



**National Centre for Clinical Research on
Emerging Drugs**

Research capacity building grants

Round 1: September 2018

**Current non-commercial methamphetamine treatment
clinical trials**

Closing date: 28 October 2018

NCCRED

National Centre for Clinical Research on Emerging Drugs (NCCRED)

Capacity Building Funding Application – Information and Guidelines

Background

The Centre is a national entity that supports clinical treatment for methamphetamine and emerging drugs of concern across a range of priority populations and severity of disorder. The Centre was formed as a consortium between St Vincent's Health Australia; The National Centre for Education and Training on Addiction (NCETA, Flinders University); The National Drug Research Institute (NDRI, Curtin University); and The National Drug and Alcohol Research Centre (NDARC, The University of New South Wales).

The broad aims of the Centre are:

- Develop, implement and disseminate innovative and effective evidence-based treatment interventions that can be applied to the use of methamphetamines in the first instance and then to new and emerging substances
- Develop and implement a system that allows for a rapid flexible and collaborative response to emerging substances that are having prevalent, persistent and harmful health and community impacts
- Leverage evidence-based intervention methodologies to develop and equip the health and medical research workforce

Focus of the funding round

The Centre will support investigator-initiated clinical trials with a focus on scalable and cost-effective treatment options. Key to the aims of the Centre is facilitating collaborative research, and building research capacity in the AOD sector.

The capacity building funding round is to provide financial support as a value-add to currently established investigator-initiated clinical trials. Applicants are encouraged to apply for funding that will enable the study to answer additional study questions, build research capacity, and produce translational research results.

Funding

Clinical trials that address methamphetamine dependence / use disorder, are listed as active (recruiting or not-yet recruiting), are investigator-initiated non-commercial trials, have relevant Human Research Ethics Committee (HREC) approvals, and are up-to-date on either the Australia New Zealand Clinical Trials Registry (ANZCTR) or clinicaltrials.gov trial registry (or willing to register on either or both of these sites) will be eligible to submit an application for research capacity building funding.

NCCRED

In the funding round (September 2018), non-renewable grants are available. Funding for the grants is sourced from the Commonwealth Department of Health, as an initiative of the National Ice taskforce. Funds will be administered by UNSW. Grant funds must be used for the purpose of achieving the objectives outlined by the applicants in the funding application.

Successful applicants will be required to sign a funding agreement, and must agree to regular reporting on the funded capacity building project. The named primary / chief investigator on the application will receive written notification of the application's success in the funding round. The Terms and Conditions of the Funding Agreement are annexed to these Guidelines. Successful applicants, by virtue of having submitted an application, acknowledge and agree that their application will not be deemed to have been accepted and no agreement will arise between UNSW (as contracting entity for the Centre) and the Applicant in respect of the application until a formal written Agreement (in accordance with the annexed Terms and Conditions) is executed by the successful applicant and UNSW.

Evaluation of Applications

Research proposals should be substantive, and where possible cross-disciplinary initiatives that enable research collaborations with early career researchers or research-inexperienced sites. Applications for the 2018 capacity building funding round will be reviewed by The National Clinical Research Network Methamphetamine and Emerging Drugs Working Group (WG).

Specific assessment criteria for applications are (1 through 4):

1. The current project
 - the current project is novel and innovative – seeks to answer a contemporary and clinically relevant question
 - the current project development is underway and on-track / meeting anticipated targets
 - current recruitment status is outlined in the application
 - the current project has appropriate HREC and (if necessary) institutional governance approvals in place
 - is registered (or willingness to register) on the ANZCTR and/or clinicaltrials.gov trial registries
 - is an investigator-initiated non-commercial clinical trial
2. Clear capacity building proposal with logical aims
 - research question is clearly stated
 - if there is an intervention, this is explicitly stated
 - participant eligibility (and controls if applicable) defined
 - methods to measure outcomes or test hypothesis are appropriate
 - has merit, value and impact
 - defined use of funding to build capacity and what the anticipated achievements are

NCCRED

3. Project budget

- a study budget is included
- realistic funding has been requested
- budget and deadlines are achievable
- measurable milestones

4. Research team

- builds research capacity
- partners with a research-inexperienced site
- broad research engagement: involves a junior/inexperienced researcher(s) / early or mid-career researcher; multi-disciplinary researcher(s) (in substantial roles)
- develops research foundations in an organisation or site
- Involves consumer input (e.g. in study design, partnership, etc.)

Submission of Application

Applicants must complete all sections of the submission template following these guidelines. Applications must provide all requested information, and adhere to the word / page limits indicated.

To ensure a clear and efficient review process, applicants are encouraged to use Arial font, 11-point or above. Please note: the application form has been developed in Microsoft Office 2013 (for Windows), and fidelity of the formatting cannot be guaranteed in other versions – please contact the NCCRED team if you have any concerns. Only information in the following application will be used in selecting projects for funding. When saving the application form please use the naming convention:

NCCRED_research_capacity_project name

Capacity building funding timelines / deadlines:

Funding round announced and advertised	25 Sep 18
Completed applications submitted to the Centre	28 Oct 18
Applications sent to the NCRN WG for review	29 Oct 18
NCCRED board meeting to ratify NCRN WG decision	05 Dec 18
Applicants are notified of results	15 Dec 18

Completed applications should be submitted by email to:

jemma.hallen@unsw.edu.au by no later than 2359hrs (11:59 pm) on 28 Oct 2018.

To discuss the application, or for further information, please contact:

Krista Siefried,

Clinical Research Lead

National Centre for Clinical Research on Emerging Drugs

Krista.siefried@svha.org.au or +61 410 360 102

Mentorship for application development / completion is available. Please contact NCCRED.

