

## **The Man Van – Using Mobile Targeted Case-Finding to Address Health Inequalities in Prostate Cancer**

Mr Masood Moghul FRCS<sup>1,2</sup>, Miss Fionnuala Croft<sup>1</sup>, Miss Fiona Mutch<sup>1</sup>, Miss Elisabeth Westaway<sup>1</sup>, Miss Amina Tran<sup>1</sup>, Miss Deokhee Yee<sup>3</sup>, Dr Patrick Kierkegaard PhD<sup>3</sup>, Netty Kinsella PhD<sup>1</sup>, Mr Declan Cahill FRCS<sup>1,2</sup> & Professor Nicholas D James FRCR, FRCP, PhD<sup>1,2</sup>

<sup>1</sup>Department of Urology, The Royal Marsden NHS Foundation Trust, 203 Fulham Road, London, SW3 6JJ, UK

<sup>2</sup>Division of Radiotherapy and Imaging, The Institute of Cancer Research, 237 Fulham Road, London SW3 6JB, UK

<sup>3</sup>Cancer Research UK Convergence Science Centre, Imperial College London & Institute of Cancer Research, 5th floor, Roderic Hill Building, South Kensington Campus, Exhibition Road, London, SW7 2AZ

### **Background**

Early intervention is potentially lifesaving in prostate cancer and is a major limitation of cancer outcomes with ethnicity and deprivation being determinants of inequalities that impact outcomes. The Man Van is designed to address health inequalities and barriers to accessing healthcare that affect prostate cancer with novel community-based targeting of high-risk groups using a mobile clinical unit. These inequalities are particularly relevant for men from ethnic minorities and lower socio-economic groups.

### **Methods**

A bespoke nurse-led mobile clinical unit was moved to community-based locations in areas of high deprivation indices in London (UK) with targeted invitations to high-risk men. Men were offered prostate-specific antigen (PSA) tests and a general health check including: blood pressure, body mass index and an HbA1c test for diabetes. Phase 1 was from December 2021-December 2022 before the service streamlined and relaunched with phase 2 in January 2023.

### **Results**

In phase 1, 610 men attended with 48% of attendees being non-White including 30% Black men. 15 prostate cancers were diagnosed (3.6%; 95% CI 2.0 to 5.9) with 10 of these being clinically significant disease. Black men were more likely to be diagnosed compared to white men: 7.1% versus 1.8% ( $P<0.05$ ). 13 diabetics were diagnosed (3.9% of tests) and 50 pre-diabetics (15.1% of tests). Significant other co-morbid conditions were found as shown in table 1 below:

	All Man Van patients (N=610)		
Co-morbidity detection	N	%	95% CI
Alcohol excess	34	5.6	3.9 to 7.7
Hypertension	181	29.7	26.1 to 33.5
Mental health	45	7.4	5.4 to 9.7
Weight management	41	6.7	4.9 to 9.0
Smoking cessation	53	8.7	6.6 to 11.2
Erectile dysfunction	20	3.3	2.0 to 5.0
Urinary tract infection management	9	1.5	0.7 to 2.8
Benign lower urinary tract symptoms	40	6.6	4.7 to 8.8
Other	90	14.8	12.0 to 17.8

Table 1: numbers and percentages of patients referred to primary care for other health conditions.

In phase 2, 3379 men attended (median age 59 years). 62% of attendees were white and 19% had Black ethnicity (background 11%). 311 patients were referred for elevated PSA levels with 95 prostate cancers being diagnosed, 82 of these being clinically significant disease. The diagnostic rate of prostate cancer was 3.1%. 43 patients (2%) were diagnosed with diabetes 207 patients (11%) with pre-diabetes. No prostate cancers were metastatic at presentation, with only one being T4. 2 bladder cancers diagnosed, both high-grade and one was metastatic at presentation.

A cost-consequence analysis of PSA testing comparing PSA testing within Man Van versus primary care is shown in figure 1:

## **Conclusions**

The Man Van project is a novel approach to tackling health inequalities by improving access to healthcare and ease of follow-up. Higher levels of prostate cancers were diagnosed (compared with previous studies) at early stages. The model offers economic value further boosted by the high levels of health conditions found. Over recruitment to the project from ethnic minorities shows this method of outreach may be beneficial for hard-to-reach groups. The model is effective and simple and can be translated to low and middle income settings with suitable adjustment for local conditions.

## **Conflicts of Interest**

The authors report no conflicts of interest.

## **Funding**

The project was funded by grants from NHS England and the Royal Marsden Cancer Charity.