

# Achievement of Ministry of Health smoking cessation targets at Hutt Hospital

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## **1. Abstract**

**Introduction:** Since the “Better help for smokers to quit” targets were introduced by the Ministry of Health in 2009, Hutt Hospital has exceeded the target of offering cessation advice to 95% of hospitalised smokers since 2013. However, no research has been done to assess effectiveness of the targets in increasing quit rates in the target population. This audit was conceived to fill this gap in the literature and build a picture of the effectiveness of the target.

**Methods:** This study included: a literature review, a survey of all smokers at Hutt Hospital, a series of in-depth interviews with patients, and interviews with key staff involved in the target implementation and smoking support.

**Results:** Of the 34 patients in the survey, 65% had been offered advice to quit smoking at the time they were surveyed. Those who had been offered advice were more likely to have improved motivation to quit since admission than those who had not, and the advice was largely acceptable to smokers. Key informant interviews revealed mixed views on the targets. They were considered to offer another opportunity for smokers to quit, but did not have resourcing to support them or a focus on outcomes.

**Discussion:** The targets appear to have some small effect at Hutt Hospital in increasing smokers’ motivation to quit. However, there are gaps where effectiveness could be increased, such as improving integration with community services. The targets need strengthening and resourcing in order to achieve the Smokefree 2025 goal.

## **2. Introduction**

In 2009, the Ministry of Health 'Better help for smokers to quit' targets were established. These targets provided a goal for the proportion of hospitalised smokers who would be identified and provided with advice to quit. According to HVDHB data, Hutt Hospital has exceeded the target of 95% since 2013. While the target has been achieved, it doesn't provide a full picture of smoking cessation intervention as carried out at Hutt Hospital. This project has been conceived to explore the support given for smoking cessation within the hospital and the effect of this support on patient smoking.

### 3. Literature review

#### Health Burden of Smoking & History of Cessation Strategies Worldwide and in NZ

Worldwide, tobacco use is the third highest risk factor for global burden of disease. It was estimated to account for approximately 6.3% of all DALYs. (1) In New Zealand specifically, tobacco use is estimated to cause 5000 deaths annually. (2) There is no debate surrounding the devastating impact that smoking has on health, or the need for strong anti-smoking strategies to be put in place. However, opinions do differ about which strategies are best to aid people to quit smoking, prevent people from taking up smoking and therefore minimise smoking related disease and death in New Zealand.

Tobacco use has been tackled internationally by the World Health Organisation (WHO) with the first ever global public health treaty developed to combat the worldwide health burden. The “Framework Convention on Tobacco Control” was adopted in 2003 and came into force in 2005 in order to combat what WHO referred to as the globalisation of the tobacco epidemic. (3)

Smoking rates in New Zealand have decreased from 2006/07 to 2014/15 by about 3%, to 15% of adults smoking at least monthly. The most significant change has been noted in youth smoking rates. (4)

Māori people are greatly affected by high smoking rates. They have retained the highest smoking rate, with no significant decline in smoking rates in this group. In fact, smoking rates in both Māori and Pacific peoples are increasing. As a result of this, tobacco-related illness and disease are taking a huge toll on the Māori population. The rates of lung cancer in Māori women are amongst the highest worldwide, and death rates from lung cancer are three times higher amongst Māori compared with non-Māori. (5) These statistics emphasise the need for a Māori-specific anti-smoking strategy, and particular attention given to this group when looking at the issue of smoking in New Zealand and achieving equity.

New Zealand has a wide reaching strategy to decrease rates of smoking in New Zealand. (2) It includes a goal of being a smoke-free country (defined as fewer than 5% of New Zealanders being smokers) by 2025. Other components are increasing tobacco taxes over time, regulations around advertising and displaying tobacco products, health promotion materials and a strategy known as “Better Help for Smokers to Quit Targets”.

The first targets were introduced in 2010 by the New Zealand government, with the goal of “80% of hospitalised smokers being provided with advice and help to quit”. This was updated in 2015/2016, to “95% of hospital patients who smoke and are seen by a health practitioner in a public hospital are offered brief advice and support to quit smoking”. (6) The 20 DHBs throughout NZ have been very successful in the implementation of this standard, all achieving over 93% in the third quarter of the 2015/2016 period. (7) Some limited research has been done into whether the meeting of these targets has had much effect on any of

the intended consequences. One study has drawn comparisons between the introduction of the health targets and Hutt Valley DHB's use of nicotine replacement therapy (NRT), showing a four-fold increase in the amount of NRT units prescribed following the introduction of the targets and the associated increased training of house surgeons within the hospital; (8) however, this is the only evaluation of the effects of the targets that we could find.

#### Best practice for smoking cessation in all settings - Intervention

According to Ministry of Health guidelines and current best practice, the most effective components of cessation support are multi-session behavioural supports and stop-smoking medicines. Using these components together is associated with the highest long-term abstinence rates (9).

In New Zealand, available stop-smoking medications are Nicotine Replacement Therapy (NRT), Bupropion, Nortriptyline and Varenicline. NRT reduces the urge to smoke by replacing some of the nicotine a cigarette would provide. It may be administered via a patch, gum, lozenges, inhaler and mouth spray. All NRT products have been shown to nearly double a person's chance of stopping compared with a placebo. (2) Evidence suggests that the higher-dose NRT products are more effective than lower-dose products (eg, 4 milligram gum versus 2 milligram gum) (9) especially in people who are more highly dependent.

Bupropion and nortriptyline are both antidepressants (an atypical antidepressant and a tricyclic antidepressant, respectively). Both reduce the severity of tobacco withdrawal symptoms. Bupropion approximately doubles a person's chance of stopping smoking with OR of 1.82 (95% CI 1.60 to 2.06). (10) Nortriptyline has a RR of 2.03 (95% CI 1.48 to 2.78). (10)

Varenicline is a nicotinic receptor partial agonist. It both reduces cravings for and decreases the pleasurable effects of cigarettes, and has shown to at least double a person's chance of stopping smoking. Varenicline has also been shown to be superior to any single type of NRT, and is as effective as combinations of NRT (OR 1.06 (95% CI 0.75 to 1.48). (10)

As well as pharmacotherapy, telephone support and counselling has been shown to be successful in the treatment of smoking cessation. (9) Telephone support is an effective method of encouraging people to stop smoking. Proactive support, where the smoker receives calls from a telephone counsellor at set times, is more effective than smoker-initiated telephone support. Evidence has shown that both individual and group-based interventions are also mildly effective; individual face-to-face behavioural support can increase long-term abstinence rates by 2-5% compared with written materials or brief advice and group support can increase long-term abstinence rates by 4-8% compared with written materials or brief advice.

### Best practice for smoking cessation in all settings - Setting

For those who smoke, one of the more difficult barriers to overcome is that of the addiction itself. (11) Much of the literature suggests that due to the nature of addiction, smoking cessation could be achieved well with a more long-term and systematic framework in the delivery of advice and support. (12) Rather than treating smoking as a lifestyle choice, it should be classified as a chronic disease of addiction, which must be treated appropriately. (12)

Smoking cessation advice can be delivered in many different ways across both primary, secondary and community settings. While most methods in each setting appear to be effective to varying extents, (13) it is important to note that there are certain combinations of settings, modes of delivery and interventions that work best to influence quitting of smoking, (13–15) compared to any intervention on their own. The overwhelming majority of individual studies and reviews have found that combining a form of intensive counselling (individual or group; primary, secondary or community) with nicotine replacement therapy (NRT) or other pharmacotherapy achieves the best quitting outcomes in the long term. (13–15) In one systematic review, adding NRT to intensive counselling initiated in the hospital and continued with outpatient therapy increased the likelihood of quitting from RR 1.37 to 1.54, but did not show the same significance for varenicline or bupropion. (14) Similarly Wolfenden et al. (15) have found that inpatient intervention must be at least 20 minutes long, with an extended post-discharge follow up including at least 5 referrals delivered over a three month period.

A 2014 review on Tobacco Control Services (13) found that secondary care settings (i.e. hospitals) are a key place in which to deliver advice and support for smoking cessation. Patients are in a vulnerable place being sick enough to require admission to hospital. The shock of more severe health concerns often pushes people into a frame of mind where considerations for quitting can begin. Inpatient interventions involve initiating the discussion about quitting with anyone who is identified as a smoker on admission and offering NRT (14,15). A systematic review of 50 trials showed that beginning intensive counselling in hospital increased the chance (RR 1.37 95% CI 1.27 to 1.48) of quitting. However, this was in combination with continued supportive contacts post-discharge. (14) Another review found that in-hospital interventions appeared to be more successful in those patients admitted for cardiovascular disease (OR 1.71), or a 15% increase in median absolute cessation rates for cardiac patients compared to 4% in other general medical patients. (15)

In the primary care setting, GPs, dentists and nurses have a good opportunity to deliver advice as they tend to have more time and rapport with the patient to bring it up. The 2014 review by Shore et al. (13) in New Zealand found that in primary care, advice and support can be given in the form of motivational interviewing, stage-based therapy or cognitive behavioural therapy (CBT). CBT can be successful in encouraging smokers to quit, particularly in the setting of comorbid psychological illness such as depression or anxiety, however has little evidence backing up whether it remains a successful method of initiating long-

term abstinence. (13) Motivational interviewing, when given by a primary care physician, does appear to be more successful (RR 1.27 [95% CI 1.14 to 1.42]) in encouraging smoking cessation when compared to normal or brief advice given. (13) Stage-based therapy (i.e. support given based on the readiness of the patient to change their habits) did not appear to have any extra benefit over non-stage based therapies. (13) Interestingly, although much of the literature agrees with Els and Kyunk (12) in that advice and support should be given in a way that treats smoking addiction as a chronic illness rather than a lifestyle choice, brief advice given by doctors, nurses or dentists is just as effective as the intensive interventions as listed above (RR 1.29 - 1.71). (13)

