers.

(f) SFA was a classroom curriculum-based program delivered daily, two to three times per week, or weekly depending on the implementation model. The learning model employs inquiry, presentation, discussion, group work, guided practice, and reflection to build positive social behaviours of self-discipline, responsibility, good judgment, and respect for self and others.

(g) STARS for families was a school-based prevention program designed to prevent alcohol use among adolescents. The curriculum includes consultation with nurses and mailed postcards to the adolescent's home.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty

(h) None of the programmes identified for inclusion in the cost-effectiveness analyses were based in the UK and therefore their impact in the UK setting should be considered in the future with UK studies. The outcomes of each programme (definition of heavy drinking) were slightly different and cannot be compared to each other. No attempt was made to evaluate the impact of cases of heavy drinking avoided in the long-term. No sensitivity analyses were conducted.

(i) UK costs were used for the economic analysis of the interventions, however effectiveness data were obtained from US and Australian studies and the effects of the programmes in the UK population is unknown.

(j) Assuming cohort sizes of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.

(k) Defined as consuming 5 or more drinks in a row during the last 30 days.

(l) Defined as consuming 2 (females) or 4 (males) or more drinks in a row during the last 30 days.

(m) Defined as consuming 3 or more drinks in a row during the last 30 days.

(n) Assuming a cohort size of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.

B.2 Summary of studies included in the economic evidence review for school-based targeted alcohol interventions and pastoral support (11-18 year olds) – RQ 2.1

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Newbury-Birch 2018 (UK) Population: Young people aged 14-15 in the school setting Interventions: Alcohol screening and	Potentially serious limitations [b]	Partially applicable [c]	Many methodological details, especially on the economic analysis, were lacking in this "first look" summary document.	NR	Total number of standard drinks consumed (units), [d] in the last 28 days, as measured using the 28-day Timeline	Brief intervention vs usual practice Average annual net cost saving: £1,324 (95% CI: -£5,277, £1,727)	Brief intervention vs usual practice Difference in median total units of alcohol in past 28 days: 0.8 (95% CI -2.5 to 4.0)	NR	The authors stated that there was a 77% probability of the brief intervention being cost-effective compared with usual practice. A stochastic analysis was presumably

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
brief motivational intervention plus educational leaflet [a]; Standard usual practice: a healthy lifestyles information leaflet only			The authors had doubts as to whether any cost savings were real or an artefact of imprecise cost data.		Follow-Back Intervention (median): 7.3 Usual practice (median): 7.7		The difference was not statistically significant		conducted but not described.

CI: confidence interval; NR: not reported

(a) A 30-minute one-to-one structured intervention session based on motivational interviewing principles with a member of trained school staff (learning mentor) and given an alcohol leaflet.

(b) The study is based on a randomised controlled trial that should ensure high internal validity. However, very little information about the economic analysis is reported in this "first look" summary.

(c) The study was conducted in North East, North West, South East and London, England. The precise cost and economic evaluation methodology are not well reported in this summary document.

(d) Where one standard drink equates to eight grams of pure ethanol.

B.3 Summary of studies included in the economic evidence review for universal school-based multi-component alcohol interventions (11-18 year olds) – RQ 1.3

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Sumnall 2017 (UK)	Minor limitations [b]	Applicable [c]		Delivery of STAMPP	Self-reported heavy	STAMPP, after follow-up, was	Prevalence of HED at 33	Basecase: STAMPP was dominant	When willingness-to-pay (WTP) per HED avoided

