

# Public Health Wales Research and Evaluation Highlights 2018/19



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## Highlights

Public Health Wales Long Term Strategy (2018-30) brings together seven strategic priorities to help us achieve our purpose of working together to achieve a healthier future for Wales. Working across these priorities with our partners will maximise the impact we have in improving health and well-being and reducing health inequalities in Wales. Our partnership working is evident in the research and evaluation we are doing. This report from Public Health Wales (PHW) Research and Evaluation (R&E) Division, Knowledge Directorate, provides an overview of research and evaluation across the organisation, and activities supporting the implementation of the Long Term Strategy.

This report highlights our involvement in innovative research with significant impact on public health, policy and practice, both nationally and internationally. Some highlights include:

- our research on the use of technology across Wales (*Strategic Priority 1*);
- improving mental resilience in young people given the uncertainties surrounding Brexit (*Strategic Priority 2*);
- the use of physical activity monitors to support healthy behaviours (*Strategic Priority 3*);
- a randomised controlled trial of effectiveness of group B meningococcal vaccines (*Strategic Priority 5*) and;
- a study exploring the health experiences of asylum seekers and refugees in Wales (*Strategic Priority 6*).

We hope you enjoy reading this report. We welcome future opportunities for collaboration to secure our collective ambition of achieving a healthier future for Wales.



## The year in numbers



**23** active research projects in any single month



**11** high quality portfolio studies and 3 commercial projects



**145** academic publications by PHW staff



**£1,482,232** external income to support research



## Research with impact

**Our staff continue to deliver high quality and innovative research which spans many disciplines in an increasingly competitive funding market.** This has demonstrable impact on population health, policy and practice at national and international level. The diversity of activity undertaken is reflected in this report.



Supporting our priorities

## Influencing the wider determinants of health

Alisha Davies<sup>1</sup>, Lucia Homolova<sup>1</sup>, Catherine Sharp<sup>2</sup>, Mark Bellis<sup>3</sup>

<sup>1</sup> Knowledge Directorate, Public Health Wales;

<sup>2</sup> Public Health Collaboration Unit, Bangor University;

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## Population health in a digital age: The use of digital technology to support and monitor health in Wales



Alisha Davies



Lucia Homolova



Catherine Sharp



Mark Bellis



### 1. What is the challenge?

Digital technology develops rapidly. The NHS needs to embrace innovation and be agile to maximise opportunities to support health, whilst protecting against unintended harms. To achieve this we need to better understand who chooses to engage with digital technologies to support their health and why, and also who does not.

Whilst most of us are increasingly online, some are not (13 per cent in Wales do not have access to the internet). Some of the underlying reasons for differences in engagement with digital technology include:

- lack of internet connectivity;
- lack of access to internet-enabled devices;
- low levels of digital literacy; and/or
- lack of interest or mistrust.

The challenge is to ensure that technological opportunities benefit all people in Wales. They should not add to the already substantive health inequalities.

### 2. What was done?

We conducted the first nationally representative survey in the UK to explore social patterns in engagement with digital technologies for health purposes. *The Digital Technology and Health* survey was conducted in 2018 through face-to-face interviews. It comprised a national sample of 1,252 residents in Wales, aged 16 years or older.

The questionnaire covered the following topics:

- access to the internet and digital technology;
- use of digital technology;
- perceptions of the impact of digital technology on health;
- health status; and
- demographics.



### 3. What was the outcome?

Two in three people in Wales (66 per cent) used digital technology to support their health across a range of different activities.

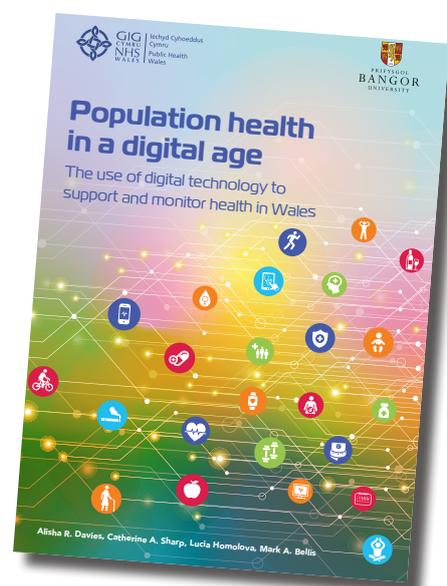
These activities included:

- finding information about health or health services; and
- managing health conditions and medications.

### More than a third (34 per cent) used digital technology to monitor their health in terms of step counts, fitness levels and food intake.

However, there are clear differences across social groups. Of the people in the least deprived group, 84 per cent used digital technology to support their health. This compared with 51 per cent in the most deprived group. These findings highlight important considerations for health systems to ensure that those who have the greatest needs are not left behind.

The reported findings have been shared at academic conferences such as the Public Health Wales Conference, European Public Health Conference, The King's Fund Digital Health Care Congress. They have also been shared with national media on ITV Wales News, and have informed a [Digital Inclusion Guide for Wales](#).



Supporting our priorities

Improving mental well-being and resilience

## Young people's perceptions of Brexit

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<sup>1</sup>Policy and International Health Directorate, WHO Collaborating Centre on Investment for Health & Well-being, Public Health Wales;

<sup>2</sup>Knowledge Directorate, Public Health Wales;

<sup>3</sup>Opinion Research Services.



Louisa Petchey



Sumina Azam



Alisha Davies



Angharad Davies

### 1. What is the challenge?

Although many of the implications of Brexit are uncertain, it is undeniably a major policy change with wide-reaching implications. However, what might this mean for young people in Wales?

