NOVA
University of Newcastle Research Online

nova.newcastle.edu.au

Maddox, Sarah & Segan, Catherine. "Underestimation of homeless clients' interest in quitting smoking: a case for routine tobacco assessment" Published in the *Health Promotion Journal of Australia*, Vol. 28, Issue 2, pp. 160-164, (2018).

Available from: http://dx.doi.org/10.1071/HE15102

This is the peer reviewed version of above article, which has been published in final form at https://doi.org/10.1071/HE15102. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions.

Accessed from: http://hdl.handle.net/1959.13/1404968

Underestimation of homeless clients' interest in quitting smoking: a case for routine tobacco assessment

Abridged title: Underestimation of homeless clients' interest in quitting smoking

Sarah MADDOX (MSc) [1] & Catherine SEGAN (PhD) [1,2]

[1]Cancer Council Victoria, 615 St Kilda Rd, Melbourne, Australia, 3004

[2]Centre for Health Policy, School of Population and Global Health, University of Melbourne, 207 Bouverie Street, Parkville, Melbourne, Australia, 3010.

Acknowledgements

The authors wish to thank the participating nurses and clients of RDNS-HPP as well as steering committee group members Theresa Swanborough, Alison Webb, Judi Brewster, Bianca Crosling, Bill Brennan, Sam Upton, Brett Whittingham, Luke Atkin, Danny Whelan and Ann Hatchett. Thanks also to Ron Borland, Monique Alexander, Sian Lloyd and Wendy Meddings for feedback on the paper, and to Daniel Hudspith for editing.

Word count: 3,494

1 **Abstract**

2 **Issue addressed**

3 Smoking is the main cause of excess mortality among the homeless, however little is known
4 about smoking amongst homeless Australians. This study examined smoking behaviour,
5 including high-risk smoking practices, and interest in quitting among clients of the Royal
6 District Nursing Service Homeless Persons' Program (RDNS-HPP), in Melbourne, Australia.
7 Nurse practices and attitudes towards providing cessation assistance to clients and RDNS'
8 organisation-wide tobacco-related policy and practices were investigated.

9 **Methods**

10 Twenty-six nurses completed an anonymous survey at a team meeting. Subsequently, nurses
11 administered a survey to 104 clients. RDNS' organisation-wide tobacco-related policy and
12 practices were audited.

13 **Results**

14 Most clients (82%) smoked, half of these (52%) reported wanting to quit and half (48%) had
15 tried to quit or reduce smoking in the previous three months. Nurses accurately estimated
16 clients' high smoking prevalence, but underestimated interest in quitting by 19%. Most
17 smokers (65%) reported polytobacco use. High-risk smoking practices included tobacco
18 mixed with another drug (41%), smoking discarded tobacco butts (34%) and illicit 'chop
19 chop' tobacco (25%). Among nurses 92% agreed that cessation support should be part of
20 normal client care. RDNS-HPP's client assessment form contained fields for 'respiratory
21 issues' and 'drug issues', but not a specific field for smoking status. RDNS' smoking policy
22 focussed on provision of a smoke-free work environment.

23 **Conclusions**

Many smokers using homeless services want to quit.

So what?

Homeless services should develop, and include in their smoking policy and intake processes, a practice of routinely assessing tobacco use, offering brief interventions and referral to appropriately tailored services.

Key words

tobacco, cigarettes, chop chop, cannabis, high-risk smoking, polytobacco, nurse, attitudes, practice,

Introduction

On any given night in Australia 1 in 200 people are homeless, defined as living in an inadequate dwelling or having no or insecure tenure.[1] In high-income countries, tobacco smoking amongst people experiencing homelessness is extremely prevalent,[2-4] and has been identified as the main cause of excess mortality.[5] However, very little is known about smoking behaviour amongst homeless Australians. Reported smoking prevalence rates of 77%[6] in 1995-6 and 83%[7] in 2011 contrast sharply with the rapid decline in the Australian general population smoking rate from 24% to 13% over the last 15 years.[8] Homeless Australians are now over six times more likely to smoke than the general population, widening the associated health and economic disparity between these groups.

