**Supplementary Online Appendix: The effect of smoke-free policies in military settings on tobacco smoke exposure and smoking behaviour: a systematic review**

**METHODS**

**Search Strategy**

The following free-text search terms were used and adapted where needed for individual databases:

1. smokefree/ OR smoke-free / OR smoke free/ OR tobaccofree/ OR tobacco-free/ OR tobacco free/ OR tobacco control

2. smok\* ban/ OR involuntary smok\* cessation/OR forced smok\* cessation/ OR tobacco ban/OR involuntary tobacco cessation/ OR forced tobacco cessation

3. military/ OR navy/ OR RN/ OR marine$/ OR army/ OR air force/ OR airforce/ OR RAF/OR USAF/ OR defence/ OR defense/ OR regiment/ OR NATO/ OR IDF/ OR ADF/ OR NZDF/ OR MOD/ OR DOD

4. barrack$/ OR submarine$/ OR ship$/ OR air field$

5. soldier$/ OR sailor$/ OR airman$/ OR marine$/ OR recruit$/ OR conscript$/ OR officer$/ OR enlisted/ OR commission\*/ OR NCO\*

6. basic training/ OR basic military training/ OR BMT/ OR recruit training/ OR recruit basic training/ OR Ph\*1 Tr\*

7. 1 AND 3

8. 1 AND 4

9. 1 AND 5

10. 1 AND 6

11. 2 AND 3

12. 2 AND 4

13. 2 AND 5

14. 2 AND 6

15. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14

**Risk of Bias Assessment**

Randomised studies were planned to be assessed using the Cochrane risk-of-bias tool for randomized trials (RoB 2)(1). As any randomised control trials were deemed likely to be clustered-randomised control trials, the RoB 2 variant set out in chapter 23 of the Cochrane Handbook for Systematic Reviews of Interventions was planned to be used, to take account of randomisation at the cluster level(2).

Non-randomised studies were assessed using the ROBINS-I (risk of bias in non-randomised studies of interventions) tool(3). This tool was used as it allows internal validity to be assessed across a range of non-randomised study designs, and assesses risk of bias by outcome, allowing the findings to be integrated into the GRADE assessment(3,4).

The ROBINS-I tool requires confounding variables relevant to most studies and possible co-interventions to be laid out a priori. This ideally would have been done at the protocol stage; however due to the author’s inexperience in using this tool, this was not done. Relevant confounding factors and co-interventions for this review were identified from the wider literature on tobacco use and smoke-free policies(5–10).

The relevant confounding domains for studies in this review are :

* Age
* Sex
* Socio-economic status
* Education level
* Family smoking status
* Availability of tobacco
* Enlisting in the military

The possible co-interventions that could impact on study outcomes are:

* Smoking cessation services including nicotine replacement therapies
* Health education sessions
* Addiction therapies

Upon reviewing each individual study, a hypothetical pragmatic randomised control trial was considered, whose results, in the absence of bias, should be identical to those of the study of interest. This trial, known as the target trial, does not need to be ethical or even practical (3). The following characteristics for the target trial for each primary study were considered: study design, participants, experimental intervention and comparator.

The next stage of the ROBINS-I tool is to consider the effect of interest, either an intention-to-treat (ITT) or per-protocol effect. For the studies of interest in this review, the effect of interest was ITT, as the focus is on the actual impact of the intervention on the population, as opposed to the fidelity of the population adherence to the intervention.

The tool assesses the risk of bias by outcome. Therefore the outcome of interest in the primary study was selected, along with the specified numerical result for this outcome. Following this, the study was investigated to see if the confounders and co-interventions specified above were measured reliably and if any additional confounders or co-interventions were identified and measured validly.

Risk of bias was then assessed in seven domains (confounding, selection, classification of intervention, deviation from intervention, missing data, measurement of outcomes, selection of reported result) by answering a series of signalling questions and categorising risk of bias as “*low risk*”, “*moderate risk*”, “*serious risk*” or “*critical risk*”(3). The overall risk of bias assessment was determined by the highest risk of bias in a single domain, e.g. if six domains were ranked as “low risk” but one deemed “serious risk” then the overall judgement of risk of bias would be serious.

