



Trustworthy AI Tools for the Prediction of Obesity Related Vascular Diseases

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ANALYSIS OF STAKEHOLDER PERSPECTIVES ON THE USE OF AI IN IMAGING-BASED PREDICTION OF OBESITY-RELATED VASCULAR DISEASES

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EXECUTIVE SUMMARY

Artificial intelligence (AI) refers to computational systems that can learn from data and perform tasks that would otherwise require human judgement (1,2). In healthcare and public health, AI has considerable potential to strengthen clinical decision-making, improve diagnostic accuracy, reduce medical errors, and support a more efficient use of healthcare resources (3–5). In addition to supporting healthcare professionals, AI-enabled technologies are increasingly designed to interact directly with patients. For example, mobile applications and digital platforms can facilitate personalized monitoring, support lifestyle management, and assist in risk assessment or early detection of disease (1,6).

This deliverable examines stakeholder perspectives on tools that are being developed or are still envisioned within AI-POD (AI-based tools for the Prediction of Obesity-related Vascular and Cardiac Diseases) or a potential follow-up project. It draws on qualitative interviews with key stakeholders and a targeted survey of healthcare professionals involved in the prevention, treatment, or management of obesity. The objective is to identify factors that may influence stakeholder acceptance and uptake of these current and prospective AI-POD tools.

Stakeholders identified several anticipated benefits, including multimodal data integration, improved risk stratification, and enhanced patient awareness and health literacy. The tools were seen as having potential to support personalized and continuous preventive care, provided they complement existing clinical expertise. At the same time, participants highlighted important concerns and risks. These included potential anxiety related to risk score communication, the risk of reinforcing weight stigma, limited evidence for highly personalized lifestyle recommendations, and barriers to equitable access. Technical and structural challenges were also identified, including data heterogeneity, risk of algorithmic bias, technological compatibility issues, and disparities in digital literacy. Participants anticipated that implementation would further be complicated by difficulties in engaging patients and by healthcare providers' reluctance to adopt solutions that fall outside established guidelines.

Overall, stakeholders recognized the transformative potential of the AI-POD tools for advancing personalized cardiovascular prevention in obesity care. However, they emphasized that ensuring explainability, inclusiveness, usability, and integration into existing healthcare systems will be critical for successful implementation and equitable uptake across Europe.





1. INTRODUCTION

Artificial intelligence (AI) refers to computational systems that learn from data to perform tasks that would otherwise require human judgement (1,2). In healthcare and public health, AI has significant potential to strengthen clinical decision-making, improve diagnostic precision, reduce errors, and support more efficient use of resources (3–5). AI-enabled tools are also increasingly designed to support patients directly through e.g. mobile applications that facilitate personalized monitoring, lifestyle management, and risk assessment (1,6).

However, the successful implementation of AI depends not only on technical performance but also on stakeholder acceptance. Research shows that while patients and healthcare professionals recognize the potential benefits of AI, they also express concerns regarding safety, bias, transparency, accountability, and the possible impact on clinician-patient relationships (7,8). Studies across different clinical domains consistently highlight trust, interpretability, and perceived reliability as critical factors influencing adoption (9–11). Organizational readiness, regulatory frameworks, and long-term investment in capacity-building further shape the integration of AI into healthcare systems (12).

In obesity care, AI applications offer opportunities for improved risk stratification, personalized interventions, and optimized resource allocation. At the same time, challenges such as sustaining user engagement, preventing algorithmic bias, and ensuring equitable implementation must be addressed (13).

The AI-POD (AI-driven tools for the Prediction of Obesity-related Vascular and Cardiac Diseases) project addresses these challenges by developing a predictive algorithm for obesity-related cardiovascular diseases, which will be implemented through a clinical decision-support system (CDSS) and a citizen-app. By integrating clinical, lifestyle, and other relevant health data, AI-POD aims to support earlier identification of individuals at risk and enable personalized prevention and intervention strategies. Beyond model development, the project emphasizes the broader societal, ethical, and implementation contexts in which these tools will operate.

Within this context, understanding stakeholder perspectives is particularly important. Europe's regulatory and ethical frameworks for AI emphasize transparency, accountability, and societal trust (2). Identifying stakeholder expectations and concerns can therefore guide the responsible design, deployment, and uptake of AI-based healthcare solutions. This deliverable contributes to that goal by exploring anticipated benefits, perceived risks, and implementation challenges associated with the AI-POD tools.

2. METHODOLOGY

2.1 QUALITATIVE INTERVIEW STUDY WITH KEY STAKEHOLDERS

In correspondence with Task 5.2, semi-structured interviews were conducted with key stakeholders to explore perceived benefits, concerns, and challenges related to the development and use of the AI-POD tools. A purposive sampling strategy was applied, meaning that participants were intentionally selected based on their expertise, professional role, or potential involvement in or impact from AI-POD. This approach allowed the inclusion of a diverse range of viewpoints, including individuals engaged in obesity care, digital health, or AI development, as well as experts in social science, ethics, and policy (14). Participants were primarily recruited through the networks of the project consortium and their collaborators. As a result, a large proportion of participants are based in Belgium and in countries where consortium partners are located, namely Austria, the United Kingdom, and Sweden. Given the exploratory nature of this work, this geographical distribution was considered acceptable, as the objective was to obtain an initial scoping overview of potential benefits, concerns, and challenges.





