

Where We Are With Prostate Cancer Screening Implementation in Europe?

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Research studies:

- “Prostate Cancer Awareness and Initiative for Screening in the European Union (PRAISE-U): pilot study” – investigator.
- “Evaluation of the sensitivity and specificity of testicular cancer diagnostics, treatment efficacy and prognosis using nucleic acids. The role of endocrine-disrupting chemicals in the development of testicular cancer (MIREND)” – investigator.
- “Patient-centred, evidence-based late effect screening and follow-up care of survivors of adolescent and young adult cancer, PanCare 4AYA (*Patient-centred, evidence-based late effect screening and follow-up care of survivors of adolescent and young adult cancer*)” – investigator.
- “Evaluation of the diagnostic accuracy, safety and patient satisfaction of prostate biopsy methods: a

prospective single-centre observational study (PRODIGY)” – investigator.

- “Retrospective and prospective urothelial carcinoma of the bladder single-centre study (FOLLOW-BC)” – investigator.

Affiliations:

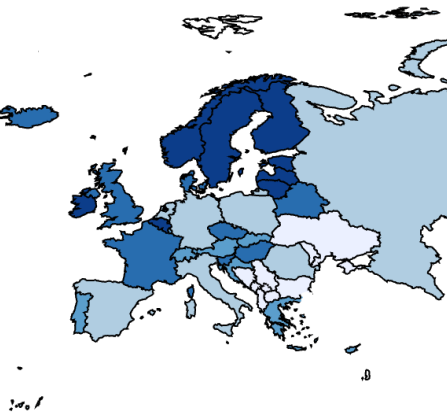
- Resident physician, Republican Vilnius University Hospital.
- Physician, National Cancer Institute, Vilnius University Hospital Santaros Klinikos branch.
- Junior researcher, National Cancer Institute.

Stakeholders:

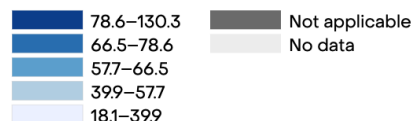
- N/A

Prostate Cancer in Europe

**Age-Standardized Rate (World)
per 100 000, Incidence, Males,
in 2024
Prostate**



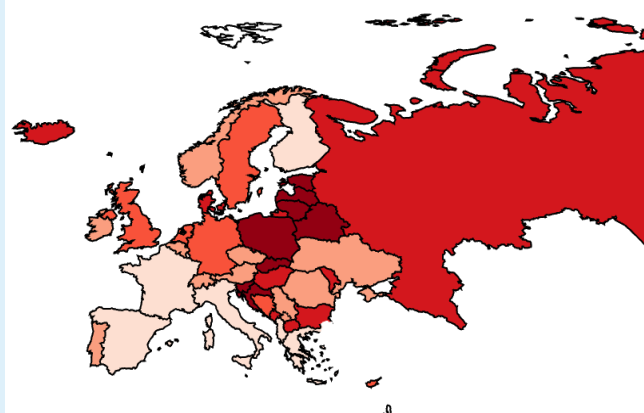
ASR (World) per 100 000



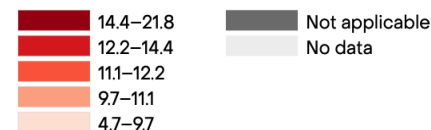
Population	Population	ASR (W)
Lithuania	Greece	59.3
Latvia	Cyprus	57.9
Estonia	Italy	57.8
Ireland	Spain	57.2
Norway	Poland	56.8
Sweden	The Netherlands	56.5
Belgium	Germany	51.8
Finland	Malta	48.9
France (metropo.)	Russian Federat.	43.1
Denmark	Romania	40.0
United Kingdom	Bulgaria	39.8
Iceland	Republic of Mol.	38.2
Slovenia	North Macedonia	37.3
Czechia	Serbia	36.0
Hungary	Montenegro	27.9
Belarus	Ukraine	27.5
Austria	Bosnia Herzegov.	27.4
Luxembourg	Albania	18.1
Switzerland		65.8
Croatia		64.0
Portugal		62.6
Slovakia		61.8

[1]

**Age-Standardized Rate (World)
per 100 000, Mortality, Males,
in 2024
Prostate**



ASR (World) per 100 000



Population	Population	ASR (W)
Latvia	Germany	11.2
Estonia	Czechia	11.1
Lithuania	Serbia	11.1
Croatia	Ukraine	11.1
Belarus	Austria	10.5
Slovenia	Romania	10.5
Poland	Portugal	10.3
Slovakia	Belgium	10.0
Iceland	Switzerland	9.9
Bulgaria	Ireland	9.8
Denmark	Norway	9.8
Republic of Mol.	Finland	9.6
Hungary	Greece	8.9
Montenegro	France (metropo.)	8.4
Russian Federat.	Luxembourg	8.3
North Macedonia	Spain	7.6
The Netherlands	Italy	6.9
Sweden	Malta	6.1
United Kingdom	Albania	4.7
Bosnia Herzegov.		11.9
Cyprus		11.5

[2]

- <https://gco.iarc.who.int/today/en/dataviz/maps-heatmap?mode=population&cancers=27&zoom=5>
- <https://gco.iarc.who.int/today/en/dataviz/maps-heatmap?mode=population&cancers=27&zoom=5&types=1>

History of Screening: from PSA Discovery to Controversial Recommendations

- **The PSA Revolution:** Widespread adoption since the 1980s has led to a sharp increase in early diagnoses and a 50% drop in mortality over 25 years.
- **Global Contradiction (2009):** Two landmark trials fractured global guidelines:
 - European ERSPC: Confirmed a 21% mortality reduction.
 - **US PLCO:** Reported no survival benefit whatsoever.
- **Critical Flaws (PLCO):** The US trial was flawed – ~50% of the control group underwent independent testing, and 40% had pre-screening bias.
- **The US Rejection (2012):** Relying on flawed PLCO data led to a negative Grade D recommendation, causing advanced-stage cases to rise.
- **The European Path:** Recognizing the PLCO flaws and relying on ERSPC evidence, Europe continued implementing organized screening [3-6].

3. Andriole, G. L., et al. (2009). Mortality results from a randomized prostate-cancer screening trial. *New England Journal of Medicine*, 360(13), 1310-1319.

