



The Australian Group on Antimicrobial Resistance  
<http://antimicrobial-resistance.com>

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## **Project Plan**

### **Operation of the 2021 Australian Group on Antimicrobial Resistance (AGAR) Surveillance Programmes**

**01 July 2021 to 30 June 2022**

**August 2021**

# Table of Contents

- 1. INTRODUCTION..... 3
- 2. GOVERNANCE ARRANGEMENTS ..... 5
- 3. PROJECT BUDGET AND DELIVERABLES .....10
- 4. RISK MANAGEMENT .....13

# 1. Introduction

The Commonwealth of Australia (as represented by the Department of Health) has engaged the Australian Society for Antimicrobials (ASA) for the continuation of Australian Group on Antimicrobial Resistance (AGAR) three sepsis outcome programs for the period 1 July 2021 to 30 June 2024:

- *Staphylococcus aureus* (ASSOP - Australian Staphylococcal Sepsis Outcome Programme)
- *Enterococcus* spp. (AESOP - Australian Enterococcal Sepsis Outcome Programme)
- Enterobacterales, *Pseudomonas aeruginosa* and *Acinetobacter* spp. (GNSOP - Gram negative Sepsis Outcome Programme).

In doing so, within the period of the contract, ASA will prepare a detailed annual report for each program for publication on its website, pending approval by the Department, and contribute data for any amalgamated report concerning antimicrobial resistance (AMR) which may be required.

Under the contract with the Commonwealth of Australia, funding support is to be made available to the ASA for the operation of the AGAR surveillance programs from 21 days after the contract executed to 26 July 2024. This includes analysis and reporting on the 2021, 2022 and 2023 AESOP, ASSOP and GNSOP surveillance programs and commence activities in relation collection of 2024 AESOP, ASSOP and GNSOP data.

AGAR is a unique collaboration of clinicians and scientists from major microbiology laboratories around Australia. AGAR tests and gathers information on the level of antibiotic resistance in bacteria causing important and life threatening infections. The group started in 1985 and at that time involved 13 teaching hospitals. It has subsequently grown to involve 40 institutions including five private laboratories. This broadening of the group has meant that not only does the group have good information as to what is happening with major pathogens in the larger teaching hospitals in each State and Territory, but now also has the ability to monitor what is happening with resistance rates in private hospitals. By standardised methodology AGAR has been able to collect ongoing data on what is happening in this country over long periods of time. The group

has also been very successful in being able to make this information available to the broader community both through publications in scientific journals and also numerous presentations at meetings and to groups around Australia and internationally. This has led to important benefits within Australia. Among these benefits has been the ability to allow more rational use of antibiotics based on known Australia wide resistance patterns.

## 2. Governance Arrangements

ASA, Australian Business Number 31 081 739 370, is a government endorsed charitable institution incorporated in Western Australian in 1999 (Registration Number A10076082).

Although AGAR is a working group of the ASA, the ASA Committee has delegated the authority of running AGAR to the AGAR Executive. The AGAR Executive manages the activities and operations of AGAR. ASA administers the AGAR finances, coordinates the AGAR Executive and Committee meetings and maintains the AGAR website. An AGAR representative, as recommended by the AGAR Executive, is co-opted onto the ASA Committee to provide a report on AGAR activities. The current AGAR representative is Professor Geoffrey Coombs.

### **AGAR Executive (See Appendix 1)**

The Executive is composed of eight elected AGAR Committee members and consists of:

A Chair, Deputy Chair, and six scientific convenors.

The elected AGAR members are voted onto the AGAR Executive for a three year term by the AGAR committee members. Decisions made by the AGAR Executive are on a consensus basis. In consultation with the Commonwealth Government's Department of Health, the AGAR Executive organises surveillance programmes on antibiotic resistance where it is decided that these have significance for human health and therapy.

The eight elected members of the AGAR Executive are responsible for the management of the three permanent ongoing programmes:

- Australian Staphylococcus Sepsis Outcome Programme (ASSOP)
- Australian Enterococcus Sepsis Outcome Programme (AESOP)
- Australian Gram-negative Sepsis Outcome Programme (GNSOP)

The AGAR Executive meets twice yearly (July and November)

## **AGAR Scientific Officers**

The two AGAR Scientific Officers administer and collate the data collected from the three permanent ongoing programmes.