The two Australian studies reporting smoking prevalence were broad studies of health or social, economic and personal factors relating to homelessness. As such, they provide little information about smoking beyond prevalence. Overseas research has found that concurrent use of two or more tobacco products (polytobacco use) was prevalent (51%) among homeless smokers at a shelter in Dallas, Texas.[9] While, another U.S. study observed high rates of high-risk smoking practices amongst 59 homeless smokers in Los Angeles, including remaking cigarettes from discarded butts (71%) and smoking discarded butts (63%).[10] Such practices pose a risk of exposure to toxins trapped in filters and tobacco remains and increase infectious disease transmission. No Australian studies have reported on types of tobacco smoked among the homeless, including use of illicit tobacco (known as ‘chop chop’) which is considerably cheaper than legally purchased tobacco. Chop chop may be grown and processed using techniques and bulking agents that elevate concentrations of heavy metals and other toxins.[11-14] Such information is needed to inform strategies to reduce smoking rates and harm.

67 Emerging evidence from the U.S. indicates that homeless smokers are as interested in
68 receiving help to quit as non-homeless smokers,[14-18] with self-efficacy to quit significantly
69 higher if assistance (pharmacotherapy and counselling) is available.[16] While no Australian
70 studies have investigated interest in quitting specifically among homeless populations, there
71 is some evidence from clients of social and community service organisations (SCOSs) in
72 NSW, which would include homeless individuals amongst other people seeking welfare
73 support.[19] Among 383 clients 61% smoked and 53% wanted help from SCOS staff to quit. [19]
74 While SCSO staff identified smoking cessation assistance as a good fit with other services
75 provided,[19] very few offered cessation assistance. Barriers identified in a qualitative
76 investigation included staff assumptions that clients would not be interested in quitting, or
77 were unable to quit, as they needed tobacco to cope with stress. In addition, staff felt
78 insufficiently resourced to address smoking in regards to time, funding for pharmacotherapy
79 or training.[20] Similar barriers were identified in a U.S. study of health professional attitudes
80 toward smoking specifically among the homeless. An online survey completed by 231 (30%)
81 of 762 members of the Health Care for the Homeless Clinicians' Network indicated that
82 frequently cited barriers to addressing patient tobacco use included competing medical,
83 psychiatric or social issues (78%), lack of time (47%) and having inadequate local resources
84 or access to cessation therapies (38%).[21]

85 The above findings suggest a mismatch between client interest in stopping smoking and staff
86 willingness to raise and address the issue. The current study sought to examine smoking in
87 an Australian homeless service from the client, staff and organisational perspectives, to
88 inform changes to reduce the harm caused by client tobacco use. In addition, this
89 investigation aimed to add to the very limited Australian data on smoking amongst the
90 homeless, including for the first time interest in quitting and the prevalence of high-risk
91 smoking practices.

92 **Methods**

93 Setting

94 The Royal District Nursing Service Homeless Persons' Program (RDNS-HPP), in
95 Melbourne, Australia, comprises a team of community health nurses who provide holistic
96 primary health care to individuals experiencing (or at risk of) homelessness. Clients included
97 those serviced by an outreach model (e.g. street homeless, supported residential services) and
98 via nurse clinics (e.g. specialist homeless services, community health settings). In 2010
99 RDNS-HPP prioritised smoking cessation support for clients and sought assistance from Quit
100 Victoria.

101 Ethical approval

102 The Royal District Nursing Service Human Research Ethics Committee approved this
103 research.

104 Nurse survey

105 In June 2011, all nurses at a routine staff meeting (26 from a staff of 34, 76%) completed an
106 anonymous, 28-question, survey. Questions investigated nurses' attitudes toward providing
107 smoking cessation assistance to clients, their current practices and their perceptions of
108 barriers to providing assistance. Nurses also estimated the smoking rate and interest in
109 quitting of their case-load, and disclosed their own smoking status.

110 Client survey

111 In April 2012, all nurses at a routine staff meeting (25 from a staff of 34, 74%), were asked to
112 administer an eight-question survey with the first five clients, aged ≥18, they saw from 27th of
113 April 2012. Data was collected over a two week period. Participation was voluntary and a

114 plain language statement and consent form was completed with all clients. If a client declined
115 to participate, nurses were instructed to ask the next client they saw (i.e. 6th client) and so on
116 in order to conduct the survey systematically.