To enhance the robustness of the qualitative analysis, multiple researchers independently reviewed and analysed the interview data. This practice is common in qualitative research in order to reduce potential researcher bias. Differences in interpretation were subsequently discussed and resolved collectively, ensuring that the final analysis reflects the data as objectively and transparently as possible.

2.2 QUANTITATIVE EXPLORATORY SURVEY WITH HEALTHCARE PROFESSIONALS

In addition to the semi-structured interviews with key stakeholders, an exploratory survey was conducted among experts in obesity care. The survey instrument was adapted from Esmailzadeh et al. to ensure alignment with the AI-POD context and objectives (8). The full survey can be found in the Appendices. The analysis was confined to descriptive statistics.

3. RESULTS

This deliverable presents the findings of a qualitative interview study conducted with key stakeholders as part of the AI-POD project. The study, titled *“AI-driven tools for the prediction of obesity-related vascular diseases: stakeholder perspectives and challenges,”* was carried out by Kaatje Goossens, Pascal Borry, Tessa Marie Forehand, and Eva Van Steijvoort. The results summarized here capture stakeholder views on the development, implementation, and governance of AI-driven tools for predicting obesity-related vascular diseases. The full peer-reviewed article is available in open access, in line with Horizon Europe requirements, and can be accessed via the following link: <https://doi.org/10.3389/fpubh.2025.171388>.

The study sample consisted of 21 participants, selected to ensure representation across healthcare, research, policy, and patient perspectives relevant to cardiovascular prevention and obesity care. Professional background included radiology (n=5), artificial intelligence (n=4), medical informatics and healthcare innovation (n=2), dietetics (n=2), endocrinology (n=2), general practice (n=1), social sciences and ethics (n=1), law and policy (n=1), and public health (n=1). Two participants were patient representatives. Most participants were based in Belgium (n=16), with additional representation from Austria (n=3), the United Kingdom (n=1), and Sweden (n=1). Seven participants were affiliated with the AI-POD consortium and fourteen were external stakeholders. The sample included 12 women.

3.1 QUALITATIVE INTERVIEW STUDY WITH KEY STAKEHOLDERS

3.1.1 PERCEIVED BENEFITS

Stakeholders expressed cautious optimism towards the AI-POD tools, with acceptance largely dependent on their role as decision-support systems that complement – rather than replace – clinical expertise. The main perceived strengths were:

- **Multimodal data integration** – combining imaging, clinical and lifestyle data to support longitudinal and individualized care.
- **Improved risk stratification** – enabling more tailored and potentially fairer allocation of preventive interventions.
- **Enhanced patient awareness** through the citizen-facing application, which was viewed as a potential tool to increase health literacy and self-management – provided it remains embedded within a structured care pathway.

3.1.2 PERCEIVED CONCERNS

While stakeholders acknowledged the potential added value of AI-POD, several concerns were raised regarding its broader implications.

Some participants cautioned that repeated exposure to individualized risk scores could **increase anxiety or lead to demotivation** if the information is not carefully contextualized and accompanied by appropriate guidance. It was further noted that a narrow focus on weight as a primary risk factor may inadvertently





reinforce weight-related stigma. Participants therefore emphasised the need to embed the AI-POD tools within a **broader, holistic framing of health and well-being**.

In addition, several stakeholders questioned whether complex or long-term risk percentages would be meaningfully understood by patients or even by some healthcare professionals. The added value of communicating sophisticated probabilistic risk scores directly to patients was therefore debated. To foster understanding and trust, participants recommended **clear communication materials, including visual aids and fact sheets, tailored to both patients and healthcare professionals**.

Finally, **equity and accessibility** were strongly emphasised. Stakeholders highlighted that barriers such as limited access to smartphones, low levels of digital and health literacy, and language differences may risk excluding already vulnerable populations.

3.1.3 DEVELOPMENT CHALLENGES

Several challenges related to the development of the AI-POD tools were identified. First, concerns were raised regarding the potential for **algorithmic bias**. Participants highlighted risks of gender, ethnic, socio-economic, and selection bias. In particular, it was noted that **training datasets may disproportionately represent individuals who are more health-conscious or from higher socio-economic backgrounds**. Such imbalances could limit the generalizability of the models and risk exacerbating existing health disparities.

Second, **technical and infrastructural** barriers were emphasized. **Fragmented hospital systems, heterogeneous data formats, and inconsistent data standards** were described as significant obstacles to effective data harmonization and integration. In addition, questions were raised about the clinical validity and reliability of data derived from wearable devices and self-reported sources.

Stakeholders also pointed to challenges related to **engagement in preventive** care. Individuals without prior cardiovascular events may have limited motivation to participate in preventive interventions and, by extension, in research initiatives such as AI-POD. This could result in selective participation and further contribute to biased datasets.

Finally, participants noted that while general lifestyle recommendations are well-established in the literature, robust evidence supporting highly personalised lifestyle advice remains comparatively limited. This may constrain the extent to which the system can provide actionable, individualised guidance grounded in strong empirical evidence.

Across these challenges, **early and continuous stakeholder involvement** was consistently identified as essential to enhancing usability, fostering trust, and ensuring the clinical and societal relevance of the AI-POD tools.