In a community setting, the main successes lie in the voluntariness of the initiation and the support attendees can get from their peers. Group counselling is an effective intervention highly acclaimed for its cost-effectiveness, and the fact that the attendees of the groups can help to support each other over time. (13) This was around twice as good as simple advice in the form of take-home materials (95% CI 1.60 to 2.46), and equivalent to individual advice of the same intensity. (RR 1.01 95% CI 0.77 to 1.32). (16) Specialist quit-smoking clinics are not currently offered in New Zealand, but appear to be a popular choice internationally, showing long-term success in quitting. (13,17) In the USA, clinics have been around since the early 1980s, and involve intensive 9-week programs in small groups (8-15 people) where the patients work towards a target date for quitting. (17) Likewise in the UK, the NHS Stop Smoking Service (NHS SSS) consists of smoking cessation clinics, which work to combine intensive group counselling and prescription of pharmacotherapy to small groups of people with quitting targets. (18,19) These clinics have been shown to be more effective than primary care advice in both long and short term quitting rates, however may not appeal to the “harder to reach” demographics as they require a lot of time and transport to attend. (18,19)

#### Specific evidence for brief cessation advice/ABC framework

The 2009/10 Health target for smoking cessation advice is based on evidence regarding the efficacy and effectiveness of brief advice, using the ABC framework, on long-term quitting rates. The ABC framework involves 1) asking and documenting every person’s smoking status, 2) giving brief advice for smoking cessation, 3) offer and refer cessation support (behavioural and pharmacological) to all who accept. (20)

Brief advice is 5-20 minutes of counselling, given by a healthcare professional. A Cochrane review found no statistically significant difference found between brief or intensive counselling. (14) Highest abstinence rates of 19.9% are achieved when delivered by a physician or specialist. Nurses delivering the advice offers an OR of 1.50 compared to no intervention, and more than one health professional delivering the advice conferred additional benefits. (15) Brief advice allows the individual tailoring of treatment and management for smoking cessation which can improve outcomes and equity. In NZ, Māori, Pacific and pregnant women need to be given particular attention due to high rates of smoking, high potential for benefits and preventable risk

of significant harm. (20) This advice is most effective when it is given in a socially acceptable way, advice to quit is clear, and motivational interviewing is used to promote autonomy and self-efficacy. (15)

Despite strong evidence supporting brief advice from the Cochrane review, it is noted that the effectiveness of brief advice appear to be reduced when transferred from a research setting to routine care. (21) This loss of impact may be explained by incomplete care and other barriers of implementation in reality. These barriers include not being part of routine system, time constraints, lack of confidence and training, perception of patients not being receptive, attitudes of brief advice being beyond role, and healthcare workers who smoke. (11) They can be managed by training, system prompts and providing the clinical environment for it occur, audits and feedback, and leadership. (20) A decision must be made to either use brief advice by nurses, which is cheaper and assesses all patients during admission, or to use extended counselling by trained staff who will have access to fewer patients but will improve the quality of the intervention. (21)

In a review by West et al. in 2015, (9) brief advice achieved efficacy of 2% point increase in 6-12 month abstinence compared to usual care, was cost-effective (ICER) and affordable (ratio of cost of saving life-year per-capita GDP) in the context of high-income NZ. It is also noted that brief advice aims to prompt quit attempts rather than increase the probability of success hence it is more effective in groups with minimal or low rates of quit attempts. It is also clear that brief advice coupled with pharmacological and/or behavioural support increases the abstinence rate significantly.

### Literature gaps

Significantly, there is no good evidence on the effectiveness of the Brief Advice to Quit targets in New Zealand hospitals. This study is a necessary start to that evaluation and assessment process. There is also a gap in the evidence on the effectiveness of combining different smoking interventions.



#### **4. Aims**

This project is an audit of the implementation of the 'Better help for smokers to quit' targets in the Hutt Hospital. The primary goal is to comprehensively evaluate the support for smokers being delivered at Hutt Valley hospital under the guidance of Ministry of Health (MoH) targets. This goal will be achieved through several aims.

1. To find out whether the MoH targets are being achieved and investigate the effectiveness of these targets in motivating smokers to quit
2. To find out about patients' experiences receiving smoking support in the hospital and how they felt about the support they were provided
3. To understand the perspectives and needs of professional parties involved in smoking cessation with regards to the MoH targets and their implementation
4. To identify ways in which the process for provision of support to smokers about quitting could be improved at Hutt Valley Hospital
5. To critically analyse MoH targets, including consideration of their effect on health inequities

## 5. Methods

### Literature review

A search was performed using MEDLINE via OVID using the keywords and search strategy of Table 1.

A secondary search was also completed with Google Scholar. To identify relevant papers, keywords of “target (“secondary care” OR “hospital OR inpatient) “smoking cessation” advice (zealand OR aotearoa OR maori)” were used.

**Table 1. Search strategy for literature review**

Ovid MEDLINE(R) 1946 to Present with Daily Update			
#	Search Statement	Results	Annotation
1	"tobacco use cessation"/ or smoking cessation/	23898	
2	Smoking/pc [Prevention & Control]	16330	
3	1 or 2	34573	
4	incentive*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	23649	
5	target*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	923522	
6	4 or 5	945493	
7	3 and 6	2664	
8	Patient Education as Topic/	74911	
9	advice.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	33062	
10	7 and 9	144	
11	limit 10 to english language	140	
12	limit 11 to yr="2005 -Current"	96	
13	from 12 keep 30,32	2	
14	((smoking or cessation) adj3 advice).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	915	
15	3 and 14	690	
16	5 and 15	53	

## **Quantitative research**

### **Patient survey**

#### *Survey development*

A survey was developed to investigate the experiences of smokers in the hospital. Where possible, questions used were the same as those used in Ministry of Health or Census data collection (22). Guidance was provided during this process by Stephen Vega, the Smokefree DHB Coordinator at Hutt Hospital. Approval for the surveying process was granted by Quality Advisors at the Hutt Valley Hospital prior to surveying.

Survey questions included the following:

- Smoking prior to admission
  - How many cigarettes did you smoke per day prior to admission?
  - How many years have you been smoking?
  - Have you attempted to quit smoking in the last 12 months?
  - How motivated were you to quit smoking just before you came into hospital?
- Smoking during admission
  - Have you smoked while in hospital (and if so, where?)
  - Have you been offered help quitting while in hospital? (and if so, by whom?)
  - Were you approached by Whanau support or Pacific health services?
  - What options to aid quitting were discussed with you?
- Likely smoking post-admission
  - How motivated are you to quit smoking now?

A copy of the survey is included in Appendix 1.

#### *Survey administration*

The inclusion and exclusion criteria are listed below.

Inclusion criteria:

1. Patient is a smoker (defined as having smoked at least one cigarette in the last month) or was on admission to hospital
2. Patient is an in-patient at Hutt Valley Hospital (stay in hospital of at least 3 hours)

Exclusion criteria:

1. Little or no English language
2. Cognition impaired
3. Patient physically unable to complete survey
4. Nursing staff excluded patient for any reason

The survey was administered to all possible patients meeting the inclusion criteria on included wards over a two week period, from 24/5 to 03/6. Patients filled in the survey on paper independently, or with help from a student if unable to write. Wards included were Te Whare Ahuru (TWA - Mental Health), Coronary Care Unit (CCU), Orthopaedics, Medical, Surgery and Gynaecology, Endoscopy, Day Surgery Unit, Plastics, and the Medical Assessment and Planning Unit (MAPU). These constituted nine out of thirteen wards at Hutt Hospital. Wards were selected and approached by HVDHB Smokefree Co-ordinator Stephen Vega. The wards that were not included were the Emergency Department (as the survey might get in the way of necessary care), Intensive Care Unit, Children's Ward, Maternity, and Older Persons and Rehabilitation Service.

The method of survey administration varied between wards. Where possible, students asked all patients on the ward if they were a smoker and if so, if they would participate by filling in a survey. In Endoscopy and the Day Surgery Unit, surveys were left with ward staff who invited patients who smoked to complete a survey. This was done because students were only able to administer surveys for one to two hours per day. Due to the high patient turnover in Endoscopy and the Day Surgery Unit, asking ward staff to distribute surveys allowed a greater number of patients to be invited to take part. Completed surveys were picked up by students intermittently during the two weeks. In Te Whare Ahuru, patients were approached by a staff member, who identified smokers and invited them to complete a survey while students were present to answer questions. In some wards, staff directed students to patients who were smokers or who were in a state fit to complete a survey.

The final page of the survey included a space for patients to write their name and ward if they were willing to be contacted while in hospital for a qualitative interview. If not, the survey remained anonymous. No

patients were contacted after their discharge. Surveyors noted the ward each survey was completed on for data collection purposes.

### *Survey data analysis*

Survey answers were entered into a Microsoft Excel spreadsheet. Analyses included descriptive statistics (e.g. prevalences). Associations between potential determinants (e.g. demographic characteristics) and process measures (e.g. receiving cessation advice) and outcomes (e.g. smoking in hospital, change in motivation to quit) were assessed using odds ratios calculated using R. (23) Some confidence intervals calculated using Epi Tools. (24)

## **Qualitative research**

### **Patient Interviews**

#### *Schedule development*

The interview schedule was developed to investigate participants' experience with smoking cessation support during their admission to Hutt Hospital. In particular, it explored participant's motivation quit and whether the discussion about smoking cessation helped them feel more able to quit. The schedule also investigated how participants felt about the discussion they had with a healthcare professional about smoking cessation and what kind of help they have had to quit in the past. This was achieved by developing an interview schedule with one of the project supervisors, Hera Cook, aimed at exploring the individual patient experience of smoking cessation support and/or advice.