**Across the UK, nearly three-quarters of those under 24 years of age voted to remain in the EU in 2016. Those aged 16 and 17 years were unable to vote at all.**

A number of questions arise. For instance, have young people's feelings about their communities changed following the vote? How might their plans for the future have changed in light of this significant decision? What impact do they think Brexit might have on their health and well-being?

A gap in evidence for the impact of Brexit on young people in Wales and their mental well-being was identified in our publication: [The Public Health Implications of Brexit in Wales: A Health Impact Assessment Approach \(January 2019\)](#).

### 2. What was done?

We, and the Opinion Research Services (ORS), talked to a cross-section of young people, including those living in rural and deprived communities, to fill this knowledge gap. Our focus groups and in-depth telephone interviews with 16-24 year olds engaged over 60 people. These were young people in work, education or neither, who are living in Wales.

We asked about:

- their experience of living in Wales;
- what effects their health and well-being; and
- what their aspirations for the future are.





**We asked them whether Brexit is affecting their lives now or may do so in the future, and how.**

### 3. What was the outcome?

The findings suggest that young people generally feel positive about Wales and their lives here. But concerns about mental health have been raised frequently, relating to:

- exam pressure;
- the need to 'fit in';
- climate change;
- challenges getting a good job;
- NHS cuts; and
- poverty.

When asked about Brexit, young people often described it as 'unreal' and 'not worth worrying about' because of uncertainty around the current position. They tended to talk about Brexit in an impersonal and apathetic way.

Young people were, however, able to identify some implications of Brexit. These were generally negative and included:

- job losses; and
- less money for public services.

But some young people also spoke about opportunities, including:

- more university places; and
- being more able to buy locally grown food.

These were directly linked to some of their current concerns; their careers, the NHS and climate change. Many young people said they would like to learn more about politics at school in order to better engage with issues like Brexit.

The findings of this research are being used to help identify actions that public services and other sectors could take. These may influence short, medium and long-term strategy to improve the mental health and well-being of young people in Wales.

Supporting our priorities

## Improving mental well-being and resilience

# Voices of those with lived experiences of homelessness and adversity in Wales: informing prevention and response



Charlotte Grey



Louise Woodfine

Charlotte Grey<sup>1</sup>, Louise Woodfine<sup>2</sup>

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<sup>2</sup> Policy and International Health, WHO Collaborating Centre on Investment for Health & Well-being, Public Health Wales.

## 1. What is the challenge?

Homelessness is a serious societal and complex public health issue. It is an indicator of a fundamental breakdown in a person's life, with wide-ranging causes and consequences, including ill-health.

**We know a great deal about individual, familial, and structural causes of homelessness and yet it persists and is projected to rise.**

Earlier efforts to reduce homelessness have focused on crisis prevention. They paid little attention to early intervention and primary prevention.

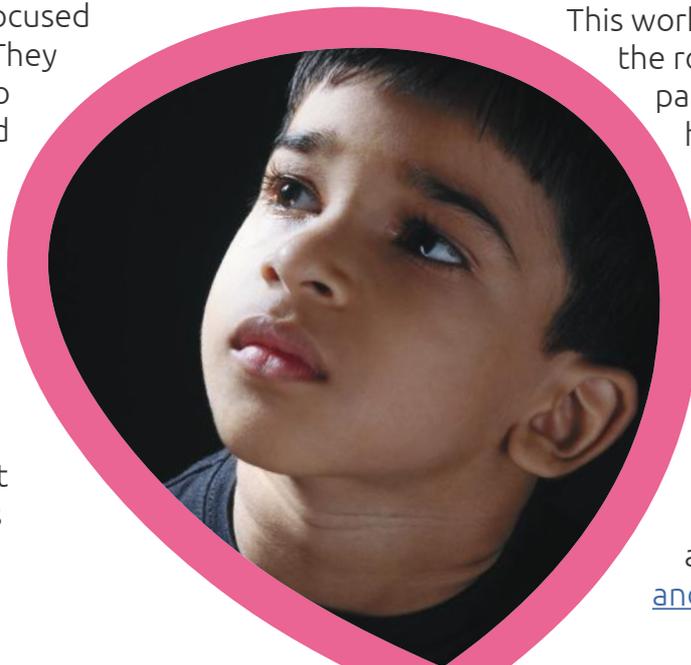
Dealing with homelessness is complicated. It involves identifying and implementing effective solutions to support people. But it also needs to address multiple complex

personal and structural causes that can occur throughout the life course. These complex issues often can include those experienced in early childhood such as Adverse Childhood Experiences (ACEs), and other associated risk factors such as poverty.

## 2. What was done?

The study aimed to explore the relationship between adversity in childhood and later risk of homelessness. It also explored perceptions of the opportunities for early intervention.

This work is key to understanding the role of ACEs in life-pathways that lead to homelessness. It will also help to understand how early support centred around childhood adversity, for both children and adults, could be used to help prevent homelessness and reduce health and social inequities. This was done by analysing our [2017 ACE and Resilience survey](#)



data to understand associations between ACEs and homelessness in Wales. We also interviewed homeless people and a range of services these people had been in touch with throughout their lives.

### 3. What was the outcome?

People in Wales who have suffered significant adversity in childhood are 16 times more likely than the rest of the population to experience homelessness. Resilience factors in childhood, such as feeling part of a community or having a trusted, stable relationship with an adult can help protect against those experiences which lead to homelessness.

