



ICSN2023
Cancer screening: in the present, the future

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Communication of breast cancer risk and a personalized screening protocol: experience within the MyPeBS Study

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The project

“My Personal Breast Screening”

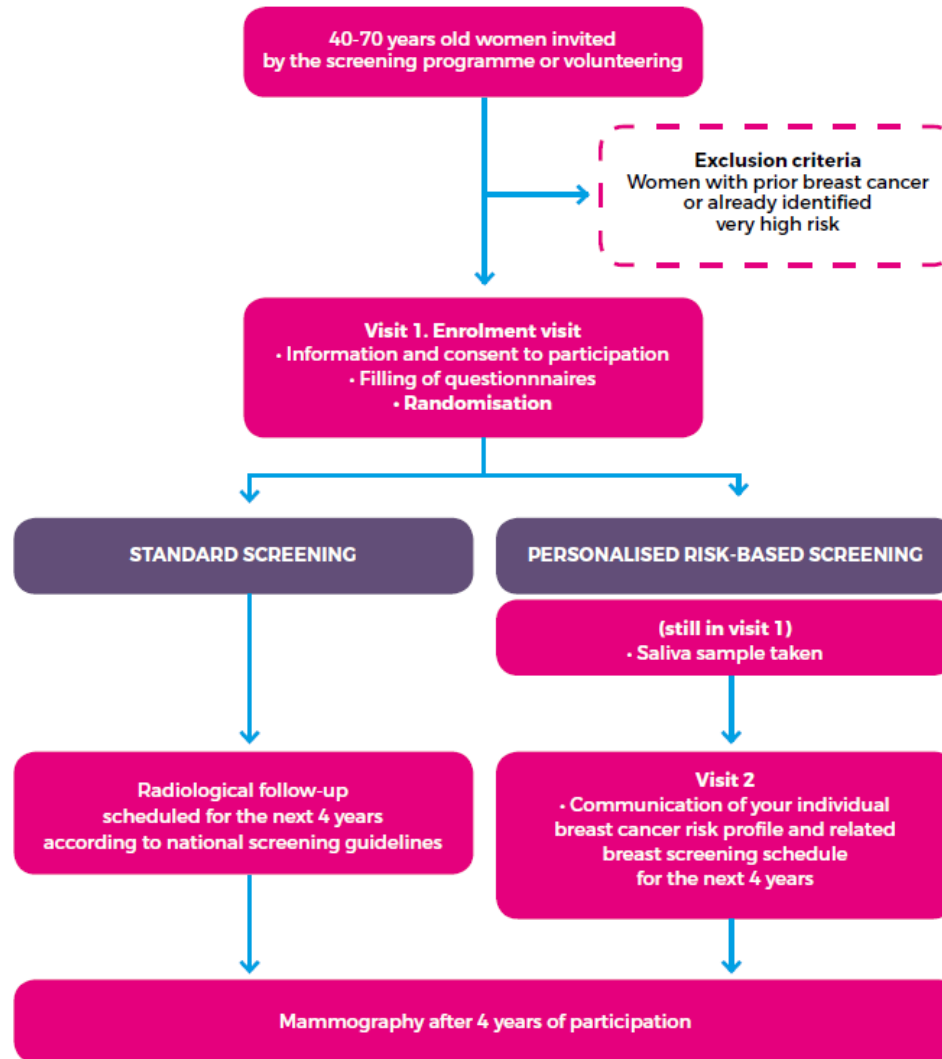
Randomized Comparison Of Risk-Stratified versus Standard Breast Cancer Screening In European Women Aged 40-70



- International, multicentric EC-funded RCT
 - Belgium, France, Israel, Italy, Spain, UK
 - Accrual target = **56.435 women**
 - Intention-to-treat analysis
 - Main endpoints:
 - **Non-inferiority** in terms of incidence rate of breast cancer of stage 2 and higher
 - **Superiority** if non-inferiority is shown
 - **Cost-effectiveness and acceptability**
- of risk-stratified breast cancer screening compared to standard screening