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
Population: Children/ adolescents aged 12 to 13 years in the secondary school setting Interventions: School-based alcohol harm reduction and parental intervention: The Steps Towards Alcohol Misuse Prevention Programme (STAMPP), which combined a school-based alcohol harm reduction curriculum and a brief parental intervention that was designed to support parents/carers				Mean cost per pupil: £15 Mean cost per school: £818 Mean total costs of pupils' use of public services over the study period (33 months) (95% CI) STAMPP (n=4,256): £2,307.06 (1,989.24 to 2,624.88) EAN (n=4,103): £2,292.11 (1,969.06 to 2,615.15)	episode drinking (HED) [d] Percentage of pupils with no HED at baseline STAMPP: 92.2% EAN: 92.4% Percentage of pupils with no HED at 33 months STAMPP: 83.0% EAN: 74.4% Percentage of pupils with no HED at 33 months (excluding non-	cost saving: –£17.19	months follow-up EAN: 26% STAMPP: 17%	There was a small cost saving associated with STAMPP (–£17.19) and a significantly greater proportion of pupils experiencing a HED avoided (0.07 or 7%). STAMPP was cost-saving and was beneficial in reducing HED. In this situation, the negative ICER is not calculated, as its magnitude does not convey any meaning. STAMPP can be said to dominate EAN; however, as the	thresholds ranged from £0 to £800, the probability of STAMPP being cost-effective vs EAN ranged from 55% to 67%. Uncertainty in the cost-effectiveness of the intervention remained substantial until much higher WTP values, with an 80% probability being displayed at a WTP of £2000.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
in setting family rules around drinking. [a] Comparator: Education as normal (EAN)					drinkers at baseline) STAMPP: 64.5% EAN: 50.5% No drinking harms at 33 months follow-up STAMPP: 37.6% EAN: 32.3%			difference in costs was not statistically different, only weak dominance can be claimed.	

EAN: education as normal; HED: heavy episode drinking; ICER: incremental cost-effectiveness ratio; NR: not reported; SD: standard deviation; STAMPP: The Steps Towards Alcohol Misuse Prevention Programme; WTP: willingness to pay

(a) The STAMPP programme rationale was that stricter parental/carer rules and attitudes towards alcohol would reinforce learning and skills development in the classroom. The classroom component was the School Health and Alcohol Harm Reduction Project (SHAHRP) which combined a harm reduction philosophy with skills training, education and activities designed to encourage positive behavioural change. It was a curriculum-based programme that was delivered in two phases over a 2-year period. The intervention was interactive, and was developmentally and experientially relevant to recipients' drinking trajectories. The brief intervention delivered to intervention pupils' parent(s)/carer(s) comprised a short, standardised presentation delivered by a trained facilitator (independent of the trial team) at specially arranged evenings on school premises. The presentation included an overview of the Chief Medical Officer's 2009 guidelines for drinking in childhood, information on alcohol prevalence in young people, corrected (under)estimates of youth drinking rates and highlighted the importance of setting strict family rules around alcohol. The presentation was followed by a brief discussion on setting and implementing authoritative family rules on alcohol. All intervention pupils' parents/carers were followed up by a mailed leaflet, whether or not they attended the parents' evening, which provided a summary of the key information delivered in the evening and coincided with phase 2 of the classroom intervention.

(b) The study relied on a sound and robust clinical study. Sources of data were clearly stated and details of results were reported. The issue of uncertainty was extensively investigated. Impact on quality of life was not considered.

(c) The study was conducted in Northern Ireland and Scotland.

Study	Limitations	Applicability	Other comments	Costs	Effects	Incremental cost	Incremental effects	Cost-effectiveness	Uncertainty
(d) *Defined as the self-reported number of occasions in the previous 30 days on which male students consumed ≥ 6 units of alcohol or female students consumed ≥ 4.5 units in a single episode.*									