The findings suggest that negative health and social outcomes such as homelessness could be reduced by mitigating or preventing ACEs. The [report](#) highlights a number of considerations for further action to tackle and mitigate ACEs. It supports the need to think about new ways to reduce homelessness. To do so through preventing and mitigating ACEs in children, and supporting vulnerable adults who find ACEs to be both a cause of homelessness and a barrier to accessing support.



Supporting our priorities

## Promoting healthy behaviours

Dr Jemma Hawkins<sup>1</sup>, Dr Graham Moore<sup>1</sup>, Prof Rhiannon Tudor Edwards<sup>2</sup>, Prof Russell Jago<sup>3</sup>, Dr Mark Kelson<sup>4</sup>, Prof Simon Murphy<sup>1</sup>, Dr Emily Oliver<sup>5</sup>, Prof Sharon Simpson<sup>6</sup>, Dr Julie Bishop<sup>7</sup>, Lorna Bennett<sup>7</sup>

# Physical Activity monitors in an Exercise Referral Setting: The PACERS study

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<sup>2</sup> Centre for Health Economics and Medicines Evaluation, Bangor University;  
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<sup>4</sup> College of Engineering, Mathematics and Physical Sciences, University of Exeter;  
<sup>5</sup> Department of Sport and Exercise Sciences, Durham University;  
<sup>6</sup> MRC/CSO Social and Public Health Sciences Unit, University of Glasgow;  
<sup>7</sup> Health and Well-being Directorate, Public Health Wales.



## 1. What is the challenge?

Low levels of physical activity (PA) are associated with an increased risk of chronic disease outcomes and poorer psychological well-being. Most adults in Wales do not currently achieve public health recommendations for PA. Interventions to increase individuals' PA levels, such as exercise referral schemes, have had mixed successes to date. They often demonstrated effects only in the short-term.

## Research suggests that activity monitoring devices may help to enhance PA levels and long-term maintenance.

They allow the user to set goals and monitor their success. Goal setting interventions have shown promising effects in promoting dietary and PA behaviour change.

In Wales, the National Exercise Referral Scheme (NERS) supports people to increase their levels of PA. It does this by providing 1:1 support in a 16-week programme. Some activity monitoring devices were purchased for use in NERS to help further support people to become more active. The PACERS study aimed to understand how to integrate such technologies into existing exercise programmes like NERS. It also explored whether a full-scale trial to evaluate the effectiveness of the devices was feasible.

## 2. What was done?

A team of researchers from five Universities in Wales, England and Scotland worked in collaboration with the NERS





practitioners and previous recipients of the scheme. Together they designed a pilot randomised controlled trial which used a mixed-methods process evaluation and an exploratory economic analysis.

In total, 156 NERS participants joined the study and were randomised to receive either NERS as usual or NERS plus the activity monitor. The researchers explored how feasible it was to implement the activity monitors in routine NERS practice and the experiences of participants and staff of using them. Data was gathered by postal questionnaires, telephone interviews and the NERS routine monitoring database.

### 3. What was the outcome?

Some participants and staff highlighted positive experiences of using the activity monitors. But, there were multiple problems experienced with implementing them within NERS.

For example:

- the design of the activity monitors was outdated compared to newer models that were released during the course of the study;
- there were technological barriers including IT literacy, computer access and IT system security.

The findings were published earlier this year in the [Journal of Medical Internet Research](#). The researchers have shared their findings with the National Co-ordinator and Regional Co-ordinators of the scheme to inform subsequent use of the devices within the scheme.



Supporting our priorities

Securing a healthy future for the next generation

## Validation and testing of Travel to School Hands-Up Survey methodology for primary schools in Wales

Amy Davies, Karen Thompson, Julie Bishop  
Health and Wellbeing Directorate, Public Health Wales.



Amy Davies



Karen Thompson



Julie Bishop

### 1. What is the challenge?

Wales has committed to sustainable development. An example of which is through implementation of the Active Travel Wales Act (2013). However, active travel to school rates have reduced since the legislation was implemented.

**The study aimed to test the feasibility of using a Hands-Up methodology to gather primary school-level data.**

The Hands-Up methodology is the process of taking feedback from questions asked of a group by counting the hands raised in agreement to multiple answers. If valid, this methodology could be used for improvement at a school, local area and national level. To test feasibility of this methodology we needed to undertake a validation study for the question ‘how do you normally travel to school?’ in both English and Welsh.

### 2. What was done?

We mostly recruited schools from disadvantaged communities from both urban and rural geographies. Seven Welsh and six English-medium primary schools across Gwynedd, Swansea and Carmarthenshire took part.

We engaged with:

- 26 teachers;
- 704 children; and
- 284 parents/guardians.





Schools participated in three separate research elements:

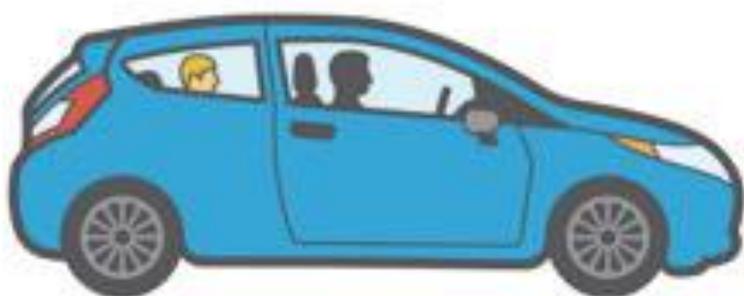
- school staff were part of a process evaluation to assess feasibility. This was assessed with classroom observation and questionnaire feedback from teachers; and
- parent-child dyads were recruited to validate the survey question. We compared children's responses with those of their parents on a single day.
- The children were asked the question at two different times during the day to assess child-child reliability.

