Report: Communicating smokefree messages at children's playgrounds: A survey of signage at 54 playgrounds in 17 New Zealand local government areas

Nick Wilson, George Thomson
ASPIRE 2025 and Department of Public Health
University of Otago, Wellington, New Zealand
October 2015

Abstract

Aim: To identify the extent of coverage and quality of smokefree signage around children's playgrounds in a sample of New Zealand local government areas.

Method: A field survey was conducted of playgrounds in 17 contiguous territorial local authorities (TLAs) in the lower North Island of New Zealand (2 to 6 playgrounds per TLA, depending on population). The TLA websites were surveyed for smokefree policies. Qualitative data were collected on sign themes and contextual data gathered on other playground signage and on other playground-related policies.

Results: Only 22% of the 54 playgrounds had any smokefree signage on an entrance path to the playground and only 44% had it within the playground area (within 10m of the equipment). In total, 63% of all playgrounds had at least some smokefree signage present, though this increased to 72% when the surrounding park area (within 100m of the equipment) was also considered. Only 47% (8/17) of the TLAs had any smokefree signage at any playground entrances.

Smokefree signage density was lowest at entrances (mean = 0.3 signs per playground), similarly for the surrounding park area (mean = 0.4), and higher in the playground area itself (mean = 0.7).

Qualitatively the smokefree signage was markedly poorer than signage banning dogs because of smaller sign size, less use of clear symbols and being far wordier. Only 58% (10/17) of the TLA websites explicitly stated that their playgrounds were smokefree.

Conclusions: This study provides evidence that there is substantial scope for improved smokefree signage in children's playgrounds in New Zealand (achievable by local government action or a new national-level law). The achievement of well-designed dog control signage at many of these playgrounds shows what can be achieved with available resources.

Introduction

School grounds in New Zealand became smokefree by legislation in 2004.[1] Since then, local governments have also increasingly adopted 'educational' smokefree policies for children's playgrounds and parks, which are intended to reduce smoking in such areas by information, but without bylaws to back up any communication.[2] There is evidence than even a majority of smokers support these settings being smokefree.[3, 4]

Smokefree playgrounds are a priority area, given that such policies protect children from both secondhand smoke exposure and from the adverse normalising impact of seeing adult smoking. As such they may help achieve the Government's smokefree nation goal by 2025.[5]

The literature on signage places stress on appropriate placement, as well as on content, shape, size, and colours. Ideally, well designed signage will make all visitors to a place or area aware of the signs' message.[6] Within signs, because of the restricted space usually available, a maximum of clarity and simplicity is needed to ensure messages are effectively communicated. Signs need to capture attention, and positive messages are more likely to result in behaviour change than negative ones.[7]

There is limited research on communicating health messages through signage, eg,[8, 9] especially for outdoor signs.[10] Research on smokefree signs appears to be restricted to their presence, eg,[11, 12] or the effect of their presence.[13, 14] Research on signage at playgrounds has included differences by the socio-economic status of neighbourhoods,[15] and the observed presence of smokefree signs at 14 playgrounds (six in New Zealand).[12] This latter study did not record the number, size or format of any signs.

Although work has been done on smokefree signage at schools,[16] and hospitals in New Zealand,[17] the limited published data of smokefree signage at New Zealand children's playgrounds left a number of questions, including about the placing and quality of signage. There appears to have been no published evaluation on the quality of such signs. Hence we aimed in this study to address this gap.

Methods

Field survey: A sample of children's playgrounds within 17 contiguous TLAs in the lower North Island (as listed in Table1) was observed. These TLAs were from Wellington to Manawatu in the west; and from Wairarapa to Gisborne in the east. Based on the June 2015 Statistics New Zealand population estimates for TLAs, we sampled: two playgrounds in TLAs of under 50,000 population; four playgrounds in TLAs with populations of 50,000 to 100,000; and six playgrounds in TLAs of over 100,000. Within TLAs, the sampling was convenience sampling ie, typically of playgrounds nearest to main roads (to reduce travel costs in this unfunded study).

