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Restricting Retail Supply of Tobacco to Minors – a success strategy.

ABSTRACT

The law is on the side of tobacco control advocates with regard to youth access to this lethal addictive product. However, there have been mixed results in getting this law used effectively to prevent teenage uptake of smoking, and even in convincing numbers of players in the field that effective use of the law is worth investing in.

The Health Promotion Unit on the NSW Central Coast, and their partners, now have a decade of experience and results to draw on to illustrate that restricting retail sales of tobacco to under eighteens can be a highly successful method to reduce the numbers of new smokers.

While most investigators have concentrated on the short-term effects of such market place supply restriction, the Central Coast experience suggests that the greater effects are to be seen in the long term.

Success in achieving greater than 90% retailer compliance with law prohibiting sales to minors has now been reported in most NSW Health Areas.

INTRODUCTION

Starting to smoke has been a phenomenon of the young. In the mid 1990s when this supply intervention commenced, more than 23% of New South Wales 15 year old boys and 30% of girls reported they "had smoked in the past week". [1]

In 1991, changes to the Public Health Act[2] made it an offence to sell tobacco to a person under eighteen years of age, although legal proscription on sales to those aged under sixteen had been law for nearly 90 years, but it was rarely enforced.

Early 1990's UK research [3] demonstrated it was possible to improve retailer compliance with the law on tobacco sales to juveniles, and US work from that time [4,5] showed promising substantial reductions in teenage smoking rates following such change in retailer behaviour. Initial findings in New South Wales in the similar period [6] demonstrated about two in five retailers were prepared to sell to underage buyers.

These studies caused our Health Promotion Unit to consider whether significant reductions in teenage smoking could be achieved by actively addressing the supply side of the youth cigarette market.

Tobacco is not an ordinary product. It is addictive, which has implications for the nature of demand for it. However, since this work targeted non-addicted very light or occasional smokers and current non-smokers with the aim of preventing emergence of addiction or uptake of smoking, demand for the product by our target group would still be quite elastic (i.e the quantity demanded by rational non- addicted consumers is still sensitive to changes in price and/or changes in market supply).

While there has always been general recognition that efforts should be made to reduce demand for tobacco via interventions such as media campaigns and school education there seemed little effort in health promotion circles to reduce supply and yet elementary economic models[7] tell us that a shift in either will affect consumption.

METHODOLOGY

The Central Coast of New South Wales comprises the local government areas of Gosford City and Wyong Shire with a 2001 population of 285,000 people.[8]
It is a largely urban area forming a nearly continuous conurbation between metropolitan Sydney in the south and Newcastle to the north. In 1994, over 400 tobacco retailers (exclusive of liquor licenced premises) were found to be operating in this area. These retailers were identified by extensive walking and travel of Central Coast streets and roads, since no central register or licensing of these was available.

The means of changing retailer behaviour is based on the same philosophy that lies behind the Australian success in Random Breath Testing for alcohol on the roads – namely education, enforcement, and publicity. [9,10]

Teenage volunteers were recruited to 'compliance test' retailers – entering shops and making attempts to purchase cigarettes. The first such tests in 1994 followed 18 months of extensive retailer education about the law. More than a quarter of the Coast's retailers were tested in each of those early operations.

Random compliance testing is an ongoing feature of this work with tests occurring now at any time throughout the year. Policy[11] to enable this to occur across New South Wales is in place and all Health Areas have undertaken such operations[12].

Following the failure of retailer education alone to halt illegal tobacco sales, 1995 saw the enforcement stage of the intervention commence, with a partnership between our Unit and police. Complementing this, intensive publicity in local media highlighted the possibility that this could happen anywhere, at any shop, at any time; increasing the perception of the likelihood of being caught.

As well as observing retailer selling rates over nearly a decade, self reported smoking behaviour information from secondary students was collected three yearly, starting before any supply intervention.

