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Evaluation of the 'Quitters are Winners' course, a prison-based cessation program 2002–2007

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ABSTRACT

Smoking rates amongst prisoners are considerably higher than the general community, with a recent study in NSW prisons suggesting as many as 79% of prisoners are current smokers¹. Prisoner populations face unique and significant challenges with regard to smoking cessation. In response to the unique needs of prisoner populations, Quit Victoria partnered with Corrections Victoria in 1998 to develop a tailored smoking cessation program for prisoners, entitled "Quitters are Winners". This evaluation covers Quitters are Winners courses run from 2002 to 2007 across seven prisons around Victoria. The evaluation methodology consisted of a series of standardised interviews delivered at three time points: prior to commencement of the course; at 1 month following completion of the course; and at 3 months following the end of the course. In total, 358 prisoners who were current smokers completed the pre-course interview. Of these, 132 (38%) completed the one-month follow up interview, and 82 (23%) completed the three-month follow up interview. Most participants were aged between 30 to 49 years of age (56%, n = 201), with 30% (n=107) aged between 18 to 29 years and 14% (n=50) aged over 50 years. Of those prisoners who completed the Quitters are Winners course (n=181), 25% were quit at one-month follow up while 14% were quit at three-month follow up. Using an *intention to treat* analysis, 13% of prisoners were found to have quit at one month following completion of the course, while 7% were quit at three months following the course. Ninety percent of those still smoking reported having reduced cigarette consumption at one-month follow up, and 72% had reduced consumption at three-month follow up. The overwhelming majority of those still smoking reported that they felt better prepared to quit in the future (95% at one month follow up and 94% at three month follow up). The evaluation of the Quitters are Winners course has demonstrated that a prison based cessation course can be effective in assisting prisoners to quit smoking, to reduce consumption, and to feel better prepared to quit in the future. The alarmingly high smoking rates amongst prisoners, and the incumbent health risks posed by this to both prisoners and prison staff, alongside the high levels of motivation amongst prisoners to quit smoking, demonstrate a clear need for cessation support to be prioritised in prison settings.

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INTRODUCTION

Smoking rates amongst prisoners are considerably higher than the general community, with a recent study in NSW prisons suggesting as many as 79% of prisoners are current smokers¹. This same study also reported that over half of the prisoners surveyed had made a quit attempt in the previous year, and at the time of the survey 58% had plans to quit¹, suggesting a clear demand for cessation support within prisons.

Prisoner populations face unique and significant challenges when it comes to smoking cessation. Prisons are acknowledged to be highly stressful environments, with little opportunity for expression of personal freedom, and as such smoking is commonly regarded as one of the few remaining opportunities for expression of personal liberty. In addition to the experience of greater stress and strong smoking norms amongst both prison² and prison staff³, prisoners also have highly restricted access to social support and diversionary activities, which constitute the basis of many quitting strategies. Prisoners in general have lower literacy levels and lower educational achievement than the rest of the population⁴, and this can create challenges for cessation support that is delivered via written material. Other factors can add to the challenge of quitting for prisoners, such as a higher likelihood of concurrent addictions to illicit drugs or gambling^{1,3}, the higher likelihood that prisoners will experience a mental health condition^{3,5}, and high levels of nicotine dependence due to larger numbers of cigarettes smoked and prisoners' typical choice of higher tar tobacco or manufactured cigarettes⁶. The latter two points can also result in a complicated or uncomfortable withdrawal process for a prisoner who wants to stop or cut down on their smoking¹. Recent research with prisoners in NSW has also noted that the use of tobacco as a de facto currency in prisons provides additional challenges for those attempting to give up smoking⁷.

There is limited research on the effectiveness of cessation interventions delivered within prisons. A recent randomised control trial run in female state prisons in the southern eastern United States demonstrated that a cessation intervention, which included mood management skills, standard behavioural interventions and Nicotine Replacement Therapy (NRT), was able to achieve point-prevalence quit rates comparable with community samples⁸. Additionally, a NSW study of a prison based cessation intervention, incorporating self help materials, cognitive behavioural therapy, NRT and bupropion, found point prevalence quit rates of 26% after 6 months, and a continuous abstinence rate of 22%⁹. This suggests that despite the significant challenges faced in reducing smoking prevalence within prisons, interventions delivered in prisons have the potential to be as effective as those delivered within community settings.

