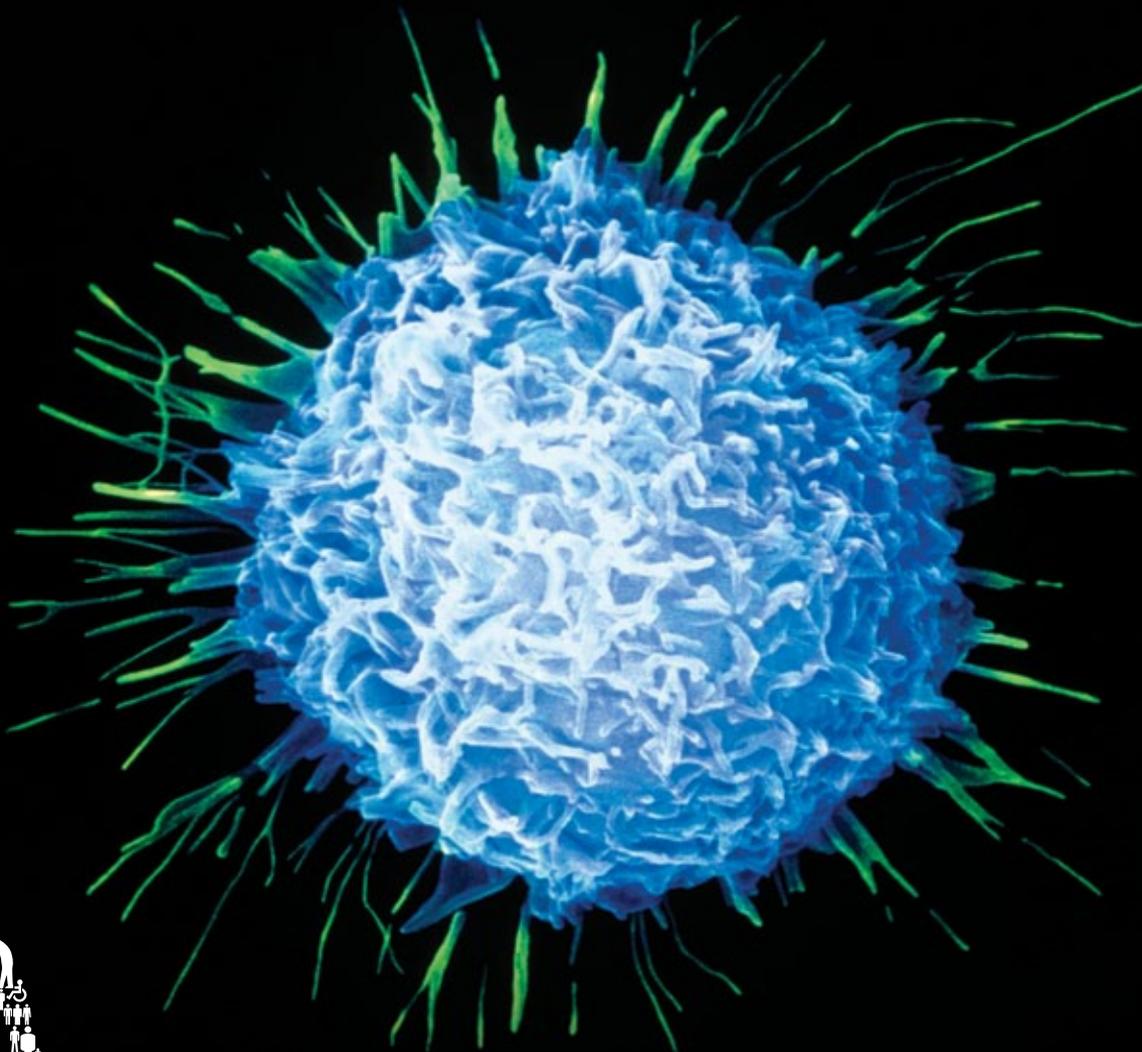


Research Strategy 2012 – 2020



**PROSTATE
CANCER UK**

Foreword

Acknowledgements

We are particularly indebted to Professor David Neal and Professor Michael Olson for their expert assessment of the trends, gaps and bottlenecks in UK prostate cancer research on which a great deal of this strategy has been based. We also wish to thank the researchers we contacted for an expert view on their area of specialty.