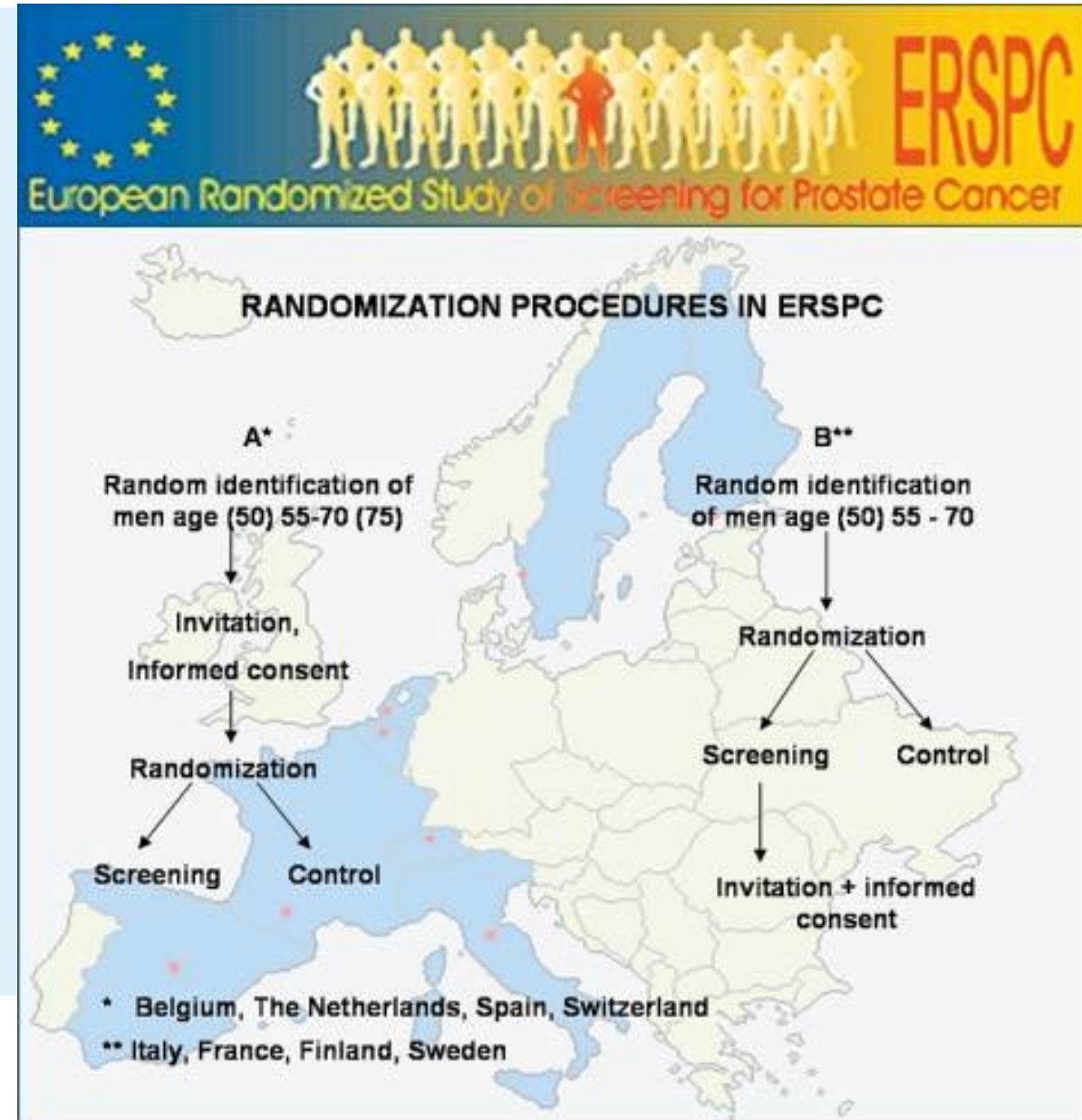
4. Schröder, F. H., et al. (2009). Screening and prostate-cancer mortality in a randomized European study. *New England Journal of Medicine*, 360(13), 1320-1328.

5. Shoag, J. E., et al. (2016). Screening for prostate cancer with prostate-specific antigen testing: contamination in the prostate, lung, colorectal, and ovarian cancer screening trial. *New England Journal of Medicine*, 374(18), 1785-1786.

6. Jemal, A., et al. (2020). Prostate cancer incidence and mortality trends in the United States: 2006–2015. *Journal of the National Cancer Institute*, 112(2), 200-207.

European ERSPC

- **Study Design (1993):** ERSPC enrolled 162,236 men (aged 55–69) across 8 European countries, randomized into screening and control groups.
- **13-Year Results:** Demonstrated a significant 21% reduction in mortality. To prevent one death, 781 men had to be invited (27 additional cases diagnosed), highlighting overdiagnosis.
- **23-Year Final Outcomes (2025):** Long-term follow-up confirmed a sustained 13% reduction in mortality. However, the protective effect declines after screening stops and nearly disappears within 9 years.
- **Future Strategy:** Early detection programmes must transition to a risk-based approach to minimize overdiagnosis while maintaining the mortality benefit [7-9].



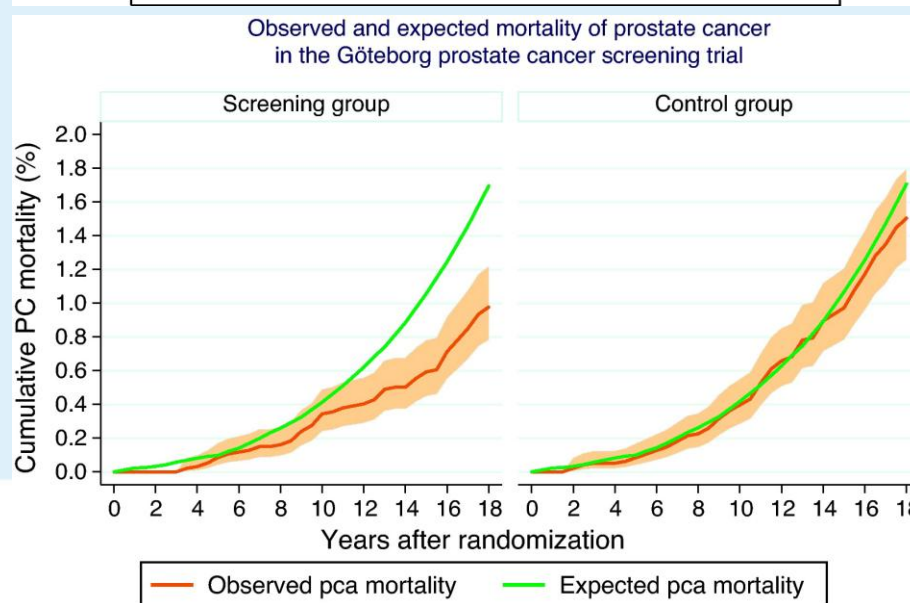
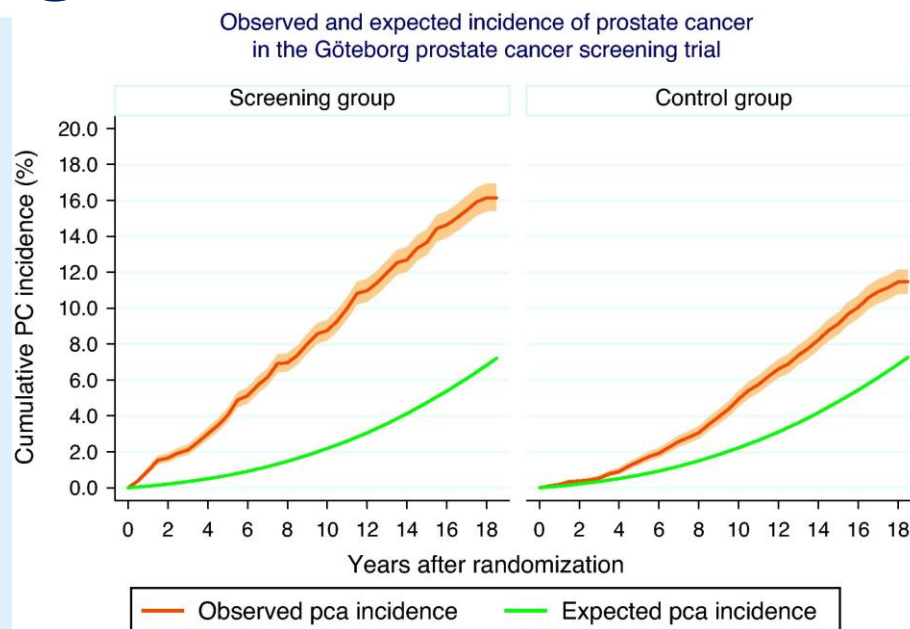
7. Hugosson J, Roobol MJ, Månsson M, et al. A 16-yr Follow-up of the European Randomized study of Screening for Prostate Cancer. *Eur Urol.* 2019;76(1):43-51. doi:10.1016/j.eururo.2019.02.009

8. Roobol MJ, de Vos II, Månsson M, et al. European Study of Prostate Cancer Screening - 23-Year Follow-up. *N Engl J Med.* 2025;393(17):1669-1680. doi:10.1056/NEJMoa2503223

9. Schröder FH, Hugosson J, Roobol MJ, et al. Screening and prostate-cancer mortality in a randomized European study. *N Engl J Med.* 2009;360(13):1320-1328. doi:10.1056/NEJMoa0810084