Further to the potential effectiveness of cessation interventions in prisons, there is clear demand amongst prisoners for this type of support. In a Victorian survey of inmate health, 50% of prison population wanted to address smoking, drinking, drugs and gambling¹⁰, while a survey of NSW prisoners found that three quarters of prisoners reported a desire to give up smoking, and 58% had an actual plan to give up.¹

In response to the unique needs of prisoner populations, Quit Victoria partnered with Corrections Victoria to develop a tailored smoking cessation program for prisoners, entitled "Quitters are Winners". The program, launched in 1998, was an adaptation of Quit Victoria's Fresh Start program, tailored to address the unique issues facing prisoner populations, such as low literacy, and limited access to social support and diversionary activities.

This report includes evaluation data from thirty-three "Quitters are Winners" courses run from the period 2002 to 2007. This evaluation will examine outcomes such as smoking status, consumption, intention to quit and confidence in staying quit at one month and three months following completion of the course.

METHOD

This evaluation covers courses run from 2002 to 2007 across seven prisons around Victoria. The evaluation methodology consisted of a series of standardised interviews delivered at three time points: prior to commencement of the course; at 1 month following completion of the course; and at 3 months following the end of the course. Participants were asked “Are you currently smoking cigarettes?” to assess their smoking status at each time point. In addition they were asked how many cigarettes they smoked a day, whether they had recently tried to cut down, whether they had made a quit attempt recently, their confidence in staying quit, and their preparedness to quit in the future.

The objectives of the Quitters are Winners course include the following: to assist participants to identify the reasons they start and continue to smoke; to examine how smoking affects their health and their lives; to identify strategies for quitting, cutting down or managing smokefree times (eg during lockdown, in smokefree areas, when desired); and to assist participants to identify and use relapse avoidance strategies. The program consists of six, two-hour group sessions, which can be run over a six-week period or concentrated into a three-week period. The course structure is as follows: Session one – Why we smoke and deciding to quit; Session two – How to quit and managing withdrawal; Session three – Smoking and health and the challenges of quitting; Session four – Quitting and you. Where are you at?; Session five – What have you learned?; Session six – Looking forward. To assist with addressing their smoking, the program endeavours to link prisoners to existing health promoting opportunities, facilities and services within their correctional setting (eg stress management groups, and healthy nutrition and exercise options).

The prisons included in this evaluation ranged from minimum to maximum security, and included both male and female prisons. It should be noted however that only male prisoners were available for follow-up interviews, and therefore the findings of this evaluation are limited to male prisoners. In some cases the 'Quitters are Winners' course was run by a prison officer who had been trained as a Quit Educator, however the majority of courses included in this evaluation were facilitated by an external Quit Educator, either employed by a Community Health organisation or by Quit Victoria.

Prison -to-prison transfers is a highly common practice and often prisoners will often serve a third of their sentence at a high security prison, a third at a medium security prison and a third at a low security prison. As we do not have sentencing or release information for those who participated in the Quitters are Winners courses, it is difficult to estimate what impact this would have had on retention throughout the evaluation period. However, of those who enrolled in the course in 2007, 2% were transferred and 3% were released throughout the duration of the course, though this is likely to be an underestimate of true impact of transfers on retention, as these outcomes were not known for all prisoners.

All Victorian prisoners are able to access free Quit programs and a course of free NRT patches, which are funded by a levy imposed on all tobacco products sold in Victorian correctional facilities. The majority of prisoners use NRT in the form of nicotine patches whilst attending the course, but often they are not given their first allotment of NRT until the third session of the course. Thus, they are introduced to some of the key concepts in quitting before they begin their treatment course. These NRT patches are dispensed daily by prison staff, and are dispensed so that prisoners receive NRT patches with 21mg of nicotine for the first 6 weeks, and then 14 mg of nicotine for the next two weeks, and finally 2 weeks of 7mg of nicotine. Therefore, while this evaluation is focussed primarily on the impact of a prison-based cessation course, outcomes from the evaluation should be considered in the light of concurrent use of NRT by the vast majority of participants.

As this evaluation covers approximately 5 years of the course, some interview questions have not been asked across the entire period. In particular the question as to whether participants had reduced their consumption following completion of the course was only asked of a subset of participants.