The primary researcher carried out the risk of bias assessment, whilst a second reviewer checked the process. Disagreements were resolved by discussion. Recourse to a third reviewer was not necessary.

**Synthesis**

The synthesis was carried out using the synthesis without meta-analysis (SWiM) guideline to maintain transparency(11). The method of synthesis is reported below using the nine reporting items outlined in the SWiM guideline.

### 1. Grouping studies for synthesis. Studies were grouped by three broad categories of intervention:

* 24/7 prohibition of all tobacco products
* Whole site smoking ban
* Partial site smoking ban

This differed from the original grouping in the protocol, which planned to group studies by broad outcomes and adverse effects. The decision was made as the type of intervention was felt to be the major source of methodological heterogeneity in the included studies. This is in line with the SWiM guideline that acknowledges that the synthesis groupings may need to change to assist with synthesis(11).

### 2. Standardised metric (summary measures). Direction of effect was the metric used. This is because studies could report the same outcome using inconsistent measures of effect. Studies could also have different follow-up times. The longest follow-up period from each study was used. This was to capture the longest term effect possible but likely resulted in a lack of consistency in results, particularly due to differing loss to follow-up, and increased heterogeneity(12).

### 3. Synthesis method. Vote counting of direction of effect was used as the method for synthesis. For each outcome, a count of the number of the studies favouring the intervention was then compared with the number not favouring the intervention. Where multiple sub-groups contributed to an outcome, then >70% of these needed to consistently demonstrate a direction of effect(13). This method was used due to the anticipation of significant clinical, methodological and statistical heterogeneity in the primary studies that would make it challenging to estimate an overall effect size accurately, but would allow an estimate of an effect direction in a transparent manner(14).

Statistical significance and the magnitude of the effect were not considered. This is because the synthesis is concerned with investigating whether an effect is present, and not its magnitude. The proportion of studies favouring the intervention was calculated along with a 95% confidence interval (using the Wilson interval method)(14).

### 4. Prioritisation of results for summary and synthesis. Randomised studies were planned to be prioritised over non-randomised studies, although none were found in the search. This is due to the process of randomisation reducing the potential for confounding, secular trends and regression to the mean(15).

### 5. Investigation of heterogeneity. Heterogeneity was investigated using tables allowing comparison of the direction of effect of studies with potential effect modifiers including study design, length of follow-up, study setting, national legislation and population.

### 6. Certainty of evidence. Certainty of evidence was assessed using the Grading of Recommendations Assessment (GRADE) approach(4). Due to the synthesis method, the consistency and precision of effect were deemed too difficult to assess and not included in the judgement of certainty of evidence(4). The difficulty of assessing certain GRADE domains is acknowledged in the SWiM guideline(11).

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### 7. Data presentation. The findings were tabulated by outcome and ordered by risk of bias. An effect direction plot was created to give a visual display of all outcomes and was ordered by risk of bias.

### 8. Reporting of results. A textual description of the synthesised findings was reported for each intervention grouping, as well as for the effect differences between groups and the review’s primary outcome. This reported the estimation of effect, details of contributing studies and a judgement of the certainty of the synthesised findings.

### 9. Limitation of synthesis. The metric and method used only allowed a result to show whether defence smoke-free policies had an effect on each of the intervention types, but was not able to provide information on the size or consistency of effect. This limitation was understood and accepted at the protocol stage. The justification for this method is that it was judged to be a straightforward and transparent way of synthesising the findings from primary studies that would likely show significant clinical, methodological and statistical heterogeneity(14).