All survey participants who had indicated they were open to an interview were approached. The initial aim was to interview 5-10 patients, selected on the basis of diversity in gender, age and ethnicity. This was not possible due to the small number of participants in the study. The survey identified eleven participants who were open to an interview; five agreed to be interviewed when approached again, two were excluded due to worsening health, and five were lost to follow-up. Loss to follow-up was either due to discharge or untraceable movement within the hospital. Interviews were conducted over five days. Each interview was audio recorded and later transcribed verbatim.

#### *Analysis*

An extensive review of the interview transcripts was completed by one individual. Codes were generated with assistance from other members of the research team and assembled from the interview transcripts using

Dedoose. (25) Patterns within the coded data were reviewed to assess whether it was an accurate portrayal of the entire data set and further refined to produce the themes below. The themes were all confirmed following discussions within the research team. Following this, a contextualist method of thematic analysis was performed.

### **Key informant interviews**

The key informant interview arm of this study focused on gaining insight into the implementation and effectiveness of the Better Help for Smokers to Quit Target, at Hutt Hospital, from the perspectives of key stakeholders. The aim was to obtain interviews from all levels of the health sector, from the MOH representatives mandating the target, to the frontline staff tasked with achieving it, as well as the community-based quit support services to whom patients are referred.

Key informants were picked from a list of key contacts provided by supervisors and through students' own research into the Hutt Hospital and local smoking cessation services. The eight key informant sources approached included: the MoH smoking target champion, the MoH smokefree champion, the Hutt Hospital smokefree champion, the HVDHB smokefree coordinator, the director of Smokefree Nurses Aotearoa, Aukati Kaipaipa Māori smoking cessation service at Kokiri Marae, the HVDHB Pacific Health Unit, and the HVDHB Whanau Care Māori Health Development Unit. Unfortunately, the two Ministry of Health representatives did not respond so they were not able to be interviewed. This was disappointing as they would have been excellent sources of information regarding the government's motivation for implementing the target, and how the target had been formulated.

The interview schedule was developed in consultation with Hera Cook, and with reference to 'The In-depth interview method', a chapter from the book 'Qualitative Research Methods' by Liamputtong. (26) Questions were tailored to the individual's expertise, to make the most of their knowledge and opinions around the topic, although there was a core list of issues which were asked of all interviewees.

Key informants were contacted via email and asked for permission to interview them in person at a time that was convenient for them. This initial email also included a consent form and information sheet about the study. Each potential key informant was asked for permission to mention their position in reported findings, but given the option to remain anonymous. All agreed for their position to be mentioned.

Six semi-structured interviews were conducted with key informants. One was over Skype, as the informant was not based in the Wellington region. Two interviews were group interviews, one of which involved two (Whanau Care Mental Health and Addictions Service) and the other three (Wairarapa and HVDHB Pacific Health Unit) interviewees. All interviewers were 4th year University of Otago Wellington medical students who were part of the research team. The research schedule for each interview was used as a guideline. Key informants were encouraged to explore their own ideas.

Voice recordings were made of the interviews on a password protected portable device. The interviews were then transcribed onto a password-protected computer within 24 hours. The voice recording was then deleted to maintain confidentiality, and the transcripts analysed as per the methods used for the patient interviews.

### **Health Equity Assessment Tool**

The Health Equity Assessment Tool was used to assess the MoH targets and their implementation as an intervention with regards to equity based on the evidence gathered during the audit. The HEAT guide found on the Public Health Association website was used to guide this assessment. (27)

## **6. Results**

### **Survey**

41 people were identified as smokers. 34 patients completed the survey and 7 declined, a response rate of 83%.

#### *Demographic characteristics of the sample*

34 subjects were recruited with a wide range of ages and approximately equal split by gender (Table 2). The most common ethnicities were NZ European, Māori and Samoan.



**Table 2. Demographic characteristics of survey participants**

	Number	%
Gender		
Female	17	50.0
Male	14	41.2
Not stated	3	8.8
Ethnicity*		
NZ European	24	70.6
Māori	10	29.4
Samoan	4	11.8
Indian	2	5.9
Tongan	1	2.9
German	1	2.9
Age		
≤ 20	3	8.8
21 - 30	10	29.4
31 - 40	6	17.6
41 - 50	1	2.9
51 - 60	4	11.8
61 - 70	5	14.7
≥ 71	5	14.7

\* Participants were able to select more than one ethnicity

Information was collected about patient smoking habits prior to admission, which is presented in Table 3 below. The majority of patients had a smoking history of less than 20 pack years. Almost half of all patients had made a quit attempt in the last twelve months.

**Table 3. Smoking habits prior to admission**

	Number	%
Cigarettes smoked per day		
0 - 5	5	14.7
6 - 10	8	23.5
11 - 15	12	35.3
16 - 20	6	17.6
≥ 21	3	8.8
Pack-year history		
0 - 10	15	44.1
10.1 - 20	8	23.5
20.1 - 30	5	14.7
30+	6	17.6
Quit attempt in last 12 months		
Yes	16	47.1
No	18	52.9

58.8% (20/34) patients smoked while in the hospital. There were differences between wards in this respect, as shown by Table 4. The highest rates of patient smoking were found in Te Whare Ahuru (TWA, mental health) and Plastics. The lowest rate of patient smoking was found in the Orthopaedic ward.

**Table 4. Smoking while in hospital, by ward**

	Smoked in hospital	Total	Rate (%)
CCU	1	3	33.3
Medical	1	4	25
Ortho	1	5	20
Surg/Gyn	2	5	40
MAPU	3	4	75
TWA	5	5	100
Plastics	4	4	100
Unspecified	3	4	75
Total	20	34	58.8

At the time of survey completion, approximately 65% of patients (22/34; 95% CI 48-79%) had been offered help to quit. 62% (13/21; 95% CI 41-79%) of this help was provided by doctors, with 38% (8/21; 95% CI 21-59%) provided by nurses.

The rate at which help (or support) to quit was offered was considered by ward. CCU had the lowest rate of support provision, while the Medical Assessment and Planning Unit had the highest rate of support provision. This is shown in Table 5.

**Table 5. Rate of support provision by ward**

Ward	Total patients	Number given support	Rate of support (%)
CCU	3	1	33.3
MAPU	4	4	100
Medical	4	2	50
Ortho	5	4	80
Plastics	4	2	50
Surg/Gyn	5	4	80
TWA	5	2	40
Unspecified	4	2	50
Total	34	22	64.7

Table 6 shows the types of support offered. Of those patients who received help to quit, over two thirds recalled being offered NRT. Over one third of patients received advice about Quitline. E-cigarettes, support groups, counselling, GP visits and pills were less common options.

**Table 6. Types of support offered**

Type of support offered	Number offered (%)
NRT (patches/gum)	15 (68.2)
Quitline	8 (36.4)
E-cigarettes	1 (4.5)
Support Group	1 (4.5)
Counselling	1 (4.5)
See GP	1 (4.5)
Pill	1 (4.5)

NB: Some people received no advice, while others received up to three types of advice.

Table 7 presents the relationship between various factors and whether patients were offered support to quit. The outcome ‘support offered’ was classed as a positive response to the question ‘have you been offered help quitting while in hospital?’.

None of the factors examined in this analysis were found to be statistically significantly associated with receiving support to quit smoking while in hospital.

Māori patients were more likely to receive support to quit than non-Māori patients (OR = 2.86,  $p = 0.239$ ). Gender and age did not appear to be related to an offer of support to quit (OR = 1.26,  $p = 0.756$ ; OR = 0.97,  $p = 0.970$  respectively). Smoking history was also investigated. Patients who had attempted to quit smoking within the last 12 months were less likely to receive support than those who had not attempted to quit (OR = 0.42,  $p = 0.241$ ). Patients who smoked more than 15 cigarettes per day prior to hospital admission were more likely to receive support than patients who smoked less (OR = 6.29,  $p = 0.105$ ). Patients who had been smoking for 15 pack years or longer were also more likely to receive support than patients who had been smoking for a shorter period (OR = 2.00,  $p = 0.353$ ).

**Table 7. Odds ratios for selected factors and likelihood of support**

	Support offered (n = 22)	Support not offered (n = 12)	Odds ratio (95% CI)	<i>P</i>
<i>Ethnicity</i>				
Non-Māori*	14	10	1.00	
Māori	8	2	2.86 (0.50 - 16.43)	0.239
<i>Gender</i>				
Female*	10	7	1.00	
Male	9	5	1.26 (0.29 - 5.42)	0.756
<i>Age</i>				
≤ 50*	13	7	1.00	
≥ 51	9	5	0.97 (0.23 - 4.04)	0.970
<i>Recent quit attempt</i>				
No*	12	4	1.00	
Yes	10	8	0.42 (0.10 - 1.80)	0.241
<i>Cigarettes per day</i>				
≤ 15*	14	11	1.00	
> 15	8	1	6.29 (0.68 - 58.1)	0.105
<i>Pack years</i>				
< 15*	11	4	1.00	
≥ 15	11	8	2.00 (0.46 - 8.63)	0.353

\* = *reference category*

Among the survey patients, 13/34 (47%) reported that their motivation to quit had increased compared to their motivation at their time of admission.

The association between receiving support to quit and report of increased motivation to quit is shown in Table 8. Patients who were offered help to quit were more likely to report increased motivation to quit compared to how they felt prior to hospital admission (OR = 2.50,  $p = 0.248$ ). This result was not statistically significant.

