The Next Steps for Wales to Achieve its Potential in Medical Research

The Fifth Senedd Cross Party Group on Medical Research

February 2021

This report has been compiled and funded by the British Heart Foundation, which provides the secretariat for the Cross-Party Group on Medical Research.

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Foreword from the Chair

Research and innovation make a vital contribution to health and social care. Discoveries made by dedicated researchers in laboratories across the UK translate into improvements in prevention, diagnosis, and care for millions of people all over the country.

The Covid-19 pandemic has focused the world's attention on research in a way we have not seen for decades. We have placed our hopes for a brighter future on companies and individuals with skills and experience unfamiliar to many of us. This extraordinary emphasis on finding a vaccine for coronavirus in record time has brought home the importance of medical research and Wales played an important part in the search for a vaccine. The Oxford/AstraZeneca Covid-19 vaccine was approved following a global trial, in which Welsh participants and healthcare professionals played a key role.[1]

Of course, the benefits of medical research aren't just felt in health and social care, a thriving medical research environment has the potential to support a thriving economy. Careers in research and the discoveries these researchers uncover can attract massive wealth and talent to Wales. Between 2015 and 2019 medical research created 980 jobs in Wales.[2]

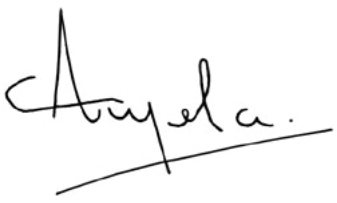
Despite that positive outcome, Wales does not meet its potential in medical research and therefore we do not reap the benefits. Wales achieved significantly less than its share of UK and Global research funding and only receives 2.4% of the UK research spend.[3]

Professor Graeme Reid outlined how wide-ranging these problems are and was able to offer a range of solutions to support Wales in achieving its potential in medical research.

The Cross Party Group on Medical Research undertook an extensive inquiry to find out how the conclusions of the Reid Review impacted the medical research environment in Wales and what still needs to happen for us to capitalise on the skills and innovation within the Welsh research environment.

Unfortunately, the findings of the Group were disappointing. It has been three years since the Reid Review and with the exception of the Welsh Research and Innovation Office in London — Reid's recommendations have gone largely unimplemented.

As Chair of the Cross Party Group on Medical Research, I am calling on the Welsh Government to recognise the importance of a thriving medical research environment, to understand and commit to dismantling the barriers that hinder the development of this sector, and to support the development of the skills and opportunities nascent within medical research in Wales.



Angela Burns, MS

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1 Introduction

1.1
About The Cross Party Group on Medical Research

The Cross Party Group on Medical Research, chaired by Angela Burns MS has operated within the Senedd since November 2018. The Group brings together Members of the Senedd, third sector, industry, patients, and clinicians to drive improvement in the medical research environment in Wales. For more information about the Cross Party Group please visit the *Group's webpage on the Senedd website*.

1.1.1 Senedd Members

- **Angela Burns MS (Chair)**
- **Dai Lloyd MS**
- **Caroline Jones MS**
- **Mike Hedges MS**

1.1.2 Secretariat

BHF Cymru acts as the Secretariat for the Group.

1.1.3 CPG Terms of Reference

- **To bring medical research into the [Senedd] to enhance Members' understanding of funded projects in Welsh Universities, further education, and healthcare settings which have long-term potential to be translated into life-saving treatments;**

- **To explore issues facing researchers, such as funding environments, recruitment and retention, access to students who can assist projects, and available resources within individual institutions;**

- **To provide a chance to see how research has made a difference to the lives of people living with certain health conditions and encourage timely debate on health issues in Wales;**

- **To raise awareness and understanding of the value of life sciences to the Welsh economy.**

1.2
Background to the Inquiry

In January 2017 the Welsh Government commissioned Professor Graeme Reid to investigate Government-funded research and innovation in Wales which *reported in June 2018* with three recommendations regarding Welsh Government's future investment in research. These recommendations were:

- **A new Welsh Research and Innovation Office in London to increase the visibility and influence of Welsh research;**

- **An additional fund of £30 million a year, to incentivise researchers to win greater funding from business and from outside Wales; and**

- **A single overarching brand for its research and innovation funding to increase the visibility, coherence, and impact of Welsh Government-funded research and innovation in Wales.**

Previously, *the Diamond Review* made recommendations regarding QR (quality-related) research funding, and these recommendations formed part of the terms of reference of the Reid Review.

The Cross Party Group on Medical Research was formed in November 2018 and wrote to the Welsh Government to understand how they were progressing with the Reid Review's recommendations from July 2018. With two of the three recommendations requiring further large investment from Welsh Government, the CPG wanted to consider whether there were policy recommendations that could better support medical research to ensure that the post-Brexit landscape is as robust as possible for the research community and might ensure the best possible innovation and collaboration.

The Cross Party Group has also identified that there are many areas of research which need to be considered within "medical research" from traditional university led research to healthcare settings, and has heard from many the issues which are still facing those undertaking research in Wales.

The definition of medical research used in this report is extremely wide and intended to encompass as many forms of research as possible. For the full definitions see Section 10.

The timeline for many of the evidence submissions to this inquiry pre-date significant developments in UK research policy, such as Brexit and the UK Governments R&D roadmap. Efforts have been made in writing this report to reflect the latest information from these developments (such as the agreement of the UK's associate status as part of Horizon Europe) but focuses on the issues raised by the members of the Cross-Party Group on Medical Research as part of the inquiry.

The report also seeks to build on previous reports published on medical research in Wales such as the Diamond Review, the Reid Review, Cancer Research UK's Bench to Bedside report and the Senedd's Economy, Infrastructure and Skills Committee inquiry into research and innovation in Wales. It therefore seeks to address where further progress is needed in the work suggested by these reports.

"Welsh expenditure on research and development has lagged behind other parts of the UK for some time."

Cardiff University

1.2.1 The Inquiry Terms of Reference

Following on from Professor Reid's review into research in Wales, and with a view that recommendation 2 and 3 are dependent on UK Government replacing EU structural funds with adequate funds from the Shared Prosperity Fund, the Cross Party Group on Medical Research held an inquiry with the following terms of reference:

- **To invite and take evidence from each sector involved in medical or health research currently engaged in projects with the potential to be translated into life-saving treatments;**
- **To understand what can be done in a post-Brexit environment on issues facing Researchers such as funding environments, recruitment and retention, access to students who can assist projects and available resources within individual institutions;**
- **To understand what opportunities may be available with the forthcoming Post Compulsory Education, Training and Research Bill (PCETR) and Research and Innovation Wales (RIW);**
- **To review each sector's aspirations for the future of medical research in Wales; and**
- **To make recommendations to Welsh Government based on this evidence.**

2 Funding

The CPGMR inquiry has found that most stakeholders were deeply concerned about low levels of Welsh Government funding across the research pathway. Respondents pointed out that funding on research is significantly less in Wales than in other UK nations and were concerned that the effects of this created barriers to inward investment in research as it gives the impression that the Welsh Government does not have a strong commitment to medical research excellence. Respondents suggested that lack of Welsh Government funding may be causing researchers to refrain from, or even withdraw grant applications.[4]

2.1
Quality-Related (QR) Funding

Quality-related funding is annual, un-hypothecated research funding awarded by the Welsh Government to higher education institutions through Higher Education Funding Council for Wales (HEFCW). QR funding supports university researchers to improve resources and equipment to compete for other funding streams. QR funding is given based on the quality, volume, and relative cost of research in different subject areas.[5]

In 2018, the Reid Review placed the highest priority on the role of QR funding in encouraging research and innovation in Wales. The review recommended 'that Wales has at least parity in the levels of un-hypothecated research and innovation funding compared to the rest of the UK'.[6] Professor Graeme Reid identified that Wales' low levels of hypothecated funding has been a source of structural weakness for two decades and recommended that QR funding be protected at £71 million in real terms alongside the creation of a new £30 million fund to provide indirect funding to researchers who successfully attract external funding.

To date, this recommendation has not been fulfilled by the Welsh Government. For example, QR funding given to Universities by the Welsh Government remained at £71 million in 2020/21. This has not been increased with inflation since 2016. The pot did receive a £4.7 million boost in 2019/20 but this was not continued in 2020/21. The QR funding pot is also is significantly lower than comparable budgets in other UK nations. For example, the QR funding budget stands at £240 million in Scotland[7], roughly double that in Wales when taken on a per capita basis.

