Institute of Health and Wellbeing
Knowledge Exchange Students
3rd Annual Conference

Programme

8th June 2015
Wolfson Medical Building, University Avenue, Glasgow
IHAWKES is a network of postgraduate researchers. Members of this network come from a range of academic disciplines, who are brought together as members of the Institute of Health and Wellbeing at the University of Glasgow.

The basic aims of the network members reflect those of the Institute of Health and Wellbeing: to prevent disease, improve health and wellbeing, and reduce inequalities: locally, nationally and globally.

IHAWKES seeks to promote knowledge exchange and public engagement across the dynamic research groups that comprise the Institute of Health and Wellbeing – Public health; General Practice and Primary Care; Health Economics and Health Technology Assessment; Social Sciences; and Mental Health and Wellbeing – as well as the Robertson Centre for Biostatistics, Clinical Trials Unit and the MRC/CSO Social and Public Health Sciences Unit. It achieves this by promoting engagement with postgraduate research through a number of traditional and contemporary platforms including: formal induction and training events, social events, the annual student led conference, the popular IHAWKES blog (www.gla.ac.uk/blogs/ihawkes), and the @IHAWKES1 twitter.

The Institute of Health and Wellbeing currently has 330 staff members, 197 doctoral students and 167 postgraduate taught students.

The 3rd annual conference theme is ‘research beyond academia’. The theme and programme today reflect the interdisciplinary nature of our research, the wide range of skills and expertise we have, and the potential this brings for external collaboration with international academics, the Scottish and UK Governments, NHS, local authorities, and the voluntary and private sectors.

Keep up to date with all of our events by following us on twitter @IHAWKES1
Programme Overview

09:30-10:00 Coffee/Tea and registration
10:00-10:30 Opening plenary: Dr Sara Twaddle, seminar room 2 Hugh Fraser
10:35-11:25 Parallel Session 1
   Stream A: Health Perceptions, seminar room 2 Hugh Fraser
   Stream B: Mental Health, seminar room 3 Gannochy
11:25-11:50 Coffee/Tea and poster session
11:50-12:40 Parallel Session 2
   Stream C: Health and Place, seminar room 2 Hugh Fraser
   Stream D: Child Health, seminar room 3 Gannochy
12:45-13:15 Early Career Research Panel: Dr. Amy Nimegeer and Dr. Jamie Reid,
   chaired by Prof. Colin McCowan, seminar room 2 Hugh Fraser
13:15-13:30 Awards and conference closing, seminar room 2 Hugh Fraser
13:30-14:30 Lunch and networking
Dr Sara Twaddle is a health economist and health services researcher. She has a PhD in the economics of maternity services.

Sara has spent her entire career in NHS Scotland in a variety of roles. She started as a research assistant in health economics in the then department of community medicine in Glasgow, and then moved into management of the cervical screening programme. Sara then became a commissioner for women’s acute services in Glasgow before being appointed to Head of Research and Development at Stobhill NHS Trust. In 2003, Sara became the Director of SIGN and in 2010 the Head of Evidence and Technologies at Healthcare Improvement Scotland in 2011. In 2014 Sara became Director of Evidence at HIS, a role covering the three technologies groups (SIGN, SHTG and SMC), standards and indicators development and knowledge and information support to the whole organisation.

Sara holds honorary appointments at the universities of Glasgow and Edinburgh and is a past Chair of Guidelines International Network. She has undertaken work for both the World Health Organisation and the European Union. She is a reviewer for a number of journals and grant awarding bodies and is a member of the NICE Accreditation Advisory Committee. Her research interests have been and remain in women’s health, prioritisation and asthma.
Parallel Session 1
10:35-11:25

**Stream A: Health Perceptions**
Seminar Room 2 Hugh Fraser

“Men eating healthy to lose weight and family food environment” Sheela Tripathee (MRC/CSO Social and Public Health Sciences Unit, PhD year 1)

“Perceptions of potential targeting of African Migrants in Scotland for HIV interventions” Matthew Smith (MRC/CSO Social and Public Health Sciences Unit, PhD Year 4)

“The value of preference based measures of quality of life in people with Parkinson’s: a systematic review” Yiqiao Xin (Health Economics and Health Technology Assessment, PhD year 2)

“Linking sustainability and health: the impact of walking on health attitudes and behaviour and environmental attitudes and pro-environmental behaviour” Nora Morocza (Public Health, Masters)

