### 

**Secure Anonymised Information Linkage (SAIL)**

**Information Governance Review Panel (IGRP) Application Form**

**SAIL IGRP Application Form**

The following form has been designed to collect the information needed for the information governance approval process for work involving the SAIL databank. The information you provide will facilitate consideration of your enquiry. Guidance notes on completing this form can be found at: <http://www.saildatabank.com/media/25300/Guidance_Notes_for_SAIL_IGRP_Application.docx>

***SAIL Feasibility Agreement***

*All projects require a SAIL Feasibility Agreement to be completed and signed before proceeding to IGRP. This agreement will have been developed as part of the initial project scoping process with a SAIL analyst. Do not continue with this form until you have had your project scoping discussion.*

*Please provide the agreement number: 0901*

**1a. Provide contact details of project lead:**

Name: Dr Owen Pickrell

Job title: Clinical Lecturer

Organisation: Swansea University Medical School

Address: Room 329, ILS, Swansea University, Swansea SA9 2JJ

Tel: 01792 295134

Email: [w.o.pickrell@swansea.ac.uk](mailto:w.o.pickrell@swansea.ac.uk)

**1b. Provide contact details of the lead contact from any other organisation who will be accessing the data:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Name** | **Job title** | **Organisation** |
| 1 | Ashley Akbari | Senior Research Manager & Data Scientist | Swansea University Medical School |
| 2 | Arron Lacey | Research Officer | Swansea University Medical School |
| 3 | Nasir Mizra | Research Analyst | Liverpool University |
| 4 | Tony Marson | Professor of Neurology | Liverpool University |

**2. Provide full title of the project:**

Repurposing statins for the treatment of epilepsy.

**3. Provide details on who is commissioning the project:**

Prof Tony Marson, Institute of Translational Medicine, Liverpool University.

**4. Provide the aim of the project, including anticipated outcomes:**

*Please include a copy of the protocol/plan for the proposed work with SAIL, including the contact details of any co-applicants when you return your completed form.*

Current antiepileptic drugs (AEDs) have several significant shortcomings: they fail to control seizures in 30% of patients; and they cause adverse effects in 88% of patients. There is an unmet clinical need for new AEDs with better efficacy and tolerability. For every 5,000 to 10,000 prospective drugs that enter research and development, only one is approved for human use. Developing one drug and winning marketing approval for it takes 10–15 years and $2.6 billion. However, it is estimated that approximately 90% of approved drugs possess secondary indications and can be used for other purposes. Drug repurposing is the discovery of new indications for approved drugs. This drug ‘recycling’ offers the potential of significant savings in the time and cost of identifying new therapies. There is increasing interest in finding new treatments for epilepsy through drug repurposing. It has been recognised that a number of commonly-used well-tolerated drugs licensed for other conditions have the potential of antiepileptic efficacy. Statins, in particular, are the focus of significant interest as candidate drugs for the treatment of epilepsy.

In this project we aim to study the effect of statins that are already prescribed to people with epilepsy. We will investigate whether statins reduce the number of: AEDs prescribed; episodes of status epilepticus; and the number of unscheduled hospital and emergency department admissions due to seizures or epilepsy. We will also study an incident cohort of people who have had a moderate or severe head injury (who are at an increased risk of developing epilepsy) and note whether people who are co-prescribed a statin have a lower risk of developing epilepsy.

**5. Provide a lay summary of the project:**

Epilepsy is a common disease which affects around 1% of the UK population. Most people with epilepsy will take at least one anti-epileptic drug (AED). However, AEDs are unable to control seizures in around 30% of people with epilepsy, they also cause side effects in 88% of patients. There is a need for new effective AEDs with a low side-effect profile. Developing new AEDs is expensive and time consuming and so there is increasing interest in the “repurposing” of drugs that are already prescribed for other reasons. Statins are the most commonly prescribed medicines in the UK and are used to lower cholesterol levels in the blood. There is some evidence that statins may help people with epilepsy and reduce the risk of people developing epilepsy. In this study we will look for further evidence that statins help people with epilepsy. We will do this by studying people with epilepsy who are also prescribed statins and seeing if they need fewer AEDs, have fewer admissions to hospital because of their epilepsy and have fewer episodes of a severe prolonged form of epileptic seizure called status epilepticus. We will also look at a group of people with head injury who are at an increased risk of developing epilepsy and see if statins reduced their risk of developing epilepsy.

**6. Provide an outline of the public engagement strategy for the study, or a brief explanation why there is not public engagement:**

We will publish our results and present them to healthcare professionals and patient groups in order to inform further studies on statins and provide information on the possible benefit of statins in people with epilepsy.

**7. Provide information on the relevant permissions you have obtained or that are being sought:**  *Obtained Being sought Not required*

***Research ethics***[  ] [  ] [  ]

*Please state the name of the committee that is being applied to/ has given approval, as applicable:*

*Research ethics committee:*

*If you have ticked ‘not required’ please specify the reasons:*

The project will use onlyanonymised data, and therefore research ethics review is not required.