Trial flowchart





PERSONALISED RISK-BASED SCREENING

Personal risk scores are based on:

- Woman's age
- Family history of cancer
- Personal history of benign/non-cancerous disease and exposure to natural hormones (age of first period/menstrual cycle, pregnancy, age of menopause etc.)
- Medical hormones (hormone replacements treatments, the contraceptive pill etc.)
- Breast density score
- Genetic polymorphisms



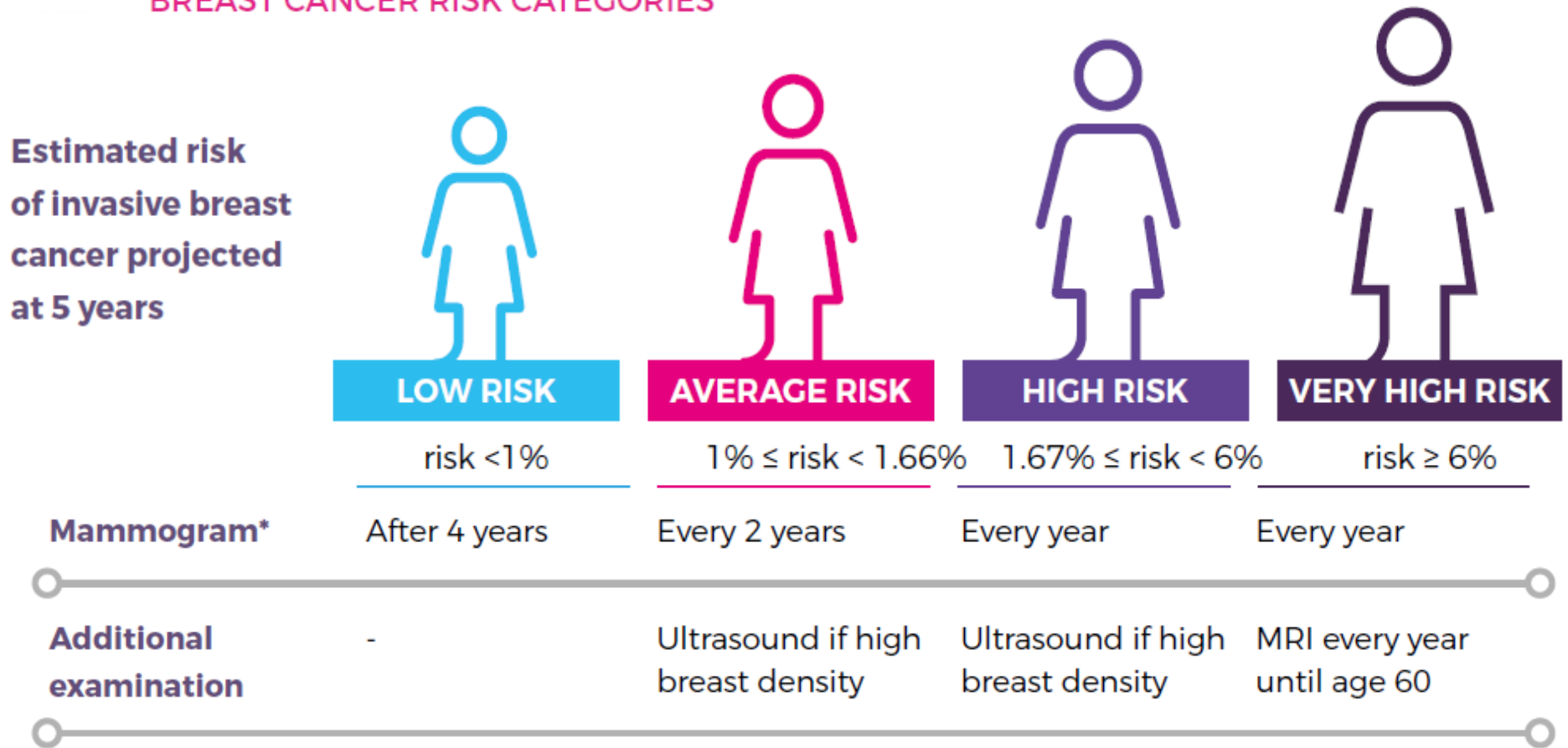
TYRER-CUZICK SCORE
for participants with a **family history** of BC

