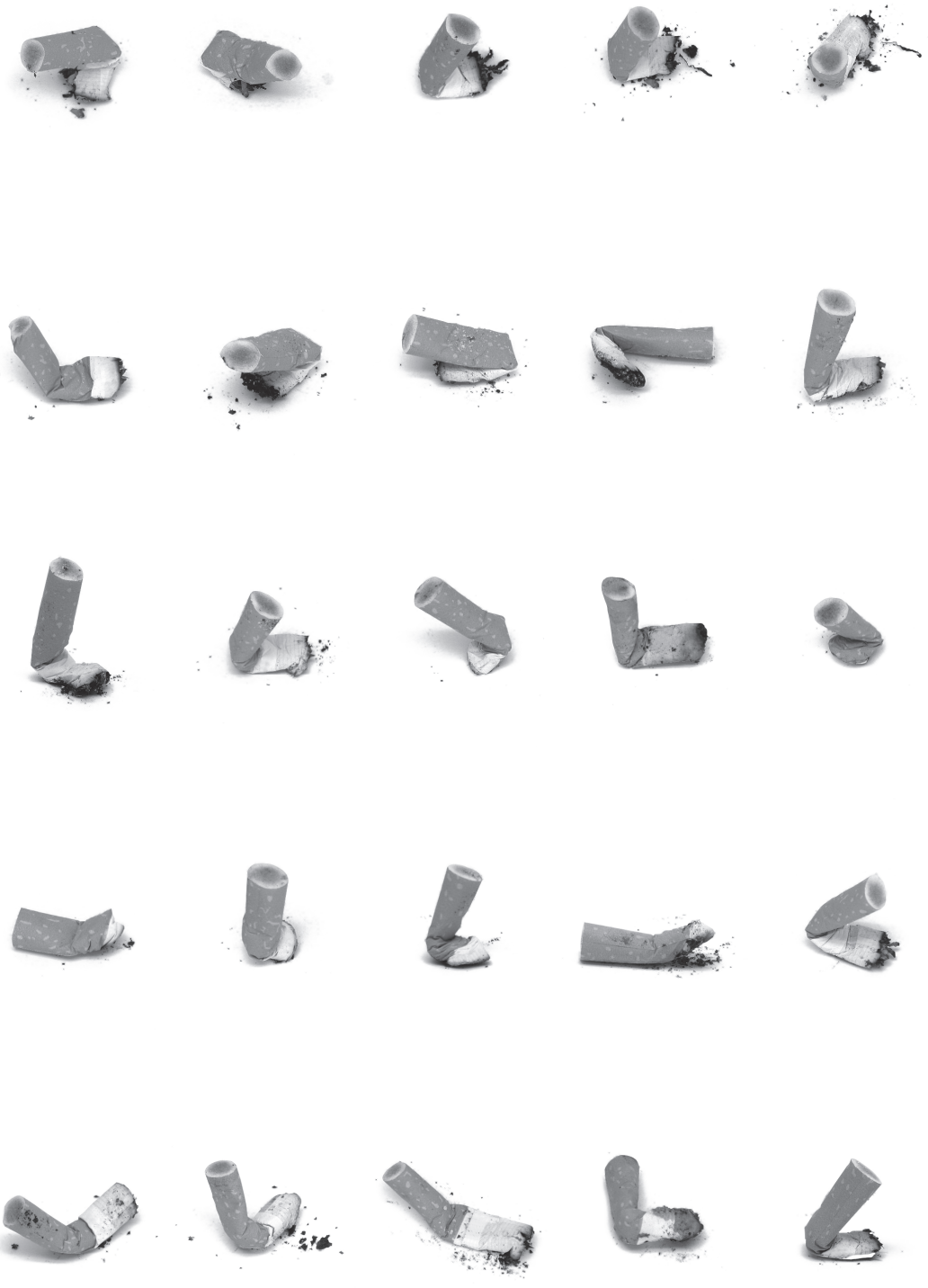

8

Summary

The WHO acclaimed the tobacco epidemic as one of the biggest public health threats the world has ever faced. Therefore, tobacco control has been identified as the most urgent and immediate priority intervention to reduce the prevalence of non-communicable disease. **Chapter one** elaborates on the current state-of-the-art evidence with regard to pharmacological and behavioural quit-smoking support and stresses the importance of a routine approach to smoking cessation care in general practice. Nevertheless, a substantial gap exists between the evidence-based knowledge on the treatment of tobacco dependence and real-world practices of primary care professionals. Therefore, the aim of this dissertation was to examine the implementation of smoking cessation care in general practice. A five-level socio-ecological model is introduced as the conceptual framework that guided this dissertation; all empirical studies in this dissertation adressed one or more factors related to the general practitioner (GP), patient, organization, community, or public policy level which determine the implementation of smoking cessation care in general practice.