117 Demographic measures were age, gender and homelessness category which was stratified
118 into three levels[22]. Primary homeless describes those without conventional shelter, such as
119 ‘rough sleepers’, ‘squatters’ or those living in improvised dwellings such as cars. Secondary
120 homeless applies to people residing in unsecured and temporary accommodation, such as
121 crisis accommodation, and is operationally defined as lasting for ≤12 weeks. Tertiary
122 homeless describes those accommodated for ≥13 weeks, without security of tenure, such as in
123 boarding houses. Participants’ demographic information was compared to that of all RDNS-
124 HPP clients in 2011-2012, which was obtained from the organisation’s client management
125 database.

126 Smoking measures included smoking status, types of tobacco smoked, tobacco consumption,
127 attempts to quit or reduce smoking in the previous three months and current interest in
128 quitting. Tobacco consumption was reported as the number of cigarettes smoked daily and/or
129 how many grams of pouch tobacco were smoked daily. Total tobacco consumption was
130 computed by converting grams of pouch tobacco to number of cigarettes (0.8gm = 1
131 cigarette). Tobacco companies in Australia are taxed at a higher rate for sticks of tobacco
132 exceeding 0.8gm of tobacco; therefore most manufactured cigarettes contain 0.8gm of
133 tobacco.

134 Reasons for nurses not administering the client survey (n=9) included being on leave, other
135 work commitments or working with clients <18 years old. Staff reported that no clients
136 refused to participate, however not all staff completed five surveys.

137 Audit of RDNS’s tobacco policy and practice

138 RDNS-HPP reference group members (Client Services Manager, Team Coordinator and a
139 nurse) provided a copy of RDNS' smoking policy for content analysis. Further discussions
140 ascertained whether client smoking status and treatment were fields on client assessment
141 forms and on the RDNS client management database, whether any cessation training had
142 been provided to staff and what forms of cessation assistance were currently offered.

143 **Results**

144 Nurse survey

145 *Nurses' smoking*

146 Only two (8%) nurses were current smokers, nine (35%) were former smokers and 15 (58%)
147 had never smoked.

148 *Attitudes and current practices*

149 Almost all nurses (92%, n=24) 'agreed' or 'strongly agreed' that assistance for clients to quit
150 or reduce smoking should be part of the normal care that RDNS-HPP provides. A similar
151 number (96%, n=25) responded 'yes' that their service is an appropriate setting to provide
152 cessation treatment. Open-ended optional reasons for this included existing rapport with
153 clients, capacity to deliver flexible, intensive and long-term care, and recognition of client
154 need given high rates of smoking and poor health. However, Table 1 indicates high variation
155 in nurses' cessation practice. Of note, under half of nurses (42%, n=11) consistently recorded
156 new clients' smoking status in case notes, and 15% (n=4) consistently asked if clients were
157 interested in reducing or quitting.

158 [Table 1 here]

159 *Estimates of client smoking and interest in quitting*

160 Nurses estimated (prior to the conduct of the client survey) that an average of 88% of their
161 case-load were current smokers (range:75-100%). They estimated that on average 33%
162 (range:0-80%) of their smoking clients ‘would be interested in quitting or reducing’.

163 *Barriers to smoking cessation*

164 Barriers identified as ‘significant’ by nurses in offering cessation assistance included ‘client
165 cognitive impairment’ (62%, n=16 nurses agreed), ‘clients’ other welfare needs taking
166 priority’ (62%, n=16) and ‘difficulty locating clients’ (50%, n=13). A less salient barrier was
167 ‘questionable benefits of quitting for some clients’ (19%, n=5). No one selected ‘not
168 comfortable raising smoking with clients’ as a barrier.

169 Over half of the nurses (58%, n=15) ‘agreed’ or ‘strongly agreed’ with the statement ‘quitting
170 smoking increases the possibility of exacerbating clients’ mental health issues’. Eight (31%)
171 were neutral and three (12%) 'disagreed’ or ‘strongly disagreed’. When asked ‘Do you think
172 smoking provides any benefits to your clients?’ 16 (62%) nurses selected ‘smoking reduces
173 stress’ and the same number selected ‘smoking reduces boredom’.

174 Table 2 outlines barriers identified by nurses that in their opinion would present significant
175 barriers for clients’ participation in smoking cessation assistance.

176 [Table 2 here]

177 Client survey

178 *Client characteristics*

179 Characteristics of the 104 clients that participated are presented in Table 3. Participants were
180 representative of the wider population of 1,432 RDNS-HPP clients in 2011-2012 in regards to
181 gender and age, however the survey sample included less primary, hence more secondary and
182 tertiary, homeless clients (36% tertiary, 28% secondary, 23% primary,12% not specified).

