UK NSC's draft recommendations on prostate cancer screening: Response from Prostate Cancer Research

Introduction

Prostate cancer represents a major and growing public health challenge in the UK. It is now the most commonly diagnosed cancer overall, and remains the second leading cause of cancer death among men. Demographic change alone means that the burden of prostate cancer is expected to rise substantially over the coming decades, driven by population ageing and increased prevalence of risk factors. Globally, by 2040 the number of annual cases of prostate cancer is set to rise to 2.9 million.[1]

Risk of prostate cancer has also been well established as not evenly distributed across society. Men of Black ethnicity face a substantially higher lifetime risk of prostate cancer, with 1 in 4 diagnosed in their lifetimes, and are more likely to be diagnosed at a younger age. Men with a strong family history or known pathogenic genetic variants are also at significantly elevated risk. Outcomes are also often dependent on where in the UK you live, with around 31% of men diagnosed with prostate cancer in Scotland presenting with metastatic disease compared to 21% of men diagnosed living in England.[2] The most recent report from the National Prostate Cancer Audit (NPCA) also highlights that those living in more deprived areas are significantly more likely to present with metastatic prostate cancer.[3] Despite this context, prostate cancer remains the largest common cancer in the UK without any national screening programme.

The current consultation is of critical importance. The UK National Screening Committee's (UK NSC) review is the first consideration of prostate cancer screening in five years, and the first to consider screening scenarios targeted at high-risk groups. During this time, there have been significant changes to the diagnostic pathway in the UK that have substantially improved the safety and accuracy of diagnosing prostate cancer.[4] At the same time, the treatment pathway has evolved. Active surveillance is now firmly established as the standard management strategy for men with low-risk disease. Reports from the NPCA demonstrate sustained high uptake of active surveillance and consistently low rates of radical treatments for these men with slow-growing cancers, with rates for the latter falling from 16% in 2018-19 to 7% in the most recent release.[5,6] Together, these developments provide real-world evidence that the historical risks of overdiagnosis and overtreatment – central to earlier screening debates – have been materially reduced in contemporary UK practice.

This submission by Prostate Cancer Research (PCR) and supported by several other organisations has been informed by an independent technical critique of the Sheffield Centre for Health and Related Research (SCHARR) economic model which underpins the UK NSC's draft recommendations. This critique was commissioned by PCR and carried out by the York Health Economics Consortium (YHEC), in addition to clinical expertise from a national and international advisory board assembled following the publication of the draft recommendations. While

recognising the complexity of modelling in this area, the critique identifies several structural limitations that materially affect the conclusions drawn.

The reflections and recommendations below represent the views of PCR in light of the findings in the YHEC report, which is submitted alongside (and attached to) our emailed response. We will continue to engage constructively with the UK NSC in addressing the specific technical concerns identified within the YHEC report.

Executive summary

Prostate Cancer Research (PCR) welcomes the UK National Screening Committee's (UK NSC) review of prostate cancer screening, including its first consideration of targeted screening scenarios for high-risk groups. However, based on PCR's commissioned independent critique by the York Health Economics Consortium (YHEC) and clinical expert input, we are concerned that the current draft recommendations are underpinned by a modelling framework with structural features that materially influence its conclusions. The issues identified in this response are not isolated technical disagreements; they relate to core assumptions that shape the direction and magnitude of estimated harms, benefits and cost-effectiveness.

Several critical limitations remain unaddressed in the current assessment, including the:

- Absence of comparator scenarios that reflect some degree of substitution for, rather than addition to, existing opportunistic PSA testing
- Reliance on diagnostic and treatment data from legacy trials that do not reflect contemporary MRI-led pathways or current UK management patterns
- Omission of risk-stratified screening approaches that could reduce harms and system costs compared with uniform, interval-based strategies
- Insufficient modelling of high-risk populations, including failure to model family-history screening scenarios using granular definitions of inherited risk
- Absence of explicit equity analysis reflecting the substantially higher lifetime risk and earlier presentation of prostate cancer in Black men, and the implications of these disparities for proportionate and targeted screening strategies
- Limited use of contemporary UK audit and service data, particularly regarding MRI triage and active surveillance uptake
- Lack of scenario testing for alternative diagnostic thresholds and reflex testing strategies (including modelling the Stockholm3 intermediate triage test)
- A narrow economic perspective that does not adequately reflect wider healthcare utilisation and the burden associated with late-stage and metastatic presentation

In several of these areas, more contemporary UK data are available, and clinically accepted alternative approaches could reasonably have been modelled as scenario analyses. Their omission means the model does not simply reflect imperfect evidence, but modelling choices that materially influence the conclusions reached. Collectively, these limitations mean that the SCHARR model evaluates a version of screening that is unlikely to reflect how organised screening would be delivered in contemporary NHS practice.

Subsequent scenario testing conducted within the existing modelling framework demonstrates that modest, clinically plausible adjustments can materially alter cost-effectiveness estimates, in some cases moving screening strategies below the Committee's benchmark. This underlines the sensitivity of the current model to key structural assumptions.

PCR does not argue that screening is without risk. Rather, we argue that a fair and policy-relevant assessment must evaluate screening as it would realistically operate today and not as if it was functioning in earlier eras.

Given that the economic model will materially shape prostate cancer early detection policy for years to come, the threshold for confidence in its structural validity must be correspondingly high. In addition to the issues highlighted above, the SCHARR report also falls short of best practice in economic modelling reporting, further undermining the transparency and intelligibility of its findings. In its current form, the modelling does not provide sufficient assurance that the conclusions drawn fully reflect contemporary clinical practice, evolving diagnostic strategies, or the NHS's equity commitments.

The recommendations made by Prostate Cancer Research in this submission are intended to strengthen the evidentiary robustness, transparency and equity relevance of the UK NSC's final conclusions.

Our recommendations

The UK NSC's final recommendations will impact early detection policy on prostate cancer across the four UK nations for the next decade and beyond, and so the importance of getting this right within this review period cannot be overstated. In their current form, the draft recommendations risk overlooking a material opportunity to improve early detection of clinically significant prostate cancer in men, to reduce late-stage and metastatic presentation, particularly in higher-risk groups, and to address the inefficiencies and inequities inherent in the current opportunistic PSA testing of asymptomatic men.

Prostate Cancer Research (PCR) is deeply concerned by the narrowness of the draft recommendations, which fail to tackle the harms inherent in the current system and, in particular, leave men of Black ethnicity and those with relevant family history continuing to rely on current routes for testing, and which will in their current form fail to effectively cover all those with BRCA1/2 variants at high risk.

In light of our concerns and rapidly evolving diagnostic pathways and emerging evidence, it would be reasonable and proportionate for the UK NSC to continue work on this review across 2026 rather than draw definitive conclusions at this stage from the current model. Allowing additional time would help ensure that the final recommendation commands public confidence and reflects contemporary clinical practice as accurately as possible. Extending the current review period to allow for amendments to the SCHARR model to be made, fully tested, and as far as practicable, made publicly available would also enable meaningful external scrutiny of the model.

Ahead of the UK NSC completing its review, we recommend:

A. Structural revision and transparency of the economic model

- Extending the current review period to enable structural revisions to the model to be implemented, tested, and (as far as practicable) made available for external scrutiny.
- Structurally rebuilding and recalibrating the economic model provided by SCHARR based on the recommendations within the independent YHEC critique, incorporating parameters that more accurately reflect modern diagnostic and treatment pathways and the likely impacts that organised screening will have on the opportunistic PSA testing currently in place
- Explicit modelling of risk-stratified screening strategies within the core model structure rather than limiting analysis to uniform interval-based models.
- Committing to maintaining the economic model as a living framework, with annual parameter updates as new evidence emerges, and formal review cycles every two years rather than the current five-year interval, with public version control and transparent documentation of changes.
- Ensuring that cost-effectiveness conclusions are aligned with updated NICE cost-effectiveness thresholds and methodological guidance, with transparent justification where assumptions materially influence incremental cost-effectiveness ratios.

