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**CHECK'D?! : determinants of participation in a two-stage
cardiometabolic screening among underserved groups**
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Summary

SUMMARY

INTRODUCTION

With a high burden of cardiometabolic disease among native Dutch and non-Western immigrants in the Netherlands, their participation in preventive screening is eminent. It is, therefore, worrisome that these groups are particularly underrepresented in screening initiatives, as this may widen health inequalities in a society. To increase participation of these underserved groups in two-stage cardiometabolic screening, insight into the motivations and determinants of these groups is essential. The aim of this dissertation was to obtain insight into the psychosocial determinants of participation of underserved groups in both stages of the Dutch cardiometabolic health check (Prevention consultation, module cardiometabolic risk) as well as the actual response and participation rates in the two stages.

MAIN FINDINGS

We present a qualitative study on determinants of (hypothetical) participation in the cardiometabolic health check in **chapter 2**. With this study we aimed to investigate which determinants played a role among underserved groups to participate in the first stage (the HRA) of the health check and which determinants played a role in the second stage (the PC). To obtain insight in these determinants of hypothetical participation, we conducted 21 focus groups with non-Western immigrants, adult children from one of these descents, native Dutch with a lower SES, and healthcare professionals working with these groups. The analyses revealed that the determinants of HRA non-completion were mainly cognitive and included (flawed) risk perception, health negligence, (health) illiteracy, and language barriers. Facilitating HRA completion would be a face-to-face invitation from a reliable source and community outreach to raise awareness. Determinants of PC non-attendance were in part cognitive but were also of a more affective nature and included risk denial, fear about the outcome, its potential consequence (lifestyle changes and medication prescription), and disease-related stigma. Overall, the findings of this study indicated that the choice of invitation method seems important when designing a two-stage health check, as does training

healthcare professionals in techniques to effectively handle patients' (flawed) risk perception and attitudinal ambivalence. Furthermore, focus should be on promoting informed choices by providing accurate information.

The findings of the qualitative study, as well as an extensive literature search, resulted in the design of a semi-quantitative intervention. With this intervention we aimed to investigate the actual response and participation rates and the actual determinants of participation of underserved groups in the Dutch cardiometabolic health check. In **chapter 3** we describe the response and participation rates in both the HRA and the PC. For this, we used a 'funnelled' invitation design comprising three consecutive increasingly cost-intensive culturally adapted steps: (1) a postal invitation for all eligible patients; (2) a telephone approach for postal non-responders; (3) a face-to-face approach by the GP for final non-responders. We found an overall response rate of 70% (n=1152), of whom 62% (n=712) completed the HRA. This was primarily accomplished through the postal and telephone invitations, not the face-to-face invitation. However, we found that participants from GP practices in the most deprived neighbourhoods had the lowest response and HRA participation rates. Of the HRA participants, 29% (n=207) received a high-risk score, of whom 59% (n=123) attended the PC. PC attendance was lowest among the native Dutch with a low SES. Based on these results, we concluded that underserved groups can be reached by a low-cost culturally adapted postal invitation and follow-up telephone calls, and that the added value of the more expensive face-to-face invitation was negligible. The PC participation rates were acceptable. However, to further increase reach among underserved groups, efforts should be particularly targeted at GP practices in the most deprived areas.

Chapter 4 and 5 cover the determinants among underserved groups of (actual) participation in both the HRA and the PC respectively. In **chapter 4** we describe a cross-sectional questionnaire study in which we aimed to explore the process of decision-making regarding HRA completion among underserved groups. The questionnaire comprised the following aspects: a self-formulated first reaction, a structured set of predefined determinants, and the most important barrier(s) and facilitator(s) for HRA completion. More than three quarters of the questionnaire participants (n=892) also completed the HRA (n=696). Those who did not complete the HRA were more often Moroccans and patients from GP practices with a predominantly non-Western population. Determinants increasing the likelihood of HRA completion were a lower SES score, wanting to know one's risk, not remembering receiving the invitation (thus requiring a phone call), fear of the test result and/or adjusting lifestyle, perceived control of staying healthy, wanting to participate, and perceiving no barriers. From

this study we concluded that our ‘hard-to-reach’ population may not be unwilling to complete the HRA. To increase the participation rate, a more comprehensive approach, involving key figures within a community informing people about and providing help completing the HRA would possibly be more suitable, as we had already seen in the qualitative study. In addition to the advice to particularly target GP practices in the most deprived neighbourhoods as described in chapter 3, we noted that special attention should be paid to the less acculturated immigrants with an external locus of control.

In **chapter 5** we describe a quantitative and qualitative assessment of determinants of PC attendance. The aim of this study was to compare PC attenders with non-attenders in their determinants of PC participation. For this, we used questionnaire and interview data. We found that 71% (n=148) of the participants with a high-risk HRA score attended the PC, and that those participants were least often native Dutch with a lower SES. We interviewed 91 high-risk participants, of whom more than three quarters (n=66) attended the PC. We compared PC attenders with non-attenders in their HRA risk parameters and HRA total score, but found no significant differences. When asked about their determinants at the time of the HRA, later PC attenders significantly more often trusted they would get the guidance they would need in case of an increased risk and they more often experienced health complaints. When asked about their determinants at the time of the interview following the PC, the PC attenders also more often experienced health complaints, more often had others finding it important for them to participate, and more often felt obliged to attend the PC. Finally, many participants found it unclear whose responsibility it was to make an appointment for the PC. We concluded that risk communication should cover risk perceptions regarding (lack of) health complaints and it should target the close social environment of the individual. We suggested that, if feasible, the responsibility of making an appointment should be shifted towards the healthcare provider. It would be interesting to further study the role of personal feelings of obligation.

Lastly, we aimed to get some insight into the yield of the PC among underserved groups, which we describe in **chapter 6**. We performed a cross-sectional GP record study among high-risk HRA participants who went to the GP for the PC and investigated what risk factors were recorded and what subsequent actions were undertaken. What we found, first of all, that recordings were very incomplete. We could calculate the Prevention consultation risk score of consultation data for only 3% (n=4) of the participants, which was indeed above the cut-off value for all. We could calculate the CVRM score for 44% (n=66) of participants, of whom 39% (n=26) indeed fell in the ‘yellow’/‘red’ box of the risk table. Medication was prescribed

to one in five (n=29) of the participants. Of those who smoke, 69% (n=44) received a quit-smoking advice and 36% (n=53) of the participants received other lifestyle advice. In line with our other studies, we conclude that it is possible to reach a PC participation rate among ‘hard-to-reach’ groups comparable to or even higher than among the general population. We noted, however, that the GP should not only record patient data covered by the classic cardiovascular and diabetes guidelines, but should also record other risk factors associated with cardiometabolic disease (such as family history) and the (lifestyle) advices provided. Finally, we emphasized the important role of the GP, especially for these groups, which is all the more important now the Prevention consultation has been replaced by the Personal Health Check which is implemented more broadly than primary care.

CONCLUSION

It has been well established that underserved groups have an increased risk of cardiometabolic disease and are less likely to attend health checks. This differential uptake of health checks leads to suboptimal health gains from cardiometabolic screening and contributes to the widening of health inequalities in society. The cost-effectiveness of the Dutch cardiometabolic health check is still under study, but with the knowledge we already have it seems advisable to focus primarily on the underserved groups, as they have the most to gain from systematic screening. The findings described in this thesis provide strategies to optimize uptake and may be used to design future studies on this topic. In the general discussion we also advocate that the Government should invest in population-based prevention and move away from the trend of taking own responsibility as this may provide underserved groups the best possible opportunities for a healthy life(style).

