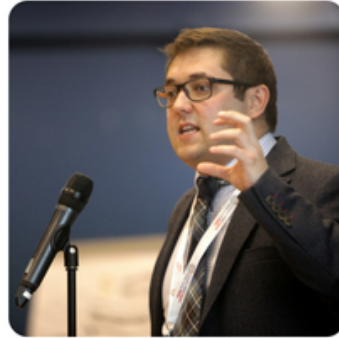




Canolfan PRIME Cymru PRIME Centre Wales

Wales Centre for Primary & Emergency Care Research



Annual Report 2017-18





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Foreword

PRIME Centre Wales is a centre for research in **primary and emergency care** and is funded by the Welsh Government through Health and Care Research Wales.

We are an **all-Wales centre** co-led by Cardiff University, Bangor University, University of South Wales, and Swansea University. We work across our four universities, and use our multi-disciplinary skills to deliver benefits in this critical area for the NHS and people of Wales.

Changes in primary care and social care will affect emergency and unscheduled care and critically affect the secondary care sector. Primary and emergency care sectors provide **90% of all patient contacts** with the NHS.

Due to the focus in shifting services out of hospitals to communities, changes are needed for primary and emergency care to work together with social care in a joined-up way. As outlined in the recent Welsh Government report: '**A Healthier Wales: our Plan for Health and Social Care**', this 'community-based approach' will help take pressure off our hospitals, reduce the time people have to wait to be treated, and the time they spend in hospital when they have to go there.

Worldwide evidence shows that the stronger the primary and emergency care sector in that country, the stronger and more effective its whole health system is towards achieving health benefits and improved outcomes for its population. These sectors must be underpinned by a **strong academic and evidence base**.

This is a vitally important area for research, engagement, knowledge transfer and impact. PRIME is delivering this effectively with £12M research income generated through PRIME led research awards, and £18M in PRIME supported research awards.

PRIME aims to **improve the health and well-being of the people in Wales** by conducting high-quality research on topics of national policy priority in primary and emergency care and ensuring that findings are translated into policy and practice.

Our work involves:

- **increasing the quantity of large scale, high-quality research** carried out in or led from Wales through close collaboration with all our stakeholders, and attracting prestige research funding into Wales
- **achieving demonstrable research impact** by developing our research with our stakeholders, communicating research findings, working with stakeholders to ensure findings are implemented and tracking evidence of impact;
- **undertaking research and dissemination activities** that are important to patients and the public by **involving service users, carers and the wider public** in the prioritisation, design, conduct, interpretation and dissemination of research; and
- **building capacity for research** in primary and emergency care in Wales, across disciplines, sectors, professional groups and levels of seniority.



Professor Adrian Edwards,
Director, PRIME Centre Wales
Professor of Primary Care,
Cardiff University



Professor Joyce Kenkre,
Associate Director, PRIME Centre Wales
Professor of Primary Care,
University of South Wales



Professor Helen Snooks,
Associate Director, PRIME Centre Wales
Professor of Health Services Research,
Swansea University



Professor Clare Wilkinson,
Associate Director, PRIME Centre Wales
Professor of General Practice,
Bangor University

Acknowledgements

We gratefully acknowledge the funding from Welsh Government via Health and Care Research Wales that has made PRIME Centre Wales possible.

We also acknowledge the generous contributions of time, expertise and support from our many advisors and collaborators that enable PRIME Centre Wales to achieve its aims of high quality research, engagement and impact, and without which this would not be possible.

We thank our recently established SUPER group - a group of patients and public members to support development, implementation and dissemination of research linked to PRIME. The team have already helped the researchers immensely in providing input on the development of research project ideas and development.

We were grateful to the group for taking a leading role in the planning and hosting of our Annual Meeting held at Swansea Grand Theatre in November 2017, from which the live illustration below was created.

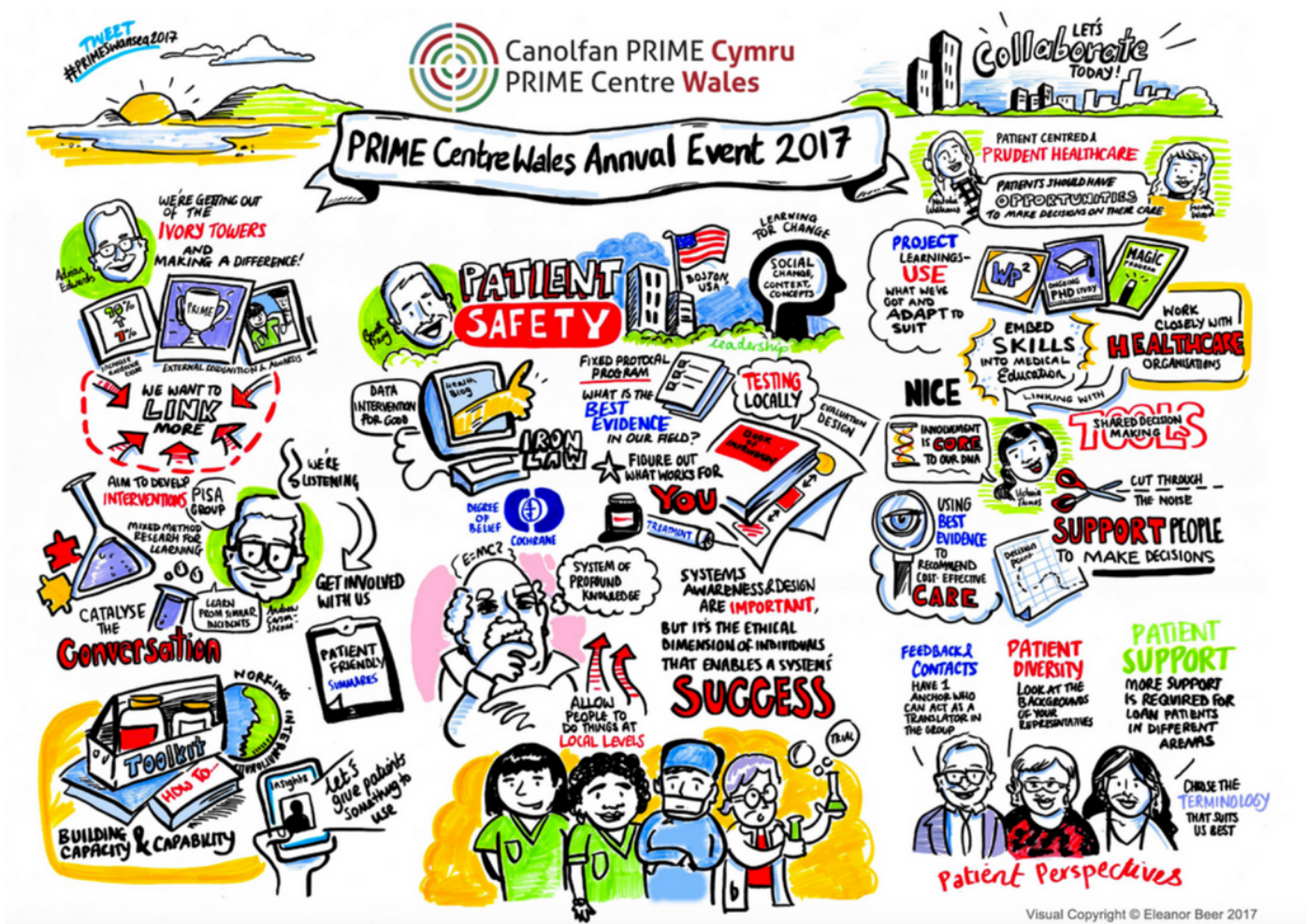
We thank the members of our international External

Advisory Board, our Executive Management Committee and our Faculty of stakeholders across public, patient, policy, government, third sector, industry and academic sectors.