**Table 8. Odds ratios for offer of support and motivation change**

	Motivation increased (n = 13)	Motivation same or decreased (n = 21)	Odds ratio (95% CI)	<i>P</i>
<i>Support offered</i>				
No*	3	9	1.00	
Yes	10	12	2.50 (0.53 – 11.81)	0.248

\* = *reference category*

### **Patient interviews**

Five patient interviews were conducted in five wards of Hutt hospital: Coronary Care Unit, Medical Ward, General Surgery Ward, Te Whare Ahuru (Hutt hospital mental health ward), and Medical Assessment and Planning Unit. Participants were aged from 27 to 71+ and covered a range of self-reported ethnicities, including two Māori patients and one Tongan patient. Three out of the five reported smoking during their current hospital admission. The five interviews conducted with hospital in-patients covered a range of different topics, from which three major themes were identified: things that are working well at Hutt hospital, things at Hutt hospital that could do with improvement, and individual factors in relation to smoking cessation. Results from these themes is followed by a brief case study about an interview participant who began smoking during their hospital admission.

## **Things that are working well at Hutt hospital**

Hutt hospital provided all but one of the interview participants with some kind of direct smoking cessation advice or support during their current admission or a recent previous admission. Many of the participants were very positive about the smoking cessation support offered at Hutt hospital:

*“I feel the help was um, pretty amazing. For them to give up their time to give you support to quit. Yeah. It’s kind of good.”*

*“The information and the stuff that they’ve given to help me stop smoking is, is really good”*

It was favourable that in the participants who did not want to quit smoking, contact with the hospital during this or past admissions – although it did not change their desire to continue smoking – left them with knowledge of where to find support if they do change their decision to continue smoking. There were also reports that the discussion of smoking cessation did lead to some participants re-evaluating their smoking status:

*“I don’t feel the need to quit. But if I do feel like I want to quit, I know where to go.”*

*“The advice gives me more, more thoughts about the current situation I am in now.”*

The quit smoking signs displayed in the hospital were noted by some of the participants. Both the quantity and the location of the signs made an impact, although some areas of the hospital are more heavily and strategically laden with signs than others. Even if the participant felt able and willing to quit, the signs themselves provided a reminder:

*“Even though I know I can quit, I still read it.”*

## **Things at Hutt hospital that could do with improvement**

The most marked issues found was that one of the participants began smoking during their admission to hospital. On further discussion, it became clear that the ward they were admitted to (Te Whare Ahuru - Mental Health) provided an environment which was not directly supportive of smoking cessation. Many of the patients on the ward openly smoked but were not approached about smoking cessation. Smoking was seen as a means of self-expression in a strictly controlled environment:



*“A lot of people are highly stressed and going through a lot emotionally, um, they try to, they try to make it a win-win for everyone, um, yeah I reckon it’d be a lot different in here if there was absolutely no smoking, you know?”*

When participants were asked about being offered smoking cessation support during their current admission only one out of five was able to recall being offered advice, although two of the participants referred to previous admissions where they were offered some form of smoking cessation support:

*“When I came to the hospital, nobody approached me and asked me if I was a smoker or did I need help to stop smoking”*

Three out of the four participants who were offered advice could not recall what kind of advice they had been offered. While the survey showed that patients who were offered support to quit were more likely to have had an increase in motivation to quit during their stay in hospital, none of the interviews were with people who had increased motivation to quit. Recall about the specific information provided was improved when participants were provided with suggestions:

*“I may have been handed a brochure? My memory is completely shot at the moment, since I’ve been here. S’not easy.”*

### **Individual factors in relation to smoking cessation**

All of the interview participants were at different positions along the stages of change. Three participants did not want to quit smoking, of whom one was not open to any support or advice and two had considered quitting but wanted to continue smoking. Of the remaining two participants, one was planning to quit upon their release from hospital whilst the other was planning to quit but had not yet mustered the motivation:

*“I still want to quit now, it’s just getting the motivation to quit.”*

Participants believed the decision about whether or not to quit smoking belonged to the individual. One participant was particularly concerned with autonomy; they did not want to be approached during their hospital admission and felt that they should be left to make their own decisions in peace. Some of the other participants felt like it was their own fault and that only personal motivation was going to result in an effective quit attempt, which is clearly not the case:

*“I’d feel really upset if people coming at me at the situation like me coming to the hospital or church or something like that saying “do you want me to help you to stop smoking? Or drinking? Or breathing?!” That would worry me.”*

*“It’s just up to the individual, I think, how motivated they are themselves to stop smoking.”*

Four out of five of the participants viewed quitting smoking as difficult and were open to the idea of further support from health-care workers to help them if and/or when they wanted to quit. One participant was confident in their ability to quit cold turkey, based on previous experience:

*“I went ‘enough’s enough’ and I stopped.”*

### **Drivers and detractors for smoking cessation**

The interviews identified that the hospital admission itself was smoking deterrent. Two of the participants had not smoked during their hospital stay, independent of whether or not they had a desire to stop smoking altogether. It is evident that some aspect of the hospital environment is steering patients in the right direction of cessation even if they are not registering this:

*“I haven’t smoked since I was admitted in here.”*

*“When I’m into hospital I just stop smoking cold turkey.”*

On the other hand, a hospital admission brings with it many more concerns that may distract from smoking cessation. It was identified that participants were understandably occupied by their current illnesses. This may have resulted in the smoking cessation advice they received being undesirable, unwanted, or simply not being taken on board:

*“My memory is completely shot at the moment.”*

*“There’s been so much other stuff going on.”*

Another common thread between participants was that their smoking habits were strongly correlated with their emotional state. Hospital admission can clearly be a stressful life event and therefore has the potential to affect smoking status, whether that be positive or negative. Notably it appears this aspect was one of the drivers behind a participant taking up smoking during their admission as it “helps take the edge off.”

*“Stress got me smoking again.”*

This research affirmed that the cost of cigarettes remains to be a huge driver for smoking cessation. It is so much of a disincentive that it led to one participant successfully quitting at another time. Despite participants all being current smokers by definition, they provided a lot of feedback on how much the expense still affects them:

*“I’m not a smoker now because the cost is horrendous.”*

*“I was just like ‘oh my gosh’ in my hands a pack of smokes and I was thinking, that’s almost an hour’s work, or a healthy meal for a couple of people.”*

### **Case study**

This brief case study is to highlight the interview participant who began smoking during their hospital admission. They had smoked cigarettes in the past, cumulating in a successful quit attempt followed by approximately 20 smoke-free years. This individual was admitted to Te Whare Ahuru (the Hutt hospital mental health service) and began smoking again six weeks into admission:

*“One day I was having a bad day and I asked a patient for a puff on the cigarette and they looked at me, went ‘no [name redacted], you’re not a smoker’ and about four other people piped up and said ‘no, you’re not a smoker’ and I said ‘then it’ll be your chocolate biscuits tonight,’ so they handed it over!”*

The smoking community is often viewed as being extremely supportive of other smokers, however, this participant met resistance from the other patients. Although this did not stop him from smoking, it demonstrates a positive shift in smoker culture:

*“‘What the hell are you doing [name redacted],’ y’know ‘you shouldn’t be smoking.’”*

This participant also had very clear boundaries about where smoking was appropriate; smoking was a relief of the stress accrued in hospital and, as such, not appropriate in the community. They have definite plan to quit before re-entry to the community due to very strong opinions about exposing children to smoking, based on negative childhood experience:

*“No, I won’t be smoking. No, no, definitely not. Um, whatever cigarettes I have leftover I’ll hand them over. I won’t be smoking in front of my kids, s’not, s’not a good thing. I don’t even drink in front of my children.”*

## **Key informant interviews**

Thematic analysis using Dedoose qualitative research software generated a number of recurring codes, which were then analysed and grouped together to identify the most important themes of each individual interview, and of the interviews as a whole. These themes can be grouped into three main groups: 1) Advantages of the target 2) Disadvantages of the target, and 3) Big picture context affecting target effectiveness.

### **Advantages of the target**

#### **Increased accountability and better documentation**

Most interviewees expressed that the target has improved accountability and documentation surrounding smoking status and quit smoking advice. The target being built into the hospital system in admission documents means that individual health professionals need to explicitly consider the ABC approach with each patient.

*“... I think the targets were fantastic, because they made the health system accountable at least in one way, for preventative care...And just that whole mechanism of putting systems in place in hospitals and collecting the data in the same way, and all of that stuff, I think it was completely admirable.”*(Director Smokefree Nurses Aotearoa)

*“We were actually doing about 85%, but the staff hadn’t been in the habit of documenting. So part of what the targets achieved is actually getting that written down.”* (Former Hutt Hospital Smokefree Champion)

#### **Health workers more aware of importance and processes of smoking cessation**

Another commonly-occurring theme in the interviews was that the target has created a greater awareness of the importance and effectiveness of brief smoking cessation advice amongst health professionals. Interestingly, this increased awareness appears to encompass smoking cessation applied to patients as well as to health professionals themselves.

*“It has created some awareness of smoking cessation among the health practitioner community...the message that we were sending before, is that it is possible to achieve something in a smoker with a brief intervention. I think that that message is now widely heard in the hospital.”* (Former Hutt Hospital Smokefree Champion)

*“I think nurses are much more engaged now, there is a lot more interest now so that’s good.”* (Director Smokefree Nurses Aotearoa)

## **Target gave momentum and legitimacy to pre-existing smoking cessation efforts**

Most of the health professionals interviewed had been involved with smoking cessation efforts long before the MOH's target was brought in. This ranged from those who had already had a dedicated smoking cessation role (the DHB Smokefree Coordinator, the Director of Smokefree Nurses Aotearoa) to frontline staff who had already been giving brief smoking cessation advice as part of their everyday practice (Nurses from Pacific Health Unit, Whanau Care Services). For those in higher levels of management in particular, the target (as a government-level mandate) gave their smoking cessation efforts official backing in so far as they aligned with the target agenda.