3.1.4 IMPLEMENTATION CHALLENGES

Stakeholders identified multiple barriers to real-world implementation:

- **Engaging underserved populations** – digital tools are often used primarily by already motivated individuals, risking further health inequalities.
- **Socio-economic determinants** – obesity and cardiovascular risk are shaped by broader environmental and structural factors, which cannot be addressed solely through individual-level digital interventions.
- **Healthcare professional engagement** – integration into clinical workflows, alignment with existing guidelines, and endorsement by professional bodies were seen as critical for adoption. Clinicians may act as gatekeepers.





- **Integration and usability** – tools must be interoperable with existing systems and ideally consolidated within a single platform to avoid fragmentation. Overly complex interfaces could hinder uptake among both patients and professionals.
- **Positioning within care pathways** – while general practitioners were seen as a logical integration point, not all high-risk individuals regularly consult primary care, underscoring the need for interdisciplinary implementation strategies.

Overall, successful implementation will require technical robustness, inclusive design, professional endorsement and alignment with broader public health strategies.

3.2 QUANTITATIVE EXPLORATORY SURVEY WITH HEALTHCARE PROFESSIONALS

A total of 21 healthcare professionals completed the questionnaire. One respondent indicated that they were not involved in the prevention, management, or treatment of individuals living with obesity and was therefore excluded, resulting in **20 responses** for the descriptive analysis.

Although exploratory in nature, **the survey provides complementary insights to the interview study**. While the interviews captured stakeholders' perspectives in their own words, the survey asked participants to assess the relevance of specific potential benefits and challenges associated with AI-POD tools. In doing so, it helps to validate and further contextualize key findings from the qualitative data. In addition, the survey offers a broader representation across countries and professional disciplines. Selected results are summarized below.

Among the 20 eligible respondents, the majority were women (n=14). Most participants were based in Belgium (n=15), with additional representation from Greece (n=2), Germany (n=1), Switzerland (n=1), and the United Arab Emirates (n=1). Participants ranged in age from 30 to 73 years, with representation across this spectrum. The largest professional groups were endocrinologists (n=5) and dietitians (n=3). Other respondents included general practitioners (n=2), paediatricians (n=2), psychologists and psychotherapists (n=2), as well as professionals from other disciplines.

Most respondents reported prior experience with AI (n=13); however, fewer were familiar with its application in medical contexts (n=6).

Regarding their **intention to use** the AI-POD clinical decision-support system (CDSS), the majority indicated that they would consider doing so. When specifying potential use cases, respondents were more inclined to apply the system for diagnostic and treatment purposes (n=14) than for patient management (n=12). Eleven participants (n=11) stated that they would be inclined to follow the system's recommendations, while nine (n=9) were uncertain.

Most participants believed that the AI-POD CDSS could enhance diagnostic processes (n=14). More than half (n=11) were unsure whether its implementation would lead to reductions in healthcare costs. Overall, responses concerning additional **potential benefits** were **predominantly positive or uncertain**, with very few negative responses reported.

With respect to **potential system-related risks** – such as inaccurate predictions, incorrect recommendations, or the possibility of medical errors – most respondents **expressed concern**. A smaller proportion indicated uncertainty, while only a very limited number believed that these risks were unlikely to occur or not relevant. The detailed results are presented in the figure below (Figure 1).