183

184 [Table 3 here]

185

186 *Client smoking behaviour*

187 In all, 82% of clients were smokers with 65% using more than one type of tobacco (Table 3).

188 Table 4 reports the types used and shows relatively low 'chop chop' use, but high use of

189 tobacco mixed with another drug. Smoking and tobacco consumption were not related to age,

190 gender or homelessness category.

191

192 [Table 4 here]

193

194 *Clients' smoking cessation behaviour*

195 Clients were asked 'In the last three months have you tried to reduce or quit smoking?' with

196 affirmative responses choosing between 'yes, I quit', 'yes, I reduced' or 'I tried with little

197 success'. Outcomes in Table 3 show that almost half the clients reported either cutting down

198 or making a quit attempt.

199

200 Of the nine clients who had made a quit attempt during the previous three months, four had

201 quit for ≥7 days and five quit for <7 days. Reporting a quit attempt was not related to age or

202 gender, but was related to classification of homelessness in the opposite direction to that

203 expected. In all, 22% (2 of 9 cases) of primary homeless clients reported a quit attempt versus

204 18% (6 of 33 cases) of secondary homeless clients and 2% (1 of 42 cases) of tertiary

205 homeless, X^2(n=84) =6.93, df=2, p=0.03.

206

207 The 31 clients who reported reducing consumption in the previous three months had done so
208 by a mean of 11 cigarettes daily (range: 3-49). Reducing smoking was not related to age,
209 gender or homelessness classification.
210
211 Reducing consumption or making a quit attempt in the three months before the survey was
212 less likely among those with higher consumption, polytobacco use or who smoked discarded
213 butts. Specifically, 31% of those smoking ≥25 cigarettes per day reported quitting or cutting
214 down compared to 44% of those smoking 16-24 cigarettes and two thirds (66%) of those
215 smoking ≤14 cigarettes per day, X^2(n=84) =7.66, df=2, p=0.02. Thirty-nine per cent of
216 polytobacco users reported reducing tobacco use or making a quit attempt compared to 63%
217 of those smoking only one form of tobacco, X^2(n=84) =4.66, df=1, p=0.03. Similarly 32% of
218 those who reported smoking butts reported reducing tobacco use or making a quit attempt
219 compared to 55% of those who reported never smoking discarded cigarette butts, (X^2(n=84)
220 =4.11, df=1, p=0.04). Use of chop chop or smoking tobacco mixed with another drug were
221 not related to making quit attempts or tobacco reduction.
222
223 *Clients' interest in stopping smoking*
224 Just over half of clients reported that they would like to stop smoking (Table 3). This is
225 considerably more than the nurses' estimate of 33%. Amongst those wanting to stop
226 smoking, most (82%, n=36) had tried to reduce or quit during the previous three months
227 compared to 44% (n=18) of those not interested in stopping, X^2(n=85)=13.58, df=1, p<0.001.
228 Desire to stop smoking was unrelated to classification of homelessness, age, gender or
229 tobacco consumption.
230 RDNS' tobacco policy and practice

231 RDNS' smoking policy sits within an occupational health and safety framework i.e. the
232 provision of a smoke-free work environment and was addressed to service providers,
233 although it suggested that 'clients can help us by assisting us with their home healthcare and
234 safety (e.g. no smoking in room with oxygen equipment)'. RDNS-HPP operates as a client-
235 led service avoiding a directive approach in regard to client smoking or other drug use, as it
236 was felt this may discourage service engagement.

237 RDNS-HPP's client intake assessment did not include smoking status or treatment as specific
238 items, but included the fields 'respiratory issues' and 'drug issues', in which smoking could
239 be recorded. One nurse had attended a Quit Victoria cessation training course in the previous
240 12 months.

241 Provision of cessation assistance was either client initiated and/or at nurses' discretion.
242 Nurses routinely assisted clients with GP visits and medications. Prior to the February 2011
243 government subsidy of NRT patches a number of funding allocations for NRT were sought,
244 however the high cost meant it could not be offered broadly to RDNS-HPP clients.

