

# **WHAT IS OVERDIAGNOSIS AND HOW CAN REAL-WORLD DATA HELP US UNDERSTAND THE HARMS OF THE PROSTATE CANCER DIAGNOSTIC PATHWAY?**

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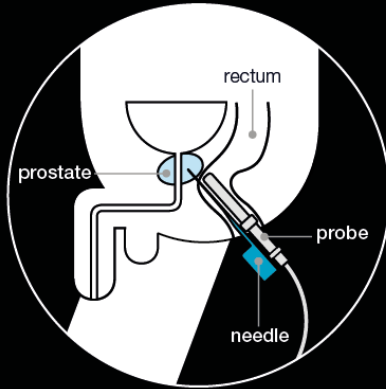


## PROSTATE CANCER DIAGNOSTIC PATHWAY

### Before 2019



PSA blood  
test

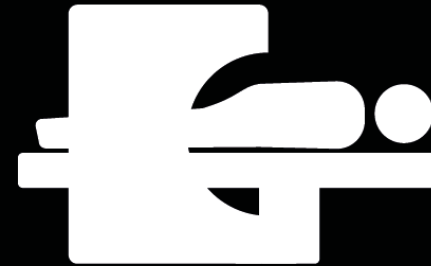


Transrectal  
biopsy

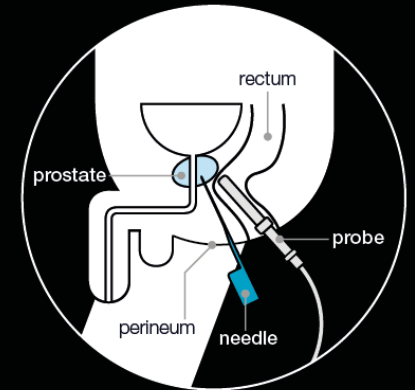
### TODAY



PSA blood  
test



mpMRI scan



Transperineal  
biopsy



## THE OLD PROSTATE CANCER DIAGNOSTIC PATHWAY

- Used in the 3 largest prostate cancer screening trials: **CAP, ERSPC, PLCO.**
- Following this pathway, ERSPC demonstrated a **20% reduction** in prostate cancer specific mortality for men who were screened vs men who were not screened at 16 years follow up.
- **ERSPC** and **CAP** proved that prostate cancer screening **saves lives.**
- **ERSPC** and **CAP** also showed that screening is associated with harms: unnecessary biopsy, sepsis, overdiagnosis, and overtreatment.



## WHAT IS OVERDIAGNOSIS?

- Some cancers grow so slowly (or not at all), that they **don't cause any symptoms or harm if left untreated.**
- These are known as **clinically insignificant** or **indolent** cancers.
- Overdiagnosis happens when these harmless cancers are found through screening or tests.
- It can lead to **psychological and physical harms**, including unnecessary worry and **overtreatment.**



## WHAT IS OVERTREATMENT?

- **Overdiagnosis  $\neq$  overtreatment.**
- Overtreatment is a **consequence of overdiagnosis.**
- It happens when a man receives **unnecessary treatment for a prostate cancer that would not have caused any harm** if left untreated.
- Some of the physical harms associated with overtreatment including urinary incontinence, erectile dysfunction, fatigue, bowel issues, and higher risk of infection.



## HOW CAN ACTIVE SURVEILLANCE HELP?

- It is difficult to measure overdiagnosis and overtreatment – we can only estimate which cancers are more or less likely to progress or cause harm.
- In the UK, men diagnosed with low-risk prostate cancer are offered active surveillance.
- Active surveillance involves **regularly monitoring prostate cancer to check for any signs of growth or progression.**
- **It helps avoid or delay treatment** until it's really needed.
- **It helps reduce overtreatment.**



