

# Evaluating the Effectiveness of a Novel Mobile Outreach Clinic (the Man Van): Reducing Health Inequalities for Prostate Cancer and Other Health Conditions

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# Origins of the Man Van

- Johnny Hoo, a patient with advanced prostate initiated a series of concerts
- Referrals increased as spin off
- Man Van outreach project followed



Man Van across various sites and the interior clinical space.





Men often seek help late for a range of medical conditions that are major causes of death and serious illness.

## **Aims:**

Putting particular focus on prostate cancer, we aim to demonstrate that we can detect clinically significant disease at an earlier stage

To target at risk groups: black men, and men from more deprived backgrounds who we know have worse health outcomes

To detect clinically significant evidence of other major health risks as these are amenable either to simple testing or a targeted clinical examination

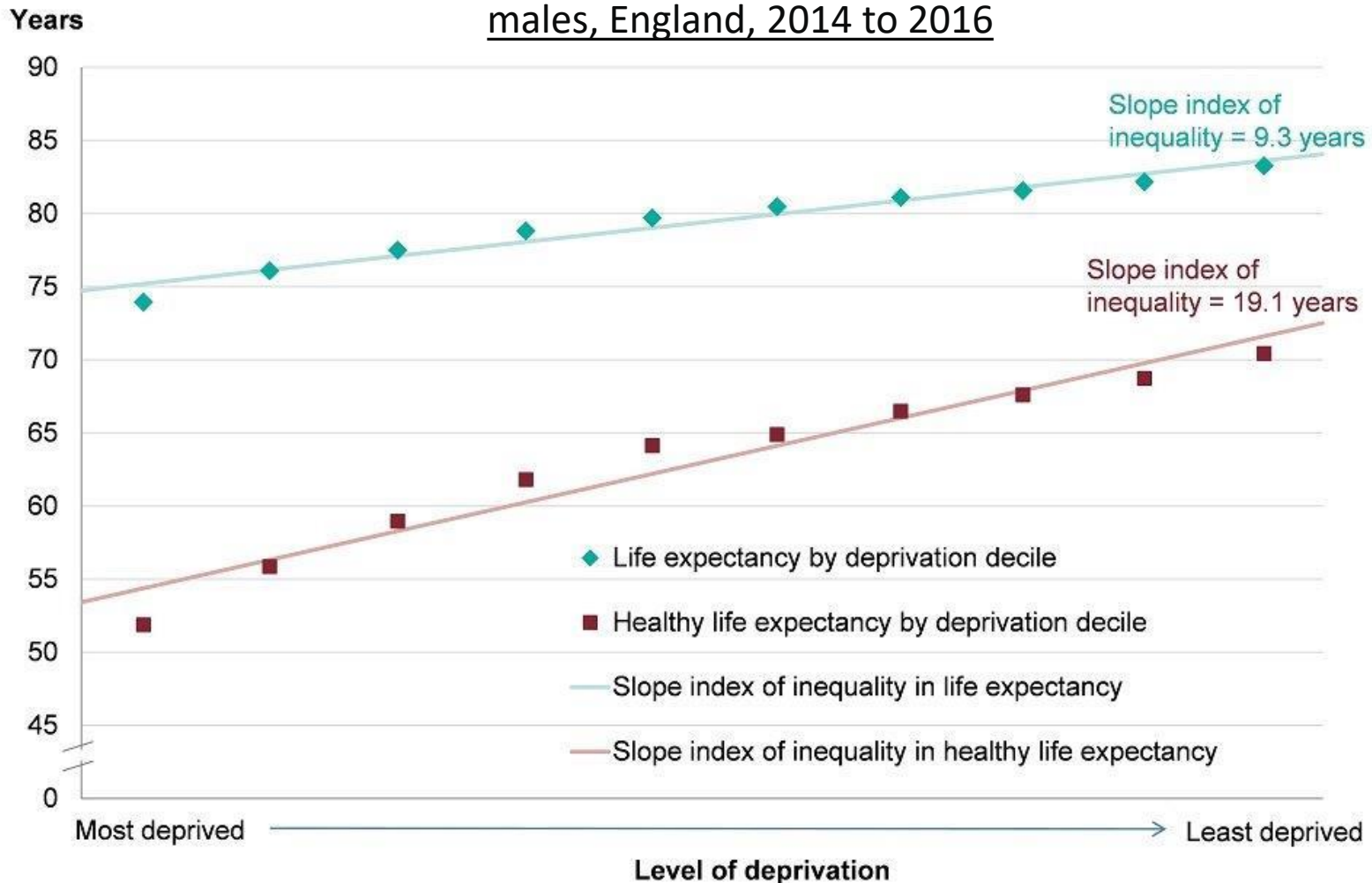
- Cardiovascular risk factors
- Diabetes
- Liver disease
- Psychological risk factors