**Stream B: Mental Health**
Seminar Room 3 Gannochy

“An investigation into the relationship between self-compassion, suicidal ideation and self-harm” Seonaid Cleare (Mental Health and Wellbeing, PhD year 2)

“Explaining the income and suicidality relationship: Rank of income is more strongly associated with suicidal thoughts and behaviours than rank” Karen Wetherall (Mental Health and Wellbeing, PhD year 2)

“Multimorbidity and Suicidality” Aikaterini Kavalidou (Mental Health and Wellbeing, PhD year 2)

“Social modelling, defeat and entrapment in self harm ideation and enactment” Olivia Jane Kirtley (Mental Health and Wellbeing, PhD year 4)

*full abstracts on pages 10 & 11

*full abstracts pages 11 & 12
Parallel Session 2
11:50-12:40

Stream C: Health and Place
Seminar Room 2 Hugh Fraser

“An comparative study of neonatal mortality in Ghana and Scotland: trends, distributions, causes of death and risk factors” Shadrach Dare (Public Health, PhD year 1)

“An comparison of amenable mortality in Scotland and England” Megan Yates (MRC/CSO Social and Public Health Sciences Unit, PhD year 1)

“Do the health benefits of oil led economic development outweigh the potential health harms from environmental pollution in Nigeria?” Marian Emmanuel Okon (Public Health, PhD year 1)

“Improving spatial nitrogen dioxide prediction using diffusion tubes: a case study in West Central Scotland” Francesca Pannullo (MRC/CSO Social and Public Health Sciences Unit, PhD year 2)

*full abstracts on pages 13 & 14

Stream D: Child Health
Seminar Room 3 Gannochy

“A two-part literature review to identify economic evaluations of school-based programmes that improve social and emotional wellbeing in children” Nicki Boyer (Health Economics and Health Technology Assessment, PhD year 2)

“Challenges in designing child-centred mixed methodology” Felicity Hayball (MRC/CSO Social and Public Health Sciences Unit, PhD year 2)

“Improving child oral health: cost analysis of a national nursery toothbrushing programme” Yulia Anopa (Health Economics and Health Technology Assessment/ Dental School, PhD year 2)

“Investigating ethnic differences in parenting styles and their associations with adolescent health behaviours” Aidan Cassidy (MRC/CSO Social and Public Health Sciences Unit, PhD year 1)

*full abstracts on pages 15 & 16
Prof. Colin McCowan (session chair) works at the Robertson Centre for Biostatistics, University of Glasgow which runs the West of Scotland Safe Haven with NHS Greater Glasgow and Clyde, providing access to routine clinical data for research. His research interests include the use of existing routine data within epidemiological studies and in the support of clinical trials. He co-led the Scottish Health Informatics Programme (SHIP) capacity building work stream and is developing the training programme for the Scottish Health Informatics Research Centre programme. He has published widely in the epidemiological and clinical medicine literature along with developing and delivering courses to medical and postgraduate students, and healthcare and research professionals. Colin leads the Capacity Building strand of the Farr Institute, Scotland project providing research training in the area of health informatics using routine data and co-convenes the Institute of Health and Wellbeing Grant Writing Group which enabling early career researchers to generate highly fundable health-related research grant applications.

Dr Amy Nimegeer is a Research Associate at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow. Prior to this she carried out research at the University of the Highlands and Islands and the University of Stirling on community engagement in health decision making, greenspaces and health, new health service roles and models, and language and health communication. Amy received her PhD in health research from the University of Aberdeen in 2013 and her research interests include methods of knowledge translation and exchange in a health care context, health and place, and the role of language in understandings of health. She is currently the primary qualitative researcher on the Traffic and Health in Glasgow project, and contributes to the Understanding Health Research project (formerly ‘Telling Good Science’) as well as being a representative on the Institute of Health and Wellbeing Early Career Research Forum.