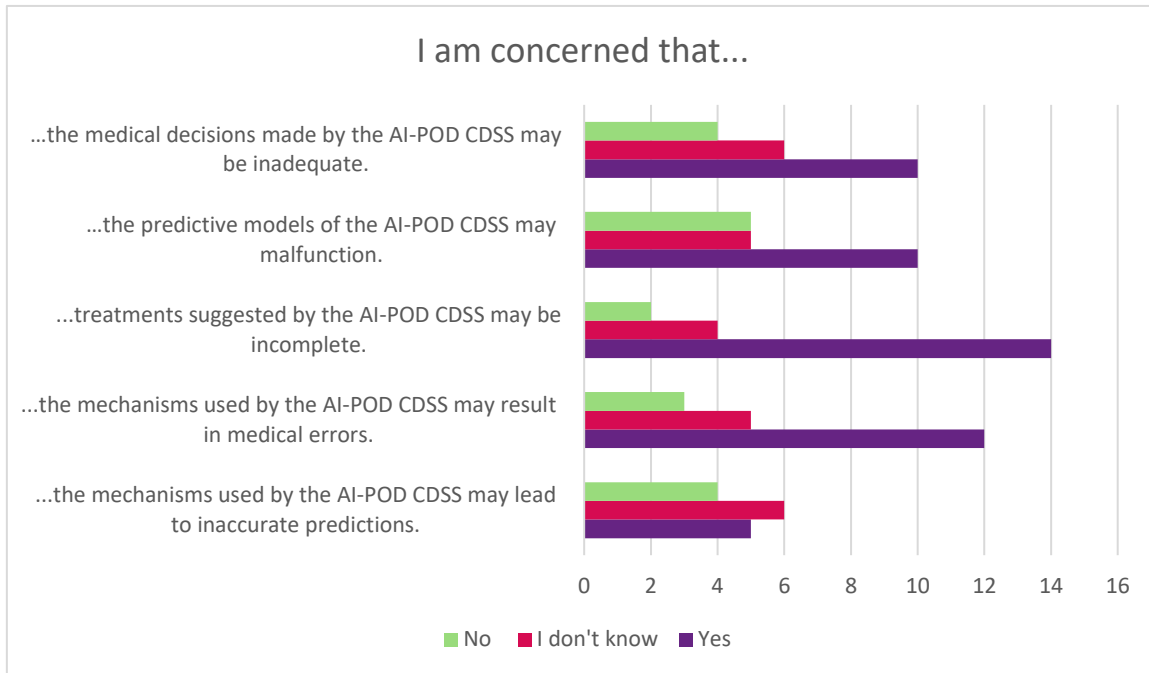


Figure 1. Perceived performance anxiety regarding the AI-POD CDSS

Most respondents perceived **multiple forms of social bias to be present or were concerned that such biases could arise**. A majority (yes; n=15) indicated that the AI-POD CDSS could potentially over- or underestimate health risks in specific patient populations. Additionally, participants expressed concern that the data used during system development might contribute to **societal discrimination** (yes; n=10) or result in unfair treatment of certain population groups (yes; n=11). Consequently, nearly half of the participants (yes; n=9) considered the overall **likelihood of bias to be high**.

Responses to **privacy-related questions** were more divided. For each item, opinions were almost evenly split between 'yes' and 'no', with a proportion of respondents indicating **uncertainty**.

Regarding trust in the AI-POD CDSS, approximately half of the participants rated specific aspects of the system as **trustworthy** across most items. However, a substantial degree of uncertainty was also observed. Detailed results are presented in the figure (Figure 2) below.

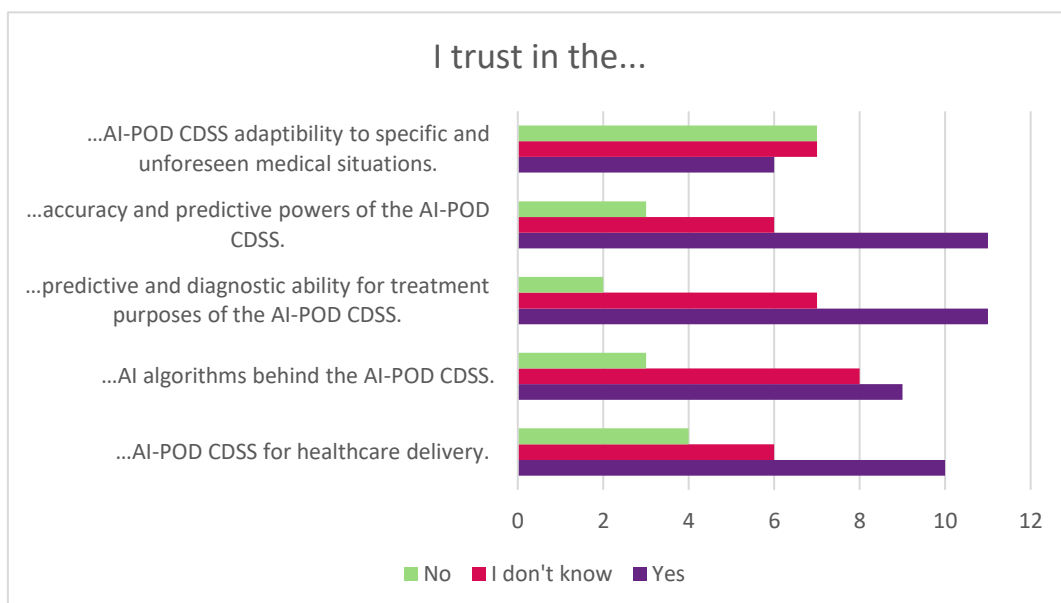


Figure 2. Perceived mistrust in the AI-POD CDSS





In addition, most participants indicated that the use of the AI-POD CDSS could pose a risk of reduced interaction between healthcare professionals and patients, as reflected in several items addressing communication.

Finally, with regard to **liability and responsibility**, an overwhelming majority of participants expressed **concerns** across multiple related aspects.

This discussion is based mainly on the findings of **Goossens et al. (2025)** and integrated insights from both the **interview** study and the complementary **survey**. Although the survey sample was modest and the exclusion of consortium members cannot be guaranteed – potentially introducing positive bias – it provides indicative insights that enrich and contextualize the qualitative findings. Notably, the patients who responded to the survey were not currently enrolled in structured obesity follow-up care. Rather than constituting a limitation in itself, this may highlight an important opportunity: **individuals not actively engaged in clinical follow-up** could represent a **particularly relevant target population for AI-POD**. Digital, preventive tools may offer added value for people who are currently outside routine care pathways yet remain at elevated cardiovascular risk. This perspective also helps contextualize certain survey findings, such as the limited reporting of communication barriers, as these respondents may not be navigating ongoing clinical interactions. The relatively small number of respondents should be interpreted cautiously; however, limited participation may also reflect the broader sensitivities and stigma associated with obesity, as well as practical recruitment constraints. These considerations will inform future stakeholder engagement and data collection strategies within the project.