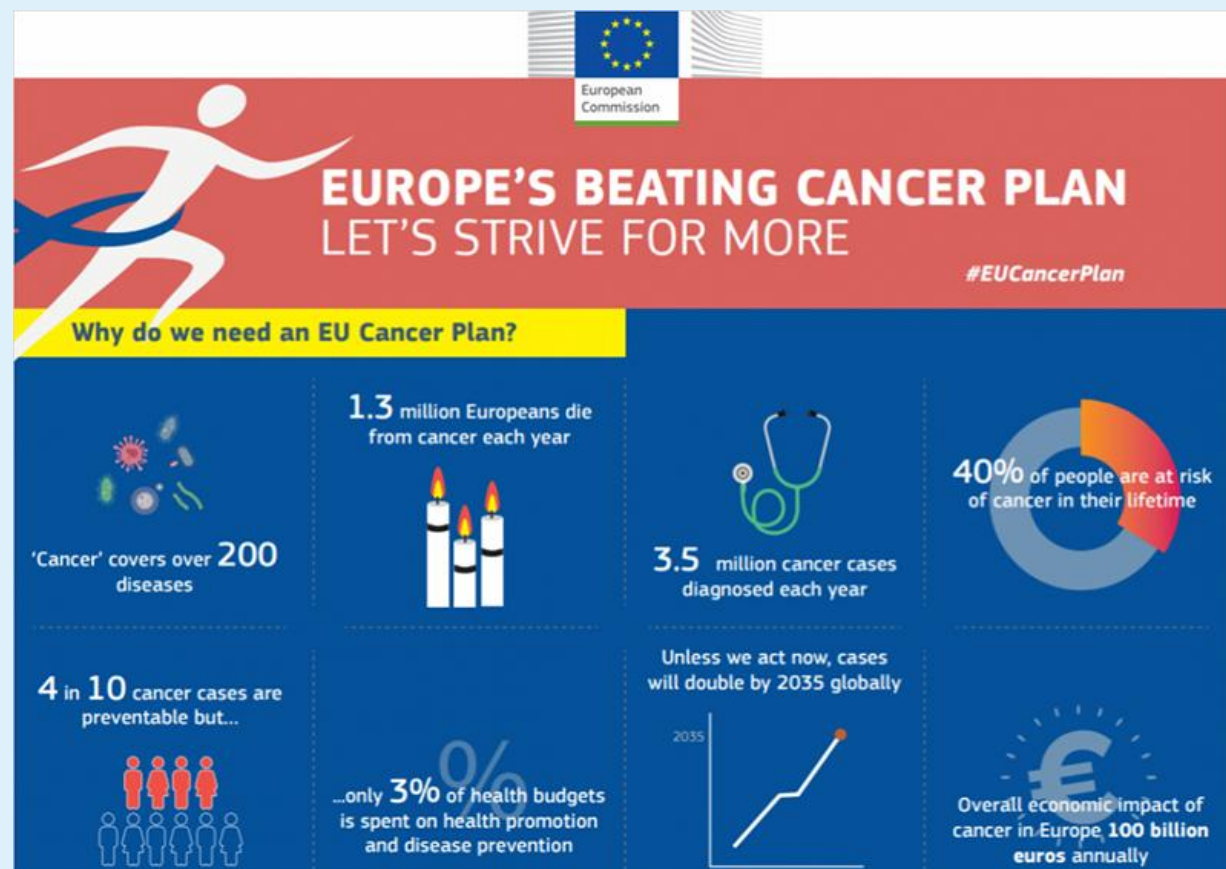
The Challenge: Uncoordinated (Opportunistic) Screening

- **Current Practice:** PSA testing is predominantly opportunistic, driven by individual clinician or patient initiative rather than organized programs.
- **The Overtreatment Burden:** This ad-hoc screening leads to substantial overdiagnosis and overtreatment of clinically insignificant prostate cancers.
- **Inequality in Access:** A significant proportion of high-benefit men remain unscreened, creating major healthcare gaps.
- **Systemic Gap:** Most EU member states currently lack an organized, risk-based early detection programme.
- **Policy Shift:** These combined challenges prompted the European Union to comprehensively revise its cancer screening recommendations.



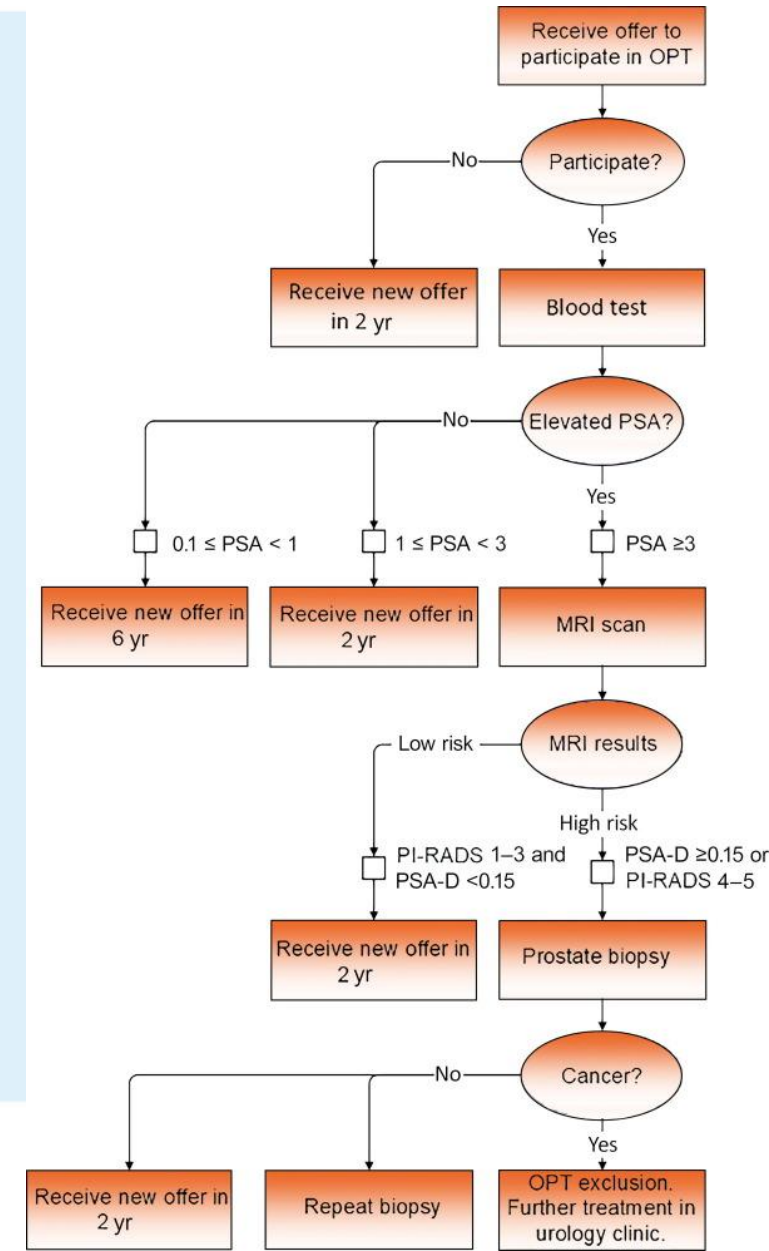
2022 Council of the European Union Recommendation: a New Approach

- **Policy Update (2022):** The Council of the EU updated its cancer screening recommendations.
- **Expanded Scope:** The revised recommendation expanded the list of targeted malignancies to include lung, gastric, and prostate cancers.
- **Mandate for Member States:** Countries are strongly encouraged to evaluate organized, risk-based prostate screening programmes. A structured two-step algorithm – PSA test followed by a mandatory MRI to guide biopsy indications.
- **Implementation Strategy:** Advised a stepwise approach, starting with pilot projects and research before full national scaling.
- **Financial Backing:** Supported by the EU4Health framework [12].



Case Study: Sweden's Organised Prostate Cancer Testing (OPT)

- **Programme Launch (2020):** Sweden introduced the Organised Prostate Cancer Testing (OPT) programme.
- **Current Status (2024):** Implemented in 16 out of 21 regions; ~256,000 men invited with a 43% participation rate.
- **Target Group & Governance:** Men aged 50-74; centrally coordinated by a national working group with data stored in the SweOPT registry.
- **Core Concept:** An "organized informed choice" model – providing objective info on benefits and risks before the PSA test.
- **Clinical Pathway:** $\text{PSA} \geq 3 \text{ ng/ml} \rightarrow \text{MRI} \rightarrow \text{targeted biopsy}$ (integrating MRI has reduced biopsies by half).
- **Implementation Gaps:** The main remaining challenges are strictly organizational and communicative rather than clinical [13-14].