**Amendments to the Protocol**

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| **Change to Protocol** | **Rationale** |
| Primary outcome simplified to non-smoker exposure to second-hand smoke | Previously all outcomes related to the protection of non-smokers which was judged to be unclear and unfocused |
| Inclusion of defence civilians | Defence civilians not considered at protocol stage, but judged to meet inclusion criteria of defence population |
| Confounding and co-interventions | Confounding and co-intervention not clearly laid out in protocol |
| Grouping of studies for synthesis | Intervention type the major source of heterogeneity |
| Investigation of meta-biases | Small number of studies found, missing data and heterogeneity of reporting in primary studies |

**RESULTS**

**Electronic Database Search Results**

**1. Applied Social Sciences Index & Abstract (ASSIA)**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control (2554)

2. smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban OR involuntary tobacco cessation OR forced tobacco cessation (555)

3. military OR navy OR RN OR marine$ OR army OR air force OR airforce OR RAF OR USAF (8224)

4. defence OR defense OR regiment OR NATO OR IDF OR ADF OR NZDF OR MOD OR DOD (5012)

5. barrack$ OR submarine$ OR ship$ OR air field$ (472)

6. soldier$ OR sailor$ OR airman$ OR marine$ OR recruit$ OR conscript$ OR officer$ OR enlisted OR commission\* OR NCO\* (1284)

7. basic training OR basic military training OR BMT OR recruit training OR recruit basic training OR Ph\*1 Tr\* (1793)

8. 1 AND 3 (26)

9. 1 AND 4 (5)

10. 1 AND 5 (1)

11. 1 AND 6 (1)

12. 1 AND 7 (7)

13. 2 AND 3 (7)

14. 2 AND 4 (0)

15. 2 AND 5 (0)

16. 2 AND 6 (0)

17. 2 AND 7 (3)

18. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 (37)

**2. The Cumulative Index to Nursing and Allied Health Literature** (**CINAHL)**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control (7,757)

2. smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban/OR involuntary tobacco cessation OR forced tobacco cessation (1,696)

3. military OR navy OR RN OR marine$ OR army OR air force OR airforce OR RAF OR USAF OR defence OR defense OR regiment (87,294)

4. NATO OR IDF OR ADF OR NZDF OR MOD OR DOD (4,282)

6. barrack$ OR submarine$ OR ship$ OR air field$ (4,851)

6. soldier$ OR sailor$ OR airman$ OR marine$ OR recruit$ OR conscript$ OR officer$ OR enlisted OR commission\* OR NCO\*  (63,062)

7. basic training OR basic military training OR BMT OR recruit training OR recruit basic training OR Ph\*1 Tr\* (194,061)

8. 1 AND 3 (90)

9. 1 AND 4 (6)

10. 1 AND 5 (4)

11. 1 AND 6 (139)

12. 1 AND 7 (120)

13. 2 AND 3 (22)

14. 2 AND 4 (1)

15. 2 AND 5 (7)

16. 2 AND 6 (29)

17. 2 AND 7 (11)

18. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 (355)

**3. Cochrane Central Register of Controlled Trials (CENTRAL)**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control (8018)

2. smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban OR involuntary tobacco cessation OR forced tobacco cessation (405)

3. military OR navy OR RN OR marine\* OR army OR air force OR airforce OR RAF OR USAF OR defence OR defense OR regiment OR NATO OR IDF OR ADF OR NZDF OR MOD OR DOD (11746)

4. barrack\* OR submarine\* OR ship\* OR air field\* (931)

5. soldier\* OR sailor\* OR airman\* OR marine\* OR recruit\* OR conscript\* OR officer\* OR enlisted\* OR commission\* OR NCO\*  (84932)

6. basic training OR basic military training OR BMT OR recruit training OR recruit basic training OR Ph\*1 Tr\* (15609)

7. 1 AND 3 (121)

8. 1 AND 4 (29)

9. 1 AND 5 (1226)

10. 1 AND 6 (281)

11. 2 AND 3 (44)

12. 2 AND 4 (2)

13. 2 AND 5 (91)

14. 2 AND 6 (32)

16. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 (1405)

**4. DoPHER (Database of Promoting Health Efectiveness Reviews)**

1. "smokefree" OR "smoke-free" OR "smoke free" OR " tobaccofree" OR "tobacco-free" OR "tobacco free" OR "tobacco control" (90)

2. "smoking ban" OR "involuntary smoking cessation" OR "forced smoking cessation" OR "tobacco ban " OR "involuntary tobacco cessation" OR "forced tobacco cessation" (7)