*"So we already had that in place before the target, I had already asked for changes to be made to documents and the electric discharge summary but that had not been accepted...When the target came in it was an opportunity in some ways. It mandated what I needed to do, so it had it's benefit in that way." (HVDHB Smokefree Coordinator)*

*"It is possibly just encouraging people to do better what they already did most of the time, and try and do it all of the time." (Former Hutt Hospital Smokefree Champion)*

## **Hospital a good setting for 'teachable moments' in smoking cessation**

All interviewees agreed that there is a place for having a smoking cessation target implemented within hospitals. This was mostly attributed to the stress associated with having a health scare acting as a motivator for smoking cessation. These situations were seen as opportunities or 'teachable moments' which could increase patient openness to smoking cessation advice.

*"Well you are using the opportunity...people have learned that their health has been damaged in some way, so they're responsive to learning how to manage their health – a teachable moment. So there's a benefit there." (HVDHB Smokefree Coordinator)*

## **Brief quit smoking advice increases quitting**

There was recognition that brief smoking cessation advice is effective in achieving a small increase in quit rates, and that repetition of the quit smoking message is important to increase quit rates.

*"It achieves that 3% quit rate at least. Possibly a little higher if there's a large amount of follow up with Quitline or Aukati Kaipapa filling prescriptions and NRT. It's making a difference..." (Former Hutt Hospital Smokefree Champion).*

*“That’s the importance of having those targets; health messages have to be ongoing for our families and our Pacific peoples... those that have tried before, and know it’s good for them, often it’s the second time around they want to make that decision.” (Pacific Health Unit)*

*“If it’s done again and again and again, it will take”. (Former Hutt Hospital Smokefree Champion)*

### Disadvantages of the target

#### **Tickbox exercise**

Over half of the key informants interviewed mentioned that the implementation of the target changed a previously qualitative task into a quantitative one. They raised the issue that while the targets have improved the documentation of delivery of smoking cessation advice, they may not necessarily have improved the quality of the intervention. The Director of Smokefree Nurses Aotearoa stated that they “... *understand that not all of those who deliver the brief intervention in order to meet the target do it in a useful kind of way*”, while the HVDHB Smokefree Coordinator said “*If it had a downside it was making this a quantifiable process rather than a quality process. I think that people question things, is this a tickbox exercise? Or do you actually want to do it?*”

#### **Process vs outcome-based target**

When asked about ways in which to improve the target, there was a common theme that an outcome based target or a more downstream target would be more effective in increasing smoking cessation rates than a process based target as is currently implemented. One suggestion from the Hutt Hospital Smoking Cessation Champion was to report the number of prescriptions for NRT & other smoking cessation prescription rather than recording the brief intervention.

*“I think that that’s a better measure of the totality of the quit smoking effort, rather than this box ticking target exercise”.*

Similarly, the HVDHB Smokefree Coordinator opined that the outcome variable which should be measured is the uptake of smoking amongst young people:

*“[the] real problem is the 18 year olds taking up smoking and when they’re in here [Hutt Valley Hospital], they’re often 55 year olds with COPD and heart attacks... the outcome is stopping them getting in there. So in some ways it does miss the point.” (HVDHB Smokefree Coordinator)*

#### **Improvements needed in referral**

Another theme that was commonly brought up during the key informant interviews was the inadequate referral process from hospital care to smoking services. Aukati Kaipaipa suggested a streamlined process for this would help, but the Smokefree Coordinator believed busy healthcare workers might still have little time to do this.

*We don't get many referrals from the hospital, most of our referrals are self referrals... you have to have a referral pathway that we don't, so Quitgroup I understand have a referral pathway that's electronically loaded on the hospital database so all the staff need is push a button and they can refer, whereas we don't have that which is a barrier." (Aukati Kaipaipa)*

*"Some people think that the referral process needs improving. But, when you're a busy doctor or nurse, how much time do you have on your hands?" (HVDHB Smokefree Coordinator)*

### **Lack of feedback and evaluation**

The majority of the informants reported that they did not know how effective the targets were in practise. This was because they had no feedback of information; both in terms of whether patients were being followed up in the community, and whether the target as a whole was having any impact on smoking cessation rates.

*"I know I do give that advice, and make referrals, but I don't know how they are getting on or being followed up in the community" (Pacific Health Unit).*

*"I don't know what effect they have on quitting. You'd have to ask someone at the ministry, because I mean they do have studies done on that but I don't think they are publicly released." (Director Smokefree Nurses Aotearoa).*

A member of the Whanau Care Mental Health and Addictions Service identified these knowledge gaps as a barrier to the success of the target:

*"...so it's all well and good having the target, but if you're not closing the loop that's where the breakdown is" (Whanau Care Mental Health and Addictions Service, Hutt Hospital)*

### **Lack of new funding to support target**

When the "Better help for smokers to quit" target was introduced, there was no additional funding to the DHBs from the Ministry of Health for them to achieve these targets. Although specific roles, such as the Smokefree DHB Coordinator, were already in place and aligned well with the targets, there was no additional funding to help health professionals in the hospital to achieve the targets. Smokefree Nurses NZ approached the Ministry and were one of the only NGOs that received funding for the target. This lack of funding meant that DHBs, "who are elected to make decisions about where the health dollar is best provided in their region" (Former Hutt Hospital Smokefree Champion) had to redistribute resources away from other areas in order to achieve the target and focus on the Ministry's priorities.

## 'Big picture' context affecting target effectiveness

### **Top-down approach**

The HVDHB Smokefree Coordinator, and the former Hutt Hospital Smokefree Champion, talked about the target as a narrowly-focused, top-down directive. The former champion, in particular, emphasised the limitations which this placed on DHB decision-making and resource allocation.

*“The targets are an imposition from the MoH on the DHBs to practice in a way to follow the ministry’s priorities...That means that resources that they might have put somewhere else, that wasn’t the focus of the health targets, was lost.” (Former Hutt Hospital Smokefree Champion)*

They argued that the target’s narrow focus leads to significant opportunity costs i.e. devaluing of other smoking cessation services:

*“The smoking cessation champion has a value beyond the achievement of the targets in terms of raising awareness among staff and patients and getting more people to quit. Now while the focus was around those targets, my wider role, the smoking cessation service, was secondary.” (Former Hutt Hospital Smokefree Champion).*

The HVDHB Smokefree Coordinator identified this approach as being based on “*the Chicago School of Economics monetarist model*” and the assumption that “*...if you can measure things you will get outcomes.*”

### **Impact of realignment of smoking cessation services**

The recent discontinuation and retendering of contracts to cessation service providers was brought up. Quitline was thought to have been the only cessation provider with a renewed contract. In particular, the Aukati Kaipaipa representative did not agree with this process as it was thought to result in the loss of experience and expertise gained by providers with long term contracts:

*“Well as you might know they’ve ended all the current contracts, so my fear is... when you cease contact with every single provider across the country, you lose a whole lot of expertise and skill that’s been around for many years, you should build on that skill... instead of closing it down.” (Aukati Kaipaipa)*

### **Different approaches for Māori and Pacific**

Both Aukati Kaipaipa and the Whānau Care Mental Health and Addictions Service mentioned the importance of having a face-to-face approach for Māori, and Aukati Kaipaipa’s home-based service was seen as a way to have an impact on the whānau rather than just the individual.

*“Kānohi ki te kānohi, face to face in Māoridom is very important.” (Whānau Care Mental Health and Addictions Service, Hutt Hospital)*



*“...that impact that has on your whanau as well cause actually once you give up smoking the chain reaction from that is huge, so it might start with one but won’t end with one.” (Aukati Kaipaipa).*

For Pacific patients, strong community links and in particular churches, were seen as good pathways to deliver effective interventions.

*“There have been some smoking cessation workshops run in my church, which have helped people. Churches have been so involved in health awareness now, people are drinking water and we have exercise groups.” (Wairarapa and Hutt Valley DHBs Pacific Health Unit)*

There is concern that one-size-fits-all services such as Quitline, are being funded more than the services known to be particularly responsive to Māori and Pacific smokers.

*“I mean it’s [Quitline] the only service now, because of the realignment of services. But there is that big gap, between that one to one face to face service, not everyone wants to use quitline.” (Director Smokefree Nurses Aotearoa)*

### **Need for mass quitting in order to achieve ‘Smokefree 2025’**

As mentioned above, many of the key informants expressed the opinion that the target alone (and many of the anti-smoking measures currently in place) is unlikely to lead to huge decreases in smoking numbers. Following on from that, there was a view that more drastic changes are needed if we are to even come close to achieving ‘Smokefree 2025’. For example, the Director of Smokefree Nurses NZ stated that: *“Yeah, I mean it’s only meant to increase the quit rate a little bit...so there has to be mass quitting between now and 2025.”*

A commonly-suggested idea for improving quit rates was increased availability of alternative types of NRT, such as nicotine sprays and e-cigarettes.

*“...there are forms of NRT that are not prescribed, for example nicotine spray. It works within 30 seconds, unlike gum which is about 15 minutes, to get into the blood. A cigarette is 7-10 seconds. E-cigarettes are about 30 seconds as well.” (Former Hutt Hospital Smokefree Champion)*

*“There are sprays and that that you can get now but they’re quite expensive, you know, and emulators that you inhale like a cigarette, yeah so be good to offer them some other choices for those who have tried.” (Aukati Kaipaipa)*

## **Health Equity Assessment Tool**

Intervention being assessed: Brief advice and support to quit offered to 95% of in-patients at the Hutt Valley DHB .