# The Problem

- Deprivation linked to poor outcomes with prostate cancer
- Too many men present too late to be offered curative treatment
- The model for cancer diagnosis of
  - Figuring out you have a problem
  - Getting a GP appointment in areas frequently underserved by GPs
  - Getting referred to a specialist centre
- Is loaded against those in lower socio-economic groups, lower literacy, non-English speakers

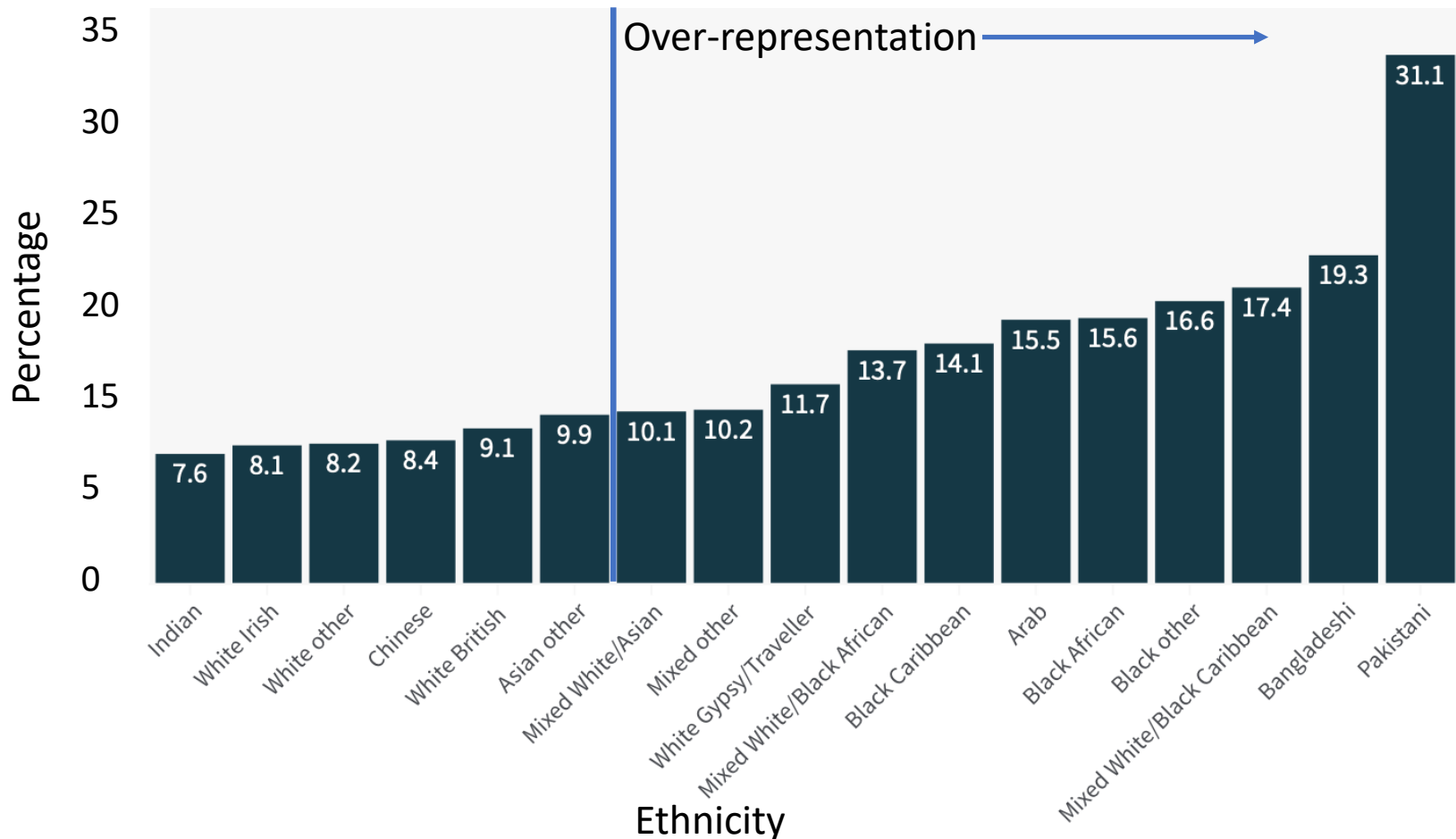
# Deprivation is a determinant of life expectancy