Dr Jamie Reid graduated from the University of Glasgow with an MSCi in Physiology and Sports Science, during which he worked in the Human Performance Laboratory at QinetiQ, the private company that was created from the Defence Research Agency. He assisted in various human trials and participated as a subject in several experiments before working at the Glasgow Science Centre blowing stuff up and generally showing off. Following this he returned to University of Glasgow to undertake a PhD under the tutelage of Prof Phil Hanlon in Public Health where he investigated the excess of mortality that appears to remain within Glasgow and the West of Scotland after adjusting for age and sex. After completing this he took up a post with NHS Scotland's Information Services Division, deciding against a career in academia, where he worked as a senior data analyst and statistician. He is now Research and Information Manager for the Family Nurse Partnership (FNP) within NHS Education for Scotland: an evidence-based preventative, home-visiting programme for teenage mothers. He enjoys balancing the competing priorities of this role, working in partnership with several organisations and the opportunity to use the skills acquired in his PhD in a practical, applied manner. His spare time and sleep is consumed by his wife and young family although he also enjoys playing football (badly), trail running (slowly) and reading (voraciously)
Poster Titles

1. “A comparison of male and female medical students' views and experiences relating to alcohol pre-loading” Nadia Murdoch (Public Health, Masters)

2. “Engaging citizens in digital health and wellbeing technologies and services: lessons learned from European health” Siobhan O’Connor (General Practice and Primary Care, PhD Year 2)

3. “Sydenham’s Chorea: A new wave of movement disorders with associated mental health problems affecting Children in the West of Scotland” Mallika Punukollu (Institute of Health and Wellbeing, Masters)

4. “What is the impact of transition on health and wellbeing in young people with intellectual disabilities? A systematic review” Genevieve Young-Southward (Mental Health and Wellbeing, PhD Year 1)

5. “A randomised control trial of brief parenting groups for parents of school age children with disruptive behavior problems” Melanie Palmer (MRC/CSO Social and Public Health Sciences Unit PhD year 4)

6. “Does a new pharmacoeconomic model is demanded for obesity's pharmacotherapy assessment?” Bruno Salgado Riveros (Health Economics and Health Technology Assessment, PhD Year 1)

7. “PTSD within military populations: US v UK” Lauren Gilmartin (Global Mental Health, Masters)

8. “Impact of acceptance and commitment therapy on healthcare workers in Sierra Leone” Miriam Middlehurst (Global Mental Health, Masters)

9. “Physical health indicators in major mental illness: data from the Quality and Outcome Framework in the UK” Julie Langan-Martin (Mental Health and Wellbeing, MD Year 2)
“Men eating healthy to lose weight and family food environment” Sheela Tripathee (MRC/CSO Social and Public Health Sciences Unit, PhD year 1)

Overweight and obesity levels are increasing in men worldwide and are recognized as major risk factors for various chronic diseases such as diabetes, cardiovascular diseases and cancer. In Scotland in 2012, 68% men were overweight or obese. Unhealthy dietary habits and lack of physical activities are known causal factors for overweight and obesity. Family context is crucial in promoting dietary changes. Family support is recognized as an important factor in weight loss attempts. However, little is known about how the family food environment and female family members can enable or inhibit men’s attempts to lose weight through diet and exercise. In turn, whether and how men’s weight loss attempts influence the family diet and food environment is also not clear. Some studies have looked at men’s perception of how their wife or partner influences their healthy eating attempts. However, what female members of the family think about how men’s attempts to lose weight influences the family diet and how the family dynamics can influence men’s diet has not been well understood. Through a joint interview with a married couple, this study explores the mutual influence between the husband and wife, and their family food environment when the husband tries to lose weight through diet and exercise.

“Perceptions of potential targeting of African Migrants in Scotland for HIV interventions” Matthew Smith (MRC/CSO Social and Public Health Sciences Unit, PhD Year 4)

Background: In the UK Africans have the worst outcomes for HIV infection, primarily due to late diagnosis. To improve these outcomes a better understanding of the barriers to healthcare engagement is required. This PhD study investigated how diversity within the African migrant diaspora in Scotland could affect understandings and sensitivities to HIV and uptake of HIV testing and treatment

Methods: Research, involved participant observation at two sites (an African religious group and an asylum seeker/refugee drop-in centre) and interviews (27) with African migrants attending these and three additional sites (two advocacy charities and a student association) across Scotland. Data were analysed thematically. Results: Participants’ perceptions of potential future HIV related health interventions targeting the African migrant diaspora in Scotland were largely negative. Concerns included that African targeted research could isolate the diaspora and targeting would perpetuate the myth that HIV is solely an African issue. Research participants suggested what would make an intervention potentially successful: community based leads and contexts and framing that does not focus on Africans as vulnerable or at risk and other aspects. Conclusions: Interventions targeted at minority groups, particularly those that perceive themselves to be in a hostile environment, potentially have numerous barriers to engagement. Future intervention design should be informed by engagement and partnership with the African diaspora in Scotland to have the greatest chance of success, and take into account the high levels of diversity within this group.
“The value of preference based measures of quality of life in people with Parkinson’s: a systematic review” Yiqiao Xin (Health Economics and Health Technology Assessment, PhD year 2)