### 1. What inequalities exist in relation to the health issue under consideration?

Hutt Valley DHB data provided indicates that Māori and Pacific are disadvantaged - 35% of Māori admitted to Hutt Hospital smoke, and 18% of Pacific, vs. 12% of other. 33% of all smokers in Hutt Hospital are Māori. 96% of Māori, 94% of Pacific, and 95% of other smokers get given advice to stop smoking when they come in to Hutt Hospital.

### 2. Who is most advantaged and how?

Smoking rates are lowest in non-Māori non-Pacific people admitted to Hutt Valley Hospital. Historically higher-income males took up smoking first, but they also dropped it first. In NZ, interventions in the 1980s and 1990s were most successful with higher income non-Māori non-Pacific males.

### 3. How did the inequalities occur? What are the mechanisms by which the inequalities were created, maintained or increased?

Inequalities are related to the four winds and their impact on Māori health - colonisation, racism, marginalisation, and migration. (28) These factors have led to an increased prevalence of smoking among Māori in NZ.

When tobacco control measures were initially introduced in New Zealand, over the period from 1981-1996, (29) they were introduced as empiric measures across the whole population rather than targeted programmes. The targets did reduce smoking in almost all groups (the only exception being Pacific young women), but they had the greatest impact on groups who already smoked the least, so they increased smoking inequalities. This follows the “inverse equity hypothesis” - new public health interventions typically have their first effect in advantaged groups, and then later have an effect in marginalised groups. While this model proposes that over time, the inequalities will become smaller or disappear, this only happens after the more advantaged groups have had the maximum possible effect from the intervention. (29)

### 4. Where/how will you intervene to tackle this issue?

The Brief Help for Smokers to Quit intervention involves identifying smokers and providing brief advice for all smokers in the hospital. This is a blanket approach for all patients who smoke rather than targeting certain populations.

5. How will you improve Māori health outcomes and reduce health inequalities experienced by Māori?

The target does not include specific aims regarding Māori smoking cessation. There is no mention of Māori-specific support or targets for Māori smokers. Therefore it may not affect the inequalities in smoking prevalence.

6. How could this intervention affect health inequalities?

Systematically talking to everyone about smoking means one group is not systematically being left out. There is a risk that a difference could be hidden by the target - if the 5% not being spoken to are entirely Māori patients, that would be increasing inequalities - but at Hutt Hospital 96% of Māori patients do get advice. (Data provided by Hutt Hospital Public Health unit.)

If healthcare providers give different kinds of advice to people of different ethnicities, this could either decrease or increase health inequalities. If they are well trained and aware of Māori smoking cessation programmes such as Aukati Kaipaipa, this could help decrease inequalities; on the other hand, if they are inexperienced at talking to Māori and Pacific people, or have ingrained racist beliefs (“they won’t want to know about this” or “of course they smoke, all Māori patients smoke”, for instance) they may deliver less good quality advice, and perpetuate inequalities.

As it is written, the intervention does not include any specific mention of strategies for helping disadvantaged groups. There is an assumption that everyone needs the same intervention; however, based on the “inverse equity hypothesis” (30) the target may increase inequalities in smoking, at least temporarily. However, this hypothesis suggests that these inequalities will eventually narrow.

7. Who will benefit most?

Patients who will benefit most are those who are in a good position to stop smoking - those with access to resources to support them, and who do not get cues to restart smoking when they leave hospital (eg smoking environment in the home/workplace). This may have the effect of increasing inequalities; Māori patients are more likely to fall in lower socioeconomic groups, with less access to resources, and also more likely to be exposed to smoking environments, so may have a more difficult time quitting.

Patients who have good access to primary care are likely to be advantaged, as evidence shows smoking cessation advice initiated in hospital is most effective if advice given in hospital is followed up by extensive post-discharge contact (for at least one month). (14)

8. What might the unintended consequences be?

Healthcare resources are limited, so it's likely that healthcare staff will have to cut down on something else if they are hoping to do a good job of giving advice without being better funded and staffed.

Patients may feel harassed by the constant advice to stop smoking, and choose not to come in to the doctor/hospital when otherwise they would, which could have an adverse effect on other aspects of their health. Again, it is hard to know how this will affect inequalities.

9 What will you do to make sure the intervention does reduce inequalities?

The interviews performed with healthcare professionals showed that there is a gap in the pathway from secondary care to community follow-up, and Aukati Kaipaipa, the Māori smoking cessation service, did not receive referrals from hospital. This intervention would be more effective in reducing inequalities if Māori-specific stop-smoking services were better connected to the brief advice given in hospital.

10. How will you know if inequalities have been reduced?

A large audit of this type is needed to assess the effect of the targets on inequalities, with power sufficient to detect differences in the Māori and Pacific groups, and preferably with long-term endpoints of smoking cessation at 6 or 12 months. The results of this audit do suggest that Māori are not disadvantaged with regards to receiving support to quit. However statistically significant results were not obtained due to the small size of the study, and outcomes of smoking cessation could not be thoroughly investigated due to the short time frame.

## 7. Discussion

The key findings of this study suggest that the MoH targets have some effect at Hutt Hospital in increasing smokers' motivation to quit. However, there are gaps where effectiveness could be increased, such as improving integration with community services. 65% had been offered advice to quit smoking at the time they were surveyed. This figure is low, yet countered by the promising fact that Māori patients were more likely to receive support than others. Those who had been offered advice were more likely to have improved motivation to quit since admission than those who had not. Patient interviews revealed that the advice was largely acceptable to smokers which is positive. From the key informants interviews, there were mixed views on the targets. They were considered to offer another opportunity for smokers to quit, but did not have resourcing to support them or a focus on outcomes.

### Survey

The survey component of the audit found that 65% of smokers were offered cessation support on this admission. This is significantly lower than the 95% reported by the hospital. This may have been influenced by several factors. These include the fact that some patients who reported no advice may have gone on to receive support later during their admission. The survey participants included some patients who did not self-identify as 'smokers' but had smoked in the last month and therefore may not have been identified by ward staff. This finding may require further assessment but remains concerning.

The results of the survey provided quantitative information about smoking cessation at Hutt Hospital. Due to small sample size and lack of statistical significance, limited inferences can be made from these results about the overall efficacy of Hutt Hospital smoking cessation interventions. However, as initial findings the results of the survey are promising about efficacy of the target implementation.

The sample population was not perfectly representative of the wider hospital population. This is to be expected with a small sample. In the sample population, 29.4% of patients surveyed were Māori. HVDHB data supplied by the HVDHB Smokefree Co-ordinator shows that Māori comprise approximately one third of smokers within the hospital so this was representative in that respect.

Māori patients were more likely to receive help to quit while in the hospital than non-Māori patients. Although this was not a statistically significant finding, it is very important as Māori have disproportionately high rates of smoking. This suggests that at Hutt Hospital, Māori patients are not being disadvantaged by receiving less help to quit.

Patients who had attempted to quit smoking in the last 12 months were less likely to receive quit support. This may be due to some patients having quit just prior to admission, and so did not identify as smokers upon admission. Patients who smoked more cigarettes per day or who had been smoking for longer were more likely in both instances to receive support to quit. The cause for this relationship may be the flipside to

the above finding - as patients who smoke more are more likely to self-identify as a smoker than those who only do so socially.

To consider the effectiveness of help to quit provided at Hutt Hospital, prior and current motivations to quit were used to calculate a change in motivation. Patients who received help to quit while in the hospital were more likely to report an increase in motivation to quit during their stay. Although not statistically significant, this is a promising finding. It suggests that if all patients received the intervention of support to quit, it may indeed be an effective intervention for smoking cessation.

The major limitation of the survey was in the short time-frame of this audit. Surveys could only be conducted over two weeks, and with the low smoking rate at the Hutt Hospital this severely limited the number of possible study participants. Follow-up was also not possible, which meant that long term effects of in-hospital smoking cessation advice could not be investigated. 'Motivation to quit' was used as an end-point because actual quit rates could not be assessed by a cross sectional approach. To thoroughly assess the effects of the MoH targets, long-term follow-up after discharge with measurement of quit rates would have been ideal. A larger sample size would also be paramount, as the small sample size for this audit meant that results were not statistically significant.

Survey numbers were also limited by ward realities. Some wards had exceptionally busy periods where students were unable to distribute surveys. Patients may have been missed because of being asleep or away at the time the ward was canvassed. If there was a systematic difference between patients surveyed and those who tended to be away when wards were surveyed, this may have introduced bias into this study; for instance, more active patients may have been missed as they were more able to leave the ward.

Although identification of smokers and provision of advice generally happens on admission, it is possible that some smokers surveyed had not yet received advice but would do so later in their hospital stay. Therefore the rate of provision of brief advice may have been underestimated by this survey.

The survey was not administered in all wards of the hospital and there were some differences between wards in administering the survey. While on most wards, patients were identified by students, this was not always the case. In Endoscopy and Day Surgery, surveys were given to the patients by ward staff due to their short length of stay and on some wards, such as Te Whare Ahuru (TWA), ward staff assisted in identification of patients. Differences between wards in administering the survey may have introduced bias. On the wards where staff assisted in identification of smokers, it is possible that some smokers were not identified by staff members. Where students were able to identify smokers by asking, it appeared that some patients fit the study definition of a 'smoker' (at least one cigarette in the last month) but had not identified themselves to ward staff as such. For example, patients who smoked once a week would not call themselves a smoker, so were not identified by ward staff, but were identified by students who asked if they smoked more than once a month. These patients are less likely to have received cessation advice, as ward staff did not identify them as

smokers. The rate of advice provision may thus appear higher on wards where staff rather than students identified smokers. A high proportion of smokers receiving advice on one ward may instead represent a failure to identify all smokers who meet the definition.