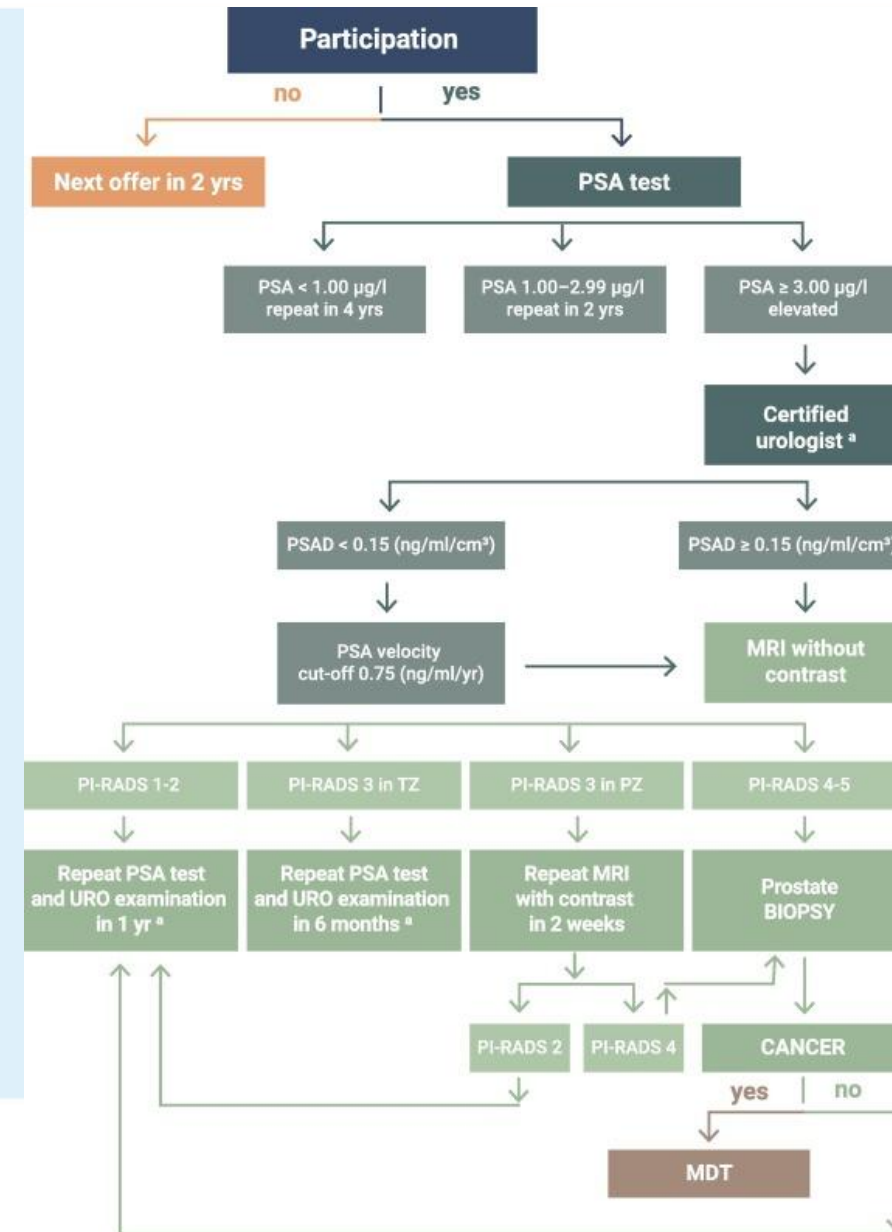


13. Bratt O, Butt ST, Carlsson C, et al. Swedish regional population-based organised prostate cancer testing: why, what and how?. *Scand J Urol*. 2025;60:97-104. Published 2025 Jun 3. doi:10.2340/sju.v60.43809

14. Bratt O, Godtman RA, Jiborn T, et al. Population-based Organised Prostate Cancer Testing: Results from the First Invitation of 50-year-old Men. *Eur Urol*. 2024;85(3):207-214. doi:10.1016/j.eururo.2023.11.013

Case Study: Czech Republic's National Screening Pilot

- **Programme Concept:** A national, public insurance-funded programme for men aged 50–69 via family physicians (partnered with PRAISE-U).
- **Phase I Scope (12 Mos):** Offered to ~150,500 men; 97.1% PSA uptake (PSA ≥ 3 ng/ml detected in 8.8% of men).
- **Clinical Pathway:** PSA risk stratification + MRI-directed biopsy (PI-RADS); 67.2% of elevated PSA patients reached a urologist within 6 months.
- **2023–2024 Dynamics:** 2-year PSA coverage rose from 47.4% to 53.3%; pre-biopsy MRI use grew from 28.0% to 38.3%.
- **Key Takeaway:** The first Central European evaluation showing that opportunistic screening can be transformed into an organized programme [15].



- **Unique Historical Status:** The only continuously operating, nationwide, PSA-based screening programme in the world, launched in 2006.
- **Target Population:** Men aged 50–74 (from age 45 if there is a significant family history).
- **Funding Model:** Fully funded by the NHIF, ensuring universal, free access for all eligible citizens.
- **Evolution of the Algorithm:**
 - 2006–2008:** Annual PSA testing; if $\text{PSA} \geq 3 \text{ ng/ml}$ → urologist referral for biopsy evaluation;
 - Since 2009–2010:** Screening interval extended to 2 years to mitigate overdiagnosis and clinical harm.
- **Structural Limitation:** Opportunistic basis rather than through a centralized, coordinated national system [13].


VALSTYBINĖ LIGONIŲ KASA
PRIE SVEIKATOS APSAUGOS MINISTERIJOS

Prostatos vėžio prevencinė programa

- **Kam skirta?**
Vyrams nuo 50 iki 69 m. imtinai, o jei šia liga sirgo tėvas ar broliai – nuo 45 m.
- **Į ką reikia kreiptis?**
Į šeimos gydytoją.
- **Ar reikia mokėti?**
Už šią paslaugą mokėti nereikia.
- **Kas kiek laiko reikia pasitikrinti?**
Po pirmo patikrinimo kito apsilankymo datą paskirs šeimos gydytojas.