B. Explicit evaluation of high-risk and equity-focused scenarios

- Undertaking a rapid and focused review of the contemporary literature relating to screening in men with a family history of prostate cancer, followed by explicit modelling of screening scenarios using a more granular definition of familial risk. This should include differentiation by the number of affected relatives, degree of relatedness, age at diagnosis of affected relatives, and other clinically relevant markers of inherited risk, rather than applying broad or uniform risk multipliers across all men with a family history.
- Undertaking and publishing a formal Equality Impact Assessment, including analysis of differential effects by ethnicity, deprivation and family history, and setting out how equity considerations have been incorporated into economic decision-making. This should include modelling different hazard ratios when assessing the higher risk that individuals with multiple risk factors may have, compared to individuals with fewer risk factors.
- Conducting explicit comparative modelling of family history-based PSA screening versus BRCA testing-triggered screening strategies, including the full costs of genetic identification, counselling infrastructure, and equity implications of differential access to BRCA testing.

C. Evaluation of contemporary diagnostic pathways and real-world impacts

- Providing an additional evaluation of a modelled screening pathway that includes the Stockholm3 test, taking into account the published literature and any additional data made available through formal submission processes, and modelling hypothetical reflex testing strategies following PSA to assist referral decisions for MRI, to assess the potential impact of improved risk stratification on cost, harm and benefit.
- Recommending the commissioning of a number of time-limited, prospective real-world evaluation pilots of innovative diagnostic or risk-stratification strategies within selected NHS settings, particularly in areas of higher deprivation, with data incorporated into the proposed living economic model to inform future review cycles.

Our concerns in detail

1. **Limited transparency and reporting that weakens the model's robustness**

Given the central role of the Sheffield Centre for Health and Related Research (SCHARR) model in shaping national screening policy, the standards of transparency and reporting must be correspondingly high. Key modelling choices, including the definition of the intervention and comparator, structural assumptions and parameter choices, and the handling of uncertainty, are not always clearly articulated or justified.

Established economic evaluation frameworks, including CHEERS and Drummond's criteria, emphasise the need for explicit specification of comparators, transparent reporting of structural assumptions, comprehensive uncertainty analysis and clear discussion of model limitations. In a decision of this magnitude, it is not sufficient for assumptions to be implicit or inferred. They must be clearly set out, tested and defended.

During this consultation period, PCR engaged with the UK NSC to clarify a number of points raised on the economic model used to inform their recommendations, and we thank them for helping to facilitate engagement with SCHARR to raise technical questions, discuss modelling assumptions and the offer to run a small number of scenarios based on clinical feedback we received through our commissioned work with YHEC. SCHARR reported back on the results of running these new scenarios on 18/02/2026, which are presented in full in the accompanying YHEC report. YHEC highlighted that applying modest, clinically credible adjustments to some of the underlying assumptions within the model materially altered incremental cost-effectiveness ratios across several screening strategies. In particular, for Black men and men with a family history, some strategies moved below the Committee's cost-effectiveness benchmark. These findings demonstrate that the model's conclusions are highly sensitive to key structural assumptions and parameter choices.

PCR and YHEC did not, however, have access to the full economic model itself. As a result, it has not been possible to independently interrogate the full range of structural assumptions or test alternative configurations. For a model that will materially shape national prostate cancer policy for the coming decade, full technical transparency would be expected to enable meaningful external scrutiny. The lack of access to the complete model limits replicability and constrains independent validation of the conclusions drawn.

We also note that the modelling process appears to have involved a relatively small number of external clinical advisors. Given the scale and long-term implications of this decision, broader multidisciplinary input, including transparent reporting of advisory roles and any relevant interests, would strengthen confidence in the robustness and independence of the conclusions.

The concerns outlined in this response do not relate merely to minor parameter choices or technical disagreements. They relate to structural assumptions that materially shape the direction and magnitude of cost-effectiveness results. This is especially important for at-risk subgroups, given that the cost-effectiveness estimates in the model are relatively close to the threshold.

2. **An unrealistic baseline that inflates harms and costs**

At the heart of our concern is that the SCHARR economic model evaluates a policy scenario that would not be implemented in practice. It assumes that organised screening would be layered on top of existing opportunistic PSA testing, rather than reducing or rationalising it. The relevant policy question for the UK NSC is not whether adding further testing to an already unstructured system increases harms and costs,

but whether a well-designed population-based screening programme could improve early detection while reducing the inefficiencies and inequities of the current approach. The model in its current form does not fully address that question and in assuming an unrealistic comparator, departs from basic principles of economic evaluation.

The model compares organised screening against a single “usual care” scenario that conflates symptomatic testing with widespread opportunistic PSA testing, while assuming that a screening programme would add to existing testing rather than partially or wholly replace it. The narrative review acknowledges significant uncertainty about the extent of PSA testing in asymptomatic men and how GP behaviour might change under a screening programme, yet this uncertainty is not explored through alternative comparator scenarios.

The SCHARR model development team has assumed that the introduction of population-based screening would make no difference to this background testing behaviour and that no wider changes to NHS policy or guidance would occur. In practical terms, this implies that men would continue to seek and receive opportunistic PSA tests even after being invited for screening, an assumption that is difficult to reconcile with how screening programmes are typically implemented or how clinical guidance would be expected to evolve.

Consistent with conventional screening trial design and established health economic evaluation methodology, screening strategies are typically modelled as mutually exclusive policy options – such as no screening, opportunistic testing, or organised population-based screening – rather than as additive combinations of organised screening layered on top of existing practice.[7,8]

In practice, the introduction of a national screening programme would reasonably be expected to be accompanied by changes in clinical guidance and commissioning policy, including clarification of how asymptomatic PSA testing is delivered within primary care alongside a national programme. It would be reasonable to expect that testing outside the organised programme would be restricted or rationalised, with PSA primarily offered either through the screening pathway or for men presenting with relevant symptoms or ongoing follow-up care.

By modelling an approach that has not been advocated in practice or policy, the model effectively evaluates the consequences of adding further PSA testing to an already disorganised system, contributing to the high estimates of overdiagnosis and biopsy volume. However, this does not meaningfully inform the question facing policymakers, which is whether a population-based screening programme, accompanied by rationalisation and restriction of opportunistic PSA testing, could reduce harm while improving early detection.

International experience and recent modelling work suggest that organised screening programmes would be expected to substantially reduce PSA testing in older men, where harms are most concentrated, and lower rates of overdiagnosis by concentrating testing in age groups most likely to benefit.[9] For example, in Lithuania data show that for men over 70 there was a reduction in PSA testing of around 80% following the introduction of screening.[10] By failing to model substitution effects or scenarios in which opportunistic PSA testing is reduced or ended, the SCHARR model compares screening to a baseline that is unlikely to persist under an organised national screening programme and systematically overestimates incremental harms and costs.

3. Reliance on outdated comparators that no longer reflect modern diagnostic and treatment pathways

A central limitation of the economic model is that it relies on comparators drawn from a diagnostic and treatment era that no longer reflects contemporary NHS practice, thereby anchoring estimates of benefit and harm to outdated pathways.

3.1 Diagnostic pathway evolution: MRI and targeted biopsy

The UK NSC's narrative report chooses to highlight two research articles published since their 2020 review providing follow-up data for two trials: the UK Cluster Randomised Trial of PSA Testing for Prostate Cancer (CAP Trial), and the European Randomised Study of Screening for Prostate Cancer (ERSPC).

