

Session B5: Science and Health.

Session Chair, Professor Annetta Smith

Room: Sports hall

Presentation 1 - Active Health Research at the University of the Highlands and Islands.	
Dr David Muggeridge and Dr Daniel Crabtree, Division of Biomedical Sciences	
Abstract	<p>Physical activity research at UHI is receiving substantial attention and is now a key part of the UHI research growth strategy. This is due to investment via Inverness City Region Deal and Highlands and Islands Enterprise (HIE), and through the awarding of significant European Union grant funding (e.g. INTERREG VA). This funding has permitted substantial investment in facilities, recruitment of suitably qualified staff and enabled the formation of the 'Active Health' research group. The main objectives of the Active Health group are to improve quality of life, reduce hospital re-admissions and increase life expectancy.</p> <p>In this presentation, Active Health members Dr David Muggeridge and Dr Daniel Crabtree will describe their contributions to the Active Health research objectives. Dr David Muggeridge will present the work being done around cardiac rehabilitation through his role as a post-doctoral research fellow in the eastern corridor medical engineering centre (ECME) project. ECME is a SEUPB funded doctoral training centre led by Ulster University. Dr Daniel Crabtree is a HIE-funded Research Fellow and his research is focussing on the effects of physical activity and dietary interventions on disease prevention and management. Both presenters will also provide an overview of the new facilities supporting their research, including the Active Health Exercise Lab and the Cardiovascular and Ultrasound Lab. Collectively, their work, in combination with other academics in this field, creates opportunities to drive a programme of work that can have significant impact on health and wellbeing in the Highlands and Islands and beyond.</p>
Presentation 2 - The Impact of Hospital Wastewater on Water Quality and Conventional Wastewater Treatment	
Lydia Niemi, Environmental Research Institute, North Highland College, UHI	
Abstract	<p>Pharmaceuticals are extensively used and introduced into our wastewater where inadequate removal leads to release into surface waters. Hospitals have been identified as a major point-source for pharmaceutical compounds entering municipal sewers and waterways, and rural hospitals are of concern as subsequent treatment may be carried out with smaller, less advanced wastewater treatment plants. The possibility of separately treating hospital wastewater is a current topic of discussion for water quality regulators and environmental protection bodies in the UK, but more research into hospital discharge and conventional wastewater treatment techniques is needed. Characterising the effect hospitals have on pharmaceutical pollution in municipal wastewater, and understanding the removal efficiency of wastewater</p>

	<p>treatment methods, are necessary to inform future decision making and mitigate risks to the environment.</p> <p>Samples were collected from the Caithness General Hospital and the Wick wastewater treatment plant over a month. A solid phase extraction method and liquid chromatography-tandem mass spectrometry analysis technique was developed for eight pharmaceutical compounds: paracetamol, diclofenac and ibuprofen (analgesics/anti-inflammatories), clarithromycin and trimethoprim (antibiotics), carbamazepine and fluoxetine (psychiatric drugs) and 17α-ethynylestradiol (synthetic hormone). Pharmaceutical concentrations were in the mid-high ng/L range, with the analgesics/anti-inflammatories and antibiotics quantified in the highest concentrations. Removal efficiency of the wastewater treatment plant was calculated from the influent and effluent concentrations, and indicated that the conventional treatment techniques employed in Wick are ineffective for pharmaceuticals. The results suggested that the hospital is an important source of pharmaceuticals entering municipal wastewater in Wick, and associated water quality parameters are impacted.</p>
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Presentation 3 - 'A sincere endeavour to improve the human condition': The practical application of victimology to university students

Dr Suki Haider, Moray College UHI

<p>Abstract</p>	<p>Social science provides a strongly theory-orientated perspective on society. There are calls for more solution-orientated social science that has solving problems at its heart. Victimology is as solution-orientated discipline, grounded in theory, that aims to find solutions to help fellow human beings (Dussich, 2014). Firstly, by understanding victims of crime. Secondly, by providing the information practitioners need to promote victims' recovery.</p> <p>There has been an increased demand that universities act to protect students from sexual violence and to provide meaningful interventions to prevent future abuse. This paper will show the practical application of victimology by discussing scholarship on sexual assault at universities. It will show that scholars attack the labelling of victims as being responsible for the actions of perpetrators and identifies a historic culture of victim-blaming as one of the main reasons why victims do not report sexual violence. If students, who make a report of sexual assault, are not fully supported, perpetrators are unlikely to be held accountable perpetuating a culture of abuse. Scholars have found that universities need to provide students with more information: what to report, how to report, and about help that is available. The paper will refer to good practice at British universities in preventing and responding to reports of sexual violence and to the work of a UHI Moray dissertation student, who is researching the policies of our university.</p>
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<p>References</p>	<p>John P. J. Dussich (2014) Teaching Victimology in America: From on the Job Training (OJT) to PHD, Journal of Criminal Justice Education, 25:4, 486-500</p>
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Presentation 4 - Evaluation of an online education programme for palliative care in the Highlands

Dr. Sarah-Anne Munoz and Dr. Sara Bradley, Division of Rural Health and Wellbeing

Abstract

Project ECHO is described as a *“revolution in medical education and care delivery”* (1) It is a lifelong learning and guided practice model that is based around *“hub-and-spoke knowledge-sharing networks, led by expert teams who use multi-point videoconferencing to conduct virtual clinics with community providers. In this way, primary care doctors, nurses and other clinicians learn to provide excellent speciality care to patients in their own communities”* (1).

This presentation provides an overview of a short evaluation project carried out by UHI Rural Health and Wellbeing researchers on the use of Project ECHO at the Highland Hospice (HH) in Inverness. HH made innovative use of the Project ECHO model to promote education in the area of palliative care. Sessions were run, for example, with cancer nurses, out-of-hours practitioners and care home managers.

The presentation outlines the methods used in the evaluation (interviews and focus groups); describes the results of a thematic analysis of the materials collected and gives consideration to the wider implications of project ECHO on access to appropriate, high quality palliative care across remote and rural communities; the delivery of continuing learning and the recruitment and retention of remote and rural healthcare professionals.

In summary, findings show that the project is highly valued by those who have taken part. It is considered to be a worthwhile and efficient educational tool. Participants do not feel that it could be feasibly replicated through face-to-face events.

References

(1) www.echo.umn.edu