Daugiau informacijos ligoniukasa.lrv.lt






/ Valstybinė ligonių kasa

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Daugiau informacijos →

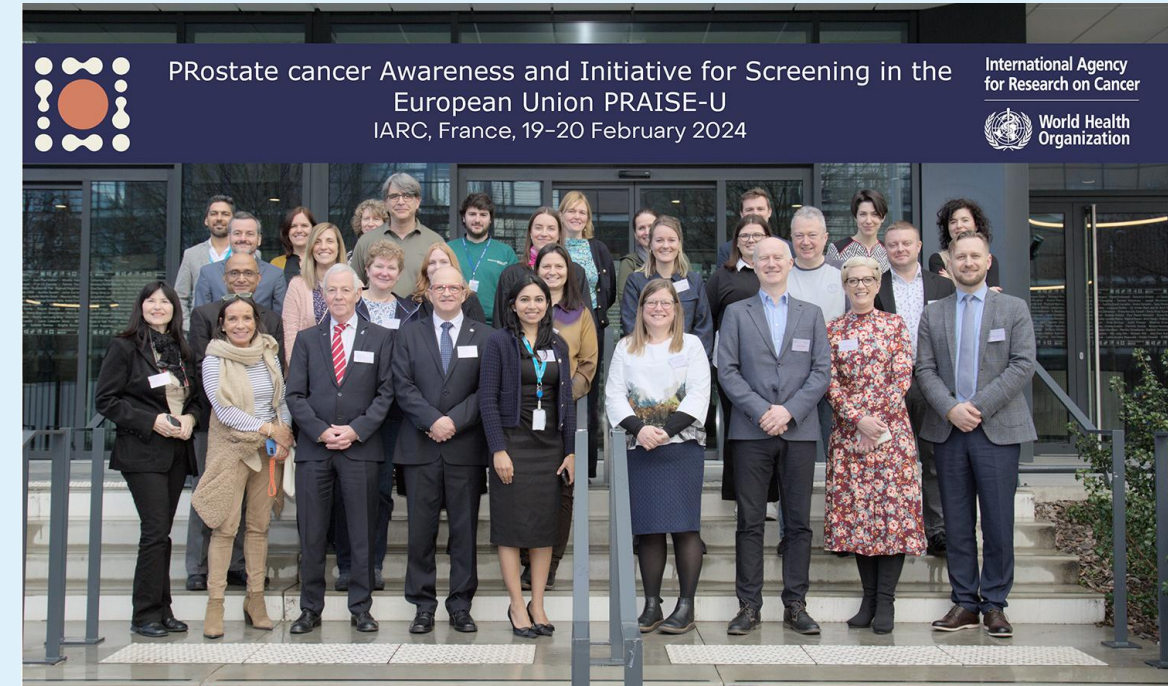


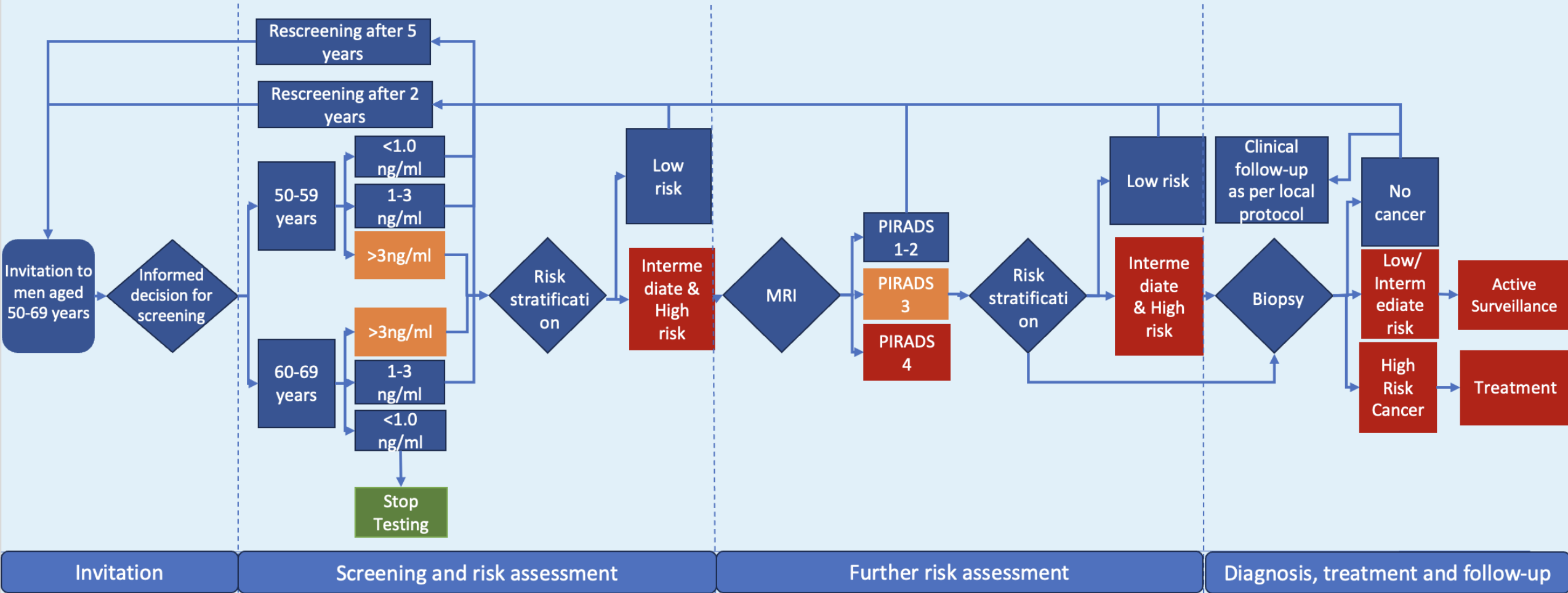


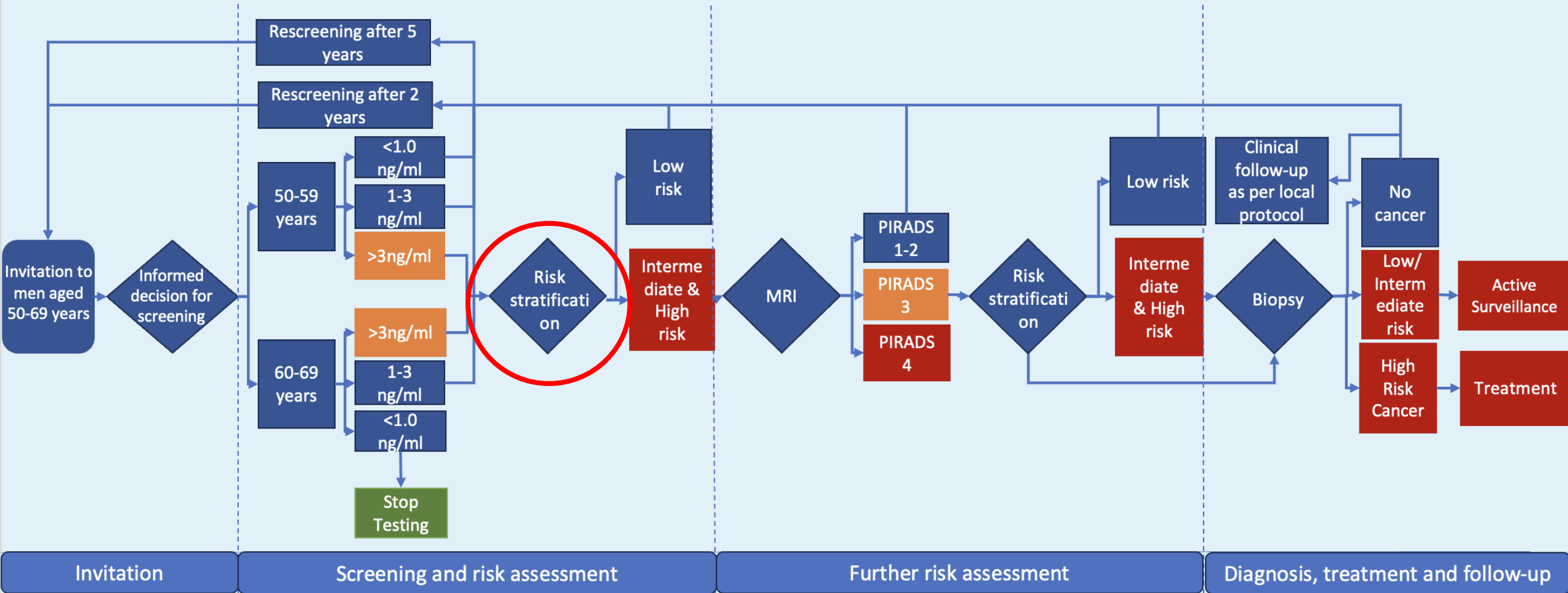
- **The Consortium:** PRAISE-U is an EU-funded consortium led by the European Association of Urology (EAU).
- **Core Mission:** Dedicated to reducing prostate cancer incidence and mortality across the European Union.
- **Scientific Goal:** Providing evidence-based data to implement individualized, risk-stratified early detection strategies.
- **Implementation Geography:** Testing organized, risk-based screening across five EU pilot regions: Ireland, Poland, Lithuania, and Galicia and Manresa in Spain.
- **Target Population:** Focusing on a structured clinical pathway for men aged 50 to 69 [14-15].