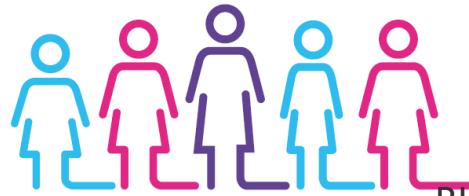
BCSC SCORE
for **general** screening population



Risk stratification and personalised protocols

BREAST CANCER RISK CATEGORIES



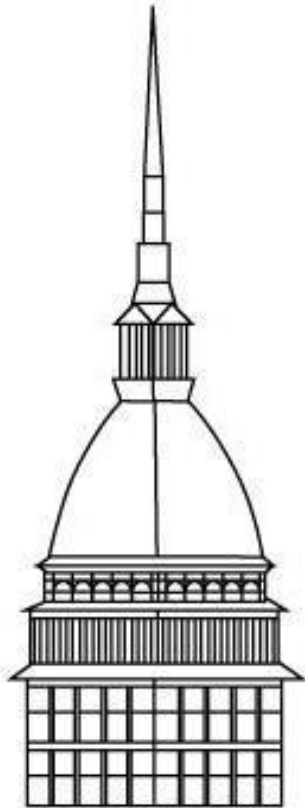
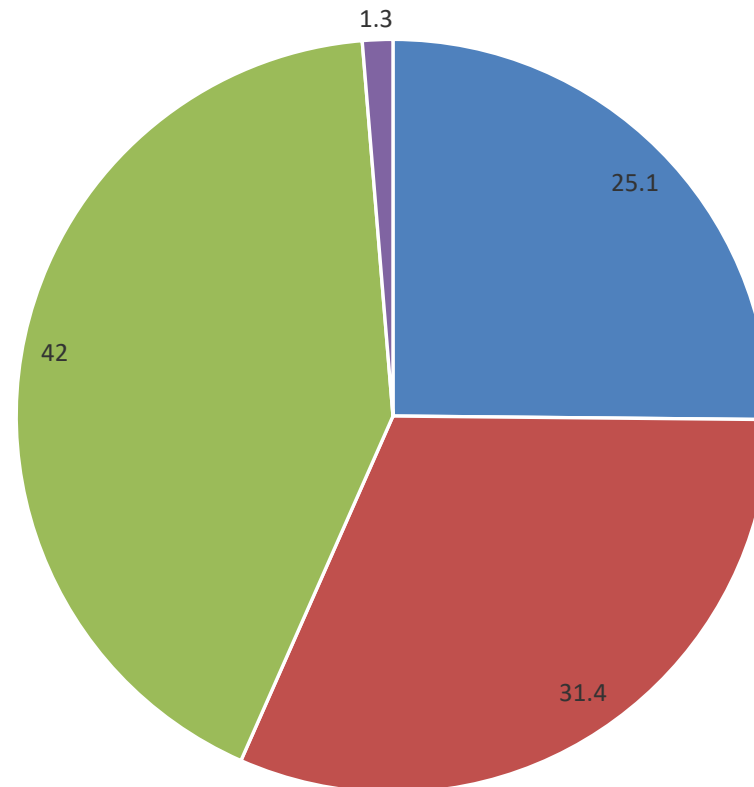


4,461 participants

2,080 in the risk-based arm

Data extraction 19/06/2023

RISK DISTRIBUTION



Communication of individual risk and screening schedule





Interactive, bi-directional process involving exchange of information and opinions related to benefits and risks



Aims at improving risk comprehension and **promoting informed choices**



Communication of **uncertain (statistical) data** is critical



- **Specific visit** dedicated to RC
- **Video-tutorial** distributed to all investigators as a part of the training programme
- **Individual risk sheet**
 - developed for helping women in understanding their risk condition and screening pathway
 - available on the participant's personal web account
 - delivered during the risk communication session



Individual risk sheet



Tube ID XXXXX

Name:

Personal Breast Cancer Risk Evaluation and Screening Programme

What is your breast cancer risk?