4. DISCUSSION

4.1 PREDICTIVE VALUE AND MULTIMODAL INTEGRATION

Stakeholders considered AI-POD promising, particularly due to its **capacity to combine heterogeneous data sources** and support more personalized risk prediction. This **multimodal** design was perceived as having potential to improve accuracy, including for populations that may be underrepresented in traditional cardiovascular risk models. However, support was conditional. **Trust** depended on demonstrated **clinical validity and performance, transparency and explainability of the outputs and a clear positioning as decision-support tools that complement rather than replace clinical expertise**. These findings are supported by our survey and are consistent with the Technology Acceptance Model (TAM) (15).

Practical challenges were reported with regards to **lifestyle data collection**. While there is evidence to suggest that digital tools may improve dietary reporting compared to tradition recall-based methods, high user input burden risks limiting sustained engagement (16). **Automation** and **passive data capture**, such as image-based food recognition or integration of supermarket purchasing data - were therefore identified as important design priorities. However, both options face technical and ethical limitations (17,18).

4.2 RISK COMMUNICATION AND PATIENT IMPACT

Stakeholders agreed that personalized risk information could **increase awareness** and potentially **motivate behaviour change**. However, they also **highlighted risks of anxiety, disengagement, or misinterpretation** if risk scores are not carefully contextualized. **Effective implementation** will therefore require clear and accessible communication formats, context-sensitive framing of risk and active involvement of healthcare professionals in interpretation.

The **preventive** context was believed to pose an additional challenge: in the absence of symptoms, individuals may perceive **limited urgency to act**. According to Schulberg et al., visual and tangible formats, such as imaging-based feedback, are considered more impactful in this situation than abstract percentages (19). At the same time, **sustained motivation** may be difficult when **benefits** are **long-term** and not immediately





observable. Interestingly, **communication barriers** were **not strongly emphasized** in the survey. This may partly be explained by the limited number of patient respondents and the fact that none were currently undergoing structured obesity follow-up. As such, the survey may not have fully captured the experiences of individuals actively engaged in obesity care, who might face different communication challenges. Future research should therefore explore risk communication preferences specifically within these different populations.

4.3 DIGITAL ACCESS AND HEALTH LITERACY

Concerns regarding **equity and inclusion** were prominent across **both data sources**. Stakeholders emphasized that **digital literacy, socioeconomic status, and smartphone self-efficacy** will strongly influence adoption of the citizen-facing tool. These determinants directly align with the TAM, where perceived ease of use and user self-efficacy shape behavioural intention (15). Although smartphone ownership continues to rise globally, **disparities in digital engagement persist**—particularly among groups disproportionately affected by obesity and lower socioeconomic status (20–24). Participants noted that **high input burden** and **delayed preventive benefits** may disproportionately discourage individuals with **lower digital confidence**. **Simplifying user interfaces, integrating automated data capture, and incorporating short-term motivational feedback mechanisms could enhance perceived ease of use and engagement.**

4.4 CLINICAL INTEGRATION AND LONG-TERM ENGAGEMENT

Sustained engagement among both patients and healthcare professionals was identified as critical for real-world impact. Digital health applications frequently experience declining usage over time, particularly when preventive benefits are not immediately visible. This challenge is compounded when tools operate outside established clinical workflows.

Successful implementation of AI-POD will depend on **integration into existing care pathways, interoperability with electronic health systems, alignment with clinical guidelines, and minimization of duplication across digital platforms**. General practitioners were frequently identified as a key integration point, given their gatekeeping role in many healthcare systems. However, complementary outreach strategies will be needed to reach high-risk individuals who do not regularly access primary care.

Early and continuous co-creation with end-users emerged as a cross-cutting requirement. **The participatory approach adopted in this study proved valuable in identifying technical, socio-ethical, and practical barriers prior to large-scale implementation. Embedding co-creation structurally within further development phases may enhance trust, usability, and long-term adoption.**

4.5 LIMITATIONS

Despite offering a broad overview of stakeholder perspectives, the studies discussed in this deliverable have several limitations. Recruitment for the interview study relied largely on consortium and professional networks, leading to a predominance of participants based in Belgium. In addition, certain stakeholder groups were not represented, as the focus was primarily on individuals likely to be end-users of the tools or those with relevant experience in the development of similar technologies. As a result, other relevant stakeholders who may not be direct end-users were not included in this phase of the research, although their perspectives will be considered in subsequent work (D5.3 – ethical report). Interviews were conducted in Dutch, French, and English, which may have limited participation from other linguistic groups. Furthermore, the study was exploratory in nature and did not aim to achieve full data saturation; the findings should therefore be interpreted as indicative rather than representative.

The survey component is subject to additional limitations. The relatively small number of respondents precludes statistical inference or generalization. As such, the survey findings should be interpreted descriptively and as complementary to the qualitative results, rather than as quantitatively representative.





5. IMPLICATIONS FOR AI-POD & HORIZON EUROPE

Our findings offer important insights for the refinement and responsible implementation of the AI-POD tools in clinical practice. Critical considerations include enhancing predictive performance while preserving model explainability, reducing user burden, designing effective risk communication strategies, addressing disparities in digital access and health literacy, and ensuring seamless integration within existing healthcare systems. Early and continuous stakeholder involvement allows potential challenges to be identified and mitigated in advance, improving user alignment and cost-efficiency. By ensuring that technologies are designed with and for end users, such policies would enhance the likelihood of successful implementation, adoption, and equitable benefit realization across European healthcare systems.