Of particular importance in defining the strategic priorities, were the opinions of the many people affected by prostate cancer who were kind enough to share their experience. We thank you for your efforts in helping us understand where we should prioritise our research investment.

Finally, we thank National Cancer Research Institute for providing comprehensive data on UK cancer research spend, Dr Jim Elliott for his analysis of the outcomes of the charity's research investment to date, and Dr Grant Lewison for an extensive bibliometric analysis of international prostate cancer research output over the last decade.



Only 30 years ago men were routinely castrated because of prostate cancer, regardless of its level or stage. This had to change. In 1996 Prostate Cancer UK was founded in response to the urgent need to invest more in prostate cancer research and to raise the profile of a long-neglected disease.

Since our foundation we have spent over £12 million on research into prostate cancer that will further the development of treatments, tests and long-term care. But 250,000 men in the UK living with this disease need more discoveries, progress and hope.

Prostate cancer is the most common cancer in men but there is still so much to learn. One in nine men will get prostate cancer and one man dies every hour from this disease. Doctors are still unable to tell many newly diagnosed men whether their prostate tumour is dangerous or not. We won't ever stop asking the questions to find out why – and what can be done to improve things.

Every year we have funded pioneering research to improve the lives of men affected by prostate cancer. In 2012 we make a massive leap in our research investment as part of our commitment to finding answers. This wouldn't be possible without our partnership with Movember, working together to make men's health matter on a global scale. The money raised from Movember enables us to not just invest in the best research but the best

people and the best places. We have already produced inspiring results for men, such as improving the outcome of radiotherapy and finding new potential ways to control advanced prostate cancer.

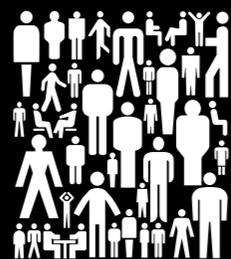
By 2020 we want to have made a real, tangible difference. We want men to know whether they are at risk of developing aggressive prostate cancer, to understand the path their cancer is likely to take if they do develop it, and what treatment to choose. We want to help scientists innovate and find new ways to tackle problems that desperately need solving.

Ultimately we have to accelerate discovery in three key areas - risk, diagnosis and treatment.

We can deliver major improvements in prostate cancer diagnosis and treatment within the next decade if we focus our efforts on bringing early laboratory data through to clinical application. This strategy highlights how we can achieve this. Through collaboration, expert support and clear targets we can make a real difference to each man's prostate cancer path.

Handwritten signature of Owen Sharp.

Owen Sharp
Chief Executive



We aim to find answers to the many questions posed by prostate cancer

Strategy at a glance

This 2012-2020 Research Strategy sets out how we will invest in scientific and medical research over the next eight years.

We will fund research in three priority areas:

- Identifying men at high risk of developing aggressive prostate cancer
- Distinguishing aggressive from indolent prostate cancer
- Developing new, targeted treatments for advanced disease

We will fund both small grants and major awards:

- UK prostate cancer bio-bank network
- Centres of excellence
- Training and career development awards
- Training awards in specialty areas
- Response-mode project and pilot grants

Although outside the scope of this strategy, we will fund:

- Research into other prostate diseases
- A targeted programme of research into Survivorship





Kunal Lodhia,
previously funded by
Prostate Cancer UK

Research priorities

Prostate cancer is not one disease but hundreds, each tumour having its own unique molecular characteristics, behaviour, and vulnerabilities. We need to move away from ‘one-size-fits-all’ therapy to a more personalised, targeted approach. This approach will be based on understanding the complex molecular machinery driving the development, growth and progression of prostate tumours.