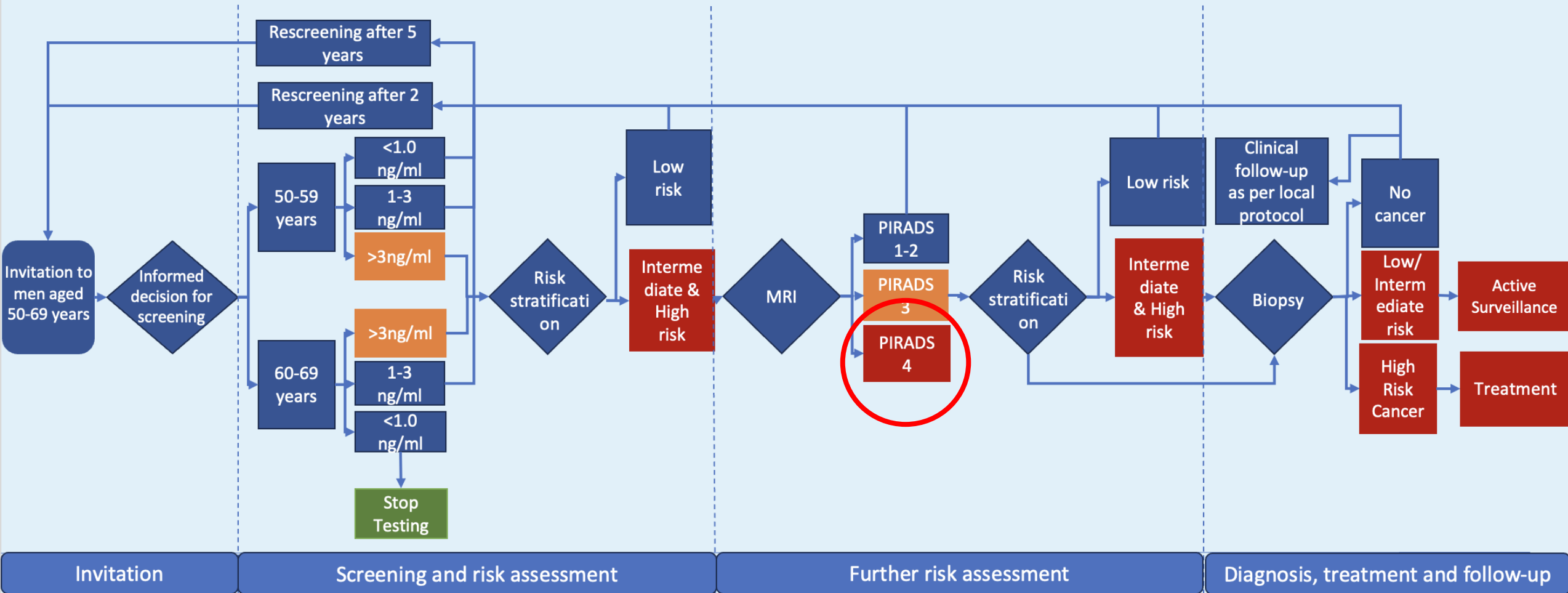


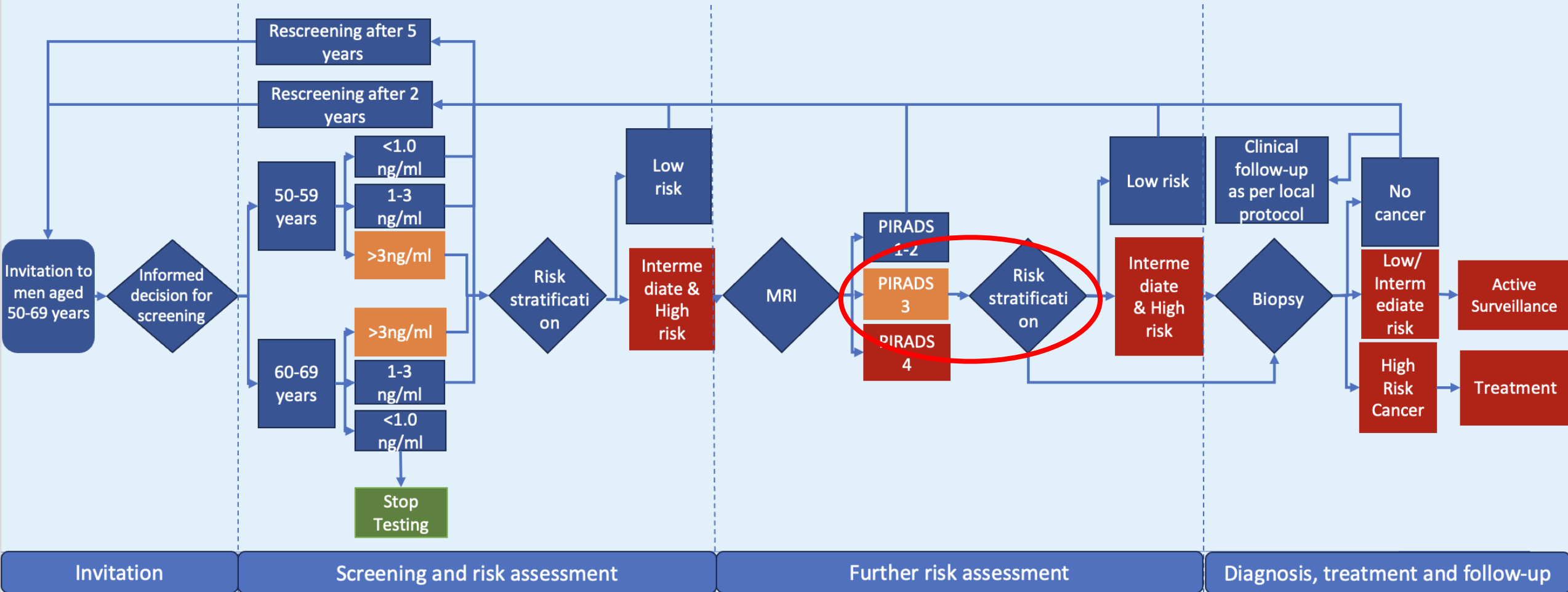
- **Scale:** The consortium unites 25 institutions across 12 European Union member states.
- **Operational Structure:** Divided into 6 work packages spanning from data consolidation to executing individualized risk-based pilot programmes.
- **Scientific Continuity:** Directly builds on fundamental trials (ERSPC, PIONEER, EU-TOPIA) and integrates the JRC quality assurance methodology.
- **Two-Step Risk Architecture:** PSA Test → Risk Assessment (PSA Density / Rotterdam Calculator) → MRI → Secondary Risk Assessment → Targeted Biopsy.
- **Core Objective:** To decrease incidence and mortality while minimizing overdiagnosis and overtreatment [16].

