



The School of Pharmacy
University of London



Curbing the Tobacco Pandemic: The Global Role for Pharmacy

The School of Pharmacy, University of London
International Pharmaceutical Federation (FIP)

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and International Pharmaceutical Federation (FIP)



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FOREWORD

The School of Pharmacy, University of London and the International Pharmaceutical Federation (FIP) both exist to help improve health worldwide. We are therefore pleased to launch this first collaborative report, which explores the role that pharmacy can and should play in curbing the worldwide pandemic of tobacco related harm. Despite existing control efforts, tobacco use continues to pose a serious threat to the health of smokers and those subject to the ill effects of tobacco in the environment. Without further efforts, the burden of premature deaths and long term illness caused by tobacco products will rise further as the 21st century progresses, most notably in Asia.

Community pharmacists are in many countries not only the most accessible health care professionals, but have the knowledge and skills effectively to promote health behaviour changes such as tobacco cessation. Our professional interests and those of the global public both demand that we should give increased attention to this vital topic.

This report is designed to be a resource for pharmacists and pharmacy associations seeking to lead tobacco use cessation initiatives. It provides examples of relevant projects, successes and challenges from around the world, and offers a stakeholders' guide to facilitating the introduction of appropriately structured and supported service developments. On behalf of the International Pharmaceutical Federation (FIP) and The School of Pharmacy, University of London, we urge stakeholders to consider their role in curbing the tobacco pandemic.

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Contents

Key recommendations	6
Summary	7
Introduction	8
National and professional stages of change	9
The evidence for pharmacy involvement.	12
The role of professional organisations.	13
Realising the pharmacy opportunity...	15
Conclusions and recommendations	17
References.	18
Links	19

Key Recommendations

1. Governments and all other stakeholders in better public health – including national and international level pharmacy – should work globally to ensure that due emphasis is placed on tobacco cessation service provision via strong and comprehensive interpretations of Article 14 of the WHO’s Framework Convention for Tobacco Control.
2. Public and private health care providers should put in place adequate tobacco cessation service funding mechanisms, commensurate with rationally defined local health improvement priorities.
3. All health professionals should recognise the still growing importance of tobacco use as a threat to health world-wide, and work in partnership with other groups – including pharmaceutical industry and voluntary sector agencies – to promote tobacco cessation.
4. Pharmacy leaders and regulators ought to encourage appropriate investments in professional training, to allow pharmacists to play a full role in ending the global pandemic of tobacco related harm.
5. Pharmacists should seek to ensure an optimally accessible supply of cessation support medicines, and give evidence based advice to customers seeking to quit smoking. Wherever possible they should pro-actively offer more sophisticated and effective cessation support.
6. Members of the public seeking to take a responsible approach to their own health and that of their families and communities should support public health programmes aimed at preventing smoking and, as tobacco use declines, the provision of universally available services to help tobacco users free themselves of their life threatening condition.
7. Governments, health care professionals and citizens living in the mature industrial economies with long-term experience of tobacco related harm should share their tobacco cessation service experience with communities with less exposure to the health costs of smoking, while respecting the fact that development priorities change as societies become wealthier.

Summary

The early stages of the global tobacco pandemic were associated with the beginnings of greater wealth, and a rapid spread of the smoking habit in relatively advantaged individuals and communities. Its end stages are seeing tobacco use increasingly concentrated in relatively poor, less educated and more vulnerable populations.

Tobacco use remains the single greatest avoidable threat to public health worldwide. Total consumption of tobacco products is now falling in the mature industrial nations. But it is still increasing in many rapidly expanding economies. Without more effective action to curb global tobacco use, smoking will kill in the order of a billion people in the 21st century.

Public health campaigns to prevent and reduce tobacco related harm are primarily based on controlling factors such as tobacco product prices and advertising, and limiting smoking in public places. But as smoking rates decline, the requirement for individual cessation support services aimed at helping tobacco users quit smoking rises. Governments, professionals and the public should recognise the growing need for tobacco cessation support services as countries develop.

There is robust evidence that community pharmacies and pharmacists can be effective providers of tobacco cessation support. Pharmacy ought to play a key role in curbing the global tobacco pandemic.

All pharmacists should supply tobacco cessation and reduction products and give advice in response to customers' questions. But more sophisticated pharmaceutical care further increases quit rates. Appropriate professional training and the service funding mechanisms necessary to ensure extended public access to tobacco cessation support should be put in place by professional bodies and health care providers.

Examples of enhanced pharmacy based tobacco cessation services already exist in countries such as Denmark, the UK, the US, Canada and Singapore. But all nations need to develop further their approaches to supporting citizens' efforts to stop smoking, tailored to fit local traditions and development priorities.

Pharmacists are strengthening their commitment to improving public health. This is likely to require enhanced partnerships with other private and public stakeholders in tobacco related harm reduction, and increased professional self confidence. Government departments, public and private health care providers, pharmaceutical companies, non-governmental bodies and health care professions like physicians, nurses and pharmacists should seek innovative ways of working together to extend public access to tobacco cessation support.

The WHO's Framework Convention for Tobacco Control (FCTC) is promoting global progress towards the elimination of mass tobacco use. Pharmacy as a national and international force for better health should support governments and other agencies in the ongoing implementation of the Convention.

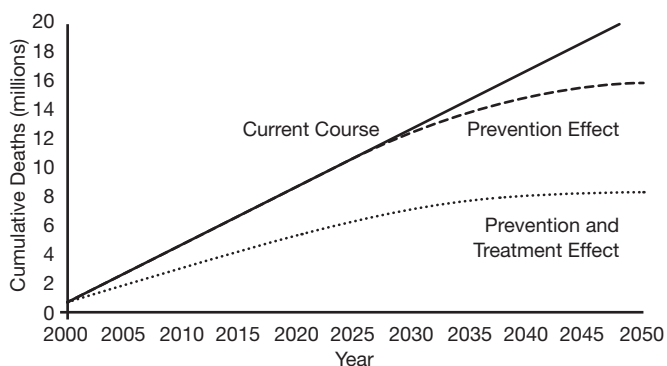
INTRODUCTION

Tobacco use remains the single largest avoidable threat to public health in the 'mature' industrialised nations¹, even though its prevalence is now declining because of the implementation of prevention and control policies. Smoking is also gaining a similar significance in the faster expanding economies of the world, such as those of Asia. In many of the latter, the use of cigarettes and other tobacco products is already high and, among many groups, still rising.

The reductions in population level life expectancy caused by tobacco use during the 20th century were, in Europe and the United States, on a scale broadly comparable to the longevity gains generated by modern medicines. Globally, smoking is today responsible for in the order of five million premature deaths a year. In addition, it is a major cause of disability associated with cardiovascular and cerebrovascular disease and conditions such as chronic obstructive pulmonary disease (COPD). In China alone (where around a third of today's smokers currently reside), the order of 50 million people have already been impoverished because of the direct and indirect costs of tobacco related ill health². Such data have profound implications for pharmacists and other health and social care professionals seeking to maximise their contributions to health improvement. If unchecked current smoking trends will lead to the premature deaths of one billion people during the 21st century, the majority of whom will be in Asia.