Respondents to the CPG inquiry unanimously agree that an uplift to QR funding is vital to improve the medical research environment in Wales. Respondents pointed out that HEIs and researchers rely on QR funding as part of the dual support system to fund staff, resources, and infrastructure and to attract other investment from outside Wales. This is especially so as funding agencies now assess applications against criteria that look for enriched research environments & inter-disciplinary teams, for which HEIs rely on QR funding. QR funding also benefits HEIs by meeting the costs of entering financial partnerships, allowing them to accept research grants from funders that do not meet the full economic cost.

Low QR funding, therefore, is limiting the grants that researchers in Wales can apply for and is making Wales a less attractive place to invest in research. Some respondents to the CPG inquiry recommended a similar fund to England's Higher Education Innovation Fund (HEIF) being explored in Wales. Wales's equivalent to HEIF, the Innovation and Engagement Fund (previously offering £8 million per annum), was withdrawn because of the introduction of a full-time undergraduate fee grant. Since this support was revoked, commercialisation income generated by Welsh HEIs has fallen by 9.5%, a pattern not replicated anywhere else in the UK where funding has been maintained. In response to the Diamond and Reid Reviews, HEFCW is now able to reinstate Innovation and Engagement Funding from 2020/2021 — through the new Research Wales and Innovation Fund (RWIF), with £15 million made available annually. Recognising the underinvestment in the system, all institutions will receive an annual £250k capacity grant to invest in staff, facilities, collaborations, and partnerships, upon submitting a three-year strategy.

Low levels of QR funding force HEIs to compete against each other for a small pot of money. This often means that universities only run projects which contribute to a high-profile publication or an impact case study. This is to the detriment of early-career researchers who are unable to compete at this level. **Therefore, increasing QR funding would make research institutions feel more secure and allow for more innovative approaches.**

2.2
Clinical Research Funding

Additionally, there are concerns about the levels of Welsh Government funding available for other forms of research such as clinical and public health research in comparison to the funds made available by the UK Government in England. These research areas have been invaluable in efforts to tackle Covid-19 and to improve the health of the people of Wales.

Currently, the annual budget of HCRW stands at £42 million[8] around 3.2% of the £1.3 billion announced for the National Institute for Health Research (NIHR) and Genomics England in the UK Spending Review in November 2020.[9] When compared to Wales' population size in relation to England,[10] HCRW's budget is less than 60% of that of NIHR pro rata. **It is important that the Welsh Government provides a significant uplift to HCRW funding to bring it at least in line with DHSC/NIHR funding pro-rata.**

"QR funding is vital to the success of any research active HEI."

Bangor University

2.3
Charity Research Funding: The Impact of Covid-19

Medical research charities provide a vital funding source for early-career scientists; across the UK they support over 17,000 early-career researchers. This funding is integral to the stability of the sector and allows scientists to pitch for relatively small amounts of money to kickstart their careers. It also fulfils a unique role as patient-centric funders driven by patient benefit, this leads to them funding higher-risk research than industry would typically invest in.

All medical research charities operating in Wales have seen a huge decrease in fundraising since the start of the pandemic and are having to reduce their research spend.[11] Medical research charities are expected to lose almost 41% of their fundraising income this year, and over 25% next year. And it is earlier career researchers in Wales who will be impacted worst by this. According to a survey by the Association of Medical Research Charities (AMRC) 40% of charity-funded, early-career researchers are considering leaving medical research due to funding concerns since the coronavirus hit the UK.[12] Without this generation of new researchers, progress for life-saving research could be set back decades. The Welsh Government should therefore provide for smaller funding pots that are made available to researchers early in their careers. This would support early-career research and ensure that Wales is an attractive place for early-career medical researchers to work.

To enhance and optimise medical research funding in Wales, the Welsh Government should assess all funding available to clinical researchers in Wales, considering all accessible funding streams from Welsh bodies, NIHR, and third sector bodies, to evaluate and map out the gaps that exist. The Welsh Government should also use its voice to support the AMRCs call for the UK Government to protect life-saving charity-funded medical research in the form of a Life Sciences Charity Partnership Fund.

2.4
Post-Brexit Funding

Research in Wales has historically relied on EU funding. Reid points out that the historic dependence on EU funding can be replaced with Welsh Government money which will support success in UK-wide funding competitions and by attracting higher levels of business investment.[13] The CPGMR found that stakeholders across the sector are increasingly concerned about replacing the EU funding streams in a post-Brexit UK.

There must be a post-Brexit review of research funding streams. The UK's associate status as part of the Horizon Europe is welcome and will ensure a level of stability to Wales's research base. However, steps must be taken to mitigate the loss of funding streams such as the European Structural and Investment Funds (ESIF), the Welsh European Funding Office (WEFO), and Knowledge Economy Skills Scholarships (KESS). It is also welcome that the UK Government intends to replace ESIF funding with the UK Shared Prosperity Fund (UKSPF), but it is crucial that this fund at least matches previous R&D support for Wales from EU funding sources.

European funding has supported a broad range of health research including sociological studies into health. This supports higher education institutions across Wales, carrying out wider health research which helps us to understand the wider determinants of health conditions. Future funding streams must support the full range of health research carried out in Wales.

Any assessment of the funding system in Wales should then be used to inform the creation of a single over-arching brand for Wales's innovation activities. The Reid Review recommends the creation of the Saint David's Investment Fund for this purpose. Reid recommends that this fund should be worth £35 million yearly at first, increasing to £100 million or more yearly once the UK had left the EU. However, respondents also noted that the fund would need to work to genuinely increase the coherence of funding delivery. Respondents also noted that the fund must have clear, easily accessible information with clear routes for applications.