3. "military" OR "navy" OR "RN" OR "marine" OR "army" OR "air force" OR "airforce" OR "RAF" OR "USAF" OR "defence" OR "defense" OR "regiment"OR "NATO" OR "IDF" OR "ADF" OR "NZDF" OR "MOD" OR "DOD" (18)

4. "barrack" OR "submarine" OR "ship" OR "air field" (0)

5." soldier " OR "sailor" OR "airman" OR "marine" OR "recruit" OR "conscript" OR "officer" OR "enlisted" OR "commission" OR " NCO" OR (27)

6."basic training" OR "basic military training" OR "BMT" OR "recruit training" OR "recruit basic training" OR "phase 1 training" (3)

7. 1 AND 3 (0)

8. 1 AND 4 (0)

9. 1 AND 5 (0)

10. 1 AND 6 (0)

11. 2 AND 3 (0)

12. 2 AND 4 (0)

13. 2 AND 5 (0)

14. 2 AND 6 (0)

15. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 (0)

**5. EMBASE**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control (16198)

2. smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban OR involuntary tobacco cessation OR forced tobacco cessation (2950)

3. military OR navy OR RN OR marine$ OR army OR air force OR airforce OR RAF OR USAF OR defence OR defense OR regiment OR NATO OR IDF OR ADF OR NZDF OR MOD OR DOD (938334)

4. barrack$ OR submarine$ OR ship$ OR air field$ (43120)

5. soldier$ OR sailor$ OR airman$ OR marine$ OR recruit$ OR conscript$ OR officer$ OR enlisted OR commission\* OR NCO\* (1008628)

6. basic training OR basic military training OR BMT OR recruit training OR recruit basic training OR Ph\*1 Tr\* (38604)

7. 1 AND 3 (232)

8. 1 AND 4 (34)

9. 1 AND 5 (1063)

10. 1 AND 6 (19)

11. 2 AND 3 (45)

12. 2 AND 4 (8)

13. 2 AND 5 (157)

14. 2 AND 6 (11)

15. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 (1304)

**6. MEDLINE**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control (14134)

2. smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban OR involuntary tobacco cessation OR forced tobacco cessation (860)

3. military OR navy OR RN OR marine$ OR army OR air force OR airforce OR RAF OR USAF OR defence OR defense OR regiment OR NATO OR IDF OR ADF OR NZDF OR MOD OR DOD (647358)

4. barrack$ OR submarine$ OR ship$ OR air field$ (37561)

5. soldier$ OR sailor$ OR airman$ OR marine$ OR recruit$ OR conscript$ OR officer$ OR enlisted OR commission\* OR NCO\* (691035)

6. basic training OR basic military training OR BMT OR recruit training OR recruit basic training OR Ph\*1 Tr\* (21029)

7. 1 AND 3 (206)

8. 1 AND 4 (29)

9. 1 AND 5 (816)

10. 1 AND 6 (16)

11. 2 AND 3 (15)

12. 2 AND 4 (2)

13. 2 AND 5 (40)

14. 2 AND 6 (8)

15. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 (1001)

**7. OpenGrey (no advanced search function)**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control OR smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban OR involuntary tobacco cessation OR forced tobacco cessation (122)

**8. PsychINFO**

1. smokefree OR smoke-free OR smoke free OR tobaccofree OR tobacco-free OR tobacco free OR tobacco control (3688)

2. smok\* ban OR involuntary smok\* cessation OR forced smok\* cessation OR tobacco ban OR involuntary tobacco cessation OR forced tobacco cessation (318)

3. military OR navy OR RN OR marine$ OR army OR air force OR airforce OR RAF OR USAF OR defence OR defense OR regiment OR NATO OR IDF OR ADF OR NZDF OR MOD OR DOD (58151)

4. barrack$ OR submarine$ OR ship$ OR air field$ (3101)

5. soldier$ OR sailor$ OR airman$ OR marine$ OR recruit$ OR conscript$ OR officer$ OR enlisted OR commission\* OR NCO\* (132607)