During the last two decades bodies such as the WHO and the World Bank have emphasised the overall economic as well as the specific health benefits of diverting resources away from the production and use of tobacco towards more productive goods and services (Box 1).

These measures all represent relatively low cost ways of influencing the behaviour of entire populations. As such it is the case that governments often prioritise such action over and above the public provision of tobacco cessation support. But as overall tobacco consumption rates fall, the needs of sections of the community less able (for social and/or biological reasons) to stop using nicotine containing products become more apparent. The impact of additional tax rises and other control measures will decline, unless complementary treatment based interventions are made. At the same time wider social values change, so that people using facilities such as pharmacies become more likely to expect and welcome inquiries about their use of tobacco.



Projections of global tobacco-related mortality based on present trends (current course), compared with projections of effective prevention (prevention effect) and effects of combined prevention and treatment (prevention & treatment effects).³

Figure 1. Projected tobacco-caused mortality patterns.

Box 1. Controlling tobacco related harm

In addition to supporting tobacco cessation, the main public health options available to policy makers to help communities prevent and reduce smoking and tobacco related harm include:

- **Informing the public.** In addition to providing appropriate education to children and other sections of the public, clear health warnings on tobacco products can help reduce their consumption.
- **Raising prices.** In higher income countries a ten per cent increase of cigarette prices should lead to a four to five per cent decrease in volume consumption. This makes taxation aimed at maximising public health (as distinct from state revenues) a central tool of tobacco harm control. But to be effective in any given national or regional context such measures need to be backed by effective controls over threats such as the illegal importation of tobacco products from lower price areas
- **Regulating effectively tobacco sale and advertising.** This may involve the prevention of cigarette supply to minors, and controls over – and bans on – tobacco advertising. The use of misleading product descriptors such as 'mild' and 'light' may be prohibited, as can sponsorship programmes aimed at, say, associating smoking with sport and health or health research.
- **Implementing environmental controls.** Bans on smoking in enclosed places protect the wider public as well as smokers themselves, and also serve to reduce indirect risks such as those of fire.

In the context of less advanced countries, where smoking rates are still rising, the early introduction of effective tobacco treatment/cessation services will also have longer term benefits (Figure 1). However, there is perhaps a case for arguing that in such circumstances the highest initial priority should be given to more cost effective forms of intervention, such as securing tobacco product price rises.

As these tobacco control policies take effect, smoking becomes seen as an unhealthy – pathological, rather than normal and socially accepted – habit. The provision of services aimed at enabling individuals to stop should then emerge as an increasingly important political and health service priority. There is evidence that accelerating the introduction of quit support provisions world-wide could (over and above the impact of other interventions to prevent smoking) save some 10 million lives by 2050³. Growing international awareness of the importance of this opportunity is reflected in current attempts to implement comprehensively Article 14 of the WHO's Framework Convention on Tobacco Control (the FCTC)⁴. The latter addresses tobacco cessation support, but has not (at least as yet) been seen as having the strength to ensure that populations within the WHO member states who have ratified the framework have access to effective services⁵.

Facilitating good access to cessation aids such as nicotine replacement therapy (NRT) is beneficial at both an individual and a population level, in that even without additional support for users this will either reduce smoking amounts (through substitution) or, in a proportion of cases, facilitate quitting^{6,7}. However, well designed pharmacy tobacco cessation services – incorporating appropriate forms of remuneration and

professional practice support and management – are needed to provide the best outcomes for service users. Tobacco cessation success rates through support interventions vary in different cultural contexts and with factors such as the extent of the addiction to nicotine experienced by individuals and groups (Box 2).

There is extensive evidence that pharmacists are able cost effectively to provide tobacco cessation support to individuals and communities⁹⁻²⁷. The available research indicates that specialised training increases the likelihood of pharmacists discussing tobacco use with their patients/customers and that this leads to enhanced service user satisfaction²⁸⁻³¹. But the extent of pharmacists actual involvement in the delivery of tobacco cessation services is often very limited³²⁻³⁴. Despite the fact that cost-effective pharmacotherapies for nicotine dependence are available³⁵, even in ‘developed’ national settings pharmacists may provide little more than brief ad-hoc advice on medicines use. This does not optimise quit rates, or the contribution of pharmacy to health improvement.

The role of the pharmacist in the 21st century is likely to focus more on promoting clinically and socially optimal patterns of medicines use, along with other forms of health behaviour change. In fact, with the ongoing computerisation and automation of the physical supply of medicines, pharmacists may no longer be needed to dispense in a narrow sense of that term. Hence the viability of the profession may in future

Box 2. Tobacco cessation support success rates

The way in which quitting is defined and measured is significant. However, the available literature indicates that quit success rates will typically vary from only 1-2 per cent at six months or over in populations given no professional or pharmacological support, through to approaching 20 per cent amongst groups given intensive sustained psychological support backed with appropriate medicines.

There is robust evidence from European and US sources that brief advice from a physician can increase the basic quit rate to around 4 per cent⁸, and that the use of NRT approximately doubles the probability of a quit attempt succeeding in any setting, regardless of other variables. Hence an average individual seeking to quit after being given brief medical advice and NRT should have a 7-8 per cent chance of stopping smoking. More intensive behavioural support, including at the higher end group cessation therapy, can – as indicated above – produce significantly better outcomes.

The evidence base on the extent to which brief pharmacist advice will enhance quit rates is not as robust as that for physicians. The relative efficacy of pharmacists might perhaps be highest in social settings where they are regarded as having a status equal to that of doctors, and in situations where people expect pharmacists to have a general concern for their health rather than being exclusively concerned with dispensing. But taking into account experience in more intensive cessation service delivery settings, there is good overall reason to believe that both pharmacists and nurses can be as technically effective in delivering tobacco cessation support as members of the medical profession. In practice, pharmacy based services may also enjoy additional advantages, such as ease of access.

rest much more on its ability to adapt and lead in areas like supporting smokers who wish to quit. Seen from this perspective, tobacco cessation service development represents a bridge to future practice. If pharmacy is successful in becoming a leading global source of tobacco cessation support, the profession will have helped to secure not only its own professional direction, but that of many millions of people who will otherwise die prematurely.

Against this history, this report highlights the potential of pharmacy and pharmacists to make an enhanced global contribution to tobacco cessation and tobacco harm prevention. The report is structured to:

1. provide further information on the course of the global tobacco pandemic, and the ways in which communities across the world have so far responded to the public health threat it represents;
2. provide examples of the development of pharmacy based tobacco cessation services in different countries;
3. discuss a range of factors that may influence the worldwide capacity of pharmacy to fulfil its potential in this key area of health protection and improvement; and
4. offer practical guidance for advancing such causes.

NATIONAL AND PROFESSIONAL STAGES OF CHANGE

To open the way for pharmacists and other health professionals to provide tobacco cessation services that have a population level impact, a series of interlinked social, political, professional and public health developments are likely to have first taken place. Figure 2 highlights several of these necessary phenomena. They are all closely associated with the processes that accompany socio-economic development.

