

ADDITIONAL FILE 3

Supplementary Table 1. Intervention functions, change goals and choice architecture categories for each de-implementation strategy

De-implementation strategies	Intervention function and change goal	Choice architecture categories	
		Decision Assistance	Decision information
1) Non-reflective decision assistance (DA)	<i>Incentivization and Coercion</i> To receive positive reinforcement related to adequate CVD prevention performance and avoiding prescribing out of habit <i>Training, Enablement and Environmental restructuring</i> To remember to provide the recommended clinical practice in CVD primary prevention	C1 Provide reminders provide positive reminders that heighten the salience of a desired option and/or diminish the salience of an undesired option, e.g., Pop-up alerts with the recommendation to not prescribe statins.	
2) Decision information (DI)	<i>Persuasion and Enablement</i> To increase awareness of the problem of inappropriate statin prescribing and increase knowledge		A1 Translate information - Reframe: present the (same or equivalent) information in several ways, e.g., clinical guidelines, algorithm, patient information leaflet. - Simplify: reduce the burden of cognitive effort necessary to process the information available and increase its usefulness in the decision-making process, e.g., algorithm.
3) Self-reflective decision (SRD)	<i>Education and Training</i> To reflect on the performance/practice of inappropriate statin prescribing in CVD primary prevention <i>Modelling and Enablement</i> To have clear and specific objectives, at a personal and organizational levels, for the reduction of inappropriate statin prescribing in CVD primary prevention		A2 Make information visible - Make own behavior visible (feedback): provide feedback about one's own behavior to make decision-relevant information visible, e.g. sending A&F reports with practice-performance indicators. A3 Provide social reference point: - Refer to descriptive norm: depict the observable behavior of other people to impact on the decision-making process, e.g., showing other FPs' prescribing behavior.

Note: CVD: cardiovascular disease; A&F: audit and feedback; FP: family physician. Choice architecture categories according to Münscher et al., 2016 [Münscher R, Vetter M, Scheuerle T. A review and taxonomy of choice architecture techniques. J Behav Decis Mak. 2016;29(5):511-524. doi:10.1002/bdm.1897].

Supplementary Table 2. Adoption of the recommended cardiovascular disease primary prevention clinical practice in low-risk patients.

	n (%)	aOR (95% CI)	p-value
Reduce PIP			
DA	372 (74%)	1.00	0.93
DI	43 (72.9%)	0.90 (0.47-1.75)	
SRD	42 (71.2%)	0.91 (0.47-1.78)	
Improve all HLs			
DA	134 (26.6%)	1.00	0.50
DI	19 (32.2%)	1.23 (0.67-2.26)	
SRD	20 (33.9%)	1.37 (0.75-2.52)	
Improve CVD recommended practice*			
DA	97 (19.3%)	1.00	0.27
DI	16 (27.1%)	1.54 (0.81-2.93)	
SRD	15 (25.4%)	1.45 (0.75-2.80)	

Note: CVD: cardiovascular disease; n: number of family physicians; aOR: adjusted odds ratio; CI: confidence interval; DA: decision assistance; DI: decision information; SRD: self-reflective decision; PIP: potentially inappropriate prescribing; HL: healthy lifestyle; all HLs: all three healthy lifestyle (diet, physical activity and smoking cessation) promotion actions; * CVD recommended practice: No PIP and all healthy lifestyle promotion actions.

Adjusted by the following variables at physician level: percentage of women, average age, average CVR (cardiovascular risk), average total cholesterol level, baseline incidence rates (PIP; physical activity, diet and smoking cessation advice), and cluster size (number of patients).