- Ms Denise Daley (based at PathWest Laboratory Medicine–WA, Fiona Stanley Hospital, Western Australia)
  - Australian Staphylococcus Sepsis Outcome Programme (ASSOP)
  - Australian Enterococcus Sepsis Outcome Programme (AESOP)
  
- Ms Jan Bell (based in Adelaide, South Australia)
  - Australian Gram-negative Sepsis Outcome Programme (GNSOP)

The AGAR Scientific Officers' duties are summarised in Appendix 2.

## **AGAR Writing Groups**

The reports submitted to the Commonwealth of Australia for the three ongoing programmes are produced by the AGAR writing groups. The AGAR writing groups are subcommittees of AGAR and report to the AGAR Executive. The Chair of each writing group is a member of the AGAR Executive.

- Australian Staphylococcus Sepsis Outcome Programme (ASSOP)
  - Chair: Prof Geoffrey Coombs
  - Scientific Officer: Denise Daley
  
- Australian Enterococcus Sepsis Outcome Programme (AESOP)
  - Chair: Prof Geoffrey Coombs
  - Scientific Officer: Denise Daley
  
- Australian Gram-negative Sepsis Outcome Programme (GNSOP)
  - Chair: A/Prof Thomas Gottlieb
  - Scientific Officer: Jan Bell

**AGAR Database Management Committee (see Appendix 3 for membership)**

The AGAR database is stored on a secure server and is managed by an AGAR subcommittee. The AGAR Database Management Committee is a working group of AGAR and reports to the AGAR Executive. The Chair of the committee is a member of the AGAR Executive.

- Chair: Dr Louise Cooley

The AGAR web application has been developed and is managed, under a service agreement, by Nexus6 Software. The AGAR database is stored on a server hosted by Bulletproof which has been externally reviewed as being security compliant.

The AGAR Database Management Committee has developed a comprehensive database governance and management plan for the operation of the 2021, 2022 and 2024 AGAR antimicrobial resistance surveillance programmes

**AGAR Programme Committees**

The three programme committees:

- Have the key advisory role of ensuring the highest quality of results is collected within an AGAR surveillance programme
- Analyse the clinical data collected in the AGAR surveillance programme with the aim of producing peer reviewed publications
- Organise additional research activities related to the surveillance programme
- Provide scientific advice to the AGAR Executive on matters that are related to the surveillance programme
- Assist with the July AGAR Committee Meeting Programme

Programme Committee Chairs are:

- ASSOP – Prof Geoffrey Coombs
- AESOP – Prof Geoffrey Coombs
- GNSOP – Prof Jon Iredell

**AGAR Committee (see Appendix 4 for membership)**

The AGAR Committee includes a representative(s) of each laboratory that participates in AGAR.

All AGAR institutions must be NATA accredited microbiology laboratories (ISO 15189:2012).

AGAR Committee members must participate in the three permanent ongoing surveillance programmes:

- Australian Staphylococcus Sepsis Outcome Programme (ASSOP)
- Australian Enterococcus Sepsis Outcome Programme (AESOP)
- Australian Gram-negative Sepsis Outcome Programme (GNSOP)

The three programmes must be performed as directed by the AGAR Executive.

Committee members are responsible for performing the susceptibility testing of isolates and submitting isolates and data as requested by the AGAR Scientific Officers.

**Ethics Approval**

Committee members are responsible for obtaining executive and ethics approval to conduct the AGAR programmes including the collection of prospective patient data (data of birth, sex, postcode of residence, hospital admission and discharge date and 7 and 30 day mortality) which is defined as “personal information” under the *Privacy Act* (Commonwealth).