Index of inequality in life expectancy and healthy life expectancy at birth, males, England, 2014 to 2016



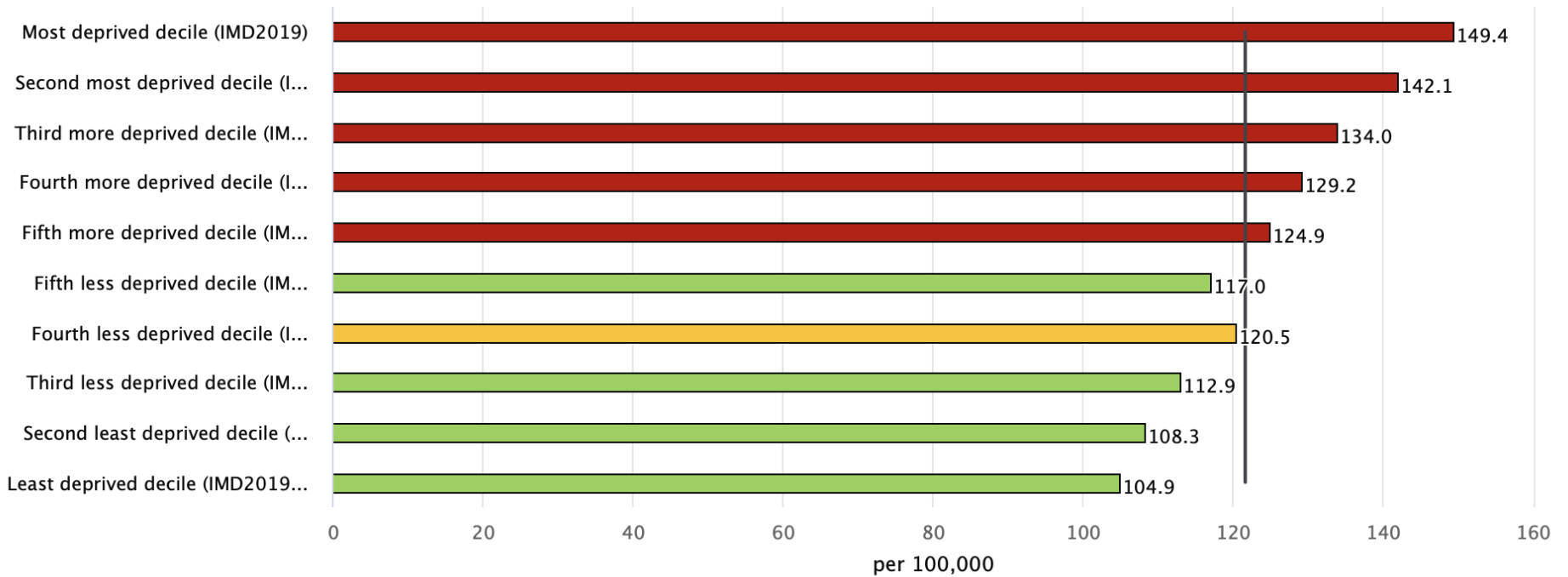
# Ethnic minority groups are disproportionately affected by deprivation

Percentage of ethnic groups living in the lowest deprivation decile



# Cancer mortality and deprivation

## Under 75 years mortality rate from all cancers



Source: PHE (2021)