Long-term follow-up studies from CAP and ERSPC remain valuable in demonstrating the natural history of prostate cancer and the potential for mortality benefit from population-level early detection via PSA and biopsy over extended time periods. However, both trials were conducted in a very different diagnostic and management context, before routine MRI, modern risk stratification and widespread use of active surveillance became embedded in clinical practice – developments that fundamentally shape how a future screening programme would operate. As a result, while informative, their findings should not be relied on to model the balance of harms and benefits of a contemporary MRI-led screening pathway. A systematic review published in 2025 included analysis of the benefit-harm balance from four studies where MRI was used as a second-stage test after PSA, and concluded that utilising targeted biopsies in second-stage MRI screening optimises clinically significant prostate cancer detection, while reducing the number of biopsies.[11]

Emerging international consensus work, including the forthcoming Prostate Imaging Standards for Screening Magnetic Resonance Imaging (PRISM) initiative developed using the RAND/UCLA Appropriateness Method and informed by systematic review, reflects the extent to which screening MRI protocols are being standardised and streamlined specifically for population-level use.

PRISM recommends non-contrast-enhanced MRI (biparametric MRI using T2-weighted and diffusion-weighted imaging only), streamlined acquisition protocols of no more than 15 minutes, risk-stratified screening intervals, and stage-gated reporting approaches designed specifically for screening rather than routine diagnostic practice. It also supports earlier screening initiation from age 45 in Black men, reflecting established differences in lifetime risk. Recent pooled head-to-head evidence also supports this approach: an updated 2026 meta-analysis incorporating the PRIME trial found biparametric MRI to be non-inferior to multiparametric MRI for clinically significant cancer detection at the patient level.[12]

These recommendations demonstrate that screening MRI represents a simplified, lower-intensity, and standardised diagnostic architecture distinct from historic multiparametric diagnostic pathways. The current modelling does not incorporate this contemporary screening framework and instead relies on assumptions derived from earlier studies. As a result, the balance of harms and benefits may be evaluated against a version of screening that does not reflect emerging international standards.

3.2 Uptake assumptions and organised screening behaviour

Additionally, in the case of CAP, unlike ERSPC, there is also a serious limitation from it using a single invitation for a PSA test – which is acknowledged as "not typical of organised screening programs" within the CAP paper.[13] However, as the narrative report makes clear, this was used as the benchmark for uptake of prostate cancer screening being set at 36% within the model, and for uptake of invitations to receive any MRI test being matched to CAP's biopsy uptake rate being set at 85%. For PSA uptake, this is far lower than other trials that more closely resemble a national screening programme with multiple invitations for testing – for example, in the ERSPC trial 23-year follow-

up, 60,259 of the 72,888 men in the screening arm received at least one PSA test (83% of the total).[14] Data from the Schoots et al systematic review also highlighted the very high rate of uptake of biopsies, with no-biopsy rates in MRI-positive screened men of 6%, 8%, and 9% in the OPT, Göteborg-2, and STHLM3-MRI studies respectively.[15]

In Lithuania, analysis of their population-based national screening programme for prostate cancer showed that 70% of the target population were screened at least once in the first 10 years of screening.[16] Performance data from other screening programmes also show much higher uptake rates in a real-world setting, such as the NHS Bowel Cancer Screening Programme in England for 2023-24 where uptake of invitations was around 65% for men.[17] A nationally representative Healthwatch England poll of 3,575 men found 79% said they would be likely to attend an appointment when invited, if the NHS introduced prostate screening routinely, which was even higher for Black men at 81%.[18]

These data suggest that uptake assumptions based on CAP may significantly underestimate achievable participation within a structured national programme, with implications for projected stage shift and cost-effectiveness estimates.

3.3 Absence of risk-stratified screening strategies

The current modelling evaluates screening as uniform population-wide strategies defined primarily by interval (e.g. annual or biennial PSA testing). However, contemporary screening proposals increasingly emphasise risk-adapted approaches, in which screening intensity is tailored using baseline PSA (and other risk factors), thereby concentrating testing on men most likely to benefit while reducing unnecessary testing and downstream harms in low-risk men.

There is substantial evidence from ERSPC and related cohort analyses that risk stratification can reduce overdiagnosis, biopsy burden and unnecessary testing among low-risk men, while concentrating resources on those most likely to benefit. In ERSPC follow-up, the actuarial probability of clinically significant prostate cancer at 16 years was approximately 1.2–1.5% in men with baseline PSA <1.0 ng/ml, compared with 13.3-13.8% in men with PSA ≥3.0 ng/ml, a more than 10-fold difference.[19] Evidence from population-based cohorts also supports extending re-testing intervals in men with low baseline PSA levels. For example, in men aged 50–55 with an initial PSA <1.0 ng/ml, the short-term incidence of prostate cancer over three years was extremely low, supporting consideration of longer screening intervals for this substantial subgroup.[20] Recent European data suggest that approximately two-thirds of men aged 50 have a baseline PSA <1.0 ng/ml. Under a risk-adapted framework, this substantial subgroup could be offered extended screening intervals, materially reducing testing intensity, downstream investigations and system costs without compromising safety.[21]

By modelling only blunt, interval-based strategies applied uniformly across the population, the current analysis does not assess whether risk-adapted screening could improve the balance of benefit, harm and cost-effectiveness. This omission is important because risk-stratified approaches are specifically designed to reduce overdiagnosis, biopsy burden and system costs relative to uniform screening strategies.

3.4 Treatment and surveillance harms: ProtecT and contemporary practice

In addition, contemporary management of localised prostate cancer differs materially from the era in which major treatment trials were conducted. The ProtecT trial, frequently cited in discussions of treatment harms, was undertaken in a pre-MRI diagnostic context. Biopsy strategies were largely systematic and unguided, resulting in imperfect correlation between biopsy findings and true tumour burden. As a

result, at randomisation men often had more aggressive disease at surgery than was suggested by initial biopsy, and risk stratification was substantially less precise than is now possible with MRI-targeted biopsy.

In contemporary MRI-led pathways, improved imaging and targeted biopsy enable more accurate risk stratification and more selective treatment allocation including increased use of active surveillance in men with favourable intermediate disease.

Historically, active surveillance was also based on PSA monitoring with repeat systematic biopsy, without routine MRI integration. Modern active surveillance protocols in the UK now incorporate MRI at baseline and during follow-up, reducing the frequency of biopsy and improving identification of clinically significant progression. The 2019 update to NICE guidance (NG131) formalised active surveillance as the recommended primary management strategy for men with low-risk (CPG1) localised disease.[22]

NPCA data demonstrate a marked reduction in the proportion of men with low-risk disease receiving radical treatment within 12 months of diagnosis – falling from approximately 16% in 2018–19 to around 7% in 2022–23.[23,24] This represents a greater than 50% relative reduction within five years and reflects a sustained shift towards surveillance rather than immediate intervention. Surveillance today is less invasive and more accurately risk-stratified than the approach reflected in historic trial data, although continued efforts to standardise surveillance practice nationally remain important.

Modelling harms using parameters derived from the pre-MRI ProtecT era risks overstating the downstream harms associated with diagnosis under contemporary practice, as fewer men are now exposed to radical treatment and surveillance pathways are less invasive.

Similarly, both radical prostatectomy and radiotherapy techniques have evolved significantly. Robotic-assisted surgery, image-guided radiotherapy and intensity-modulated radiotherapy are now widely adopted, with improved functional outcomes compared with earlier techniques.[25] In parallel, current NHS cancer policy, including the recently published National Cancer Plan for England, emphasises reducing unwarranted variation in treatment quality and centralising complex surgical and radiotherapy services into higher-volume specialist centres. While variation remains and continued improvement is needed, the direction of travel is towards greater standardisation and quality assurance across cancer care.

Taken together, these changes mean that the downstream harms associated with diagnosis and treatment in contemporary UK practice are not directly comparable to those observed in historic trials. Economic modelling that relies heavily on legacy treatment and monitoring harm estimates therefore risks overstating the disutility associated with modern MRI-led detection and management pathways.

4. Inflated and incomplete costing assumptions

The economic model appears to overstate diagnostic and underestimate treatment and non-treatment costs in several areas while failing to reflect efficiencies that already exist within the NHS.