Results on the NSW Central Coast

There was no other special teen smoking intervention happening on the Central Coast during the 1990s. All our teenagers were potentially exposed to standard school education, all of them could have seen the usual media Quit campaigns. What was unique was our emphasis on supply in the mid 1990s, although other areas were catching up by late in the decade. In 1998/99, four Public Health Units within the seventeen NSW Area Health Services reported greater than 90% compliance by retailers on test, in addition to the Central Coast.[12]

At the outset (1994), over 30% of retailers sold to our volunteers on the Central Coast. Within two years, this was reduced to less than ten percent and a rate less than five percent was maintained for the next three years[13]. Our latest (2002/03) compliance testing again gives a similar result (no retailers sold on test). Compliance testing across NSW by Public Health Units resulted in nine of the seventeen Areas reporting greater than 90% compliance by retailers in 2001/02.[12]

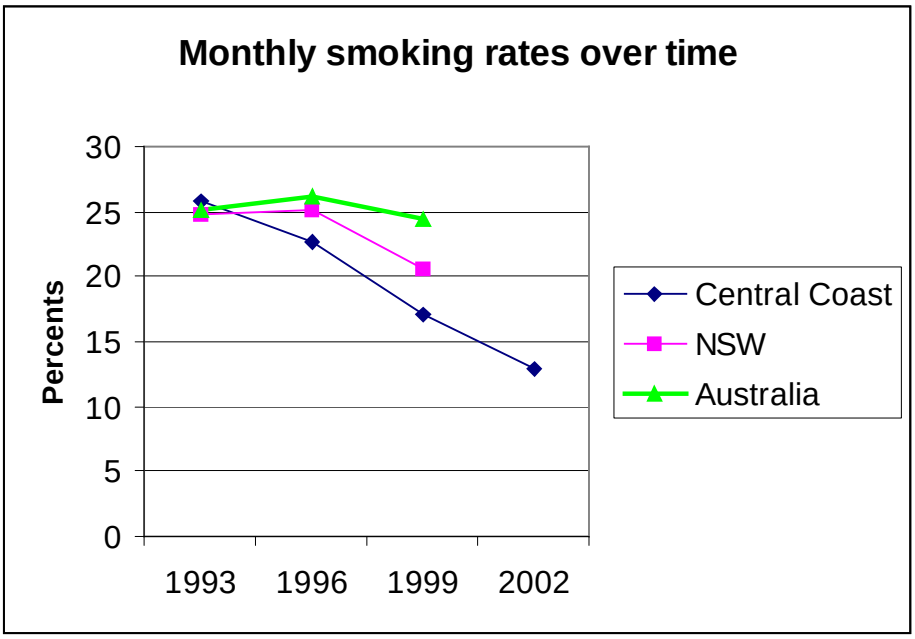
Fig 1 shows the results of surveys of monthly smoking rates undertaken with support from a number of high schools, since before we commenced our crackdown on retail supply a decade ago, compared with State and national results (2002 NSW and Australian results not available).

A cross sectional sample of Central Coast students was surveyed in 1993, 1996, 1999 and 2002. In 93, 96 and 99 the same four schools cooperated in seeking information on smoking rates within their school. The locations of the schools spanned the geographical aspects of the Central Coast, and included a range of different socioeconomic regions. In 2002 a change in school junior/senior organisation structure meant that three neighbouring campuses were included to maintain the cross section of ages. As a result, in 2002, seven high schools gathered information on smoking among their students, more than a quarter of the Area's secondary schools. Sampling was based on all students present on the study day to maintain consistency of age mix. The work was carried out at approximately the same time each year for the same reason. The total sample sizes were 2827, 3148, 2337, 4313 over the respective years.

We compared our data with the 1993 New South Wales Secondary School Age Smoking, Alcohol and Sun Protection Survey produced by the Cancer Council, which subsequently evolved into the Australian School Students' Alcohol and Drugs Survey of 1996 and 1999. The question asked of the Central Coast students concerned monthly smoking behaviour. The ASSAD survey enquired about smoking in the past four weeks. While the questions are not identical, they are comparable and remained consistent throughout the decade. For convenience we will refer to these as "monthly smoking rates".

Fig 1

Ref [1,13,14,15,16,17,18]



In 1993 the smoking rate of our 12 to 17 year olds was 25.9%, similar to state and national results. Each result in subsequent years showed a statistically significant reduction on the Central Coast, with a rate of 22.7% in 1996, and 17.1% in 1999. In 2002 a rate of 12.9% was recorded (not previously reported).

The Australian monthly (four weekly) proportion of smokers showed little change over this time and if the lower smoking rate 1999 NSW sample of in excess of 4000 students were excluded from those national results, the rest of Australia would continue to exhibit a rate greater than 25%.

Fig 2 shows the age results on the Central Coast from 1993 to 1999. The greatest initial impact is on 12 and 13 year olds but as time passes, an impact is evident across the age groups.