Appendix C: Health economic evidence profiles

C.1 Drost 2016

Study	Drost 2016			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
Economic analysis: CEA **Study design:** Economic evaluation of a Web-based computer-tailored intervention for reducing alcohol use and binge drinking by adolescents. No decision model was used. **Approach to analysis:** This economic evaluation was based on the results from the Alcoholic Alert study, a cluster RCT with randomization at the level of schools. **Perspective:** Health care and society **Time horizon:** 4 months	**Population:** Adolescents aged 15-19 years attending school **Cohort settings:** Starting age: 15 years Male and female students **Intervention 1:** Web-based computer-tailored intervention [a] **Intervention 2:** Care as usual (CAU) [b]	**Mean cost per student (SD):** Health care perspective Intervention 1: €139.16 (20.77) Intervention 2: €127.45 (68.64) Societal perspective Intervention 1: €336.45 (53.31) Intervention 2: €263.52 (70.70) **Currency & cost year:** Euro (€) 2014 **Cost components incorporated:** Intervention costs; Health care costs (i.e., costs for services inside the health care sector);	**Reduction in weekly alcohol use:** Intervention 1: -0.78 Intervention 2: -1.51 **Reduction in binge drinking occasions:** Intervention 1: 0.16 Intervention 2: -0.33	**Full incremental analysis** Health care perspective (intervention 1) Per incremental reduction of one glass of alcohol per week: €40 Per binge drinking occasion per 30 days: €79 Societal perspective (intervention 1) Per incremental reduction of one glass of alcohol per week: €62 Per binge drinking occasion per 30 days: €144 **Analysis of uncertainty** Stochastic uncertainty in the data was dealt with using nonparametric bootstraps. Deterministic sensitivity analyses were also carried out.

Study	Drost 2016			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
Treatment effect duration: Not relevant **Discounting:** Not conducted		Intersectoral costs (i.e., costs for services outside the health care sector); Costs of substance use (e.g., use of hard drugs)		
Data sources				
Health outcomes: Within trial analysis. Outcome measures were weekly alcohol use and the number of binge drinking occasions in the preceding 30 days. **Quality-of-life weights:** Not applicable. **Cost sources:** Alcoholic Alert costs: intervention (development and running costs), health care services (Dutch manual for costing in economic evaluations), intersectoral costs - outside of the health care sector (Dutch manual for intersectoral costs and benefits of (preventive) interventions; Institute for Medical Technology Assessment (iMTA) questionnaire on intensive youth care), and substance abuse Jellinek Clinic website).				
Comments				
Source of funding: Funded by ZonMW, the Netherlands Organisation for Health Research and Development. **Limitations:** Firstly, various characteristics of the adolescents in the intervention group was significantly different from those in the control group, including gender, educational level, and religion. Secondly, the follow-up period of the CEA (4 months) is short. Thirdly, the analysis was restricted to complete cases so as to avoid imputation. Fourth, measurements were self-reported. Fifth, respondents filled in the answers themselves during the measurements. **Other:** None				
Overall applicability: Partially applicable **Overall quality:** Minor limitations				

Abbreviations: CAU: care as usual; CEA: cost-effectiveness analysis; RCT: randomised controlled trial; SD: standard deviation

(a) *At baseline (T0), students completed a Web-based questionnaire during a school lesson on the Alcoholic Alert website, the participants entered a game called "Watskeburt" (Dutch slang for "What Happened?!"). In the game, the participant played a character whose goal it was to find out what happened after a night of heavy drinking. Participants received in-game questions concerning alcohol-related sociocognitive factors, including attitude, social influences, self-efficacy expectations, and action plans toward alcohol drinking. A week later, participants were asked to revisit the intervention website to answer questions about their drinking behaviour during the preceding week and then they received computer-tailored feedback on their alcohol use with comparisons to Dutch drinking guidelines. Participants were also asked whether they had an upcoming event (e.g. party or wedding) in which they were then challenged to drink less than usual. An email, with a reminder of accepting the challenge, was sent to them a day before the event. After the event, they were asked to visit the intervention website and fill in their alcohol use. If the challenge had been failed, they received computer-tailored feedback with tailored advice and had the opportunity to take on a new challenge. If the participant met the challenge, he or she received congratulations and the intervention was completed.*

Study	Drost 2016			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
(b) Participants receiving CAU also filled in the web-based questionnaire at T0 and T1, but they did not have access to the game and did not receive computer-tailored feedback until after the final measurement.				