National Centre for Clinical Research on Emerging Drugs (The Centre) Capacity Building Funding Application Form

1. Overview

Project Overview	
Project Title	Developing a 'clinical data laboratory' for methamphetamine use in NSW: The MAData Project
<p>Project Summary / Brief Description (max 350 words)</p> <p><i>Summarise research questions and proposed methods. Outline the potential benefits, including how this project will be translated into practice</i></p>	<p>Methamphetamine (MA) has become the second most common drug of concern in clients attending Alcohol and other Drug (AoD) services in Australia, after alcohol¹. However, we have had limited ability to describe the characteristics of people who use MA in AoD services, their participation in health services (including hospital, emergency department, mental health), or to describe the outcomes of AoD specialist treatment. Our data has hitherto been restricted to National Minimum Data Set (NMDS) data for AoD treatment services, small cohort studies or evaluation of single-site clinical programs^{2,3}.</p> <p>The recent implementation of electronic clinical information systems across NSW Health AoD Services, and the approval to establish a linked statewide register for the AoD client population in NSW (using unique client identifiers) opens up new research opportunities to better understand the client population, the services they use, and their substance use, health and social outcomes. This project will, for the first time, focus attention on MA use in these newly established data systems. Specifically, the project will establish the mechanisms that will allow us to</p> <ol style="list-style-type: none"> 1. Examine and report upon client characteristics, service utilization, and treatment outcomes for clients in NSW Health AoD services by examining electronic clinical information routinely collected as part of AoD treatment (at treatment entry and subsequent reviews). 2. Examine and report upon broader utilization of health services by AoD clients using MA, available through the linked statewide Alcohol and Other Drugs Outcomes Register (AODOR). This Register will link AoD treatment, hospital admissions, emergency presentations, government mental health services, mortality, perinatal, and ambulance services data; 3. Analyze the psychometric properties of the Australian Treatment Outcomes Profile (ATOP)⁴, the clinical review tool used in NSW Health AoD services and across Australia, in MA users attending treatment. This involves secondary

	<p>analysis of data currently being collected as part of the LiMA clinical trial⁵;</p> <p>4. Provide recommendations on how to best embed pragmatic clinical trial designs^{6,7} into routine care for MA users, building upon the 'data platform' established through this project, and forming the basis for future clinical intervention research projects in AoD treatment services.</p>
<p>Capacity building project: Brief Description (max 350 words)</p>	<p>The project's clinical research capacity building goals are:</p> <ol style="list-style-type: none"> 1. To build a platform for the use of routinely collected clinical information to inform clinical research questions, quality improvement activities, and that will enable the conduct of pragmatic clinical trials across multiple sites, that in turn aim to improve MA-related outcomes; 2. To build individual researcher capacity through establishing a post-doctoral position, and supporting early and mid-career members of the project team 3. To validate a standard treatment outcome measure which can be used in research and clinical practice; and 4. To strengthen effective collaboration between clinicians, policy makers and researchers. <p>Recent developments in clinical information systems and data linkage capacity across the health system has the potential to transform health care. Within the AoD sector, there is considerable emphasis across most Australian jurisdictions to establish more robust data systems. In NSW, there has been particular developments in the use of the ATOP within clinical practice, and as the basis for measuring outcomes in AoD services. Validation of the ATOP, and the development of treatment outcome frameworks has been led by the Clinical Outcomes and Quality Indicators (COQI) Project team, examining alcohol and opioid treatment services. This project will build upon this work, but focuses instead upon clients who use methamphetamines.</p> <p>Another area of interest in health care, and increasingly within the AoD sector is the establishment of data registers linking multiple health data sets. This project will build the capacity to integrate and examine 'big data' extracted from data sets such as NMDS, hospital or mortality data systems, with 'fine grain data' extracted from AoD clinical information systems that provides more detailed information regarding patient reported substance use and related health outcomes (e.g. ATOP data).</p> <p>Data systems that utilize routinely collected 'point of care' data, and in turn provide meaningful information back to clients,</p>

NCCRED

	clinicians and service managers has enormous potential to enhance clinical care, improve our ability to undertake responsive clinical research and quality improvement activities, and to better plan services, with the ultimate goals of improving clinical care, client outcomes and experiences.
Project Lead – Chief Investigator	
Name and Title	Conjoint Professor Nicholas Lintzeris
Employing Organisation (i.e. sponsor on funding agreement)	South East Sydney Local Health District
Employing Organisation ABN	
Other affiliations	University Sydney, Division Addiction Medicine
Phone	0419 261 675
Email	Nicholas.lintzeris@health.nsw.gov.au
Postal address	c/o The Langton Centre, 591 South Dowling Street, Surry Hills, NSW 2010

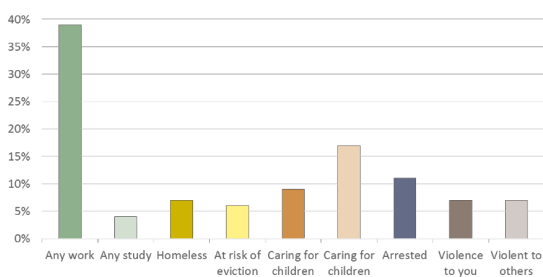
2. Project and Proposal

Project Description	
<p>Background (max 600 words)</p> <p><i>Describe the background and the research question, the problem addressed by the project and this proposal, and why this research is a priority. Describe any preliminary findings.</i></p>	<p>The project focuses on the examination and interpretation of data regarding people with substance use disorders that is routinely collected by Australian health care services (e.g. AoD treatment, hospital inpatient, ED, mortality), with a focus upon people using methamphetamine, and builds upon established and emerging research activities of the project team. Recent developments in electronic clinical information systems in NSW AoD treatment services and data linkage capacity more broadly, now allow us to examine real world and contemporary data collected in our services. Collaborations between clinicians, researchers, consumers, informatics and government in NSW over the past 10 years have led to:</p> <p>(a) Development and implementation of a standardised electronic clinical information system used across NSW Health AoD sector (the Community Health and Outpatient Care (CHOC) system).</p> <p>(b) The Clinical Outcomes and Quality Indicators (COQI) Project⁸, outlines the information and processes required to collect, report and meaningfully interpret clinical information collected within CHOC clinical information system. Specifically, COQI has involved:</p> <ul style="list-style-type: none"> (i) psychometric validation of the ATOP in clients attending AoD services. The ATOP is a 21-item patient reported outcome measure that collects past month substance use, social, health and well-being measures, and used for assessment, care planning, risk screening and treatment monitoring. (ii) development of data analytic approaches that enable reporting of AoD treatment outcomes, including changes in substance use, physical and psychological health and quality of life outcomes over time; (iii) work with clinical informatics experts and NSW eHealth to extract and report upon such data. The COQI project has developed a framework for using, interpreting and reporting information for <ul style="list-style-type: none"> – individual clients regarding their ‘progress’ over time, – clinicians and services regarding ‘how well’ they are delivering care (e.g. according to clinical care standards, treatment duration and completion rates) and whether services are achieving ‘good outcomes’ with their clients <p>This data can be used for quality improvement activities, benchmarking between services, and to inform and address clinical research questions.</p> <p>To date, the COQI Project has focused on clients reporting alcohol or opioids as their primary drug of concern (PDOC). Figure 1 is an example of the type of information that can be provided through CHOC by linking NMDS with ATOP data, showing ‘real world’ data for clients with alcohol as the PDOC attending one NSW LHD in 2017.</p> <p><i>Figure 1: Client Characteristics and treatment outcomes from 1 NSW</i></p>