Diagnostic costs are based on assumptions that do not reflect current service delivery. MRI is modelled primarily as a cost driver rather than as a triage tool that substantially reduces downstream biopsies and unnecessary interventions. As outlined above, emerging international consensus supports streamlined, non-contrast MRI protocols designed specifically for screening. Failure to incorporate this approach may

overstate MRI acquisition time, contrast-related costs, and downstream biopsy volume within the model.

The use of simplified biparametric MRI protocols, combined with stricter PI-RADS 4/5 thresholds for biopsy referral, would be expected to reduce both unnecessary biopsies and overdiagnosis. Recent data from the PRIME study (supported by a recent systematic review that incorporates these data) demonstrate that biparametric MRI is as effective as multiparametric MRI for detecting clinically significant cancer, supporting its use as a lower-cost screening tool.[26,27] This contemporary screening pathway has not been meaningfully incorporated into the SCHARR modelling and may therefore result in inflated cost and harm estimates relative to current and emerging NHS practice.

Systemic anti-cancer therapies (SACTs) significantly impact the overall costs within the model and the potential benefits in costs saved from earlier diagnosis. Within the model, the numbers SCHARR states as the proportion of patients receiving SACTs at stage 3 and 4 are significantly less than recent data have shown. For example, in the most recent NPCA data, 47% of men newly diagnosed with metastatic prostate cancer received systemic treatment intensification therapy within 12 months of diagnosis.[28] Clinical guidance supports systemic treatment intensification for almost all men with metastatic hormone-sensitive prostate cancer, with limited exceptions (such as very poor performance status or life expectancy under 12 months). Efforts to improve compliance with national standards will therefore increase the proportion of men receiving these high-cost therapies, amplifying the economic consequences of late-stage diagnosis within screening models.

In addition, SCHARR has only modelled stage 4 costs up to 3 years, when the most recent survival data indicates that 53% of men diagnosed at stage 4 in England are alive 5 years after diagnosis.[29] PCR shared with the UK NSC its work with Deloitte to estimate the average treatment costs for men diagnosed with stage 4 prostate cancer, with this being estimated at £127,000 (compared to estimates of £21,000 for men diagnosed at stage 3).[30] This is reflective of costs such as novel hormonal therapies costing over £4,000 per month. All clinical experts consulted by YHEC also confirmed that SACTs would be administered for the rest of a patient’s lifetime, unless the treatment stopped responding.

Also, the economic framework is too narrowly confined to direct NHS costs. Preventing late-stage presentation represents substantial value not fully captured in the model. Metastatic disease requires lifelong systemic therapy, generates significant emergency admissions, and imposes severe psychological burden on patients and families. The model's narrow NHS cost perspective excludes many of these downstream impacts, while the quality-of-life burden of advanced disease on patients and caregivers is not equivalently weighted against the modelled psychological harms of earlier detection. Sensitivity analyses incorporating these would strengthen confidence in the robustness of the conclusions.

The independent critique by YHEC further identifies that several key cost inputs in the SCHARR model – including the extrapolation of treatment costs from the ProtecT trial and the omission of biparametric MRI – are either outdated or applied in a way that does not reflect how services are currently delivered in the NHS.

5. A modelling approach that overemphasises harms

The independent critique by YHEC highlights that the model’s structure may systematically increase estimated harms relative to benefits. In

particular, assumptions regarding the mapping of Grade Groups to disease stage, and the modelling of screening as additional to existing opportunistic PSA testing rather than as a reduction or rationalisation, materially influence estimates of overdiagnosis and overtreatment.

Overdiagnosis is assumed to be high by default, while contemporary evidence on MRI triage and risk stratification is not incorporated to mitigate this effect. For example, the GÖTEBORG-2 trial showed that using MRI-directed targeted biopsy for screening and early detection in men with elevated PSA levels reduced the risk of overdiagnosis by half compared to systematic biopsy use.[31]

Active surveillance is modelled predominantly as a source of cost and disutility, rather than as a risk-management strategy that actively reduces overtreatment and preserves quality of life for men with low-risk, and increasingly for men with favourable intermediate-risk, disease – despite strong UK evidence that modern surveillance pathways have significantly reduced treatment-related harms.[32]

While psychological harms of false-positive diagnosis are explicitly modelled, the psychological and quality-of-life burden associated with late-stage diagnosis, advanced disease and metastatic progression on patients and their families is not equivalently explored. This imbalance risks overstating the harms of earlier detection relative to the harms of later-stage presentation.

Contemporary UK practice also demonstrates that detection of low-risk disease does not automatically lead to radical treatment. NPCA data show that rates of radical treatment for men diagnosed with low-risk disease under the Cambridge Prognostic Group classification system (CPG 1) have remained low and stable, at approximately 7%, reflecting widespread adoption of active surveillance.[33] In modern MRI-led pathways, improved risk stratification reduces both misclassification and unnecessary intervention.[34] Active surveillance is now MRI-led and substantially less invasive than in historic trials. The narrative report cites a paper from the ProtecT trial to support the statement that “more than half of men who initially start on an active surveillance pathway will move onto having radical treatments (surgery or radiotherapy) over 15 years”, but this trial recruited men between 1999 and 2009 – at a time before MRI was used in the diagnostic pathway, and before more modern criteria for active surveillance came into practice.

Modelling approaches that rely on data from legacy trial data, without adjusting for contemporary treatment allocation patterns, risk overstating the harms associated with detection under current practice. Most recent NPCA data suggest that overtreatment rates are materially lower than those reflected in these trials.

Taken together, these modelling choices mean that harm estimates do not fully reflect how prostate cancer is currently diagnosed and managed in the NHS. This increases the likelihood that screening appears less cost-effective and more harmful than it would under contemporary practice.

We acknowledge that screening is not without risk. However, the current model evaluates an outdated version of screening that does not reflect contemporary practice or policy reality. A fair assessment must evaluate screening as it would be delivered today, not as it was delivered two decades ago.

6. Understatement of potential benefits in modern practice

In contrast to the detailed modelling of harms, the potential benefits of earlier detection appear underrepresented. The YHEC report notes the

consistently conservative approach taken in the SCHARR modelling, both in the parameters used and the ensuing discussion. While YHEC acknowledges that a degree of conservatism in public health modelling is appropriate, they also recognise how the cumulative impact of repeated conservative assumptions could potentially lead to a systematic underestimation of the benefit of prostate cancer screening.

Evidence from contemporary MRI-led pathways demonstrates that clinically significant cancers can be detected more selectively, with far lower rates of unnecessary biopsy and treatment than those observed in earlier PSA-only trials.[35] These advances are particularly relevant when assessing the balance of harms and benefits in screening scenarios.

The infographic that the UK NSC released as part of its consultation materials (Figure 1) appears to anchor diagnostic assumptions primarily to a single age-restricted study (GÖTEBORG-2, ages 50–60), rather than drawing on the broader evidence base now available across multiple age groups and contemporary pathways. While GÖTEBORG-2 represents an important advance, reliance on a single study risks over-anchoring modelling assumptions to a specific trial population and implementation context.

PCR's analysis incorporates GÖTEBORG-2 alongside five additional modern studies (STHLM3-MRI, OPT, PROSA, IP1-PROSTAGRAM, Targeted Prostate Health Check), comprising 62,078 men in total (see Appendix A). When aggregated across these six studies, the downstream patient flow through the diagnostic pathway differs materially from single study or earlier PSA-era assumptions. This substantially impacts the proportion of men that receive an MRI or a biopsy. In particular, MRI-based triage substantially reduces unnecessary biopsies: for every one man who underwent a benign biopsy, approximately eight men avoided biopsy entirely due to MRI-based risk stratification.

PCR's alternative infographic (Figure 2), based on this aggregated contemporary evidence, therefore reflects a broader and more generalisable estimate of diagnostic performance in modern practice.