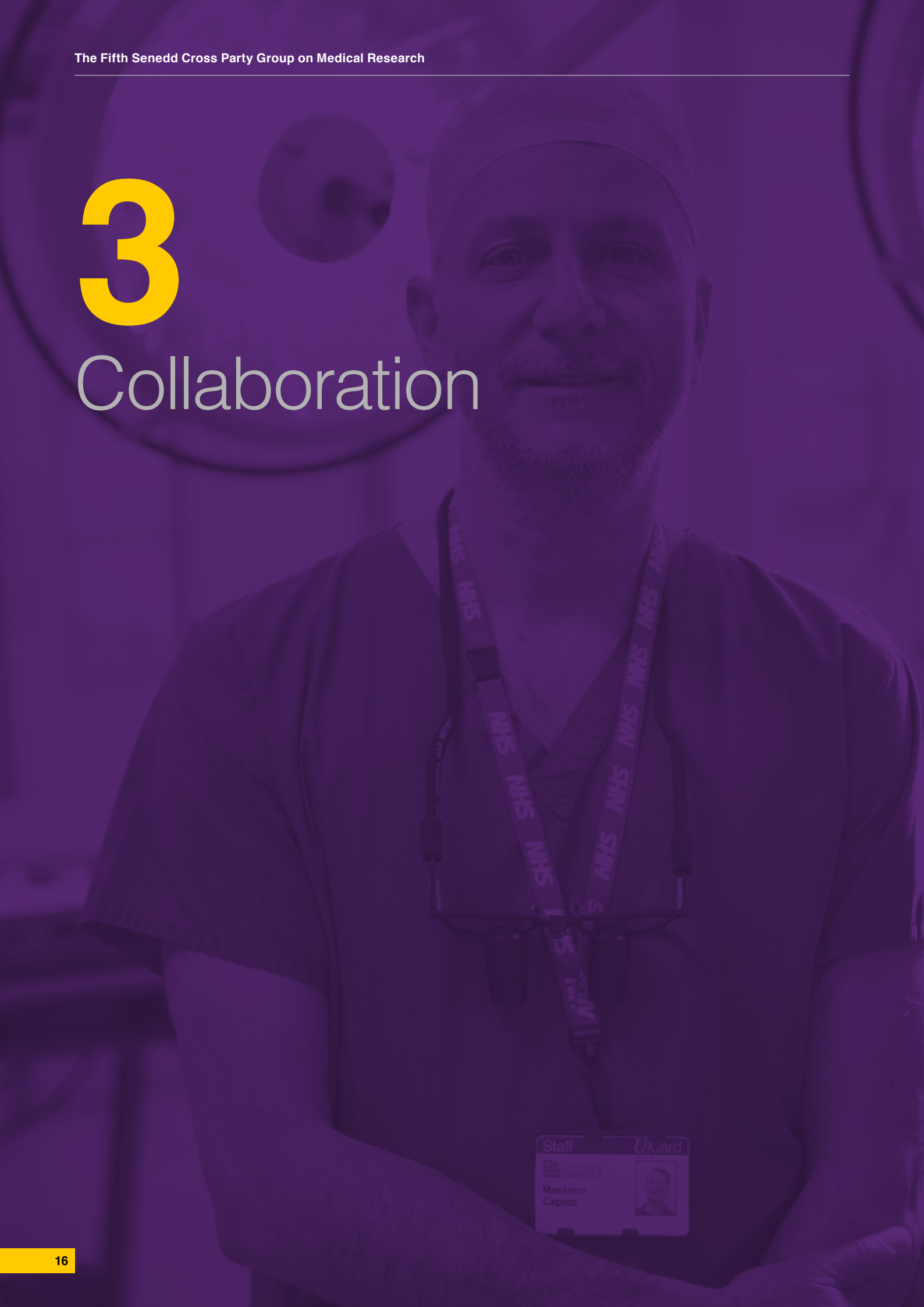
2.4.1 Case Study: Accelerate Programme

Co-funded by the European Regional Development Fund, the Welsh European Funding Office, Welsh Government's Health and Social Services group, universities, Life Sciences Hub Wales, and the health boards, Accelerate offers the opportunity to tap into academic expertise, a thorough understanding of the life sciences ecosystem, and the latest facilities needed by innovators and entrepreneurs to realise their ideas. Accelerate is led by Life Sciences Hub Wales, in partnership with Cardiff University (CIA), Swansea University (HTC), and University of Wales Trinity Saint David. (ATiC). It is vital that following Brexit, programmes like this which currently receive EU funding, continue to be fully funded.

2.5
Recommendations

1. **The Welsh Government should urgently implement the recommendations in the Reid Review and;**
    a. **Increase Quality-related Funding for Welsh Universities at least on par with the rest of the UK**
    b. **Establishing a St David's Fund as a single overarching brand to encourage innovation activities in Wales.**
2. **The Welsh Government should increase funding to support clinical, public health, and social care through greater investment in the work of Health and Care Research Wales, in line with equivalent investment in other UK nations.**
3. **The Welsh Government should work with researchers, research funders, and other stakeholders to assess the diversity and value of research funding streams post Covid-19 and Brexit to ensure long-term sustainability of the medical research environment in Wales and work with the UK Government to ensure that the Shared Prosperity Fund and other future funding streams effectively support medical research in Wales.**

3 Collaboration



Our inquiry revealed that It was widely agreed that improved collaboration is necessary if Wales is to succeed in improving its medical research environment. This is because of Wales's small size — there is a limited pool of research expertise. Collaboration was recognised to help in avoiding duplication of efforts and supporting pooled resources where possible. But, for this kind of collaboration to happen, improved data linkage is desperately needed. The Reid Review recommends that Welsh Government should incentivise and reward collaboration between universities in Wales, Welsh public bodies, businesses, and charities; and advocate for improved cross UK and international collaboration.[14]

There are examples of the Welsh Government encouraging and enabling collaboration, such as the establishment of HCRW funded research centres, which have supported collaboration in a number of areas[15]. However, the respondents to the inquiry suggested that more action is needed to support research collaboration in Wales.

3.1
Collaboration within Wales

Respondents agreed that there needs to be improved collaboration between Welsh Government, healthcare, HEIs, third sector, and industry in Wales. Respondents suggested that there also needs to be improved collaboration across different areas of research such as cancer, heart and circulatory diseases, diabetes and endocrinology and rheumatology.

3.1.1 Case Study: A United Approach to Genomics in Wales

The Genomics for Precision Medicine Strategy was formed by the Welsh Government in 2017 and is an all-Wales strategy that serves every health board with genetic testing. Working with partners across Wales, the strategy aims to harness the potential of genomics to improve the health of all people across Wales.[16]

3.1.2 Academic — Health Partnerships

Respondents to our inquiry suggested that the Reid Review recommendations have not yet been implemented and Welsh Government still needs to facilitate academic and health partnerships. HEIs are often able to bid for grants without sharing information with health boards, which means delivery costs are sometimes underestimated and available staff can be overestimated. Furthermore, only HEIs can receive QR funding, but lack of communication when this is awarded results in missed collaborative opportunities.

3.1.3 NHS — Industry Collaboration

Researchers also agreed in their responses that there seem to be qualitative and quantitative opportunities for greater commercial exploitation of academic intellectual property and more effective NHS collaboration with industry. According to ABPI, several companies (13–15) have ongoing research within the Welsh environment, but this is something that could be enhanced through active engagement, encouragement, and the development of a secure, single entry-point for all research and collaborative initiatives. They also suggest that HCRW consider more industry collaboration within its strategic aims, including HCRW becoming a member of the Life Science Council's Clinical Research Working Group.

Service contracts (which allow funding partners to access necessary patient information) make it difficult to attract industry partners, which are necessary for connections, funding, innovation, and infrastructure for Welsh research to compete on a global scale. These factors also have an indirect effect on encouraging clinicians to come and work in Wales. The use of industrially funded infrastructure also allows Welsh clinicians to be principal investigators in novel clinical trials, and Welsh patients to benefit from the latest advancements in technology.

3.1.4 Improving Research in the NHS

In general, respondents noted that it would be beneficial for the overall research environment if there were more research happening in the NHS. Doing so would lead to accelerations in patient care, contribute to the wealth of the nation and individual NHS organisations.[17] A major issue preventing increased research in the NHS is capacity. In the cancer sector,

respondents reported workforce shortfalls in several senior clinical researchers' areas. A few responses noted difficulty when collaborating with the NHS often facing delays due to clinical capacity. More initiatives and incentives to increase the number of clinical academics are needed.

There is general feeling that research in the NHS needs to be incentivised to foster a culture of research in the health service. Some funders recognise that local health boards should be classed as industry partners in their own right and that we should request that health boards have access to the proposed St David's Fund. Annual objectives and reviews could include research, innovation, and service improvement to evaluate impact, and protected time for research should be incorporated into every job description for clinical and allied health care professional roles. This could be done in conjunction with any workforce planning.

3.1.5 Case Study: SAIL Databank Swansea University

The Secure Anonymised Information Linkage (SAIL) Databank is a world-class flagship for the robust secure storage and use of anonymised person-based data for research to improve health, well-being, and services. Its databank of anonymised data about the population of Wales is internationally recognised. Backed and endorsed by Welsh Government, the SAIL Databank receives core funding from the Welsh Government's Health and Care Research Wales.[18]

3.2 Collaboration with Other UK Nations

Respondents agree that there is not enough collaboration between Wales and the other UK nations and that this is limiting access to competitive UK-wide funding streams. One symptom of this lack of collaboration and influence is the lack of Welsh representation at UKRI which was seen as problematic for Welsh researchers due to a deficit of Welsh representation where funding decisions are made.

Respondents suggest that medical research in Wales needs to be more outward-looking. HCRW enables strategic prioritising and is aligned to national needs, but there is a danger that researchers become over-reliant on Welsh funding, which is limited, instead of pitching for funding from across the UK. Respondents agree that Welsh Government should incentivise collaborative working through financial investment. Investment needs to promote a culture of inter-disciplinary working between Welsh and UK institutions. According to Bangor University, collaborations in North Wales are often easier to make with the North West of England rather than South Wales, and this should be incentivised. Similarly, Cardiff University utilises a partnership with the universities of Bath, Bristol, and Exeter to expand access for researchers to equipment and to promote collaborative working.

3.2.1 Case Study: ZOE Covid-19 Symptom Tracker

The *ZOE COVID Symptom Study* app is a not-for-profit initiative that was launched at the end of March 2020 to support Covid-19 research. The app was launched by health science company ZOE with scientific analysis provided by King's College London and the Secure Anonymised Information Linkage (SAIL) at Swansea University. This collaborative work has been used to inform modelling and understand and predict the developing situation of Covid-19.[19]

3.3 Continued Collaboration with the EU Following Brexit

It is positive that the Brexit agreement does make provision for collaboration on scientific research between the UK and the EU in order to fulfil UK Government's manifesto promise to make the UK a 'science and research superpower'.[20] However, this must be specifically incentivised within Wales.

Respondents to the inquiry all agreed that collaboration with EU states post-Brexit is vital for Welsh research. Respondents noted that companies are already reconsidering investing in the UK, and therefore Wales. Specific schemes for funding and network development in non-EU countries (like Japan) have been set up, but nothing has been set up to maintain and encourage partnerships with EU countries. The UK's decision to maintain

involvement with the EU's next Framework Programme for Research and Innovation, Horizon Europe, is an important first step in ensuring its access to international networks and collaboration opportunities.