C.2 Jones 2007

Study	Jones 2007			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
Economic analysis: CEA **Study design:** Economic evaluation of 3 alcohol intervention programmes on the basis of published evidence. No decision model was adopted. **Approach to analysis:** An economic evaluation was conducted using effectiveness data from studies published in the USA and Australia and applying UK costs to assess the impact of the compared programmes in the UK setting. The programmes compared	**Population:** Children/adolescents in middle schools **Cohort settings:** 11 to 14 years (males and females) **Intervention 1:** School Health and Harm Reduction Programme (SHAHRP) [a] **Intervention 2:** Lion's Quest 'Skills for Adolescence' (SFA) [b] **Intervention 3:**	**Mean cost per student:** Intervention 1: £31.16 Intervention 2: £150.72 Intervention 3: £20.30 **Currency & cost year:** £ 2005-2006 **Cost components incorporated:** Staff time/training cost (nurse for STARS; teacher for SFA and SHAHRP); Consumables (4 postcards, 3 activity sheets, contract, feedback sheet for STARS; Teacher's manual, Student workbook for SHAHRP)	**Reduction of 30-day heavy use at 2 years:** [d] Intervention 3: 3.7% **Reduction of hazardous/harmful drinking at 20 months and 32 months:** [e] Intervention 1: 11.0% (20 months) Intervention 1: 1.7% (32 months) **Reduction of binge drinking:** [f] Intervention 2: 0.44%	**Total costs:** [g] Intervention 1: £28,044 Intervention 2: £113,040.50 Intervention 3: £5,075 **Number of avoided cases of heavy drinking:** [g] Intervention 1 (at 20 months): 98.6 Intervention 2: 3.3 Intervention 3: 9.39 **Incremental cost per case avoided:** [g] 1 over 3: £257.47 2 was dominated by both 1 and 3 **Analysis of uncertainty** Not conducted

Study	Jones 2007			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
were not implemented in the UK at the time of the analysis. Treatment effect was based on the reduction of heavy drinking. **Perspective:** UK NHS **Time horizon:** 2 years **Treatment effect duration:** Not relevant **Discounting:** Not conducted	STARS for Families brief intervention [c]			
Data sources				
Health outcomes: Outcome measures were avoided cases of heavy drinking and reduction in binge drinking. **Quality-of-life weights:** Not applicable. **Cost sources:** For the interventions, unit costs for teacher time (Teachernet), nurse time (Curtis and Netten, 2006), training (Swisher), materials (Swisher and Market prices). For total burden of disease, unit costs for alcohol-related problems were taken from DH National Reference Costs 2005/2006. No costs attributable to primary care were included, only those to hospital contact.				
Comments				
Source of funding: Report by Centre for Public Health, Liverpool John Moores University and National Collaborating Centre for Drug Prevention. **Limitations:** There is a paucity of information regarding the economic evaluation of interventions that aim to prevent or reduce alcohol use among young people and gaps in the evidence are large and wide ranging. There is no clear evidence of effectiveness for any of the programmes identified and there are methodological shortcomings in this study. There are few data on the burden of alcohol use in young people. It was also not possible to examine longer term impacts of adolescent alcohol use as there is no clear evidence. **Other:** None.				
Overall applicability: Partially applicable **Overall quality:** Potentially serious limitations				
Abbreviations: CEA: cost-effectiveness analysis; SFA: Skills for Adolescence; SHAHRP: School Health and Harm Reduction Programme *(a) It uses education, skills training, small-group decision making, and discussion and activities to encourage positive behavioural change as a result of a better understanding of the negative outcomes of drinking. It is delivered in two phases, over two academic years, in classrooms by trained teachers.*				