LHD Drug and Alcohol Service for Alcohol PDOC.

Client characteristics at entry into 1 LHD Alcohol PDOC

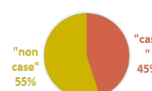
Mean age: 43 years (SD 12)
Female: 32%



Psychological health



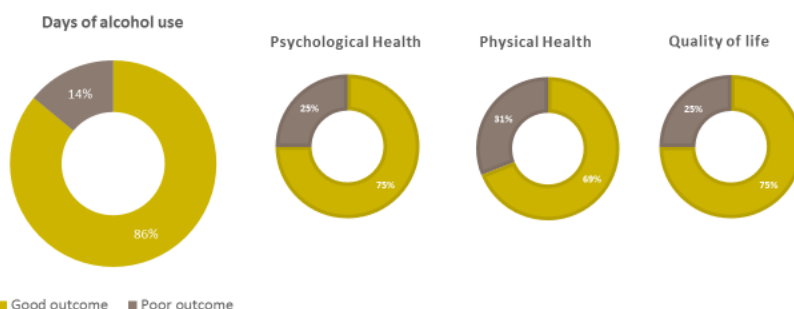
Physical health



Quality of life



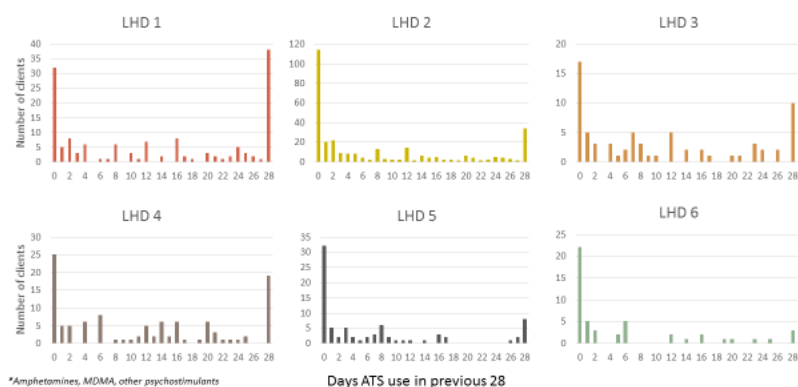
Outcomes profile for 2017 Alcohol PDOC



The COQI Project has thus far focused upon alcohol and opioid using treatment populations. This proposed project will develop and refine the management of CHOC data regarding clients who use MA, including meaningful ways of presenting and analyzing information for consumers, clinicians and service managers. For example, Figure 2 shows a preliminary analysis of past month MA use in clients presenting to AoD Services with amphetamines as their PDOC in 6 NSW LHDs in 2017.

Figure 2:

PDOC Amphetamine use at assessment: 2017 by LHD



	<p>Furthermore, in collaboration between the COQI project and clinical researchers leading the LiMA RCT for methamphetamine dependence⁵, we are collecting data using a range of gold-standard research instruments alongside the ATOP, which will enable psychometric validation of the ATOP in this population. The secondary analysis of this data is currently 'out of scope' of the main LiMA protocol.</p> <p>(c) developments in linking and using data derived from broader health services and data sets, includes approval to establish a linked statewide NSW AoD Outcomes Register (AoDORS) allows examination of the characteristics of the AoD client treatment cohort, their use of health services, and short and longer term health outcomes, including presentations to health services, and mortality. With the planned establishment of AoDORS in coming months, this project will also look at how we align CHOC data with statewide health data sets, and represents the first attempt in Australian AoD sector to routinely link clinical information collected routinely across multiple data systems.</p> <p>The ability of a data platform within the Australian AoD treatment sector now allows us to consider the development of 'pragmatic research' or 'point-of-care' clinical trials^{6,7}. Whereas conventional experimental or 'explanatory' research seeks to determine treatment efficacy under controlled conditions, pragmatic trials inform a clinical or policy decision by providing evidence for adoption of the intervention into real-world clinical practice, measuring outcomes at the point of care. The goal of pragmatic trials is efficient integration of research findings into clinical practice.</p>
<p>Current Project HREC approval details</p> <p><i>List all HREC names, approved sites, approval numbers, and expiry dates</i></p>	<p>The following research projects upon which this project is established include:</p> <p>The ATOP CHOC normative data project:</p> <p>HREC 18/103 (LNR/18/POWH/217). "Obtaining normative substance use, health and wellbeing data for clients attending NSW public drug and alcohol (D&A) treatment services. Expires 09 May 2023. Sites approved:</p> <ul style="list-style-type: none"> Drug and Alcohol Services, SESLHD Drug and Alcohol Clinical Services, HNELHD Drug and Alcohol, NSLHD Drug and Alcohol, CCLHD Drug and Alcohol Service, NBMLHD Drug and Alcohol Service, SNSWLHD Drug Health, WSLHD Drug and Alcohol Services, ISLHD Drug and Alcohol Services, NNWSLHD Drug and Alcohol Services, MNCLHD Drug and Alcohol Services, WNSWLHD Drug Health, St Vincents' Health Network Sydney