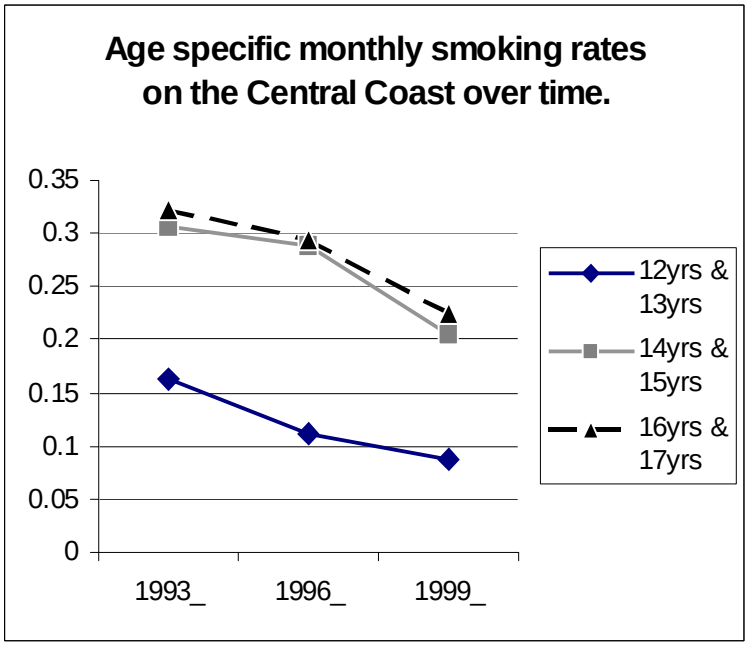


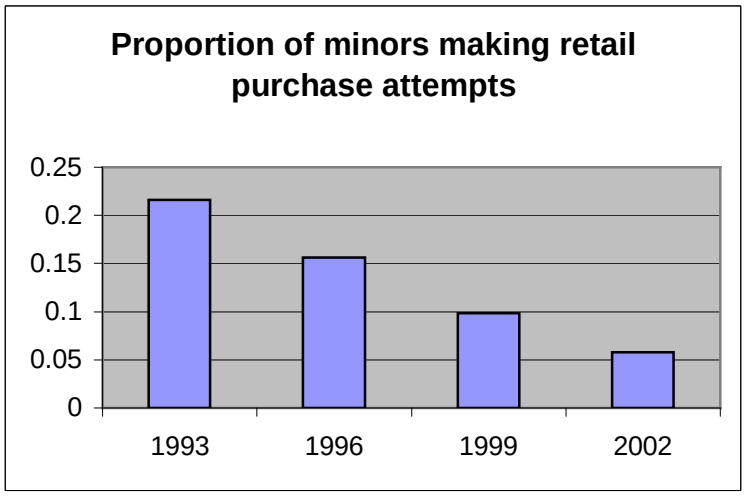
Fig 2

As previously reported[13], the greatest impact is on light smokers, those who smoke less than five a day. All of the initial (1996) reduction in monthly smoking rates was in this group and was most concentrated in the "lightest" of all – those who smoked an average of less than one cigarette a day.

A by-product of stopping retail availability is stopping purchase attempts by teens. Apparently, many give up or don't start trying to make purchase attempts.

Fig 3 shows the reduction in purchase attempts by our whole sample.

Fig3



In 1993, 21.6% of all teenagers surveyed reported going in to shops to make their own purchase attempts. By 2002 this had declined to only 5.7% . Comparison with the monthly smoking rates in those years (25.9% and 12.9%) illustrates that more than 80% of teen smokers were making efforts to buy their own a decade ago, but in 2002 this had declined to less than half of the smokers.

Discussion.

This undertaking has not been without opposition. We were denounced variously for doing something immoral, unfair, un-Australian, or ineffective; and the truth of our assertions that retailers were committing this illegal act was challenged. A defence lawyer attempted to exonerate his client by arguing (unsuccessfully) in court that we had committed illegal acts in compliance testing.

As recently as 2002, some international tobacco control advocates suggested it was time to abandon youth access programmes[19] stating that such efforts do not make it difficult for teens to purchase cigarettes, do not affect smoking prevalence, and are a drain on limited resources. Ling et al conclude, after analysis of various published studies "it is time….. to recognise that the balance of empirical evidence shows that youth access is a failed strategy and abandon it."