Study	Jones 2007			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
(b) The classroom curriculum-based program can be delivered daily, two to three times per week, or weekly depending on the implementation model. The learning model employs inquiry, presentation, discussion, group work, guided practice, and reflection to build positive social behaviours of self-discipline, responsibility, good judgment, and respect for self and others. *(c) A school-based prevention program designed to prevent alcohol use among adolescents. The curriculum includes consultation with nurses and mailed postcards to the adolescent's home.* *(d) Defined as consuming 5 or more drinks in a row during the last 30 days.* *(e) Defined as consuming 2 (females) or 4 (males) or more drinks in a row during the last 30 days.* *(f) Defined as consuming 3 or more drinks in a row during the last 30 days.* *(g) Assuming a cohort size of 250 students for STARS, 950 students for SHAHRP and 700 students for SFA.*				

C.3 Newbury-Birch 2014

Study	Newbury-Birch 2014			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
Economic analysis: CEA – CUA mentioned but not reported **Study design:** Economic evaluation based on multicentre, individual-based RCT. **Approach to analysis:** This was an economic evaluation conducted alongside a RCT conducted in high-	**Population:** Adolescents aged 14-15 years in high-schools **Cohort settings:** 14 years **Intervention 1:** Alcohol screening and brief intervention. [a]	NR [c]	**Total number of standard drinks consumed (units) [d] in the last 28 days (median) [e]** Brief intervention: 7.3 Usual practice: 7.7	**Average annual net cost saving** Brief intervention vs usual practice: £1,324 (95% CI: -£5,277, £1,727) **Analysis of uncertainty** 77% probability of the intervention being cost-effective compared with usual practice. A stochastic analysis was presumably conducted, but was not described.

Study	Newbury-Birch 2014			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
schools in the North East, North West, South East and London. **Perspective:** UK public sector **Time horizon:** 1 year **Treatment effect duration:** Not relevant **Discounting:** Not applicable	**Intervention 2:** Standard usual practice [b]			
Data sources				
Health outcomes: Total alcohol consumed in the last 28 days, using the 28 day Timeline Follow-Back questionnaire at 12-month follow-up. **Quality-of-life weights:** Not applicable **Cost sources:** Costs for healthcare and social services were obtained from standard sources: NHS reference costs (www.gov.uk), the British National Formulary for medications, Unit Costs of Health and Social Care for contacts with primary care.				
Comments				
Source of funding: National Institute of Health Research Public Health Programme. **Limitations:** It was concluded that the results showed no significant difference between arms in the trial on the effectiveness of the intervention and that there is no clear evidence about the mechanism which might drive cost savings. The main limitation of the study is the lack of detail about the economic analysis, particularly the cost categories that were included and the analysis of uncertainty. This is a "first look" summary and more detailed results will be reported in a future publication. Therefore, it is difficult to judge the quality of the study, apart from noting that it was based on an RCT. In the study protocol a model-based analysis is mentioned, with quality of life scores estimated, but nothing is reported about that analysis in this summary. **Other:** None.				
Overall applicability: Partially applicable **Overall quality:** Potentially serious limitations				

Abbreviations: CEA: cost-effectiveness analysis; CI: confidence interval; NR: not reported; RCT: randomised controlled trial

(a) A 30-minute one-to-one structured intervention session based on motivational interviewing principles with a member of trained school staff (learning mentor) and given an information leaflet about alcohol.

(b) Received a healthy lifestyles information leaflet only.

(c) Costs comprised NHS, educational, social, and criminal services costs, but were not reported in this summary document.

(d) Where one standard drink equates to eight grams of pure ethanol.

Study	Newbury-Birch 2014			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
(e) As measured using the 28-day Timeline Follow-Back method.				