6. basic training OR basic military training OR BMT OR recruit training OR recruit basic training OR Ph\*1 Tr\* (1334)

7. 1 AND 3 (51)

8. 1 AND 4 (2)

9. 1 AND 5 (220)

10. 1 AND 6 (6)

11. 2 AND 3 (8)

12. 2 AND 4 (1)

13. 2 AND 5 (12)

14. 2 AND 6 (6)

15. 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 (266)

**Results of individual studies**

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| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Chiu et al. (2017) | Continuous Data: Mean + SD. Independent and paired t-tests between onset and 8 week f/u.  Categorical Data: Frequencies and percentages, p-values examined by Chi-squared.  Adjustments for confounders using logistic and linear regression analyses. | **Intervention:**  n =867/867 (0% lost)  **Control:**  n=840/840 (0% lost) | **Quit rate:** No statistically significant difference between intervention and control groups:  Abstinence at end of training:  I: n=16 (1.8%), C: n= 12 (1.4%), p=0.626 (examined by Chi-squared)  **Daily cigarette consumption:**  Statistically significant difference in reduction of daily cigarette consumption between intervention and control groups.  Mean reduction in daily cigarettes:  I: -5.21 (SD 10.09) (13.18 at baseline to 7.97 at 8 weeks)  C: -0.05 (SD 8.07) (15.09 at baseline to 15.04 at 8 weeks)  p = <0.001 (examined by independent t-test)  β (calculated by multiple linear regression) -5.366, p <0.001  (adjusting for conscripts’ education level, age, family/friend cigarette smoking, perceived smoking harm, perceived smoking benefit, and interpersonal relationship caused by smoking) | 8 weeks/  No change  8 weeks/  Favours intervention |

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| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Cronan, Hervig and Conway (1989) | Fishers’ Exact Test used to determine differences in smoking status between interventions and control group.  Median cigarette consumption per group was ranked by group. | **Intervention (no smoking group)**  n=60/85 (70.6%)  **Control:**  n=101/153 (66.0%) | **Quit rate:** No statistically significant difference between intervention and control groups:  I: n =3/12 (25%) (17 smokers at baseline, 5 (29.4%) lost to f/u)  C: n=2/19 (10.5%) (~33 smokers at baseline, ~14 (42.4%) lost to f/u)  p=0.28 (Fisher’s Exact Test)  **Never smokers initiation rate:** Statistically significant difference between intervention and control groups  I: n= 1/35 (2.9%) (~47 never smokers at baseline, ~12 (25.5%) lost to f/u)  C: n = 7/70 (10%) (~102 never smokers at baseline, ~32 (31.4%) lost to f/u)  p=0.002 (Fisher’s Exact Test)  **Former smokers initiation rate:** No statistically significant difference between intervention and control groups:  I: n= 2/13 (15.4%) (~21 former smokers at baseline, ~8 (38%) lost to f/u)  C: n=3/12 (25%) (~18 former smokers at baselines, ~6 (33.3%) lost to f/u)  p=0.46 (Fisher’s Exact Test)  **Daily cigarette consumption:** Median number of cigarettes smoked was presented graphically with no numerical data presented.  Median number of cigarettes smoked during recruit training  Mean number of cigarettes smoked during training.  Taken from: Cronan, Hervig and Conway (1989) | 8 weeks/  No change  8 weeks/  Favours intervention  8 weeks/  No change  8 weeks/  Appears to favour control |

