



NIHR Bristol Nutrition BRU Newsletter



Welcome to our tenth and final newsletter.

I think the BRU has been a resounding success. We have published over 80 papers (with more to follow), secured programme grant funding to support or extend our themes, supported 100 projects and recruited over 2000 participants into early phase studies. Furthermore, all our work has been supported by effective patient and public involvement and a comprehensive training programme.

It is important that we celebrate and reflect on this success. Our scientific day on the 21st October last year and the seminars by the theme leads over the last two months have been great showcases for our work and have made me feel very proud of our achievements.

I am pleased to welcome Jez Zahra who has joined us as a Senior Research Associate. I would like to wish Luke Robles and Osama Mahmoud well in their new posts at the School of Social and Community Medicine. And I am delighted that many of our team will be staying with us in the Nutrition theme of the Biomedical Research Centre (BRC).

I would like to congratulate Vaneesha Short on her PhD and Elsie Horne on her MSc.

Like Julian I have found the last five years the most rewarding of my life scientifically and the most fun! It has been a pleasure and an honour to lead this unit. I hope to see many of you at our celebratory party and to raise a glass to all of you and to our Nutrition BRU.

Andy Ness, Director



Bristol Nutrition BRU Scientific day

By **Vanessa Marshall**
BRU Manager

The Bristol Nutrition BRU Scientific Meeting was held on 21st October at the MShed in Bristol.

It was an opportunity to showcase the achievements and outputs of the Nutrition BRU over the past 5 years by our research staff and students and to acknowledge our affiliates, collaborators and PPI members.

The day was opened with an overview by Andy Ness followed by presentations by each theme. All of the talks provided lively discussion from the audience and panellists.

Diabetes/Sedentary theme: Chaired by Ashley Cooper (Speakers: Byron Tibbitts, Clare England, Laura Brocklebank, Elsie Horne)



Perioperative and Core theme: Chaired by Charlotte Atkinson (Speakers: Gemma Sharp, Charlotte Atkinson, Georgia Herbert, Peter Rogers)

Prostate cancer theme: Chaired by Athene Lane (Speakers: Lucy Hackshaw-McGeagh, Luke Robles, Kalina Biernacka, Vanessa Er)

Childhood theme Chaired by Julian Hamilton Shield (Speakers: Laura Birch, Elanor Hinton, Kate Hawton, Georgina Williams, Abdalmonem Majbar, Maiadah Alfares)

Before lunch there was an overview of our Patient and Public Involvement (PPI) work by Eileen Sutton, and a personal perspective of being part of a BRU PPI group provided by Rik Lander.

We were delighted to include presentations in the afternoon by colleagues from Leicester/Loughborough BRU (Tom Yates and David Stensel) and Southampton BRC (Keith Godfrey), with whom we have worked closely and will continue to do so.

Closing remarks were provided by Janet Cade, one of our Scientific Advisory Board Members.

Thank you to all who contributed and attended. The day was a great success!



Reflections of the BRU



Perioperative Nutrition Theme By Charlotte Atkinson, Deputy Theme Lead

The BRU has provided a unique opportunity to develop and build on work in the area of perioperative nutrition, with the ultimate aim of improving outcome in people undergoing surgery or other major hospital treatment through nutrition.

Over the last few years we have been fortunate to have been supported by an active and enthusiastic PPI group, who have helped shape not only our work but also the work of local and national colleagues. In collaboration with Core theme members including Chris Penfold and Rachel Perry and our affiliates Steve Thomas and Stephen Lewis, we have completed, or are in the process of finalising updates of, systematic reviews on early postoperative feeding (led by Georgia Herbert), sham feeding with chewing gum (led by Vaneesha Short), and immunonutrition. These reviews have been conducted under the rigorous standards of Cochrane reviews and have brought together all of the studies that have been conducted to date in these areas. They provide the wider research and clinical community with a balanced view, enabling informed decisions regarding patient treatment or further research needs to be made.

Our previous review of the literature on early postoperative feeding, for example, showed that there was no benefit in keeping people 'nil by mouth' following surgery. Early postoperative feeding is now recommended as part of the Enhanced Recovery After Surgery (ERAS) programme. However, it has been shown that not all patients are fed early. Very little qualitative work (e.g., interviews) had been conducted in this area, despite postoperative feeding having been previously highlighted by patients as an area in need of improvement. Because of this lack of information, Georgia Herbert, Vaneesha Short, and Eileen Sutton did an amazing job of gathering the views on perioperative feeding from people who had undergone colorectal surgery, and from healthcare providers in three different surgery types.