245 **Discussion**

246 This study is the first in Australia to demonstrate that despite the extraordinary high and
247 persistent smoking rate among Melbourne's homeless (82% in this study; 77% in 1995-6[6]),
248 approximately half are interested in and are actively trying to reduce and quit smoking.
249 Cessation assistance that is tailored to meet the needs of people experiencing homelessness is
250 clearly warranted and likely to be well-received. However, nurses underestimated client
251 interest in quitting because it was not routinely assessed. The client-led nature of many
252 homeless services means that smoking is typically addressed only if clients raise the issue.
253 This approach severely reduces access to cessation treatment because clients present with
254 multiple welfare needs and most smokers are reluctant to seek cessation assistance given the

255 strong levels of ambivalence normal for any addictive behaviour, beliefs that quitting is
256 something they should be able to do by themselves, and lack of awareness of the
257 effectiveness of smoking cessation treatment.[23] In contrast, when smokers are proactively
258 offered assistance many take it up.[24] Organisational system changes such as including
259 smoking status, interest in quitting and offers and/or referrals for assistance on client in-take
260 forms offer an efficient means to eliminate misperceptions about client interest in quitting.
261 Most organisations working with disadvantaged smokers already have a smokefree policy
262 designed to limit exposure to environmental tobacco smoke. Integrating smoking assessment
263 and cessation support into existing policies (as RDNS has subsequently done) provides a
264 comprehensive policy that dually acts to denormalise smoking and support smokers to reduce
265 or quit.

266 The findings of this study broadly concur with U.S. research among staff and clients of
267 homeless services[14-18,21] and SCSOs in NSW,[19,20] i.e. high smoking rates and interest in
268 quitting, with similar barriers to smoking cessation and treatment identified. Outcomes from a
269 small number of U.S. trials[25-27] suggest that tailored evidence-based smoking cessation
270 assistance including motivational interviewing, cognitive behavioural therapy and NRT,
271 delivered in homeless services helps smokers to quit, with success rates lower than that of the
272 general population, but impressive given the challenges commonly faced by this group.
273 However, the capacity of homeless services to train staff and deliver support varies so
274 training and practice need to be accessible and easy to implement. Tailored online training
275 could assist homeless organisations unable to access face-to-face training. Routine delivery of
276 brief (less than 5 minute) assistance that helps client's access reduced-cost nicotine patches
277 available on prescription, and includes an offer for a call from Quitline, would further reduce
278 the burden on services. RDNS staff have subsequently upskilled Victoria's Quitline in the

279 needs of homeless smokers and the service has been shown to be valued by homeless
280 smokers.[28]
281
282 Findings from this body of work need to inform both staff training programs and tailored
283 tobacco treatments for people experiencing homelessness. In particular, staff training should
284 address concerns about the impact of smoking reduction or cessation on clients' mental
285 health. A recent meta-analysis concluded that smoking cessation is associated with improved
286 quality of life, and reduced depression, anxiety and stress compared with continued smoking.
287 Effect sizes for these differences were as large in people with mental illness as in the general
288 population and were equal to or larger than those of anti-depressant treatment for mood and
289 anxiety disorders.[29] Much of the concern about worsening mental health may stem from the
290 fact that nicotine withdrawal symptoms can be difficult to distinguish from mental health
291 symptoms, however withdrawal is temporary (around 2 weeks) and often not as severe as
292 anticipated. Tools such as structured monitoring of withdrawal symptoms and medication
293 side-effects[30] (as smoking can increase the blood levels of some psychotropic medications)[31]
294 can provide objective feedback on symptom changes, including improvements, and the
295 opportunity for early intervention and consultation with the client's doctor in cases where
296 symptoms worsen and persist. This monitoring of client experiences is now routine practice
297 on Victoria's Quitline service for callers with mental health issues.
298
299 The two in five clients smoking tobacco mixed with another drug in this study indicates that
300 staff training should provide guidance and reassurance in addressing dual dependencies. It is
301 commonly believed that stopping smoking is too difficult for clients trying to quit alcohol and
302 illicit drugs, however smoking cessation treatment during addictions treatment is actually
303 associated with greater success in quitting other substances.[32] Staff training to deliver health