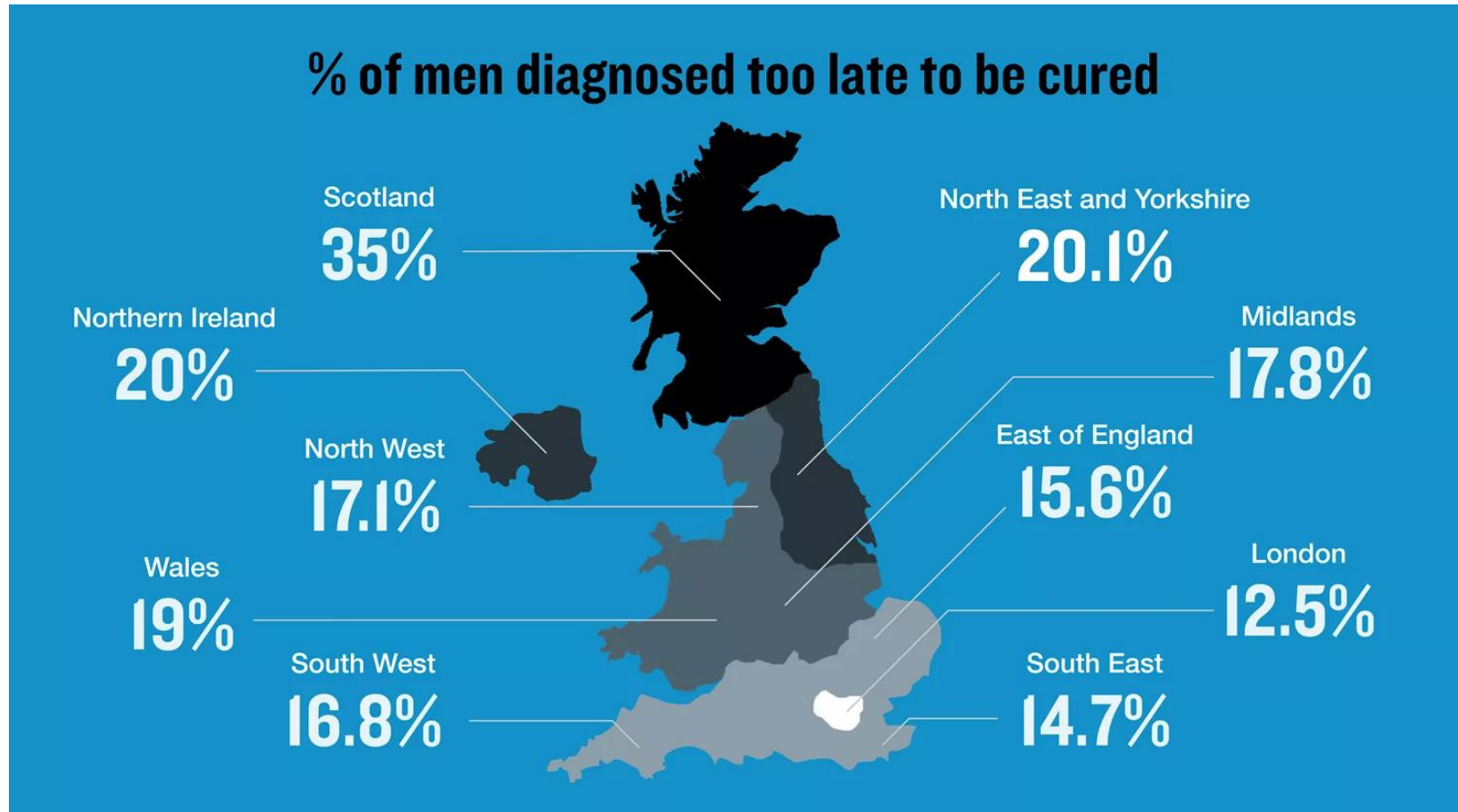
Better 95%

Similar

Worse 95%



## II. Deprivation and prostate cancer – higher rates of late-diagnosis

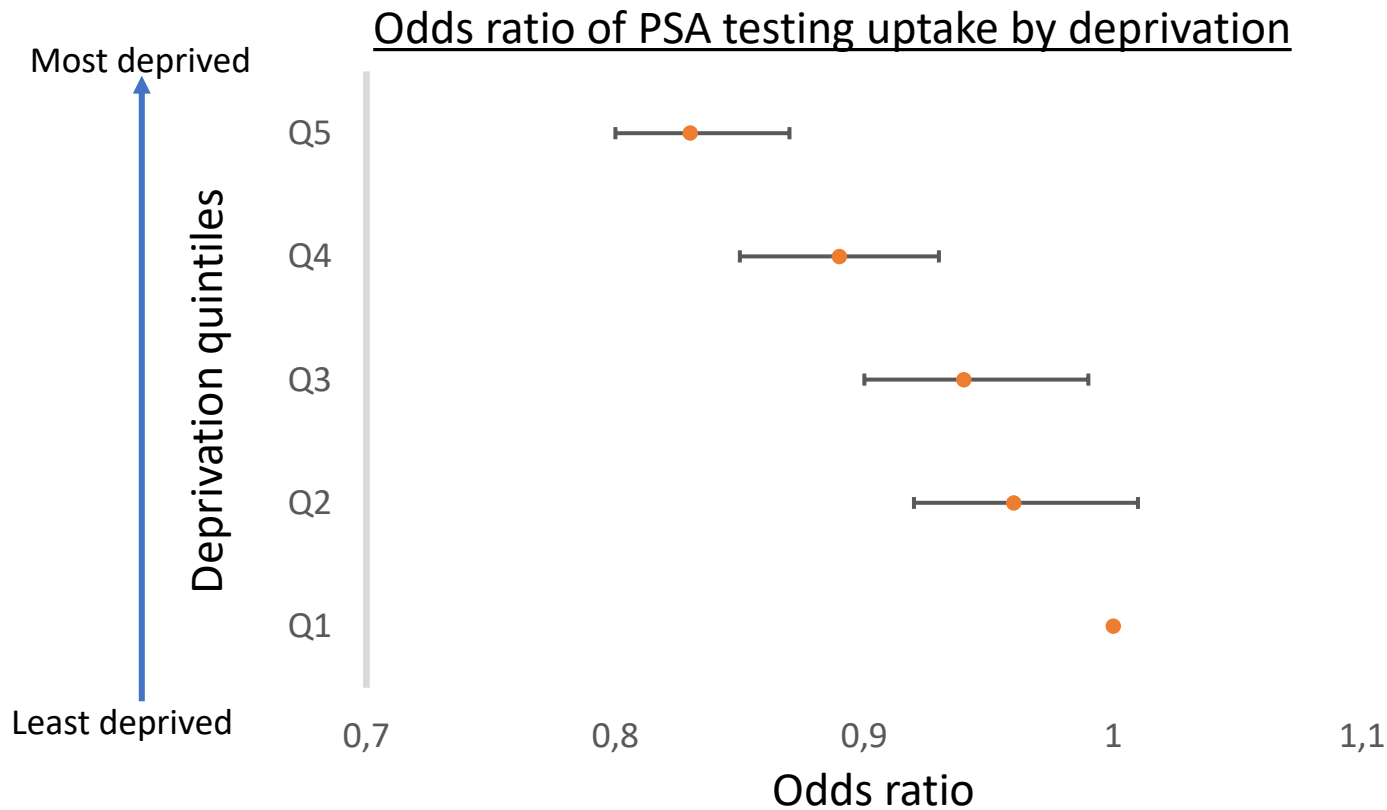


# Issues with PSA testing of asymptomatic men

- Overdiagnosis of low-grade disease that is not a health threat
- False negative results leading to inappropriate reassurance
- Overtreatment
- Can be mitigated by using MRI in diagnosis
- MRI now allows better case selection

# Relationships between deprivation and cancer

- PSA testing uptake is less likely in more deprived groups



# Socio-economic deprivation and prostate cancer

- Most deprived versus least deprived groups:
  - 14% higher mortality rate  
(Cancer Registration Statistics, England 2020)
  - 29% higher risk of presenting with metastatic disease  
(National prostate cancer audit, England/Wales, 2022)
- **Delayed diagnosis a key cause**

# A systematic review of mobile testing for prostate cancer

- Results
  - 6 studies included in final review with 30275 men tested
  - Significant variation in diagnostic rates from ethnically enriched population (Uganda, 8.3%) versus other countries (USA, Brazil, 3.2%),  $P < 0.01$
- Discussion
  - Limited information on effectiveness of mobile outreach but feasibility demonstrated
  - No knowledge base on reducing health inequalities
  - Higher detection rate from high-risk population study points to targeted screening having possible merit

(Review submitted for publication, currently under peer-review)

# Hypothesis:

- Mobile outreach clinics (the Man Van) are an EFFECTIVE model for the targeted testing, early detection and diagnosis of prostate cancer among ethnic minorities and deprived populations