Social desirability bias was a potential problem. (31) This represents the likelihood of patients responding more positively than is the reality, because they know they shouldn't be smoking. Attempts were made to minimise this bias by using a self-completion survey, and students distributing surveys where possible rather than ward staff. However, evidence suggests that self-reporting on smoking habits is accurate despite fears of social desirability bias. (32) Therefore this is unlikely to have significantly distorted the results. Social desirability is more likely have played a role for the few patients who required assistance to complete surveys.

Overall, the survey seemed to be well-accepted by patients. If this audit were to be repeated, however, some survey questions would be adjusted as they were unclear. For example, patients were asked to list quitting options, as well as further support they were offered. While administering the surveys, it was noted that several patients had expressed confusion about how quit options differed from further support. Therefore the wording of these questions should be adjusted to make them less ambiguous, or one question removed. The survey also did not include questions about why patients were or were not motivated to quit. It would have been interesting to find out whether patients who were more motivated to quit after hospital admission attributed this to advice given while in the hospital. The survey also lacked questions about how long patients had been in the hospital, which is likely to affect whether they had yet received advice.

### **Patient interviews**

The interviews that were carried out with five hospital patients identified some important topics and ideas. It was extremely encouraging to find that the majority of participants received cessation advice, and the attitudes towards this information were overwhelmingly positive. Despite this, opportunities to provide smoking cessation support were missed and not all aspects of cessation advice were remembered by participants. None of the interview participants experienced a significant change in their motivation to quit smoking following hospital admission, highlighting an area for future improvement.

During the interviews, participants called attention to the underlying sentiment that the decision to continue or quit smoking is dependent upon the individual. This may indicate the current approach of health-care workers is limited and a change towards health promotion with empowerment of patients may produce better results.

Conflicting evidence arose about the hospital experience and its effects on cessation; for some participants it was identified as a strong smoking deterrent but one participant's admission to hospital was a trigger to start smoking. Stress and autonomy were identified as important driving factors around participants' decisions to

continue smoking. The question is also raised about whether hospital is an ideal time for people to receive cessation advice. Follow-up is likely to play an important role following discharge, however, further investigation into this area is required to reach solid conclusions.

Many of the limitations were experienced across all aspects of this audit. The time-frame of the study was severely limiting. Interviews could only be conducted over six days due to issues gaining approval from Hutt hospital. Follow-up of interview participants after hospital discharge was not an option, therefore, it was not possible to investigate the long-term effects of smoking cessation advice given during a hospital admission.

Due to limited time period available for survey collection, only 34 current smokers were identified, of which 11 indicated they would be open to an interview. The majority of people who agreed to partake in the survey declined a follow-up interview; it is unclear exactly why. It may be that the thought of having to review this emotive subject again is off-putting or inconvenient. Having the surveys completed by a different individual to the interviewer seemed to result in considerable room for error. On multiple occasions patients had been discharged, moved wards, or their condition had deteriorated between survey completion and follow-up for interview, thus ruling out an interview. This had a significant impact due to limited opportunity available to conduct interviews in the first place. Application of interviews could be improved by scheduling interviews to occur directly after patients fill out a survey. Greater continuity could encourage more people to take part in an interview and would eliminate issues involved in having to follow up on surveys at a later date. Integration between the survey and interview groups could have also been improved to ensure that less patients fell through the cracks.

There were some issues found to be associated with the specific hospital environment. There was limited access to the wards due to patient rest hours in the middle of the day and problems scheduling contact with nursing staff to discuss which patients were available and medically stable enough for an interview to proceed. Social desirability bias may also have impacted the results. As patients are in a hospital and all the researchers are medical students, there is a clear implication that the environment and research team are invested in smoking cessation from a health standpoint. Use of a self-completion survey was chosen to minimise this during the survey process. However, it may have played a role during the face-to-face interviews. It is possible that patients were telling interviewers what they thought interviewers wanted to hear, especially when speaking to medical students instead of a figure not related to health-care. It is also conceivable that the stigma and social implications around smoking contributed to the lack of willingness to participate in interviews, lowering response numbers.

The development of the interview schedule failed to account for how few of the participants had experienced comprehensive smoking cessation support during their current hospital admission. The backbone of the interview schedule was based on participants having had a recent experience of smoking cessation support and being able to remember the support and/or advice they were offered. It made assumptions about the



people who would be interviewed which were often wrong. For future study, the schedule should be much expanded to encompass the vast range of patient experiences which this research could only begin to uncover. A number of smokers who were not contacted about smoking cessation were interviewed. A further line of questioning into whether experiences of being a smoker in hospital vary based on whether patients have been or remember being approached about smoking cessation could therefore provide some interesting insight.

If the audit were to be repeated, a longer study time and inclusion of follow-up would be useful additions. For significant results markedly more interviews would need to be completed. Short follow-up interviews over the phone could be performed after discharge to assess changes to smoking status and efficacy of smoking cessation support once participants leave the hospital. More data could then be collected. This could lead to a better understanding of the long term efficacy of smoking cessation advice. For future studies, the qualitative interview should immediately follow collection of individual survey data to improve continuity and uptake.

### **Key informants**

The themes uncovered in key informant interviews reveal that assessing the implementation and effectiveness of the smoking cessation target at Hutt Hospital is complicated. Overall, all informants agree that the target has its uses in promoting smoking cessation. As a government-level mandate, it improves documentation of health worker smoking cessation efforts and thereby also their accountability to their patients. It has raised health professional awareness about the importance and effectiveness of brief smoking cessation advice, and also provided an opportunity for some pre-existing smoking cessation efforts to be accepted and put into action. The fact that the smoking cessation message is repeated is also identified as being a positive impact of the target, since this has been shown to increase quit attempts. The fact that brief cessation advice only leads to a small increase in quit rates (up to approximately 3%) is still important in light of the large population numbers involved and the huge impact which smoking has on health.

The informants, however, are also highly aware of the target's shortcomings. The process-based target is seen too often as a top-down 'tickbox' approach, a narrow focus on counting numbers, rather than focusing on the quality of smoking cessation services. It is viewed by some as taking resources away from more comprehensive cessation services (additional funding for the target is not provided) and is linked into a clear referral pathway for only one community cessation provider (Quitline), while other providers must wait to be re- contracted and rebuild professional networks. It is interesting to note that these de-contracted providers include a provider tailored to the needs of Māori smokers (Aukati Kaipaipa), despite the fact that this population has the highest smoking rates in the country. This may account for the low number of referrals received by Aukati Kaipaipa from Hutt Hospital and it must be considered whether such a set-up is contributing to ethnicity-related smoking inequities in the area. Another problem identified is the lack of

follow-up of patients once they leave the hospital (how many patients actually quit smoking?), and lack of evaluation data on the effect of the target on actual smoking rates.. Although some informants believed that the MoH has collected data on the effect of the target on smoking rates, this belief was not supported by a search of MoH publications and other smoking cessation literature. No evidence that such data is being collected could be found. This lack of evaluation data seems strange considering that the target has already been in place for seven years, and is a major government mandate.

Another gap in information gathered pertains to the formulation of the target. Crucially, interviews could not be arranged with the Ministry of Health's smoking cessation champion, or the champion for the 'better help for smokers to quit' target; sources which could have shed light on the issue. None of the key informants that were interviewed were able to explain how this target was formulated. It was mentioned that targets are based on the Chicago School of Economics Monetarist model for assessing outcomes, but not why targets, a quantitative approach, are an appropriate means to increase smoking cessation countrywide.

If time was not limited, it would have also been useful to interview a Quitline representative, a House Surgeon to get a more junior doctor's perspective, and a frontline nurse also, to get a view on the day-to-day implementation of the targets and their usefulness.

### Ethics

The main ethical issue pertaining to this project is equity. History suggests that untargeted interventions tend not to have a high impact on the least well off groups. The government healthcare targets are not modified to account for the greater needs of Māori and lower socioeconomic smokers, which runs the risk of increasing inequalities in this population. In this project equity issues were investigated by talking to Māori and Pacific healthcare providers, as well as collection of ethnicity data to get a sense of whether the intervention is working for these patients.

Any smoking intervention raises the question of autonomy. At what level is it the patient's choice to smoke? This is a difficult question because it ties into the two problems of addiction and cognitive dissonance. Addiction means that many patients are not able to exercise their autonomy in this condition - this is supported by the high proportion of smokers who would like to quit, or would not choose to smoke if they could choose again, and the high number who have tried to quit and failed in the past. Cognitive dissonance is relevant because it gets in the way of the informed choice that is normally considered to be necessary to exercising autonomy. Smokers who do not believe that the harmful effects of smoking will apply to them cannot make autonomous decisions, so it may be justified to promote solutions which are limiting of already compromised autonomy.

## **8. Conclusions and recommendations**

In the survey sample population, the implementation of the Ministry of Health targets was not comprehensive. This finding is in contrast to DHB data, which suggests that the targets are being met. This may indicate that all smokers are not being identified.

The survey results suggest that when brief advice and support is provided to patients, it may be an effective intervention for smoking cessation. In qualitative interviews, patients who had received support to quit generally felt positive about the advice they were given. Key informant interviews revealed a desire for the focus to move away from quantity of smokers given advice towards the quality and outcome of advice provided.

The results gained from this audit allowed for the formation of recommendations for future research and policy changes. The most pressing need is for better evaluation of the targets. This study was a start to evaluating the effectiveness of the targets, but a larger study with possibility for longer-term outcomes would be valuable for more reliable results. This study also raised a question around the Te Whare Ahuru environment, with the patient who started smoking while in hospital, so it might be valuable to follow up on that to see if his experience was isolated or there was a systemic problem.