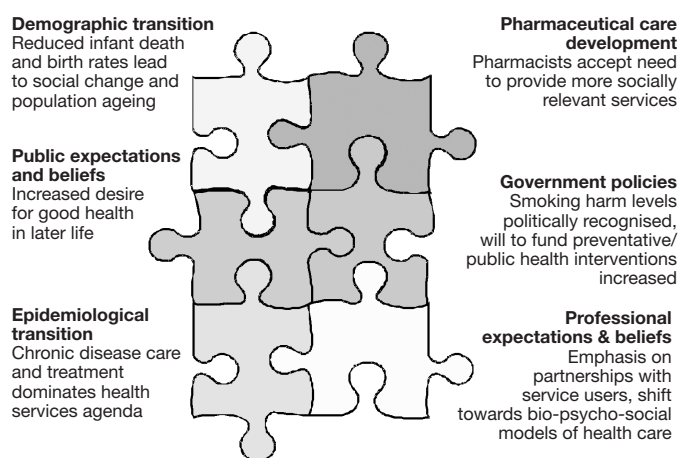


Figure 2. Factors influencing pharmacy-based cessation service development

Tobacco use and demographic and epidemiological transition

Tobacco use in Europe dates back to the mid 16th century. But it only became a mass habit with substantive effects on public health at the beginning 20th century, initially during the later stages of North Western European demographic transition (Figure 3). In the context of countries such as Britain and the United States (the demographic and social

development of which has largely coincided with that of Western Europe), the introduction of efficient cigarette manufacturing technologies and the impacts of the two 20th century 'World Wars' were significant contingent factors in the early history of (male) mass tobacco use. Because of social factors, women's smoking rate increases (and eventual declines) tend typically to be moderated in scale, and to lag behind those observed in men by a few decades.

Demographic transition normally starts as a result of early stage industrialisation and increases in agricultural efficiency. Populations become better fed, and in time gain increased access to other goods and services. This is initially protective, and is associated with falling infant mortality rates and rapid population growth. However, as wealth continues to increase and birth rates in time fall, populations age (that is, the proportion of older people rises) and gain greatly increased access to diets rich in animal fats and sugars. They also typically increase their consumption of other potentially harmful items, such as alcohol and tobacco products. Countries like Britain and France went through this development phase in the 19th and 20th centuries: China and India are in the process of following them towards a state of very low mortality balanced by very low birth rates.

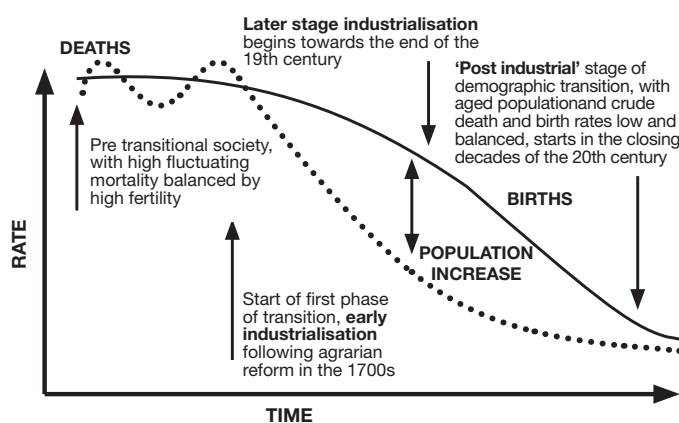


Figure 3. Demographic transition in North Western Europe and the United States

Decreased physical activity and increased food and tobacco consumption for a period tend to offset the health gains of the transition process in older people, until the latter become more aware of lifestyle threats to their long term survival. There is a clear public health opportunity for emergent economies and transforming societies such as that of, say, modern China to learn from the past harm experienced in Europe and North America, and seek rapidly to cut short the smoking pandemics that threaten their citizens' future wellbeing.

Demographic transition leads on to epidemiological transition. There is a shift from infectious illnesses amongst the relatively young as the major cause of death to a situation in which most people die in later life from conditions such as cancer and heart disease. One consequence of this pattern of events has been that in Europe and America, better health and increased survival resulting from economic progress in the first half of the 20th century paradoxically tended to conceal the true level of harm being caused by increased smoking, because the ill health it caused was mistakenly taken to be a normal consequence of ageing. That is why the publicly funded (as distinct from private, self purchase based) provision of interventions such as quit support services has only recently become seen as a public and political priority, decades after the 'mature' industrial societies first began devoting massively increased resources

to the treatment of conditions like late stage cancers, heart failure and obstructive lung disease

The spread and then eventual decline of tobacco smoking can therefore be regarded as a reflection of fundamental development processes. At a population level tobacco use typically begins among relatively affluent males in communities that are emerging from poverty. In modern Europe smoking as a mass habit is now starting to end: it remains most prevalent amongst the last social groups to become relatively wealthy and empowered, who by definition tend to be poorer women and men. Problems such as obesity and tobacco related harm do not differentially affect less advantaged people in very poor countries. It is as populations become more affluent that they have to face problems associated with increased access tobacco and other health hazards. This is especially challenging when combined with the ongoing relative social and cultural poverty experienced by less successful groups within wealthier communities.

Following on from this, Figure 4 reflects the lagged sequence of events that characterises the current phase of global tobacco pandemic. While some countries are now seeing reductions in smoking and declining male (but typically still rising female) tobacco-related mortality, those of southern and eastern Europe and nations like China and India (which entered demographic transition later) have not yet fully experienced the health impacts of increased smoking rates in men, or indeed women. It remains to be seen in the latter context whether or not there will in today's emergent economic settings eventually be a surge in tobacco-related harm in women on a scale comparable to that presently observable in Northern European nations such as Denmark and the UK. It might be possible to avoid this hazard as social development progresses. In the case of China, for instance, reported rates of female smoking remain low. But this may in part be a function of the stigma attached to women admitting their smoking. In younger more educated women true smoking rates may already be in the order of 30 per cent³⁶, compared with around 70 per cent in all adult men.

International policy development

Against such global trends in smoking and social development, the WHO Regional Committee for Europe approved its European Action Plan on Tobacco in 1987. This was followed by the 1988 'Charter Against Tobacco' which identified strategies for achieving a tobacco-free Europe and described a comprehensive, phased, approach to tobacco control. For instance, following proposals led by the WHO's EuroPharm Forum (European Forum of Pharmaceutical Associations), the second stage of this programme included a project aimed at encouraging 'pharmacies to become smoking cessation centres'. A third phase was initiated in 1997, at which time the value of the work undertaken by EuroPharm group was formally recognised. Shortly after this, work on the development of the WHO's Framework for Tobacco Control (FCTC) began in earnest. The FCTC was adopted in 2003 at the 56th World Health Assembly and provides a legally based international template for the introduction of comprehensive policies aimed at promoting a world-wide decline in tobacco use.