We also make a special acknowledgement to Professor Nefyn Williams, Associate Director, and lead for Bangor University in PRIME Centre Wales, and also co-lead of our Methodological Innovation research theme.

Professor Williams departed during this last year to take up an exciting opportunity as Professor of Primary Care at University of Liverpool. He is very much missed by all PRIME Centre colleagues, but remains an important strategic collaborator and advisor, and we wish him well in his next career stage.

We are grateful to Clare Wilkinson, Professor of Primary Care at Bangor University, who has taken over as lead for the Bangor team. Professor Wilkinson brings a wealth of experience in community-based randomised controlled trials of novel interventions and systematic reviews, and also led the establishment of the North Wales Clinical School. We welcome Clare as Associate Director and thank her for her continued support.



Lay summary

PRIME Centre Wales

PRIME Centre Wales is a centre for research in **primary and emergency care** and is funded by the Welsh Government through Health and Care Research Wales.

We are an **all-Wales centre** co-led by Cardiff University, Bangor University, University of South Wales, and Swansea University.

Our research teams includes **experts in a range of clinical areas** including general practice, emergency care, community nursing, physiotherapy and optometry, as well as researchers who specialise in variety of research methods and areas.

We focus our interdisciplinary expertise in order to tackle **the big health and care problems in primary and emergency care**. We apply for funding to conduct the projects which address these important issues. The income generated to fund the projects brings investment into Wales by creating jobs and increasing the number of and expertise of researchers in Wales.

Our research guides government policy and healthcare practice improvements, delivering **benefits for the NHS and people of Wales**.

Public and patient involvement is key to what we do - it ensures we are looking at the issues most important to the public, and most likely to make the biggest impacts in improving patient care.

Key research findings 2017-18

Examples of how our research is making a positive difference to patients include:

- **Developing and translating a new model for teaching empowerment into routine chronic care management: an international patient-centered project.** Health professional education has been criticized for not integrating patient expertise into professional curricula to develop professional skills in patient empowerment. Better informed individuals may adapt better to chronic illness, experience better quality of life/well-being and greater independence, and be more satisfied. We aimed to develop a new

expert patient-centered model for teaching empowerment into professional education about routine chronic care management. We worked with partners across four European countries to design a new training module for students across a range of medical disciplines including nursing, occupational therapy, dental hygiene, social care, and health-care management. As a result of our work, patient expertise was embedded into the new module curriculum.

- **Talking about human papilloma virus and cancer.** Human papillomaviruses (HPVs) cause all cervical cancer as well as other cancers. But public awareness of HPV is poor and many clinicians lack the right knowledge or confidence to discuss sexual transmission and related sensitive issues. In partnership with patients and clinicians we produced a rigorously developed and tested resource to help doctors provide HPV information to their patients in a way that is honest, accurate, reassuring and useful.
- **A methodological solution for leaders to identify and tackle blame in the NHS.** A culture of blame and fear of retribution are recognised barriers to reporting patient safety incidents. To identify blame in reports describing unsafe care experienced by patients, we developed a framework to quantify the problem in the NHS. Health service leaders can now use the framework to identify blame cultures in their organisations and intervene to promote a culture for learning and improvement.

Opportunities for getting involved

PRIME Centre Wales has recently recruited members of the public and patients to join a new lay member 'SUPER' group who will work our researchers to support our activities and research development.

If you are interested in finding out more, please contact us: info@primecentre.wales

2015-18

Summary of activities



Increasing the quantity of large scale, high-quality research

206 research grant applications submitted, 95 awarded, and 28 pending



Income generation

£31.4 million generated in PRIME led & supported research funding



Increasing the evidence base

267 publications in primary and emergency care research, increasing the evidence base for policy & practice



Increasing capacity

76.8 full time equivalent posts created through funded research projects



Involving public and patients

355 public involvement opportunities created



Wales Centre for Primary and Emergency Care Research is funded by **Welsh Government** through **Health and Care Research Wales**

Who we are

Executive Management Committee



Adrian Edwards
Director, PRIME
Professor of Primary Care, Cardiff University



Joyce Kenkre
Associate Director, PRIME
Professor of Primary Care, University of South Wales



Helen Snooks
Associate Director, PRIME
Professor of Health Services Research, Swansea University



Clare Wilkinson
Associate Director, PRIME
Professor of General Practice, Bangor University



Fiona Wood
WP2: Patient centred & prudent healthcare
Reader, Cardiff University



Natalie Joseph-Williams
WP2: Patient centred & prudent healthcare
Lecturer, Cardiff University



Nick Francis
WP3: Infections & antimicrobial resistance
Clinical Reader, Cardiff University



Kate Brain
WP4: Screening, prevention & diagnosis
Reader, Cardiff University



Alison Porter
WP5: Unscheduled & emergency care
Associate Professor, Swansea University



Andrew Carson-Stevens
WP6: Patient safety
Clinical Research Fellow, Cardiff University



Ivor Chestnutt
WP7: Oral health & primary dental care
Professor and Hon. Consultant in Dental Public Health, Cardiff University



Bridie Evans
CCT1: Lay involvement & engagement
Research Associate, Swansea University



Carolyn Wallace
CCT2: Social care & third sector;
WP1 co-lead Long term conditions & co-morbidity
Reader in Integrated Care, University of South Wales



Micaela Gal
CCT6: Knowledge Transfer & Impact
Cardiff University



Angela Watkins
CCT6: Communications
Cardiff University



Kerry Hood
CCT7: Methodological innovation
Director, Centre for Trials Research



Ruth Lewis
CCT7: Methodological innovation
Research Fellow, Bangor University



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Social Policy
Senior Lecturer, Public Health, Policy and Social Sciences, Swansea University



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Third Sector Member
Head of British Lung Foundation, Wales



Antony Chuter
Lay Member
Chair, Patient Liaison Committee, British Pain Society



Robert Harris-Mayes
Lay Member



Robert van Deursen
Physiotherapy
Professor of Physiotherapy, Cardiff University



Rachel North
Community Optometry
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Rosanne Palmer
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Policy Advisor, Age Cymru



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Steve Smith
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Professor of Political Philosophy and Social Policy, University of South Wales



Colin Thomson
Lay Member



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Community Pharmacy
Professor of Pharmacy Practice, Cardiff University



John Wynn-Jones
Rural General Practice
WONCA Working Party on Rural Practice

- Directors
- Work Package & Cross-Cutting Theme Leads
- Multidisciplinary Stakeholder Leads

Operational Group



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Administrative Officer, Swansea University



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Associate Academic Fellow, Cardiff University



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Research Fellow, Cardiff University



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Research Officer, Swansea University



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Research Fellow in Health Sciences Research, Bangor University



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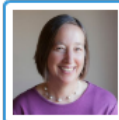


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Clinical Research Fellow, Cardiff University

External Advisory Board



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Primary Health Care Sociologist,
University of Antwerp



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Independent Citizen-Patient,
UBC Faculty of Medicine



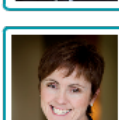
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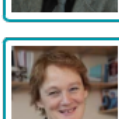
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Kingston University London, St George's University of London



Professor Niro Siriwardena (Chair)
Professor of Primary & Pre-Hospital Health Care,
University of Lincoln



Richard Stephens
Consumer Lead, Chair Consumer Forum
National Cancer Research Institute



Professor Björn-Ove Suserud
Post Retirement Professor, Pre-hospital emergency care
University of Borås, Sweden

Research areas

1) Long-term conditions and co-morbidities

Leads: Prof Joyce Kenkre & Dr Carolyn Wallace



Seven of every 10 pounds spent in the NHS are spent on people with multiple long-term morbidities. This work package develops needs-led research programmes for long-term conditions. The long-term conditions and co-morbidity work package builds on collaborations with local health boards, social care, and industry to drive forward our work across a range of conditions.