**Characterisation of Isolates**

The characterisation of isolates to provide the data required for reporting on antimicrobial resistance is undertaken as follows:

- Australian Staphylococcus Sepsis Outcome Programme (ASSOP)
  - Performed by the
  - Antimicrobial Resistance and Infectious Disease Laboratory (AMRID)
  - School of Veterinary and Life Sciences
  - Murdoch University, Murdoch, Western Australia



Contact: Prof Geoffrey Coombs

- Australian Enterococcus Sepsis Outcome Programme (AESOP)  
Performed by the  
Antimicrobial Resistance and Infectious Disease Laboratory (AMRID),  
School of Veterinary and Life Sciences  
Murdoch University, Murdoch, Western Australia

Contact: Prof Geoffrey Coombs

- Australian Gram-negative Sepsis Outcome Programme (GNSOP)  
Performed by the Centre for Infectious Diseases and Microbiology,  
Westmead Institute for Medical Research, Westmead, New South Wales

Contact: Ms Jan Bell

**2021 – 2022 Indicative Budget (see Appendix 5)**

### 3.2021 Programs Project Budget and Deliverables

1. **Project plan for 2021 ASSOP, AESOP and GNSOP for 2021-22 including an indicative budget and comment on status of ethics applications and compliance with privacy, data governance and ethical obligations as required.**

Deliverable Date      21 days after contract executed

2. **Progress report against the activity for the period 1 July to 31 December 2021**

Deliverable Date      28 January 2022

3. **Draft 2021 ASSOP, AESOP and GNSOP data analysis reports**

Deliverable Date      27 May 2022

4. **Progress report against the activity for the period 1 January to 30 June 2022**
  - a. **Final 2021 ASSOP, AESOP and GNSOP data analysis reports**
  - b. **A financial statement covering 1 July 2021 – 30 June 2022**

**A project plan for 2022 ASSOP, AESOP and GNSOP for 2022-23 including an indicative budget**

#### **2021 Australian Staphylococcus Sepsis Outcome Program (ASSOP) Report**

- i. Determine the AMR rates and resistant phenotypes of community-onset and hospital-onset *Staphylococcus aureus* sepsis infections by jurisdiction.
- ii. Determine the percentage of community *Staphylococcus aureus* sepsis infections caused by PVL positive and negative MRSA.
- iii. Determine the important CA-MRSA and HA-MRSA clones in Australia by jurisdiction.
- iv. Monitor the emergence and spread of PVL positive and negative CA-MRSA clones in Australia, by jurisdiction.
- v. Monitor the transmission of the PVL genes into naïve clones.

- vi. Provide detail of infection types associated with *Staphylococcus aureus* sepsis.
- vii. Provide breakdowns of outcomes (30-day all-cause mortality, length of stay post-episode) by community- versus hospital-onset, and also for MSSA, CA-MRSA and HA-MRSA.
- viii. Determine trends using data from previous ASSOPs by jurisdiction and provide analyses and commentary on the importance of trends for clinical practice and the response to AMR.

NOTE: The ASSOP AGAR Scientific Officer, Ms Denise Daley is responsible for ensuring the data has been submitted by the participating laboratories by the due date. The Scientific Officer is also responsible for checking the quality and validity of the data.

#### **2021 Australian *Enterococcus* Sepsis Outcome Programme (AESOP) Report**

- i. Determine the AMR rates and resistant phenotypes of community-onset and hospital-onset *Enterococcus species* infections by jurisdiction.
- ii. Provide detailed analysis of glycopeptide, high level gentamicin/ streptomycin resistant phenotypes by jurisdiction.
- iii. Provide detail of infection types associated with *Enterococcus* sepsis.
- iv. Provide breakdowns of outcomes (30-day all-cause mortality, length of stay post-episode) by community- versus hospital-onset, and also for vancomycin-susceptible versus resistant strains.
- v. Monitor the emergence and spread of vancomycin-resistant Enterococcal clones and *van* genes in Australia by jurisdiction.
- vi. Determine trends using data from previous AESOPs by jurisdiction and provide analyses and commentary on the importance of trends for clinical practice and the response to AMR.

NOTE: The AESOP AGAR Scientific Officer, Ms Denise Daley is responsible for ensuring the data has been submitted by the participating laboratories by the due date. The Scientific Officer is also responsible for checking the quality and validity of the data.