	<p>Drug and Alcohol Services, MLHD</p> <p>LiMA Study – ATOP validation sub-study.</p> <p>SVH File number 16/149 (HREC/16/SVH/222). “Randomised double blind placebo-controlled study of lisdexamfetamine for the treatment of methamphetamine dependence.”</p> <p>Sites approved include</p> <ul style="list-style-type: none"> – Drug Alcohol Clinical Services, HNELHD, NSW – Drug Health, WSLHD, NSW – Drug Health, St Vincent’s Hospital, NSW – Drug and Alcohol Services, South Australia – East Health, Melbourne, Victoria <p>The NSW Ministry of Health has recently obtained approval to establish the Alcohol and Other Drugs Outcomes Register (AoDOR), a large statewide dataset where routine, ongoing linkage will allow examination of the characteristics of the AoD client treatment cohort, their use of health services, and short and longer term health outcomes, including representations to services, and mortality.</p> <p>NSW datasets to be included in this linked dataset include:</p> <ol style="list-style-type: none"> 1. Alcohol and Other Drug Treatment Services Minimum Data Set (AODTS MDS), 2. Non-Admitted Patient Data collection (NAP), 3. Magistrates Early Release into Treatment (MERIT) program data collection, 4. Electronic Recording and Reporting of Controlled Drugs data collection (ERRCD), which includes information on people on the NSW Opioid Treatment Program, 5. the Admitted Patient Data Collection (APDC), 6. the Emergency Department Data Collection (EDDC), 7. Registry of Births, Deaths and Marriages (RBDM) death registrations, 8. Cause of Death Unit Record File (COD URF), 9. Perinatal Data Collection (PDC), 10. Mental Health Ambulatory Data Collection (MH-AMB), 11. NSW Health Ambulance Data Collections, 12. NSW Notifiable Conditions Information Management System (NCIMS), and 13. HIV AIDS database.
--	---

<p>Current Project Aims (max 300 words)</p> <p><i>Describe the aims of this research, including a clearly stated research question</i></p>	<p>The project will aim to address the following research questions:</p> <ol style="list-style-type: none"> 1. What are the characteristics of clients using methamphetamines entering NSW government AoD treatment services (assessment only, withdrawal, counselling, case management and support, pharmacotherapies), specifically regarding their demographic, recent substance use, health and social measures at treatment entry? 2. How do clients use health services over time, including details regarding individual AoD treatment episodes (service type, duration and clinical activity data) and general health services (e.g. hospital, mental health, ED, ambulance)? 3. What are the outcomes for clients with methamphetamine related problems in the AoD treatment system for (a) individual treatment episodes (e.g. changes in substance use, physical and psychological health, quality of life, extracted from CHOC data), and (b) broader health outcomes over time (including mental and physical health conditions, mortality, hospital attendance and representations to services, captured from statewide AoDOR register) 4. Is the ATOP psychometrically valid in clients seeking treatment for methamphetamine dependence – specifically concurrent validity against gold-standard scales (Timeline Followback, WHOQoL-BREF, DASS21, PHQ-15, OTI-C, OTI-I, EQ5D). 5. Can pragmatic clinical trials be designed that address important clinical research questions for methamphetamine related interventions, based upon the data systems being developed, and how can this best be done?
<p>Target recruitment, current recruitment status, recruitment plan</p>	<p>The three main sources of data are:</p> <p><u>CHOC data from AoD services in NSW</u></p> <p>We currently have HREC and Governance approval, and NMDS and ATOP data from 8 LHD AoD services to address this question. In the first instance we will commence analysing 2017 calendar year data, and include 2018 calendar year data as it becomes available in early 2019. This includes CHOC episode data on approximately 6000 treatment episodes for 2017, and we expect a similar number for 2018. Of these we expect approximately 30-50% (2,000 to 3,000 in each year) to be 'in scope' for this project, with MA as either a PDOC, a secondary drug of concern (as identified in NMDS).</p> <p><u>Data from NSW AoDORS register</u></p> <p>We expect AoDORS to be operational by mid-2019, with retrospective data for 2017 and 2018 calendar years available, enabling linkages with CHOC data from the same periods.</p>

	<p><u>Data from LiMA study enabling validation of ATOP</u></p> <p>We already have ethics and governance approval to address the validity of the ATOP within the LiMA study. Recruitment has already commenced and is due to be finalised by August 2019. The validation analyses only require baseline data and could be analysed prior to the end of the trial.</p> <p>The LiMA trial aims to recruit 180 participants⁵, however ATOP validation could be conducted on the first 120-140 participants, based upon LiMA recruitment rates.</p>
<p>Capacity building project goals (max 300 words)</p>	<p>The project goals are linked to the research aims. Specifically they are:</p> <ol style="list-style-type: none"> 1. To examine and report upon client characteristics, AoD treatment utilization, and treatment outcomes of clients accessing NSW Health AoD services, by examining existing and routinely collected data from NMDS and the CHOC electronic clinical information system. This system includes NMDS data, clinical information (ATOP data at treatment entry and subsequent reviews), and clinical activity data for individual treatment episodes, and to examine AoD service utilisation by clients over time, using NMDS data for all NSW AoD services; 2. Examine and report upon broader participation of methamphetamine users in the health system, available through the AoDORS system that links multiple health data sets. 3. Validate the psychometric properties of the ATOP in methamphetamine users attending treatment, by secondary analysis of data being collected as part of the LiMA RCT; 4. Identify mechanisms to establish pragmatic clinical trials, informed by clinicians and service users, and built upon the 'data platform' established through this project.
<p>Study Design and Research Plan (max 1,000 words)</p> <p><i>Provide a detailed description of the research design, including the</i></p>	<p>The specific plan is identified for each of the four aspects of the project.</p> <p><i>1. Examination of CHOC data regarding client characteristics, service utilization and treatment outcomes of clients using MA in NSW AoD services.</i></p> <p>The research design for this component is an examination of NMDS, ATOP and non-admitted patient (NAP) activity data extracted from CHOC data system for clients from the 2017 and 2018 calendar years across 8 NSW LHD/Ns. Analysis will</p> <ul style="list-style-type: none"> – identify all episodes where amphetamines were identified as a primary or secondary drug of concern (DOC)(MDS data item). - characterize client characteristics of ATS users in AoD services using available MDS and ATOP data items. This will include <ul style="list-style-type: none"> o frequency of ATS, other substance use and injecting practices in past month at treatment entry (describing polysubstance use in this population), o demographic and social measures including housing, child