In addition, the UK NSC infographic appears to treat a substantial proportion of Grade Group 2 (GG2) cancers as overdiagnosed or overtreated, drawing in part on clinical opinion and the ProtectT trial. PCR does not accept that GG2 disease should predominantly be considered overdiagnosed, particularly in the context of MRI-led pathways.

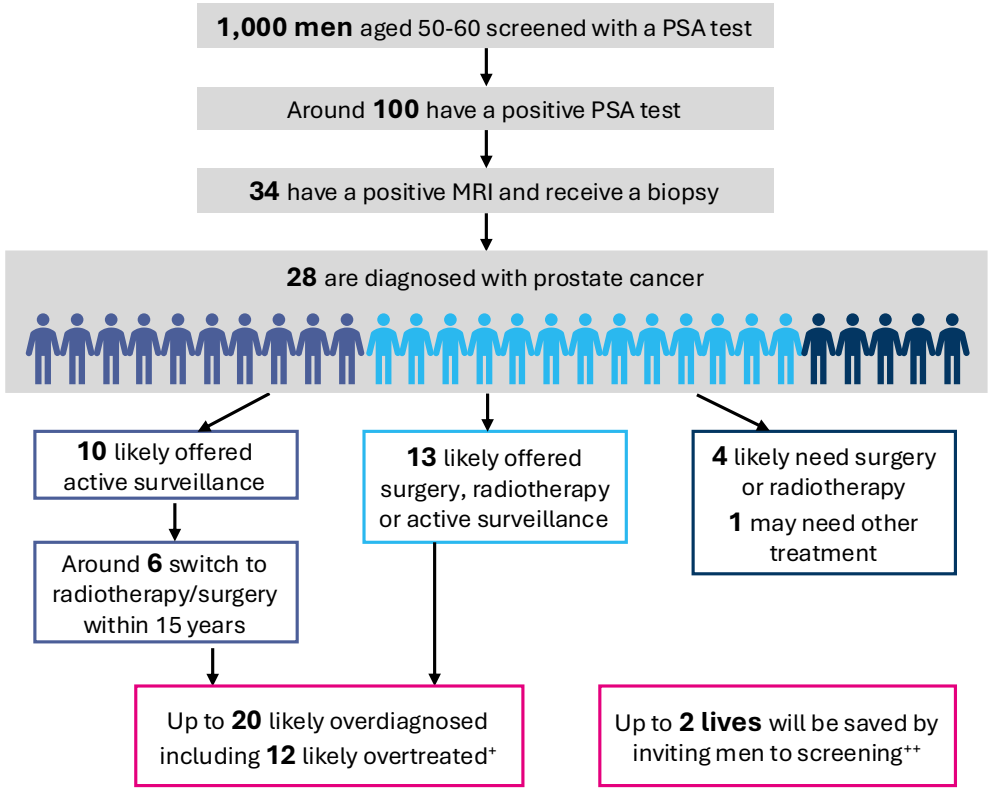
GG2 and above is widely used as the definition for clinically significant cancer in many contemporary studies, including the PRECISION trial, although some studies apply stricter thresholds. Unlike GG1 disease, GG2 carries a meaningful risk of progression. Significant numbers of men with GG2 disease may therefore benefit from timely detection and appropriate risk-stratified management.

Overdiagnosis is defined as the detection of a cancer that would not have caused harm within a patient's lifetime. Treating a substantial proportion of GG2 cancers as effectively equivalent to overdiagnosed disease represents a modelling judgement rather than an outcome-based classification. There is insufficient evidence to assume that the majority of GG2 cancers represent overdiagnosis, and such an assumption should not be embedded in the base-case model without explicit justification and sensitivity analysis. When combined with reliance on a single trial population for patient flow assumptions, this inflates estimates of overdiagnosis and overtreatment and therefore materially influences the harm–benefit balance presented in the UK NSC infographic.

MODELLING THE OUTCOMES OF PROSTATE CANCER SCREENING

Figure 1

UK NSC infographic



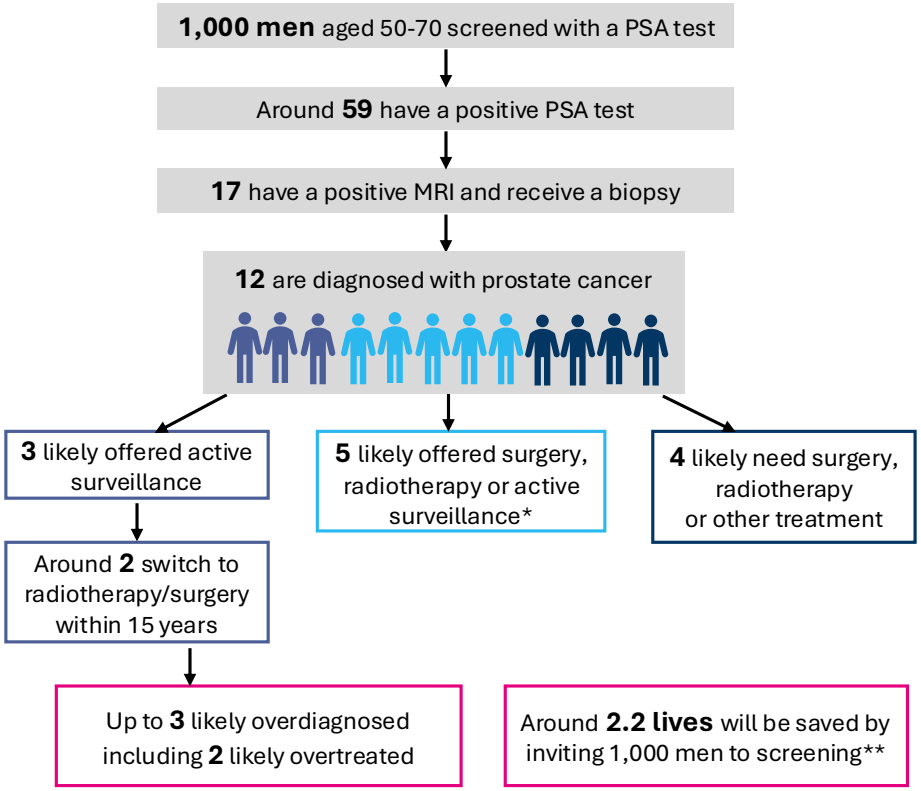
The information in this infographic is based on the Göteborg II screening study using PSA and MRI over 4 years in men aged 50-60 (Hugosson et al, NEJM 2024), deaths prevented in men aged 50-69 from the CAP screening trial (Martin et al, JAMA 2024) and in men aged 55-69 from the ERSPC screening trial (Roobol et al, NEJM 2025) , harms in men aged 50-69 from ProtecT (Hamdy et al 2023, Donovan et al 2023).

+This number assumes that some men who switch from active surveillance to radiotherapy/surgery within 15 years did so unnecessarily. And some men who were offered surgery, radiotherapy or active surveillance chose surgery or radiotherapy when active surveillance could have been sufficient.

++Assumes all invited men accept a PSA test.

Figure 2

PCR infographic



The information in this infographic is based on aggregated data of 62,078 men tested in Göteborg-2, STHLM3-MRI, OPT, PROSA, 1P1-PROSTAGRAM, & TPHC (Schoots et al, Eur Urol 2025; Langley et al, Eur Urol 2025; Hugosson et al, NEJM 2024).

* In the absence of outcome-based evidence, in the modern MRI-diagnosis era, demonstrating that GG2 disease represents overdiagnosis - and given that MRI-diagnosed GG2 disease often requires treatment, is widely included in clinical guidelines, and is a valid histologic endpoint in contemporary clinical trials as clinically significant - our base-case model does not classify GG2 cancers as overdiagnosed or overtreated.