We are now able to proceed with establishing a scale-up mechanism. Initially it will be to local authority level and later nationally. The outcomes of which will be used to influence improvement in active travel.



### 3. What was the outcome?

The Travel to School Hands-Up survey methodology is valid, reliable and feasible in a classroom.



Supporting our priorities

Protecting the public from infection and environmental threats to health

## Investigating the prevalence of latent Tuberculosis infection in a UK remand prison



Stephanie Perrett



Giri Shanker



Ben Gray

Stephanie Perrett<sup>1</sup>, Giri Shankar<sup>1</sup>, Ben Gray<sup>2</sup>

<sup>1</sup> Public Health Services Directorate, Public Health Wales;

<sup>2</sup> Knowledge Directorate, Public Health Wales.

### 1. What is the challenge?

In January 2016 NICE published guidance on tuberculosis (TB). It recommended routine interferon gamma release assay (IGRA) testing for the detection of latent TB infection (LTBI) in all prisoners under 65 years of age ([NICE, 2016; 2017](#)).

NICE recommends IGRA testing becomes part of prison blood-borne virus screening. Wales offers this with an opt-out system. Early TB detection is essential to improve

outcomes for individuals. It reduces the risk of spread in closely confined environments such as prison.

Wales is considered to have a low prevalence of TB. But the prevalence of LTBI in Wales' prisons was unknown.

In November 2016, we sought funding from Welsh Government to run a pilot to explore the prevalence of LTBI infection at Her Majesty's Prison (HMP) Cardiff. It sought answers to the following questions:

- What is the prevalence of LTBI amongst male inmates at HMP Cardiff?
- How acceptable is the IGRA test to inmates at HMP Cardiff?
- Do those who are LTBI positive engage in treatment for the infection?





## 2. What was done?

Public Health Wales' collaborators were the prison healthcare service and the TB specialist service from Cardiff and Vale University Health Board. The pilot was fully supported by Her Majesty's Prison and Probation Service (HMPPS) in Wales and the prison Governor.

The T-SPOT.TB (*IGRA*) test was offered to the first 600 men arriving at the prison between 1 February 2018 and 28 March 2018. The London-based 'Find and Treat' service was commissioned to provide onsite chest X-rays to those testing LTBI positive.

## 3. What was the outcome?

584 men were recruited and tested. 17 test results could not be verified. From the remaining 567 men, 40 were IGRA positive (7.1%). Of these, one individual (asymptomatic) was diagnosed with an active TB infection from chest x-ray. Almost one-third of those positive for LTBI completed treatment.

LTBI prevalence was highest in the 35-44 age group. The most significant risk factor for LTBI was observed to be non-white ethnicity and country of birth in a region at high risk of TB infection and previous close contact with a known TB case. Acceptability of the IGRA test for men in prison was high. We issued a full report to Welsh Government and the results will inform decisions about TB screening in prisons in Wales. The results from the IGRA pilot were published in the *Journal of Public Health*.

Supporting our priorities

Protecting the public from infection and environmental threats to health

## Evaluation of different next generation sequencing technologies to epidemiologically track carbapenemase producing organisms and transfer of resistance genes associated with hospital outbreaks

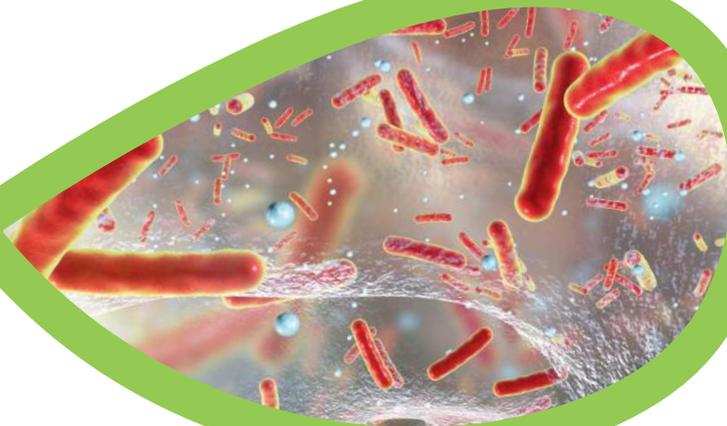
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<sup>2</sup> School of Medicine, Cardiff University;

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<sup>4</sup> School of Biosciences, Cardiff University.



### 1. What is the challenge?

Antibiotic resistance is a serious global public health challenge. Carbapenemase producing organisms (CPO) are some of the most resistant and epidemiologically-concerning Gram-negative bacterial pathogens. CPO have become endemic in some parts of the world. They have caused major outbreaks and regional spread in some parts of the UK.

In Wales, CPO infections remain uncommon. However, the number of clinical isolates being referred to the Specialist Antimicrobial

Chemotherapy Unit (SACU), Cardiff has been increasing (see Figure 1).

Outbreaks involving these organisms can severely disrupt clinical services and lead to significant morbidity and mortality. Understanding transmission events is often challenging. This is because of the limited discrimination of existing bacterial strain-typing methods and potential genetic exchange of resistance genes between bacteria during outbreaks.