<p><i>setting, the participant selection criteria / eligibility, comparison / reference / control group(s), the primary and secondary outcome(s), outcome measures, study intervention and follow-up periods as appropriate, data sources or qualitative tools/instruments</i></p>	<p>protection issues, violence, arrests, participation in employment and/or study</p> <ul style="list-style-type: none"> ○ patient reported health ratings of physical, psychological health and QoL, including frequency of ‘caseness’ (significant problems) for each of these three domains – characterize services provided to ATS using clients, including: description of the types of service utilized (as per MDS treatment types), occasions of service with clients (including number and duration of direct and indirect contacts, and type of health professional involved, NAP data items). – describe outcomes for treatment episodes where two or more ATOP data points are available (i.e. treatment entry and at least one follow-up > 1 month later). Outcome ‘data algorithms’ that have been previously developed by the COQI Project based on ATOP data for alcohol or opioid targeted episodes will be applied in this project for client episodes related to MA use. Domains include substance use, physical, psychological health and quality of life domains (see Figure 1, Background), as well as being able to report changes in social measures (housing, employment, arrests, violence). <p>There is considerable flexibility in the ability to further explore the available NMDS, ATOP and NAP data extracted from CHOC. For example, outcomes will be able to be compared by different client characteristics (e.g. age, gender, housing status, referral point, physical or psychological health ‘caseness’ at entry), patterns of substance use (ATS as primary or secondary DOC), or by treatment duration or type (e.g. those in counselling episodes versus those in case management/support, or as part of an OTP). We can compare client characteristics, services provided and outcomes for clients with MA as PDOC, compared to clients presenting with alcohol or opioids as PDOC. We can compare data between LHDs (e.g. Figure 2, Background), enabling the beginning of benchmarking processes between services on these characteristics. The specific research questions and analyses for these comparisons will be informed by the project team, in consultation with clinician and consumer representatives (see Point 4, Research Design).</p> <p><i>2. Examination of AoD and general health service utilisation by individual clients over time using AoDORS data.</i></p> <p>The AoDORS system will provide the ability to track individuals over time across various data sets using a unique patient identifier for data linkage purposes. A particular focus of our project will be to examine AoD service use across the NSW AoD service system (NGO and NSW Health services) by examining the AODTS MDS dataset. We will be able to track individual client’s use of different services over time, characterizing AoD treatment ‘journeys’ – hitherto not conducted using Australian AoD treatment data. Furthermore, we will explore the ability to link data from the CHOC data system (e.g. substance use or health measures captured via ATOP) across different treatment episodes, examining longer term client outcomes over time.</p> <p>Data linkage techniques will also examine the other data sets available</p>
--	---

	<p>in AODORS, providing a profile of</p> <ul style="list-style-type: none"> – hospital (Admitted Patient Data Collection), – ED (Emergency Department Data Collection), – public mental health services (Mental Health Ambulatory Data Collection), – ambulance (NSW Health Ambulance Data Collections), – mortality (death registrations from Registry of Births, Deaths and Marriages, and Cause of Death Unit Record File) <p>Profiles will be developed from these data sets for clients with MA as PDOC in the CHOC data from the 8 LHD/Ns, linked across the AODORS data sets, providing a ‘big picture’ overview of how AoD clients using MA utilize broader parts of the health system.</p> <p><i>3. Psychometric validation of ATOP in MA users seeking treatment.</i> This involves secondary analysis of data collected as part of the LiMA RCT. LiMA is currently recruiting 180 participants across 5 sites, and assesses a range of substance use, health and social outcomes over a 12-week period using a range of ‘gold-standard’ research instruments. A sub-study within LiMA involves contemporaneous completion of the ATOP, enabling analysis of the concurrent validity of the ATOP against these gold standard scales. Furthermore, the use of specific mental health (DASS21), physical health (PHQ-15) and quality of life (WHOQoL-BREF, EQ5D) enables us to establish ‘cut-offs’ (on ATOP 0-10 client-rated items) for ‘caseness’ for each of these 3 domains using ROC analysis. ATOP cut-offs for ‘caseness’ informs clinical practices such as care planning, risk assessment and understanding treatment outcomes, replicating work already conducted with the ATOP for alcohol and opioid users. The LiMA study is sufficiently powered to undertake these analyses (concurrent validity of ATOP requires approximately 120 participants).</p> <p><i>4. Establishing pragmatic clinical trials for MA users</i> Pragmatic clinical trials involves embedding clinical trial designs (e.g. randomized allocation, open-label) within routine clinical settings to address clinical research questions. They require a ‘data platform’ for routine data management within clinical service delivery (as afforded by the CHOC system and COQI framework for data analysis), and collaboration with clinicians and clients to inform relevant research questions, interventions and implementation issues.</p> <p>The project will examine the feasibility of using the CHOC system as a data platform, and will establish consultation mechanisms (including focus groups, workshops) with clinicians and clients in participating services (those providing CHOC data from participating LHD/Ns) to help interpret CHOC data, identify clinical research questions and make recommendations regarding future pragmatic trial designs regarding interventions for MA users.</p>
Study sites	The study largely employs secondary analyses of data collected from