The patients and staff were fantastic in providing information on their experiences and views of perioperative nutrition. We were able to describe a number of facilitators and barriers to early postoperative feeding that we have shared with the clinical community through publications. Other highlights within the perioperative theme include publishing the findings of the largest trial of chewing gum in people undergoing colorectal surgery to date, and one of our affiliates, Sorrel Burden, is expanding this study to assess the extent of sarcopenia (low muscle mass and strength as a result of aging) in this population and relating it to outcomes of surgery.

Finally, and another area in which we received invaluable input from a PPI group, we have explored the potential for a 'prehabilitation' intervention in frail individuals undergoing orthopaedic surgery, as a means of getting them in the best shape possible before their surgery. Over the next few years we are looking forward to building on the work of the perioperative nutrition theme, and expanding it into new and exciting areas of work that could have a real bearing on patient care.



Sedentary Behaviour/Diabetes Theme By Ashley Cooper, Theme Lead

It is a good time to reflect upon the highlights of the past five years. We extended our analyses of data collected in the Early Actid RCT to explore the motivations of people with type 2 diabetes to become physically active and described the metabolic consequences of changing sedentary behaviour. Our novel studies explored the association between physical activity, sedentary time and diet in people with type 2 diabetes. In STAMP-2 (Sedentary Time and Metabolic Health in People with Type 2 diabetes) we combined data from activity monitors and GPS receivers to show that the amount of time spent outside was associated with higher physical activity and better health. In SUFYH (Stand Up For Your Health) we showed that simply breaking up sedentary time with brief bouts of standing or walking could improve glucose control. And in PEDAL (Promoting Electrically-assisted cycling in people with type 2 Diabetes: Acceptability and feasibility), we found that riding an electric bike increased heart rate and developed fitness, and that the bikes were an enjoyable and practicable way to get around for people with diabetes.

Of course this work could not have been done without the enthusiasm and commitment of many people. Angie Page and Rob Andrews helped shape the direction of the theme from its inception. We were lucky to have Catherine Falconer (Queen of the Acronym) and Byron Tibbitts to lead on STAMP-2 and PEDAL respectively. Laura Brocklebank has been our

excellent PhD student, leading SUFYH and developing an in-depth understanding of sedentary behaviour and metabolic health. Dietary analysis has been led by Clare England and Laura Johnson, Sam Leary has helped with our statistics and Rachel Perry with systematic reviews. Our qualitative team (Aidan Searle, Emma Ranger, Simon Sebire and Jez Zahra) are developing our understanding of the behavioural drivers that help people with type 2 diabetes to become more active. Our research nurses (Ali and Catherine) worked hard to collect the data that underpins this research and our colleagues at Life Cycle (Poppy and Heather) have helped make our ideas about e-cycling a reality. I would like to thank everyone involved for so much hard work.

We were also able to support the work of colleagues in the Centre for Exercise, Nutrition and Health Sciences with funding and expertise to develop a range of studies related to physical activity, sedentary and dietary behaviours. In this way we have extended the reach of the BRU and developed a larger and more coherent groups of researchers in nutrition and physical activity than previously existed.

Finally I'd like to thank our participants and PPI group for their enthusiasm for our projects. We hope that they have benefitted from taking part, for after all, that is the point of all this. My over-riding memory is of the participant who used his electric bike for a daily round trip of 35 miles, lost weight and improved fitness. We will go forward into the next five years building on such successes and continue to try to make a difference.



Childhood Research Theme

By **Julian Hamilton-Shield**, Theme lead and Deputy Director

The last five years have been some of the best I have experienced in terms of breadth and depth of our research to improve the health of children with chronic conditions. We have completed, or are continuing into the BRC, over 25 studies examining conditions as varied as cystic fibrosis related diabetes to asthma. I have to thank all the members of our team and our affiliates for the excellent efforts they have made in designing and delivering our studies. Whilst the BRU has been exciting to work in, we now have the opportunity to broaden our remit across the BRC.

Georgina Williams will be with us for a few more months in the BRU as a PhD student (Supervisors including **Sam Leary** and Kathleen Gillespie), but is taking up a GRID post in endocrinology at Bristol Children's Hospital, developing the FADES cohort (Feeding and Autoimmunity Evaluation in Down's Syndrome). Continuation of recruitment to this cohort, with additional collaboration with Professor E Molloy in the Republic of Ireland, is only possible through Georgina's work and that of the Core Team (**Stu Toms**, **Aidan Searle** and **Sofia Leadbetter**). **Laura Birch** has been my 'right hand woman' throughout and I am delighted to record she will stay with us as a NIHR Fellow, PhD student further developing her work in Cystic Fibrosis related Diabetes. Much of Laura's current work has required the able assistance of **Rachel Perry** (systematic reviews) and **Chris Penfold** (Statistics). **Monem Majbar** will be leaving us this year having completed an MD thesis on 'Acute pancreatitis in Childhood', the first such prospective study in the world. We wish him all the best for his future career.