Personalised cancer medicine involves understanding individual risk and tailoring individual treatment. We believe this is the best hope for improving the lives of men affected by prostate cancer. We will invest in three key research areas that should offer important advances in prostate cancer diagnosis and treatment by the end of the decade.

I: Predicting risk

Research evidence identifies a small number of very broad risk factors for developing prostate cancer; age, family history and ethnicity. Unfortunately these factors alone are not specific enough to identify men at very high risk of developing prostate cancer, where regular testing could be effective. Through research in areas like molecular profiling and epidemiology, we think it will be possible to define the groups of men at highest risk much better. This would enable these men to be closely monitored, giving a better chance of diagnosing aggressive cancer at an early stage when treatment is more likely to be successful. It is equally important that this would help spare men at very low risk of aggressive prostate cancer from invasive diagnostic procedures and over-treatment of slow-growing, indolent tumours.

Goal: By 2020, our research programme will have helped identify better tests which group men by risk. Some of these tests will be in the process of clinical validation.

2: Detecting aggressive disease

The often unpredictable nature of prostate cancer means that newly diagnosed men can be faced with an almost impossible decision: to have radical treatment and risk long-term, potentially debilitating side effects when the tumour might be relatively benign? Or to opt for active surveillance, running the risk that the tumour might invade and spread without warning? Diagnosis of prostate cancer is currently made by a combination of PSA testing, manual examination of the prostate and prostate biopsy. Yet none of these techniques can conclusively tell whether a tumour is a 'tiger' or a 'pussycat' when confined to the prostate. We know from working together with men affected by prostate cancer that this is the single biggest issue they want to see addressed.

A substantial amount of our research investment will go towards the development of a prognostic test that flags aggressive tumours clearly and early. Men with aggressive tumours can then be referred for immediate and radical treatment. This test would also give men with low-risk tumours confidence that active surveillance is an appropriate choice for them.



Goal: By 2020, our research programme will have identified new biological markers, clinical techniques or tools that will significantly improve the accuracy of prognosis. Some of these tests will be in the process of clinical validation.

3: Treating advanced cancer

For men whose prostate cancer spreads beyond the prostate gland, we believe there are not enough treatment options. Hormone therapy has long been the key treatment to keep metastatic prostate cancer in check, but despite recent advances, tumours still eventually become resistant and this marks the onset of the final stages of the disease.

Recent developments have shown the possibility of treating tumours according to their molecular make-up, rather than their appearance under a microscope. In future we hope tumours will be targeted according to their individual characteristics, as we are already seeing for some other tumour types. We believe that a focused research effort will lead to a greater understanding of the way in which prostate tumours progress. This will then lead to the development of more targeted treatments, extending the life of men with advanced disease.

