

Valorization Addendum



The aim of this research project was to provide detailed insight in the current smoking cessation counseling practices of practice nurses in Dutch general practice and to accordingly develop a tailored e-learning program to further improve their counseling practices. In chapter 2 and 3 we elaborated on practice nurses' application of the national smoking cessation guideline and confirmed that there is room for improvement. As complete guideline adherence is known to improve the quality and effectiveness of smoking cessation care (Rice, Heath, Livingstone-Banks, & Hartmann-Boyce, 2017; Stead et al., 2013), the relevance of this project emanates from this need for improving practice nurses' adherence to the guideline. In chapter 5 and 6, we demonstrated that the developed e-learning program was (cost-)effective to improve practice nurses' guideline adherence, meaning that the program can promote the quality and effectiveness of smoking cessation care. The relevance of the project results goes beyond application by practice nurses only and will hence be discussed in a broader context as well, including impact on other healthcare professionals, decision makers and society. Finally, dissemination of the project's results, more specifically widespread implementation of the e-learning program by healthcare professionals, will be discussed.

Relevance for smoking cessation care

Based on the formative research, reported on in chapter 2 and 3, we developed an evidence-based adherence support program for practice nurses. As primary care professionals have to deal with increasing care demands, and hence increasing time constraints (Halcomb et al., 2015; van Rossem et al., 2015), this program can offer an efficient, (cost-)effective approach to improve the quality of the smoking cessation care they provide. Providing practice nurses with an effective e-learning program, with 24/7 online accessibility, may reduce their need to participate in more expensive and time consuming face-to-face workshops or training programs. To increase the program's reach and visibility, the e-learning program should be registered in the national database with evidence-based interventions (i.e. www.loketgezondleven.nl), which is managed by the Dutch National Institute for Public Health and the Environment (RIVM). Furthermore, program impact also depends on implementation by its end-users (Glasgow, Lichtenstein, & Marcus, 2003). Therefore, to stimulate practice nurses to implement the program, additional steps will be required to ensure that practice nurses receive the appropriate recognition (i.e. accreditation points) for engaging with the e-learning program, as this was reported to be a facilitating factor for repeated program use. This means that certification for the e-learning program needs to be obtained from national organizations for primary care professionals (e.g. Verpleegkundigen & Verzorgenden Nederland (V&VN), Nederlandse Vereniging van Praktijkondersteuners (NVvPO)), which will enable practice nurse to apply for accreditation points when they intent to use the e-learning program.

Many healthcare professionals (e.g. hospital nurses, physicians, dentists, midwives), in the Netherlands and also abroad, apply evidence-based guidelines when counseling their patients in general, but also specifically concerning smoking cessation counseling. This means that usage of the e-learning program might also be beneficial for a broader range of healthcare professionals. Although these professionals operate in a variety of settings and patient groups, our e-learning program – being able to provide individually tailored content – is likely to provide relevant information and feedback to any professional that engages in counseling with smoking patients. To ensure the program's compatibility with a different context, it is important to conduct a needs assessment among the new target group (Kok et al., 2016) and make changes to the program accordingly. Moreover, to make the program compatible to a different context that a healthcare professional (e.g. a midwife) works in when engaging in counseling with a smoking patient, program changes are required in both the tailored advice modules (e.g. advice tailored to the content of the evidence-based smoking cessation guideline for midwives, the V-MIS) and the module with counseling information (e.g. practical information for pregnant women about the effects of smoking on their (unborn) baby). Besides the compatibility of program content with a new healthcare setting, also structural changes might be required to enhance chances of the program being compatible with existing (digital) information structures. With respect to structural compatibility, it is important to explore technological developments in a healthcare setting (e.g. type of digital information system used, availability of an existing eHealth platform) and to take steps to optimize the program's compatibility with such technologies. Hence, resulting from content adaptation and continuous structural development of the e-learning program, an improved version of the program should be created (i.e. version 2.0). The updated program will then need to be tested (i.e. pilot-tests, usability tests) by the new target population to determine chances of adequate program implementation in practice. Such an evidence-based approach, based on stakeholder involvement, will be essential to ensure relevance (and effectiveness) of the e-learning program in other healthcare settings besides Dutch general practice.