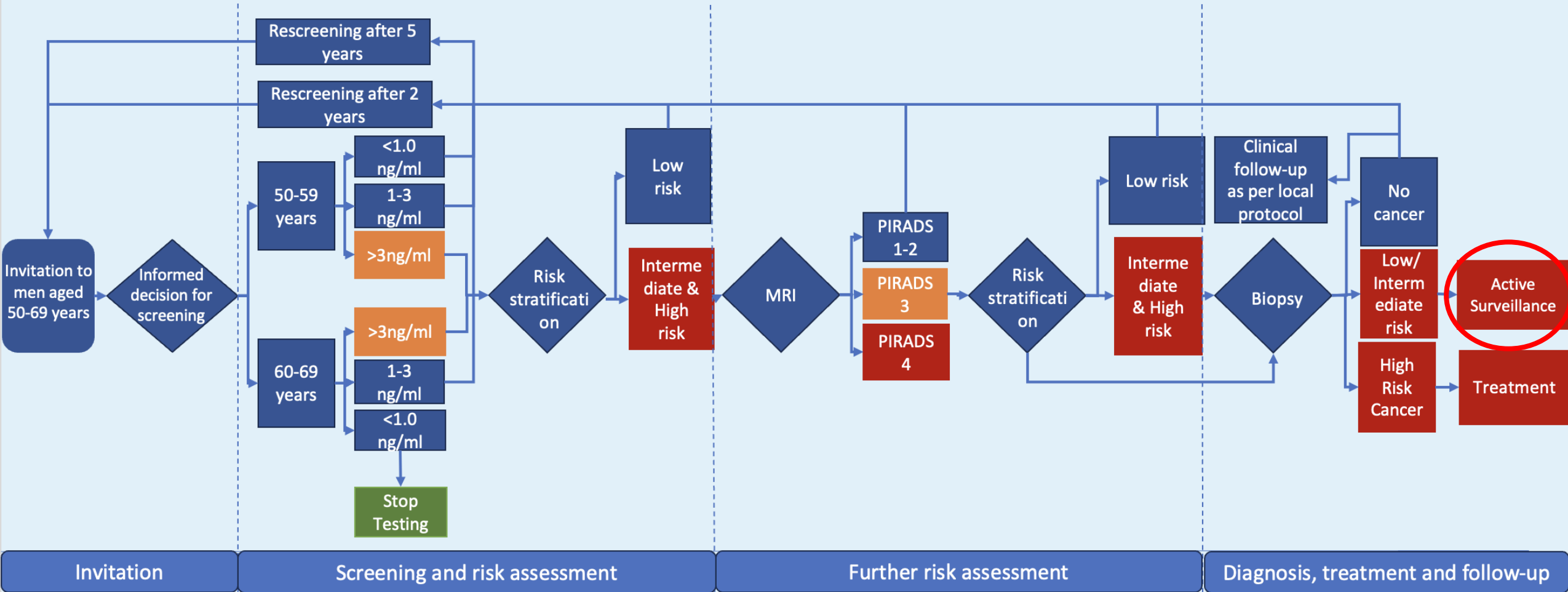












Health System Readiness Assessment for Screening

- **Health System Audit:** The PRAISE-U team evaluated pilot regions using 47 indicators across 11 structural domains.
- **Lithuanian Leadership:** Lithuania demonstrated the highest overall readiness level among all five consortium pilot regions.
- **Structural Advantage:** Lithuania was the only region with an existing nationwide PSA programme, whereas other regions relied exclusively on opportunistic testing.
- **MRI Availability:** All regions have MRI access, but Lithuania and Galicia utilize the more advanced multiparametric MRI (mpMRI) standard.
- **Investment Priorities:** To fully align with the PRAISE-U algorithm, pilot regions must optimize invitation systems, IT infrastructure, and patient information. [18, 19].

PRAISE-U Results: Participation

Participation: 7.1 – 43%

PSA > 3: 9.2 – 15%

First risk stratification

No MRI: 30-58%

MRI: 42-71%

PI-RADS 3: 4-29%

Second risk stratification

No Bx: 42-64%

Bx: 36-57%

PCa: 54-80%

csPCa: 19-80%

Pilot	Invitations, n	Recruitment, n (% from invitations)
Althaia	5,509	2,363 (43)
Galicia	12,000	5,013 (41)
Ireland	9,450	1,666 (18)
Lithuania	10,291	2,359 (23)
Poland	52,995	3,773 (7.1)
Total	90,245	15,174 (17)

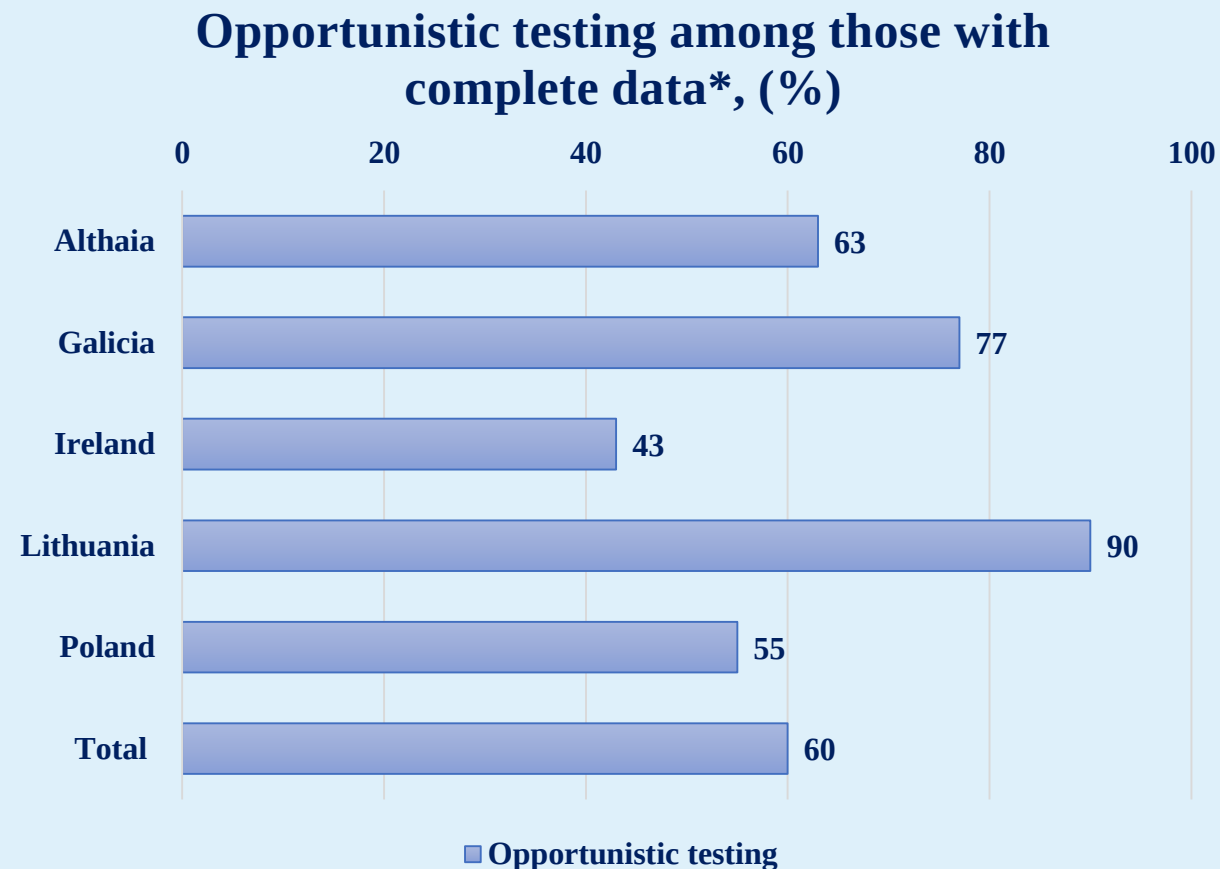
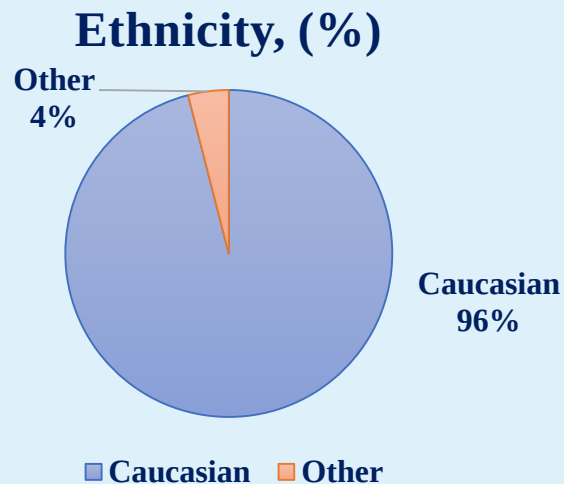
Room for improvement.

Broadly in line with screening programmes from participating countries.

Cohort: 12 months without protocol deviations.

PRAISE-U Results: Baseline Characteristics

Pilot	Median age, IQR	Caucasian, n (%)
Althaia	58 [55-65]	1968 (84)
Galicia	60 [55-65]	2000 (97) ¹
Ireland	60 [55-65]	619 (95) ²
Lithuania	61 [55-65]	2340 (100)
Poland	62 [55-66]	3771 (100)
Total	60 [55-65]	10,698 (96)



¹ 41% complete

² 66% complete

* Completeness of data: Althaia (100%), Galicia (13%), Ireland (78%), Lithuania (9.3%), Poland (100%)