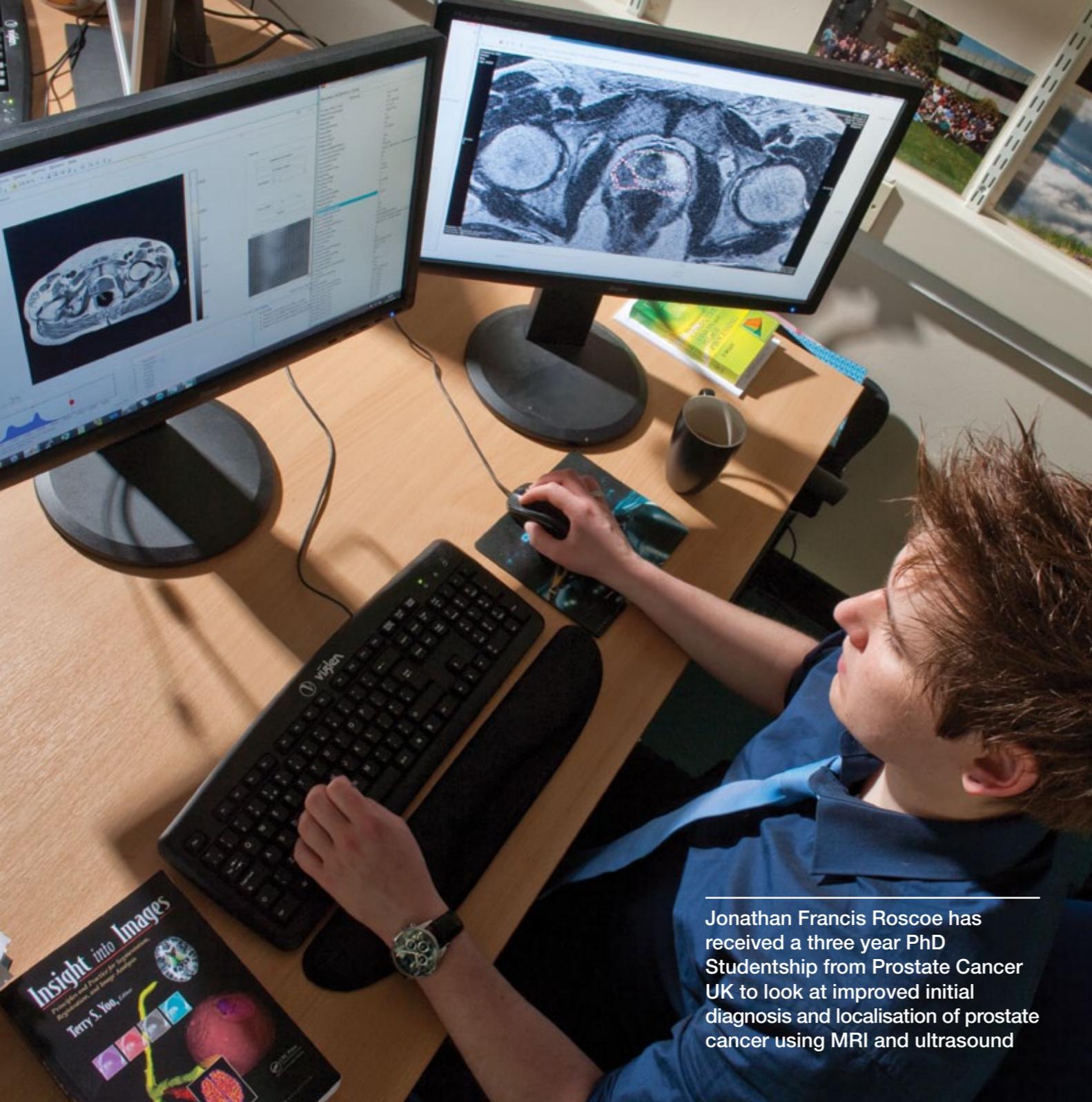
Survivorship

We are committed to the development of a strong evidence base which enables us and others to support anyone affected by prostate cancer. While survivorship will no longer be a part of our medical research funding programme, a separate, targeted programme will be developed to support prostate cancer survivorship research in the UK.



Dr Valentine Macaulay, currently investigating the role of the type 1 IGF receptor in advanced prostate cancer and funded by Prostate Cancer UK

Goal: By 2020, our research programme will have revealed new molecular pathways involved in advanced cancer and identified potential treatment targets with associated predictive biomarkers.



Jonathan Francis Roscoe has received a three year PhD Studentship from Prostate Cancer UK to look at improved initial diagnosis and localisation of prostate cancer using MRI and ultrasound

Funding themes

Under our three strategic priorities, we have identified themes that build on existing prostate cancer research in the UK to ensure a legacy beyond the initial research grant. We hope this will help researchers move towards these goals more quickly.

Our guiding principle will always be to support the best research carried out by the best people in the best place.

Bio-banks

Researchers have great difficulty in accessing sufficient quantities of good quality tissue samples that are annotated with important clinical data such as treatment and outcome. To improve access to tissue, we will fund the creation of a centrally administrated bio-bank network. This will provide centres with existing tissue collections additional funding for researchers to collect, annotate and distribute samples. It will also give them the ability to replenish and expand their repository.