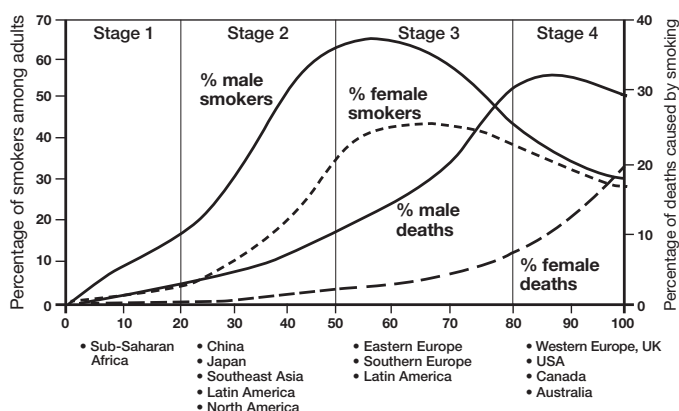


Figure 4. Stages of the present tobacco pandemic³²

Such policy developments are important, and should be taken further forward. For example, from a tobacco cessation perspective, a robust and comprehensive implementation of Article 14 of the FCTC (the only part of the Convention which mentions cessation service provision) should in future facilitate the development of new quit services. This will cost effectively complement the impact of more traditional public health interventions such as increasing public knowledge of the harm caused by tobacco products, increasing their price, restricting their advertising and preventing their use in circumstances where the inhalation of tobacco smoke could cause harm to non-smokers.

It would be naïve, and even perhaps counter-productive, to regard any form of fundamental social development as being primarily driven by high level international policy interventions. National and community level priority setting processes need to be respected, and it ought to be recognised that in some parts of the world (such as sub-Saharan Africa countries with high rates of HIV/AIDS and tuberculosis) supporting tobacco cessation may not immediately seem to be a key objective. However, even in these settings, tobacco

cessation can bring unexpected gains. For example, it can help to enhance overall treatment outcomes for conditions such as pulmonary tuberculosis. It would also be unwise to underestimate the extent to which country level policies may be driven by international comparisons of their performance in high profile areas of health and social care provision and measurable public health status.

Towards a staged model of tobacco control development

A recent European study uses a comprehensive evaluative instrument to quantify the introduction and implementation of tobacco control policies at the national level³⁸. The scale compares countries in both prevention (the sum of sub-scores for action on tobacco prices, public place smoking bans, spending on public information campaigns, advertising bans, health warnings, and treatment provision) and treatment provision (based on the availability of quit lines, funding for cessation networks and funding for pharmaceutical tobacco cessation aids) alone. Although the design and application of this scale might be further improved, these results provide a valuable overview of the extent of the progress already achieved in European countries. In the context of international pharmacy policy and pharmaceutical care improvement, one challenge to address is whether or not a global tobacco use cessation support development assessment instrument could be produced. The aim of this would be to identify and prioritise the actions needed to improve tobacco cessation services and allied public health activities in given national contexts. Figure 5 outlines what such an instrument might seek to measure.

The use of 'stages of change' (SoC – TransTheoretical Model based) in the care and support of individual smokers has – despite its popularity with many health practitioners – been criticised, partly for encouraging deterministic thinking^{39,40}. A simplistic approach to applying systems level SoC models could also have unwanted consequences.

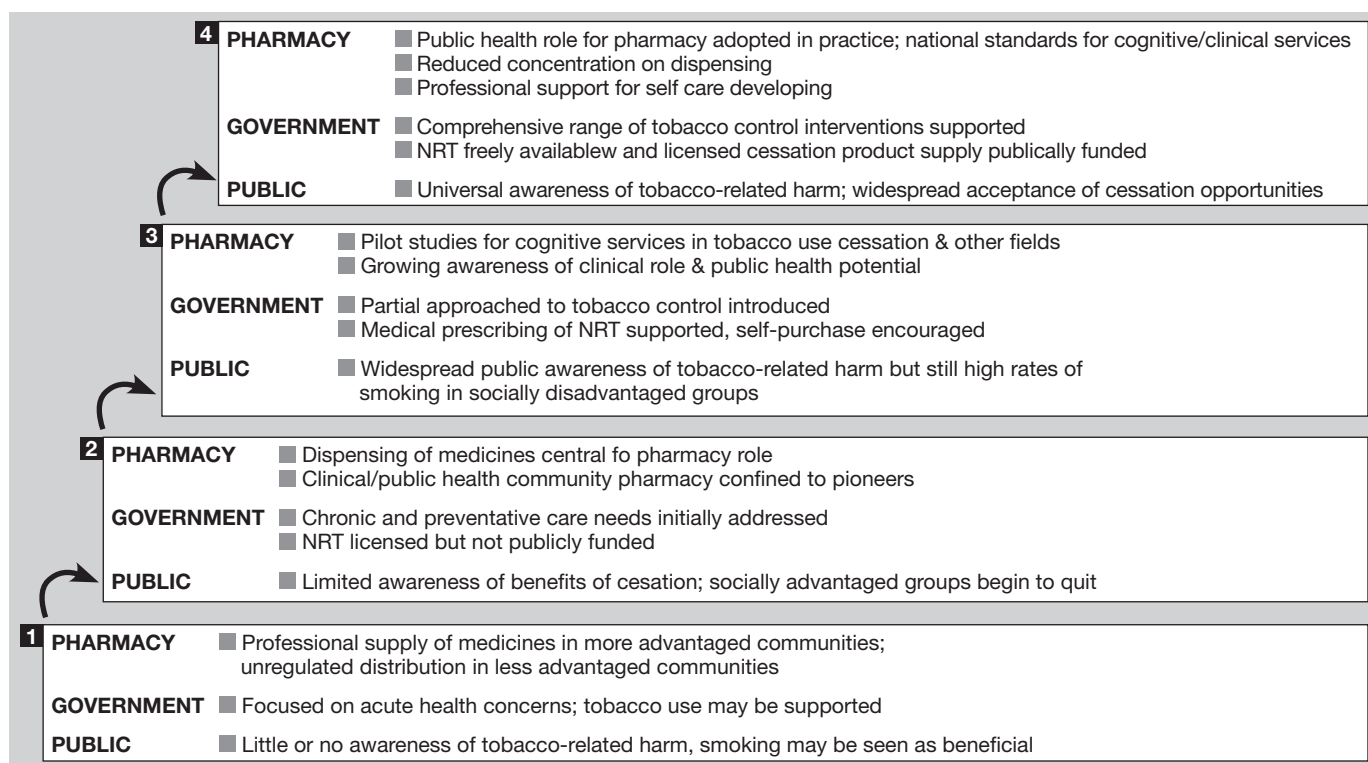


Figure 5. A preliminary step systems model – public, regulatory and pharmacy progress towards tobacco use cessation

Nevertheless, the national level introduction of tobacco cessation services can in the context of this report usefully be perceived as an incremental social process, divided into four main stages. As Figure 5 indicates, these encompass multiple processes of preparation, development and implementation of public health policies for tobacco control. Complementary tobacco cessation support becomes more important as the smoking habit becomes ‘pathologised’ – that is, it becomes seen more as a sickness to be treated than as a normal behaviour. This sequence of development can be seen as a part of wider societal shifts in the balance of health care’s focus between acute treatment, long term condition care and health protection and promotion.