Compared to the average risk for women of your age, your breast cancer risk is



average

In this risk category, about **1 in 70 women** may develop breast cancer within the **next 5 years**.

What personalised screening programme is proposed for you?

	Mammogram	Ultrasound
Now (if not done)	✓	✓
Oct 2019		
Oct 2020	✓	✓
Oct 2021		
Oct 2022	✓	✓

Ultrasound only if high breast density (D)

Basis of your risk estimation: This estimation was done using information you provided in your questionnaires + your breast mammographic density + your saliva test result (Polygenic risk score)

✓ Is there anything you need to be aware of?

- It is important that you **update your personal data** on your personal MyPeBS portal [<http://portal.mypebs.eu>] every year so that we can reevaluate your risk if required and eventually update your personal program.
- And that you **remain breast cancer-aware**: please see a doctor if you identify something abnormal in one of your breasts (**color change, mass, change in shape, discharge, etc.**) [for more information: <https://ww5.komen.org/BreastCancer/WarningSigns.html>].

Is there anything you can do to reduce your risk?

Yes there are some things that you can do to reduce your risk of breast cancer:



Maintain a healthy body weight



Limit the amount of alcohol you drink



Eat a healthy diet with plenty of vegetables and fruits



Exercise regularly

Where can you get more information on risk reduction?

Institut National du cancer *[to be adapted to each country]*:
<http://www.e-cancer.fr/Comprendre-prevenir-depister/Reduire-les-risques-de-cancer>

You may find additional information on risk reduction measures on:
<https://cancer-code-europe.iarc.fr/index.php/fr/>

You also need to know...

If you want more detailed information on your risk estimation Please ask your investigator who will be able to provide more details .

If you think your risk estimate may need re-evaluation Please enter new data that may change your risk estimation (new cancer in your family, new data on a breast biopsy, etc.) into your personal MyPeBS portal [<http://portal.mypebs.eu>]. Your risk level will be re-estimated and a new sheet sent to you if your risk category has changed!

Queries about the MyPeBS study or result You will find information on your MyPeBS personal portal [<http://portal.mypebs.eu>]. For medical questions, please ask your MyPeBS investigator or personal physician.

If you have been diagnosed with breast cancer Please report this diagnosis in your personal MyPeBS portal. Being part of MyPeBS does not change your care.

For more information on MyPeBS trial and project www.mypebs.eu

Investigator / Center contacts



Individual risk sheet



Tube ID: XXXXX
Name: _____

Personal Breast Cancer Risk Evaluation and Screening Programme



Tube ID: XXXXX
Name: _____

What is your breast cancer risk?

Compared to the average risk for women of your age, your breast cancer risk is



high

In this risk category, around **1 in 35 women** may develop breast cancer within the next **5 years**.

What personalised programme is proposed for you?

	Mammogram
Now (if not done)	✓
Oct 2019	✓
Oct 2020	✓
Oct 2021	✓
Oct 2022	✓

Ultrasound only if high b

Basis of your risk estimation: This estimation was done using information from your questionnaires + your breast mammographic density + your saliva test result (Polygenic risk score)

✓ Is there anything you need to be aware of?

- It is important that you **update your personal data** on your personal MyPeBS portal (<http://portal.mypebs.eu>) every year so that we can reevaluate your risk and eventually update your personal program.
- And that you **remain breast cancer-aware**: please see a doctor if you identify something abnormal in one of your breasts (**color change, mass, change in shape, discharge, etc.**) [<https://ww5.komen.org/BreastCancer/WarningSigns.html>].

Personal Breast Cancer Risk Evaluation and Screening Programme



Tube ID: XXXXX
Name: _____

What is your breast cancer risk?

Compared to the average risk for women of your age, your breast cancer risk is



very high

In this risk category, **more than 1 in 17 women** may develop breast cancer within the next **5 years**.