Data collection included the presence or not of smokefree signage that were at entrances to the playground area, in the playground area itself (within 10m of the play equipment), and within the surrounding park area (within 100m of the playground equipment). Photos were taken of

playgrounds, their entrances, and any smokefree signs seen. The photos of the signs were to allow for an examination of size and content (themes, pictures, and use of words and symbols). Signs relating to other restricted activities at or near playgrounds were also photographed for comparative purposes. Data were collected on road trips in March to July 2015 with most (86%) of the observations being made independently by each of authors (GT, NW) but some were done jointly (n=7, 14%). A copy of the data collection form is available on this website: www.otago.ac.nz/wellington/otago234002.pdf.

Council smokefree and dog policies: On 18 August 2015 we examined the websites of all the 17 TLAs to determine if they had a smokefree policy for children's playgrounds and/or for parks. On 12 October 2015, we examined the websites of the TLAs for information about prohibited areas for dogs.

Results

Only three TLAs (Central Hawkes Bay, Masterton and South Wairarapa) out of the 17 (18%) had both an explicit website statement about smokefree playgrounds, and at least one sign at either a playground entrance or within 10m of playground equipment for all playgrounds visited.

Council policies: Out of the 17 TLAs, 71% (12/17) had information about any smokefree policies on their website. Of these, 59% (10/17) explicitly stated that children's playgrounds were covered with a smokefree policy (Table 1) – Kapiti and Gisborne did not mention playgrounds. Napier and Hastings had information about a planned policy. In no cases was the policy backed up with a bylaw and hence any potential for enforcement. The presence of either a website policy or signs indicated that all the 17 TLAs had a policy, even if they did not communicate it.

Thirteen of 17 TLAs (76%) had policies on their websites that specifically prohibited dogs at all playgrounds (in Horowhenua, Tararua, Central Hawkes Bay and Gisborne, playgrounds appeared to be subsumed within reserves and parks). In Kapiti, the dog prohibition area was within 10m of playgrounds, and in Palmerston North, within 30m.

Field survey: The 54 playgrounds studied varied in size from less than 20m square to over 100m square, and 91% (49/54) were within larger park areas. Seven of the playgrounds were completely enclosed by fences, with either one or two entrance gates. The other 45 playgrounds could be approached from a number of directions, either by paths or across grass.

Out of the playgrounds studied, only 22% had any smokefree signage on an entrance path to the playground and only 44% had it within the playground area (within 10m of the equipment), (Table1). In total, 63% of all playgrounds had at least some smokefree signage present, though this increased to 72% when the surrounding park area (within 100m of the equipment) was also considered.

At the TLA level, 88% (15/17) had at least some smokefree signage present in any playgrounds, though this increased to 94% (16/17) when the surrounding park area (within a 100m of the

equipment) was also considered. Only 47% (8/17) of TLAs had *any* playgrounds which had any smokefree signage on an entrance path to the playground, and 76% (13/17) had *any* playgrounds with a sign within the playground area (within 10m of the equipment). Only 41% (7/17) had *any* signage in the surrounding park area (within 100m of the equipment) for any of the parks with playgrounds.

Smokefree signage density was lowest at entrances (mean = 0.3 signs per playground), similarly for the surrounding park area (mean = 0.4), and higher in the playground area itself (mean = 0.7) (Table 1). The highest number of signs in any playground area was five. Only one of the 74 signs found had evidence of vandalism.

Smokefree sign quality: There was a wide variety of styles and sizes of signs, with varied content. The signs were generally small, with none found over 0.5m x 0.5m. In three TLAs, Wellington, Palmerston North and Napier, the signs were under 0.2m x 0.2m. In contrast to the dog-free signs in all TLAs, these small signs were difficult to notice unless the observer was within five metres or less, partly because of the lack of simple design, and the lack of use of high contrast symbols or text (see Figure 1 for contrast with a dog sign).

Figure 1: Palmerston North City playground signs (smokefree and dog control)

The content of the text varied. In eight TLAs, at least some of the signs referred to the example effect of smoking on children, using the phrase ‘We copy what we see’ (Porirua, Kapiti, Horowhenua, South Wairarapa, Carterton, Manawatu, Tararua and Wairoa). Horowhenua, Palmerston North, Central Hawkes Bay and Hastings used the words ‘fresh air’ in some form on at least some signs (eg, ‘This park contains fresh Hastings air’). Other text ranged from the polite ‘Thank you for not smoking near our children’ (Lower Hutt) to the exhortation ‘Get active, be healthy and keep this park smokefree’ (Wellington) to ‘Smoking endangers children’s health’ (South Wairarapa). Only two TLAs (Kapiti, Palmerston North) used Māori language in the text, although six others (Horowhenua, and the five Hawkes Bay TLAs) used the Auahi Kore smokefree symbol (Figure 2). No signs at playgrounds or parks were found that included the Quitline number.