All respondents to our inquiry endorsed WRILO, despite it being more useful for some than others. There was consensus that WRILO's importance may increase in the post-Brexit landscape to ensure that Wales remains on the agenda for research support. Respondents also stated that "WRILO is welcomed, although as a prelude to effective engagement rather than an end in itself" and that it needs to be sufficiently resourced. WRILO should represent Welsh research interests in a post-Brexit landscape.

3.4 Global Collaboration

Our respondents highlighted the lack of involvement of Welsh researchers in global research collaborations, in part due to a lack of support and incentivisation. This means that researchers in Wales are missing out on the opportunity to compete for large funding sums for high-risk research.

3.4.1 Case Study: CRUK's Grand Challenge

CRUK's Grand Challenge is a global funding platform supporting scientists to take on the toughest challenges in cancer. Through a series of £20 ($25) million awards, the Grand Challenge gives international teams of researchers the freedom to think differently, act creatively, and explore novel techniques. Since 2015, it has invested over £130 million into researchers across the globe, funding seven teams featuring 73 research groups and spanning nine countries. Unfortunately, no Welsh researcher has ever been involved in a Grand Challenge.[21]

3.4.2 Case Study: British Heart Foundation's Big Beat Challenge

The BHF Big Beat Challenge is a global competition that will see teams of world-class scientists competing for a research award of up to £30 million. International, multi-disciplinary groups of researchers were asked to identify and propose a transformational solution to a significant problem in any heart or circulatory disease. The most compelling proposal will win the funding, and the opportunity to accelerate breakthroughs that could transform lives across the globe.[22] One of the applications to BHF's Big Beat Challenge involved a researcher for Swansea University. More needs to be done to enable Welsh Researchers to compete at this level.

3.5 Recommendation

4. **Welsh Government should urgently implement the Reid Review recommendations relating to collaborative working, including incentivisation of collaboration locally, nationally, and internationally.**

"Working co-productively across all stakeholders in medical research, including patients, academia, NHS Wales and industry, is vital to Wales' success in developing as an innovation-ready nation."

ABPI

4

Research Careers in Wales

A key aspect of a flourishing research environment is the opportunity for talented researchers to develop and establish themselves. However, respondents highlighted that careers in research are currently unstable and that there are significant barriers to development for early-career researchers.

Within the NHS, there is limited opportunity for clinicians to engage in research and develop their careers. This means that both the research community and the NHS are losing out of pools of talent, where people leave Wales for other nations in search of better career opportunities.

Whilst these barriers, as highlighted in reports by the Academy of Medical Sciences (AMS)[23] and the Royal College of Physicians,[24] are not unique to Wales, our respondents stated the urgent importance of the Welsh Government and NHS Wales taking steps to better support research careers in Wales.

"While there are initiatives to develop researchers from PhD onwards, they are not enough to retain the number required to achieve a critical mass of researchers in the Welsh medical research environment."

Cancer Research UK

4.1 Improving Research Career Prospects in Wales

4.1.1 Career Development

The Reid Review stresses the importance of providing long-term, stable careers for researchers. However, our respondents reported significant barriers to this for many in Wales, with the majority of funding being short term and even the strongest research teams encountering gaps between competitively awarded funding.[25] It was argued in most responses to our consultation that the short-termism and project-based nature of research funding creates a lack of career structure for researchers, reducing retention and leading to researchers leaving Wales for more stable contracts elsewhere.

Respondents also agreed that there should be more career development opportunities to make Wales an attractive place to be a researcher. Respondents suggested that there could be more encouragement and support for researchers to travel and work overseas and return to Wales. This would also facilitate collaboration as discussed in section 3. For example, sabbatical fellowships that facilitate overseas research trips to include fixed-term contract post back in a Welsh institution at the end of this period.

4.1.2 Protected Time for Research

There should be more opportunities in Wales for clinical and non-clinical Healthcare Professionals (HCPs) to develop research roles and not just career researchers. Schemes such as the HCRW Clinical Research Time Awards are a useful tool to develop new principal and chief investigators in clinical trials. However, these are too limited currently to provide scale across the NHS. HCRW should collate and publish any data which demonstrates the benefit of such schemes, and if proven beneficial, explore the possibility of a multi-tier system of protected time for NHS clinicians. These types of schemes could also be expanded, in terms of scale and scope.

Respondents suggested that even where there is research time awarded, clinicians often can't use this time due to work pressures and not enough

personnel to backfill duties. A range of responses argued that there needs to be a wider shift in culture to encourage research within clinical environments. Potential changes to facilitate this shift could make up part of workforce planning and include dedicated research time forming part of consultant contracts and job descriptions where appropriate; training on research methodology during undergraduate training; managers and service-leads being supportive of protected research time.

Additionally, only medical consultants have protected time for R&D at present. However, when health care professionals reach this level, they neither have the necessary experience to embark on research-related activities or see its value as they haven't engaged in research earlier in their careers. The Welsh 7:3 consultant contract states that medical clinicians have three nominal sessions to undertake various activities (R&D comes under this — called supporting professional activities or SPA). This likely gives 1–2 hours per week of research time, which is not enough to make a meaningful contribution to the simplest of studies. Most consultants use their three sessions on easier to deliver, funded activities. It is therefore vital that NHS workforce planning considers how research can be placed as a core service in the NHS, placing it within the job role of every profession and at all levels.

4.2
Attracting Research Talent to Wales

Evidence given in this inquiry shows that it is vital that Wales is able to attract highly skilled researchers. The reputation of the research in Wales depends on having excellent researchers. Due to Wales's small size, it is often necessary to look outside Wales, or the UK to increase the pool of expertise. Finding particular experts to work in certain specialities can be difficult. For example, finding experts to work in Cardiff University Brain Research Imaging Centre (CUBRIC) has become increasingly difficult.

4.2.1 Case Study: Sêr Cymru

Sêr Cymru is a programme co-funded by the Welsh Government and the EU designed to attract research leaders into Wales. It is a multi-million-pound funding programme to bring scientific talent into research posts in Wales which has so far attracted 12 researchers to Wales all of whom are currently still researching in Wales.[26] The inquiry respondents widely recognised that the programme has been vital to bringing new talent to Wales since its launch in 2012. It is, therefore, vital that the Welsh Government should seek new opportunities to fund the programme given the loss of access to the previous EU funding streams following Brexit.

4.3
Recommendations

5. **The Welsh Government should urgently take steps to provide greater support for research careers in Wales. This should include actions to:**

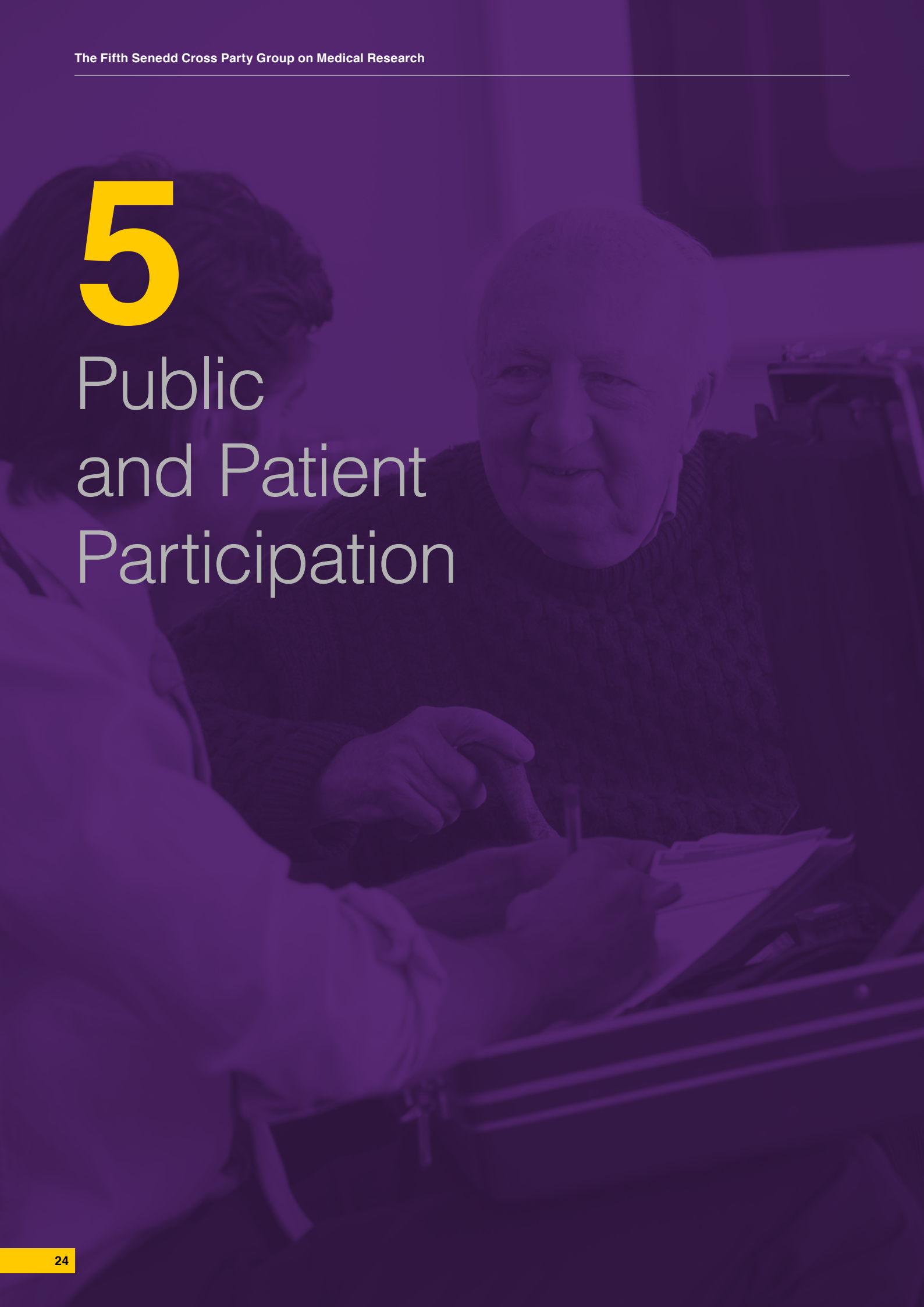
    a. **Improve the availability of long-term funding for researchers**