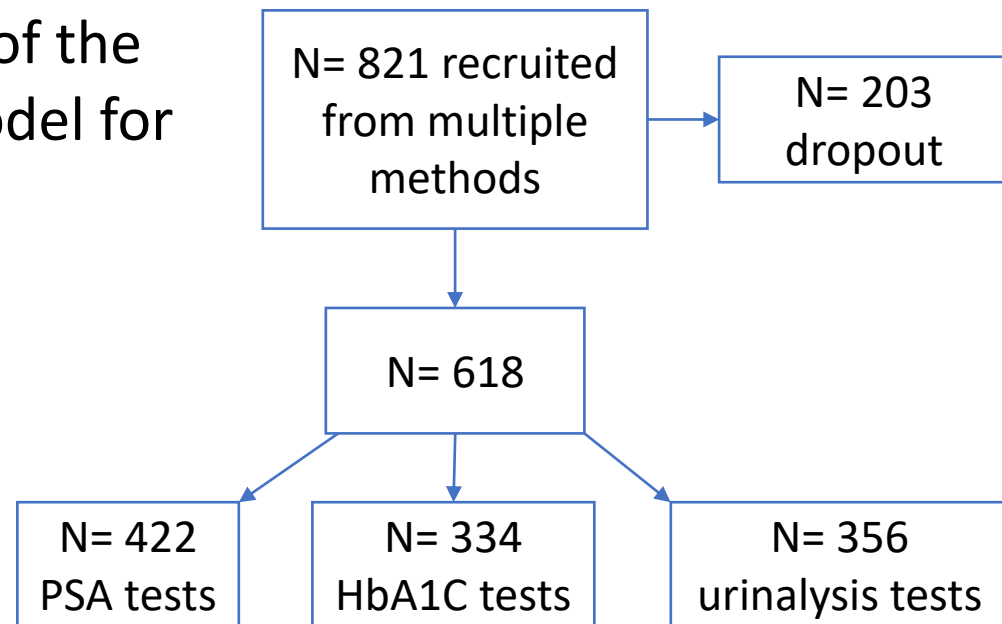
## Sub-hypotheses

- The Man Van model of mobile outreach clinics is a cost-effective model of targeted testing for prostate cancer and other health conditions
- The effectiveness of mobile outreach clinics (the Man Van model) is complemented by:
  - The assessment and diagnosis of other important health issues
  - Point of care blood testing



# Man Van mobile outreach clinics: model design and pilot study

- Aims: to determine whether the Man Van model of mobile outreach clinics is **feasible**
- Secondary aim: optimisation of the Man Van mobile outreach model for maximum impact
- Methods
  - Pilot feasibility study
  - Mixed methods



**Launch & Community Engagement** ICR The Institute of Cancer Research *The ROYAL MARSDEN* NHS Foundation Trust 

- Sutton Men in Sheds
- Croydon Asian Resource Centre & CBME Forum - Experts Patient Programme
- ACTS Christian Church
- Radio Jackie
- Croydon Mosque and Islamic Centre
- Croydon Local Councillor, Janet Campbell



# 3. Pilot study – Results

Ethnicities	N	Percentage
Black/Black British	182	29%
Asian/Asian British	81	13%
White	314	51%
Other	38	6%

15% Black ethnicity in Croydon

Prostate Cancer	N	Detection rate
Total prostate cancers	14	3.4%
Clinically significant PCa	9	2.1%

Other health conditions	N	Percentage
Hypertension	171	28%
Diabetes	18	5.4% (of HbA1c tests)
Pre-diabetes	52	15.6% (of HbA1c tests)
Urinary referral	46	7%
Erectile dysfunction	20	3%
Obesity	197	48%
Alcohol excess referral	43	7%
Mental health referral	37	6%
Smoking referral	51	8%