The design elements also varied considerably. All the TLAs where signs were found except Carterton and one sign in South Wairarapa (where no symbols were used) used either the New Zealand smokefree symbol (Figure 3) or the international smokefree symbol (Figure 4). The majority of signs found also had some other use of graphics. Eleven TLAs used graphics of children. None of the signs indicated the area covered or distance from play equipment that should be smokefree.

Figure 2: Standard Auahi Kore sign

Figure 3: Standard New Zealand smokefree sign

Figure 4: Standard international smokefree sign

A number of signs had other elements that might affect their impact and effectiveness. The use of translucent sign covers that degraded (some Horowhenua, Tararua and Wairoa signs) affected the visibility of sign content and the image that accompanied the messages (see Figure 5).

Figure 5: Low-visibility Tararua smokefree sign by a children's playground

Context of other signs and equipment: There were a number of other activities at or around playgrounds where restrictions were communicated by signs, including alcohol use, littering and motorbike use. Restriction signs for dogs were found for all the TLAs except Porirua and Wairoa (n=30). Except for one sign each in South Wairarapa, Masterton and Central Hawkes Bay, all the other 27 signs found had a graphic of a dog with a diagonal cross stripe over it (eg, see Figure 1). Of these, in all but one pavement sign in Kapiti (Figure 6) the diagonal was red. On nine signs (in Hutt City, South Wairarapa, Central Hawkes Bay and Napier) penalties were mentioned. Seven of the signs gave fine amounts, ranging from $200 to $500.

Figure 6: Kapiti pavement sign for dog control near a playground

We found some large (well over 0.5m square) and elaborate signs for other purposes near the playgrounds studied. These included those with historical information (eg, Kowhai Park, Fielding, and the Aro Valley historical information sign in Wellington).

The large majority of playgrounds studied had at least four items of strongly constructed play equipment, set in well designed and maintained soft surface bases (eg, see Figure 7).

Figure 7: Gisborne Botanic gardens playground (lacking any smokefree signage)

Table 1: Policies and smokefree signage in children's playgrounds and surrounding park areas

Territorial local authority (TLA)	Website has smokefree policy covering playgrounds: Yes/No	Website has dog ban policy covering playgrounds: Yes/No	Smokefree signs at entrances* (means per playground, unless stated otherwise)	Smokefree signs in the playground (within 10m), (means per playground, unless stated otherwise)	Smokefree signs in the surrounding park (within 100m),** (means per playground, unless stated otherwise)	Total number of playground & related park (within 100m) smokefree signs
Large TLAs, population ≥ 100,000 (6 playgrounds sampled in each)						
Hutt City	Y:CPP	Y:CPP, SP, PP	0.3	0.0	0.0	2
Wellington City	Y:CPP, SP	Y:CPP, SP	0.5	0.3	1.3	9
Medium sized TLAs, population ≥ 50,000, < 100,000 (4 playgrounds each)						
Hastings District	N	Y:CPP, SP	0.3	0.8	1.0	8
Kapiti Coast District	Y:SP	Y:CPP,SP	0.0	0.5	0.0	2
Napier City	N	Y:CPP, SP	0.3	0.8	0.0	4
Palmerston North City	Y:CPP, SP,PP	Y:CPP, SP	0.0	1.3	0.0	5
Porirua City	Y:CPP, SP	Y:CPP, SP	0.5	0.3	0.0	3
Upper Hutt City	Y:CPP, PP	Y:CPP	0.0	0.3	0.7	3
Smaller TLAs, population < 50,000 (2 playgrounds each)						
Carterton District	N	Y:CPP	0.0	3.5	1.5	10
Central Hawke's Bay District	Y:CPP, SP,PP	Y:PP	1.0	0.0	1.0	4
Gisborne District	Y:SP	Y:PP	0.0	0.0	0.0	0
Horowhenua District	Y:CPP, SP,PP	Y:PP	0.5	2.5	0.0	6
Manawatu District	N	Y:CPP	0.0	0.5	0.0	1
Masterton District	Y:CPP, SP	Y:CPP	0.0	3.0	0.0	6
South Wairarapa District	Y:CPP, SP,PP	Y:CPP, SP	2.5	1.0	0.0	7
Tararua District	N	Y:SP, PP	0.0	0.0	0.5	1
Wairoa District	Y:CPP, SP, PP	Y:CPP	0.0	0.5	1.0	3
For all 54 playgrounds or 17 TLAs						
Total smokefree signs			17	39	18	74
Mean number of smokefree signs per specified area			0.31	0.71	0.37	1.37
Median number of smokefree signs per specified area			0	0	0	1
Range per specified area			0 to 3	0 to 5	0 to 3	0 to 8
Any smokefree signs			22%	44%	27%	72%
Any smokefree signs (% of all 17 TLAs)			47%	76%	41%	94%