<p>(Full name, location including State, of all sites where the project will be conducted)</p>	<p>following sites</p> <p><i>CHOC Data collection (all NSW sites)</i></p> <p>Drug and Alcohol Services, SESLHD Drug and Alcohol Clinical Services, HNELHD Drug and Alcohol, NSLHD Drug and Alcohol, CCLHD Drug and Alcohol Service, NBMLHD Drug and Alcohol Service, SNSWLHD Drug Health, WSLHD Drug and Alcohol Services, ISLHD Drug and Alcohol Services, NNWSLHD Drug and Alcohol Services, MNCLHD Drug and Alcohol Services, WNSWLHD Drug Health, St Vincents' Health Network Sydney Drug and Alcohol Services, MLHD</p> <p><i>AODORS Register</i></p> <p>Involves data collected from a range of government and NGO services across NSW</p> <p><i>LiMA</i></p> <p>The LiMA study is being conducted across 5 sites in three states</p> <ul style="list-style-type: none"> – Drug Alcohol Clinical Services, HNELHD, NSW – Drug Health, WSLHD, NSW – Drug Health, St Vincent's Hospital, NSW – Drug and Alcohol Services, South Australia – East Health, Melbourne, Victoria <p><i>Location of MAData Project Manager.</i></p> <p>The MAData project is a collaboration between</p> <ul style="list-style-type: none"> – COQI Project team (staff from Drug and Alcohol Services at SESLHD and HNELHD, and Division Addiction Medicine, University of Sydney). The Project team is located at Langton Centre, Surry Hills (SESLHD) – NSW Health Centre for Population Health, located at NSW Heath, North Sydney – NDARC, located at Randwick campus, UNSW. <p>The MAData Project Manager will work mainly at the Langton Centre Langton (with the COQI Project team) and NDARC sites.</p>
<p>Project Duration</p>	<p>12 months</p>
<p>Statistical Analysis (max 350 words)</p>	<p>Question 1: Client Characteristics</p> <p><i>Descriptive Analysis:</i> Means and standard deviations will be used to describe continuous variables (e.g. age, number ED admissions, ATOP Psychological health scale) and frequencies to describe the</p>

<p><i>Include power / sample size calculation(s), statistical analysis plan, including data linkage plan if required</i></p>	<p>proportion of the sample who met various classification criteria (e.g. sex, education level, AOD treatment episodes with MA as PDOC in previous year). Treatment outcomes will be assessed via change in level or status of outcomes over time. Change in categorical variables (e.g. homeless vs housed) will be represented by 2 x 2 contingency tables. Change in continuous variables (e.g. ATOP days MA use, ATOP Psychological health) will be described via (i) mean change over time and (ii) by determining thresholds for clinically-significant change (deterioration vs improvement vs no change) using algorithms developed within COQI project (Jacobson and Truax's RCI method⁹ used for health status, 30% change scores for days substance use) and, as above, representing this change by contingency tables.</p> <p><i>Inferential Analysis:</i> Single-observation outcomes will be tested using standard regression (continuous variables) or logistic regression (categorical variables). Change data will be analysed via Mixed-Effects models for Repeated Measures (MMRM) regression, clustering random effects at the individual and service level.</p> <p>Question 2: Health Service Utilisation</p> <p>Likelihood of experiencing single-event outcomes (e.g. mortality, pregnancy) will be assessed using Survival Analysis (i.e. Kaplan-Meier plots, Cox regression). Incidence rate of count variables (e.g. number ED presentations, counselling sessions) will be assessed using Poisson or Negative Binomial regression.</p> <p>Question 3: Outcomes for people who use Methamphetamines</p> <p>Change in individual and population level outcomes over time will be assessed via MMRM regression, standard regression for continuous variables (e.g. substance use, QoL), logistic regression for binary variables (e.g. homelessness) and Poisson or negative binomial regression for count data (e.g. hospital admissions, counselling episodes).</p> <p>Question 4: ATOP Validity in clients seeking treatment for MA use</p> <p>Concurrent validity of the ATOP will be assessed by measuring agreement between responses to ATOP items to 'gold-standard' scales in the LiMA trial that measure similar constructs (e.g. DASS-21, WHOQOL-BREF). Pearson's correlation coefficients will be calculated for agreement between continuous variables and Krippendorff's alpha will be calculated for agreement between categorical predictors.</p> <p>Clinical cutoffs for ATOP Psychological, Physical Health, and QoL will be determined using ROC curves, measuring area under curve when various ATOP cutoffs are compared to cutoff scores for gold-standard questionnaires (e.g. DASS-21).</p>
--	--

<p>Outcomes and Significance (max 350 words)</p> <p><i>Outline what new evidence the research is anticipated to generate, describe how this is likely to impact patient care or health policy. Indicate how the research will be translational.</i></p>	<p>The development of clinical information systems that facilitate the routine collection and utilization of clinical information, such as the NSW CHOC system, has the capacity to greatly enhance the quality of clinical care, client outcomes, and change the way we approach clinical research and improvement activities. Whilst there has been significant development in these approaches in many areas of healthcare, we are still in the ‘early stages’ of development within the AoD sector in Australia, with NSW Health AoD system perhaps the most developed in realizing this goal. The NSW Health treatment system is the largest in the country, with approximately 15,000 to 20,000 treatment episodes per annum, delivered across 15 LHDs and LHNs. The only significant component of the AoD treatment system not delivered within NSW Health services is residential rehabilitation.</p> <p>However, the significance of this project is not restricted to NSW based AoD services. The work done by the COQI project to develop the ATOP, including psychometric validation, establishing data rules and algorithms that enable assignment of clinically meaningful change (outcomes), establishing how the ATOP can be used in core clinical processes such as assessment, risk management, care planning, monitoring and review, and designing training programs for clinicians, has been fundamental in ensuring it has good user acceptance by clinicians and clients, which ultimately means we get ‘data in’ as part of routine clinical care. Importantly, the COQI Project has led work in NSW to also understand how we can use the data (‘data out’) to enhance clinical care, assign outcomes for individual episodes, and begin a process of benchmarking across services.</p> <p>Whilst built for the NSW Health AoD system, this work can easily be adopted and used by other health service systems that may use different electronic data platforms other than those used by CHOC (Cerner, CHIME). The principles developed by COQI on how to use data from routine clinical processes (such as completion of an ATOP) to better describe our clients, the services they receive, and the outcomes of treatment, can be used to inform similar endeavors across Australia.</p> <p>To date, the COQI Project has focused upon services for clients primarily using alcohol or opioids. The MAData Project will turn these approaches to examine clients who attend services for MA use, which is becoming an increasing part of the AoD treatment landscape.</p> <p>Other aspects of the project include linkage of data from individual treatment episodes with data from larger health-based data sets. This will be the first time we have attempted this in Australia, and promises to provide a better understanding of treatment trajectories for MA users, and their interaction with the broader health system.</p> <p>Finally, the project will also explore the development of pragmatic trials in the AoD space. In theory, they are less expensive to conduct than traditional ‘explanatory trials’, offer greater generalizability of findings</p>
---	---