Ethnicity	PCa detection rates
White	1.4%
	7.3%
Black	(P<0.01 vs white)
Asian	2%

Deprivation results and analysis pending

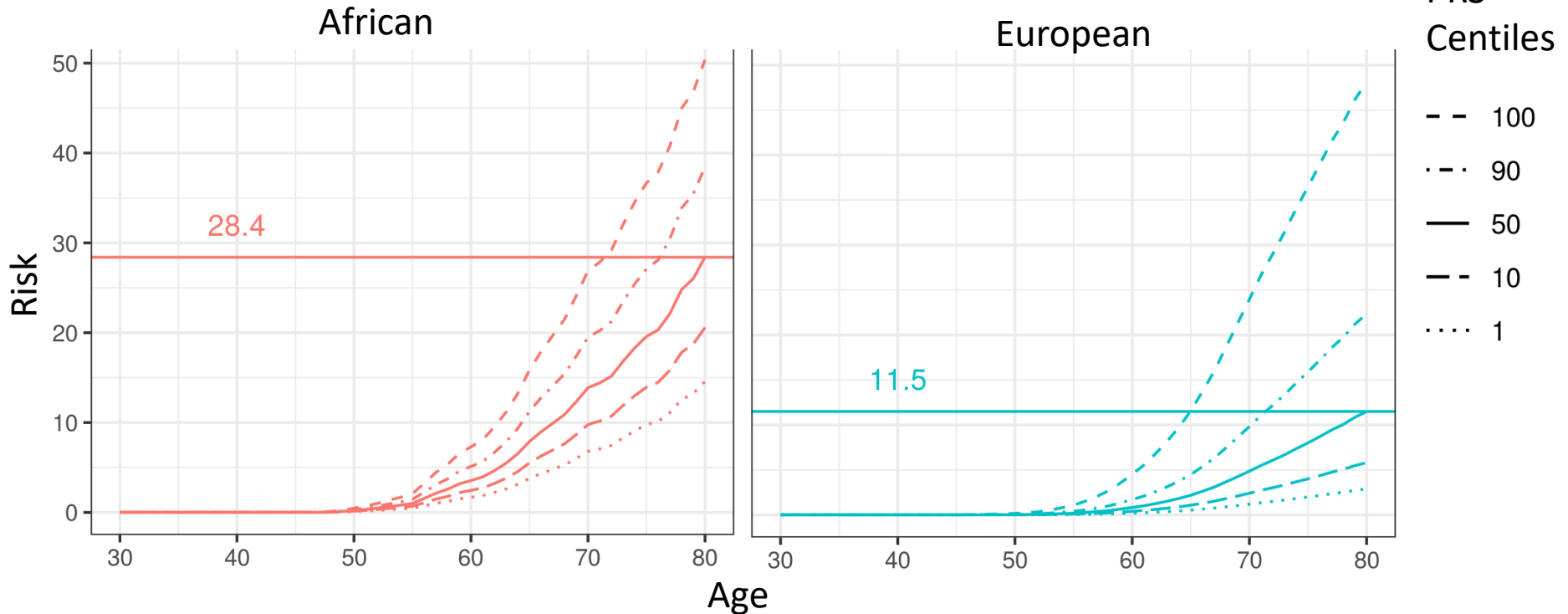
# The use of prostate cancer polygenic risk scores in high-risk men using mobile outreach clinics

- Aim
  - To understand the acceptability of polygenic risk scores to patients and clinicians using the mobile outreach clinics
- Secondary aim
  - To improve the understanding of the relationship of polygenic risk score, ethnicity and family history and development of a novel risk score calculator
- Hypothesis
  - Polygenic risk score tests are an acceptable method to risk stratify patients for prostate cancer in a mobile testing facility

# Can we reduce false negative rates? Polygenic risk scores

- Possible use to support targeted PSA testing for high-risk men
- The highest quintile of risk account for around 50% of cases

Lifetime risk of developing prostate cancer based on polygenic risk scores and age PRS