Relevance for society

In Dutch general practice, a shift has taken place towards more care responsibilities, including smoking cessation counseling, being provided by a practice nurses instead of the general practitioner (Dierick-van Daele, Metsemakers, Derckx, Spreeuwenberg, & Vrijhoef, 2009; van Hassel, Batenburg, & van der Velden, 2016). Practice nurse-led care and general practitioner-led care do not differ in terms of quality and lead to comparable scores on patient satisfaction, while practice nurses' care is associated with less costs (Dierick-van Daele et al., 2009; Swan, Ferguson, Chang, Larson, & Smaldone, 2015; van

Rossem et al., 2017). This illustrates that practice nurse-led care can be a cost-saving alternative for general practitioner-led care. This means that an intervention that can improve the quality of practice nurses' care, such as our e-learning program, will improve the likelihood that practice nurse-led care in general practice is not only cost-saving but also more cost-effective compared to general practitioner-led care. This is relevant for decision makers in healthcare, as they rely on evidence about the costs and effects of care to make decisions about the allocation of financial resources (Evers, Wolfs, & Van Heugten, 2010). The project results are relevant, as they provide insight in the costs, on a societal level, that are associated with evidence-based smoking cessation care by practice nurses. The economic evaluation of our e-learning program revealed that the program was a cost-effective addition to practice nurses' usual smoking cessation care. This increases the likelihood that practice nurses will outperform general practitioners in terms of providing high-quality smoking cessation care. As we know that costs associated with practice nurse-led care will be lower or equal compared to general practitioner-led care, this increases the cost-effectiveness of care by practice nurses. In light of the fact that practice nurses are increasingly responsible for smoking cessation care, further improvement of their cost-effective care will have financial benefits on a societal level. More importantly, effective smoking cessation care from practice nurses will benefit the overall health on a societal level, as smoking patients receive high quality care likely resulting in more smoking abstinence.

Within society, specific healthcare organizations might benefit from the project results. In particular, national nursing organizations (e.g. V&VN, NVVPO) or national stop smoking organizations (e.g. Kwaliteitsregister Stoppen met Roken, Alliantie Nederland Rookvrij) benefit from the project as they are interested in ways to improve the provision of evidence-based (smoking cessation) care in Dutch healthcare. They might be interested in the e-learning program as a means to promote continuous professionalization of healthcare professionals. Moreover, these national healthcare organizations have members working in all regions in the Netherlands, meaning that the online and tailored nature of the e-learning program will be particularly important to efficiently support professionals throughout the country.

Furthermore, the e-learning program is of interest for educational institutes that are responsible for training healthcare professionals to provide evidence-based care. In the Netherlands, one could think of national organizations that offer professional education, such as a practice nurse master curriculum (e.g. offered by various institutes for higher education) or a smoking cessation refresher course (e.g. offered by the Netherlands School of Public and Occupational Health (NSPOH)). Our e-learning program could, for instance, be offered as a complementary element in addition to the face-to-face training sessions offered by such educational institutes, or could even be offered as a stand-alone educational activity concerning the application of an evidence-based smoking cessation

guideline by an educational institute. By providing access to the e-learning program in collaboration with educational institutes, healthcare professionals might save time and money as a result of reduced travel and time costs. Educational institutes might also benefit from expanding their e-learning curriculum, as they can likely attract a wider range of professionals and hence expand their reach and generate more revenue.

Dissemination

Co-creation with relevant stakeholders

In light of the positive results concerning the (cost-)effectiveness of the e-learning program we consider it worthwhile to pursue widespread implementation of the program in general practices in the Netherlands. To achieve this, additional implementation efforts are required, including 1) optimization of the e-learning program's usability to promote its usage by practice nurses, 2) the development of an evidence-based peer support implementation strategy based on employing champions to function as role models, and 3) the transfer of ownership of the program and peer support strategy, and the creation of a viable business model. Nowadays it is particularly recommended to invest in interdisciplinary collaboration and end-user involvement (i.e. co-creation) when aiming for intervention development and implementation (de Boer & Bosman, 2018; Smeets & Zijlstra-Vlasveld, 2016; Swinkels et al., 2018). Hence, for the widespread implementation of our e-learning program, potential owners of the e-learning program (e.g. NSPOH, Trimbos, V&VN, Quit Smoking Quality Register, Stop Smoking Partnership) and healthcare professionals involved in implementation of the program in general practice (e.g. practice nurses, champions, general practitioners) should be involved to guarantee funding for and co-creation of the implementation strategy.