    b. **Improve job opportunities for early-career researchers across Wales**

    c. **Ensure continuing professional development for career researchers and clinicians engaging in research**

    d. **Ensure that NHS workforce planning takes into account protected time for research across all roles to facilitate a culture of research within the NHS**

    e. **Continue to fund the Sêr Cymru programme and attract new talent to Wales' research environment.**



5 Public and Patient Participation

The public can interact with research through three domains: public engagement as people are aware of research that is happening; public participation in individual trials and studies; and public involvement through people sharing their time and personal experiences to help inform the priorities and design of research so that it is more relevant to people's needs. Patient and public involvement makes research relevant; helps define what's acceptable to participants and; informs ethics committees particularly on sensitive or controversial issues.

It was agreed by all respondents that discussed patient involvement in research, that more involvement would be very valuable and gives scientists greater purpose, and allows research to have greater relevance and appreciation.

"Patient involvement and participation is essential in all aspects of medical research in order to deliver outcomes which will really improve the lives of patients."

Wales Cancer Research Centre

5.1 Public Participation in Research

The number of patients engaged in research trials in Wales have decreased. England, however, has seen an increase in patients involved in research. Bureaucracy and poor data infrastructure seem to be delaying and limiting the number of patients in Wales able to take part. Welsh Government through HCRW need to work with clinicians and researchers to optimise opportunities for patients and the public to be involved in research wherever possible.

5.1.1 Case Study: Radhar's Experience

Radhar was a medical researcher working within the field of neurological conditions for most of her career. She worked on embryonic stem cells as part of treatment for Parkinson's and Huntington's Disease. But one day in 2015 Radhar woke up and progressive Multiple Sclerosis had paralysed half her body. Radhar faced mental health challenges when she became disabled and her family, like many unpaid carers faced their own mental health challenges.

Radhar was prescribed psychotropic drugs, which didn't work and gave her unbearable side effects. So, Radhar investigated alternatives to medication and was granted funding for two years to research physical disability and mental health. As part of her research, Radhar has organised an event for people with disability which included mindfulness and art and music therapy. Attendees were wholly positive about the experience.

5.2
An All-Wales Approach

Overall, it was argued that recruiting a diverse group of patients that is truly representative of the population is difficult and that more needs to be done to ensure that all patients across wales can access clinical trials. Recruiting patients from across Wales is difficult and a hub and spoke model (supporting local hospitals to undertake research) should be evaluated by HCRW to increase the number of opportunities across the country.

5.2.1 Case Study: Astrid's Experience

Astrid's husband had Huntington's Disease for over thirty years. Astrid found that living in a rural area made it incredibly difficult to find health care professionals who had experience with Huntington's. Astrid was invited in 2011 to comment on a research application before submission. Astrid commented that the Professor submitting the application really listened to opinions and was very willing to implement ideas. Astrid was asked to join the HCRW Involving People team, to participate in other research projects. One was the Trident trial for brain cell replacement therapy in Huntington's Disease. A big part of her role is to ensure that when documentation is drafted that information is explained in clear language.

Astrid reflected that the key to successful PPI is to respect and listen to each other and is vitally important for researchers to ensure their work is appropriate and relevant to the needs of patients.

5.3
Improved Funding for Patient Recruitment

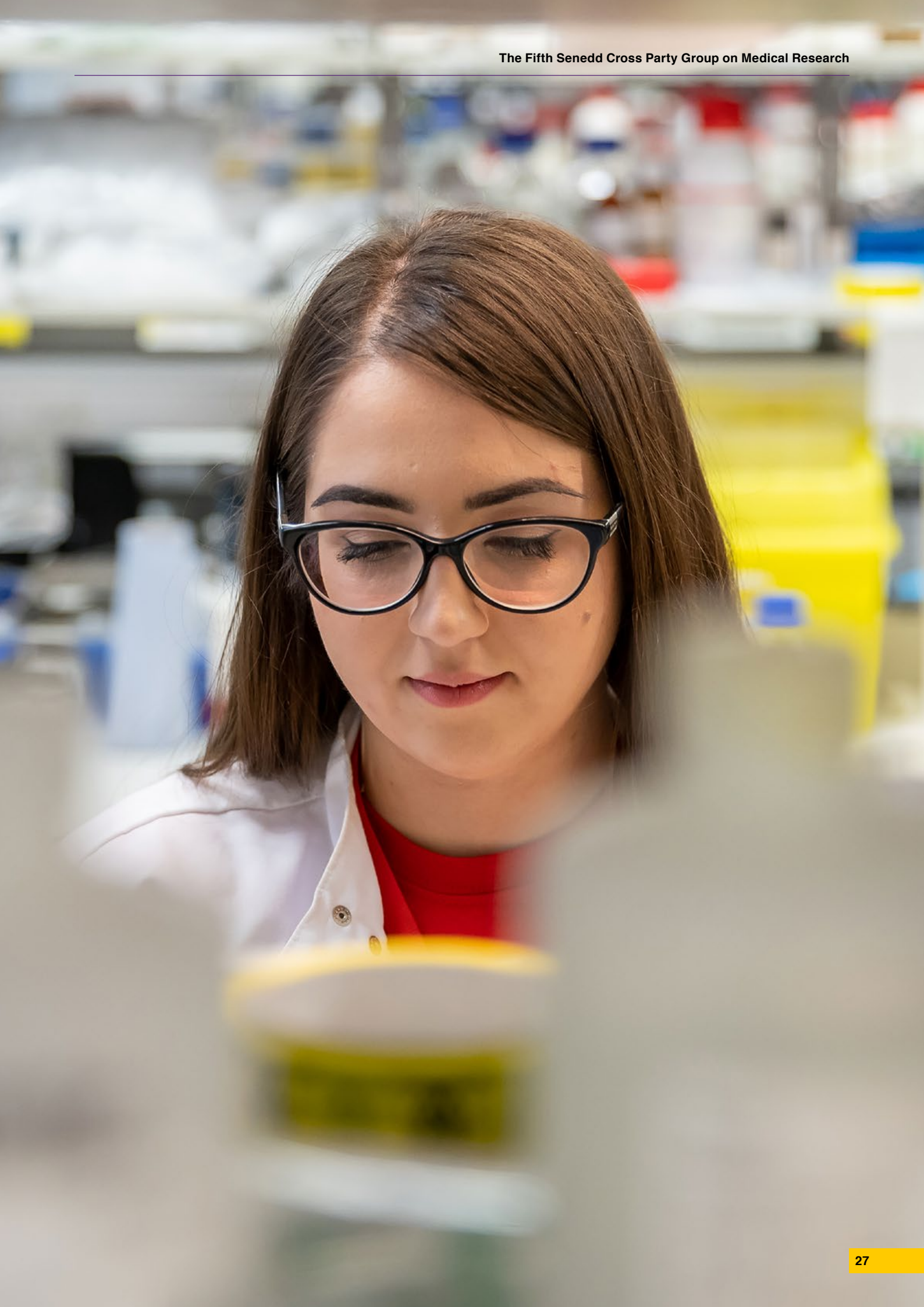
More funding is needed to attract patients. The most recent model of funding from HCRW for academic trials only took into account the recruitment of the patient and did not consider which treatment the patient was receiving, for how long, and the clinical support (research nurse, doctor, pharmacy, radiology, etc.) needed by the patient. HCRW has now recognised this and is implementing a new model, but we need to know what this will look like.