**The estimate of 2.2 lives saved per 1,000 men invited is derived from the ERSPC 23-year follow-up (1 death prevented per 456 men invited, Roobol et al, NEJM 2025). NB: ERSPC data suggest 1,000 screened men could save 2.4 lives. Estimates vary depending on screening interval, age range, modelling assumptions and duration of follow-up. For example, lifetime modelling based on ERSPC data has estimated approximately 1 death prevented per 100 men screened under annual screening between ages 55–69.[36]

As illustrated in the UK NSC infographic (Figure 1) the implied ratio of harms (overdiagnosis and overtreatment) to benefits (lives saved) is:

- 20 overdiagnosed to 2 lives saved
- 12 overtreated to 2 lives saved

Under PCR's updated assumptions (Figure 2) – drawing on aggregated MRI-era patient flow data and widely-used clinical definitions of clinically significant disease – the relationship is:

- 3 overdiagnosed to 2.2 lives saved*
- 2 overtreated to 2.2 lives saved*

*The higher life-saved estimate is consistent with the 23-year follow up data from ERSPC.

Therefore, expressed per life saved, this equates to:

	Overdiagnosed per life saved	Overtreated per life saved
UK NSC's infographic – Figure 1	10	6
PCR's infographic – Figure 2	1.5	1

This represents a substantial reduction in the estimated number of men characterised as harmed per life saved when contemporary diagnostic performance and clinically accepted disease classifications are applied.

While the harms and potentially life-altering impacts of overtreatment must remain central to screening deliberations, modelling must distinguish clearly between low-risk disease that may never progress and clinically significant disease that carries measurable long-term risk.

Where modelling assumptions materially shape the apparent balance of harms and benefits, those assumptions must be transparent, biologically justified, and tested through sensitivity analysis. Anchoring patient flow to a single study population and embedding contestable classification assumptions risks distorting that balance.

Ensuring that contemporary diagnostic performance and clinically meaningful disease classifications are accurately represented is critical to reaching a proportionate, transparent and evidence-based conclusion.

7. Insufficient modelling of high-risk populations

A further limitation of the modelling underpinning the draft recommendation is the incomplete and inconsistent treatment of populations known to be at higher risk of prostate cancer, particularly men with a family history of the disease and men of Black ethnicity. While the narrative review acknowledges elevated risk in these groups, the economic model does not adequately reflect how risk varies, how pathways might differ, or how targeted screening approaches could alter the balance of benefit and harm.

As highlighted in YHEC's independent critique, the model's treatment of family history is highly simplified. The model provides limited exploration of risk in the family history group, despite well-established evidence of earlier age of onset and substantially elevated lifetime risk

among men with affected first-degree relatives.[37] Risk is incorporated through broad relative risk multipliers applied to incidence, without sufficient adjustment to reflect earlier age of onset or how screening strategies might be tailored depending on risk factors, including the number of affected relatives, degree of relatedness or age at diagnosis of affected relatives. This limits the model's ability to assess whether targeted or risk-adapted screening could improve outcomes while mitigating harms in this group.

Similarly, the approach to modelling Black ethnicity is limited. While higher incidence and mortality are acknowledged descriptively, reflecting the reality that Black men have double the risk of being diagnosed in their lifetimes, these differences are not meaningfully translated into distinct screening pathways or outcome projections. The model does not adequately explore how earlier invitation, different screening intervals, or risk-stratified thresholds might affect stage at diagnosis, mortality, or overdiagnosis in Black men, despite well-established evidence of higher lifetime risk and poorer outcomes under current practice.[38,39,40]

The YHEC analysis notes that by modelling screening primarily as a uniform intervention applied to the general population, the model is poorly equipped to assess the value of targeted approaches for high-risk groups. This is particularly problematic in a context where the opportunistic PSA testing we see in practice today already exacerbates inequalities[41,42], and where organised screening could plausibly reduce disparities by standardising access and follow-up for those at greatest risk.

8. Equity considerations

Beyond questions of clinical effectiveness and cost, there is a fundamental equity issue that has not been adequately addressed in either the economic modelling or the draft discussion.

As already noted, current opportunistic PSA testing in the UK is not equitably distributed. Uptake is strongly associated with GP engagement, geography and deprivation.[43] More affluent regions demonstrate substantially higher incidence of prostate cancer, reflecting higher PSA testing rates, while more deprived areas show higher rates of metastatic presentation. In effect, the current system advantages men who are informed, confident and able to advocate for themselves within primary care.

The NHS Constitution for England makes clear that a core duty of the NHS is to promote equality: "The NHS provides a comprehensive service, available to all. It is available to all irrespective of gender, race, disability, age, sexual orientation, religion, belief, gender reassignment, pregnancy and maternity or marital or civil partnership status. The service is designed to improve, prevent, diagnose and treat both physical and mental health problems with equal regard. It has a duty to each and every individual that it serves and must respect their human rights. At the same time, it has a wider social duty to promote equality through the services it provides and to pay particular attention to groups or sections of society where improvements in health and life expectancy are not keeping pace with the rest of the population."[44]

Targeted screening for men of Black ethnicity or those with a strong family history is not simply a clinical adjustment; it is inherently an equity-enhancing intervention. It aligns screening intensity with risk. The NHS Constitution for England, the Core20PLUS5 framework (which identifies earlier cancer diagnosis as a key clinical priority for reducing health inequalities in minority ethnic groups), the Cancer action plan in Scotland, and the new National Cancer Plan for England all commit to reducing health inequities, while NICE methods guidance recognises that health inequalities may be relevant to decision-making.[45] No explicit equity impact assessment or analysis appears to be presented in the modelling documentation. Given the clear and well-evidenced inequalities in prostate cancer risk and outcomes, explicit assessment of the

impact of screening policy options should form part of the decision-making framework. Failing to consider equity explicitly risks embedding and perpetuating the very inequalities that organised screening could plausibly reduce.

9. Absence of considering alternative reflex tests in the diagnostic pathway

The narrative report notes that the modelled screening pathway did not include the Stockholm3 test, citing concerns about data availability and suitability at the time the model was developed. While it is reasonable to exclude specific technologies where evidence is insufficient, the current modelling framework does not appear to incorporate reflex testing as a structural option within the pathway. Having communicated with the developers of the Stockholm3 test concerning this, our understanding is that following a data-sharing agreement between SCHARR and the Karolinska Institute in Sweden being agreed there were concerns over data being used in the model that would remain unpublished on commercial grounds. It is not uncommon within health technology assessments for confidential unpublished data to be made available to NICE by pharmaceutical companies under the condition that these would be fully available to committees but redacted in published documents. We recommend that the UK NSC adopts a similar approach to enable this scenario to be fully modelled should the currently-available published literature on Stockholm3 be insufficient to facilitate this.

Furthermore, a growing range of blood-based and molecular tests are being evaluated and, in some cases, are already accessible in UK clinical settings. Some of these have been proposed as potential reflex tests following an initial PSA, with the aim of improving risk stratification and reducing unnecessary MRI and biopsy. The model does not explore hypothetical or scenario-based use of such tests, nor does it assess the potential impact of reflex testing in principle on patient flow, costs, or harms.

Even in the absence of mature trial data for specific products, it would have been methodologically feasible to model the potential impact of an intermediate triage test. Such analysis would not require endorsement of any particular technology but would allow assessment of how an intermediate triage step with improved specificity could alter projected MRI volume, biopsy rates, overdiagnosis and cost-effectiveness.

The absence of this exploration limits the model's ability to assess how evolving diagnostic strategies could alter projected biopsy volume, overdiagnosis and system costs. In a rapidly evolving diagnostic landscape, this reduces the forward relevance of any conclusions drawn. It further reinforces the need for the economic model to be maintained as a living framework, capable of incorporating emerging evidence as it matures.

10. Limitations and equity concerns in the proposed BRCA screening recommendations

While the draft recommendation to screen men with BRCA1 and BRCA2 variants is a welcome step forward, we have several concerns relating to equity, age eligibility, and screening interval, which warrant further consideration before conclusions are finalised.