Our ongoing projects relating to eye health include evaluating treatments for people with cataracts and wet age-related macular degeneration, and a pilot study on optimum retinal screening intervals for people with diabetes.

Our multi-centre National Institute for Health Research Health Technology Assessment funded feasibility trial CARIAD (Carer administration of as-needed medication for breakthrough symptoms in home-based dying patients: UK study) aims to improve symptom control at the end-of-life. We have been working with Cwm Taf UHB exploring decision making about the need for unscheduled care among people from care homes.

In the area of musculoskeletal health, we have recently published findings from a feasibility and economic evaluation of an enhanced rehabilitation package for hip fracture (FeMUR). PRIME Members developed the TRAK app suite, a web-based intervention for delivering standard care for the rehabilitation of knee conditions. Our Wellcome Trust Institutional Strategic Support Fund funded STAR Family Study investigated the information and support needs of women of reproductive age with autoimmune rheumatic diseases, highlighting a major clinical need and research gap.

We will continue to develop and implement the long term conditions strategy, and develop a research strategy for integrated care in partnership with the South East Wales Academic Health Science Partnership to address long-term conditions and co-morbidities. We will disseminate the findings of recently completed projects (FRAIT and STAR). We will submit funding applications to analyse FRAIT's large anonymised datasets in partnership with the NHS Wales Informatics Service, support a 2nd Knowledge Exchange Skills Scholarship (KESS) with the Wales Community Care Informatics System, and to conduct a multi-centre Randomised Controlled Trial of the FeMUR package. Work will further progress the community nursing network and research agenda.

2) Patient centred care

Leads: Dr Fiona Wood & Dr Natalie Joseph Williams



Our work package has continued to achieve profile and impact in influencing national guidelines, receiving grant funding, producing publications and delivering training. Our priority areas for research are shared decision making and decision aids, self-management support and health literacy and behaviour change with a focus on innovation, implementation and evaluation of interventions. We work to facilitate patient empowerment and co-production in healthcare by engaging with patients and health professionals.

We are currently conducting a large study involving the development and validation of a diagnostic and decision making aid for men with lower urinary tract symptoms (funded by the NIHR Health Technology Assessment Programme, £1.55M). We continue to lead on work focusing on the development and evaluation of decision aids for older women with breast cancer and for people with cataracts considering surgery (NIHR grants, collaboration Sheffield and Bristol University).

We are working with patients and clinicians in Wales and the UK to design a programme of research around supporting women of reproductive age who have long-term illnesses with the decisions that they need to make about contraception, pregnancy planning, and breastfeeding. We are also exploring people's understanding of informed consent and proxy decision making for people who do not have capacity to decide for themselves about participating in research (NIHR Doctoral Research Fellowship).

We have recently completed scoping work for the development of a smoking cessation decision aid (Public Health Wales Funding) and a large Health and Care Research Wales project exploring public and clinician views of Prudent Healthcare.

Our work in self-management support and health literacy continues with two on-going PhD studentships investigating: how clinicians can support individuals with long term neurological conditions to self-manage their condition and how health literacy can be improved in deprived communities to help patients manage long term conditions.

We are also developing a supported self-management life-style exercise and activity package for progressive Multiple Sclerosis (LEAP-MS) (funded by the MS Society) and evaluating the use of a health coaching approach with people with progressive neurological conditions (Novartis Pharmaceuticals).

3) Infections & antimicrobial resistance

Lead: Dr Nick Francis



In this work package, we aim to maximise the understanding of infectious disease epidemiology and mechanisms, develop and evaluate interventions to improve management of common infections, and enhance antimicrobial stewardship in primary care.

The widespread use of antibiotics in primary care contributes to the development of antimicrobial resistance, widely described as one of the most serious threats of our times.

We are currently leading and co-leading a number of high-profile national and international studies in this area.

OSTRICH (NIHR HTA) assessed the effectiveness of steroid treatment for children with glue ear.

PACE evaluated a new 'bedside' test to help determine whether people with chronic obstructive pulmonary disease need antibiotic treatment.

CEDAR is a trial to see if pain killer drops can safely reduce antibiotic use of children with ear infections.

PRINCESS is a trial of using probiotics to prevent infections in care home residents (NIHR EME).

PREPARE (FP7) is conducting multi-site, pan-European clinical research on infectious diseases. We are identifying the ethical, administrative, regulatory, logistical, cultural and behavioural barriers and solutions to the rapid setup and conduct of outbreak research across Europe.

We recently completed the NIHR HTA funded CREAM trial, which demonstrated that children with mild to moderate apparent infected eczema who are treated with steroid creams and moisturisers, do not benefit from the addition of antibiotics. The results have been published and presented at several national and international meetings, with parallel coverage in the national and international press.

We submitted 14 research grant applications on a variety of infection-related topics, including diagnosis of urinary tract infections, novel testing for bacterial throat infections, prevention of cellulitis, pre-hospital treatment of sepsis, improving antibiotic use in dentistry, and improving public understanding of antibiotic resistance and appropriate use of antibiotics.

We also have a PhD student progressing well, and are awaiting outcomes for 3 further PhD proposals.

4) Screening, prevention & diagnosis in primary care

Lead: Dr Kate Brain



The Screening, Prevention and Early Diagnosis in Primary Care work package has continued to make a difference through high quality research, grants and publications which have increased understanding of how to improve early diagnosis in primary care through both patient presentation (**LUCAS**, **LUSH** and **lay referral** projects) and through GP and practice behaviour and systems (the **WICKED** project).

Key achievements include research with high risk, harder to reach groups about lung cancer symptom awareness and timely presentation (**LUSH**). This has been used to develop community-based interventions, publications and further research grants to extend this work into tangible change. Similarly, the **WICKED** programme is now being extended through the development of a practice-based intervention and future trial to help GPs improve early cancer diagnosis.

The success in developing research skills and capacity is exemplified by new grants led by early career researchers. In a new NIHR grant won by an early career researcher, people with long-term conditions, a range of relevant healthcare staff and researchers will work together to co-design a primary care intervention to prevent decline in physical functioning and physical activity. A Tenovus Cancer Care iGrant on bowel cancer prevention has been won by another early career researcher. The project will develop information on the use of aspirin alongside bowel screening for preventing bowel cancer.

Our community and third sector engagement has been a particular strength. Our work in this has ranged from large, high profile community-based research interventions such as **ABACus**, through to local researcher support and participation in Tenovus choirs and awards ceremonies for example, as well as local public research awareness events such as Techniquet.

The growing strength of cross-institutional collaboration in primary care research in Wales is illustrated by a Bangor-Cardiff led workshop for an international audience at the Cancer and Primary Care Research International Network conference and in-depth integrated intervention development using the Behaviour Change Wheel (both for the **WICKED** project). NHS engagement has included involvement with Wales Cancer Network's Detecting Cancer Earlier Programme Board, providing expert advice on public awareness of cancer to support implementation of the Cancer Delivery Plan.