Statistical analysis

To report the data, descriptive techniques such as percentages have been used. When testing for the significance of relationships between variables, bivariate logistic regression and multinomial logistic regression analyses have been used. Details of the statistical tests of significance are not included in the report text. Where relationships between variables are reported, the p-value was less than 0.05. This indicates that the probability of obtaining a result at least as big as the one observed, assuming that there is no relationship, is less than 5 in 100. Where trends towards a relationship between variables are reported, the p-value was less than 0.10, indicating that the probability of obtaining a result at least as big as the one observed, assuming that there is no relationship, is less than 1 in 10.

In order to examine the effects of age, it has been aggregated into three categories: 18 to 29 years, 30 to 49 years, and 50 years and above. The gender of prisoners has been inferred from the prisons in which they were incarcerated, as this data was not recorded.

Prisoners were classified as smokers if they answered yes to the question “Do you currently smoke cigarettes?”, and those who answered no to this question were considered to have quit. Daily cigarette consumption was recoded into three categories: light (less than 15 cigarettes per day); medium (between 15 to 24 cigarettes per day); and heavy (more than 25 cigarettes per day).

Only 5 female participants completed the one-month follow up, while no female participants completed the three-month follow up interviews. Therefore the results of this evaluation will apply primarily to male prisoners.

RESULTS

Participant characteristics

In total, 358 prisoners who were current smokers completed the pre-course interview. Of these, 132 (37%) completed the one-month follow up interview, and 82 (23%) completed the three-month follow up interview. As previously noted there is likely to have been some impact of transfer and release of prisoners on retention rates throughout the course and at follow up time points.

Of those who completed the pre-course interview, 98% were male prisoners (n=352) and 2% were female prisoners (n=6). Most participants were aged between 30 to 49 years of age (56%, n = 201), with 30% (n=107) aged between 18 to 29 years and 14% (n=50) aged over 50 years (Table 1).

Twenty-four percent of those who completed the three-month follow up were aged 18-29 years of age, 52% were aged 30 to 49 years of age, while 23% were aged 50 years and over. No female participants completed the three-month follow up interviews.

Intention to quit and preparedness to quit

Intention to quit was measured at both follow up time points. At one month following completion of the course, of those who were still smoking, 39% were planning to quit in the next 30 days, 53% were thinking of quitting in the next 6 months, and 8% were not thinking about quitting in the near future. Three months following completion of the course of those who were still smoking 23% were planning to quit in the next 30 days, 47% were thinking of quitting in the next 6 months, and 30% were not thinking about quitting in the near future.

Participants were asked if as a result of doing the course they felt better prepared to quit in the future. At one month following the course, 95% (n=77) of those still smoking stated that they felt better prepared to quit, while at three months following course completion, 94% (n=51) of those who were still smoking felt better prepared to quit.

Consumption

Participants who had not quit were asked if they had managed to cut down at both one-month and three-month follow up. At one-month follow up, 90% (n=69) said that they had managed to cut down the amount they smoked, while at three-month follow up, 72% (n=23) said that they had cut down since participating in the course.

Quit attempts

Seventy-eight per cent of participants (n=280) reported in their pre-course interview that they had made at least one quit attempt previously. At one-month follow up, of those participants who had not quit, 77% stated that they had made at least one quit attempt at some point during or following completion of the course (Table 1). Sixty-one per cent of those who had made a quit attempt at one-month follow up had remained quit for between one to four weeks. At three-month follow up, 67% (n=61) said that they had made a quit attempt since completion of the program, and of these 30% had remained stay quit for between two to three months.

Table 1:

Proportion of those still smoking who have made a quit attempt and approximate length of quit attempt

	1 month follow up	3 month follow up
	N=81	N=57
	%	%
Made a quit attempt during or following completion of course	76.5	66.7
Length of quit attempt		
Up to six days	39.3	16.2
1- 4 weeks	60.7	45.9
5 - 7 weeks	-	8.1
2 - 3 months	-	29.7

Quit rates for original participants

Of the 358 smokers who enrolled in the course, 132 went on to complete the one-month follow up interview, and 82 of these participants completed the three-month follow up interview.

A conservative measure of the quit rates using an *intention to treat* analysis would assume that all those who did not attend the one-month and three-month follow up interviews were still smoking. Using this approach we would assume that the 226 participants that did not attend the one-month follow up interview, and 276 participants that did not complete the three-month follow up interview, continued to be smokers.

Of all the participants who originally enrolled in the course (n=358), 45 participants who attended the one-month follow up interview stated that they had quit, which would give a quit rate of 13% using an intention to treat analysis. Of those all those who originally enrolled in the course, 24 were quit at the three-month follow up interview, which represents a quit rate of 7% (Table 2).