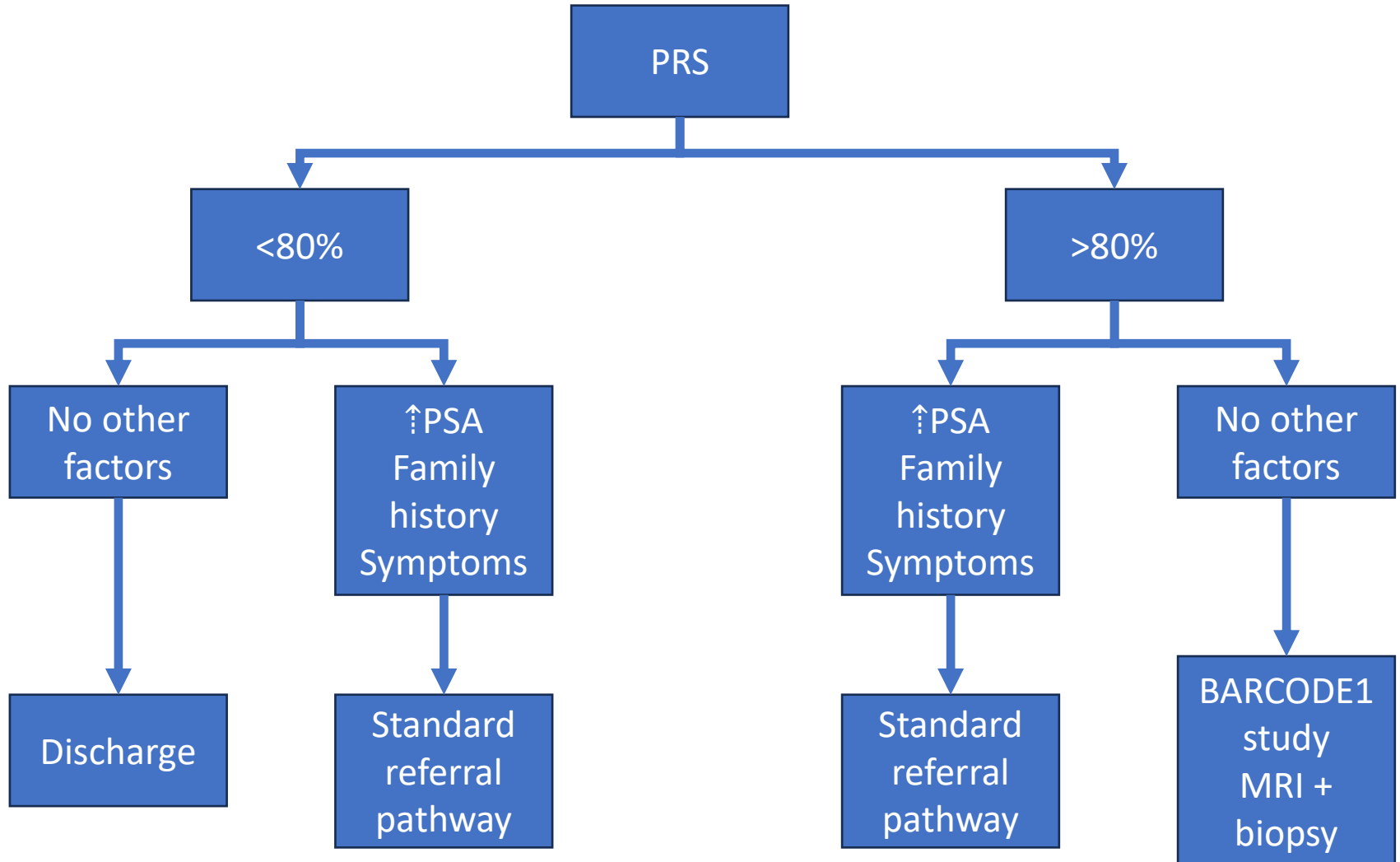


# BARCODE 1 preliminary results with polygenic risk scores

- 40,292 men invited, uptake was 22%,
  - 5008 men tested. 573 PRS in the top 10% and were invited for screening;
  - 180 had prostate MRI 100 had prostate biopsy.
  - 42 diagnoses of prostate cancer (42%)
  - 48% of cancers detected were clinically significant
- 
- [The BARCODE1 study in primary care: Early results targeting men with increased genetic risk of developing prostate cancer—Examining the interim data from a community-based screening program using polygenic risk score to target screening.](#)
  - Jana Kathlyn McHugh, Holly ni Raghallaigh, Elizabeth Bancroft, Zsofia Kote-Jarai, Sarah Benafif, and Ros A. Eeles
  - Journal of Clinical Oncology 2022 40:6\_suppl, 231-231



# Incorporating polygenic risk scores in the Man Van model



# Conclusions and future directions

- Evidence supporting the effectiveness of model using targeted health education and health checks
- Ongoing pilot evaluation continuing
- Targeting a range of men's health issues appears more effective than focusing on a single issue
- With active engagement, can target groups that are “hard to reach”
- Model applicable to other non-hospital settings such as community pharmacy



## The Telegraph

### Prince William suggests free pint may boost health checks for men

Duke of Cambridge seemed to be only half joking when he put forward an idea to tackle the problem of men being reluctant to get check-ups

## i News

### Prostate cancer mobile screening model could save thousands of lives if rolled out across NHS

EXCLUSIVE

Medics running The Royal Marsden NHS Foundation Trust outreach programme have started picking up their first confirmed cases



# Questions?