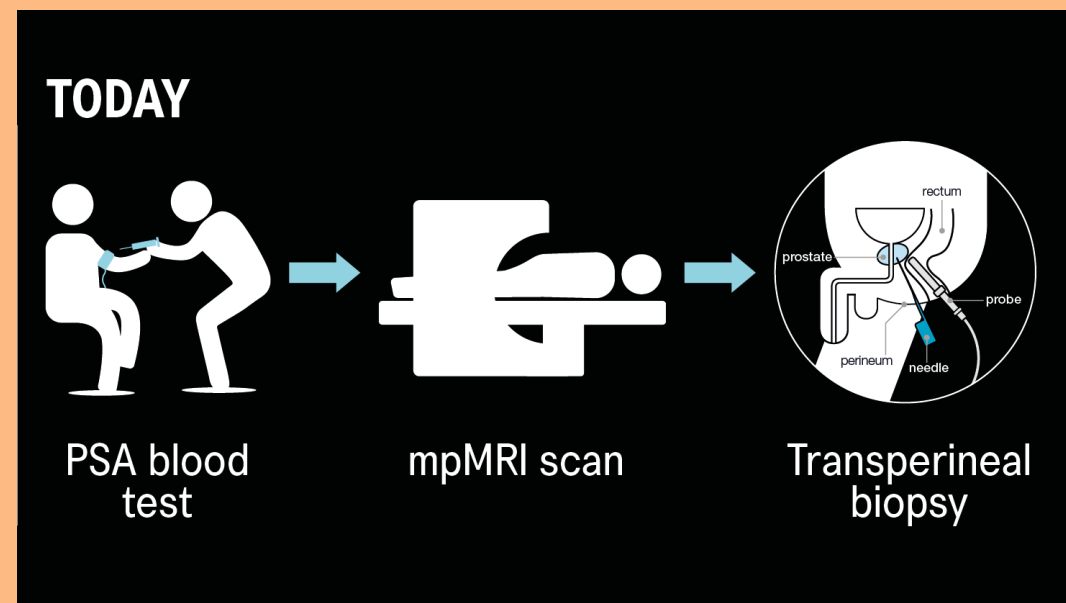
## HOW CAN ACTIVE SURVEILLANCE HELP?

- The UK is a world leader in active surveillance.
- **8% of men diagnosed with low-risk localised cancer in England underwent radical treatment** 12 months after their diagnosis.
- We assume the remaining **92% choose active surveillance** as their first treatment choice.



## THE CURRENT PROSTATE CANCER DIAGNOSTIC PATHWAY

- Pre-biopsy mpMRI reduces the number of men who have an unnecessary biopsy, and clinically insignificant prostate cancer diagnoses.
- 40% (and rising) of prostate biopsies are now transperineal – this has significantly reduced the risk of sepsis.







## REAL-WORLD DATA RESEARCH

- We analysed data from 16 hospitals in London and the South West of England to measure how many men experienced harm after a PSA test under the current prostate cancer pathway.
- We compared this to older data from the CaP and ProtecT trials, to see whether the harms from PSA testing have reduced over time.



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### Using real world data to bridge the evidence gap left by prostate cancer screening trials

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## REDUCING HARM IN DIAGNOSIS

Possible harm outcome after a PSA test	pre-MRI (CaP/ ProtecT)	Pre-MRI (UK clinical practice)	Current UK pathway model	Current pathway RAPID (London) RWD	Current pathway SW England RWD
% of men having a PSA test who have a biopsy showing no cancer	9.46%	9.34%	6.51%	2.33%	1.52%
% of men having a PSA test who have a biopsy showing insignificant cancer	3.83%	3.30%	1.11%	0.73%	0.83%
% of men having a PSA test who suffer sepsis	0.10%	0.21%	0.07%	0.02%	No data

## WHAT DOES THIS MEAN?



Advances in technology have **reduced the risk of harm** when being tested for prostate cancer by a massive...

**79%**

\*compared to the diagnostic pathway before MRI.

Today,

**90%**

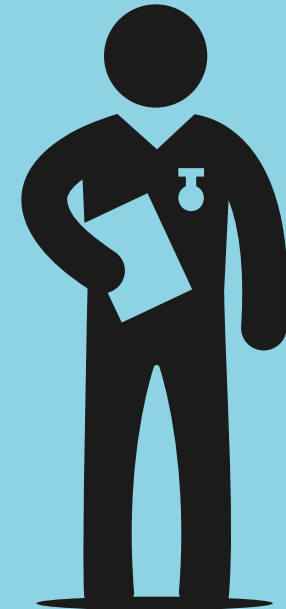
**fewer men** develop sepsis after a PSA blood test

\*Reduced from 0.21% in the diagnostic pathway before MRI to 0.02% in current UK clinical practice.

## KEY MESSAGES



- Our study provides the first quantitative estimates of reduction in harm after a PSA test.
- We have confirmed that the current UK prostate cancer diagnostic pathway is safer and more accurate.
- Our research makes it clear that **NHS guidelines are out of date.**
- **With this new evidence, we believe men at highest risk must be proactively informed of their risk and given the choice of a PSA test.**



# THANK YOU!