* If the entrance sign was also within 10m of the equipment it was just counted in the former category.

** For n=49 surrounding park areas (ie, 5 playgrounds were playgrounds only with no surrounding park area).

CPP – Children's playground policy: Smokefree or dog free at all times

PP – Parks policy: Smokefree or dog free at all times

SP – Sportsground policy: Smokefree or dog free at all times

Discussion

Main findings and interpretation: For a type of policy that relies entirely on communication to get compliance, the evidence indicates patchy implementation across the 17 TLAs. From a public health perspective, it is clearly a problem that for some TLAs there were no smokefree signs found at any of the children's playground entrances, or within 10m of equipment. A further problem is the very low signage density, with only 63% of the 54 playgrounds having any smokefree sign at the entrance or within 10m of the equipment, and only seven TLAs (41%) having at least one smokefree sign at *all* playgrounds studied. Considering the large size of some playgrounds and the number of entrances, for many of them several signs would be needed for good communication. Communication by website was equally patchy, with only 59% of the TLAs explicitly stating that their playgrounds should be smokefree.

The positive aspect for this group of TLAs was that all appeared to have some sort of smokefree policy, even if not communicated. This is contrast to the findings in a 2013 study which found that 18 of 65 (28%) of New Zealand TLAs did not have a smokefree policy at that stage. A more recent compilation of policies found eight of 67 TLAs without smokefree policies.[18]

Qualitatively, the smokefree signage was markedly poorer than signage banning dogs in terms of involving smaller sign size, less use of clear symbols and being far wordier. Other studies have suggested that small smokefree signs may impede public awareness of smokefree outdoor policies.[19]

Strengths and limitations: This study was the first such study of smokefree signage in children's playgrounds in New Zealand (that we know of). The data collected on signage for other purposes (eg, dog control) provided an opportunity for making qualitative comparisons. Nevertheless, the level of generalisability of these results to other parts of New Zealand is not entirely clear – given we only studied one region of New Zealand and only 17 out of the country's 67 TLAs. Also, within TLAs the playground sampling was "convenience sampling" (to lower research costs). The latter may have meant that we tended to sample larger playgrounds near main roads. Furthermore, since some signs were very small and placed in obscure places within the playground (eg, high on tree trunks to prevent vandalism) – there is a chance that a small minority were not identified (albeit by observers with experience in studying smokefree signs).

Implications for further research: Further research could expand the TLAs sampled and randomly select playgrounds within each TLA, though the latter will increase travel times and study cost. Qualitative studies could further evaluate the public's interpretation of different smokefree signs so as to inform the optimal designs (as detailed further below). The use of Google Street View for studying such playground signage could also be considered, as done for other smokefree signage in New Zealand.[17, 20]

Policy implications for central and local government: Given the New Zealand Government's goal for 2025[21] there is potentially a case for taking a national approach with an upgrade of the Smoke-free Environments Act. This could ban smoking within 10m or more from all children's playground equipment – and mandate certain levels of signage (for main entrances and on equipment) similar to Californian legislation.[22] As with smokefree signs for all New Zealand schools, the Health Promotion Agency could supply standardised signs to TLAs for free. Alternately, TLAs could collectively come up with standard signs that could be easily recognised throughout New Zealand. To assist with this process we outline some initial principles for such signage, albeit noting that this topic could benefit from more specific research.