The findings of this stakeholder study demonstrate that the AI-POD project is well-positioned to contribute to Horizon Europe's objectives of advancing personalized, digital, and equitable healthcare. By integrating multimodal data (clinical, imaging, laboratory, lifestyle), the AI-POD tools promise to deliver more accurate and individualized cardiovascular risk prediction for people living with obesity—a population at high risk of vascular disease but often underserved by existing predictive models. This innovation supports the EU's priority of fostering data-driven, preventive medicine. At the same time, the study highlights critical challenges that must be addressed to ensure responsible and impactful deployment. These include the risk of reinforcing health inequalities due to differences in digital literacy, socioeconomic status, or access to compatible devices; potential algorithmic biases related to gender, ethnicity, or socioeconomic background; and the need for transparent and explainable AI models to build trust among patients and healthcare professionals. Addressing these issues directly aligns with Horizon Europe's cross-cutting emphasis on trustworthy, ethical, and human-centric AI. The stakeholder insights also underline the importance of sustained patient engagement and integration into clinical workflows, ensuring that digital solutions complement rather than replace human care. This reflects EU policy goals to strengthen health system resilience, promote inclusive digital transformation, and ensure that innovations benefit all citizens, not only digitally literate or higher-income groups. By explicitly considering these challenges during development and implementation, AI-POD can serve as a model for how EU-funded digital health projects translate cutting-edge AI into real-world, socially responsible, and scalable healthcare solutions.

6. DISSEMINATION

The dissemination of the project's research results has been actively pursued through both academic publications and conference presentations. An article detailing key findings has been published in *Frontiers in Public Health*, ensuring open-access availability to a broad scientific and policy-oriented audience. In addition, results from the interview study have been presented at several relevant venues, including a poster presentation at the Leuven.AI conference, as well as oral presentations at the Ethics@KULeuven symposium and the AI-POD session during ECR 2026. These dissemination activities have facilitated engagement with interdisciplinary audiences, fostering dialogue with experts in artificial intelligence, ethics, and healthcare, and contributing to the visibility and impact of the project's outcomes.





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8. APPENDICES

8.1 INTERVIEW GUIDE

Introduction:

- Overview of important elements from the informed consent form (e.g. audio- and/or video-recording, right to withdraw, voluntary participation...)
- Introduction on the AI-POD project: verbal or video (https://www.youtube.com/watch?v=fVA_qe5VAUw&t=128s)

Introductory questions:

- AI:
 - Personal definition of AI
 - Use of AI in daily / professional life
- Health monitoring:
 - Personal use of health monitoring
 - Perception of health monitoring experience of patients with obesity

Key questions:

- AI-POD tools:
 - Overall attitude towards the AI-POD tools
 - Attitude towards / perspectives on risk scoring in the population of patients with obesity
 - Advantages / benefits ⇔ disadvantages
 - Concerns
 - Other benefits
 - AI-POD clinical decision support system (CDSS)
 - AI-POD citizen-facing mobile health application
 - Other concerns
 - AI-POD clinical decision support system (CDSS)
 - AI-POD citizen-facing mobile health application
 - Development challenges
 - AI-POD clinical decision support system (CDSS)
 - AI-POD citizen-facing mobile health application
 - ➔ Probing questions: bias? data quality / quantity?...
 - Implementation challenges
 - AI-POD clinical decision support system (CDSS)
 - AI-POD citizen-facing mobile health application
 - ➔ Probing questions: adoption? access?



Closing questions:

- Most important message
- Anything not discussed?

8.2 QUESTIONNAIRE (ENGLISH VERSION)

Welcome to the AI-POD survey!

Thank you for your time and interest in this study.

What is the study about?

Within the AI-POD project we foresee to develop a clinical decision support tool. To ensure a responsible development of this tool we would like to assess perceived benefits, perceived risks and the intention to use this AI-based tool among potential end-users of the clinical decision support system (CDSS).

When can you participate?

You can participate when you:

1. you are a health care professionals that is involved in the prevention, management and treatment decisions of individuals living with obesity.
2. able to provide informed consent
3. able to read & understand Dutch, French, English or German

Voluntary participation

Your participation in this study is completely voluntary. You are free to choose whether or not to take part, and you may withdraw from the study at any time without any penalty or disadvantage.

Is my privacy guaranteed?

Yes, this survey is anonymous. More information about the study and your privacy can be found [HERE](#).

How long does it take to complete the survey?

The survey takes approximately 5 to 10 minutes.

Who is performing this study?

This study is guided by Prof. Pascal Borry (pascal.borry@kuleuven.be) and Dr. Eva Van Steijvoort (eva.vansteijvoort@kuleuven.be) (KU Leuven, Belgium).

Do you want more information about the AI-POD project?