Quit rates for participants who completed the course

In total 181 participants completed the Quitters are Winners course. Of these, 132 participants completed the one-month follow up interviews, and 82 went on to complete the three-month follow up interview. Of these participants, 45 stated that they were no longer smoking cigarettes at one-month follow up, giving a quit rate of 25%. At three-month follow up 24 participants who had completed the course stated that they were no longer smoking cigarettes, giving a quit rate of 14%. (Table 2).

Of those who had quit at one-month follow up, 84% (n=36) were very confident that they would remain quit, while 81% (n=17) of those who had quit at the three month follow up were very confident that they would remain quit.

Table 2:

Proportion who have quit smoking at each time point

	1 month follow up	3 month follow up
	%	%
Quit rates for those who completed course ¹ (N=181)	24.9	13.8
Quit rates for all those who completed baseline measures ² (N=358)	12.6	6.7

¹ Base is all those who attended the one-month follow up interview

² Using an *intention to treat analysis* this assumes all those not able to be followed up continued to smoke.

Age and consumption

The effects of age and baseline consumption levels on quitting outcomes at one month and three months were examined, using an *intention to treat* analysis. Neither consumption level nor age at baseline were not significantly related to quitting outcomes at either one month or three month follow up.

Limitations

There are a number of limitations to this evaluation of the Quitters are Winners cessation course. Firstly, as no female prisoners attended either follow up interview, the findings of this evaluation are limited to male prisoners. All outcomes measures were captured through one-to-one interviews with prisoners, and most commonly the interviews were conducted by the Quit Educator who delivered the course. This process assists in recording evaluation information from those prisoners who have low literacy levels, however it also increases the potential influence of social desirability biases. This risk is enhanced by the absence of any biological verification of quit rates. In contrast, the used of an *intention to treat* analysis, without measurement of transfer or release of prisoners participating in the course, is likely to have underestimated the effectiveness of the course, as all those lost to follow up may not have been continuing smokers. Finally the use of NRT from week three of the course is likely to have played a significant role in the quit rates achieved by the course, and the results of this evaluation should be considered in light of the concurrent use of NRT by participants.

DISCUSSION

Prisoners who decide to quit smoking face multiple and significant challenges, however there is promising evidence about the effectiveness of cessation interventions delivered within prisons. The evaluation of the Quitters are Winners course demonstrates that cessation courses amongst prisoner populations can effectively assist prisoners to quit smoking, encourage them to make quit attempts, to reduce consumption, and better prepare them to quit in the future. The number of prisoners who are

motivated to quit and who are able to quit despite significant challenges, indicates a clear need for greater cessation support within prisons.

Of all of those who originally enrolled in the course, 13% were quit at one month following the end of the course, while 7% were quit at 3 months follow up. Of those prisoners who completed the Quitters are Winners course, 25% were quit at one-month follow up while 14% were quit at three-month follow up. The results of the Quitters are Winners course are lower but are reasonably comparable with outcomes from the limited research available on the effectiveness of prison based cessation courses, including a randomised controlled trial of a smoking cessation intervention run in female prisons in the southern states of America⁸. This study found that a combination of NRT and a group based behavioural intervention achieved a quit rate of 18% at the end of the course and 17% at three month follow up, however it should be noted that this study had female prisoner participants only, while the current evaluation had primarily male participants.

The Quitters are Winners course achieved other positive outcomes including a substantial number of quit attempts amongst course participants either during or following completion of the course (76% of participants at one-month follow up and 67% at three-month follow up), and a reduction in cigarette consumption amongst the vast majority of those who continued to smoke (90% at one-month follow up and 72% at three-month follow up). Additionally, the overwhelming majority of those still smoking reported that they felt better prepared to quit in the future (95% at one month follow up and 94% at three month follow up). Amongst those who had quit, 84% reported being very confident in their ability to remain quit at one-month follow up, with 81% stating they were very confident in their ability to remain quit at three-month follow up.