The model assumes knowledge of BRCA status without modelling the costs, service implications, or feasibility of identifying carriers within the NHS. In practice, expanding BRCA testing would require substantial investment in genetic testing capacity, counselling infrastructure and cascade testing pathways. By modelling PSA screening in known BRCA carriers without modelling the cost of identifying those carriers, the analysis evaluates an incomplete screening pathway. In economic evaluation, all necessary components required to implement an intervention in practice should be incorporated into the modelled pathway.

There are also material equity concerns. Current BRCA identification in men is not population-based and is typically triggered by family cancer history, female relative testing, private access, or research participation. This creates a structural risk that screening eligibility will correlate with prior healthcare access rather than underlying biological risk, preferentially benefiting wealthier or better-informed individuals, while excluding others at comparable risk.

We also note that the proposed recommendation diverges from established international practice. Based on emerging evidence, European guidance has supported annual PSA screening for BRCA2 carriers from age 40 up to age 69[46], and research groups involved in the IMPACT study have consistently advocated for a similar age range and screening frequency for both BRCA1 and BRCA2 mutation carriers.

Crucially, the modelling does not directly compare the economic implications of BRCA-based screening with alternative strategies, including family history–based PSA screening. The Diagnostic unit cost for PSA testing listed in the SCHARR report is £23.67, with some sources providing a cost for BRCA testing as £805.[47] BRCA testing usually requires additional genetic counselling, meaning that this entails substantial upfront costs in genetic identification and counselling. By contrast, PSA testing is inexpensive. Family history is an observable clinical risk factor that can be collected at negligible cost in primary care, whereas BRCA identification requires resource-intensive genetic testing infrastructure. For many men with a significant family history, years of PSA testing may cost less than a single episode of genetic testing. Without explicit comparative modelling of these strategies, it is not possible to conclude that the BRCA-only pathway represents the more economically efficient or equitable approach.

Supporting Organisations

This consultation response has been prepared by PCR and is supported by the organisations listed below. Supporting organisations endorse the overall position and key recommendations outlined in this submission, although responsibility for the detailed analysis rests with PCR.

- Black Equity Organisation
- Black Prostate Cancer Network
- British Association of Urological Nurses
- Cancer Black Care
- Cancer Don't Let It Win CIC
- Can-Survive UK
- Caribbean & African Health Network
- CHAPS
- From Me To You: The Art of Survival CIO
- Help Educate and Raise Awareness Around Cancer CIC
- Orchid
- Prost8 UK
- Prostate Cymru
- Tackle Prostate Cancer

- The Bob Willis Fund
- The Graham Fulford Charitable Trust
- The Prostate Project
- The Rose Thompson Foundation

Submitted by email 20 February 2026.

Appendix A

Aggregated study data used to inform PCR screening infographic

Study name	Year	Inclusion age	Age Median Screened	Undergoing testing	PSA ≥3 ng/mL	MRI score 3-5	Biopsy performed (TB +/- SB)	Benign Biopsy	Any PCa detected	GG 1 PCa	GG ≥2 PCa
Göteborg-2, 1st round (reference) [a]	2024	50-60	56	6575	444	186	176	68	108	39	69
STHLM3-MRI, 1st round [b]	2021	50-74	66	12750	1532	325	297	79	218	35	183
OPT [b]	2024	50	50	23855	696	236	221	84	137	44	93
PROSA (2026); reference arm [b]	2024	49-69	59	173	61	9	6	4	2	2	0
IP1-PROSTAGRAM [b]	2021	50-69	57	408	41	10	9	3	6	0	6
Targeted Prostate Health Check c	2025	50-70	59	18317	865	469	344	81	263	42	221
			Totals	**62078**	**3639**	**1235**	**1053**	**319**	**734**	**162**	**572**

[a] Data taken from Hugosson J, Godtman RA, Wallstrom J, et al. Results after four years of screening for prostate cancer with PSA and MRI. N Engl J Med. 2024;391 (12):1083-1095.
[b] Data taken from Schoots IG, Ahmed HU, Albers P et al. Magnetic Resonance Imaging-based Biopsy Strategies in Prostate Cancer Screening: A Systematic Review. Eur Urol. 2025 Sep;88(3):247-260. doi: 10.1016/j.eururo.2025.05.038.
[c] Data taken from Langley S, Uribe-Lewis S, Uribe J et al. Targeted Prostate Health Checks, a Novel Screening System to Identify Men at Risk of Prostate Cancer: Real-world Evidence from More than 18 000 Prostate-specific Antigen Tests. Eur Urol Oncol. 2025 Nov 3:S2588-9311(25)00280-9. doi: 10.1016/j.euo.2025.10.007. Additional data on PSA and MRI provided on request in Feb 2026.

Sources for UK NSC and PCR screening infographics compared

UK NSC		PCR
10.4% (Göteborg II)	PSA positivity rate	5.9% (Aggregated data of 6 studies inc Göteborg II)
33% (Göteborg II)	Positive PSA to positive MRI	29% (Aggregated data of 6 studies inc Göteborg II)
2.8% (Göteborg II)	% tested diagnosed with cancer	1.2% (Aggregated data of 6 studies inc Göteborg II)
37% (Göteborg II)	% of cancers that are GG1	21.5% (Aggregated data of 6 studies inc Göteborg II)
47% (Göteborg II)	% of cancers that are GG2	58.5% (Aggregated data of 6 studies inc Göteborg II)*
12% (Göteborg II)	% of cancers that are GG3-4	15% (Aggregated data of 6 studies inc Göteborg II)*
4% (Göteborg II)	% of cancers that are GG5	5% (Aggregated data of 6 studies inc Göteborg II)*
Up to 2 (CAP and ERSPC 23-year follow-up)	Number of lives saved per 1,000 invited	2.2 (ERSPC 23-year follow-up)

* Aggregated data of 6 studies provided data for GG≥2, proportions adjusted to match Göteborg II in original infographic. Rates rounded to one decimal place. Data of 62,078 men tested in Göteborg-2, STHLM3-MRI, OPT, PROSA, 1P1-PROSTAGRAM, & TPHC (Schoots et al, Eur Urol 2025; Langley et al, Eur Urol 2025; Hugosson et al, NEJM 2024)

[1] James ND, Tannock I, N'Dow J et al. The Lancet Commission on prostate cancer: planning for the surge in cases. Lancet. 2024 Apr 27;403(10437):1683-1722. doi: 10.1016/S0140-6736(24)00651-2.
[2] prostatecanceruk.org/about-us/news-and-views/2026/01/prostate-most-common-cancer [accessed 17/02/2026]
[3] National Prostate Cancer Audit. State of the Nation Report October 2025. London: National Cancer Audit Collaborating Centre, Royal College of Surgeons of England; 2025.
[4] All-Party Parliamentary Group on Prostate Cancer. Reducing the risks: Overdiagnosis and overtreatment in today's prostate cancer pathway; 2025.
[5] National Prostate Cancer Audit. Annual Report 2020. London: Royal College of Surgeons of England; 2021.
[6] National Prostate Cancer Audit. State of the Nation Report October 2025. London: National Cancer Audit Collaborating Centre, Royal College of Surgeons of England; 2025.
[7] Roobol MJ, de Vos II, Månsson M et al; ERSPC Investigators. European Study of Prostate Cancer Screening - 23-Year Follow-up. N Engl J Med. 2025 Oct 30;393(17):1669-1680. doi: 10.1056/NEJMoa2503223.
[8] National Institute for Health and Care Excellence. Guide to the methods of technology appraisal 2013. NICE process and methods PMG9; 2013
[9] Vickers A, Brentnall A. Effect of implementing population-based prostate-specific antigen screening on testing rates and prostate cancer overdiagnosis in England: a statistical modelling study. Preprint 26 Jan 2026. doi: 10.64898/2026.01.23.26344710
[10] Patasius A, Krilaviciute A, Smailyte G. Prostate Cancer Screening with PSA: Ten Years' Experience of Population Based Early Prostate Cancer Detection Programme in Lithuania. J Clin Med. 2020 Nov 26;9(12):3826. doi: 10.3390/jcm9123826.
[11] Schoots IG, Ahmed HU, Albers P et al. Magnetic Resonance Imaging-based Biopsy Strategies in Prostate Cancer Screening: A Systematic Review. Eur Urol. 2025 Sep;88(3):247-260. doi: 10.1016/j.eururo.2025.05.038.