Introduction: Health utilities, measured with generic preference-based quality of life (QoL) instruments (e.g. EQ-5D) which are combined with the duration of health states to generate quality-adjusted life-years in economic evaluations. Generic QoL measures facilitate priority setting across disease areas, however their sensitivity and validity are questionable for certain specific patient populations, including people with Parkinson’s (PwP), as their QoL may be associated with attributes not valued by those generic measures. Objective: To systematically review the validity of preference-based QoL measures for deriving utilities in PwP. Methods: Relevant studies where utility values of PwP were measured and reported were identified from ten databases up to March 2015. Study characteristics, measures used and utility values of eligible studies were extracted to pre-designed forms. Results: 55 of 2,145 retrieved studies were included: 16 comparing interventions, 34 assessing PwP’s QoL, and five mapping PDQ-39/8 (a non-preference based specific Parkinson’s QoL measure) scores to EQ-5D utility. The most commonly used generic preference-based QoL measure and Parkinson’s specific QoL measure were EQ-5D and PDQ-39/8 respectively. There were large variations for EQ-5D values between studies and methods of measurement. Four mapping studies did not include half of PDQ-39/8 dimensions (stigma, social support, cognition and communication) in their algorithms. Conclusions: EQ-5D’s responsiveness to the mental and overall wellbeing aspects of the QoL in PwP was poor and its external validity beyond study was questionable. As such, there is potential for misrepresentation of PwP’s values in current economic evaluations. The development of methods to value PD specific QoL measures in healthcare decision making such as those attributes in the PDQ-39/8 is advised.

“Linking sustainability and health: the impact of walking on health attitudes and behaviour and environmental attitudes and pro-environmental behaviour” Nora Morocza (Public Health, Masters)

Background: Climate change is likely to have substantial impacts on human life and is considered as a universally present public health threat, therefore sustainability and the promotion of pro-environmental behaviour alongside individual health behaviour is an important public health aim. The similarities between health and pro-environmental behaviour change pathways have led to the designing of health promotion programs targeting both fields simultaneously. There is a deficit of work carried out at an individual level, which seeks to investigate the pathways between health and environmental attitudes and practices with the small number of studies concentrated on two particular areas: nutrition (food and agriculture) and active transport. Aim: To investigate possible links, and interconnections between health attitudes and behaviours, environmental attitudes, and pro-environmental behaviour. Methodology: A qualitative longitudinal walking-intervention study. The sample is a maximum of 25 walkers recruited through the Paths for All Organization Health Walks groups. Interviews will be held twice throughout the study period: at the beginning of the study and four to six months later, to explore possible attitude and behaviour changes. Findings/Discussion: The research is aiming to fill a gap by exploring the impact of regular walking activity on linking health and environmental attitudes and behaviour on individual level. Walking might serve as a possible intervention targeting health behaviour and pro-environmental behaviour at the same time as outdoor physical activity is connected to higher level of body and health awareness as well as ecological awareness. Initial results and implications will be discussed in the presentation.
“An investigation into the relationship between self-compassion, suicidal ideation and self-harm” Seonaid Cleare (Mental Health and Wellbeing, PhD year 2)