What personalised screening programme is proposed for you?

	Mammogram
Now (if not done)	✓
Oct 2019	
Oct 2020	
Oct 2021	
Oct 2022	

A visit with a geneticist (genetic counselling)

Basis of your risk estimation: This estimation was done using information from your questionnaires + your breast mammographic density + your saliva test result (Polygenic risk score)

✓ Is there anything you need to be aware of?

- It is important that you **update your personal data** on your personal MyPeBS portal (<http://portal.mypebs.eu>) every year so that we can reevaluate your risk and eventually update your personal program.
- And that you **remain breast cancer-aware**: please see a doctor if you identify something abnormal in one of your breasts (**color change, mass, change in shape, discharge, etc.**) [<https://ww5.komen.org/BreastCancer/WarningSigns.html>].

* For you or a family member who had cancer. Your investigator will provide information and contacts for this visit.

Personal Breast Cancer Risk Evaluation and Screening Programme

What is your breast cancer risk?

Compared to the average risk for women of your age, your breast cancer risk is



low

In this risk category, **less than 1 in 120 women** may develop breast cancer within the next **5 years**.

What personalised screening programme is proposed for you?

	Mammogram
Now (if not done)	✓
Oct 2019	
Oct 2020	
Oct 2021	
Oct 2022	✓

Basis of your risk estimation: This estimation was done using information you provided in your questionnaires + your breast mammographic density + your saliva test result (Polygenic risk score)

✓ Is there anything you need to be aware of?

Your risk is low but you do not have no risk! You will not have a mammogram until 4 years after you joined the study but it **remains important**:

- That you **update your personal data** on your personal MyPeBS portal (<http://portal.mypebs.eu>) every year so that we can reevaluate your risk if required and eventually update your personal program.
- That you **remain breast cancer-aware**: please see a doctor if you identify something abnormal in one of your breasts (**color change, mass, change in shape, discharge, etc.**) [<https://ww5.komen.org/BreastCancer/WarningSigns.html>].



Individual

Frequency-based representation of risk

Risk-based screening schedule

Primary prevention recommendations

Country-specific information

Warning about breast awareness and update on relevant information

Instructions on the webplatform use

Tube
Name
Risk Evaluation and Screening Programme

What personalised screening programme is proposed for you?

	Mammogram	Ultrasound
Now (if not done)	✓	✓
Oct 2019		
Oct 2020	✓	✓
Oct 2021		
Oct 2022	✓	✓

Ultrasound only if high breast density (D)

Basis of your risk estimation was done using information you provided in your questionnaires + mammographic density + your saliva test result (Polygenic risk score)

- ✓ Is there anything you need to be aware of?
- It is important that you **update your personal data** on your personal MyPeBS portal [http://portal.mypebs.eu] every year so that we can reevaluate your risk if required and eventually update your personal program.
 - And that you **remain breast cancer-aware**: please see a doctor if you identify something abnormal in one of your breasts (**color change, mass, change in shape, discharge, etc.**) [for more information: https://ww5.komen.org/BreastCancer/WarningSigns.html].

Is there anything you can do to reduce your risk?

- Yes there are some things that you can do to reduce your risk:
- Maintain a healthy body weight
 - Eat a healthy diet with plenty of vegetables and fruits
 - Limit alcohol you drink
 - Exercise regularly

Where can you get more information on risk reduction?

Institut National du cancer [to be adapted to each country]:
<http://www.e-cancer.fr/Comprendre-prevenir-depister/Reduire-les-risques-de-cancer>

You may find additional information on risk reduction measures on:
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You also need to know

- If you want more detailed information on your risk estimation, please contact your investigator who will be able to provide more details.
- If you think your risk estimate may need re-evaluation (Please report any changes that may change your risk estimation (new cancer in your family, new data on genetic tests, biopsy, etc.) into your personal MyPeBS portal [http://portal.mypebs.eu]. Your risk level will be re-estimated and a new sheet sent to you if your risk category has changed).
- Queries about the MyPeBS study or result: You will find information on your MyPeBS personal portal [http://portal.mypebs.eu]. For medical questions, please ask your MyPeBS investigator or personal physician.
- If you have been diagnosed with breast cancer: Please report this diagnosis in your personal MyPeBS portal. Being part of MyPeBS does not change your care.
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Investigator / Center contacts