Kate Hawton completed a highly successful, Elizabeth Blackwell, Wellcome Clinical Primer with us on 'Effects of eating rate on satiety, meal enjoyment and memory for recent eating' and we hope to be able to welcome her back when she completes her core paediatric training, as a PhD fellow. **Maiadah Alfares**, undertaking a PhD on IGF-II and fat development will be coming to our unit from our 'sister' IMEG laboratory, for her last few months to study her new findings on IGF-II within the ALSPAC cohort. **Eleanor Hinton**, our Senior Research Associate, has been developing a very successful functional MRI and eating behaviours portfolio of studies. She will be moving down to our unit soon and has been successful in securing a GW4 PhD fellowship to continue her work collaborating with the University of Exeter. **Toby Candler**, with the able assistance of **Osama Mahmoud**, has been leading studies on Type 1 and 2 diabetes in childhood. **Sam Leary** has been working with our team in many aspects of statistical methodology, but her work with Professor **Simeon Choukem** (Cameroon) has been very productive, examining the increased problems with non-communicable diseases in Africa.

To coincide with our progress into the BRC, I would like to welcome **Fiona Lithander** as I4i NIHR, 'AmBeR study' manager and research associate. I would also like to mention **Georgia Herbert** for her help with the initial development of the AmBeR project and **Elsie Horne** (NIHR Pre-doctoral Fellow) for her work on a new NIHR Centre PhD studentship to start in September 2017 on interventions in familial hypercholesterolemia. I would also like to mention **Amanda Chong** who came to us initially as an undergraduate student from Australia, now working as an intern. We are optimistic of securing a PhD studentship for her integrating with Nic Timpson in the BRC cross cutting themes.

I would personally like to thank my mentor and Director, **Andy Ness**, and our Manager **Vanessa Marshall**, without whom many studies would not have been possible - especially our work with Wellpoint health Kiosks, Maltron Biomepedance devices (Diabetic Ketoacidosis), and Hach. Finally, what would any of us in the unit do without the hard work, knowledge and experience of our Management Assistant, **Shirley Jenkins**?

Staff Changes

Welcome to Jez Zahra– Senior Research Associate

I gained a BSc in Psychology from the University of Bath in 2011. During the last 18 months of my undergraduate degree I worked as a Research Assistant at the Peninsula College of Medicine and Dentistry (PCMD) on a large scale four-armed RCT (Helping Children Achieve).



I continued my work at PCMD up until 2012 when I moved to Bristol and joined the department for Exercise, Nutrition and Health Sciences (ENHS) at the University of Bristol. During my time at ENHS I worked on a variety of different observational and experimental studies most of which focused on evaluating and improving child physical activity behaviour. In 2013 I began my PhD, entitled 'Contemporary Fathers and Physical Activity Interventions'. I submitted my PhD in 2016 and joined the NIHR Biomedical Research Unit (BRU) in Nutrition, Diet and Lifestyle as a Senior Research Associate. In addition to my work at the BRU, I provide qualitative support on a wearable air monitor study being carried out with the Children of the Children of the 90s (CoCo90s) cohort.

Goodbye to Luke Robles and Osama Mahmoud...

We wish Luke the best of luck in his new position as Research Associate in Cancer Evidence Synthesis in the School of Social and Community Medicine and Osama in his now role as Research Statistician at the School of Social and Community Medicine.



Members of the FADES team sporting odd socks for World Down Syndrome Day. We raised £100 for Downs Syndrome Association and Downs Syndrome Scotland
For more information about the FADES study please visit
www.uhbristol.nhs.uk/research-innovation/our-research/bristol-nutrition-bru/fades-study/

Farewell mince pies



for Luke and Osama



Graduations



Vaneesha Short

Vaneesha is the second of our PhD students to graduate. She graduated at Wills Memorial Building in February.

Her PhD thesis title was "An investigation into the current role of nutrition practices in perioperative care"

Her supervisors were Charlotte Atkinson, Steve Thomas, Andy Ness and Eileen Sutton.



Elsie Horne

In January 2017, I graduated with Distinction in an MSc in Medical Statistics from the University of Leicester.

I undertook this course as part of an NIHR Pre-Doctoral Research Methods Fellowship facilitated by the Bristol Nutrition BRU. I am now in the second year of my fellowship, and am hoping to begin a PhD in October 2017.