#### **2021 Gram Negative Sepsis Outcome Programme (GNSOP) Report**

- i. Determine the AMR rates and resistant phenotypes of community-onset and hospital onset key Gram-negative species including *E.coli*, *Klebsiella*, *Enterobacter*, *P. aeruginosa* and *Acinetobacter* sepsis infections by jurisdiction.
- ii. Provide detailed analysis of carbapenem, fluoroquinolone, 3<sup>rd</sup> or 4<sup>th</sup> generation cephalosporin resistant phenotypes and ESBL/AmpC producers by jurisdiction.
- iii. Provide detail of infection types associated with gram-negative organisms including Enterobacterales, *P. aeruginosa* and *Acinetobacter* sepsis
- iv. Provide breakdowns of outcomes (30-day all-cause mortality, length of stay post-episode) by community- versus hospital-onset, and also resistance and multi-resistant phenotypes.
- v. Perform trending using data from previous GNSOPs by jurisdiction and provide analyses and commentary on the importance of trends for clinical practice and the response to AMR.

NOTE: The GNSOP AGAR Scientific Officer, Ms Jan Bell, is responsible for ensuring the data has been submitted by the participating laboratories by the due date. The Scientific Officer is also responsible for checking the quality and validity of the data.

Deliverable Date      29 July 2022

## 4. Risk Management

The following scale has been used to assess the risks.

<b>Risk Level:</b>	Extreme risk	Detailed action/plan required
	High risk	Needs senior management attention
	Moderate risk	Specify management responsibility
	Low risk	Managed by routine procedures
<b>Likelihood:</b>	Almost certain	Expected in most circumstances
	Likely	Will probably occur in most circumstances
	Possible	Could occur at some time
	Unlikely	Not expected to occur
	Rare	Exceptional circumstances only
<b>Consequence:</b>	Severe	Would stop achievement of functional goals / objectives
	Major	Would threaten functional goals / objectives
	Moderate	Necessitating significant adjustment to overall function
	Minor	Would threaten an element of the function
	Insignificant	Lower consequence

**Qualitative Risk Analysis Matrix**

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Severe
Almost certain	M	H	H	E	E
Likely	M	M	H	H	E
Possible	L	M	M	H	E
Unlikely	L	M	M	M	H
Rare	L	L	M	M	H

## Risk management plan

The following table details a high level risk assessment for this project.

Target	What is the risk?	Consequence	Likelihood	Risk	Actions
Laboratories	Low participation rates from laboratories and variable quality in the data submitted to the AGAR Scientific Officers	AGAR will not be able to provide the reports on the required deliverable dates	Unlikely	Medium	The AGAR Scientific Officers are in contact with the participating AGAR laboratories on a regular basis. The Scientific Officers will monitor the performance of each AGAR laboratory and will inform the AGAR Chair and Executive of laboratories that have not submitted data and isolates by the scheduled dates.  The AGAR Chair will contact laboratories not performing as anticipated. An annual review of all laboratories will be performed at the December Executive Meeting
AGAR Scientific Officers	Not collating data accurately or within the planned time frame	AGAR will not be able to provide the reports on the required deliverable dates	Unlikely	High	The programme results need to be presented to the AGAR Executive twice yearly (November and July)
AMRID, Murdoch University	Failure of laboratory instrumentation to provide whole genome sequencing (WGS) results	AGAR will not be able to provide the ASSOP and AESOP reports on the required deliverable dates	Low	Medium	Outsource the WGS to another laboratory
Westmead Institute for Medical Research	Failure of laboratory instrumentation to provide genotypic testing	AGAR will not be able to provide the GNSOP report on the required deliverable date	Low	Medium	Outsource molecular typing to another laboratory
AGAR Writing Groups	Not providing reports by the deliverable date	AGAR will not be able to provide the reports on the required deliverable dates	Unlikely	Medium	Provision of reports managed by the AGAR Chair
Web portal - data	Breach of patient confidentiality	Potential harm to patient/s due to	Possible	High	A comprehensive data management plan is in place that addresses privacy, security and