In a response entitled "It is time to abandon bad science" DiFranza[20] counters that numbers of the studies examined suffer from methodological problems either in the study design, or in the implementation of the access restrictions in the first place with numbers failing to include any actual enforcement of the law. He further argues that another error in evaluating youth access interventions is to assume "the basic premise that the percentage change in merchant compliance should correlate with the percentage change in the prevalence of youth smoking"[20] Slight reductions in selling rate will not make purchase much harder – minors can just go to the next shop willing to sell. Levels of retailer compliance above 90% appear to be needed to affect smoking rates.[13,20,21] A reduction in light/irregular smoking occurred on the Central Coast concurrently with achievement of this figure by 1996, earlier than any change in overall NSW teen smoking rates. This reduction was substantially larger by 1999 when NSW did report the first drop, at a time when the whole state had by then embarked on a structured effort on sales to minors and nearly a third of Areas reported greater than 90% retailer compliance on test. Conversely, the Australian monthly smoking rate was stable between 1993 and 1999 at about 25%.

When retail supply is greatly reduced, some substitution of other sources is to be expected. In 2002, only a minority of our greatly reduced number of smokers claimed to be making retail purchase attempts, where more than 80% were making such approaches when the smoking rate was 25.9% nine years earlier. It is logical that secondary sources of supply make up the gap, but it does not, at least on the Central Coast, fully replace primary retail supply. Radically reducing retail supply to teenage smokers probably reduces the number of cigarettes available for circulation in the secondary marketplace, at the same time as increasing the number of consumers wanting to purchase in that market as committed juvenile smokers who used to buy in shops search for tobacco supplies. Teenage anecdotes heard during the height of our activity told us the playground price of that secondary source of supply had doubled, an effective deterrent to consumption.

It is likely retailers will revert to old ways if pressure on them lessens, but the change in teenage purchase attempt behaviour suggests that even if it does, there is a period of time to get retailers under control again before word gets around. When we started,

21.6% of all teenagers were going into shops to buy cigarettes, but by 2002 this was down to 5.7%.

Ling et al[19] posed an overly simplistic question: "Do these interventions work?" and sought to answer this question by considering different studies using different measures and different intervention methods in different countries in different legal jurisdictions with different overall stages of development of tobacco control. Their conclusion sought to generalise the alleged failure of these interventions to 'work' across all places and conditions. The correct question to ask would have been " under what circumstances do youth access interventions succeed or fail in reducing teenage use?"

Our experience suggests that under the circumstances obtaining on the Central Coast and in other settings at community or state level,[22,23,24] reducing retail access can lead to reduced use. The Canadian Cancer Society in its "'bottom line" conclusion in its analysis of youth access laws[21] says that while the evidence about the impact of access policies is mixed, those efforts which did produce a decrease in youth smoking were characterised by "very high rates of retailer compliance (greater than 90%) and were comprehensive community-based interventions, involving a well-drafted law, regular compliance checks, meaningful penalties for non-compliance, and strong community support and involvement." It is only one strategy to be applied in a raft of tobacco control measures including advertising restrictions, taxation, environmental protection, education campaigns, legal redress, cessation assistance and so on.

It is also an error to restrict examination of results to the short term. Our work suggests the greater results are to be seen in the longer term. First impact is on the youngest cohorts, with the results then flowing through to succeeding years as many of these "prevented smokers" stay non-smokers as they age. Over time, this initial supply strategy also results in demand reduction.

This is a "smoking prevention" initiative. As our work illustrates, it is the very light, probably experimental, smokers who are most affected in the early stages, as Siegal[23] also finds. By logical extrapolation, it probably also prevents some non-smokers moving even to the light smoker stage. This effect could be through the restriction of

supply in the secondary market, in addition to ending of the primary market for these youngsters. The available cigarettes are taken up by the heavier smokers who will make more sustained attempts to satisfy their cravings leaving few left over for those who are less willing to pay the increased secondary market price. Those heavier smokers may need some "smoking cessation'" intervention to reduce their smoking prevalence in the short term. A youth access program cannot be expected to do it alone.

This successful work on the Central Coast and the recent successes by a majority of NSW Health Areas in achieving greater than 90% compliance on test among their retailers, demonstrates that effective action can be taken at local level to ensure our neighbourhood tobacco industry representatives who sell this lethal addictive product do so within the law. More than 150 prosecutions, by local environmental health officers and police, have been undertaken to date across New South Wales.[12] The state wide workforce of people taking action on retail sales to minors as part of their regular duties makes such success possible.

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