Research areas (continued)

5) *Unscheduled & emergency (Including pre-hospital) care*

Leads: Prof Helen Snooks & Dr Alison Porter



Demand for emergency care continues to rise creating unsustainable pressures for ambulance services and Emergency Departments. In this workpackage, we maintain our focus on research to extend paramedics' clinical skills and understand how to reduce use of unscheduled services.

In this busy year, we were successful in winning over £600,000 for new research projects. TIME, funded by a Health Technology Assessment grant from the National Institute for Health Research, is a major study looking at the feasibility of giving naloxone, which reverses the effect of opioid overdose, to patients who have overdosed on substances such as heroin. A naloxone pack, with a preloaded syringe and clear instructions, is given to drug users and family members to administer in order to keep people alive until paramedic help arrives. TIME builds on existing work with the Welsh Ambulance Service about reducing overdose deaths.

HEAR, an innovative study funded by Public Health Wales, looks at the health needs of refugees and asylum seekers, how these are being met and barriers experienced by these communities who can be high users of unscheduled services. We are working closely with voluntary organisations and community leaders and training asylum seekers as peer researchers to collect data in different parts of Wales.

This year we published our final report from the major PRISMATIC study, which evaluated what happens when GPs have predictive risk software to help them identify patients most at risk of hospital admission. Contrary to expectations, we found health-care activity and costs rose without clear evidence of benefits to patients. Our findings raise challenging questions for the NHS, which we plan to discuss over the next few months.

We completed the RAPID study, testing the feasibility of paramedics giving an alternative pain relief to patients with hip fracture; and the PHED study undertaken with the London Ambulance Service to understand what can be learnt from linking routine ambulance service data with data from hospital emergency departments.

We continue to work closely with ambulance services and other NHS colleagues, third sector organisations plus patients and public members, to plan and deliver research studies, and work with our research partners and funders to disseminate findings so research evidence can inform future service planning and delivery and have positive benefits for patients and service providers.

6) *Patient safety*

Lead: Dr Andrew Carson-Stevens



The field of patient safety is the coordinated effort to prevent harm, caused by the process of health and social care itself, from occurring to patients. In the UK, in excess of a quarter of a million people are seriously harmed by the healthcare received in primary and emergency care settings each year. Our work aims to advance our understanding of the most common and harmful problems experienced by patients, and to develop, test and implement interventions to improve the safety of future care delivery. Our progress includes:

Innovating new methods to generate learning from unsafe NHS care. Understanding why errors occur in complex healthcare systems can be challenging. We have developed structured approaches to generating learning from a range of data which can be used to understand patient safety. Our methods are now being used by researchers in healthcare organisations worldwide. They have been used in research student projects and in the design of major research grants to investigate significant avoidable harm in a range of care settings in other countries. Our most recent methods paper, published in the Bulletin of the World Health Organization, proposes an international approach to improve both the detection and prevention of incidents that cause the most severe harm to patients.

Learning from patient safety data with NHS partners to improve patient safety. Lessons learnt from our primary care studies are being used by the 1000 Lives Improvement service in Wales to design their national-level improvement strategy for primary care patient safety. We have supported the delivery of several 1000 Lives Improvement Service events to establish a primary care safety collaboration between all healthcare organisations across Wales. At Cardiff and Vale University Health Board, we used our analysis of reports about errors experienced by patients receiving a blood-thinning medicine. We identified key areas to make care safer for patients by transferring the service from the hospital to the community setting. This project served as a national exemplar and resulted in a 'Directed Enhanced Service for anticoagulation' which means patients can now be started and monitored as a matter of routine in primary care (for more detail, watch a short video on [YouTube](#)).

We continue our evaluation of how GPs work in or alongside emergency departments to help minimise pressures on the service and improve the experience and outcomes for patients. We also develop and implement initiatives at Aneurin Bevan University Health Board that will lead to more timely and effective symptom management for patients at the end-of-life, give them better access to out-of-hours services, and increase awareness of patients' preferences and treatment goals amongst out-of-hours providers.

7) Oral health & primary dental care

Lead: Prof Ivor Chestnutt



Welsh dental care, delivered mostly in primary care, costs £140M per annum. This work package facilitates the development of high quality research in this under-researched sector. The main areas of interest are (i) oral health improvement and preventive dental technologies; (ii) the use of antibiotics in primary dental care; (iii) prudent healthcare in dentistry.

We have secured an NIHR HTA funded grant to conduct a clinical trial of a Short Messaging Service behaviour change programme to improve oral health in deprived young people (NIHR programme grant, £1.9M, with £170K coming to Cardiff University and Cardiff and Vale UHB). The pilot stage of the trial has been successfully completed and the main stage of the trial will commence in September 2018.

The impact of work previously undertaken by the group continues to materialize. Our finding of equivalence between the caries preventive effect of fluoride varnish and fissure sealants in a community oral health programme has significant implications for the delivery of such schemes in areas of social and economic deprivation. Welsh Government recently issued guidance to the Community Dental Service, suggesting that resources currently devoted to fissure sealant programmes be reinvested in alternative formats. The findings of this NIHR HTA funded trial were recently presented to the Association of European Chief Dental Officers with much interest arising.

Dentists are responsible for approximately 8% of all antibiotics prescribed in primary care in the UK. Previous work within this theme has described the use of therapeutic antibiotics by dentists; adherence to clinical guidelines; and factors associated with antibiotic prescribing in the absence of spreading infection or systemic involvement. Following on from this work, patients experiences of consulting a general medical professional with a dental problem, have been studied. This will inform an intervention to signpost patients experiencing dental problems to appropriate dental care.

A study on skill-mix in dentistry has looked at the potential of dental therapists to enhance service delivery in primary dental care has been completed. This resulted in the development of a toolkit which can be used by individual primary care dental practices to gauge their state of readiness to adopt and enhance greater use of skill-mix in dental practices. As a result of this work, A KESS-funded PhD studentship has been won to look further at the integration of prevention into practice using a skill-mix approach.

Other work on the provision of crowns in general dental practice and on the forthcoming phase-down of the use of dental amalgams.

Methodological innovation Leads: Ruth Lewis & Prof Kerry Hood



Originally included as a research workpackage, this work has been re-profiled as a Cross Cutting Theme in PRIME. In Year 3, and as a platform for the extension period, we have increased activities in this cross-cutting theme, focusing on:

- I. The use of routine data in PRIME Centre research
- II. Obtaining consent in difficult-to-research adult populations, particularly in those lacking mental capacity, in pre-hospital care including those who are unconscious, and in the dying.
- III. Developing novel tools and methods to facilitate evaluation and optimisation of research processes, and plan to continue to build on these methodological research opportunities

Within PRIME, we have developed an excellent track record in the design and evaluation of interventions and tools to support decision-making, include decision aids, complex shared decision making interventions, risk prediction and management that aim to change attitudes/culture as well as building skills and knowledge.

Some recent examples of our methodological innovation work includes the following:

For the MI-PHI study we developed a measure of “focusing” for Motivational Interviewing (PI) public health interventions to facilitate process evaluation of MI integration into various healthcare and counselling settings.

For the PREPARE study we studied barriers and facilitators to infectious disease outbreak research, including a focus on novel approaches to information exchange and consent. This work seeks to optimize existing research processes and adapt them for outbreak research. These approaches have been presented at a number of international conferences.

The TIME study assesses the acceptability of paramedic-supplied ‘Take Home’ Naloxone for use by peers in the event of opioid overdose using anonymised linked data outcomes.