Pharmacy can also be seen as progressing in a step-wise or staged manner, in parallel with regulatory action and reaction, albeit that an unduly mechanistic or simplistic interpretation of this process should once again be avoided. In Europe, for instance, Denmark is a country where pharmacist provided tobacco cessation services is highly developed. A pilot study to generate evidence on the role of pharmacists in tobacco cessation commenced there in 1986. By contrast, in Norway (another advanced Scandinavian country) an equivalent pilot study was not initiated until 2006. This limited example illustrates the larger point that local ‘contingent’ variables influence the timing and nature of specific national events, albeit that underlying trends are normally relatively consistent across world regions.

THE EVIDENCE FOR PHARMACY INVOLVEMENT

Globally, effective tobacco control efforts involve (1) influencing the behaviour of current and potential tobacco users, (2) limiting how far the tobacco industry can seek to influence their behaviour and (3) reducing the harm from use of tobacco products⁴¹. As described in the previous section, the potential for the pharmacy profession to effect lasting change in this arena is a function of the relationship between the profession, the public and the basic health infrastructure within the country (see again Figure 5).

Responses to surveys of pharmacy leaders and results from published literature regarding pharmacy-led tobacco cessation activities in 14 countries (Australia, Canada, Denmark, Finland, France, India, Singapore, Malaysia, Norway, Portugal, Sweden, United Kingdom, United States of America) suggest that enhanced tobacco cessation services provided by pharmacists and pharmacy support staff are being tested, negotiated, implemented and integrated into government-sponsored public health programmes with varying degrees of success. In some cases, the national political environment has been inconducive to tobacco cessation (and other pharmacist led public health initiatives) while in others; pharmacy has somewhat passively adopted such roles in response to increasing political pressure.

Country level tobacco cessation service development can usefully be considered within the general framework of the analysis set out Figure 5. This is, from a pharmaceutical care development perspective, further described in Figure 6.

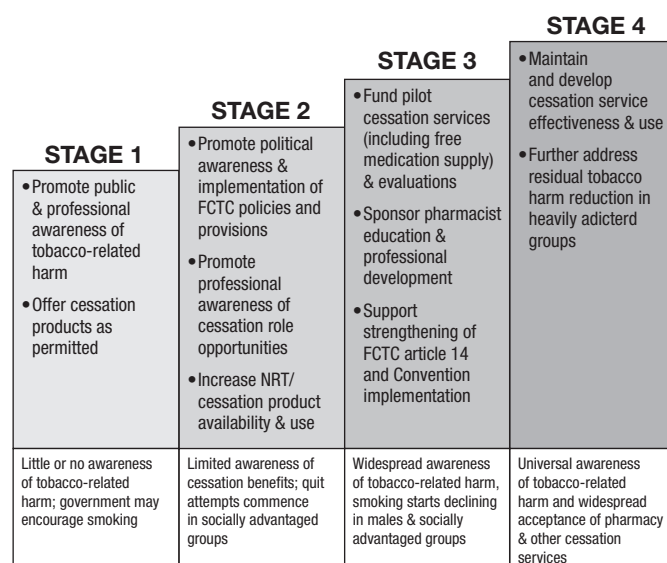


Figure 6. Stages of cessation support service development – a guide for stakeholders in global pharmaceutical care improvement

Self care support forms the mainstay of global pharmacy tobacco cessation activities. There has been significant work over the last 30 years to highlight extended pharmacist roles in providing cognitive and preventative health services. In many countries community pharmacy practice is centred on the supply of products. However in the case of tobacco cessation, close proximity to the product (tobacco cessation aids) offers a unique advantage as compared to services provided by other health care providers in providing an opportunity to engage potential quitters in support services.

From the 14 country survey and literature, it has been observed that it may be easier to involve some pharmacists via a targeted limited-term local campaign, as opposed to a single ongoing programme. However, the main point to emphasise is that alongside financial incentives and generic national and local area drivers such as smoking bans, anti-smoking advertising and centrally managed (penalty associated) local performance targets; pharmacist service provision is influenced by a range of variables including conceptualizations of the professional role, skills, practice environment, and the perceived attitudes and expectations of others. Some variables may be changed relatively easily and practical approaches for development of tobacco cessation programmes should consider and take into account those which may be more difficult to influence

In some countries (eg, those in Stage 1), merely optimising counselling services concomitant with NRT purchases would represent significant improvement over the status quo, and would be well within even the most traditional laws governing pharmacy practice.

Taking this a step further (eg, for countries in Stage 2), proactively asking patients about tobacco use, advising them that quit aids are available, and referring them to an established programme/quit line typically adds less than 3 minutes to a patient encounter and could be managed by technical staff during any planned visit to the pharmacy (eg, to pick up a prescription for another health need). Pharmacists practicing in earlier stage countries need to be sensitised towards adopting public health roles such as tobacco cessation support in preparation for further development (Box 3).

Box 3. India: Sensitising pharmacists to adopting new roles

The patterns of tobacco use seen in India are in a number of respects unique, as also is the structure of the pharmaceutical profession (and the wider pharmaceutical sector) there^{42,43}. With 29 per cent of adult male and 2.5 per cent female smokers, India is the second largest tobacco producer in the world. In a survey conducted by the Indian Pharmaceutical Association (IPA), it was found that 80 per cent of pharmacists felt that their current knowledge of smoking was sufficient and a similar proportion advise customers to stop smoking. However, only half of the surveyed pharmacists volunteered information about tobacco cessation programs to customers who wished to quit smoking. There are no known models of pharmacist-led tobacco cessation services in India yet although the IPA is active in campaigning against tobacco on World No Tobacco Day and National Pharmacy Week.

For countries in Stages 3 and 4, evidence from pilot studies of enhanced services (eg, brief intervention and individual support programmes) in Australia, Finland, Norway, Singapore (Box 4) and the USA and publicly funded schemes in Denmark (Box 5) and United Kingdom (Box 6) show good treatment outcomes by those accessing the services but still limited service uptake or promotion by providers. This suggests that more proactive marketing of services to patients and GPs (who may refer patients) is warranted.

Box 4. Singapore: Development of tobacco cessation services

The Pharmaceutical Society of Singapore (PSS) partnered with Pfizer to provide a patient education campaign on tobacco cessation. This has facilitated the development of pharmacist-led 4-week quit services in hospital and community settings. Government polyclinics which are subsidized primary health centres also offer cessation services in their pharmacies. Pharmacists are trained and certified to provide services with most community pharmacies and some hospital pharmacists offering free brief advice services. Quit Centre pharmacies and some hospital pharmacists departments also provide a 4-week cessation programme.

Box 5. Denmark: A leading partner in tobacco cessation services

Danish pharmacy-led tobacco cessation services have been in place for some twenty years. For the period 2005-2008, Danish pharmacies have been allocated over 400,000 Euros per year to further enhance cessation services for the country's population, which numbers just over 5 million people. The majority of the districts are covered via a system that offers pharmacies 170 Euros (\$ 230, £115) for each customer completing a six month programme, followed up at one year. Pharmacists are currently the most active providers of tobacco cessation services in Denmark.