Target	What is the risk?	Consequence	Likelihood	Risk	Actions
governance		disclosure of personal information Reputational risk to ASA and AGAR			<p>ethics approvals management protocol is in place and includes:</p> <ul style="list-style-type: none"> <li>• arrangements for ethics and jurisdictional approval for the collection, containment, release, use and publication of any data consistent with current data sets</li> <li>• privacy requirements for personal information (patient date of birth, sex, postcode of residence, hospital admission and discharge date, 7 and 30 day mortality and the originating laboratory) consistent with the Privacy Act and the Privacy Amendment (Enhancing Privacy Protection) Act 2012 (Cth) (Amending Act)</li> <li>• arrangements to prevent re-identification of patients arrangements for storing the data would prevent re-identification of personal data if matched or put together with to another data set data security</li> <li>• arrangements for holding data securely on the Nexus 6 server and when in use by AGAR scientific officers , data contributor and user authorisation protocols and mechanisms for monitoring access to the database</li> </ul>

Target	What is the risk?	Consequence	Likelihood	Risk	Actions
					<ul style="list-style-type: none"> <li>systems and processes used for collection, analysis and storage of data and information and whether they have been designed sufficiently to ensure that the confidentiality, integrity and availability of data and information is protected</li> </ul> <p>Copies and dates of ethics approvals are held by AGAR for current data sets, and the purposes for which the data are provided for AGAR are addressed in the approvals</p> <p>Contract with web portal provider includes data privacy and security requirements.</p> <p>All users and staff are familiar with their obligations under the Privacy Act 1988 (Commonwealth) and the relevant state and territory privacy legislation and policies.</p>
Web portal – maintenance and sustainability	Provider no longer able/available to provide the contracted maintenance and support services	<p>Potential significant cost for redevelopment</p> <p>Potential loss of continuity of service and access to database</p>	Possible	High	<p>Due diligence undertaken in relation to capacity of provider to deliver the service for the contracted period as part of contracting process</p> <p>Contract includes requirements for provider to prepare and make available to ASA a manual in relation to web portal development processes, maintenance and operational procedures</p> <p>Backup arrangements in place for AGAR data</p>



**Appendix 1: 2020 - 2023 AGAR Executive Members**

<b>Position</b>	<b>Name</b>	<b>Institution</b>
<b>Elected Members (Voting)</b>		
Chair	Prof Geoffrey Coombs	PathWest Laboratory - WA Fiona Stanley Hospital, WA
Deputy Chair	A/Prof Thomas Gottlieb	Concord Hospital, NSW
Scientific Convenors	Prof Peter Collignon	The Canberra Hospital, ACT
	Prof Jon Iredell	Westmead Hospital, NSW
	Prof Graeme Nimmo	Queensland Pathology Central Laboratory, Qld
	Dr Jenny Robson	Sullivan Nicolaides, Qld
	Dr Louise Cooley	Royal Hobart Hospital, Tas
	Dr Morgyn Warner	Royal Adelaide Hospital, SA

## Appendix 2: The AGAR Scientific Officers' duties

- Managing the activities of the Australian Group for Antimicrobial Resistance (AGAR)
  
- Coordinating the three permanent ongoing programmes:
  - Australian *Staphylococcus* Sepsis Outcome Programme (ASSOP)
  - Australian *Enterococcus* Sepsis Outcome Programme (AESOP)
  - Australian Gram-negative Sepsis Outcome Programme (GNSOP)
  
- Help coordinate and attend the AGAR Executive and Committee meetings
  
- Preparing the AGAR Executive and Committee meetings' minutes
  
- Collating the data from the three permanent programmes for the AGAR writing groups
  
- Presenting the three permanent ongoing programme results to the AGAR Executive and Committee
  
- Advising and liaising internally and externally on matters associated with AGAR
  
- Reviewing scientific literature associated with AGAR
  
- Performing other duties as directed by the AGAR Executive

**Appendix 3: 2020 – 2023 AGAR Database Management Committee**

Chair	Dr Louise Cooley	Royal Hobart Hospital, Tas
AGAR Scientific Officers	Ms Denise Daley	PathWest Laboratory - WA Fiona Stanley Hospital, WA
	Ms Jan Bell	Adelaide, SA