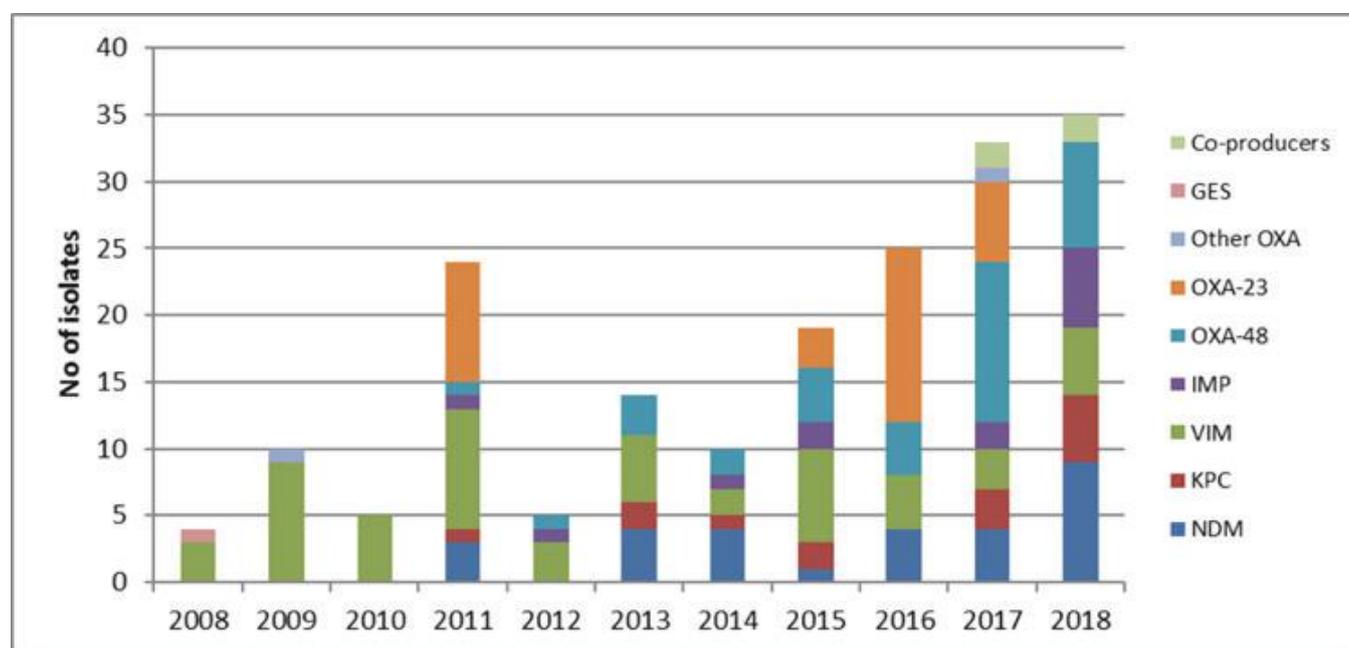
### 2. What was done?

The Antimicrobial Resistance and Genomic Typing Project (ARGENT) is a collaboration between SACU and the Pathogen Genomics Unit. ARGENT aims to develop a Next-Generation Sequencing (NGS)-based bacterial typing service for Wales.

We collaborated with Cardiff University colleagues to compare short-read sequencing (in development for ARGENT) with long-read sequencing for outbreaks involving CPOs.

Approximately 370 CPOs are being sequenced by short-read NGS. These CPOs include *Acinetobacter baumannii*, those of the order Enterobacterales, and *Pseudomonas*

**Figure 1. All Wales CPO; types of carbapenemases isolated from clinical samples submitted to SACU**



aeruginosa strains. Most of these isolates are from samples submitted to SACU since 2007. They have accompanying clinical and epidemiological information. Forty of these isolates will be sequenced by long-read NGS. These will be used to compare typing outputs. We will look for evidence of sharing of genetic information, namely carbapenemase genes, between outbreak strains.

### 3. What was the outcome?

Short-read NGS will provide rapid, highly discriminatory typing of these pathogens. It allows detailed assessment and understanding of strain transmission pathways in outbreaks involving CPOs.

More than 100 Carbapenemase Producing *Acinetobacter baumannii* and 100 CPO of other species have been sequenced. Outputs have been consistent with previous typing results. In addition, some cases granted a clearer understanding of transmission events. They have provided substantial additional data which is currently being analysed.

Comparing short-read with long-read sequencing will allow assessment of its ability to produce comparable typing results. It will aid better understanding of outbreaks transmitting resistance genes between organisms.

The overall outcome will enhance our understanding of the epidemiology of outbreaks with CPO. Sequencing has commenced and additional isolates are being selected on review of clinical, epidemiological and NGS data. Analysis pipelines for comparison and synthesis of short and long-read NGS are in development.

Supporting our priorities

Protecting the public from infection and environmental threats to health

## Transform, Engage, Communicate Sexual Health Information for Young People



Zoe Couzens

Zoe Couzens

Health Protection, Public Health Wales.

### 1. What is the challenge?

In November 2016, Welsh Government requested Public Health Wales to commence a review of sexual health services in Wales.

Our review explored the type and content of service required to meet the sexual health needs of the population. It did so through engagement with key population groups. We also considered the information and resources required for this service.

When the review reported in April 2018, it included the following recommendation:

‘Sex and Relationship Education is not addressed in this review as it is part of the Curriculum Review. However, consideration should be given to developing a national information set on sexual risks which should be presented in a format accessible to a wider audience.’

Good sexual health matters to individuals and communities. Sexual health needs vary according to factors such as age, gender, sexuality and ethnicity. However, there are some core needs common to everyone including:

- high-quality information and education which enables people to make informed responsible decisions; and
- access to high-quality services, treatment and interventions.