Within Australia and internationally, reducing smoking prevalence amongst socially disadvantaged groups is a health priority, and it is worth noting that prisoners often belong to multiple disadvantaged sub-groups within the population, including those with limited education and literacy, Aboriginal and Torres Strait Islanders groups, and those with mental disorders^{1,3}. Tobacco contributes significantly to health disparities within these populations, and in light of this, incarceration can be viewed as an opportunity to address high smoking rates amongst these disadvantaged groups¹¹. Indeed, there are some aspects of prison life that can be conducive to quitting smoking, such as the existence of peer support programs, the absence of domestic stresses² and the limited access to cigarettes, through canteens being open to sell cigarettes at limited times². In addition, a significant opportunity has been observed in the form of the "health focus" in prisons with many prisoners exercising and accessing medical practitioners more often than they would have in the outside community^{6,12}, particularly amongst Aboriginal prisoners¹³.

In strengthening outcomes from prison based cessation courses, it is worth considering what other mechanisms of support could be made available to prisoners to assist them to remain quit. There are often long wait lists for enrolment in cessation courses, and following the completion of the courses there is generally an absence of any ongoing support. Given the high levels of nicotine dependence amongst prisoners, and low levels of social support available to them, this would suggest a significant risk of relapse. Peer education programs have been suggested as a promising vehicle for low cost delivery of health education within prisons, with the additional advantage that prisoners themselves benefit from their roles as educators. However, further research is required to establish the effectiveness of these in a prison setting¹⁴. Teleconferencing has also been suggested as a low cost option for the wide spread delivery of cessation support, and this method has been used to deliver psychiatric services in UK prisons¹⁵ and various medical/educational functions in the US prisons with some success¹⁶. Expansion of cessation programs through use of teleconferencing may counteract service provision barriers such as lack of availability of a trained local educators skilled in smoking cessation, or prisoners being unable to attend programs or appointments due to work schedules¹⁷, though research suggests that the use of this medium requires thorough staff orientation and training to address potential resistance by staff and technical issues^{16,18}.

Enhanced access to a Quitline service has also been suggested as a way of increasing cessation support within prisons⁹. In 2008 and 2009, a tailored Quitline service was trialled by Quit Victoria in one low and two medium security locations in Victoria, however the pilot was discontinued due to low uptake by prisoners. There were significant logistic challenges in offering enhanced access to the Quitline, including limited hours of service, technical problems with the line, a ten minute limit to calls and an inability to operate a call-back service into the prisons (the latter two due to security reasons). Quit Victoria is currently reviewing other options for enhancing cessation support within prisons.

Whilst many prisons around Australia have implemented partial (primarily indoor) smoking bans, the high rates of smoking within prisons and accompanying health risks this poses to prisoners and prison staff, along with the prospect of legal action by non-smoking prison staff¹⁹, has prompted some Australian prisons to consider the introduction of total smoking bans. A study examining the impact of the introduction of a total smoking ban in a US prison found that 76% of prisoners continued to smoke following the ban, suggesting the ban was not well enforced, most likely due to lack of support for the ban by prison staff²⁰. Others have noted that total smoking bans have encouraged the creation of a black market for cigarettes, with prisoners, staff and visitors being caught smuggling and selling tobacco in some US prisons¹⁹. A review of tobacco control policies across the US noted that the initial cessation support offered during the transition to total smoking bans is often terminated soon after implementation of the bans¹¹. In the case of both partial and total smoking bans there is a strong rationale for providing continuous cessation support within prisons, so that any prisoner who is making a quit attempt (either of their own volition or as part of a total smoking ban) is provided with adequate support and resources, in order to maximise the likelihood that prisoners will remain quit in the long term. With prison-to-prison transfers and the incarceration of newly sentenced prisoners, it is unlikely that a total smoking ban in isolation would be sufficient to assist an entire prison population to quit smoking, as the experience in US prisons underlines.

Whilst this paper focuses on cessation activities inside prisons, in order to increase the likelihood that any quit attempts made in prison are sustained following release, prisoners could ideally be given ongoing cessation support through to their release, via their transition program. A prisoner's release is an often-stressful time, which has the potential to undermine any positive changes made during incarceration. The provision of relapse prevention support during the transition back to the community could help prisoners solidify the positive health gains made in prison⁷.

The evaluation of the Quitters are Winners courses run between 2002 to 2007, has demonstrated that a prison based cessation course can be effective in assisting prisoners to quit smoking, to reduce consumption, and to feel better prepared to quit in the future. However, cessation courses in prisons are not routinely available and for those that are available there are often long wait lists. The alarmingly high smoking rates amongst prisoners, and the incumbent health risks posed by this to both prisoners and prison staff, alongside the high levels of motivation amongst prisoners to quit smoking, demonstrate a clear need for cessation support to be prioritised in prison settings.

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