5.4
Recommendation

6. **The Welsh Government, through the work of HCRW, and NHS Wales should seek to ensure that patients across Wales have improved and equitable access to research and clinical trials.**

"Apart from patients being research participants in a study, work is required to increase patient involvement and engagement in research generally."

Betsi Cadwaladr University Health Board



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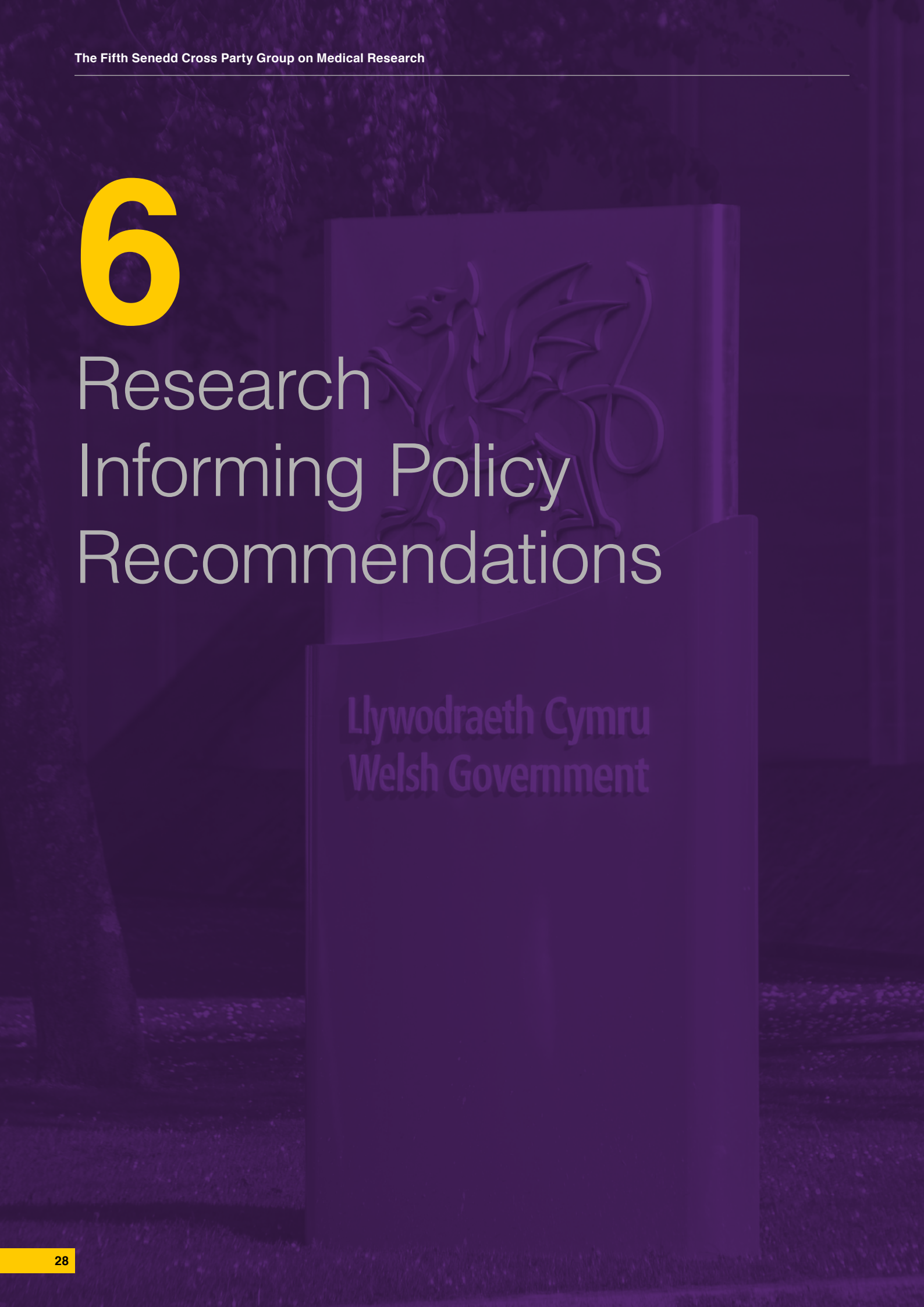
Research Informing Policy Recommendations



Another common theme from our consultation was that there is a gap between medical research findings, the health service, and policymakers. This means that medical research does not currently have the impact that it should in Wales's health service or our politics.

6.1
Outcomes of Clinical Trials Informing Health Care and Policy

There is a growing recognition that insufficient attention is paid to the outcomes of clinical trials, which need to be relevant to the health services. There is a limited focus on impact and pathway-to-impact. Given the size of Wales, there needs to be more opportunity to link policymakers, clinicians, and researchers to address the major problems.

To ensure studies have the proper impact on our NHS they need to be larger and better-funded. Smaller pilot studies often bring about problems, are costly, and yield no solid evidence. Areas of under-studied and cross-cutting research need to be prioritised. These areas could include co-morbidities, health-seeking behaviour of the Welsh public, and targeted interventional studies aimed at reducing health inequalities.

6.2
Recommendation

7. **The Welsh Government should work with Universities and other research institutions to create effective forums for knowledge transfer between researchers and policymakers. This should support research into areas of greatest need, whilst increasing the utilisation of new evidence into Welsh Government policy for the benefit of the health of the people of Wales.**

"Good quality and robust evidence-based research provides the necessary information to help invoke positive changes to policy and practice."

Cancer Research Wales

7 Conclusion

The key themes which presented themselves throughout this inquiry were the apparent and widening research funding gaps, a lack of collaborative working, and reduced career prospects — all of which restrict Wales's ability to compete in the global research environment. These factors, overarched by Brexit and Covid-19, mean that action must be taken imminently if Wales isn't to fall even further behind.

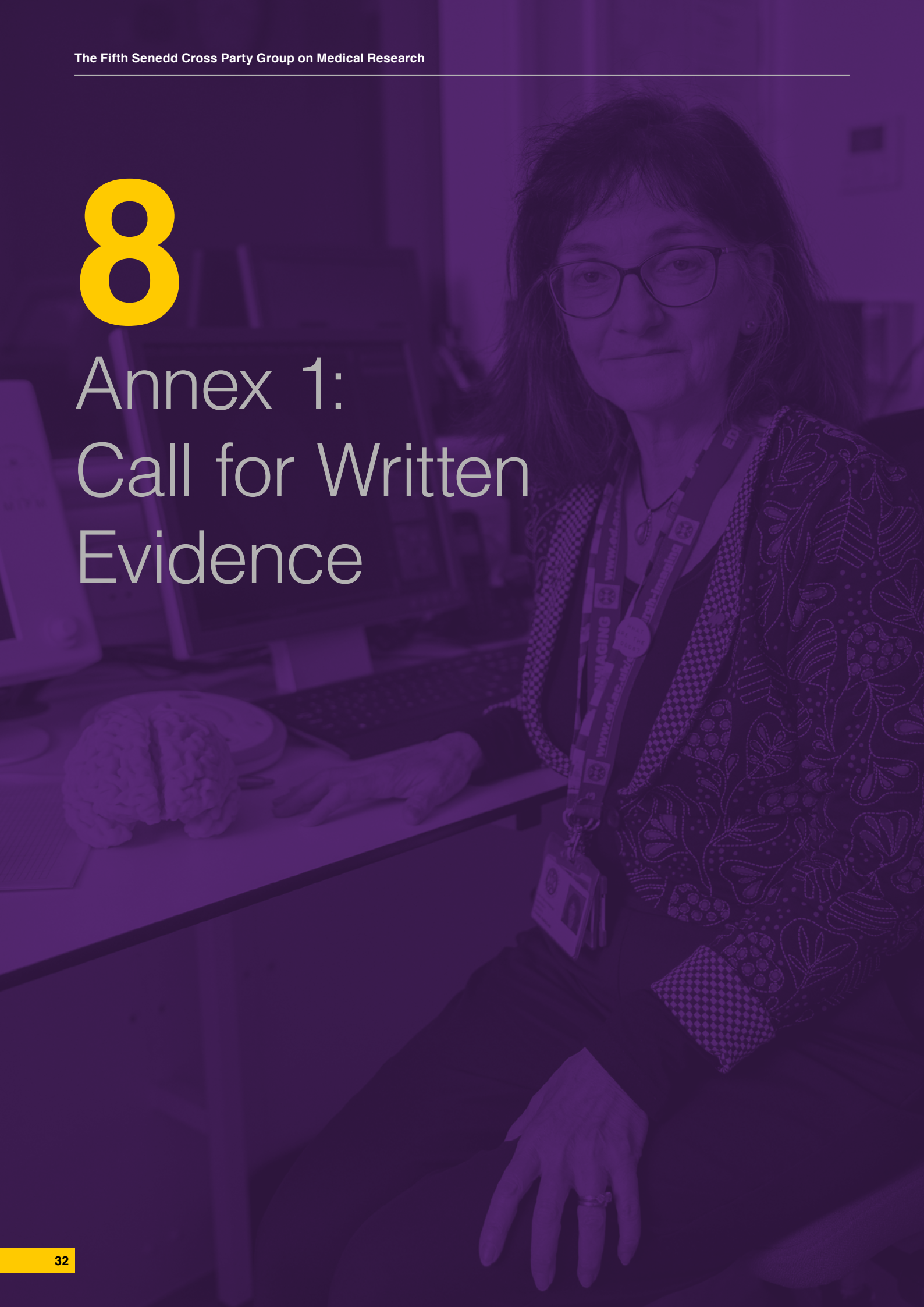
Three years on from the Reid Review, urgent action must be taken to implement its recommendations. Moreover, the Covid-19 pandemic has highlighted the vital role the research community plays in the health of the people of Wales. Therefore, the Welsh Government must now go beyond these recommendations to create a step-change in the support for research in Wales to protect and improve the health of people across Wales.