	(i.e. based on real world patients in real world settings), and are recognized as a means to enhance uptake of research findings into routine care.
Novelty / value-add (<i>max 350 words</i>)	<p>The study provides new information on client level treatment outcomes from a State-wide perspective. It exploits existing data and thus enhances system capacity to better meet the needs of treatment seeking people who use MA in NSW.</p> <p>The proposed project represents a first attempt in Australia to utilize routinely collected clinical information data systems to develop data informed services that include a treatment outcome framework, with a focus here on clients who use methamphetamines. The project builds upon research and projects underway.</p>

14. Project Budget

Budget Details	
Total funding requested (\$AUD) (excluding GST)	\$100,000
Current funding source(s) for this project	<p>The requested \$100,000 will purchase approximately 0.6 FTE of a post-doctoral researcher (Researcher Level B). The remaining 0.4 FTE position will be funded equally by SESLHD D&A Services (0.2 FTE, estimated at \$20,000 contribution) and NDARC (0.2 FTE estimated at \$20,000 contribution).</p> <p>In addition, the following contributions in kind will be provided to the project:</p> <ul style="list-style-type: none"> – The project builds upon, and leverages off work conducted by: – COQI Project team. Current funding for the COQI Project Team is to SESLHD staff (Kristie Mammen (0.6FTE) and Rachel Deacon (0.8 FTE)) largely from NSW MoH until end 2019 for, with expectation of continued project team funding until 2022. – Contributions in-kind from SESLHD D&A staff to work on MAData Project are estimated at \$60,000 over the 12 month period - comprising of <ul style="list-style-type: none"> ○ FTE of Prof NL (Director, \$34,000.); ○ 0.05 FTE of Anni Ryan (D&A Ops Manager, \$8,000); ○ 0.05 FTE T Hinton (Health Information Manager, \$7,000); ○ FTE Dr Llew Mills, Researcher Level B, \$11,000 – NSW MoH: contributions in kind estimated at \$25,000 from Centre for Population Health (Investigator MC, 0.05 FTE, estimated at \$17,000) and AoD Branch (Investigator Jennifer Holmes, estimated 0.05 FTE on MAData Project, approximately \$8,000) – NDARC (UNSW) contribution: in addition to \$20,000 contribution to MAData Project Manager, Investigator AS and MF time (estimated at 0.1 FTE combined, \$20,000),
<p>Detailed Budget (applicants may use the field below, or may insert new text / table as preferred)</p> <p>The budget is largely to contribute to the MAData Project Manager. We estimate we require a full time researcher with prior experience in managing large data sets, including data analysis and data linkage skills. A Post-doctoral Researcher Level B position is proposed, estimated to cost approximately \$140,000 per annum to employ. Of this, \$100,000 funded by NCCRED grant, 20,000 each from SESLHD D&A and NDARC.</p> <p>Additional costs for expendable items such as convening workshops for clinician and consumer forums will be supported by SESLHD funding and be aligned with the COQI Project consultation processes.</p>	

15. Research Capacity Building

Research personnel	
Please indicate how early or mid-career researchers will be engaged in the capacity building project	<p>It is expected that the MAData Project Manager will be an early / mid-career researcher (post-doctoral within 5-10 years of completion).</p> <p>In addition, the project involves early (Dr Llew Mills) and mid-career researchers from University Sydney (Dr Rachel Deacon), who both work on the COQI Project team, and will be investigators on this project, extending their statistical, data linkage and clinical research skills</p>
Please indicate how multi-disciplinary researchers will be engaged in the capacity building project	<p>The project team involves a range of different professional disciplines (medical, nursing, psychologists, health informatics, researchers). Importantly, the project will endeavor to engage a range of clinicians of different professional backgrounds (allied health, nursing, medical) and consumers from participating services (those services providing CHOC data to the project) through a range of consultation processes (forums, workshops, focus groups) to ensure clinician and consumer engagement in how clinical information is captured, analyzed and fed back to relevant stakeholders (including clients and clinicians).</p> <p>This has been the model employed by the COQI Project throughout, with a range of mechanisms to engage clinicians and consumers. SESLHD D&A Services employs a number of consumer workers (currently 5 part-time consumer workers), and they have been active members of the COQI consultation processes throughout.</p>
Please indicate if and how the proposed capacity building project will establish clinical trial capacity in new or less-experienced research sites	<p>The data systems and data analytics established in the project will be able to be routinely used by all NSW Health AoD services, enabling them to use their clinical information more effectively to enhance clinical care, clinical research and quality improvement activities. This approach changes our understanding of clinical research from methods that require highly skilled clinicians and researchers implementing research protocols, to using routinely collected clinical information as the platform for clinical research and quality improvement.</p> <p>Clinicians, quality managers, clinical researchers will be able to use their own data to generate and answer clinical research questions that are relevant to their own services. For example, a quality manager would be able to interrogate the CHOC extracted data to see whether for example, homeless clients using MA have different patterns of substance use or health</p>

	<p>status at treatment entry, compare the services they utilize and their treatment outcomes compared to clients without housing problems, tailor clinical interventions or response to address any differences, and then re-evaluate. Alternatively, a clinical team may be interested to examine the outcomes of a particular intervention (e.g. a DBT group program for MA users) by comparing before and after outcomes, using a wait list control design. Such clinical research questions can be addressed using routinely collected data.</p>
--	--

16. Research Personnel (add additional boxes as necessary)

Name	Prof Nicholas Lintzeris
Email	Nicholas.Lintzeris@health.nsw.gov.au
Employer	D&A Services, SESLHD
Affiliation(s)	Division Addiction Medicine, University Sydney and NDARC, UNSW
Role on project	Lead Investigator, project oversight, supervision
Qualifications and Experience	Addiction Medicine specialist (FACHAM) and PhD. Many years as clinician researcher, with over 150 peer review publications. Chief Investigator and Project Leader, COQI Project.