[12] Strieder de Oliveira G, Altmayer S, Torri GB et al. Diagnostic Performance of Biparametric versus Multiparametric Magnetic Resonance Imaging for Prostate Cancer Diagnosis: An Updated Systematic Review and Meta-analysis, Eur Urol (2026) doi: 10.1016/j.eururo.2026.01.030
[13] Martin RM, Turner EL, Young GJ et al; CAP Trial Group. Prostate-Specific Antigen Screening and 15-Year Prostate Cancer Mortality: A Secondary Analysis of the CAP Randomized Clinical Trial. JAMA. 2024 May 7;331(17):1460-1470. doi: 10.1001/jama.2024.4011.
[14] Roobol MJ, de Vos II, Månsson M et al; ERSPC Investigators. European Study of Prostate Cancer Screening - 23-Year Follow-up. N Engl J Med. 2025 Oct 30;393(17):1669-1680. doi: 10.1056/NEJMoa2503223.
[15] Schoots IG, Ahmed HU, Albers P et al. Magnetic Resonance Imaging-based Biopsy Strategies in Prostate Cancer Screening: A Systematic Review. Eur Urol. 2025 Sep;88(3):247-260. doi: 10.1016/j.eururo.2025.05.038.
[16] Patasius A, Krilaviciute A, Smailyte G. Prostate Cancer Screening with PSA: Ten Years' Experience of Population Based Early Prostate Cancer Detection Programme in Lithuania. J Clin Med. 2020 Nov 26;9(12):3826. doi: 10.3390/jcm9123826.
[17] NHS England. Bowel cancer screening standards data report 2023-24; 2025
[18] healthwatch.co.uk/blog/2025-10-08/men-would-come-forward-prostate-cancer-screening [Accessed 17/02/2026]
[19] Remmers S, Bangma CH, Godtman RA et al. Relationship Between Baseline Prostate-specific Antigen on Cancer Detection and Prostate Cancer Death: Long-term Follow-up from the European Randomized Study of Screening for Prostate Cancer. Eur Urol. 2023 Nov;84(5):503-509. doi: 10.1016/j.eururo.2023.03.031.
[20] Aus G, Damber JE, Khatami A et al. Individualized screening interval for prostate cancer based on prostate-specific antigen level: results of a prospective, randomized, population-based study. Arch Intern Med. 2005 Sep 12;165(16):1857-61. doi: 10.1001/archinte.165.16.1857.
[21] 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 Mar;85(3):207-214. doi: 10.1016/j.eururo.2023.11.013. Epub 2023 Dec 1. PMID: 38042646.
[22] National Institute for Health and Care Excellence. Prostate cancer: diagnosis and management. NICE guideline NG131.
[23] National Prostate Cancer Audit. Annual Report 2020. London: Royal College of Surgeons of England; 2021.
[24] National Prostate Cancer Audit. State of the Nation Report October 2025. London: National Cancer Audit Collaborating Centre, Royal College of Surgeons of England; 2025.
[25] Lindenberg MMA, Retèl VVP, Kieffer JJM et al. Long-term functional outcomes after robot-assisted prostatectomy compared to laparoscopic prostatectomy: Results from a national retrospective cluster study. Eur J Surg Oncol. 2021 Oct;47(10):2658-2666. doi: 10.1016/j.ejso.2021.06.006.
[26] Ng ABCD, Asif A, Agarwal R et al. Biparametric vs Multiparametric MRI for Prostate Cancer Diagnosis: The PRIME Diagnostic Clinical Trial. JAMA. 2025 Oct 7;334(13):1170-1179. doi: 10.1001/jama.2025.13722
[27] Strieder de Oliveira G, Altmayer S, Torri GB et al. Diagnostic Performance of Biparametric versus Multiparametric Magnetic Resonance Imaging for Prostate Cancer Diagnosis: An Updated Systematic Review and Meta-analysis, Eur Urol (2026) doi: 10.1016/j.eururo.2026.01.030
[28] National Prostate Cancer Audit. State of the Nation Report 2025. London: National Cancer Audit Collaborating Centre, Royal College of Surgeons of England, 2025.
[29] National Disease Registration Service & NHS England. Cancer Survival in England, cancers diagnosed 2016 to 2020, followed up to 2021; 2023
[30] Prostate Cancer Research. Socio-economic Impact of Prostate Cancer Screening; 2024
[31] Hugosson J, Månsson M, Wallström J et al; GÖTEBORG-2 Trial Investigators. Prostate Cancer Screening with PSA and MRI Followed by Targeted Biopsy Only. N Engl J Med. 2022 Dec 8;387(23):2126-2137. doi: 10.1056/NEJMoa2209454.
[32] Norori N, Burns-Cox L, Blaney N et al. Using real world data to bridge the evidence gap left by prostate cancer screening trials, ESMO Real World Data and Digital Oncology, Volume 6, 2024, 100073, ISSN 2949-8201, doi: 10.1016/j.esmorw.2024.100073
[33] National Prostate Cancer Audit. State of the Nation Report October 2025. London: National Cancer Audit Collaborating Centre, Royal College of Surgeons of England; 2025.
[34] Ibid
[35] Schoots IG, Ahmed HU, Albers P et al. Magnetic Resonance Imaging-based Biopsy Strategies in Prostate Cancer Screening: A Systematic Review. Eur Urol. 2025 Sep;88(3):247-260. doi: 10.1016/j.eururo.2025.05.038.
[36] Heijnsdijk EA, Wever EM, Auvinen A et al. Quality-of-life effects of prostate-specific antigen screening. N Engl J Med. 2012 Aug 16;367(7):595-605. doi: 10.1056/NEJMoa1201637.
[37] Bratt O, Drevin L, Akre O et al. Family History and Probability of Prostate Cancer, Differentiated by Risk Category: A Nationwide Population-Based Study. J Natl Cancer Inst. 2016 Jul 10;108(10):djw110. doi: 10.1093/jnci/djw110.
[38] James ND, Tannock I, N'Dow J et al. The Lancet Commission on prostate cancer: planning for the surge in cases. Lancet. 2024 Apr 27;403(10437):1683-1722. doi: 10.1016/S0140-6736(24)00651-2. Epub 2024 Apr 4. Erratum in: Lancet. 2024 Apr 27;403(10437):1634. doi: 10.1016/S0140-6736(24)00748-7.
[39] Vickers A, O'Brien F, Montorsi F et al. Current policies on early detection of prostate cancer create overdiagnosis and inequity with minimal benefit. BMJ. 2023 May 17;381:e071082. doi: 10.1136/bmj-2022-071082. PMID: 37197772.
[40] National Prostate Cancer Audit. State of the Nation Report 2025. London: National Cancer Audit Collaborating Centre, Royal College of Surgeons of England, 2025.
[41] Ibid
[42] Vickers A, O'Brien F, Montorsi F et al. Current policies on early detection of prostate cancer create overdiagnosis and inequity with minimal benefit. BMJ. 2023 May 17;381:e071082. doi: 10.1136/bmj-2022-071082. PMID: 37197772.
[43] Ibid
[44] Department of Health & Social Care. The NHS Constitution for England; 2023
[45] National Institute for Health and Care Excellence. Guide to the methods of technology appraisal 2013. NICE process and methods PMG9; 2013

[46] uroweb.org/guidelines/prostate-cancer [Accessed 17/02/2026]
[47] ouh.nhs.uk/media/m0omaian/price-list.pdf [Accessed 17/02/2026]