304 information about high-risk smoking practices such as smoking butts or chop chop (reported
305 by 25% of the sample compared to 3.6% among the general population smokers[8]) is also
306 warranted to help clients make informed choices and reduce harm.
307
308 In addition, this study found that heavier smokers, polytobacco users and butt smokers were
309 less likely to have tried to quit or reduce smoking in the three months before the survey,
310 possibly indicating sub-populations with very entrenched smoking in need of extra support.
311 With regard to delivery of cessation assistance, barriers identified by nurses, such as client
312 cognitive impairment and more pressing welfare needs, suggest that assistance needs to be
313 delivered flexibly. Extended treatment duration and more intensive help is likely needed, but
314 support also needs to embrace the chaos in clients' lives, have achievable goals and allow the
315 client's input regarding the level of support.
316
317 Limitations of this study include that the opinions and practices collected here represent those
318 of the majority of a team of nurses from one organisation motivated to address smoking, and
319 do not purport to be representative of homeless services more broadly. Similarly, the client
320 sample, being approximately 7% of the total number of clients registered by one organisation,
321 does not purport to reflect the homeless population at large. However, the diversity of clients
322 interviewed (across service settings, age ranges, as well as varying classifications of
323 homelessness), and the breadth of the questions asked in this study, provides valuable new
324 insights into the lived experiences of tobacco use by people experiencing homelessness in
325 Melbourne.

326 **Conclusion**

327 This study highlights the continuing high prevalence of smoking among people experiencing
328 homelessness. This finding, coupled with the high interest in, and activity to, quit or reduce

329 smoking shown by members of this population, underscores the unmet need for tailored and
330 accessible cessation interventions. Integrating staff training that addresses common concerns
331 about stopping smoking with routine smoking assessment and cessation support for clients
332 into existing smokefree policies can help institutionalise support into organisational practice,
333 challenge cultures permissive of smoking, and provide homeless smokers with valuable
334 opportunities to decrease their financial insecurity and improve their physical and mental
335 health.

336 **References**

337 **1.** Australian Bureau of Statistics (ABS). Census of Population and Housing: Estimating
338 homelessness, 2011.Catelogue no. 2049.0. Canberra: ABS; 2012.
339
340 **2.** Farrell M, Howes S, Taylor C, Lewis G, Jenkins R, Bebbington P, et al. Substance
341 misuse and psychiatric comorbidity: an overview of the OPCS National Psychiatric
342 Morbidity Survey. *Addict Behav.* Nov-Dec 1998;23(6): 909-918. doi: 10.1016/S0306-
343 4603(98)00075-6
344
345 **3.** Baggett TP, Rigotti NA. Cigarette smoking and advice to quit in a national sample of
346 homeless adults. *Am J Prev Med.* Aug 2010;39(2): 164-172. doi:
347 10.1016/j.amepre.2010.03.024
348
349 **4.** Kubisova D, Adamkova V, Lanska V, Dlouhy P, Rambouskova J, Andel M. Higher
350 prevalence of smoking and lower BMI, waist circumference, cholesterol and
351 triacylglyceride levels in Prague's homeless compared to a majority of the Czech
352 population. *BMC Public Health.* 2007;7(1): 51. doi: 10.1186/1471-2458-7-51
353
354 **5.** Hwang SW, Wilkins R, Tjepkema M, O'Campo PJ, Dunn JR. Mortality among
355 residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study.
356 *BMJ*. 2009;339:b4036. doi: 10.1136/bmj.b4036
357
358 **6.** Kermode M, Crofts N, Miller P, Speed B, Streeton J. Health indicators and risks
359 among people experiencing homelessness in Melbourne, 1995–1996. *Aust N Z J*
360 *Public Health.* 1998;22(4): 464-470. doi: 10.1111/j.1467-842X.1998.tb01415.x
361
362 **7.** Scutella R, Johnson G, Moschion J, Tseng Y-P, Wooden M. *Wave 1 findings from*
363 *Journeys Home: a longitudinal study of factors affecting housing stability.*: Melbourne
364 Institute of Applied Economic and Social Research, RMIT University: 2012.
365
366 **8.** Australian Institute of Health and Welfare. 2013 National drug strategy household
367 survey detailed report. Drug statistics series no.28. Cat. no. PHE 183. Canberra:
368 AIHW; 2014.
369
370 **9.** Kish DH, Reitzel LR, Kendzor DE, Okamoto H, Businelle MS. Characterizing
371 concurrent tobacco product use among homeless cigarette smokers. *Nicotine Tob*
372 *Res.* 2014;00(00):1-5. doi: 10.1093/ntr/ntu230
373