What we have observed

WOMEN AT HIGH RISK



- Feel **reassured** by a more intensive screening
- **Expectations** towards the high score (relatives with cancer, frequent recalls)

WOMEN AT LOW RISK

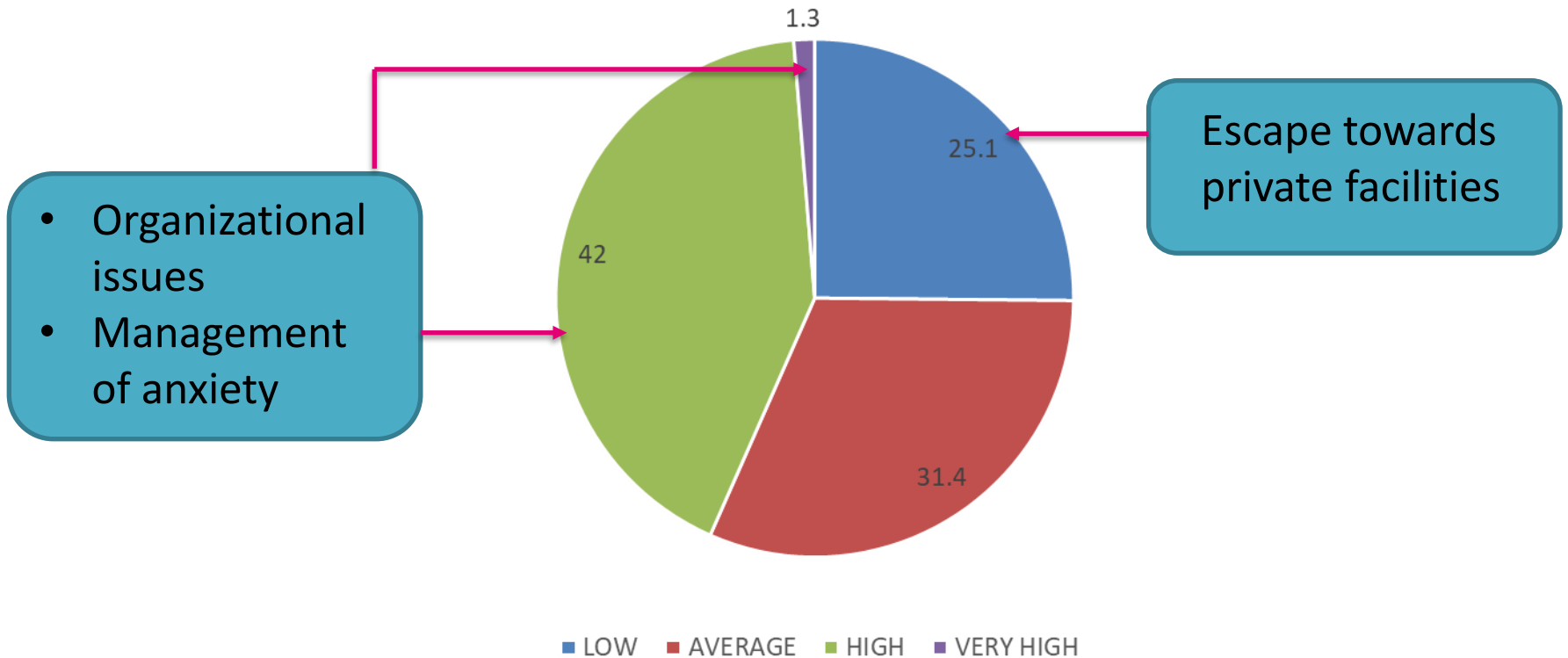


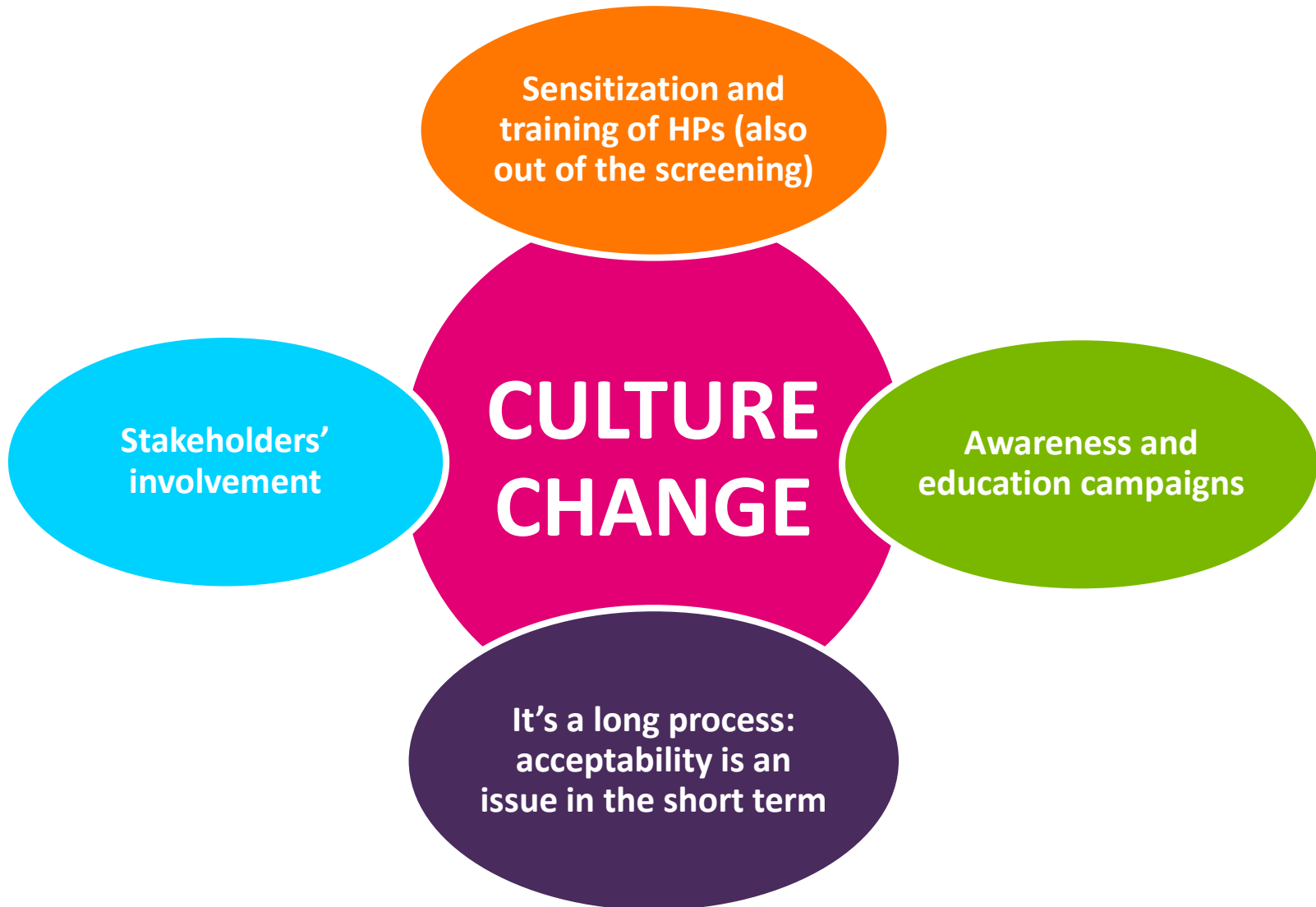
- **Insecurity** respect to the prolonged interval
- **Drop out** from the study (60% of withdrawn participants)
- Crucial to explain that **low risk doesn't mean «no risk»**



Critical points for possible implementation

RISK DISTRIBUTION







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Thank you for your attention!

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