Have a look at the project's website: <https://ai-pod.eu/>



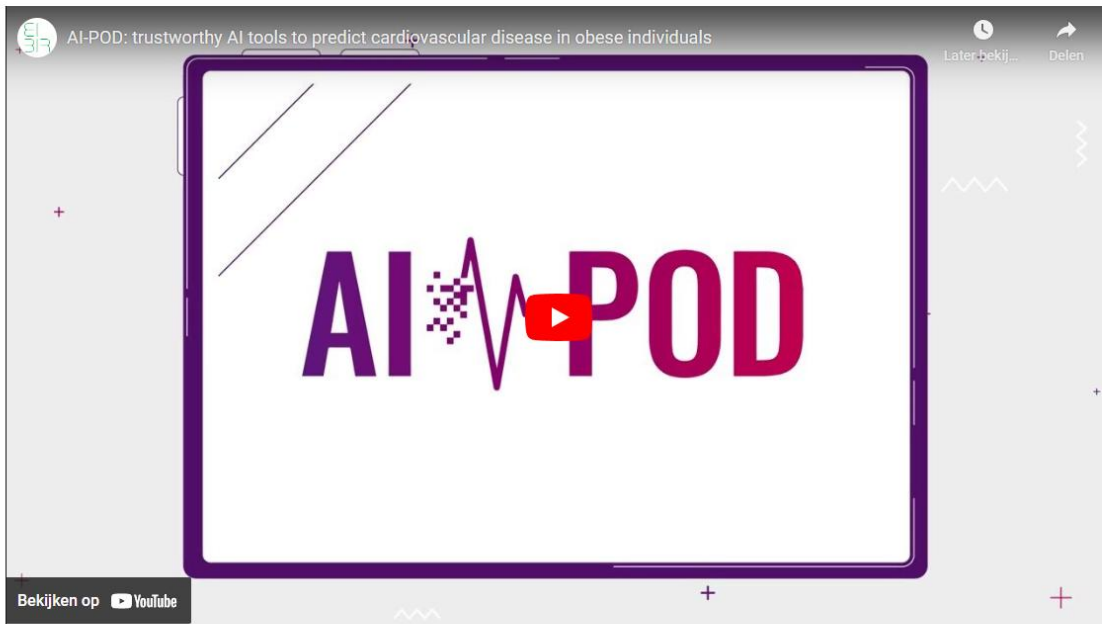


I hereby confirm that I give permission to participate in the research mentioned above.

- Yes
- No

We would like to ask you to watch the following video (2min) prior to fill out the questionnaire:

WATCH OUR SHORT VIDEO INTRODUCING THE PROJECT



Socio-demographic

SD1. To which gender identity do you most identify?

- Man
- Woman
- Non-binary
- I prefer not to answer.

SD2. How old are you?

...

SD3. What is your country of residence?

...

SD4. What is your profession?

...

SD5. Are you involved in the prevention, management and/or treatment decisions of individuals living with obesity?

- Yes
- No

Experience with AI

E1. Have you ever used any AI-driven services or devices?

- Yes
- No
- I don't know

E2. Have you ever used any AI-driven services or devices for medical purposes?





- Yes
 - No
 - I don't know
- E3. Have you ever experienced a data breach incident (e.g. data loss, including personal, health or financial information)?
- Yes
 - No
 - I don't know

Intention to use AI-based tools

- INT1. Using the AI-POD CDSS is something that I would consider.
- Yes
 - No
 - I don't know
- INT2. I would like to use the AI-pod CDSS to manage the healthcare of my patients.
- Yes
 - No
 - I don't know
- INT3. In the future, I am willing to use the AI-pod CDSS for diagnostics and treatments.
- Yes
 - No
 - I don't know
- INT4. I am very likely to use recommendations provided by the AI-pod CDSS for care planning.
- Yes
 - No
 - I don't know

Perceived benefits

- PB1. I believe the AI-pod CDSS can improve diagnostics.
- Yes
 - No
 - I don't know
- PB2. I think the AI-pod CDSS can improve the precision of prognosis.
- Yes
 - No
 - I don't know
- PB3. I believe the AI-pod CDSS can advance the patient management system.
- Yes
 - No
 - I don't know
- PB4. I believe the AI-pod CDSS can suggest accurate care planning.
- Yes
 - No
 - I don't know
- PB5. I think the AI-pod CDSS can recommend reliable treatment options.
- Yes
 - No
 - I don't know
- PB6. I think the AI-pod CDSS can reduce healthcare costs.
- Yes
 - No
 - I don't know
- PB7. Overall, I think the AI-pod CDSS can boost healthcare outcomes.
- Yes





- No
- I don't know

Perceived risks (5pt likert scale – very low to very high)

PR1.	The risk of using the AI-pod CDSS for medical purposes is									
Very low	1	-	2	-	3	-	4	-	5	Very high
PR2.	The degree of uncertainty associated with the use of the AI-pod CDSS is									
Very low	1	-	2	-	3	-	4	-	5	Very high
PR3.	The potential loss associated with the use the AI-pod CDSS is									
Very low	1	-	2	-	3	-	4	-	5	Very high
PR4.	The likelihood of unexpected problems with the use of the AI-pod CDSS is									
Very low	1	-	2	-	3	-	4	-	5	Very high
PR5.	Overall, the chance of adverse consequences associated with the use of the AI-pod CDSS for healthcare purposes is									
Very low	1	-	2	-	3	-	4	-	5	Very high