374 **10.** Aloot CB, Vredevoe DL, Brecht ML. Evaluation of high-risk smoking practices used
375 by the homeless. *Canc Nurs.* 1993;16(2): 123-130. doi: 10.1097/00002820-
376 199304000-00007
377
378 **11.** Pappas RS, Polzin GM, Watson CH, Ashley DL. Cadmium, lead, and thallium in
379 smoke particulate from counterfeit cigarettes compared to authentic US brands. *Food*
380 *Chem Toxicol.* 2006;45(2): 202-209. doi: 10.1016/j.fct.2006.08.001
381
382 **12.** Stephens WE, Calder A, Newton J. Source and health implications of high toxic
383 metal concentrations in illicit tobacco products. *Environ Sci Technol.* 2005;39(2): 479-
384 488. doi:10.1021/es049038s
385
386 **13.** Bittoun R. *The Medical Consequences of Smoking" Chop-Chop" Tobacco*. Report
387 prepared for the Commonwealth Department of Health and Ageing. Australia: 2004.
388
389 **14.** Okuyemi KS, Caldwell AR, Thomas JL, Born W, Richter KP, Nollen, N, et al.
390 Homelessness and smoking cessation: insights from focus groups. *Nicotine Tob Res.*
391 2006;8(2): 287-296. doi: 10.1080/14622200500494971
392
393 **15.** Baggett TP, Lebrun-Harris LA, Rigotti NA. Homelessness, cigarette smoking, and
394 desire to quit: results from a US national study. *Addiction.* 2013;108(11): 2009-2018.
395 doi: 10.1111/add.12292
396
397 **16.** Connor S, Cook R, Herbert M, Neal S, Williams J. Smoking cessation in a homeless
398 population: there is a will, but is there a way? *J Gen Intern Med.* May 2002;17(5):
399 369-372. doi: 10.1007/s11606-002-0042-5
400
401 **17.** Butler J, Okuyemi KS, Jean S, Nazir N, Ahluwalia JS, Resnicow K. Smoking
402 characteristics of a homeless population. *Subst Abuse.* Dec 2002;23(4): 223-231.
403 doi: 10.1080/08897070209511495
404
405 **18.** Connor S, Scharf D, Jonkman L, Herbert M. Focusing on the five A's: a comparison
406 of homeless and housed patients' access to and use of pharmacist-provided smoking
407 cessation treatment. *Res Soc Adm Pharm.* 2014;10(2): 369-377. doi:
408 10.1016/j.sapharm.2013.05.011
409
410 **19.** Bryant J, Bonevski B, Paul C. A survey of smoking prevalence and interest in quitting
411 among social and community service organisation clients in Australia: a unique
412 opportunity for reaching the disadvantaged. *BMC Public Health.* 2011;11(1):827. doi:
413 10.1186/1471-2458-11-827
414
415 **20.** Bryant J, Bonevski B, Paul C, O'Brien J, Oakes W. Delivering smoking cessation
416 support to disadvantaged groups: a qualitative study of the potential of community
417 welfare organizations. *Health Educ Res.* Dec 2010;25(6): 979-990. doi:
418 10.1093/her/cyq051
419
420 **21.** Australian Institute of Health and Welfare. Counting the homeless 2006: Victoria. Cat.
421 no. HOU203. Canberra: AIHW; 2009.
422
423 **22.** Carter S, Borland R, Chapman C. *Finding the Strength to Kill Your Best Friend -*
424 *smokers talk about smoking and quitting.* Sydney: Australian Smoking Cessation
425 Consortium and GlaxoSmithKline Consumer Healthcare; May 2001 2001.
426
427

23. Tzelepis F, Paul CL, Walsh RA, Wiggers J, Duncan SL, Knight J. Active telephone recruitment to quitline services: Are nonvolunteer smokers receptive to cessation support? *Nicotine Tob Res.* 2009;11(10):1205-1215. doi: 10.1093/ntr/ntp125

24. Okuyemi K, Goldade K, Whembolua G, Thomas, JL, Eischen, S, Sewali, B, et al. Motivational interviewing to enhance nicotine patch treatment for smoking cessation among homeless smokers: a randomized controlled trial. *Addiction.* 2013;108(6): 1136-1144. doi: 10.1111/add.12140

25. Okuyemi KS, Thomas JL, Hall S, Nollen NL, Richter, KP, Jeffries, SK, et al. Smoking cessation in homeless populations: a pilot clinical trial. *Nicotine Tob Res.* 2006;8(5): 689-699. doi: 10.1080/14622200600789841