The study has also highlighted a lack of support and resourcing to the DHB and smoking support agencies such as Aukati Kaipaipa. This needs to be addressed at a policy level if the targets are going to be achieved in a meaningful way.

The literature demonstrates that a link between hospital and community services is important for brief advice in hospital to translate into good smoking cessation rates. Therefore, it is recommended that this link be strengthened in the Hutt Valley.

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## Appendix 1 - Survey

### Smoking Cessation Survey

**Information:**

Are you a smoker? If you smoke more than one cigarette a month, we would like to ask you about any help to stop smoking that you have been given here in Hutt hospital.

We are medical students from the University of Otago Medical School. This study has the approval of Hutt Valley DHB as part of an audit of smoking cessation support at Hutt Valley Hospital.

The information provided will be kept confidential and your name and the published results will not allow you to be identified. You do not have to participate if you do not wish to.

We will be conducting follow-up interviews with some people who complete the survey to get more detailed information about their experiences. The survey includes a question about whether you are willing to participate in these interviews whilst you are still in the hospital. If you are willing to have a follow-up interview we will ask for your name so that we can approach you later to take part. You do not have to take part in a follow-up interview if you do not wish to do so. You will not be contacted once you have left the hospital.

**Please circle all answers that apply to you:**

Were you a smoker when you arrived in hospital?

("A smoker" is someone who smokes at least one cigarette per month)

☐ Yes

☐ No (Thankyou for responding to this survey, however we are only collecting data from people who were smokers at the time they were admitted to hospital, so you do not need to answer any further questions)

Age: ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61-70 ☐ 71+

Sex: ☐ Male ☐ Female ☐ Unspecified

Which ethnic group(s) do you belong to? Please tick as many of the boxes that apply to you.

☐ New Zealand European

☐ Māori

☐ Samoan

☐ Cook Islands Maori

☐ Tongan

☐ Niuean

☐ Chinese

☐ Indian

☐ Other: \_\_\_\_\_

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How many cigarettes did you smoke per day prior to admission?

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> 0-5 per day   | <input type="checkbox"/> 16-20 per day | <input type="checkbox"/> 1-2 per month |
| <input type="checkbox"/> 5-10 per day  | <input type="checkbox"/> 21+ per day   |  |
| <input type="checkbox"/> 11-15 per day | <input type="checkbox"/> 1-5 per week  |  |

How many years have you been smoking?

\_\_\_\_\_ years

Have you attempted to quit smoking in the last 12 months?

☐ Yes ☐ No

Have you smoked whilst in hospital?

☐ Yes ☐ No

If so, where did you smoke?

- ☐ At the entrance to your hospital building
- ☐ Elsewhere on the hospital grounds
- ☐ Outside of the hospital grounds
- ☐ Other, please specify: \_\_\_\_\_

Have you been offered help quitting while in hospital?

☐ Yes ☐ No

If so, who offered you this advice/support (tick as many that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Doctor         | <input type="checkbox"/> Physiotherapist |
| <input type="checkbox"/> Nurse          | <input type="checkbox"/> Other: _____    |
| <input type="checkbox"/> Whanau support |  |

Were you approached by Whanau support or Pacific health services?

- ☐ Yes
- ☐ No

What options to aid quitting were discussed with you? Please list.

---

Were you offered further support to help you quit?

☐ Yes

☐ No

If yes, what support were you offered?

---

---

Were you given advice about where you could get advice and support to quit or stay quit after you left hospital?

☐ Yes

☐ No

If yes, what advice were you given?

---

How motivated were you to quit smoking just before you came into hospital?

1 2 3 4 5

Please score on a scale from 1 to 5

1 – Not at all motivated to quit

5 – Highly motivated to quit smoking

How motivated are you to quit smoking now?

1 2 3 4 5

How do you feel about the advice and support given to you to quit smoking during your time in hospital?

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Is there any way that the advice and support to quit smoking could have been improved during your time in hospital? If yes, please describe how.

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---

Would you be willing to take part in a follow-up interview during your hospital stay about support for giving up smoking?

If so, please write your full name and current ward: \_\_\_\_\_

## **Appendix 2 – Patient interview schedule**

### **Opening:**

Hello, my name is \_\_\_\_\_ and I am one of the medical students working on the smoking cessation project.

Firstly, we would like to thank you very much for filling in the survey about quitting smoking, we really appreciate your help.

When you filled out the survey you indicated that you would be happy to answer some more questions about the help you have received with quitting smoking. We are asking some people some more in-depth questions so we can better understand individual experiences with support for quitting smoking here in hospital. Is that still okay with you?

I expect this should take, at most, about 10-15 minutes; are you available to answer questions at this time?

### **Body:**

(When/who/what):

1. When were you asked about your smoking and offered help to quit?
2. Do you remember what kind of person asked you?
  - a. (if uncertain) Did you notice if it was a doctor or a nurse?
3. What kind of help were you offered?
4. How did you feel about the help that was offered to you?
5. How would you describe yourself as a smoker?
6. What kind of help have you been offered in the past?

(Motivation):

7. Do you feel the advice you were given in hospital makes you feel more able to quit?
  - a. Why?
  - b. How?

(Feedback):

8. Is there anything else the hospital could provide or talk to you about which you think would help you feel more able to quit?

### **Closing:**

Thank you very much for taking the time to answer more questions about your experience of smoking cessation services here in hospital. This is going to be really valuable information for us.

### **Appendix 3 – Patient interview information sheet and consent form**

## **Support to Stop Smoking in Hospitals**

### **Information sheet for participants**

Thank you for your interest in our project. This information sheet is to help you decide if you would like to take part. If you decide to take part that will be helpful, but if you decide not to take part then there will no disadvantage to you and thank you for considering.

#### **What is the aim of the project?**

We want to find out whether patients in Hutt Hospital who are smokers are given advice to help quit smoking by staff and what the patients feel about the advice and support. We plan to interview 10-15 patients who identify themselves as smokers.

If you agree to be interviewed, the questions in the interview will be about the advice that you have received from hospital staff to help you quit smoking.

The interview will last between 10-30 minutes and will take place in a private space that is convenient for both of us.

The person interviewing you will record the conversation on a recording device. During the interview you have the right to not answer any questions that make you uncomfortable. Everything that you say will be completely anonymous. After the interview, the recording will be written up as an electronic document and secured on a password protected computer. The recording will be destroyed. Your name or other identifiers will NOT be known to anyone other than the interviewer.

## **Support to Stop Smoking in Hospitals**

### **Consent form for participants**

I have read the Information Sheet about this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to ask for more information at any stage.

I know that:

1. My participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage.
3. I can decide to not answer any questions that make me uncomfortable;
4. The interview will consist of open questions about the advice I have been given during my stay in Hutt Hospital to help stop smoking.

I agree to take part in this project:



#### **Appendix 4 – Key informant interview sheet and consent form**

### **PROJECT: How effective is the Ministry of Health’s smoking cessation target (advice and support aimed at helping smokers to quit) at Hutt Hospital?**

#### **Information for participants**

Thank you for your interest in our project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

#### **What is the aim of the project?**

We are a group of fourth year medical students from the University of Otago, conducting a public health project studying the implementation of the Ministry of Health’s (MOH) ‘Better Help for Smokers to Quit’ smoking cessation target, as delivered at Hutt Hospital.

As part of this, we would like to conduct a series of interviews with people involved at different levels of the health system; from MOH representatives, community-based staff, to frontline staff delivering the services necessary for achievement of the target.

The interview would last between 20-40 minutes and take place in a private space that is convenient for both you and your interviewer, or over Skype if more convenient. During the interview, you have the right to not answer any questions that make you feel uncomfortable, and to stop the interview at any time. The conversation will be recorded on a password-protected smartphone or recorder, transcribed, and the digital file then deleted to maintain confidentiality. The transcribed document will be kept securely and will be anonymised.

You have the option to give permission for us to use your name and position in our final report, or to remain anonymous if you wish. The results of our research will be written up into a report, and may be submitted for publication in a scientific journal.

Some of the topics which might be discussed during the interview are listed below:

- Your role in the implementation of the target
- What sort of support you receive to implement the target from the MOH/HVDHB
- Your impressions of the effectiveness of interventions to implement the target and smoker responses
- Strengths and weaknesses of the target and its implementation at Hutt Valley Hospital
- Any suggestions for change or improvement

If you have any questions, or would like more information about this project, please feel free to contact any of the individuals below:

Adilya Arslanova (Student researcher, 4<sup>th</sup> year medical student, Wellington School of Medicine, University of Otago): [arsad096@student.otago.ac.nz](mailto:arsad096@student.otago.ac.nz)

Hera Cook (Supervisor, Department of Public Health, Wellington School of Medicine, University of Otago): [hera.cook@otago.ac.nz](mailto:hera.cook@otago.ac.nz)

This study has been approved by the Department stated above. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (ph 03 479-8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

**PROJECT: How effective is the Ministry of Health's Better Help for Smokers to Quit target (advice and support aimed at helping smokers to quit) at Hutt Hospital?**

### **Consent form for participants**

I have read and understand the Information Sheet about this project. All my questions have been answered to my satisfaction. I understand that I am free to ask for more information at any stage.

I know that:

1. My participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage;
3. I can decide to not answer any questions without giving a reason;
4. The interview will consist of open questions about my role and opinions with regards to the  
MOH Smoking Cessation target and its implementation at Hutt Valley Hospital.

I agree to take part in this project:

\_\_\_\_\_ (Signature of participant)

I agree / do not agree (please circle one) for my position to be mentioned in the report created from this research, which may be published in a scientific journal

\_\_\_\_\_ (Date)

\_\_\_\_\_(Printed name)