**Background:** Despite major advances in understanding the psychology of suicidal behaviour (O’Connor & Nock, 2014) there are many gaps in our knowledge. In particular, evidence for factors that may protect against suicide risk is extremely limited. The present study focuses on one such factor, self-compassion, which has been shown to be protective against anxiety, depression and stress. Little research has examined the relationship between self-compassion and suicidality. This study represents one strand of a programme of research that sets out to investigate this relationship. **Methods:** 529 healthy adults completed the self-compassion scale along with well-established measures of suicide risk (e.g. defeat, entrapment and social comparison), protective factors (mindfulness and resilience) and measures of mood, stress, suicidal ideation and self-harm online. **Results:** 47 (13.5%) of participants reported past suicide ideation, 23 (6.4%) reported a single episode of past self-harm and 79 (22.6%) reported repeated self-harm. Univariate and multivariate regression analyses were conducted to investigate the relationship between dimensions of self-compassion (e.g. self-kindness, self-judgement, isolation, over-identification with thoughts) and self-harm history. Ideators differed significantly from controls on self-judgement and isolation scores whereas the single episode group differed from controls on self-kindness scores, and the repeated episode group differed from controls on over-identification with their thoughts. **Conclusions:** There is evidence that self-compassion is associated with self-harm and suicidal ideation. This study provides preliminary evidence that self-compassion has the potential to act as a protective factor. More research needs to be done to better understand the nature of the relationship between self-compassion and suicide risk.

“Explaining the income and suicidality relationship: Rank of income is more strongly associated with suicidal thoughts and behaviours than rank” Karen Wetherall (Mental Health and Wellbeing, year 2)

**Purpose:** Low income is an established risk factor for suicidal thoughts and behaviour. This study aims to explore income within a social rank perspective, proposing that the relationship between income and suicidality is accounted for by the rank of that income within comparison groups. **Methods:** Participants (N = 5779) took part in the Adult Psychiatric Morbidity Survey (APMS) across England. A rank of income variable was created by ranking each individual’s income within four comparison groups (sex by education, education by region, sex by region, and sex by education by region). Along with absolute income and demographic covariates, these variables were used to predict suicidal thoughts and behaviour, both across the lifetime and in the last year. **Results:** Absolute income predicted suicidal thoughts and behaviour, both across the lifetime and in the last year. However, when rank of income within the four comparison groups was regressed on lifetime suicidal thoughts and actions, only rank income remained a significant predictor and therefore accounted for this relationship. A similar result was found for suicidal thoughts and behaviour within the last year. A limitation of the study was its cross-sectional design. **Conclusions:** Social position, rather than absolute income, may be more important in understanding suicidal thoughts and behaviours. This suggests that it may be psychosocial rather than material factors that explain the relationship between income and suicidal outcomes.
“Multimorbidity and Suicidality” Aikaterini Kavalidou (Mental Health and Wellbeing, PhD year 2)
Increasing attention has been given to people with comorbid mental and physical health problems (i.e., multimorbidity, defined as the co-occurrence of at least two chronic conditions), with interdisciplinary research focusing on patients’ healthcare contact and mortality, including suicide. At the same time, self-harm has been previously associated with psychiatric disorders and somatic illness. Yet the association between multimorbidity and suicide risk has not been extensively studied. The present doctoral research aims to investigate the extent to which suicide risk varies as a function of physical and mental health comorbidity.

In addition to a systematic review, the research is organised into 3 studies: Study 1 and 2 include secondary analyses of psychiatric morbidity surveys and data from the Scottish Suicide Information Database (ScotSID). The key hypothesis of those studies is that people diagnosed with a psychiatric and physical multimorbidity will exhibit a higher risk of self-harm and suicide compared to others without such multimorbidity, even after accounting for confounding factors such as age, gender, ethnicity and socioeconomic status. The additional burden of physical health issues on mental health will be explored in Study 3 with interviews with people who have attempted suicide and have multimorbidity. We will investigate the utility of the Integrated Motivational-Volitional Model of suicidal behaviour (O’Connor, 2011) to examine the extent to which entrapment is experienced by people with multimorbidity. This program of research will provide evidence about the nature of the relationship between multimorbidity and suicide risk and may inform the future development of interventions for this group.

“Social modelling, defeat and entrapment in self harm ideation and enactment” Olivia Jane Kirtley (Mental Health and Wellbeing, PhD year 4)

Introduction: Differentiating between those who think about self-harm (ideate) and those who engage in (enact) self-harm is a critical area for research focus. To this end, defeat, entrapment and humiliation have been suggested as key factors in the pathway to self-harm behaviour, within the Integrated Motivational-Volitional (IMV; O’Connor, 2011) model of suicidal behaviour. Within the IMV, social modelling of self-harm by friends or family members has also been posited as a factor potentially associated with the transition from ideation to enactment. Very little research has explored whether these variables differentiate between ideation and enactment within community samples.