C.4 Sumnall 2017

Study	Sumnall 2017			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
Economic analysis: CEA **Study design:** Economic evaluation based on a multicentre, cluster RCT. **Approach to analysis:** This was an economic evaluation conducted alongside a RCT conducted in secondary schools in Northern Ireland and Scotland. **Perspective:** UK public sector **Time horizon:** 33 months **Treatment effect duration:** Not relevant	**Population:** Children/adolescents aged 12-13 years in secondary schools **Cohort settings:** 12 years **Intervention 1:** School-based alcohol harm reduction and parental intervention: The Steps Towards Alcohol Misuse Prevention Programme (STAMPP) [a] **Intervention 2:** Education as normal (EAN) [b]	**Mean cost per student:** STAMPP: £15 **Currency & cost year:** £ 2013-2014 **Cost components incorporated:** Education costs (e.g. school nurse, school counsellor/guidance teacher, intervention teacher, educational psychologist, education welfare officer/home-school liaison officer); health costs (e.g. GP visits, nurse, hospitalisations, specialists); criminal justice costs.	**Self-reported heavy episode drinking (HED) [c]** Percentage of pupils with no HED at baseline STAMPP: 92.2% EAN: 92.4% Percentage of pupils with no HED at 33 months STAMPP: 83.0% EAN: 74.4% Percentage of pupils with no HED at 33	**Incremental cost per HED avoided** STAMPP vs EAN, at 24 months: £3,162.09. At 33 months follow-up there was small cost saving associated with STAMPP (–£17.19) and a significantly greater proportion of pupils experiencing a HED avoided (0.07 or 7%). **Analysis of uncertainty** When willingness-to-pay per HED avoided thresholds ranged from £0 to £800, the probability of STAMPP being cost-effective compared with EAN ranged from 55% to 67%. Uncertainty in the cost-effectiveness of the intervention remained substantial until much higher willingness to pay (WTP) values, with an 80% probability being displayed at a WTP of £2,000. At 24 months, the probability of cost-effectiveness was consistently lower at each

Study	Sumnall 2017			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
Discounting: 3.5% for costs			months (excluding non-drinkers at baseline) STAMPP: 64.5% EAN: 50.5%	WTP threshold, with values ranging from 35% to 38%.
Data sources				
Health outcomes: Self-reported HED defined as the self-reported number of occasions in the previous 30 days on which male students consumed ≥ 6 units of alcohol or female students consumed ≥ 4.5 units in a single episode. **Quality-of-life weights:** Not applicable. **Cost sources:** Unit costs were taken from Unit Costs of Health and Social Care, Department of Education and NHS reference costs.				
Comments				
Source of funding: National Institute of Health Research Public Health Programme. **Limitations:** The main limitations of the analysis are the relatively low rates of return of the parental questionnaire, the use of self-assessment for primary outcome (with potential inaccuracy) and the resource use questionnaire which was completed by the pupils without any input from their parents or guardians. Also it is unclear what is a reliable threshold for the ICER given the measure of benefit used. **Other:** None.				
Overall applicability: Partially applicable **Overall quality:** Potentially serious limitations				
Abbreviations: CEA: cost-effectiveness analysis; EAN: education as normal; HED: heavy episode drinking; ICER: incremental cost-effectiveness ratio; RCT: randomised controlled trial; WTP: willingness to pay *(a) STAMPP combined a school-based alcohol harm reduction curriculum and a brief parental intervention that was designed to support parents/carers in setting family rules around drinking. The classroom component was the School Health and Alcohol Harm Reduction Project (SHAHRP) which combined a harm reduction philosophy with skills training, education and activities designed to encourage positive behavioural change. It was a curriculum-based programme that was delivered in two phases over a 2-year period. The brief intervention delivered to intervention pupils' parent(s)/carer(s) comprised a short, standardised presentation delivered by a trained facilitator (independent of the trial team) at specially arranged evenings on school premises.* *(b) Children received EAN within their school, which would include standard personal, social and health education but would not be uniform across all such schools. Parents/carers of control students received no intervention.* *(c) Defined as the self-reported number of occasions in the previous 30 days on which male students consumed ≥ 6 units of alcohol or female students consumed ≥ 4.5 units in a single episode.*				