The CARIAD study is exploring the role of lay carers in giving as-needed subcutaneous medication for common breakthrough symptoms in home-based dying patients. This involves obtaining advance consent from patients who are likely to loose capacity in their last days of life.

Ethical consent processes are a critical component of all studies that involve human participants so this work has wide reaching implications for health and care research, and will be developed further during years 4 & 5.

Public involvement & engagement

SUPER

Service Users for Primary and Emergency care Research

Defnyddwyr Gwasanaeth ar gyfer Ymchwil Gofal Sylfaenol a Gofal Brys

During 2017, PRIME Centre Wales established the SUPER group of patients and public members to support development, implementation and dissemination of research linked to PRIME. SUPER stands for *Service Users for Primary and Emergency care Research*.

Information about SUPER was circulated across a wide network of voluntary, community and research organisations using leaflets and social media in order to reach people with diverse experiences and backgrounds and from across Wales. Of the twenty-two recruited, ten individuals were not previously known to PRIME, eight came from beyond the Cardiff and Swansea areas and five were parents of young children.

PRIME researchers are invited to attend the regular quarterly SUPER meetings and circulate information to members in order to obtain advice and involvement in research activities, particularly research development and dissemination. Staff have attended to present research ideas and PRIME strategy documents and have found it an excellent facility in informing early development of research proposals. SUPER members have also contributed to research development activities and attended conferences and workshops to promote public involvement in research.

PRIME is committed to public and patient involvement in all its research development activities. SUPER is just one route to achieve this. Researchers also use other networks and contacts to recruit people with relevant experience to be involved across the PRIME work packages.

Examples of public involvement in PRIME research:

- SUPER members actively contributed through presentations and attendance at the PRIME annual meeting 2017: three individuals delivered a discussion panel about PPI; two presented an elevator pitch about development of SUPER; nine staffed a stand about SUPER; eleven attended a pre-conference dinner and networking event with PRIME researchers.
- Feedback and advice was provided by SUPER members to research proposals about: social

prescribing; paramedics working in primary care; starting a family when you have an autoimmune disease; supporting people who frequently call 999 services; enhanced paramedic care for stroke patients; pre-hospital pain relief for hip fracture patients

- A SUPER member co-delivered a workshop about developing research proposals at the 999 EMS Research Forum conference
- An online panel of 17 women supports the STAR family study. The online panel is a useful way to involve patients with rare conditions who live across the UK, go through periods of being very unwell, who are in employment and have young children. These are all reasons why it is challenging for them to attend day time face to face meetings or make a regular commitment to being involved in the project.
- Seven people joined the PREPARE public panel, which meet regularly to advise and support the PREPARE clinical trials in pandemic research.
- Individuals recruited through charities supporting refugees and asylum seekers have joined the HEAR study team to support this study about access to health and care services. The study will recruit lay researchers from refugee and asylum seeker communities to collect data from people who are seeking a new life in Wales.
- A SUPER member, with extensive experience of research involvement, is mentoring a fellow-member new to research involvement. Both have contributed to development of a research proposal for the RAPID study about managing pain experienced by people with hip fracture before they are taken to hospital.

PRIME also takes part in engagement activities to publicise our research:

- An interactive event focusing on research about infections and antimicrobial resistance at the National Eisteddfod in Anglesey
- A PRIME SUPER stand at the Involving People Annual Meeting where delegates were invited to identify the recipe for good public involvement by choosing 'ingredients' for a tasty public involvement 'soup'
- Participating in the Prudent Healthcare Stakeholder Event
- Promoting PRIME research at the Cancer Quest event at Techniquest
- SUPER members are contributing to the PRIME 'Knowledge Mobilisation and Impact Strategy'.



Social care

We fully recognise the importance of this area of research, with the interdependence of primary, unscheduled and social care sectors for capacity, service provision and quality.

We undertook a comprehensive consensus exercise in 2015 involving stakeholders including social care providers, members of the public, academics, practitioners, research students, Welsh Government, and the Care Council for Wales and Director of the School for Social Care Research, to develop a Social Care Research strategy for PRIME Centre Wales.

This identified our overall social care research strategic principle, 'to ensure that the research we do is 'fit for purpose' in the view of the public, patient and carer as well as the professional stakeholder'. The work identified ten research themes and four priorities for research; and work has further progressed this year in:

'Research awareness, engagement and capacity building' theme: has three PhD (All-Wales Academic Social Care Research Collaboration Academy, Health and Care Research Wales), one DBA and two MRES (KESS) studentships. Research areas include 'abuse', Wales Community Care Informatics System ('information sharing'), 'long-term care' (learning disabilities, care home and housing redesign for older people). The team has also engaged in discussions about research infrastructure and social care ethics in Wales, and worked with SEWREC and an international team in developing an ERASMUS Plus grant submission (partners from Wales (WEA), Spain, Portugal and Bulgaria). The aim was to improve tutor competencies and self-assessment within non-government organisations.

We co-chair the All Wales Social Prescribing Research Network. It has 14 members on its steering group and a large team of collaborators from all the universities in Wales, NHS, local authorities, third sector and industry. The research network will help to support and build the evidence base for Social Prescribing in Wales but particularly for the three emerging communities of practice. We held our first event in May 2018 at Cardiff city stadium and set our eight priorities for research. We currently have in excess of 160 network members.

'Resilience and assessment' themes: the FRAIT (Family Resilience Assessment Instrument and Tool) has been developed in partnership with NHS Wales and the University of South Wales (team pictured above right), and is being used by Health Visitors across Wales to improve child development outcomes within the Welsh Government's Healthy Child Wales Programme from June 2017 and also to inform the health visitor acuity work stream.



Family Resilience Assessment Instrument Tool



'Acts, Policies and their impact' theme: includes evaluations on carers' advocacy and women's advocacy services for street workers. These have provided a PhD student with an opportunity to lead a grant submission.

Long-term care theme: A consensus exercise (led by Victoria Shepherd) for Care Homes was conducted and findings published (Age and Aging, 2016). We invited care home staff throughout the UK to act as an 'expert panel' to identify areas where research is needed for people living in care homes. The results may be of interest to research funders to consider how the priorities might be incorporated into their research commissioning strategy. Results have been shared with a number of research funders who have expressed interest. In 2018, a further workshop is planned: 'Person-centred care in care homes - what are the outcomes that really matter' co-hosted by PRIME and Linc Care.

'Wellbeing' theme: Joyce Kenkre has been working with Homestart UK on volunteering in Scotland and London; and with 'Our Place' for young mothers (giving them new knowledge and parenting skills). This group originated from a PPI initiative which Professor Kenkre developed for the Department of Health funded evaluation of the Family Nurse Partnership programme. This has been presented in the Senedd as an example of developing social capital in the community. The team have supported Dr Mark Richardson (MIND) in developing his model of mental health recovery ('RecoveredWales') in the community and mental health first aid work in prison services.

Commercial partnerships

PRIME Centre Wales is keen to increase research collaboration with commercial and industrial partners in Wales and beyond.

We aim to:

- Work with industry and the third sector in the prioritisation, design and conduct of research;
- Work with industry for the development of new products / equipment for the future provision of care.

We collaborate with commercial partners in the following ways:

- Collaborative funding applications;
- Provide expert advice and guidance on research design and methodologies;
- Conduct product and service evaluations;
- Provide patient, carer and the public input;
- Input into diagnostic device development;
- Create opportunities for Welsh companies to participate in International Trade Delegations.
- Prepare 'target profiles' to be used in primary care, social care and emergency care settings.