### 2. What was done?

The Y Lab ‘Innovate to Save’ programme provided funding and support. We also worked with ProMo-Cymru, who are experienced in designing and delivering digital youth information services.





We were able to work with key providers and service user groups to address how to improve and target digital communication.

We found strong indicators that current NHS sexual health information may not be accurately processed by many young people.

How information was presented proved the biggest barrier to young people taking appropriate action.

We adopted an iterative service design methodology. From this, we developed and tested a digital sexual health tool prototype (<https://www.friskywales.org/assess1a.html>). We did so by working with six different groups of young people.

### 3. What was the outcome?

We continually altered and amended the prototype based on feedback from each workshop. Eventually, all the young people reported that the prototype was easier to understand than current sexual health information. It enabled the groups to process the information more effectively. They were able to give correct responses in a timely fashion. The result: individuals directed to the right service at the right time will receive the necessary intervention at the appropriate time. This may also result in releasing clinic capacity for more complex cases and unmet demand.



Supporting our priorities

Protecting the public from infection and environmental threats to health

Christopher Williams<sup>1</sup>, Matthew Snape<sup>2</sup>

<sup>1</sup> Health Protection, Public Health Wales;

<sup>2</sup> Department of Paediatrics, University of Oxford.

## Be on the TEAM: Randomised controlled trial of effectiveness of group B meningococcal vaccines against carriage



Christopher Williams



Matthew Snape

### 1. What is the challenge?

*Neisseria meningitidis* is a common bacterium which has the capability to cause meningococcal disease. Meningococcal disease often results in devastating outcomes.

The introduction of group C meningococcal vaccines in the UK in the early 2000s has halved the incidence of meningococcal disease. Most remaining cases are group B.

In 2015, the UK was the first country in the world to introduce group B meningococcal vaccination into its routine immunisation schedule. It is given to children at ages 8 weeks, 16 weeks and 1 year. Group B vaccination is proven effective against the disease. However, cases can still occur in older children and adults. Carriage is most prevalent in teenagers and young adults.

Modelling has predicted that vaccinating adolescents too could prevent over half of all cases (over a 30-year timeframe). This is supposing the vaccine is effective against carriage as well as disease.

### 2. What was done?

The *Be on the TEAM* trial aims to determine if group B vaccines are effective against carriage of group B (and other) meningococci. The trial is an NIHR funded investigation. It is led by the Oxford Vaccine Group and has 14 sites across the UK.

Target recruitment is 24,000 participants. There are three trial arms with 8000 participants in each. There are two intervention arms (Bexsero® and Trumenba® vaccines) and one control arm. Since 2018, we have led the trial control site in Wales.

Participants are recruited from year 12 students at schools and colleges. With informed consent, participants have a throat swab for meningococcal culture. They also complete a brief form about exposure. The intervention arms receive the vaccine immediately after the first swab (with a booster dose 1 month later). After a year, participants are recalled to repeat the procedure. Control sites receive the vaccination after this second swab.

There are four waves of recruitment over the course of two years. Recruiting for wave one began in April 2018. We aimed to recruit 500



students in each wave to reach our target of 2000. We initially over-performed and recruited 658 from three establishments.

Vaccination in Wales has been provided through a partnership with Cardiff and Vale and Cwm Taf Morgannwg University Health Boards. Most of the research conduct, training, organisation and delivery has been provided by PHW staff.

### **3. What was the outcome?**

Despite the challenges of delivering such a large trial, the Wales arm of the study has greatly benefitted from the support it received. More specifically, from colleagues at Public Health Wales, health boards and teachers and students in the schools and colleges.

Wave three is complete. We are now planning repeat visits to schools and colleges from wave two this autumn.

We will also complete the one year follow-up swabs in April and September 2020. Results and the potential implications for UK vaccination policy are pending.

A short video of the project is available at the following links:

- [English](#)

Supporting our priorities

Protecting the public from infection and environmental threats to health

Josie Smith<sup>1</sup>, Drew Turner<sup>1</sup>, Dr Ruth King<sup>2</sup>, Dr Antony Overstall<sup>3</sup>

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## Estimating the prevalence of problem drug use in Wales 2010-11 to 2020-21



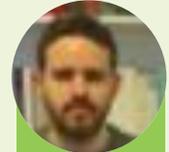
Josie Smith



Drew Turner



Dr Ruth King



Antony Overstall

### 1. What is the challenge?

Estimating problem drug use is notoriously difficult as much drug use is hidden from public view. The reasons for this are due to illegality and stigma. Therefore they are only recorded when contact is made through substance misuse, health or criminal justice services. There have also been substantial changes to the drugs market over the past decade. In particular, relating to the availability of new psychoactive drugs and patterns of use.

However, a robust prevalence estimate is vital to enable:

- planning substance misuse and related treatment service provision;
- estimating the burden of disease from bacterial and viral infections associated with drug use;
- monitoring of trends and progress towards local, national and international strategic aims. Aims which relate to health, criminal justice and other related policies, strategies and objectives; and
- comparison of the prevalence and incidence of problematic drug use in Wales with trends in the other countries.

### 2. What was done?

The study uses an adapted definition of problem drug use:

‘injecting drug use or long-duration/regular use of opioids, cocaine (including crack cocaine), amphetamines and/or amphetamine-type stimulants’

This is based upon the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) definition.

We used the ‘capture-recapture’ methodology to collate annually:

- secondary data sets from police arrests;
- hospital admissions;
- substance misuse treatment assessments; and
- probation records.