Name	Dr Rachel Deacon
Email	Rachel.Deacon@health.nsw.gov.au
Employer	Division Addiction Medicine, University Sydney
Affiliation(s)	Honorary Research Fellow, D&A Services, SESLHD
Role on project	Data manager for CHOC data
Qualifications and Experience	PhD, Research Fellow, COQI Project Team. Main data manager and data analyst on COQI Project

Name	Prof Anthony Shakeshaft
Email	a.shakeshaft@unsw.edu.au
Employer	NDARC, UNSW
Affiliation(s)	
Role on project	Investigator, lead role in co-ordinating pragmatic trial designs
Qualifications and Experience	PhD, many years experience in evaluating clinical interventions and systems research in AoD settings.

Name	Dr Michelle Cretikos
Email	Michelle.Cretikos@health.nsw.gov.au
Employer	Centre Population Health, NSW Health
Affiliation(s)	
Role on project	Investigator, lead role in directing AoDORS data systems within the project
Qualifications and Experience	Public Health specialist with expertise in co-ordinating and managing large data sets in Centre for Population Health, NSW MoH.

Name	Jennifer Holmes
Email	Jennifer.Holmes2@health.nsw.gov.au
Employer	AoD Branch, NSW MoH
Affiliation(s)	DANA
Role on project	Data informatics expertise and liaison with eHealth and other data governance processes.
Qualifications and Experience	Program Manager D&A Data and Informatics. Nursing and Health Informatics background. Over 30 years' experience in AoD sector. Leads health informatics expert on project.

Name	Kristie Mammen
Email	Kristie.mammen@health.nsw.gov.au

Employer	D&A Services, SESLHD
Affiliation(s)	
Role on project	COQI Project Manager and will have lead role in co-ordinating research related to CHOC data using COQI framework.
Qualifications and Experience	B Psych (Hon); Registered Psychologist; MAPS. 15 years experience in Drug and Alcohol including as a clinician, service manager and project manager.

Name	A/Prof Nadine Ezard
Email	nadine.ezard@svha.org.au
Employer	StVHN Sydney and NCCRED, UNSW
Affiliation(s)	
Role on project	Clinician researcher with particular expertise in MA interventions. Assist in analysis and interpretation of CHOC data, access to LiMA data, and establishment of pragmatic clinical trials
Qualifications and Experience	Addiction Medicine specialist (FACHAM) and PhD. >20 years as clinician researcher in AoD services. Clinical Director StVHN and Director NCCRED.

Name	Dr Llewellyn Mills
Email	llew.mills@sydney.edu.au
Employer	Division Addiction Medicine, University Sydney
Affiliation(s)	Honorary Researcher, D&A Services, SESLHD
Role on project	Investigator, data analyst and development pragmatic research methods.
Qualifications and Experience	PhD, statistical skills with analyzing clinical interventions and research data.

Name	Prof Mike Farrell
Email	michael.farrell@unsw.edu.au
Employer	NDARC, UNSW
Affiliation(s)	
Role on project	Co-investigator, leadership and supervision
Qualifications and Experience	Addiction Psychiatrist with >30 years expertise in AoD sector in clinical, research, management and policy roles.

Name	Prof Adrian Dunlop
Email	Adrian.Dunlop@hnehealth.nsw.gov.au
Employer	D&A Services, HNELHD
Affiliation(s)	
Role on project	Investigator, leadership
Qualifications and Experience	Addiction Medicine specialist (FACHAM) and PhD. Expertise in clinical and research roles.

Name	Krista Siefried
Email	krista.siefried@svha.org.au
Employer	NCCRED and StVHN, Sydney


Affiliation(s)	NCCRED, UNSW
Role on project	investigator, project co-ordination
Qualifications and Experience	Clinical research expertise.

References

1. AIHW 2018. *Alcohol and other drug treatment services in Australia 2016–17: key findings*. Retrieved from <https://www.aihw.gov.au/reports/alcohol-other-drug-treatment-services/aodts-2016-17-data-visualisations/contents/principal-drug-of-concern>
2. Bartu A, Freeman NC, Gawthorne GS, Codde JP, Holman CD. Mortality in a cohort of opiate and amphetamine users in Perth, Western Australia. *Addiction*. 2004; 99(1):53-60. PMID: 14678062
3. McKetin R, Kothe A, Baker AL, Lee NK, Ross J, Lubman DI. Predicting abstinence from methamphetamine use after residential rehabilitation: Findings from the Methamphetamine Treatment Evaluation Study. *Drug Alcohol Rev*. 2018; 37(1):70-78. doi: 10.1111/dar.12528. PMID: 28421682
4. Ryan A, Holmes J, Hunt V, Dunlop A, Mammen K, Holland R, Sutton Y, Sindhusake D, Rivas G, Lintzeris N. (2014) Validation and implementation of the Australian Treatment Outcomes Profile in specialist drug and alcohol settings. *Drug Alcohol Rev*. 33(1):33-42.
5. Ezard N, Dunlop A, Hall M, Ali R, McKetin R, Bruno R, Phung N, Carr A, White J, Clifford B, Liu Z, Shanahan M, Dolan K, Baker AL, Lintzeris N. LiMA: a study protocol for a randomised, double-blind, placebo controlled trial of lisdexamfetamine for the treatment of methamphetamine dependence. *BMJ Open*. 2018 Jul 19;8(7):e020723. doi: 10.1136/bmjopen-2017-020723. PMID: 30030312
6. Schwartz D, Lellouch J. Explanatory and pragmatic attitudes in therapeutical trials. *J Chronic Dis* 1967;20:637-648
7. Ford I and Norrie J. Pragmatic Trials. *N Engl J Med* 2016; 375:454-63. DOI:10.1056/NEJMr1510059
8. Lintzeris N, Mammen K, Deacon R, Holmes J. Building Clinical Outcomes and Quality Indicators for the NSW AoD treatment system. Presented at NDARC Annual Symposium, 2018, Sydney.
9. Jacobson N, Truax P. J. Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Consult. Clin. Psychol* 1991. 59, 12–19. doi:10.1037/0022-006X.59.1.12.

17. Signature and Verification

I confirm that the information included in this application is true and correct, and that if the application is successful the funding will be used for the stated purposes.

Full name of Principal / Chief Investigator	Nicholas Lintzeris
Signature	
Date	28 Oct 2018