Box 6. United Kingdom: Stop smoking services

Recent statistics show that a quarter of the UK population still smokes, and that this group contains an increasing proportion of highly addicted individuals. At present, specially funded NHS smoking cessation services, including behavioural change support and free/low cost NRT supply, are stimulating about 500,000 quit attempts a year in England, at least 100,000 of which are facilitated by pharmacists. Pharmacists, doctors and nurses also provide brief support for a greater number of self-managed quit attempts, funded as part of their mainstream work.

The financial incentives offered to community pharmacists in England vary from around £20 (\$39, 29 Euros) per successful quitter to £90 (\$177, 32 Euros). Remuneration can be markedly less for an unsuccessful quit attempt in some schemes. But within these parameters there appears to be no significant link between the amounts paid and the level of pharmacy commitment and performance observed, however UK pharmacists appear to be demotivated by schemes with differential success and fail remuneration rates.

The Northern Ireland community pharmacy based smoking cessation service has been in place since 2006 and operates in a uniform structure across the whole of the country. It also offers pharmacists a flat rate 4-week course payment per cessation attempt regardless of whether there is a successful quit or not, in addition to an incentive for a 52-week cessation monitoring check.

The Glasgow Starting Fresh smoking cessation project has created a network of over 150 accredited community pharmacies across Greater Glasgow. It aims to offer an easily accessible, cost effective, system for providing NRT and other forms of smoking cessation support. The Glasgow scheme offers pharmacy based counselling services and funds appropriate forms of medicines supply over 12-week periods. The *Starting Fresh Glasgow Stop Smoking Project* involves both qualified pharmacists and counter assistants, and has systems for ensuring interventional quality and relevant process and outcome data recording.

In pre-transition societies where the current health infrastructure may not support professional transition for pharmacists, there may be a less formal, but important role to act as community role models. With the noted exception of India (where 70 per cent of the pharmacist workforce is male), pharmacy is becoming increasingly a female profession which prompts the need for further exploration into the influence of (non-smoking) pharmacists on discouraging women from taking up smoking in the first place.

THE ROLE OF PROFESSIONAL ORGANISATIONS

Pharmacy's professional bodies have a vital role to play in forming and applying strategies for achieving greater recognition for the profession in the sphere of tobacco control (and wider public health) leadership and cessation service provision. They can also, as countries move through to the later stages of the tobacco pandemic, help support the introduction of adequately funded services aimed at reducing

Box 7. Malaysia: Training pharmacists for tobacco cessation roles

Almost half of the male adult population smoke in Malaysia. The Certified Smoking Cessation Service Provider (CSCSP) programme is run by the Malaysian Pharmaceutical Society (MPS) and has been in operation since 2004. It aims to equip pharmacists with the skills required to provide tobacco cessation counselling support. Whilst pharmacists who do provide services are not remunerated or financially incentivised for their efforts, pharmacists actively offer services in clinics attached to two teaching universities. MPS promotes the programme to pharmacists in collaboration with a number of stakeholders including the Clearing House for Tobacco Control, Malaysian Academy for Pharmacy, Ministry of Health and Pfizer. The programme consists of workshops, home study manuals and participation in a government run clinic. Pharmacists who are certified on the whole do not yet actively provide services though have the potential to adopt this new role given the enhanced capacity for tobacco cessation service development.

social class related inequalities in tobacco use, and the ill health it engenders. This could in the immediate future demand high level pharmacy inputs into strengthening the implementation of the WHO's Framework Convention on Tobacco Control.

In countries where the pharmacists' public health role is not well established, professional bodies may initially need to focus on developing awareness amongst pharmacists themselves of their interests and capabilities in this field. For example, many nations celebrate Pharmacy Week, during which professional organisations promote the role of their members through (public) health and allied campaigns.

Once awareness is generated amongst pharmacists and public expectations start to rise, professional bodies can seek to build on this bridgehead via further political, professional and public communications. They may also promote capacity building. In Malaysia, for example, there has been a focus on further skilling and certifying pharmacists for the delivery of tobacco cessation services, despite there being as yet no formal public-private tobacco cessation scheme in place (Box 7). To date, one third of community pharmacists in the country have been so certified.

Such investments ought to open the way to ongoing processes of negotiation and partnership formation with other groups interested in achieving better individual and national health. These can involve evidence gathering and the organisation of pilot projects aimed at helping ensure that pharmacists are appropriately positioned to make viable, cost effective, contributions to tobacco use cessation in given settings.

But the value of some recent initiatives undertaken in some countries appears to have been limited. This has largely been due to the fact that uptake of services has been low. Greater attention needs to be paid to the task of enabling community pharmacists and their colleagues to actively find potential quitters and increase public awareness of available services.

Conducting and publishing pilot studies can contribute to the development of effective funding systems. In many countries, public (and/or universally accessible social insurance based) funding of tobacco cessation services and other cognitive services in pharmacies is not available. Yet even in a

Box 8. Finland: Economic barrier to tobacco cessation service access

Personalised tobacco cessation service was developed in 2005. Currently some private pharmacies offer services according to the Pharmacists Action on Smoking (PAS) model. This model involves 4-5 visits to the pharmacist for individual behavioural change support and telephone follow up over 4-6 months. Services are not nationally standardised and vary in the number of visits to the pharmacist. One service has become well established over the last 10 years and is characterised by cooperation with other health care providers such as health centres and hospitals.

No cognitive pharmacy services are as yet funded via the Government in Finland. Pharmacies charge fees of up to 80 Euros (£55, \$107) to the customer for cessation counselling, in addition to the cost of NRT. The evidence available indicates that this is an important barrier to service access.

Box 9. Sweden: Need for publicly funded pharmacy based services

In Sweden, the government presently (via the still nationalized chain, the Apoteket) holds a unique monopoly over the ownership of community pharmacies. While there has been investment in training primary healthcare providers of all types in the use of motivational interviewing techniques and encouraging them to support quit smoking attempts, the Swedish system has lacked specific mechanisms for the economic incentivisation of such forms of service provision. Customers who wish to have individual face-to-face counselling by pharmacists must pay a user fee of 60 Euros, in addition to the cost of NRT or other purchases. The Apoteket has recognised this as a barrier for many to accessing what is in health outcome terms one of the most cost effective of all forms of health care. The organisation has stated that without specific government funding the expansion of tobacco cessation service provision will be very difficult.

prosperous highly developed nation like Norway, more than half of the customers enrolled in a 2006 stop smoking pilot stated that they would not be willing to pay directly for pharmacy-based tobacco cessation services. This emphasises the potential importance of the role that professional bodies can play in bringing the need to create effective financial support systems to the attention of governments and other health sector stakeholders.

Similarly significant examples of the international challenge to be overcome in relation to publicly funding adequate cessation services can be drawn from other affluent nations such as Finland (Box 8) and Sweden (Box 9).

Compared with providing virtually all forms of curative and long term health and social care, the provision of tobacco cessation services is highly cost effective. In England, for instance, Stapleton estimated (in 2001) that the relatively new cessation services available there via community pharmacists and other providers generate additional life years for treated smokers aged 35-44 for just over £600 per life year gained. The equivalent figure for those aged 45-54 was £750⁴⁴.