Centres of excellence

We believe that an integrated, multi-disciplinary approach to prostate cancer research is the most effective way of translating early research findings into clinical use. We will establish a small number of centres of excellence that have expertise in basic and clinical science as well as in relevant specialty areas. The centres will be ambassadors for us and for UK prostate cancer research. They will also be expected to establish wider collaborative networks, help improve access to tissue samples and provide an excellent training environment for new researchers.

Training and development

Supporting promising early career researchers at critical points in their academic career is vital if the amount of prostate cancer research is to increase, especially in the current funding environment. We will offer junior and intermediate fellowship schemes for clinical and non-clinical researchers, as well as a small number of programme awards for newly appointed group leaders. This will help draw new people into the field and support the difficult transition from post-doctoral training to independent researcher.

Our commitments

Data analysis

The high throughput technologies that are essential in introducing personalised cancer medicine bring a significant challenge in the analysis of large amounts of biological data. To help stop capacity issues slowing down research, we will specifically allocate funding towards training awards in molecular pathology, informatics, statistics and computational biology.

Response-mode funding

Each year we will award a significant number of project and pilot grants in response-mode for innovative research geared towards the three strategic aims. With these grants we will seek to promote innovation, helping researchers explore new ideas and produce data that will lead to major applications to larger funders.

Outside the scope of our research funding are large clinical trials and studies of mass population-based screening or cancer prevention. We view these to be better covered by other funders. However, small proof of principle studies that fit with our strategic goals and are expected to lead to larger awards will be considered.

Also outside the scope of our funding remit is very basic, descriptive scientific research with no realistic translational goals or route to clinic. We will of course support basic biological studies intended to reveal molecular pathways and identify treatment targets, but the relevance to prostate cancer and potential impact for men affected by the disease must be made clear.

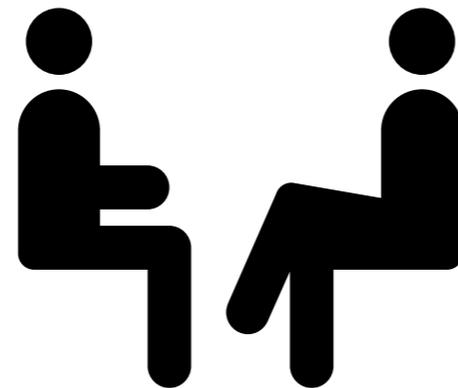
Medical research is an important but expensive undertaking and we are committed to ensuring that every pound invested in our research programme is spent to its maximum advantage.

Expert independent advice

To ensure we are always able to identify the best quality research for financial support, all research awards will be subject to rigorous and independent expert peer review. Reviews will be conducted against defined criteria with the most important being the potential impact for men affected by prostate cancer, how it fits our strategic aims and the quality of research methodology. We will also remain a member of the Association of Medical Research Charities, adhering to their best practice guidelines for research governance - a recognised quality mark for our research programme.

Partnership working

Working directly with people affected by prostate cancer, we can be a bridge between those living with the disease and the research community. It is vital that we work together when determining priority areas and selecting research for funding. We will facilitate the direct involvement of men affected by prostate cancer in research projects and clinical trials. As a partner member of the National Cancer Research Institute we will also represent men's health needs in the wider research funding community. Where it would further our strategic aims and maximise the value of our research spend, we will seek and welcome opportunities to fund research jointly with other charities and government agencies.



Dissemination

Advances in research are more often achieved through many small steps rather than single giant strides. It is essential that the results of our funded research are spread widely and in a timely fashion if they are to contribute to the global research effort. Our funded researchers will be expected to publish their work in open access forms and an allocation will be made within their grant to support this. We will also work directly with researchers and their institution to ensure that important advances resulting from projects we have directly funded are actively communicated.