Appendix D: Excluded studies

Economic studies

Reference	Reason for exclusion
1. Alcohol Research UK. 2011. Investigating the effectiveness of education in relation to alcohol: a systematic investigation of critical elements for optimum effectiveness of promising approaches and delivery methods in school and family linked alcohol education. London: Alcohol Research UK.	Review article. [a]
2. Anderson, P. 2011. Policy implications of the WHO strategy to reduce the harmful use of alcohol. Sucht; 57(2): 85-98. doi: http://dx.doi.org/10.1024/0939-5911.a000099.	Review article. [a]
3. Anderson, P., Chisholm, D. and Fuhr, D. C. 2009. Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. Lancet; 373(9682): 2234-46. doi: https://dx.doi.org/10.1016/S0140-6736(09)60744-3.	Review article. [a]
4. Bannink, R., Broeren, S., Joosten-van Zwanenburg, E., et al. 2014. Effectiveness of a Web-based tailored intervention (E-health4Uth) and consultation to promote adolescents' health: randomized controlled trial. J Med Internet Res; 16(5): e143. doi: https://dx.doi.org/10.2196/jmir.3163.	Ineligible outcomes.
5. Benningfield, M. M., Riggs, P. and Stephan, S. H. 2015. The Role of Schools in Substance Use Prevention and Intervention. Child Adolesc Psychiatr Clin N Am; 24(2): 291-303. doi: http://dx.doi.org/10.1016/j.chc.2014.12.004.	Review article. [a]
6. Blanck, P., Hensing, G. and Spak, F. 2007. We do what we think is the best--a content analysis of experiences of alcohol problem prevention in Sweden. A short report. Subst Use Misuse; 42(12-13): 2073-83. doi:	Ineligible outcomes.
7. Berg, R. and Underland, V. 2012. The effectiveness of primary interventions to prevent the use of tobacco, alcohol and other drugs among children and adolescents. Oslo: Norwegian Knowledge Centre for the Health Services.	Ineligible outcomes.
8. Brodtkorb, T.-H., Bell, M., Irving, A. H., et al. 2016. The Cost Effectiveness of Nalmefene for Reduction of Alcohol Consumption in Alcohol-Dependent Patients with High or Very High	Ineligible patient population.

Reference	Reason for exclusion
Drinking-Risk Levels from a UK Societal Perspective. CNS Drugs; 30(2): 163-77. doi: https://dx.doi.org/10.1007/s40263-016-0310-2.	
9. Chisholm, D., Doran, C., Shibuya, K., et al. 2006. Comparative cost-effectiveness of policy instruments for reducing the global burden of alcohol, tobacco and illicit drug use. Drug Alcohol Rev; 25(6): 553-65. doi: 10.1080/09595230600944487.	Ineligible setting.
10. Doumas, D. M., Esp, S., Johnson, J., et al. 2017. The eCHECKUP TO GO for High School: Impact on risk factors and protective behavioral strategies for alcohol use. Addict Behav; 64(93-100. doi: https://dx.doi.org/10.1016/j.addbeh.2016.08.030.	Ineligible outcomes.
11. Elliot, G., Morleo, M. and Cook, P. A. 2009. Identifying Effective Interventions for Preventing Underage Alcohol Consumption. Liverpool: John Moores University.	Review article. [a]
12. Franco, S. 2015. Tackling Harmful Alcohol Use Economics and Public Health Policy: Economics and Public Health Policy. Paris: OECD Publishing.	Review article. [a]
13. Frontier Economics. 2011. Specialist drug and alcohol services for young people – a cost benefit analysis. London: Department of Education.	Ineligible patient population.
14. Ingels, J. B., Corso, P. S., Kogan, S. M., et al. 2013. Cost-effectiveness of the strong African American families-teen program: 1-year follow-up. Drug Alcohol Depend; 133(2): 556-61. doi: https://dx.doi.org/10.1016/j.drugalcdep.2013.07.036.	Ineligible patient population.
15. Kazemi, D. M., Levine, M. J., Qi, L., et al. 2015. Brief motivational intervention for heavy drinking mandated and voluntary freshmen: A 1-year follow-up assessment. Nurs Outlook; 63(3): 349-356. doi: http://dx.doi.org/10.1016/j.outlook.2014.11.002.	Ineligible patient population.
16. Kouimtsidis, C., Fodor-Wynne, L., Scior, K., et al. 2015. Extended brief intervention to address alcohol misuse in people with mild to moderate intellectual disabilities living in the community (EBI-ID): study protocol for a randomised controlled trial. Trials. 16(114): 1-8.	Study protocol.
17. Kuntsche, E., Kuntsche, S., Thrul, J., et al. 2017. Binge drinking: Health impact, prevalence, correlates and interventions. Psychol Health; 32(8): 976-1017. doi: http://dx.doi.org/10.1080/08870446.2017.1325889.	Review article. [a]
18. Lynch, S., Dawson, A. and Worth, J. 2014. Talk about alcohol: Impact of a school-based alcohol intervention on early adolescents. Int J Health Promot Educ; 52(5): 283-299. doi: http://dx.doi.org/10.1080/14635240.2014.915759.	Ineligible outcomes.