Study	Study Area	Collaborator
PACE	GP use of a C-Reactive Protein (CRP) Point of Care Test to help target antibiotic prescribing to patients with Acute Exacerbations of COPD who are most likely to benefit.	Alere
CREAM	Trial to find out if oral or topical antibiotics help improve eczema severity in children with infected eczema.	Mawdsleys
OSTRICH	A trial to assess the effectiveness of steroid treatment for children with glue ear	Piramal Healthcare
PRINCESS	A trial testing if a probiotic supplement can reduce the number of infections in care home residents and reduce antibiotic in this high risk group	CHR HANSEN
ABACus	Working with Digital Morphosis and Tenovus Cancer Care to develop 'health check' an interactive touchscreen questionnaire	Digital Morphosis
RAPP-ID	Developing new rapid diagnostic tests for Infectious diseases: Development of user requirement specifications	EFPIA (including GlaxoSmithKline, Jansen, Sanofi, Novartis)
POETIC	Evaluation of the SSI Flexicult™ Urinary Tract Infection Diagnostic Test in European primary care	Statens Serum Institut
KESS PhD Studentships	Renishaws: Researching outcomes of a 3D printed craniofacial implants and guides in reconstructive surgery versus usual care following surgery. Huntleigh: Primary care screening of peripheral artery disease (Dopplex Ability Unit).	Renishaws, Sony, Huntleigh, GE Healthcare, Cutest, TBS GB, RSM UK



Research collaborations

PRIME works closely with teams from across the Welsh Government funded research infrastructure.

Cooperation and collaboration is an opportunity to strengthen development, implementation and dissemination of research by combining expertise and reaching a wider audience to disseminate new findings.

We collaborated with colleagues from the Wales Cancer Research Centre to develop a programme of research about helping people to be more aware of cancer symptoms.

An additional study, about screening for colorectal cancer in people who are already diagnosed with different health conditions, was developed with input from the Wales Cancer Research Centre and Centre for Trials Research and submitted for a Health and Care Research Wales health postdoctoral fellowship call.

Our emergency and unscheduled care is planned and undertaken with input from the Swansea Trials Unit, and our Cardiff University led trials are often managed by the Centre for Trials Research, Cardiff University.

We work closely with the Wales School for Social Care, sharing information, attending each others' meetings and considering research-policy links.

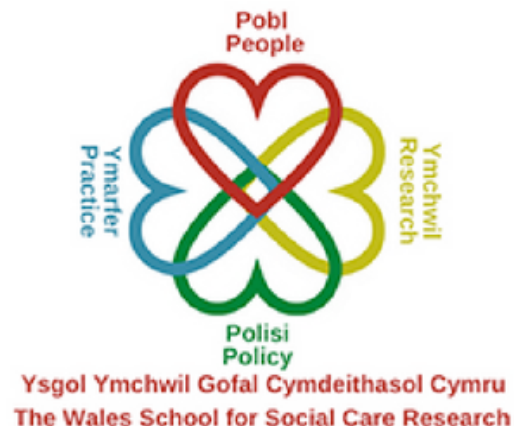
We have also developed links with Public Health Wales, working with them on the HEAR project about refugee and asylum seeker access to health and care services and also discussing how to develop and implement a patient decision aid to help people stop smoking.

PRIME staff meet regularly with members of the Health and Care Research Wales team and work with them on activities to support the conduct of high quality research in Wales.

Many PRIME members hold Senior Research Leader awards and mentor researchers who are at an earlier stage in their career.

We sit on panels to review and award grant schemes. We seek advice from Health and Care Research Wales on how to effectively disseminate our research findings so new evidence can inform new policy and commissioning plans.

We are members of the Health and Care Research Wales Operational and Working Groups for primary care, communications, and public involvement and engagement, contributing alongside colleagues from the centres and units within the Welsh Government funded research infrastructure.



Our researchers have successfully engaged with professionals from across the NHS and social care sectors and will continue to foster ongoing successful collaborations in a wide range of different areas.

We continue to work closely with ambulance services and other NHS colleagues, third sector organisations plus patients and public members, to plan and deliver research studies. We work with our research partners and funders to disseminate findings so research evidence can inform future service planning and delivery and have positive benefits for patients and service providers.

Our work with the Welsh Ambulance Services Trust (WAST) involves collaboration on three studies funded by Health and Care Research Wales: TIER (care pathways for patients with TIA), RAPID (prehospital analgesia for patients with suspected hip fracture) and PhRAsE (acute sepsis). PRIME staff also attend WAST research and development meetings to provide advice on specific projects and capacity building.

We will continue to collaborate with local health boards on service improvement research into patient safety in out-of-hours primary care for people at the end-of-life (Aneurin Bevan University Health Board), and develop projects to evaluate referral pathways for people with osteoarthritis from primary to secondary care (Cwm Taf University Health Board and Aneurin Bevan UHB).

We will seek further opportunities to collaborate with Public Health Wales initiatives, including the Antimicrobial Resistance Delivery Plan, Choosing Wisely Wales and with Public Health Wales' 'Primary Care Hub' and research Division about collaboration. Similar initial discussions with the Bevan Commission and Blood Transfusion Service for Wales are in progress.

We will build upon links with international health networks to maximise opportunities for research collaboration (e.g. Joyce Kenkre selected as member of the EURIPA (European Rural and Isolated Practitioners Association) Scientific Board from 2017 with the remit to identify calls for projects with EU, World Health Organisation and TEMPUS programmes).



Key outputs & emerging outcomes

Key research findings from PRIME research published 2017-18:

Developing and translating a new model for teaching empowerment into routine chronic care management: an international patient-centered project. Health professional education has been criticized for not integrating patient expertise into professional curricula to develop professional skills in patient empowerment. A patient-centered pedagogical model is presented, which describes 3 phases of empowerment: (1) preliminary work, (2) the elements of empowerment, and (3) the expected outcomes. These 3 phases were bound by 2 cross-cutting themes “time” and “enabling resources.” Patient expertise was embedded into the new module curriculum. Using an example of care planning, and Pentland and Feldman’s theory of routine organization, the results are translated into a patient-centered educational model for teaching empowerment to health profession students.

Wallace CA, Pontin D, Dokova K, Mikkonen I, Savage E, Koskinen L. Developing and Translating a New Model for Teaching Empowerment Into Routine Chronic Care Management: An International Patient-Centered Project. Journal of Patient Experience 1-9, 2017 DOI: 10.1177/2374373517721516

Health and Social Care professionals’ understanding of the legislation around research involving adults who lack capacity. People who lack capacity to provide informed consent are often excluded from medical research. Health and social care professionals act as gatekeepers to research by virtue of their role in identifying potential participants, informing them about research opportunities, and seeking informed consent and other research activities. We conducted a survey to assess professionals’ knowledge about the law around recruiting participants who do not have capacity to consent for themselves. Using scenarios we found that few professionals were able to identify who was legally authorised to decide about research on behalf of a person who lacked capacity to consent. Our study highlights a considerable need for education and training in this area across all health and social care professions, and at all levels of training and practice. It also suggests that there is a need for a change in attitude towards the inclusion of adults who lack capacity in research.

Shepherd V, Hood K, Griffith R, Sheehan M, Wood F. Health and social care professionals’ understanding of the legislation governing research involving adults lacking capacity – a survey. Journal of Medical Ethics. 2018 doi: 10.1136/medethics-2017-104722

Self-Management Support Training for Health Care Professionals. Patients with long term conditions are increasingly needing to self-manage their condition. This needs to be accompanied by training for health professionals in how to support patients to self-manage their conditions. We conducted a literature review to understand more about how such training operates and identify barriers and facilitators to training. We found that health professionals often need to undergo a complete change in the way they value self-management. Changes are also often required at the organisational level to help support this process.