Working collaboratively with statisticians from Edinburgh and Southampton, a Bayesian model-averaging approach was developed. It enabled us to produce estimates of this hidden population. The estimates were stratified by age group, gender, drug type and health board area.



### 3. What was the outcome?

Current estimates for Wales indicate there are about 50,000 problematic drug users. This indicates a rate of about 26 per 1000 population who are aged 15-64 years.

The rate of problematic opioid use in Wales in 2017-18 was 9.7 per 1000 population for the same age group. This is higher than the rate recorded for England in its entirety (7.37 per 1000 population). However, it is comparable with rates recorded in the region of the North East of England, Yorkshire and Humberside.

Annual prevalence estimates are published in the Annual Profile for Substance misuse. They contribute to the [UK focal point on drugs](#) report (see picture to the right) and to the EMCDDA Country profile.



Supporting our priorities

Protecting the public from infection and environmental threats to health

Sarah Jones  
Public Health Services Directorate, Public Health Wales.

## Integrating transport and health to reduce transport related health harms



Sarah Jones

### 1. What is the challenge?

Transport is an important but under-recognised determinant of health. The impacts have direct and indirect effects on health problems through:

- road traffic crash injuries;
- the effects of air pollution;
- physical inactivity; and
- noise pollution.

**The direct health effects might include cardio-respiratory diseases. Indirect effects could be community severance and access to work, education and health services.**

However, public health involvement in transport research, planning, policy and practice is very limited. The purpose of this award was to develop research to support the integration of transport and health.

### 2. What was done?

This is a three-year project. We spent the first year identifying appropriate contacts, participants and collaborators. We held a workshop to establish whether there is a need to integrate the disciplines. The workshop drew over 50 delegates in. They represented a diverse range of groups and organisations. They concluded that this work is needed and should be under-pinned by an academic centre that would support it.

### 3. What was the outcome?

We are now in the second year. We developed a proposal for an academic centre with Charles Musselwhite at Swansea University. We have also sought infrastructure funding to support it.

The Centre for Integration of Transport and Health (CITH) will develop relevant research. It will also support teaching and training of practitioners to undertake placements in different settings.

Evaluating transport policy from a health perspective will be a key focus of the CITH. It will also support the prioritisation of health within transport policy, from an evidence-based perspective.

**There is growing recognition of the need to bring transport and health more closely together. If successfully funded, the CITH will be the first such academic centre in the world.**



Supporting our priorities

## Supporting the development of a sustainable health and care system

Tracey Good<sup>1</sup>, Helen Green<sup>1</sup>  
Christopher Shank<sup>2</sup>, Anouschka Foltz<sup>2</sup>

<sup>1</sup> Centre for Equality and Human Rights, Public Health Wales;  
<sup>2</sup> School of Languages, Literature & Linguistics, Bangor University.

## Accessible Health Service impact upon the health and wellbeing of deaf patients



Tracey Good



Christopher Shank



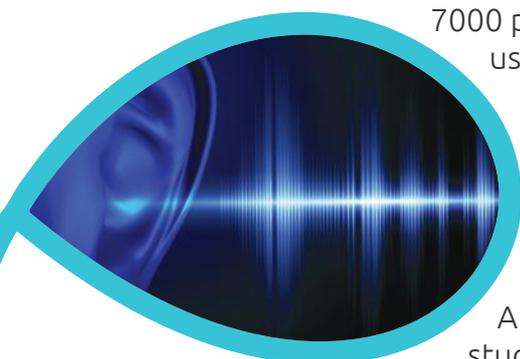
Anouschka Foltz



Helen Green

### 1. What is the challenge?

In Wales over 600,000 people are living with sensory loss. Most of them (575,000) are people who are deaf or hard of hearing. This group is estimated to have between 4000 and 7000 people who use British Sign Language (BSL) as their first language.



A number of studies have reported that deaf communities experience health inequalities. These inequalities may be:

- difficulty in accessing healthcare and information about staying well;
- mental health issues; or
- a greater risk of underdiagnoses.

Few studies have examined this group's barriers and enablers to health and well-being in Wales.

In 2018, we completed a major survey of public concerns and opinions about population health called: Stay Well in Wales: The Public's Views on Public Health. We wanted to build on this by working with the

deaf community to inform future action. We first needed to develop a suitable survey.

### 2. What was done?

Researchers at Bangor University began conducting a literature review. This helped to create a set of questions and discussion points for focus groups of BSL users.

**We made new connections with the third sector during this process. They helped to organise and conduct focus groups with deaf communities in North and South Wales.**

### 3. What was the outcome?

The initial study was published during the annual sensory loss awareness month in November 2019. It is part of the '[It Makes Sense](#)' campaign.

We will strengthen the partnerships we have created through the initial phase of the study. We will do so as we collaborate for a joint funding bid to roll out the survey to deaf communities across Wales.

**Several third sector organisations have expressed a desire for this information to evidence community need and prioritising services.**

Supporting our priorities

## Supporting the development of a sustainable health and care system

# Social prescribing as a means to address health and well-being issues for non-critical conditions

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<sup>3</sup> Rural Health and Care Wales;

<sup>4</sup> Aberystwyth University.



## 1. What is the challenge?

Primary care practice is experiencing unprecedented pressure. Analysis by the Nuffield Trust suggests that GP numbers per 100,000 of the population are showing a sustained decline. It also shows public satisfaction with the NHS has fallen in recent years. Added to this, GPs are spending about 20% of their time on social issues which are not about the medical health of the patient. They are often not qualified or equipped to deal with these issues. There is some evidence which suggests that social prescribing is one way to help some patient groups and reduce GP pressure. Further work is needed to understand what makes social prescribing a success in different settings such as rural communities.