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| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Derkenne et al. (2016) | No details given for outcome of interest. Although mean comparisons were conducted using nonparametric Mann-Whitney and Kruskal-Wallis tests. | **Smokers in Intervention:**  n= 36/52 (69.2%)  **No control group.** | **Quit Rate:**  6 month (2 month post-patrol) abstinence rate  n=13/36 (36.1%)  The authors stated the 36.1% cessation rate at 2 months (post-patrol) compared favourably to the “conventional” cessation rate of 7-15% (depending on study). | 6 months/  Favours intervention  (change since baseline) |
| Hurtado and Conway (1996) | Not specified for outcomes of interest.  Percentages given for smoking status at follow-up. No raw data provided. | **Intervention:**  8 weeks: n=996/1511 (65.9%)  1 year: n=423/1511 (28.0%)  **No control group.** | **Quit rate of smokers at baseline**  8 weeks: Smokers’ quit rate: 40%  1 year (longest follow-up)  Smokers’ quit rate: 19%  **1-year quit rate of self-declared former smokers at 8 weeks:**  27% (self-declared)  **1-year quit rate of self-declared current smokers at 8 weeks:**  14% (self-declared)  **Attitudes toward Navy smoke-free policy:**  45% participants at 8 weeks were in favour of smoke-free policy in recruit training.  36% reported they would be in favour of smoke-free work environment after training.  65% reported the smoke-free policy in recruit training would help them reduce or stop using tobacco after leaving training. | 8 weeks/  Favours intervention  1 year/  Favours intervention  1 year/  Favours intervention |

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| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Patten et al. (1999) | Chi-squared was used to examine cross-sectional pre- and postimplementation data and staff attitudes toward the policy. | **Intervention:**  Patients at 4 weeks:  Partial data:  n= 404/404 (100%)  Full data:  n=382/404 (94.6%)  Patient at 1 year:  n=142/404 (35.2%)  Staff:  2 independent samples  2 months pre-intervention  n=86  6 months post-intervention  n=104  **No control group.** | **Patient smoking prevalence:**  n=221/404 (54.7%) at baseline  n=221/404 (54.7%) at 4 week follow-up (p>0.05 examined by Chi squared)  n=81/142 (57%) at 1 year follow-up  **Quit rate**  n= 15/382 (3.9%) at 4 week follow-up  n=14 (denominator unclear) at 1 year  **Initiation rate**  n= 15/382 (3.9%) at 4 week follow-up  n=11 (denominator unclear) at 1 year  At 1 year non-smokers more likely to become smokers, than smokers to become non-smokers (p=0.02)  **Patients who thought NARC should be smoke-free**  n=382 (patients who answered the questionnaire at both time points)  Baseline 31.9%, 4 weeks 35.9%  Time effect (p<0.001), Group x time effect (p<0.001)  **Staff in favour of smoke-free policy:**  81.3% (of sample size n=86) 2 months pre-intervention  84.6% (of sample size n=104) 6 months post-intervention  **Staff reported adverse outcomes:**  56.7% resistance from patients  56.7% increased anxiety/stress among smoking patients  53.8% increase in covert smoking  38.5% interference of patients’ recovery from addictions other than smoking 71.3% of staff smoke-free policy was associated with an increase in negative behaviour incidents including angry outbursts, and resistance and violations of the policy among smoking patients | 1 Year/  Does not favour intervention  4 weeks/  Favours intervention  4 weeks/  Does not favour intervention |