Such data are consistent with a cost per quality of life adjusted life year gained of under £1,000. The UK National Institute for Health and Clinical Excellence's operational limit on the affordability of additional quality of life adjusted life years for NHS treatments is by contrast about £30,000. Other sources^{18,34} also offer encouraging findings as to the cost effectiveness of both pharmacotherapies and pharmaceutical care for tobacco users in other European countries and the US, albeit that in some instances they are significantly higher.

In less affluent nations the relative costs of labour as opposed to medicines will differ, and given other priorities the case for publicly funded cessation support will not be as strong as it now is in the mature industrialised economies. But as national economies strengthen and wider public health measures begin to curb the smoking habit and restrict it to less advantaged groups, the case for individual level tobacco addiction treatment will become increasingly robust.

Translating country lessons and research into mass provision

The above findings do not necessarily mean that private market oriented and allied independent insurance based solutions to the problem of stopping smoking at a population level cannot be developed. There are, for example, promising pharmacy schemes in parts of the US, and overall trends throughout the mature industrialized economies suggest that, in time, educated people and communities will naturally elect to quit tobacco use.

But if policy makers wish to facilitate rapid change, and ensure that those least able to stop smoking before they suffer major harm, then the case for direct (or mandatory indirect) public funding is strong.

Some lessons and findings from a detailed survey of key leaders of the United Kingdom 'stop smoking' service example may be relevant to countries that are in the latter stages of tobacco cessation service development. It appears that many pharmacists favour flat rate payments rather than variable schedules which give a lower payment for failed quit attempts and a higher one for successful attempts. However, despite some apparent exceptions, only a few community pharmacists – representing typically only 10 per cent or less of the total number practicing in a given locality – can be said to be fully engaged in tobacco cessation service provision. This 'motivated minority' often accounts for the great majority of the quitters achieved via pharmacy interventions.

Requiring pharmacists/pharmacies to invest in quit support service establishment can increase the likelihood of their sustaining their effort to provide appropriate pharmaceutical care in the medium to long term as seen in one service model.

Smaller pharmacy chains and independently-owned pharmacies, as opposed to large chains, may respond differently to incentives because of their distinct business models, operational requirements and motivations.

Effective incentives need not be directly financial. Providing pharmacies with equipment that could be used for tobacco cessation and other cognitive services can on occasions be a better motivator than offering direct cash incentives. In some circumstances it could be cost effective to provide pharmacies with additional equipment to document cessation service delivery, and provide tailored educational materials for potential quitters.

Based on the experiences of existing pharmacy-led tobacco cessation services across the 14 countries, Box 10 summarises

Box 10. Pharmacy-led tobacco cessation services

Pharmacy-led tobacco cessation services should aim to ensure:

- sufficient scale and uniformity to allow pharmacy groups of all sizes to use their staff members in an optimally effective manner;
- the employment of a simple flat level economic incentive, that pays the same for all individuals (quitters and non-quitters) completing a 4-week course, regardless of the outcome;
- the effective establishment of an independent budget for products such as NRT, to enable their appropriate free supply for the purposes of public health improvement; and
- a capacity for monitoring and verifying longer term quit rates, rather than simply using the 4-week self reported quit rate indicator employed in many schemes.

characteristics which could potentially lend to further uptake, efficiency and effectiveness in service provision and optimise intervention outcomes.

REALISING THE PHARMACY OPPORTUNITY

This report does not attempt to explore comprehensively all the issues that policy makers concerned with developing pharmaceutical care will need to take into account if they are to enable the profession to play its full potential role in ending the global tobacco pandemic. Rather, three main themes are addressed here. They relate to the need to:

- build pharmacists' sense of self efficacy in relation to tobacco cessation support, and their abilities to pro-actively encourage pharmacy customers to address quitting;
- resolve professional uncertainties about the safety and positive value of NRT and other medicines used to support quit attempts and tobacco use reduction; and
- facilitate – through collective professional action and ethical partnerships with public agencies, the pharmaceutical industry and service user (and other) groups – recognition of the growing global importance of tobacco cessation support in tobacco control programmes.

Extending pharmacists' competence and confidence

The international literature shows that many community pharmacists say they feel qualified to provide tobacco cessation services. But there is also evidence that most do not routinely seek to identify smokers and act as first movers in opening dialogues with them about the possible benefits of quitting. This is vital for the provision of services with a significant public health impact. Pharmacists are currently much more likely to respond to smokers' requests for advice than to initiate conversations about smoking habits and how they might be changed.

Even when tobacco cessation aids are being purchased, pharmacists in some countries may either be remote from the transaction (depending on the scheduling of these aids as general, OTC or 'pharmacist only'), or do not communicate with the customer about their experience with the product and how to use it to best effect. Making spontaneous interventions of this sort, may be perceived by many pharmacists as being too invasive. There may also be some reluctance to take the initiative in communicating with physicians and other health care providers asking them to refer potential quitters to the pharmacy for support. In parts of the world where there are higher numbers of physicians available, and there are less firmly established traditions of community and public health pharmacy, such problems may be even more acute.

However, specific education about tobacco cessation support can improve the quality and intensity of cessation counselling offered to patients. For example, a controlled study by Anderson (1995) showed that pharmacists who had received training were more likely to ask key questions, to use written information appropriately and/or when necessary (in the setting of that study) to refer to a medical practitioner²⁵. This and subsequent research suggests that pharmacy practice could be changed radically, and relatively easily. The key to achieving more effective patterns of pharmacy intervention may be raising the average pharmacist's sense of self efficacy in relating to people, in addition to specifically facilitating the safe supply of pharmaceutical products.

There is also limited research indicating that pharmacy assistants or technicians may on occasions (depending on the country and practice context) be in a better physical position to take the initiative in asking pharmacy users about their smoking habits. It could therefore be argued that counter staff should be encouraged to make pro-active contact with potential quitters, and as necessary refer them on to a pharmacist or other suitable cessation services providers.

From today's perspective, tobacco dependence shows many of the features characteristic of a chronic condition. Its alleviation may require sustained care and attention. More vulnerable tobacco users typically cycle through multiple periods of relapse and remission. Although a minority of tobacco users achieve permanent abstinence via a single quit attempt, others persist in tobacco use for many years after they first try to stop.

By recognising that tobacco dependence often takes the form of a long term illness pharmacists can better understand its nature and become more confident in meeting service user requirements for continuing, rather than fragmented episodic, support. This suggests that, from a professional development perspective, increased pharmacist involvement in tobacco cessation support ought to prove a useful stepping stone to other forms of role extension. Arguably, the profession's members will best be able to meet future 'post transitional' public requirements by enhancing their capacity to combine their knowledge of medicines with improved insight into medicine users' psychological and social needs. This should enable them to facilitate health behaviour change, in order to support better patterns of medicine taking alongside other forms of health promotion and protection.

Resolving uncertainties and informing practice

Several respondents to the UK survey mentioned concerns relating to the fact that NRT contains nicotine, the addictive component of tobacco smoke, rather than any other active ingredient. Some pharmacists appear to have concerns that supplying NRT without careful professional control and

counselling could do little or nothing to 'cure' patients of their addiction, and may even be seen as undesirably perpetuating the latter. Others may be worried about safety. It appears that some believe that NRT could, for instance, harm people with cardio-vascular conditions or babies if it is used by women in pregnancy. It may also be thought that patients who use more than one type of NRT risk 'overdosing' on nicotine.