"The most immediate challenge is to establish a mechanism for sustaining Wales' leading programmes in medical research in the face of significant reductions in external funding and Universities' response to Covid-19."

Swansea University

8

Annex 1: Call for Written Evidence



Respondents

1. Association of the British Pharmaceutical Industry (ABPI)
2. Betsi Cadwaladr University Health Board
3. Cardiff Metropolitan University
4. Cancer Research UK (CRUK)
5. Cancer Research Wales (RCW)
6. Cardiff & Vale Health Board
7. Health and Care Research Wales
8. Higher Education Funding Council for Wales (HEFCW)
9. Reader in Cancer Studies at University of Cardiff, who's also Director of Research of the Wales Cancer Bank and Theme Lead for the Wales Cancer Research Centre
10. Research and Development Division (RDD) & Health and Social Care Group, Welsh Government. RDD's delivery arm and 'external brand' is Health and Care Research Wales (HCRW) but submission comes from RDD
11. Royal College of General Practitioners Wales (RCGP)
12. Royal College of Occupational Therapists (RCOT)
13. Royal College of Psychiatrists (RCPsych)
14. Royal College of Physicians (RCP)
15. South East Wales Academic Health Science Partnership (SEWAHSP)
16. Swansea University
17. Tenovus Cancer Care
18. University of Bangor
19. University of Cardiff
20. Wales Cancer Research Centre

Questions

Theme: Welsh Initiatives

1. Are you working with or part of the Sêr Cymru programme? How do you think the research community in Wales could work with you in the future?
2. Have you worked with Health and Care Research Wales? How do you think the research community in Wales could work with HCRW in the future?
3. Do you have any comments on the forthcoming Post-Compulsory Education Training and Research (PCETR) Bill and the creation of Research and Innovation Wales?

Theme: QR and Other Funding

4. How is QR funding allocated in your institution?
5. How are you leveraging funding from non-university sources, including research councils, industry and third sector?
6. How does access to QR funding support you to attract additional funding from other sources?
7. What support do you think could be offered by Welsh Government to help you attract funding from other sources?
8. Are there any improvements you believe could be made to QR funding in Wales?
9. Do you perceive any risk to QR funding in the current climate?
10. What is the university's mechanism for paying for direct funds?
11. How are you leveraging other sector funds?
12. Are your researchers turning down funds because they can't access indirect funds?
13. Are you aware of, and do you use the Charity Research Support Fund?

Theme: Project-based Nature of Awards and Careers

14. What support do you think is required to help researchers at all points in their careers?

15. Is there a need to draw more talent/students to work on projects?

16. Do you think that current schemes for retaining talent in Wales are achieving their aims?

17. Do you have any suggestions on how we might assist students to develop their careers in Wales?

18. If you have worked in Wales, and left, what would have made you stay?

Theme: Collaboration Between Institutions/Settings

19. Does your work involve collaborating with other Welsh or UK universities?

20. Can you detail how your work with other institutions takes place?

21. Do you collaborate with the NHS? If so, do you encounter any difficulties in collaborating? (e.g. protected clinician time, policies on GDPR etc.).

22. Is your collaboration with other institutions encouraged?

Theme: Wider Collaboration

EU collaboration

23. Do you work with EU colleagues or universities to conduct your research?

24. Is your research reliant on EU colleagues/ universities?

UK/England collaboration

25. Do you carry out research with UK/England institutions?

26. How are Welsh interests represented within this collaboration?

27. Have you had any engagement with those setting up the Wales Research in London Office (WRILO) as part of the response to Professor Reid's review?

28. How do you feel this resource could support your work in the future?

Theme: UKRI

29. Do you feel that there is clear training and support how to get UKRI funding?

30. Do you have any comments on how Welsh Government could support applications to UKRI funding?

31. How do you work with UKRI and are there opportunities to further develop these relationships within Wales?

32. Does your Institution incentivise UKRI?

33. Has the restructuring of UKRI has had a negative or positive impact on the chances of getting funded within the Wales medical research sector?

34. Does your Institution have clear lines of communication with Welsh Government on UKRI policy?

35. Do you work with the UKRI Devolved Nations Office, and are you aware of the different funding streams available to you as a researcher in Wales?

Theme: Research Informing Welsh Policy Recommendations

36. How do you think your research could be translated into policy or practice in Wales?

37. Are you aware of how you might make policy-makers aware of your research?

Theme: Innovation in Funding Bids

38. Have you won funding for research into producing innovative solutions in line with Welsh strategies such as the Future Generations Act etc.?