Perceived performance anxiety

- PA1. I am concerned that the mechanisms used by the AI-pod CDSS may lead to inaccurate predictions.
- Yes
 - No
 - I don't know
- PA2. I am concerned that the mechanisms used by the AI-pod CDSS may result in medical errors.
- Yes
 - No
 - I don't know
- PA3. I am concerned that treatments provided by the AI-pod CDSS may be incomplete.
- Yes
 - No
 - I don't know
- PA4. I am concerned that the predictive models of the AI-pod CDSS may malfunction.
- Yes
 - No
 - I don't know
- PA5. I am concerned that the medical decisions made by the AI-pod CDSS may be inadequate.
- Yes
 - No
 - I don't know

Perceived social biases

- PSB1. I am concerned that the AI-pod CDSS may overestimate or underestimate health risks in a certain patient population (e.g. people with insufficient data in AI datasets).
- Yes
 - No
 - I don't know
- PSB2. I am concerned that data used in the AI-pod CDSS may lead to societal discrimination to a certain patient group (e.g. minority groups).
- Yes
 - No
 - I don't know





- PSB3. I am concerned that the use of the AI-pod CDSS may be unfair to a certain group of the population (e.g. people with poor access to health care).
- Yes
 - No
 - I don't know
- PSB4. I am concerned that the AI-pod CDSS could lead to morally flawed practices in health care.
- Yes
 - No
 - I don't know
- PSB5. Overall, I am concerned that the possibility of biases by the AI-pod CDSS to certain groups of the population is high.
- Yes
 - No
 - I don't know

Perceived privacy concerns

- PPC1. I think using the AI-pod CDSS helps health care entities collect too much personal information from patients.
- Yes
 - No
 - I don't know
- PPC2. I think in this case, I am concerned that health care entities will use health information of patients for other purposes without their knowledge and authorization.
- Yes
 - No
 - I don't know
- PPC3. In this case, I am concerned that the health information of patients will be shared with other entities without their explicit consent.
- Yes
 - No
 - I don't know
- PPC4. In this case, I am concerned that unauthorized people will have access to the health information of patients.
- Yes
 - No
 - I don't know
- PPC5. In this case, I am concerned about the privacy of health information of patients during AI-based health practices.
- Yes
 - No
 - I don't know
- PPC6. In this case, I am concerned the health information of patients would be sold to others without their permission.
- Yes
 - No
 - I don't know

Perceived mistrust in AI mechanisms

- PM1. I trust in the AI-pod CDSS for healthcare delivery.
- Yes





- No
 - I don't know
- PM2. I trust in the AI algorithms behind the AI-pod CDSS.
- Yes
 - No
 - I don't know
- PM3. I trust in the predictive and diagnostic ability for treatment purposes of the AI-pod CDSS.
- Yes
 - No
 - I don't know
- PM4. I trust in the accuracy and predictive powers of the AI-pod CDSS.
- Yes
 - No
 - I don't know
- PM5. I trust that the AI-pod CDSS can adapt to specific and unforeseen medical situations.
- Yes
 - No
 - I don't know

Perceived communication barriers

- PCB1. I am concerned that the AI-POD CDSS may eliminate the contact between healthcare professionals and patients.
- Yes
 - No
 - I don't know
- PCB2. I am concerned that the AI-POD CDSS may reduce conversation between physicians and patients.
- Yes
 - No
 - I don't know
- PCB3. I am concerned that the AI-POD CDSS may decrease human- aspects of relations in the medical contexts.
- Yes
 - No
 - I don't know
- PCB4. I am concerned that by using the AI-POD CDSS, I may lose face-to-face cues and personal interactions with patients.
- Yes
 - No
 - I don't know
- PCB5. I am concerned that by using the AI-POD CDSS, I may be in a more passive position for making medical decisions.
- Yes
 - No
 - I don't know

Perceived unregulated standard

- PUS1. I am concerned that special policies and guidelines for AI tools are not transparent yet.
- Yes
 - No
 - I don't know





- PUS2. I am concerned that the safety and efficacy of AI medical tools are not regulated clearly.
- Yes
 - No
 - I don't know
- PUS3. I am concerned that regulatory standards to assess AI algorithmic safety are yet to be formalized.
- Yes
 - No
 - I don't know
- PUS4. I am concerned that appropriate regulatory and accreditation system regarding AI-based devices is not in place yet.
- Yes
 - No
 - I don't know
- PUS5. I am concerned about the lack of clear guidelines to monitor the performance of AI tools in the medical context.
- Yes
 - No
 - I don't know

Perceived liability issues

- PLI1. I am concerned because it is not clear who is responsible when errors result from the use of the AI-POD CDSS.
- Yes
 - No
 - I don't know
- PLI2. I am concerned about the liability of using the AI-POD CDSS for the healthcare of my patients.
- Yes
 - No
 - I don't know
- PLI3. I am concerned because it is not clear who becomes responsible if the AI-POD CDSS offers wrong recommendations.
- Yes
 - No
 - I don't know
- PLI4. I am concerned because it is unclear where the lines of responsibility begin or end when the AI-POD CDSS guides clinical care.
- Yes
 - No
 - I don't know
- PLI5. I am concerned because it is not clear who is responsible if appropriate treatment options the AI-POD CDSS provides are mistakenly being dismissed.
- Yes
 - No
 - I don't know
- PLI6. Overall, I am concerned that the use of the AI-POD CDSS for clinical purposes increases my liability.
- Yes
 - No
 - I don't know