Methods: 172 healthy adults from Central Scotland completed a battery of online questionnaires assessing self-harm thoughts and behaviours, defeat, entrapment, humiliation, hopelessness, depression, impulsivity and social modelling of self-harm by friends/family members.

Results: Defeat, entrapment, humiliation, depression and social modelling were all greatest in the self-harm enactment group, followed by the ideation group and lowest in controls. Defeat, entrapment and social modelling of self-harm were the most important variables differentiating between the self-harm ideation and enactment groups.

Conclusions: Social modelling of self-harm behaviours by friends or family members is a key variable that differs between those who do not act upon their thoughts of self-harm and those that do and should be a target for future interventions. The results of the study support previous research demonstrating higher levels of defeat, entrapment, humiliation and hopelessness in those who have thought about or engaged in self-harm, relative to controls. Theoretical implications for research into suicide and self-harm are discussed.
“A comparative study of neonatal mortality in Ghana and Scotland: trends, distributions, causes of death and risk factors” Shadrach Dare (Public Health, PhD year 1)

With less than 10 months to achieve the Millennium Development Goals, the fourth goal of reducing under-five mortality by two-thirds may not be achieved because of neonatal deaths in developing countries. While neonatal mortality rate is only 3 per 1000 live births in the United Kingdom, it is 38 in Ghana. This is likely to be an underestimate because many births and deaths occur at home and are not recorded. Without a clearer understanding of the true burden of neonatal deaths, planning appropriate community level interventions is extremely difficult. The World Health Organisation has developed a neonatal verbal autopsy questionnaire (VA) to help ascertain the exact cause-of-death among neonates who die in settings uncovered by vital registration systems. The VA relies on caregiver recall of events preceding the death of a child to determine the most probable cause of death. Fortunately in Ghana, there are three health research centres which use the VA to collect vital health and demographic data. This study will analyse data from these research centres to determine the main causes-of-death and distribution of neonatal mortality in Ghana. These quantitative analyses will be complemented by interviews of healthcare workers, to gain more information into typical birth practices. The Ghanaian data will be compared with data from Scotland to determine the scale of unmet need and identify modifiable risk factors in Ghana. It is anticipated that neonatal infection, preterm birth and low birth weight, and birth asphyxia may be the leading causes of neonatal deaths in Ghana.

“A comparison of amenable mortality in Scotland and England” Megan Yates (MRC/CSO Social and Public Health Sciences Unit, PhD year 1)

Background: Since the advent of political devolution in Scotland in 1999, the English health care system has undergone a series of health care policy reforms, whilst the Scottish health care system has remained relatively unchanged. This policy divergence presents an opportunity to study the impacts of health care reforms as a natural policy experiment. We aim to study the impacts of England’s health care reforms on population health and inequalities. Design and setting: Mortality records and relative deprivation measures from 1990 to 2013 are available at ward or postcode sector level for both countries. The population of England will form the intervention group while the Scottish population will be used as the control group. Methods: Age standardised rates of amenable mortalities (premature deaths from selected causes which should not occur in the presence of timely and effective health care) within each country will be calculated for specific causes and groups of causes. These will be stratified by sex and relative deprivation decile (as measured using an adjusted Carstairs index). Studying groups of amenable causes will allow attribution of the impacts to different parts of the health care system. Differences between rates at pre-specified time points will be analysed using a Difference in Differences approach. Anticipated results: Preliminary analyses show that both England and Scotland experienced falls in amenable mortality over time. However, they suggest that rates of amenable mortalities for men and women in England have increased between 1990 and 2010, compared to Scotland over the same time frame.
“Do the health benefits of oil led economic development outweigh the potential health harms from environmental pollution in Nigeria?” Marian Emmanuel Okon (Public Health, PhD year 1)  
**Objective:** This research aims to evaluate the balance between the health benefits of oil-led economic development and harmful environmental consequences of crude oil exploitation in Nigeria.  
**Study Design:** A designed model will aid in the assessment of the relationship between oil-led economic development and population health improvement via job creation, education, infrastructure and other forms of development as well as through harmful environmental consequences from oil activities.  
**Emerging findings:** Several datasets at different geographical scales have been identified, obtained or applied for The World Bank dataset has been the most thoroughly explored, to aid the longitudinal assessment of the health benefits and harms from oil exploitation in Nigeria. However, these data do not extend far back enough in time to capture the start of oil production. Thus, it is possible that the maximum economic benefits and health harms could be missed. To deal with this shortcoming, a comparative study with other nations has been considered, so as to identify the areas of improvement in Nigeria’s environmental and health policies.  
**Conclusion:** The beneficial effects of oil exploitation to population health may be substantial as large swaths of the determinants of population health are influenced by a nation’s wealth. If uncontrolled, the consequences from environmental pollution/degradation may outweigh these benefits. Thus, the findings of this study will inform policy making and decisions on environmental and population health in Nigeria.