Reference	Reason for exclusion
19. National Collaborating Centre for Women's and Children's Health. 2009. A model to assess the cost-effectiveness of alcohol education developed for NICE public health guidance on personal, social, health and economic (PSHE) education. London: National Collaborating Centre for Women's and Children's Health.	Ineligible outcomes.
20. Newbury-Birch, D., Scott, S., O'Donnell, A., et al. 2014. A pilot feasibility cluster randomised controlled trial of screening and brief alcohol intervention to prevent hazardous drinking in young people aged 14 15 years in a high school setting (SIPS JR-HIGH). Public Health Research; 2(6). https://www.journalslibrary.nihr.ac.uk/phr/phr02060/#/abstract	Ineligible outcomes.
21. Public Health England. 2016. Social return on investment of alcohol and drug treatment: a guide to social return on investment for alcohol and drug treatment commissioners. London: Public Health England.	Ineligible outcomes.
22. Public Health England. 2017. Estimating the cost-effectiveness of local alcohol and drug treatment: 2016-17 Alcohol and Drugs Treatment Commissioning Tool. London: Public Health England.	Commissioning tool.
23. Rowlinson, L. 2014. Alcohol and sexual health in young people: the role of PSHE. Community Pract; 87(12): 34-7.	Review article. [a]
24. Ryan, M. 2011. Cost benefits of early intervention. Sheffield: Research in Practice. https://www.rip.org.uk/resources/publications/leaders-briefings/cost-benefits-of-early-intervention/	Ineligible intervention.
25. Stanger, C., Scherer, E. A., Babbin, S. F., et al. 2017. Abstinence based incentives plus parent training for adolescent alcohol and other substance misuse. Psychol Addict Behav 31(4): 385-392. doi: http://dx.doi.org/10.1037/adb0000279.	Ineligible patient population.
26. The Swedish Council on Health Technology Assessment (SBU). 2016. Assessment of diagnosis, family support and rehabilitation of children with alcohol spectrum disorder, FAS/FASD (Project record). Stockholm: The Swedish Council on Health Technology Assessment (SBU).	Ineligible patient population.
27. Toumbourou, J. W., Stockwell, T., Neighbors, C., et al. 2007. Interventions to reduce harm associated with adolescent substance use. Lancet; 369(9570): 1391-401. doi: 10.1016/S0140-6736(07)60369-9.	Review article. [a]
(a) Review articles were checked for relevant references	