Suggested principles for smokefree outdoor signage: The evidence found suggests a number of principles for the design and implementation of smokefree outdoor signs. First, the presence and condition of current signage could be monitored at least annually and sign effectiveness evaluated regularly, as part of the continuing evaluation of smokefree policy communication. New Zealand surveys indicate that the proportion of the public who are aware of smokefree playground or parks policies can be as low as 30% or less.[23-25] This level of awareness indicates that signage may need to be improved.

Second, placement is important: the signs need to be close to the area where the message is crucial, and the message needs to be clearly visible from at least 10m away from the playground area and equipment. Besides the normalising effect of seeing smoking, significant tobacco smoke effects occur at over 10m from groups of smokers,[26] and at least 9m from a burning cigarette in light winds.[27] Placement at critical points with the maximum pedestrian traffic, such as entrances, helps more effective communication.[7] While it is tempting for local authorities to add smokefree messages to signs with multiple messages, or to add smokefree signs to posts that have other signs, stand-alone signs provide much greater impact.

Third, the number of signs is important.[28] Messages need to be seen by those who approach playgrounds from all directions. One sign on playground equipment that cannot be seen from people approaching from other directions is unlikely to communicate effectively. Where a playground can be approached from several directions, we suggest a minimum of two signs, facing outwards on opposite sides of the equipment. Where a number of play equipment items are scattered over an area more than 30m square, we suggest more signs, sufficient to be seen from any direction that the equipment can be approached from.

Fourth, simple symbols on high contrasting backgrounds provide much greater legibility and visibility. Unless a local authority or other organisation is able to provide larger signs (over 0.5m square), complex designs and/or more than two words of text may be an ineffective luxury. We do not support the use of the international smokefree sign (Figure 4) because it is both negative and may be a cue for smoking. Rather we suggest either the New Zealand and Auahi Kore smokefree signs (Figures 2 and 3), or a simple positive graphic with a minimum of words. While the signs such as in Figure 5 are positive, we suggest they should only be used as a supplement to a main supply of simpler signs that are more legible and noticeable from a distance. Similarly, short positive phrases (eg, 'Breath easy') are probably preferable to longer ones. If we were to make an exception, it would be for the Porirua City smokefree sign (Figure 8). A Quitline

number would add to the positive content for smokers (as used in some signage in other settings[17]).

Figure 8: Porirua City smokefree sign used at playgrounds and parks

Finally, greater upfront investment in sign planning, design and construction will mean less chance of ineffective and unsightly signs. The presence of large, elaborate and well-constructed signs for other purposes suggests that signage cost is not necessarily an issue for some local authorities. Indeed, we found it somewhat ironic the apparent large investment in equipment at nearly all the playgrounds studied (eg, Figure 8), but local authority reluctance to invest in providing the healthy ambiance for that investment with accompanying appropriate smokefree signage.

Competing interests: Nil.
Funding source: This study had no funding.