27. Shelley D, Cantrell J, Warn D, Wong S. Smoking cessation among sheltered homeless: a pilot. *Am J Health Behav.* 2010;34(5): 544-552. doi: 10.5993/AJHB.34.5.4

28. Segan CJ, Maddox S, Borland R. Homeless clients benefit from smoking cessation treatment delivered by a homeless persons' program. *Nicotine Tob Res.* Advance Access published July 2015. doi: 10.1093/ntr/ntv062

29. Taylor G, McNeill A, Girling A, Farley A, Lindson-Hawley N, Aveyard P. Change in mental health after smoking cessation: systematic review and meta-analysis. *BMJ.* 2014;348. doi: 10.1136/bmj.g1151

30. Baker AL, Richmond R, Kay-Lambkin FJ, Filia SL, Castle DW, Jill M, et al. Randomized Controlled Trial of a Healthy Lifestyle Intervention Among Smokers With Psychotic Disorders. *Nicotine Tob Res.* Advance Access published April 2015. doi: 10.1093/ntr/ntv039

31. Mendelsohn CP, Kirby DP, Castle DJ. Smoking and mental illness. An update for psychiatrists. *Australasian Psychiatry.* 2015;23(1):37-43. doi: 10.1177/1039856214562076

32. Prochaska JJ, Delucchi K, Hall SM. A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. *J Consult Clin Psychol.* 2004;72(6): 1144-1156. doi: 10.1016/s0084-3970(08)70091-4

Table 1: Nurses' smoking cessation practice

Current practice	Never		Occasionally		Often		All the time	
	n	%	*n*	%	*n*	%	*n*	%
Record new clients smoking status in case notes (n=25)	5	(19)	7	(27)	2	(8)	11	(42)
Ask if clients are interested in reducing or quitting (n=25)	2	(8)	7	(27)	12	(46)	4	(15)
Incorporating smoking cessation goals into care plans for clients wishing to quit (n=23)	5	(19)	12	(46)	5	(19)	1	(4)
Record attempts to quit or reduce smoking (n=24)	3	(12)	11	(42)	8	(31)	2	(8)
Refer clients interested in quitting to Quitline or GPs for smoking cessation assistance (n=24)	7	(27)	9	(35)	6	(23)	2	(8)
Help build clients' motivation to quit (n=24)	1	(4)	9	(35)	10	(38)	4	(15)
Provide emotional support to quit or reduce smoking (n=24)	1	(4)	8	(31)	13	(50)	2	(8)
Provide smoking clients with written or verbal health information relating to smoking (n=24)	6	(23)	11	(42)	6	(23)	1	(4)

Note: Percentages $\geq$0.5 rounded upwards, therefore rows may not sum to 100%

Table 2: Client-barriers to accessing smoking cessation assistance as identified by nurses as significant (*N*=26).

Client-barriers	***n***	***%***
Strong pro-smoking cultural norms among clients	22	85%
High levels of nicotine dependence	21	81%
Clients have more pressing needs	20	77%
Client cognitive impairment	19	73%
Client anxiety about quitting	17	65%
Clients not seeing any benefits in quitting	10	39%
Access to telephone to use Quitline phone support	6	23%
Health and welfare staff smoking in front of clients	5	19%

Table 3: Client characteristics and smoking behaviour.

Characteristic (all participants *N*=104)	***n* or *M***	**% or *SD***
Age (*N*=102)	50	13.9
Male (*N*=103)	72	70%
Homelessness category (*N*=103)		
Tertiary (accommodated >13 weeks, without secure tenure)	54	52%
Secondary (unsecured, temporary accommodation)	39	38%
Primary (without conventional shelter)	10	10%
Current smoker (*N*=104)	85	82%
Smoking behaviour (*N*=85)		
Cigarettes per day*	21	14.7
Light (<15)	33	39%
Medium (15-24)	23	27%
Heavy (25+)	29	34%
Number of types of tobacco smoked		
One	30	35%
Two - three	32	38%
Four+	23	27%
Tried to quit or reduce smoking during the previous 3 months		
Yes, quit attempt (>24 hours)	9	11%
Yes, reduced amount smoked	31	37%
Yes, tried with little success	14	16%
No, didn’t try	30	36%
Would you like to stop smoking?		
Yes	44	52%
No	23	27%
Unsure	18	21%

** Where grams of tobacco was reported this was converted to cigarettes, 0.8 grams = 1 cigarette*