The aim of **chapter two** was to examine the overall effectiveness of training health professionals in the delivery of smoking cessation interventions to their patients. In addition, this chapter aimed to examine which training characteristics are most likely to be effective, such as the content, delivery method and intensity. In a systematic review, 17 randomized controlled trials were included in which the intervention was training of health care professionals in providing smoking cessation care, and in which outcomes for patient smoking behaviour at least six months after the intervention were reported. These studies were found during a systematic search procedure using the Cochrane Tobacco Addiction Group's Specialised Register, electronic databases and the bibliographies of identified studies. Two independent reviewers extracted information relating to the characteristics of each included study for interventions, participants, outcomes and methods. Raw data of studies was requested from the study authors where needed. Studies were combined in a meta-analysis where possible and reported in narrative synthesis in text and table. A meta-analysis of 14 studies for point prevalence of smoking produced a statistically and clinically significant effect in favour of the intervention. A meta-analysis of eight studies that reported continuous abstinence was also statistically significant in favour of the intervention. In addition, healthcare professionals who had received training were more likely to perform tasks of smoking cessation than untrained controls, including asking patients to set a quit date, make follow-up appointments, counseling of smokers, providing self-help material, and prescribing a quit date. No evidence of an effect was observed for the provision of nicotine gum/replacement therapy.

With regard to the training characteristics, we found that health professionals who were trained using only a single session and in a group setting were just as likely if not more likely to have patients quit smoking as those being trained with multiple delivery sessions and one-on-one training (i.e., face to face with the trainer). Similarly, the duration of training for the health professional of between 40 minutes to two hours was just as effective, and in some cases more so, than a duration of greater than two hours. To conclude, this study found evidence for training health professionals to provide smoking cessation interventions on the point prevalence of smoking, continuous abstinence and professional performance. The one exception was the provision of nicotine gum or replacement therapy, which did not differ between groups.

We developed a one-hour, practice-tailored training for GPs which aimed to alleviate GP-related and organizational barriers that arise when routinely asking patients' smoking status, advising to quit, and arranging follow-up. **Chapter three** reports the effectiveness of this GP training programme which we examined in a cluster-randomized controlled trial including with 49 GPs and 3,401 patients (677 smokers). Two patient groups participated: 2,068 patients (433 smokers) at baseline and 1,333 patients (244 smokers) post-intervention. At follow-up, 225 smokers of both groups participated. The primary outcome was GPs' smoking cessation counseling (asking about smoking status, advising to quit, prescribing pharmacotherapy, and referring for behavioural support). Secondary outcomes were GPs' attitudes toward smoking cessation care, patients' intention to quit, and long-term quit rates. Outcomes were measured with GP self-report and patient report. Multilevel regression analyses showed that patients of trained GPs more often reported being asked about smoking behaviour compared to patients of untrained GPs. According to GP self-report, the training also increased the provision of quit-smoking advices and improved GPs' perceived self-efficacy and intention to routinely implement smoking cessation care. No effects of the training were found on GPs' arrangement of follow-up quit-smoking support, smokers' intention to quit, and long-term quit rates.

One of the training components consisted of action planning among the GPs. **Chapter four** reports the results of a study that examined if this strategy increased the provision of smoking cessation care among the GPs, with a special focus on the quality of the action plans. During the training programme, the GPs formulated action plans related to i) enquiring about smoking, ii) advising to quit smoking, and iii) arranging follow-up for smokers motivated to quit. The GPs also formulated a coping plan for encountering smokers not motivated to

quit. The quality of these plans (i.e. plan specificity) was rated and, 6 weeks after the training, GPs reported on the performance of these plans (i.e. plan enactment). Multilevel regression analysis was used to examine the effects of plan specificity and plan enactment on patient-reported smoking cessation activities of the GPs before the training compared with these activities after the training. These analyses showed that GPs who formulated an action plan of high specificity more often asked their patient about smoking, especially when these professionals also enacted this plan. This effect was most prominent among GPs who intended to provide smoking cessation care prior to the intervention. No effects of (the quality of) action planning were found on GPs' advices to quit and arrangements for follow-up quit-smoking support. Based on these study findings, recommendations are made in additional training in devising coping plans to further increase GPs' provision of advice to quit smoking and arranging follow-up support to quit smoking.