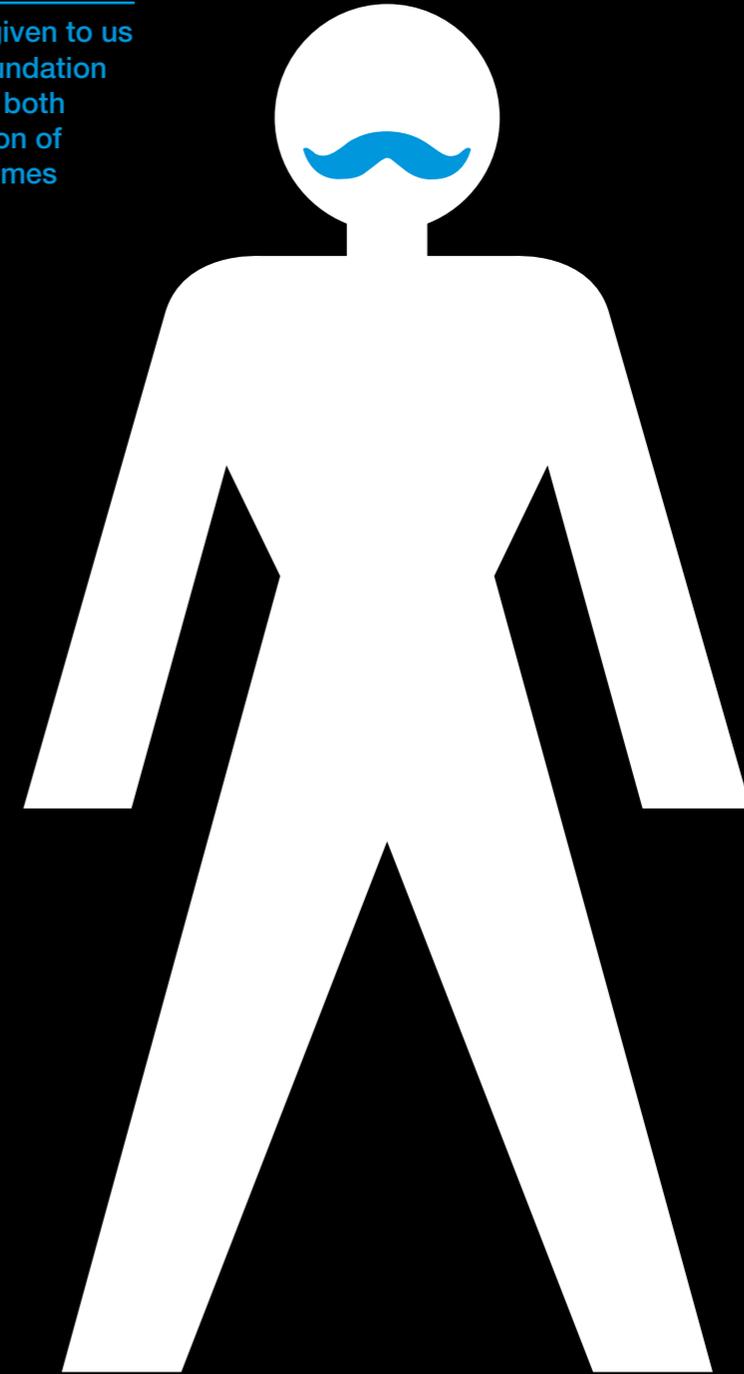
Impact and accountability

Emphasising outcomes and impact is essential if our investment in research is to improve the lives of men affected by prostate cancer as quickly as possible. We will always be accountable to our supporters for our allocation of research funding and we will monitor the projects on a regular basis. Annual progress reports and a final detailed report will be mandatory. Findings from our funded research will be communicated to our supporters. Researchers will also be required to update participants in their studies about the outcome of the work.



We will oversee the performance of our research programme as a whole against the objectives and goals outlined in this strategy. We will then use the findings to inform future research investment. The first formal assessment is scheduled for 2016, half-way through this strategic plan.

The generous funds given to us by the Movember Foundation have helped increase both the scope and ambition of our research programmes





**Speak to our
Specialist Nurses**

0800 074 8383*

prostatecanceruk.org

The helpline is open Mon - Fri 9am - 5pm, plus Wed 7pm - 9pm

*Calls are recorded for training purposes only.

Confidentiality is maintained between callers and Prostate Cancer UK.

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