Davies F, Wood F, Bullock A, Wallace C, Edwards A. Shifting Mindsets: a realist synthesis of evidence for self-management support training. Medical Education. 2018 Mar;52(3):274-287

Incidence and antibiotic prescribing for clinically diagnosed urinary tract infection in older adults in UK primary care. Urinary tract infections (UTI) are an important cause of morbidity and antibiotic use in older adults but there are little data describing disease burden in primary care. The aim of this study was to estimate the incidence of clinically diagnosed UTI and examine associated empirical antibiotic prescribing. We conducted a retrospective observational study using linked health records from almost one million patients aged ≥ 65 years old, registered with 393 primary care practices in England. This is the first population-based study describing the burden of UTI in UK primary care. Our findings suggest a need to better understand reasons for increasing rates of clinically diagnosed UTI and consider how best to address this important clinical problem.

Ahmed H, Farewell D, Jones HM, Francis NA, Paranjothy S, Butler CC (2018) Incidence and antibiotic prescribing for clinically diagnosed urinary tract infection in older adults in UK primary care, 2004-2014. PLoS ONE 13(1): e0190521. <https://doi.org/10.1371/journal.pone.0190521>

Impact of low-dose CT screening on smoking cessation among high-risk participants in the UK Lung Cancer Screening Trial. The findings of the study, looking at the effect of CT screening on smokers at high-risk of developing lung cancer, dispute the belief that a negative screening result offers a ‘licence to smoke’ and reveal that engaging with lung screening can give smokers an opportunity to access smoking cessation support, at a time when they are likely to be receptive to offers of help.

Brain K, Carter B, Lifford KJ, Burke O, Devaraj A, Baldwin D, Duffy S, Field JK. Impact of low-dose CT screening on smoking cessation among high-risk participants in the UK Lung Cancer Screening Trial. Thorax 2017;72:912-918.

Talking about human papillomavirus and cancer: development of consultation guides through lay and professional stakeholder coproduction using qualitative, quantitative and secondary data.

Human papillomaviruses (HPVs) cause all cervical cancer as well as other cancers. But public awareness of HPV is poor and many clinicians lack adequate knowledge or confidence to discuss sexual transmission and related sensitive issues. In partnership with patients and clinicians we produced a rigorously developed and tested resource to help doctors provide HPV information to their patients in a way that is honest, accurate, reassuring and useful.

Hendry M, Pasterfield D, Gollins S, Adams R, Evans M, Fiander A, Robling M, Campbell C, Bekkers MJ, Hiscock J, Nafees S, Rose J, Stanley M, Williams O, Makin M, Wilkinson C. Talking about human papillomavirus and cancer: development of consultation guides through lay and professional stakeholder coproduction using qualitative, quantitative and secondary data. BMJ Open 2017;7:e015413. doi: 10.1136/bmjopen-2016-015413.

Predictive risk stratification model: a randomised stepped-wedge trial in primary care (PRISMATIC).

PRISM is software which aims to help primary care doctors identify people at high risk of hospital admission, with the idea that doctors can then find ways to provide care for those patients at home. We evaluated the effects of introducing PRISM into 32 general practices in south Wales with a total population of 230,000. Analysing routine data, we found that, after the introduction of PRISM, there were more emergency admissions to hospital, more attendances at accident and emergency, and more outpatient appointments. So, health-care costs rose without clear evidence of benefits to patients, though a sample of patients we surveyed reported that their physical health had improved.

Snooks H, Bailey-Jones K, Burge-Jones D, Dale J, Davies J, Evans B, Farr A, Fitzsimmons D, Harrison J, Heaven M, Howson H, Hutchings H, John G, Kingston M, Lewis L, Phillips C, Porter A, Sewell B, Warm D, Watkins A, Whitman S, Williams V, Russell I T. Predictive risk stratification model: a randomised stepped-wedge trial in primary care (PRISMATIC). Southampton (UK): NIHR Journals Library; 2018 Jan. (Health Services and Delivery Research, No. 6.1)

Detecting the most severe harm experienced by patients: Development and validation of the 'PISA' Primary Care Patient Safety Harm Severity Classification System.

Worldwide, there is no universally agreed approach to identifying the severity of harm outcomes endure by patients experiencing unsafe primary health care. We developed a new system, aligned to the World Health Organization's (WHO's) International Classification for Patient Safety, to support the detection and prevention of incidents that cause the most severe harm to patients.

Cooper J, Williams H, Edwards A, Hibbert P, Parry G, Sheikh A, Donaldson L, Carson-Stevens A. Development and validation of the 'PISA' Primary Care Patient Safety Harm Severity Classification System. Bulletin of the World Health Organization. 2018 June.

A methodological solution for leaders to identify and tackle blame in the NHS: Nature of blame in patient safety incident reports: mixed methods analysis of a national database.

A culture of blame and fear of retribution are recognised barriers to reporting patient safety incidents. To identify blame in reports describing unsafe care experienced by patients, we developed a framework to quantify the problem in the NHS. Health service leaders can now use the framework to identify blame cultures in their organisations and intervene to promote a culture for learning and improvement.

Cooper J, Edwards A, Williams H, Sheikh A, Parry G, Hibbert P, Butlin A, Donaldson L, Carson-Stevens A. Nature of blame in patient safety incident reports: mixed methods analysis of a national database. Ann Fam Med. 2017 Sep;15(5):455-461. doi: 10.1370/afm.2123.

Fissure Sealant or Fluoride Varnish? A Randomized Trial of Relative Effectiveness.

Fissure sealant and fluoride varnish are effective in preventing dental caries when compared with a no-treatment control. However, the relative clinical effectiveness of these interventions is uncertain. The objective of the study was to compare the clinical effectiveness of FS and FV in preventing dental caries in first permanent molars (FPMs) in 6- to 7-y-olds. Our finding of equivalence between the caries preventive effect of fluoride varnish and fissure sealants in a community oral health programme has significant implications for the delivery of such schemes in areas of social and economic deprivation.

Chestnutt IG, Playle R, Hutchings S, Morgan-Trimmer S, Fitzsimmons D, Awar N, Angel L, Derrick S, Drew C, Hoddell C, Hood K, Humphreys I, Kirby N, Lau TMM, Lisle C, Morgan MZ, Murphy S, Nuttall J, Onishchenko K, Phillips C, Pickles T, Scoble C, Townson J, Withers B, Chadwick BL. Fissure Seal or Fluoride Varnish? A Randomized Trial of Relative Effectiveness. J Dent Res. 2017 Jul;96(7):754-761. doi: 10.1177/0022034517702094.

Impact: *our approach to ensuring lasting impact of our work*

PRIME Centre Wales has a clear knowledge mobilisation and impact strategy that is focused on enabling the translation of our research into impact to gain real-world benefits in health and wellbeing, effectiveness of services and wealth generation.

We work together with our stakeholders including patients, their families and carers, members of the public, health and social care providers, Welsh Government, policy makers, industry, third sector, and academics to co-produce research that is translated into policy and practice and gains real-world benefits in health and social care, effectiveness of services and wealth generation.