## 2. What was done?

We formed part of a team with Rural Health and Care Wales (RHCW) and Aberystwyth University's Well-being and Health Assessment Research Unit (WARU). The team aimed to recruit 20 patients from across

seven GP practices in North Ceredigion. We were to study the role of the link worker on patient engagement with social prescribing schemes. We were also interested in the impact on health outcomes.

Patients met with the link worker and agreed a plan of activities to follow for the three month study duration. Health and well-being assessments were done at the first meeting with the link worker and again after the three month intervention. The assessments measured:

- weight;
- Body Mass Index (BMI);
- resting blood pressure; and
- resting heart rate.

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) measured mental well-being.

Participants would meet with or receive a telephone message from the link worker each month to monitor progress and address issues.



**At the end of the study, participants were invited to attend a focus group to discuss social prescribing.**

### 3. What was the outcome?

From the 17 participants recruited to the study, 11 completed the three-month intervention. Eight participants were linked with one or more social prescribing activities. Two subjects reported not doing anything. A third could not find an existing service or activity that met their needs.

Some of the activities that were undertaken included:

- joining hospital radio as a DJ;
- receiving post-traumatic stress counselling;
- exercise referral;
- cardiac rehabilitation; and
- joining Foodwise for Life course.

There was no differences between assessment measures at the start of the study and after retesting three months later. To help successfully deliver social prescribing, we suggested a number of recommendations.

These were:

- link worker clinical supervision;
- structured peer-support;
- resourcing and accurate, accessible information about community and support services and activities; and
- link worker engagement with GP surgeries and social prescribing scheme providers to support a more joined-up service and promote user engagement.

Supporting our priorities

Supporting the development of a sustainable health and care system

## Case Study: The Health Experiences of Asylum Seekers and Refugees in Wales (Practitioner-Led Funding Scheme)

Lauren Couzens<sup>2</sup> (project lead), Ashrafunessa Khanom<sup>1</sup>, Wdad Alanazy<sup>1</sup>, Bridie Angela Evans<sup>1</sup>, Lucy Fagan<sup>2</sup>, Alex Glendenning<sup>1</sup>, Matthew Jones<sup>1</sup>, Ann John<sup>1</sup>, Talha Khan<sup>3</sup>, Mark Rhys Kingston<sup>1</sup>, Cathrin Manning<sup>4</sup>, Sam Moyo<sup>5</sup>, Alison Porter<sup>1</sup>, Melody Rhydderch<sup>6</sup>, Gill Richardson<sup>2</sup>, Grace Rungua<sup>5</sup>, Daphne Russell<sup>1</sup>, Ian Russell<sup>1</sup>, Rebecca Fogarty<sup>2</sup>, Anna Stielke<sup>2</sup>, Victoria Williams<sup>1</sup>, Helen Snooks<sup>1</sup>

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- <sup>3</sup> University College Cork;
- <sup>4</sup> British Red Cross;
- <sup>5</sup> Patient and public involvement members;
- <sup>6</sup> Displaced People in Action (DPIA).



**I have worked at Public Health Wales for 8 years. I'm currently a Senior Project Manager for Global Health. I have always been keen to develop, and saw the Practitioner Scheme as an opportunity to enhance my research skills. It would also allow me to gain experience working on collaborative research project.**

I identified a gap in research and developed an application to explore the health experiences of asylum seekers and refugees. I was also interested in the perspectives of health professionals.

Swansea University led a multi-organisation bid. It included the Welsh Refugee Council, Displaced People in Action, the Ethnic Youth Support team and PRIME Centre Wales. We researched the literature to begin and developed an evidence map.

We also collected:

- survey data from 210 people seeking sanctuary;
- qualitative data from 32 health professionals and volunteers through semi-structured interviews; and
- 50 service users and seven support workers and volunteers through focus groups.

This study reports experiences from multiple perspectives and is the largest of its kind in Wales.

We presented the research findings at Sanctuary in the Senedd. We also presented at a day-long multi-stakeholder workshop. There were representatives from a wide-range of professional and voluntary groups.

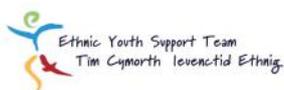




A subsequent stakeholder event was chaired by the Chief Medical Officer. It explored the recommendations from the research and how to take these forward. We are now taking this learning forward and hope to use the findings to implement tangible improvements in NHS Wales.

Working on this research project has improved my understanding of the process and multifaceted nature of working in a multi-stakeholder collaborative group. Through this research I made valuable professional connections that I am confident will continue to develop in the future.

The project has provided evidence to inform health sector understanding of a complex vulnerable group. It provides valuable insight into people's sanctuary-seeking experiences of health in Wales and the experiences of the health professionals supporting them.



## Looking back, looking forward

The Research and Development (R&D) Office manages the NHS research permissions process for all our research. Since 2018 we have been verifying capacity and capability to deliver research studies as research governance within Wales continues to develop. We will continue to work with Health and Care Research Wales to ensure future changes are implemented as required.

In 2019/20 we will seek to implement the new Research and Evaluation (R&E) Strategy by identifying key research areas across our strategic priorities. The R&E Division will embed this learning into our ongoing work to support new research and evaluation with internal and external funding. We will continue to communicate the outcomes and impact of that work through publishing, training and conferences.

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