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Healthy Eating Project Engagement work



By Elanor Hinton,
Senior Research Associate

at @Bristol

Dr Elanor Hinton and medical student Nada Khahil ran an experiment at @Bristol (interactive science centre) during February, as part of Nada's BSc in Health Sciences. In collaboration with colleagues at the University of Exeter, we ran the Healthy Eating Project, which aims to help children and adults to make healthy food choices with a new app called FoodTrainer. It is an easy and fun way to train your brain to eat more healthily by making fast responses to healthy foods, and stopping responses to unhealthy foods. Our simple experiment involved choosing favourites from a selection of healthy and unhealthy foods and playing on the FoodTrainer. We collected data from nearly 150 children and adults over two days. The project was well-received by participants, many of whom commented that they enjoyed the experience.



Health Drive

Health Drive: Formative research to inform the development of an intervention to improve the lifestyle behaviours of taxi drivers.

Research carried out by Dr Simon Sebire (BRU Affiliate) and George Thomas from the School for Policy Studies, Centre for Exercise, Nutrition and Health Sciences.

There were approximately 300,000 commercial taxi driver licences in the UK in 2015. Commercial taxi drivers have been identified as a group with high prevalence of and risk factors for cardiovascular disease and diabetes, and have low levels of physical activity, high levels of sedentary time and sub-optimal nutrition. Taxi drivers therefore may be a potential audience for a lifestyle intervention but there is no evidence base from taxi drivers in the UK, on which to develop interventions that would be acceptable, feasible and potentially effective.

The aims of this project were to: (1) Quantitatively assess taxi drivers' preferences and priorities for lifestyle intervention, their attitudes, motivations and barriers to healthy lifestyle behaviours and their preferences for different types of intervention, mode of delivery and recruitment strategies and (2) Qualitatively explore taxi drivers' experiences of lifestyle behaviour change, and their views towards interventions for taxi drivers.

111 participants were recruited in total and 15 interviews of 45 minutes each were completed. Descriptive analysis is now underway.



Congratulations to...

...Laura Birch on her successful award of an NIHR Fellowship, starting in June on the ICA HEE/ NIHR Integrated Clinical Academic Programme for non-medical healthcare professionals.

We are pleased to announce that funding has been awarded from the MRC GW4 Biomedical Doctoral Training Programme for a PhD place for Jennifer Cox starting in September 2017. Congratulations to Elanor Hinton on securing the funding.

Congratulations to Jez Zahra for successfully defending his PhD thesis.

Congratulations to Laura Brocklebank on submitting her PhD thesis which she will defend in May.



Laura Birch

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Professor Julian Hamilton-Shield in the media

Professor Julian Hamilton-Shield and his academic colleague, Professor Tim Barrett were featured on a Panorama documentary about the UK Type 2 Diabetes epidemic "Diabetes: The Hidden Killer".

16 years ago there had never been a single case of a child being diagnosed with Type 2 Diabetes in the UK. Now there are more than 500 - and it's a growing problem for the NHS. Julian and Toby Candler have been working with Tim Barrett in Birmingham on the British Paediatric Surveillance Unit (BPSU) Study of Type 2 diabetes in children under the age of 17 years.

Julian was also interviewed on a regional-specific report on Inside Out about the scale of the UK Diabetes crisis and the causes and complications of Type 2 Diabetes.



Bath Half Marathon BRU Team



On 12th March, a group of nine Bristol Nutrition BRU staff and affiliates took to the streets of Bath to compete in the Bath Half Marathon Corporate Challenge. The atmosphere in Bath was incredible, with 12,748 runners finishing the race and many more supporters cheering them on. All the runners in Team Bristol BRU put in an amazing effort and finished the race, and a special mention to Rhona, Alice, Elsie, Sam and Fiona whose combined finish time of 8 hours 40 minutes and 10 seconds put them in first place in the Women's Corporate Challenge category, winning the BRU its first ever trophy!



We decided to raise money for Diabetes UK and had a target of £1,750.00. Since October we have held a number of healthy fundraising lunches and a not so healthy bake sale. On top of this, the staff at the BRU, along with friends and family of the runners, have been incredibly generous with donations. We have smashed our target with a current total of £1,831.50; we are all very proud and grateful for the donations.



Christmas

At the Square Food Foundation

On Friday 16th December, the Bristol Nutrition BRU got together to prepare and cook our own Christmas dinner. We had a Mexican theme, with the menu consisting of tacos, slow roast pork, vegetable chilli Mexican rice & salad.

This was the fourth year running that we joined Barney Haughton and his team, who teach people how to cook good healthy food from scratch.

The workshops are productive, sociable, great fun, and all profit supports their work in schools, community groups and charitable organisations.