PRAISE-U Results: Primary Risk Stratification

Participation: 7.1 – 43%

PSA > 3: 9.2 – 15%

First risk stratification

No MRI: 30-58%

MRI: 42-71%

PI-RADS 3: 4-29%

Second risk stratification

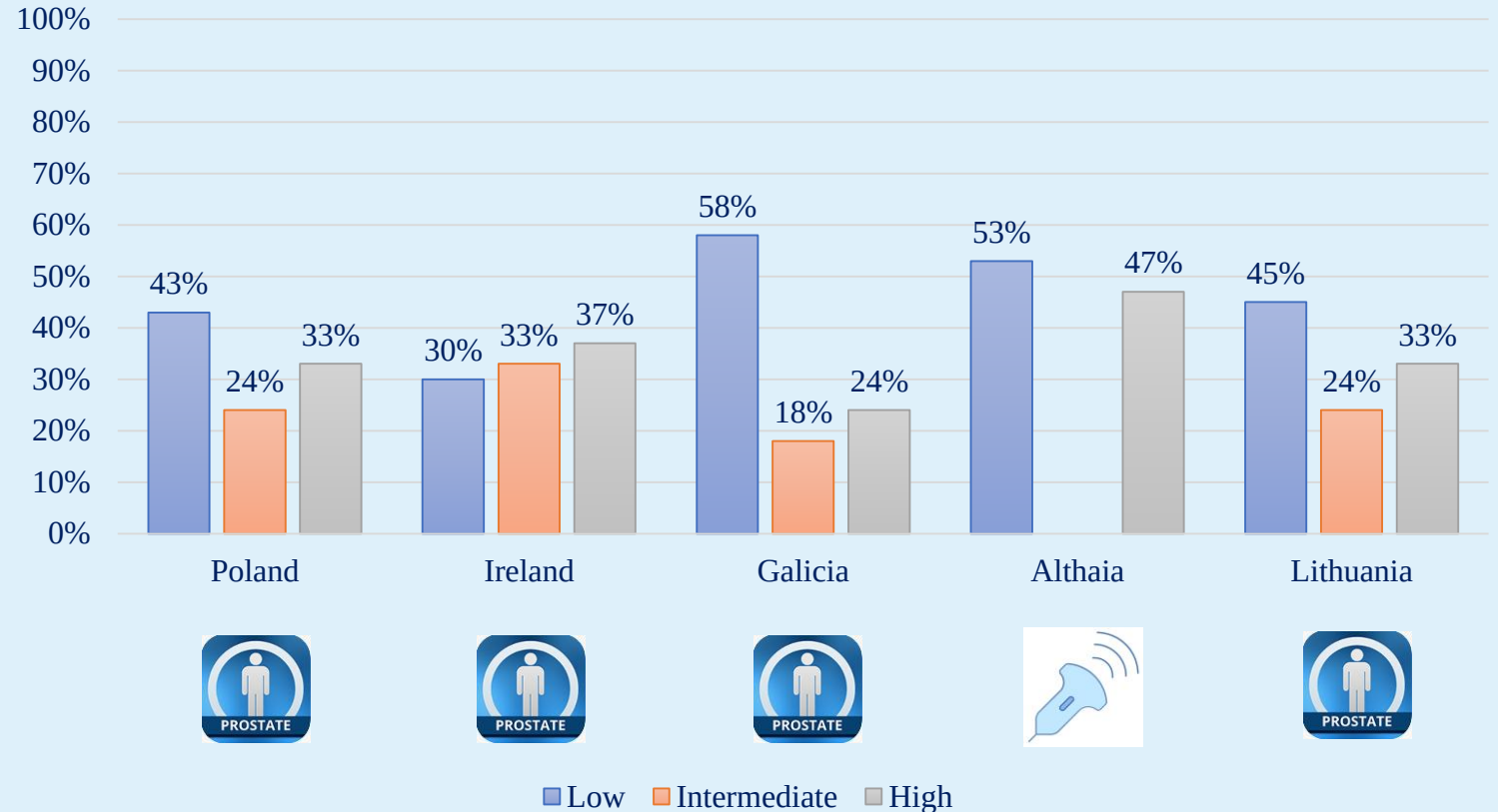
No Bx: 42-64%

Bx: 36-57%

PCa: 54-80%

csPCa: 19-80%

First risk stratification outcomes



PRAISE-U Results: MRI

Participation: 7.1 – 43%

PSA > 3: 9.2 – 15%

First risk stratification

No MRI: 30-58%

MRI: 42-71%

PI-RADS 3: 4-29%

Second risk stratification

No Bx: 42-64%

Bx: 36-57%

PCa: 54-80%

csPCa: 19-80%

Pilot	MRIs, n	PI-RADS 1-2, n (% of all MRIs)	PI-RADS 3, n (% of all MRIs)	PI-RADS 4-5, n (% of all MRIs)
Althaia	100	60 (60)	4 (4)	36 (36)
Galicia	178	48 (27)	41 (23)	88 (49)
Ireland	64	38 (59)	8 (13)	18 (28)
Lithuania	115	33 (29)	33 (29)	49 (42)
Poland	266	75 (28)	54 (21)	135 (51)
Total	723	234 (35)	140 (19)	326 (45)

Differences in acquisition protocols (3T, 1.5T, bp, mp)

Different methods of risk stratification

MRI quality control

PRAISE-U Results: Biopsy

Participation: 7.1 – 43%

PSA > 3: 9.2 – 15%

First risk stratification

No MRI: 30-58%

MRI: 42-71%

PI-RADS 3: 4-29%

Second risk stratification

No Bx: 42-64%

Bx: 36-57%

PCa: 54-80%

csPCa: 19-80%

Pilot	Biopsies, n	PCa, n (% of Bx performed)	csPCa, n (% of PCa)
Althaia	35	19 (54)	10 (53)
Galicla	101	74 (73)	59 (80)
Ireland	16	12 (75)	6 (50)
Lithuania	60	43 (72)	8 (19)
Poland	130	98 (75)	37 (38)
Total	342	246 (72)	120 (49)

Differences in MRI quality and results

Differences in biopsy protocols

Biopsy quality control

PRAISE-U Results: Compliance with Algorithm

■ Participation ■ Compliance first risk stratification ■ Compliance MRI ■ Compliance biopsy



The Meaning of PRAISE-U Results



What Worked Well?

- Data collection succeeded at every site
- Screening pathway fully operational
- Algorithm compliance above 90%
- Fewer unnecessary MRIs & biopsies



Challenges

- Participation rates remain modest
- MRI readings vary between centres
- Cancer detection rates differ widely



Looking Ahead

- Longer follow-up & repeat rounds
- Harmonise MRI & pathology methods
- Scale up EU-wide collaboration
- Shift opportunistic to organised testing

Bottom line: the risk-based algorithm works well once men take part – the next challenge is closing the participation gap and harmonising imaging and pathology across sites.

Collaborative User Board

The Collaborative User Board (CUB) is a platform that has connected stakeholders (patients, clinicians, and policymakers) across all PRAISE-U pilot regions.

CUB = advisory board, learning space and focus group in one. Elicits views on the protocol, identifies barriers and potential solutions.

2 meetings: ~6 weeks into screening and at the end of implementation.

Participants by site

Pilot	Men (micro)	Clinicians (meso)	Decision makers (macro)
Ireland	3	2	2
Poland	1	3	4
Lithuania	1	2	4
Manresa	3	4	2
Galicia	3	2	3
Total	11	13	15

39 participants in total.

Systemic Themes: Making Screening Work



Capacity

Enough trained clinicians and machines to move men through the pathway at population scale?



Accessibility

Physical, technological and economic barriers can each keep eligible men from screening.



Coordination & Quality

Success depends on departments working together, with clear checks on effectiveness.



Opportunistic Testing

Still common in this age group – an organised pathway can gradually replace it.

Cultural Themes: Beliefs and Fear



Health Beliefs

Men tend to be reactive, not proactive – seeing a doctor after an injury, not for prevention.



Fear

Of diagnosis, treatment side effects, and the discomfort of the test itself.



Lack of Information

Many men simply don't have clear, accessible information about screening.



Female Influence

Partners and family members often encourage – or prompt – men to get screened.

Key Takeaways Across Sites

1 Men's health beliefs

Men may not be proactive about health; masculinity norms play a role.

2 Fear

Fear of diagnosis, treatment consequences, and invasive procedures can deter participation.

3 Accessibility

Physical, technological and economic access all matter.

4 Capacity

Enough trained clinicians and machines are needed for population-level screening.

5 Coordination and quality

Departments must work together, with checks that keep the programme effective.

6 Opportunistic screening

PRAISE-U may reduce default PSA testing among some clinicians.

Conclusions

The European Direction

Transitioning away from chaotic, opportunistic testing toward organized, risk-stratified early detection.

Scientific Foundation

The *PRAISE-U* project provides robust evidence and a practical clinical pathway tested across pilot regions.

International Experience

Case studies from Sweden and the Czech Republic prove that organized models are viable across healthcare systems of varying sizes and structures.

Coordination Mechanism

The Collaborative User Board (CUBs) serves as a vital platform, uniting all key stakeholders to upgrade the national algorithm.

Future Outlook

Successful framework implementation depends on close, cross-sector collaboration among clinicians, policymakers, and patient communities.

What's next?



**THANK YOU FOR
YOUR ATTENTION!**