References

1. Wilson N, Oliver J, Thomson G. Ten years of a national law covering smoke-free school grounds: a brief review. *Tob Control* 2015;(E-publication 24 January).
2. Marsh L, Robertson LA, Kimber H, et al. Smokefree outdoor areas in New Zealand: how far have we come? *N Z Med J* 2014;127:51-66.
3. Wilson N, Blakely T, Edwards R, et al. Support by New Zealand smokers for new types of smokefree areas: national survey data. *N Z Med J* 2009;122(1303):80-9.
4. Li J, Newcombe R. Acceptability of extended smokefree areas and smokefree cars. Health Promotion Agency Research and Evaluation Unit. Wellington. May 2013. http://www.hpa.org.nz/research-library/research-publications/acceptability-of-extended-smokefree-areas-and-smokefree-cars-in-fact.
5. New Zealand Government. Government Response to the Report of the Māori Affairs Committee on its Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori (Final Response). New Zealand Parliament. Wellington. March 2011. Accessed May 23, 2015. http://www.parliament.nz/en-NZ/PB/Presented/Papers/8/6/0/49DBHOH_PAP21175_1-Government-Final-Response-to-Report-of-the-M-ori.htm.
6. Denis J, Pontille D. Placing subway signs: practical properties of signs at work. *Visual Communication* 2010;9:441-462.
7. Paths for All. Signage Guidance for Outdoor Access. Paths for All. Alloa, Scotland. 2014. Accessed October 16, 2015. http://www.outdooraccess-scotland.com/sites/default/files//docs/signage_guidance_for_outdoor_access.pdf.
8. Grimstvedt ME, Kerr J, Oswalt SB, et al. Using signage to promote stair use on a university campus in hidden and visible stairwells. *J Phys Act Health* 2010;7:232-8.
9. Bungum T, Meacham M, Truax N. The effects of signage and the physical environment on stair usage. *J Phys Act Health* 2007;4:237-44.
10. Walkosz BJ, Buller DB, Andersen PA, et al. Increasing sun protection in winter outdoor recreation a theory-based health communication program. *Am J Prev Med* 2008;34:502-9.
11. Goel S, Ravindra K, Singh RJ, et al. Effective smoke-free policies in achieving a high level of compliance with smoke-free law: experiences from a district of North India. *Tob Control* 2014;23:291-4.
12. Thomson G, Russell M, Jenkin G, et al. Informing outdoor smokefree policy: methods for measuring the proportion of people smoking in outdoor public areas. *Health Place* 2013;20:19-24.
13. Vardavas CI, Agaku I, Patelarou E, et al. Ashtrays and signage as determinants of a smoke-free legislation's success. *PLoS One* 2013;8:e72945.
14. Harris KJ, Stearns JN, Kovach RG, et al. Enforcing an outdoor smoking ban on a college campus: effects of a multicomponent approach. *J Am Coll Health* 2009;58:121-6.
15. Crawford D, Timperio A, Giles-Corti B, et al. Do features of public open spaces vary according to neighbourhood socio-economic status? *Health Place* 2008;14:889-93.
16. Wilson N, Thomson G, Edwards R. The potential of Google Street View for studying smokefree signage. *Aust N Z J Public Health* 2015;(E-publication 22 April).
17. Wilson N, Thomson G. Suboptimal smokefree signage at some hospitals: Field observations and the use of Google Street View. *N Z Med J* 2015;128:56-9.

18. Beckett J. Mapping New Zealand Councils' smokefree outdoor places and spaces. Mid-Central District Health Board. Palmerston North. October 2015.
19. McIntosh AH, Collins D, Parsons M. 'A place for healthy activity': parent and caregiver perspectives on smokefree playgrounds. *Health Place* 2015;31:146-53.
20. Wilson N, Thomson G, Edwards R. The potential of Google Street View for studying smokefree signage. *Aust N Z J Public Health* 2015;39:295-6.
21. New Zealand Government, Government Response to the Report of the Māori Affairs Committee on its Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori (Final Response). Wellington: New Zealand (NZ) Parliament, 2011. http://www.parliament.nz/en-nz/pb/presented/papers/49DBHOH_PAP21175_1/government-final-response-to-report-of-the-m%c4%81ori-affairs. .
22. California State Legislature. Health and safety code Section 104350-104495. California State Legislature. Sacramento. 2003. Accessed October 16, 2015. http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=104001-105000&file=104350-104495.
23. Wyllie A. Public response to introduction of Smokefree outdoor public places in Auckland Council region. Cancer Society Auckland Division. Auckland. July 2014. Accessed September 25, 2014. https://auckland-northland.cancernz.org.nz/assets/Auckland-Northland/Health-Promotion/CSA-June-2014-report.pdf.
24. Wellington City Council. Attitudes towards smoking in Wellington. Wellington City Council. Wellington, NZ. November 2015.
25. Toledo Cortés L, Thomson G, Edwards R. Testing policy evaluation methods for smoke-free outdoor area policies. *Evaluation Journal of Australasia* 2014;14:35-42.
26. Yamato H, Mori N, Horie R, et al. Designated smoking areas in streets where outdoor smoking is banned. *Kobe J Med Sci* 2013;59:E93-105.
27. Hwang J, Lee K. Determination of outdoor tobacco smoke exposure by distance from a smoking source. *Nicotine Tob Res* 2014;16:478-84.
28. Ham S, Brown, Curtis J, et al. Promoting persuasion in protected areas. Griffith University. Gold Coast. 2008. Accessed October 16, 2015. http://www.crctourism.com.au/wms/upload/resources/80039%20Ham%20Promoting%20Persuasion%20in%20PAs%20SUM.pdf.