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| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Santo et al. (2017) | Chi-squared was used for independence for categorical outcomes, and unpaired t-tests for continuous outcomes between baseline and follow-up.  Regression models were used for second-hand smoke (logistic regression), cigarettes smoked daily at work (linear regression) and sick days taken for respiratory illness (logistic regression) to control for demographic characteristics. | **Intervention:**  2 independent samples  Baseline:  n=1210  12-month follow-up  n=1147  **No control group.** | **Reported exposure to second-hand smoke (SHS) in past 7 workdays:**  Statistically significant reduction in SHS from baseline to 12 month follow=up.  64% at baseline  47% at 12 month follow-up  χ2=64.41, p<0.001  Logistic regression found the odds of reported SHS exposure at baseline were twice that at follow-up  OR 2.06 (95% CI 1.73-2.45), β = 0.72, SE = 0.09, p < 0.001  **Average number of workdays exposed to SHS:**  Statistically significant reduction in the average number of workdays exposed to SHS (among those reporting SHS exposure)  3.89 days (SD 2.11) at baseline  3.60 (SD 2.07) at 12 month follow-up  t=2.51, p<0.05  **Average number of hours exposed to SHS over time:**  No statistically significant decrease in average number of hours exposed to SHS over time.  Moverall = 2.49 (SD = 3.00)  **Prevalence:**  No significant difference in self-reported current smoker status  n=172/1154 (14.9%) at baseline  n=154/1160 (13.3%) at 12 month follow-up  No statistical analysis given.  **Changes to tobacco consumption:**  n=110/211 (52%) reported no changes to tobacco use  47% of n=101 reported decreased tobacco use at work  12% of n=101 reported increased tobacco use at work  19% of n=101 reported increased tobacco use at home  No statistical analysis given.  **Quit rate**  8% of n=101 reported quitting tobacco  7% of n=101 reported switching from cigarettes to smokeless tobacco  No statistical analysis given.  **Sick days taken for respiratory illness in the past 12 months**  Logistic regression found no statistically significant difference in the odds of taking sick days for respiratory illness between baseline and follow-up, p>0.05.  **Acceptability (Policy Satisfaction)**  There is a statistically significant increase in the mean satisfaction overall in the policy. However, this differs in different groups, with smokers having a statistically significant decrease in mean satisfaction, whilst there is a statistically significant mean increase in all other groups. No numerical data presented.  A screenshot of a cell phone  Description automatically generated  Mean level of policy satisfaction ranging from 1 (not at all satisfied) to 5 (extremely satisfied). Error bars represent ±1 standard error. All baseline and 12 month follow-up with non-overlapping error bars are significantly different p<0.05.  Taken from Santo et al. (2017) | 12 months/  Favours Intervention  12 months/  Favours Intervention  12 months/  No Change  12 months/  No Change  12 months/  Mixed Results  12 months/  Favours Intervention (for quitting)  12 months/  No Change |

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| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Williams et al. (1996) | Analysis used descriptive statistics and correlation r2 for one outcome of interest.  Analyses for other outcomes included Chi-squared and multiple and logistic regression analyses. | **Intervention:**  135-day follow-up:  n=1316/3531 (37.3%)  **No control group.** | **Prevalence of tobacco use:**  No statistical analysis performed. Appears to be a reduction in both the number of cigarette smokers and overall tobacco users.  Baseline:  n=955/3531 (27%) cigarette smokers  n=280/3531 (7.9%) smokeless tobacco users  n=1235/3531 (35.0%) overall tobacco users  n=1002/3531 (65%) non-tobacco users  135 days:  n=275/1316 (20.9%) cigarette smokers  n=83/1316 (6.3%) smokeless tobacco users  n=358/1316 (27.2%) overall tobacco users  n=958/1316 (72.8%) non-tobacco user  **Quit Rate: 26%:**  n=322 (74%)  Therefore quit rate (26%)  **Initiation of tobacco use:**  n=58 (6%)  No statistical analysis performed | 135 days/  Favours intervention  135 days/  Favour Intervention  135 days/  Does not favour intervention |

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| --- | --- | --- | --- | --- |
| **Study** | **Analyses undertaken**  **(Level of significance p=0.05)** | **Numbers in analysis**  **(% follow-up)** | **Results** | **Follow-Up Length/**  **Direction of Effect** |
| Woodruff, Conway and Edwards (2000) | McNemar Chi-Squared | **Intervention:**  8-week follow-up:  n=4393/5503 (79.8%)  (complete follow-up data)  20-week follow-up[[1]](#footnote-1):  n=1077/5503 (19.6%)  20-week data available for smokers in paper:  n=1064/5503 (19.3%)  1064 from (724+340)  **No control group.** | **Prevalence of smoking at 8-week follow-up:**  Statistically significant reduction in smoking prevalence.  n=1819/4393 (41.4%) smokers at baseline  n=1110/4393 (25.3%) smokers at 8-week follow-up  McNemar Chi-Squared =665.7, p<0.001  **Quit Rate 20 week follow-up:**  No statistical analysis performed. Appears to be a significant quit rate 32% at 20-week point.  N=724/1064 (68.0%) resumed smoking 3 months after graduation  n=340/1064 (32.0%) quit smoking 3 months after graduation | 8 weeks/  Favours intervention  20 weeks/  Favours intervention |

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1. 20 week follow-up estimated from initial 8 weeks + 3 months post-graduation [↑](#footnote-ref-1)