Other:

*Obtained Being sought Not required*

***Independent peer review***[  ] [  ] [  ]

*Please state the name of the peer reviewing organisation that is being applied to/ has given approval, as applicable:*

*Peer reviewing organisation:*

*If you have ticked ‘not required’ please specify the reasons:*

This project will only use anonymised core datasets available within the SAIL Databank.

***Permission from data-holding*** *Obtained Being sought Not required* ***organisation to use their datasets***[  ] [  ] [  ]

*Please state the name of the data provider that is being applied to/ has given approval, as applicable:*

*Data organisation:*

*If you have ticked ‘not required’ please specify the reasons.*

The project uses only SAIL unrestricted core datasets and/or data held by the project.

Other:

**Please note that it is the responsibility of the project lead to ensure that the relevant permissions are obtained.**

**8a. Provide a prospective start date for the work involving SAIL (dd/mm/yy):**

01/04/19

**8b. Provide anticipated end date of the project: (**End date OR time duration after approval):

01/04/22

**9a. Provide details of data you require access to for the proposed work with SAIL?**

Please list:

The SAIL datasets you require information from:

ADDE (Annual District Death Extract)

EDDS (Emergency Department Data Set)

PEDW (Patient Episode Database for Wales)

WDSD (Welsh Demographic Service Dataset)

WLGP (Welsh Longitudinal General Practice dataset)

The information needed from each dataset:

The ADDE will be used specifically to check if someone has died or was alive during the study window, and if died their date and causes of death. We will use the WLGP dataset to confirm diagnoses of epilepsy, head injury and status epilepticus and prescription of anti-epileptic drugs and statins. We will use the EDDS and PEDW to record unscheduled hospital admissions and diagnosis of epilepsy and head injury. We need dates of events, diagnoses, operations (for epilepsy surgery) and medication event codes. We would like to use the WDSD to define dates of resident and registration in Wales, including practice history and any changes in location, dates of movement out of Wales or death (to know when to stop follow up).

Please indicate the time period for which data is requested:

January 1st 2003 onwards (or relevant start date for data commencing after 2000) to December 31st 2018. But we will require data back on all historical records in order to establish pre-existing conditions and medications.

Please indicate the geographic area for which data is requested:

All residents of Wales with epilepsy diagnosis codes. or head injury codes

Please indicate demographic criteria for the data requested (age, gender, etc.):

We would like to include both male and female adult patients.

**9b. Will you be providing any other dataset(s) to be incorporated into the SAIL databank?**

Yes [  ] No [  ]

If yes:

Provide the name of the dataset(s):

Provide details of the contents of the dataset(s):

**9c. Provide an outline of your analysis plan including the anticipated outputs:**

There will be two parts to this study:

1. A retrospective cohort study from 2003–2018. We have previously validated a method of identifying people with epilepsy using primary care records (WLGP). We will use this to identify an incident cohort of people with epilepsy, noting if and when they are prescribed statins and forming a case cohort (prescribed statins) and a control group (not prescribed statins). We will also record:
2. the number of all antiepileptic drugs prescribed and the length of time that they are prescribed.
3. the number of episodes of status epilepticus.
4. the number of unscheduled hospital admissions and emergency department admissions (PEDW, EDDS) due to seizures/epilepsy.

We will use multiple regression methods to compare the case and control groups in terms of outcome measures a-c:

1. A retrospective cohort study from 2003–2018 identifying an incident cohort of people who have had a moderate/severe head injury without a prior diagnosis of epilepsy. We will note the number of people prescribed a statin in this cohort and the number of people who go on to develop seizures and epilepsy. In addition we will control for loss to follow-up and movement (WDSD) and mortality (ADDE).

**9d. Are the results/methods developed likely to have other potential applications?**

Yes [  ] No [  ]

If yes, please specify:

The results from this study have the potential to inform further research on statins in epilepsy

**10a. Please indicate your plans for publishing the results of your project, e.g. target journal or intended recipients of report:**

We intend to present the results of this project locally to healthcare professionals and patient groups. We will also present the results at neurology and epilepsy conferences (e.g. the association of British neurologist’s annual conference) and publish the results in a peer-reviewed neurological journal e.g. Neurology or JNNP (journal of Neurology, Neurosurgery and Psychiatry).

**10b. What are the potentially sensitive issues that need to be taken into account when publicising the findings of the project?**

Please outline the issues and your proposed solutions:

We do not anticipate any sensitive issues. We will follow all standard data masking protocols to make sure no small numbers (<5) are allowed to be communicated via our results, as well as making sure no potentially identifiable subgroups or cohorts are communicated via our results. Hence, we do not anticipate that small numbers disclosure issues will arise. We will follow all SAIL policies on such issues when reviewing outputs for data out and publication in project findings.

**What to do next**

We will use the personal data collected in this form to process, consider and assess your application. For more information about how we handle your personal information, and your rights under data protection legislation, please see the SAIL Privacy Policy available from our website.

Please return your completed form and supporting documents by email to Cynthia McNerney, Information Governance Coordinator [c.l.mcnerney@swansea.ac.uk](mailto:c.l.mcnerney@swansea.ac.uk) Thank you.