If unchecked, such dissonance could reinforce negative attitudes towards the provision of tobacco cessation support services of all types, from the over-the-counter sale of appropriate aids through to more intensive support activities and other types of pharmacological treatment. Such a possibility emphasises the need for comprehensive, high quality, professional education that is kept updated throughout practitioners' careers.

There is, in fact, strong evidence that NRT use is in all circumstances safer than cigarette smoking. The UK Committee on Safety of Medicines has, for example, recently recommended that product information for all forms of NRT should *not* contra-indicate its use in⁴⁵:

- pregnancy and lactation;
- users with cardiovascular disease;
- adolescents aged twelve to eighteen; and
- circumstances which may lead to more than one form of NRT being used concurrently.

This and other authoritative sources also confirm that:

- using NRT approximately doubles the chances of users stopping smoking, even when it is supplied without any other form of support. One relevant illustration of the research evidence supporting this observation is that an extensive US meta-analysis of the effectiveness of over-the-counter NRT supply found that it produced a quit rate of about seven per cent, which is comparable to the efficacy of NRT in real world prescription practice⁴⁶; and
- there is a relatively low risk of long term NRT use⁴⁷. However, even when this does occur it is likely to be associated with individual and public health benefits, because substituting tobacco smoking with NRT reduces unwanted health outcomes. This understanding is, in part, reflected in the fact that a 'reduce to quit' indication has been introduced in a range of European countries since 1997. There is evidence that encouraging NRT use to cut down rather than stop smoking is likely in time to promote an increased number of quit attempts.

Although NRT products should be used with appropriate caution (e.g., smokers with diabetes should monitor their blood sugar more frequently than usual when starting NRT and people with severely impaired liver or kidney function may be at an increased risk of side effects), they are relatively safe in use as compared with most other forms of medication. From a public health perspective all pharmacists should be aware of and willing to communicate such information, and offer similarly informed advice about treatment aids for tobacco cessation.

It might also be argued that pharmacy as a profession should also be able and willing to comment publicly on the (cost) effectiveness of other, non-pharmaceutical, approaches to tobacco control and elimination. For example, it may be valuable to point out that the available evidence indicates that temporary financial incentives for quitting, such as those offered by 'Quit and Win' schemes, are ineffective in the medium to long term^{48,49}. They can encourage untruthful quit

claims and when transient incentives end most quitters revert to their original behaviour. The most relevant implication of this research is that sustained behavioural changes need to be supported by genuine beliefs on the part of service users about what is in their best interests, rather than short-term incentives that are essentially coercive.

Forming effective public and private partnerships for tobacco cessation

As human societies develop, their values change in relation not only to factors such as the importance of exercising personal 'consumer' choice, but also to the importance of protecting health at a community wide level⁵⁰. Awareness of such global trends may today encourage governments and other agencies to support relatively early measures to curb the tobacco pandemic. For example, in China action is already being taken to implement the WHO Framework Convention on Tobacco Control. The relevant authorities are planning to require health warnings on all tobacco products by 2008, the year of the Beijing Olympics. Tobacco advertising should be banned across China by 2010⁵¹.

The opportunity that modern pharmacy could, and arguably should grasp, centres on the proven capacity of community based pharmacists to enhance the rate of successful stop smoking attempts. A key finding of this report is that although individual and small group oriented programmes to 'treat' tobacco use are not in isolation likely to be as cost effective as traditional public health measures such as increasing tobacco taxes and introducing smoking bans, cessation services will become increasingly important towards the 'end stage' of the tobacco pandemic. International pharmacy is well placed to communicate this message, and take a leading part in defining the ways in which societies should tackle tobacco use addiction in those individuals, groups and communities that, for whatever reason, are slow to quit.

Rather, it is important to highlight the potential value of constructive partnerships between pharmacy and the medical profession, and between health professionals and health service user groups concerned with promoting tobacco cessation.

Appropriate collaborations between pharmacists and pharmaceutical companies that produce tobacco cessation support products may also serve the public interests in enhancing access to effective tobacco cessation, provided they are conducted in an ethical manner and are genuinely aimed at contributing to health improvement. The need for interest groups that are seeking to reduce, and ultimately eliminate, smoking to work together effectively is underlined by the enormous scale of both private and public investments in tobacco related industrial enterprises across the world. Counterbalancing resource asymmetries between the latter and agencies committed to reducing the harm caused by smoking will require intelligent co-operation and enterprise at all levels.

CONCLUSIONS AND RECOMMENDATIONS

Pharmacy has an important global role to play in helping to end the tobacco pandemic. Tobacco use caused hundreds of millions of premature deaths in the 20th century. It could inflict an even greater volume of harm in the next hundred years. Further development of the profession's role in supporting tobacco cessation at every level, from

offering NRT and other medicines on an accessible over-the-counter basis to providing relatively intensive psychological support to potential quitters, could across the world promote high volumes of health gain at a cost which will become increasingly affordable.

In countries such as the UK, US, Denmark and Singapore there are already valuable examples of pharmacist supported tobacco cessation services in place. The UK and Denmark experiences also illustrate the importance of seeking to ensure that appropriate public, and where possible private, systems are established to fund pharmacy-based (and other) forms of tobacco cessation support. However, it would be unfortunate if in seeking to create appropriate financial environments for the delivery of enhanced pharmaceutical care, the impression were falsely given that the only thing that motivates the pharmaceutical profession's members is money. This is not the case.

This report's other international recommendations are that:

- Governments and all other stakeholders in better public health should work globally to ensure that due emphasis is placed on tobacco cessation service provision, via strong and comprehensive interpretations of Article 14 of the WHO's Framework Convention for Tobacco Control;
- all health professionals should recognise the still growing importance of tobacco use as a threat to health world-wide, and work in partnership with other groups – including pharmaceutical industry and voluntary sector agencies – to promote tobacco cessation;
- pharmacy leaders and regulators ought to encourage appropriate investments in professional training, to allow pharmacists to play a full and confident role in ending the global pandemic of tobacco related harm; and that
- members of the public seeking to take a responsible approach to their own health and that of their families and communities should support public health programmes aimed at preventing smoking and, especially as tobacco use starts declining, the provision of universally available services to help tobacco users free themselves of their life threatening condition.

Governments, health care professionals and citizen's living in the mature industrial economies with long-term experience of tobacco related harm have a responsibility to share their tobacco cessation service experience with communities that have not yet suffered the full health costs of mass tobacco use. The common prize that this could lead to is an accelerated end to the global tobacco related harm pandemic.

In the final analysis each community's and nation's immediate developmental priorities must be respected. But the evidence is overwhelming that, in virtually all but the poorest of the modern world's nations, tobacco smoking is typically the biggest single avoidable risk to health. Tobacco cessation support is also one of the most cost effective of all possible health service investments to make in both the industrialised and the industrialising economies. Hence, helping individuals to stop smoking represents a vital opportunity, not only for pharmacy but also for humanity world-wide.

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