“Improving spatial nitrogen dioxide prediction using diffusion tubes: a case study in West Central Scotland” Francesca Pannullo (MRC/CSO Social and Public Health Sciences Unit, PhD year 2)  
It has been well documented that air pollution adversely affects health, and epidemiological pollution-health studies utilise pollution data from automatic monitors. However, these automatic monitors are small in number and hence spatially sparse, which does not allow an accurate representation of the spatial variation in pollution concentrations required for these epidemiological health studies. Nitrogen dioxide (NO$_2$) diffusion tubes are also used to measure concentrations, and due to their lower cost compared to automatic monitors are much more prevalent. However, even combining both data sets still does not provide sufficient spatial coverage of NO$_2$ for epidemiological studies. In addition, modelled concentrations on a regular grid from atmospheric dispersion models are also available. This paper proposes the first modelling approach to using all three sources of NO$_2$ data to make fine scale spatial predictions for use in epidemiological health studies. We propose a geostatistical fusion model that regresses combined NO$_2$ concentrations from both automatic monitors and diffusion tubes against modelled NO$_2$ concentrations from an atmospheric dispersion model in order to predict fine scale NO$_2$ concentrations across our West Central Scotland study region. Our model exhibits a 27% improvement in fine scale spatial prediction of NO$_2$ compared to using the automatic monitors alone, and we use it to predict NO$_2$ concentrations across West Central Scotland. Furthermore, we use our predicted NO$_2$ concentrations across West Central Scotland to investigate the association between NO$_2$ and cardio-respiratory mortality in 2006. This pollution-health study utilises an ecological spatial design implemented within a Bayesian setting.
“A two-part literature review to identify economic evaluations of school-based programmes that improve social and emotional wellbeing in children” Nicki Boyer (Health Economics and Health Technology Assessment, PhD year 2)

**Background:** The importance of children’s social and emotional wellbeing (SEW) is gaining increased attention in education and policy circles. An economic evaluation was developed alongside Roots of Empathy (RoE) cluster-randomised controlled trial in Northern Ireland to evaluate cost-effectiveness. RoE is a school-based programme that aims to improve SEW outcomes in children. The aim of this ‘near systematic’ literature review was to review all available economic evidence on programmes like RoE which are delivered at school to improve SEW outcomes in children. **Methods:** two separate search strategies were developed. S1 identified all current economic evaluations of school-based interventions as they are less common outside the clinical trials environment. This was piloted, finalised, and completed in February 2015. S2 aims to identify SEW programmes that used the same outcomes as those used in the RoE trial: the Strengths and Difficulties Questionnaire, the Child Health Utility 9D, and other secondary outcome measures. This strategy is currently being finalised. **Results:** S1 identified an initial 1,733 publications, 34 of which were included for review. Economic evaluation methodologies varied from cost-effectiveness/utility/benefit analyses and simulation models to review-only studies. Types of school-based interventions also varied from asthma screening, physical activity, tobacco use, and sexual health promotion; notably only one intervention was identified that aimed to improve the SEW of children. **Conclusions:** The findings of these strategies will be used to help develop and populate a decision analytic model to predict potential longer-term effects of RoE. More emphasis is placed on S2 to identify relevant parameters due to findings of S1.