Realizing interdisciplinary collaboration and co-creation are known to play a vital role in the use of digital interventions (van Gemert-Pijnen et al., 2011; Yardley et al., 2016), and were hence an important part of the development and evaluation of the e-learning program in the present project. Yet, these aspects remain essential during the course of an implementation project, as well as during the period after the implementation project ends. Therefore, to optimize chances for continued implementation of the e-learning program after the ending of the project, it is essential to already establish a stakeholder advisory board (including potential program owners and relevant healthcare professionals) early on in an implementation project. Stakeholders representing a national organization (e.g. Trimbos, V&VN) can facilitate dissemination of and support for continued program implementation on a large scale within their professional network. Moreover, a stakeholder like the NSPOH will be especially important, because of its extensive experience in developing and offering training courses for healthcare professionals including practice nurses. Also, this organization is perceived as reliable and trustworthy by healthcare professionals, meaning that involvement of the NSPOH in the implementation

strategy increases the likelihood that practice nurses have a positive attitude towards implementation of the e-learning program. Through co-creation with relevant healthcare professionals, an implementation plan will better match facilitating factors and barriers related to the general practice setting and health professionals' daily practice; thereby increasing the plan's level of compatibility with current practices. This could even support healthcare groups', general practices' and general practice staff's evaluation of their own organization or daily practice beyond the duration of this project and facilitate implementation of the e-learning program and peer champion strategy in new healthcare groups.

Budgeting models and marketing mix

As national implementation of the e-learning program is not without costs, it is also important to discuss possible budgeting models with members from the stakeholder advisory board. Costs associated with national program implementation include costs for continued program maintenance and technical support; personnel costs (i.e. a project coordinator); communication costs (continuous recruitment and stakeholder contact); costs for continued accreditation of the e-learning program; and costs associated with the implementation strategy (e.g. training practice nurse-champions). The feasibility and success of an implementation project will for a large extent depend on the willingness and ability of important stakeholders to bear such implementation costs. A comparison of different budgeting models (e.g. health insurer budget or training budget of a healthcare group), based on the Business Model Canvas (Osterwalder & Pigneur, 2013), can be used to support stakeholders to make an informed decision about a financially viable implementation plan (van Limburg, Wentzel, Sanderman, & van Gemert-Pijnen, 2015). During meetings of the stakeholder advisory board, the sustainability of implementation costs can be discussed in order to reach consensus about an appropriate budgeting model. Ultimately, the new owner(s) of the e-learning program must be willing to take responsibility for bearing costs associated with sustainable program implementation.

Nowadays, in support of implementation activities additional efforts are often required to increase chances that a carefully planned implementation project will achieve its intended reach and impact. Therefore, it is suggested to systematically incorporate theory-based marketing strategies in the design and evaluation of health interventions. Especially the principles of the marketing mix (4 P's: product, price, place, promotion) can facilitate change among a target audience (Luca & Suggs, 2013). In line with what has been already described, also aspects related to the 4P's should be explored through co-creation with the target population. This will ensure that the marketing mix is in line with needs and expectations of the target population. Moreover, concerning aspects like *product* and *price*, it might be important to ensure that the e-learning program has a high-quality design and is associated with a reliable organization like the NSPOH (i.e. product

characteristics), and that the program owner offers the e-learning program via a budgeting model that ensures minimal financial investment from individual practice nurses (i.e. price characteristics). Concerning *place*, it seems worthwhile to invest in distribution of the e-learning program via various national organizations, while it might be important to explore whether direct distribution (i.e. originating from the owner) or distribution via intermediate links or agents is most feasible in practice. Finally, a detailed *promotion* strategy should be developed to increase the owner's brand image (e.g. obtain sponsor payment from a trustworthy national organization) and to reach a large target audience through targeted advertisements. Investing in developing a co-created marketing strategy warrants more attention in future implementation plans of health promotion and prevention campaigns, as it may increase the public health impact of such interventions.

Based on such evidence-based implementation efforts it is expected that both the reach and use of the e-learning program by practice nurses would increase. This will in turn lead to bigger program impact, both regarding practice nurses' adherence to the national smoking cessation guideline as well as regarding an indirect program impact on the level of smoking abstinence of counseled patients in Dutch general practice.