We create structures and initiatives to ensure our research is of significance and informed by user need:

- Focus on stakeholder engagement and

co-production in our research;

- Consensus events with our stakeholders to identify research priorities for primary and emergency care;
- Networks and academic consortia across Wales and beyond;
- Strategies (Communication, Knowledge Mobilisation and Impact, and Dissemination) to ensure dissemination and implementation of our research into practice;

We have further strengthened our strategic approach to delivering impact and ensuring effective knowledge transfer and mobilisation by appointing a dedicated manager to drive forward and deliver the objectives of our 'PRIME Centre Wales Knowledge Mobilisation and Impact Strategy' in 2018-20 (developed in consultation with members of the PRIME SUPER group and Welsh Government).

Examples of PRIME impacts & pathways to impact

<i>Study name</i>	<i>Our translational research</i>	<i>Examples of impact (and pathway to impact)</i>
ABACus	Partnering Tenovus Cancer Care and people from Wales communities, we developed and evaluated a revised cancer awareness intervention ('health check tool') for people in deprived areas.	Improved cancer awareness, attitudes and lifestyle changes in deprived wales communities; A major focus on early diagnosis in the refreshed 'cancer delivery plan'; Partnerships committed to reducing socioeconomic inequalities in cancer outcomes.
FRAIT	Together with Health visitors across Wales, we developed and tested the 'Family Resilience Assessment Instrument' (FRAIT).	FRAIT is a key element in the healthy child Wales programme and part of the chief nursing officers 'safer staffing Wales' programme; All health visitors across Wales using FRAIT (2017).
SEAL or Varnish	We evaluated the clinical and cost effectiveness of two common technologies to prevent caries. Embedded in the Community Dental Service and studied >1000 children.	Resulted in a directive from Welsh Government to the dental service on changed practice in delivery of anti-caries strategies; Significant cost saving for the NHS.
Paramedic care as an alternative to conveyance to hospital	We evaluated the safety and effectiveness of pre-hospital interventions for patients attended by emergency ambulances. Working with ambulance services, patients, carers and the public.	Influenced national and international policy; Contributed to changes in the health system and impacted on patients, the NHS and paramedic workforce; Provided economic benefits for the health service.
'When should I worry?'	With parents and clinicians, we developed the 'When Should I Worry' booklet to help parents to manage their child's respiratory tract infection, leading to fewer GP consultations and less antibiotic prescribing.	Widely used in UK primary care and internationally; >140,000 website views and >279,000 booklets purchased; Winner of the 2017 health and care research impact award.
PISA	2-3% of primary care encounters result in a patient safety incident. Our research aims to understand avoidable harm and evaluate interventions to improve patient safety.	Policy influence e.g. An enhanced service for safer anticoagulation services in general practice (2017); Used to support clinicians to recognise patient safety incidents; Our process for learning from safety incidents now being used nationally and internationally.

'When should I worry?' study awarded impact prize at Health and Care Research Wales Annual Meeting 2017

The 'When should I worry?' information booklet developed by Dr Nick Francis, was named winner of the Impact Award at the Health and Care Research conference held 5th October 2017. Dr Francis developed the booklet on the management of respiratory tract infections (coughs, colds, sore throats, and ear aches) in children for use in primary care consultations, and training for clinicians on communication skills and use of the booklet.

Respiratory tract infections (RTIs) are the most common reason for children to consult in primary care. Many RTIs are self-limiting but use scarce healthcare resources. Consulting can also lead to pressure to prescribe antibiotics, and unnecessary use of antibiotics drives the spread of antibiotic resistance – a key public health concern. Parental beliefs, fears, and expectations play an important part in both consulting behaviour and determining whether an antibiotic is prescribed. Addressing parental concerns safely through enhanced information provision could reduce use of primary care consultations and help prevent the development of antibiotic resistance.

The 'When should I worry?' booklet and training have been rapidly taken up in the NHS and abroad. The website, which includes clinician training and electronic versions of the booklet in 14 languages and regional variations, is promoted as part of many national antibiotic stewardship campaigns (e.g. the Royal College of GPs TARGET Toolkit). A short video of Nick Francis explaining the premise of the booklet can be seen on the PRIME website).



Screening, prevention and diagnosis in primary care research recognised in Health and Care Awards 2017

Dr Kate Brain, lead for research into screening, prevention and diagnosis in primary care, reached the finals in the South Wales Argus Health and Care Awards held 19 October 2017 for the study 'Development and pilot evaluation of the Tenovus health check: A targeted cancer awareness intervention for people from deprived communities'.

Cancer survival outcomes are lower in deprived areas including South East Wales, partly due to low awareness and negative beliefs about cancer. The project aimed to develop and evaluate a 'health check' (touchscreen questionnaire).

The 'health check' is a community outreach intervention originally developed by Tenovus Cancer Care, with the aim of improving cancer awareness and help-seeking behavior among adults living in communities most affected by cancer. The project was undertaken to develop and pilot an adapted 'health check', working in partnership with the charity, communities and other stakeholders.

The project has ensured a partnership including local communities, health boards, public health, and third sector organisations committed to reducing socioeconomic inequalities in cancer outcomes which will impact positively on the healthcare system through improving quality of care and service delivery.



Conclusions & future priorities

PRIME Centre Wales provides a strong base to develop and provide high quality research evidence to inform the development of primary and unscheduled care services – the sectors that account for 90% of all patient contacts with the NHS.

Building on our previous areas of excellence, we have achieved a **strong collaboration across the universities and multi-disciplinary perspectives**, and demonstrate an upward trajectory of research income, activity and outputs towards Impact.

We recognise the rapidly developing policy and delivery landscape, and to this end we will actively seek to further develop cross-collaboration between our research work package areas.

We will also build on the strengths and potential of our cross-cutting themes, especially **public and patient involvement, social care** and other collaborations.

With a dedicated manager, we will enhance our focus on **communications, knowledge mobilisation** and **impact** so that we continue to demonstrate our success in addressing the needs of patients and public, the care sectors, and Welsh Government even more effectively.

In the next year and beyond:

- We will enhance our strategic aims by particularly making full use of the interdisciplinary skills and disciplines across our teams to achieve **greater policy-relevant research** with potential for application and high impact.
- We will also **develop the ways we work with partners** across public and patient, social care, industry and third sector domains.
- We will **continue our work in the established research areas or work packages** where we have a record of high quality research and impact cases. These areas tackle some of the most pressing concerns for the Welsh Government, NHS, social care and the people of Wales.

Long-term conditions are rising in prevalence as the population ages, and usually in combinations – “multi-morbidity”. Over 70% of all NHS expenditure is on people with long-term conditions and multi-morbidity.

Looking at all NHS and social care expenditure, the need for **prudent care** is well-established.

Effective unscheduled care is important in its own right, but particularly now as changing patterns of the use of unscheduled care are evident, and which impact primary and secondary sectors as noted above.

New ways of working in both primary and unscheduled care are being proposed and examined with great interest and urgency.

Specifically also, efforts to **minimise antimicrobial resistance, enhance early detection of cancer, patient safety and oral health**, the latter particularly in children, all address top **priority Welsh Government policy areas**.



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Research Areas



1. Long term conditions & co-morbidity



Leads: Prof Joyce Kenkre & Dr Carolyn Wallace

2. Patient centred & prudent healthcare



Leads: Dr Fiona Wood & Dr Natalie Joseph-Williams

3. Infections & antimicrobial resistance



Lead: Dr Nick Francis

4. Screening, prevention & diagnosis in primary care



Lead: Dr Kate Brain

5. Unscheduled & emergency (including pre-hospital) care



Leads: Prof Helen Snooks & Dr Alison Porter

6. Patient safety



Lead: Dr Andrew Carson-Stevens

7. Oral health & primary dental care



Lead: Prof Ivor Chestnutt