39. Do you think current Welsh Government policy on innovation supports your research?

40. Do you work with any research partners such as the Life Sciences Hub, MediWales, Medicines Catapult, or others?

Theme: Research in Healthcare Settings

41. Do you carry out research in clinical settings?

42. What type of research do you carry out?

43. Who is your research funded by?

44. Do you encounter any difficulties with GDPR or information sharing?

45. Do you collaborate with industry or education through your work?

Theme: Protected Time in Clinical Roles

46. Does your department/hospital ensure you have protected time to carry out your research?

47. Has your research enabled changes in practice within your healthcare setting?

48. What are the barriers to carrying out research in clinical roles?

49. Are there any successes you would like to see rolled out as best practice examples?

Theme: Patient Involvement

50. Do you work with patients in your research?

51. How do you recruit and involve patients and how do you evaluate their experience of participating?

52. What barriers or challenges do you have to working with patients?

53. How does working with patients help you to develop your research?

Theme: Industry

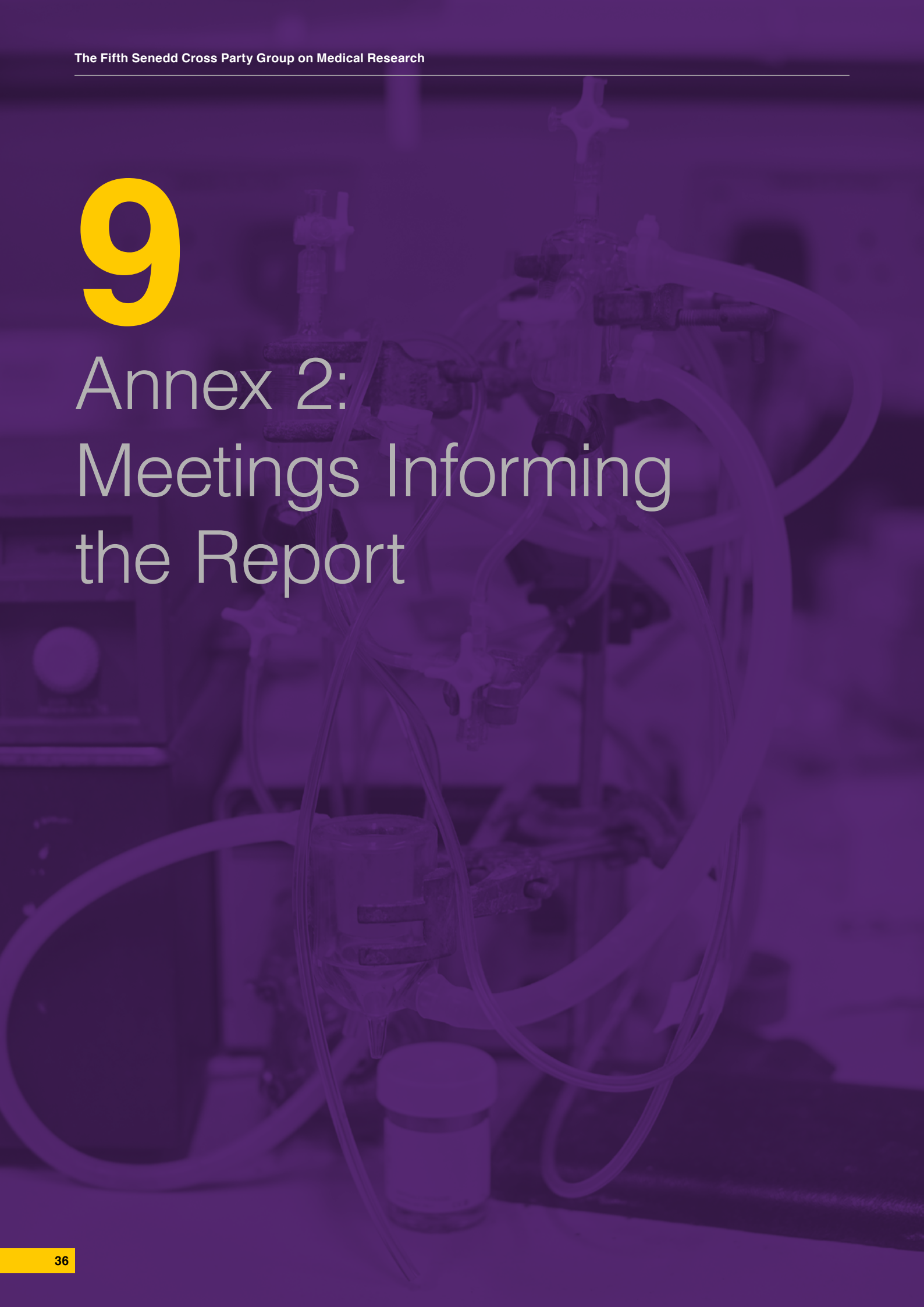
54. Are there incentives that Wales could develop to facilitate industry working with Welsh research institutions?

55. Do you believe it is clear what the national offer of Wales is in terms of more infrastructure, skills and opportunities?

56. Are you aware of the Higher Education Innovation Fund (HEIF) in England and is there a need for a similar fund in Wales?

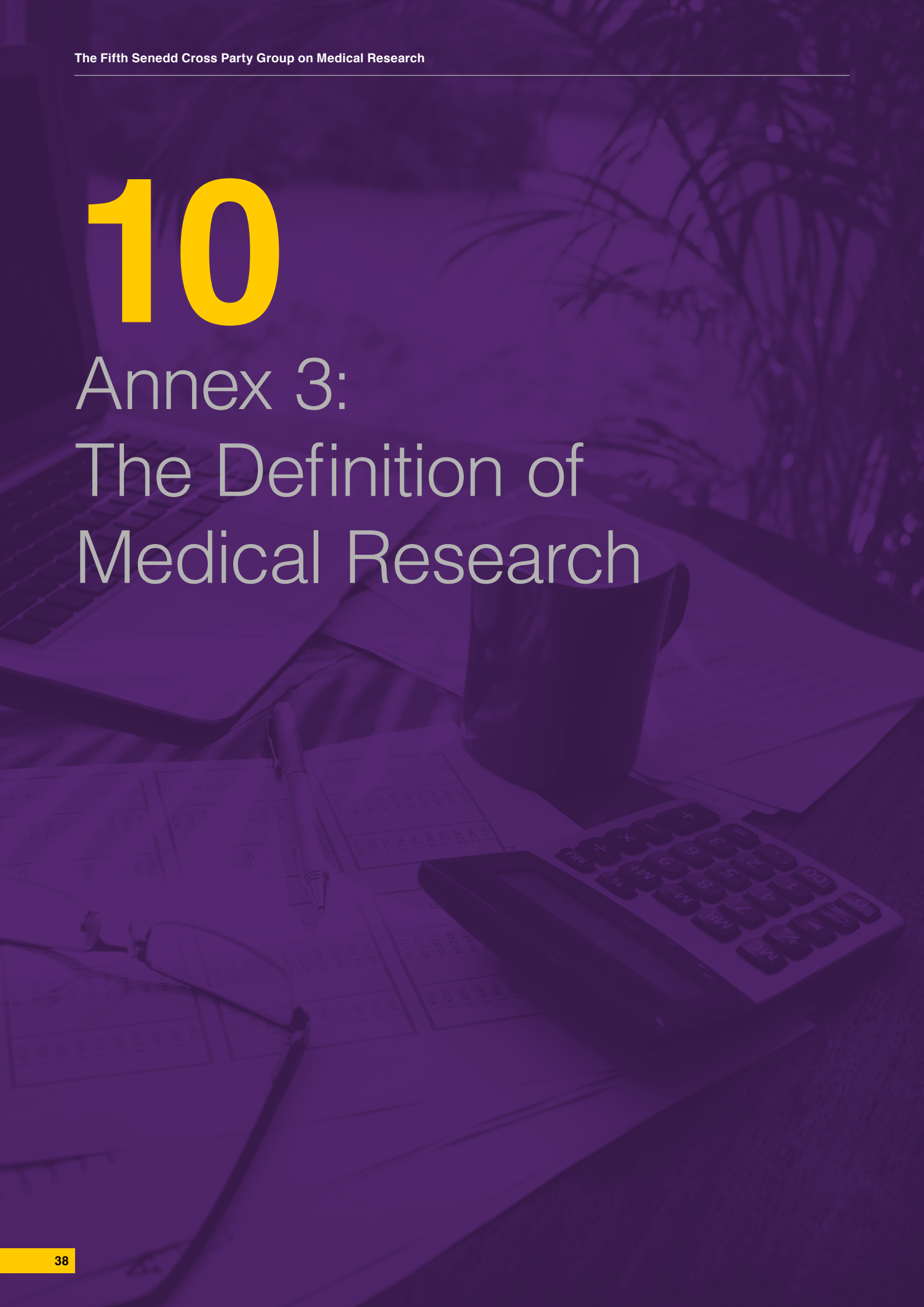
9

Annex 2: Meetings Informing the Report



Date	Theme	Speakers
10 July 2019	**Industry**	**Catrin Middleton**, Cardiff and Vale UHB **Ali Hansford**, ABPI **Gwyn Tudor**, Life Sciences Hub
19 November 2019	**Patient and Public Participation**	**Alex Newberry**, Health and Care Research Wales **Astrid**, Patient Representative **Radha**, Patient Representative
9 July 2020	**Charities**	**Andy Glyde**, CRUK **Adam Fletcher**, BHF Cymru
29 September 2020	**Universities**	**Professor Keith Lloyd**, Head of Medical School at University of Swansea **Professor Robert Rogers**, Director of Research, College of Human Sciences at University of Bangor **Professor James Walters**, Director of MRC Centre for Neuropsychiatric Genetics and Genomics at Cardiff University

10 Annex 3: The Definition of Medical Research



To be as inclusive as possible of all forms of health and medical research, we have used the widest possible definition. This has allowed the CPG to collect evidence from different stakeholders across Wales, which we believe gives us the fullest picture of the medical research environment. As such, we have used all definitions laid out in the 2006 Cooksey report.

This includes:

- **Basic research: research which is driven by a quest for scientific knowledge and without being driven by practical application**[27]

- **Applied research: research which involves human volunteers and includes research in the prevention, diagnosis, treatment and management of disease**[28]

- **Public health research: research which focuses on the wider population including how ill health varies within the population, disease prevention and how to improve the health of a population through intervention**[29]

- **Translational research: research which takes basic or clinical research and uses it in healthcare.**[30]

For more complete definitions of the kinds of medical research, see the *Cooksey Report* pages 13–15.

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British Heart Foundation Cymru

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