



# Newsletter

2020/2021

## Message from Professor Cyrus Cooper, Unit Director

From everyone here at the MRC Lifecourse Epidemiology Unit here in Southampton, I want to send you our very best wishes for the coming year. I think we would all agree that 2020 was not an easy year, but as we enter 2021, we hope that the vaccines that our scientists have worked so hard to produce will help us find a way out of our current crisis. As has been mentioned many times in recent months, research is a team effort – from scientists, doctors, nurses – and research participants – people like yourselves who have contributed to work that will, we hope, benefit future generations. In this newsletter, we wanted to update you on what we have been doing here in Southampton – and thank you again for the role you have played in what has been achieved.



## NAPA participants contribute to new study on impact of the COVID-19 pandemic



With the advent of the COVID-19 pandemic and the government restriction that followed, the whole country faced countless, unexpected challenges. In early summer 2020, we set out to investigate how our Hertfordshire Cohort Study (HCS) members have been practically and emotionally affected by the pandemic.

To achieve this, we have added a COVID-19 extension study to the HCS Nutrition and Physical Activity Study (or as we call it – NAPA, of which we tell more on the next page) that many of you have been helping us with. So far, about 70 participants have spoken to one of our researchers on the phone, and we have started looking at their responses. We found that about 10% of our study members were asked to shield during the first lockdown.

Shopping and going out were key issues during the first wave: 20% of the participants interviewed told us that they felt they had to go out even if they didn't want to. We were interested to know whether our cohort members were aware of support services that had been set up; in fact, only 4% made use of support services although more than 60% of those who didn't said they would have been open to doing so, highlighting the need for services to have been advertised more widely. Many told us that they didn't need the services because they have family, friends or neighbours available to help. Unsurprisingly, 80% of respondents told us that they had less social contact than usual during the first wave, and more than half said they were less physically active. These are still preliminary findings, and we look forward to interviewing more NAPA participants to gain a fuller picture. We would like to extend a big thank you to everyone who took part in this study; we have already had many comments suggesting that this sort of information is really helpful in understanding what could be done better, and how to plan for the future if we suffer further pandemics.

If you are moving house or changing your telephone number, please let us know so we can keep in touch!

✉ MRC Lifecourse Epidemiology Unit Southampton General Hospital Southampton SO16 6YD

☎ 023 8077 7624 ✉ hcs@mrc.soton.ac.uk 🌐 www.mrc.soton.ac.uk/herts 🐦 @MRC\_LEU #HertsCohort

## The HCS Nutrition and Physical Activity Study (NAPA)

We are very pleased to announce that the follow-up phase of the HCS Nutrition and Physical Activity Study is now in full swing! Home visits are paused owing to the pandemic, so participants are being contacted by phone to let them know to expect a postal questionnaire instead! We know from previous research studies that nutrition and physical activity are important influences on muscle and bone health in older age and this is what we will consider in detail in our analyses. In this study, in addition to chatting to you about your diets, physical activity habits and lifestyle, we have been testing different ways to support you in maintaining musculoskeletal health through changes in nutrition and physical activity. The NAPA study and its COVID-19 extension are keeping us pretty busy, and we hope to share the results of these studies with you next year.



## Diet and BMI across three generations of the HCS

We have recently published a paper in the journal *BMJ Nutrition, Prevention and Health* which used information from the questionnaires that we sent to HCS cohort members and their families. In it we studied relationships between body mass index (BMI), diet quality, and social class across three generations. We found that BMI of grandparents, parents, and children tracks across generations of the same families, and that grandparents reporting higher quality diets are likely to have grandchildren reporting the same.



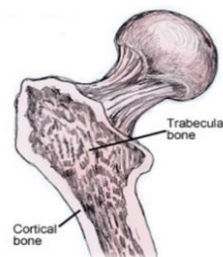
We will shortly move on to study how bone health tracks across generations of the same family. Thank you very much to our intergenerational participants for your contribution to this work!

## How does the structure of bone change over time?



Thanks are due to the members of HCS who attended the Elsie Widdowson laboratory in 2011-12 and 2017. This has allowed us to look at changes in the architecture of bones over time. The structure of bones can be assessed by X-ray but also via a specialized scanning technique called computed tomography (CT). The images which we obtain can be recreated into a 3D image of the bone and are so detailed that it has been previously called 'a virtual bone biopsy'. Using it, we do not just see how dense the bones are as a whole, but can also look at the inner (trabecular) bone and outer (cortical) bone. By performing scans in 2011-12 and 2017, we were able to compare the results and see, for example, that over this 5-6 year period, the area within the bone increased and the thickness of the outer bone decreased.

At the same time, we performed some genetic analyses and found that certain genes had an influence on these processes. These results, shortly to be published, help us to better understand the process of bone ageing and potentially develop bone medications in the future. We would like to extend a big thank you for helping us with this important research.



Thank you for your ongoing support for HCS – we couldn't do it without you!  
Do get in touch if you have any questions or comments.