

DA 2

The role of metabolic and cardiovascular disease and treatments in cognitive decline	
Team members Daniella Newby	
Objectives 1. Data quality control of cohort data 2. Statistical analysis of the association between cardiovascular/metabolic disease and cognitive decline 3. Statistical analysis of the association between cardiovascular/metabolic treatments and cognitive decline 4. Publication of results in open access journal	Dependencies to and from other work packages, networks and themes N/A
Updates on delivery against milestones since last report (Delayed due to Maternity leave) Objectives 1-3 have been completed for one cohort only (ELSA). A summary of the status of the remaining datasets: <u>CaPS</u> : The data for this cohort was only made available in mid-October and therefore only objective 1 has been completed. <u>Whitehall II</u> : The Whitehall II dataset placed on the DPUK platform did not contain the variables required for this project. Therefore a direct application to the PI of Whitehall II has had to be made. The application has been approved as of 29 Oct 2019. <u>LBC1936</u> : Due to the delays with gaining access to this dataset direct through the DPUK portal it was decided to apply directly to the PI of the LBC1936. The application has been approved and contracts being finalised to be signed and the data to be transferred to Oxford. <u>AIRWAVE</u> : This application was initially rejected however after working with the PI's it was then accepted with a smaller selection of variables requested. The data for this cohort has been deposited in the DPUK platform but it lacks medication variables and follow up variables for the analysis to take place. The cohort has stated that this information was due at the end of September however it has not yet been deposited. <u>EPIC Norfolk</u> : The application for this cohort was not accepted as they are working on a similar project and they have not yet coded the follow up data to be released. Due to the unforeseen delays regarding data access objective 4 will not be completed as funding will not be available. All other objectives will be completed in 2020 without use of dedicated DPUK funding.	
Summary of plan to deliver on outstanding work (with dates) <ul style="list-style-type: none"> • Analysis of CaPS for objectives 2 and 3 to be completed by <u>Dec 2019</u> • Analysis of LBC1936 for objectives 1-3 to be completed by <u>Feb 2020</u>. This is highly dependent on how long it takes from the contracts being signed to getting the data. • Analysis of Whitehall II for objectives 1-3 to be completed by <u>Mar 2020</u>. This will depend on how long it will take to draw of the contracts, pay for the data access and getting the data. • Analysis of AIRWAVE for objectives 1-3 to be completed by <u>Jun 2020</u>. This is due to the lack of follow up and medication data however a cross sectional analysis maybe performed which could mean the objectives could be finished by <u>Mar 2020</u>. • Publication of results by <u>Jun 2020</u>. 	
Risks 1) No publication funded by this award due to delay of data access	Mitigation 1) Cohort access not through the DPUK portal – therefore new applications, selection of variables were required, new contracts had to be carried out.

2) Project will not be completed by December 2019 but will be completed unfunded by June 2020.	2) Variables missing that are required for analysis – I have been working with DPUK to keep in contact with the data custodians and ask for updates on data availability.
<p>Outcomes</p> <p>Based on the award I have attended the following training courses:</p> <ul style="list-style-type: none"> • Advanced epidemiological analysis (LSHTM) • Longitudinal data analysis (UCL) • Advanced multiple imputation (Bristol) • Casual inference school (Leeds LDA) • Pharmaco epidemiology (LSHTM) 	
<p>Dissemination, communication, publications, other outputs since last report</p> <p>I have given a public talk at the “More than a pub” programme held in my local community where preliminary results from this award were presented on the 23rd September 2019. Additionally, I have presented the results from the analysis of ELSA at an internal departmental research meeting on the 23rd October 2019.</p>	
<p>Project narrative</p> <p>From the analysis of one cohort (ELSA) the results suggest:</p> <ul style="list-style-type: none"> • People with hypertension have a lower cognitive score but the decline is not different from those who are not antihypertensive • People taking anti-hypertensives appear to have a slower cognitive decline compared with hypertensive patients with no treatment • In particular, those taking only a single treatment of anti-hypertensive, people taking ACE inhibitors and calcium channel blockers had a slower cognitive decline compared to those with no treatment • The more anti hyper intensive drugs a person takes from different drug classes the slower their cognitive decline indicating a dose response effect 	