In order to provide more insight in the interaction between primary care professionals and patients during consultations in which smoking is unsolicited discussed, **chapter five** presents the results of sequential analyses of communication obtained from video-recorded consultations. In this study, 52 video-recordings of consultations in primary care were collected, in which 17 GPs and 16 practice nurses (PNs) initiated a conversation about smoking. Dialogues about smoking were transcribed verbatim. Professionals' speech units were coded according to the core aspects of the GP guideline. Patients' speech units were coded as either positive or negative statements about smoking cessation. All other speech units of professionals and patients were coded as other smoke- or non-smoke-related. Descriptive and sequential analyses (two-level multilevel modeling) were used to determine if particular sequences of speech units occurred to a greater or lesser extent than could be expected by chance alone. These analyses showed that, compared to PNs, GPs focused more on asking about smoking and advising to quit. PNs focused more on assisting patients with quitting. In addition, the analyses showed that smokers responded more often negatively than positively towards quitting, especially when PNs assessed their willingness to quit or assisted them with a quit attempt. Moreover, we found that GPs seemed more likely to discontinue their use of guideline-recommended smoking cessation care following patients' negative statements about quitting. However, this finding could not be statistically confirmed. Based on these findings, this chapter concludes with the recommendation to limit GPs' tasks for smoking cessation care to identifying smokers, advising them to quit and arranging follow-up support. This

approach seems the least likely to evoke negative responses of patients and is complimentary to lifestyle counseling tasks and skills of PNs.

Next to factors on a GP, patient, organization, and community level, we know from previous literature that the implementation of smoking cessation care may also be influenced by factors operating on a public policy level. Therefore, **chapter six** discusses the results of a population-based study on the effects of two national tobacco control interventions (the introduction of the GP guideline for smoking cessation care in 2007 and the introduction of full health insurance coverage for stop-smoking medication in 2011) on the number of (dispensed) prescriptions of stop-smoking medication in general practice. This ecological study analysed quarterly data points of three nation-wide representative databases using interrupted time-series analyses. These analyses showed no effects of the introduction of the GP guideline on (dispensed) prescriptions. Shortly after the introduction of the health insurance coverage, an estimated significant increase in primary care prescriptions of 6.3 per 1,000 smokers and 17.3 dispensed items per 1,000 was accompanied by a sudden drop in smoking prevalence of 2.9% in the first quarter of 2011. Immediately after the coverage abolition, smoking prevalence significantly increased by 1.2% and dispensed prescription rates decreased with 21.6 per 1,000 smokers. This chapter concludes with recommendations for policy makers and the tobacco control community to consider these findings in developing future tobacco control policy.

The general discussion in **chapter seven** provides further explanations for the observed findings of the presented studies, discusses the practical implications of the study results, and provides recommendations for future research. Theory-based screening questionnaires are recommended to further explore factors that influence the implementation process of smoking cessation care, in particular GPs' clinical behaviours. This knowledge can inform future behaviour change techniques that aim to improve GPs' provision of smoking cessation care. In addition, experimental studies with larger GP samples are recommended to further examine the effects of incorporating organizational factors, action planning and coping planning in GP training programmes on their provision of smoking cessation care and on patient smoking behaviour. Furthermore, a replication of our population-based study on the effects of full health insurance coverage of stop-smoking programmes is recommended in order to examine the long-term effects on GP prescription rates and smoking prevalence. Finally, we discuss an alternative approach to smoking cessation care in general practice, i.e. an ask-advise-connect (A-A-C) approach. Future (qualitative) studies should explore the

overall willingness of patients and GPs towards this approach. Additionally, we recommend studies that assess the feasibility and effectiveness of this A-A-C approach in Dutch general practice.