“Challenges in designing child-centred mixed methodology” Felicity Hayball (MRC/CSO Social and Public Health Sciences Unit, PhD year 2)

**Introduction:** When learning about how the world affects children, traditional methods involve adults answering on their behalf. A methodology was created that centered on children’s views thereby reflecting children’s unique competencies, while still producing coherent data, transferable to an academic setting. This study aimed to present the value and challenges and to offer guidance for other researchers when designing a child-centred mixed-methodology. **Methods:** Participants (n=15, aged 10-12 years) from Glasgow were asked to document their environment through photo elicitation and drawing, illustrating locations and features within their environment that influenced their time outside. Children participated in a focus group combined with a participatory task involving placing their illustrations into pre-coded and self-coded boxes. Two pilots tested the methodological structure, and the procedure, of the methods. **Results:** Piloting highlighted analysis, organisational, and data-production challenges. Visual analysis of data can be subject to adult-interpretations increasing the chances of misinterpretation. Issues were reported in the frequency of meetings asking the parents or carers to commute the children to an external location three times to collect and give back equipment, and to bring the children to the focus group. Focus groups were also found to be ineffective at generating more individual experiences. **Conclusion:** Issues surrounding misinterpretation of data were resolved through asking participants to code their own visual data, and by researchers analyzing the visual data based on location and subject matter. Participants could mail back the equipment via courier to reduce participant burden. Interviews were introduced to allow for more individualistic opinions and experiences to be discussed.
“Improving child oral health: cost analysis of a national nursery toothbrushing programme” Yulia Anopa (Health Economics and Health Technology Assessment/ Dental School, PhD year 2)

The aim of this study was to compare the cost of providing the Scotland-wide nursery toothbrushing programme with associated National Health Service (NHS) cost savings from improvements in the dental health of five-year-old children: through avoided dental extractions, fillings and treatments for decay.

Methods: Estimated costs of the nursery toothbrushing programme in 2011/12 were requested from all Scottish Health Boards. Unit costs of a filled, extracted and decayed primary tooth were calculated using verifiable sources of information. Total costs associated with dental treatments were estimated for the period from 1999/00 to 2009/10. These costs were based on the unit costs above and using the data of the National Dental Inspection Programme and then extrapolated to the population level. Expected cost savings were calculated for each of the subsequent years in comparison with the 2001/02 dental treatment costs.

Results: The estimated cost of the nursery toothbrushing programme in Scotland was £1,762,621 per year. The estimated cost of dental treatments in the baseline year 2001/02 was £8,766,297, while in 2009/10 it was £4,035,200. In 2002/03 the costs of dental treatments increased by £213,380 (2.4%). In the following years the costs decreased dramatically with the estimated annual savings ranging from £1,217,255 in 2003/04 (13.9% of costs in 2001/02) to £4,731,097 in 2009/10 (54.0%).

Conclusions: The NHS costs associated with the dental treatments for five-year-old children decreased over time. In the eighth year of the toothbrushing programme the expected savings were more than two and a half times the costs of the programme implementation.

“Investigating ethnic differences in parenting styles and their associations with adolescent health behaviours” Aidan Cassidy (MRC/CSO Social and Public Health Sciences Unit, PhD year 1)

Adolescent health behaviours are known to affect long-term health and wellbeing. Parent-child relationships are instrumental in children’s development, including ability to self-regulate behaviour. In turn, parent-child relationships are influenced by their environmental contexts. Analysis of the DASH study found that health behaviours were clustered, that parenting styles and health behaviours were ethnically patterned, and that high care and low control were associated with better mental health at 11-13 years old.

The DASH study provides an opportunity to investigate the influence of parenting style on adolescent health behaviours in a large, UK-based, ethnically diverse cohort. Data includes smoking, drinking, drugs, diet, physical activity, and parental care and control, collected from young people at 11-13 and 14-16 years old as well as school and neighbourhood level characteristics. After addressing issues with missing data, the project will use descriptive statistics to explore distributions in health behaviours and explanatory variables, within and across ethnicity, and by gender; changes in patterns between 11-13 and 14-16 years old will be identified. Matrices of Pearson’s correlation coefficients between health behaviour and parenting style variables will be examined to identify clustering of characteristics. Multiple regression, adjusted for factors such as family structure, socioeconomic status, social support, and parent health behaviours, will be employed to investigate whether adolescents’ health behaviours are predicted by parenting style. Multilevel modelling will be utilized to investigate whether significant variations in health behaviours are at school or neighbourhood levels and whether particular school or neighbourhood characteristics influence outcomes.
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IHAWKES 2016 needs you! Would you like to be a postgraduate student rep for the Institute of Health and Wellbeing? We are now recruiting student reps for the academic year 2015/2016. This is a fantastic way to take a more active role in the life of Institute of Health and Wellbeing, help to plan postgraduate events, and provide support for postgraduate research students. For more information please contact any of the current three reps:

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