## Appendix 4: 2021 AGAR Committee

State	Institution	Medical Representative	Scientific Representative
ACT	The Canberra Hospital	Prof Peter Collignon	Ms Susan Bradbury
NSW	Concord Hospital	A/Prof Tom Gottlieb	Mr John Huynh
	John Hunter Hospital	Dr Hemalatha Varadhan	Ms Bree Harris
	Nepean Hospital	Dr James Branley	Ms Linda Douglass
	Royal North Shore Hospital		Ms Angela Wong
	Royal Prince Alfred	Dr Sebastian van Hal	Mr Frances Jenkins
	Westmead Hospital	Prof Jon Iredell	Dr Andrew Ginn
	Wollongong Hospital	Dr Peter Newton	Ms Melissa Hoddle
	St Vincent's Hospital Sydney	Dr Jock Harkness	Mr David Lorenz
	Sydney's Children's Hospital	Dr Monica Lara	Mr Peter Huntington
	Children's Hospital Westmead	Dr Alison Kesson	Mr Andrew Jarrett
	Liverpool Hospital	Dr Michael Maley	Ms Helen Ziochos
NT	Alice Springs Hospital		Mr James McLeod
	Royal Darwin Hospital	Dr Rob Baird	Ms Jann Hennessy
Qld	Cairns Base Hospital	Dr Enzo Binotto	
	Gold Coast Hospital	Dr Petra Derrington	Ms Cheryl Curtis
	Princess Alexandra Hospital	Dr Naomi Runnegar	Mr Joel Douglas
	Prince Charles Hospital	Dr Robert Horvath	
	Royal Brisbane and Women's	Prof Patrick Harris	Ms Narelle George
	Sullivan Nicolaides	Dr Jenny Robson	Ms Marianne Allen

	Pathology		
	Queensland Children's Hospital	Dr Clare Nourse	
SA	Flinders Medical Centre	Dr Kelly Papanoum	Mr Xiao Chen
	Royal Adelaide Hospital and Women's and Children's Hospital	Dr Morgyn Warner	Ms Kija Smith
TAS	Royal Hobart	Dr Louise Cooley	Mr David Jones
	Launceston General Hospital	Dr Pankaja Kalukottege	Ms Kathy Wilcox
Vic	Alfred Hospital	Dr Adam Jenney	Ms Jacqueline Williams
	Austin Health	Dr Marcel Leroi	Ms Libby Grabsch
	Monash Medical Centre, Dandenong Hospital, and Monash Children's Hospital	Dr Tony Korman	Ms Despina Kotsanas
	Royal Children's Hospital	A/Prof Andrew Daley	Ms Gena Gonis
	St Vincent's Hospital	Dr Amy Crowe	Ms Lisa Brenton
	Royal Melbourne Hospital	Dr Deborah Williamson	Ms Rose Cotronei
WA	Fiona Stanley Hospital and Royal Perth Hospital	Dr Owen Robinson	Prof Geoff Coombs
	Joondalup Hospital	Dr Shalinie Perera	Mr Ian Meyer
	QEII Medical Centre	Dr Ronan Murray	Ms Jacinta Bowman
	Kimberley Health Region Hospitals	Dr Michael Leung	
	Murdoch Hospital, St John of God Pathology	Dr Sudha Pottumarthy-Boddu	Ms Jacqueline Schuster
	Perth Children's Hospital	Dr Chris Blyth	

## Appendix 5: 2021 AGAR Programs (Funding 01/07/2021 to 30/06/2022)

Item	Total Price GST Exclusive	GST Component	Total Price GST Inclusive
December 2021 Executive Meeting	\$7,000	\$700	\$7,700
July 2022 Executive and Committee Meetings	\$35,000	\$3,500	\$38,500
ASSOP 2021 MRSA WGS	\$60,000	\$6,000	\$66,000
AESOP 2021 <i>E. faecium</i> WGS	\$51,000	\$5,100	\$56,100
GNSOP 2021 WGS	\$120,000	\$12,000	\$132,000
AGAR ASSOP and AESOP Scientific Officer – Denise Daley (1.0FTE) <sup>1</sup>	\$127,409	\$12,741	\$140,150
AGAR GNSOP Scientific Officer – Jan Bell (0.4FTE) <sup>1</sup>	\$50,964	\$5,096	\$56,060
AGAR GNSOP Scientific Officer – Westmead (0.5FTE) <sup>1</sup>	\$63,795	\$6,380	\$70,175
AGAR Development and Management Officer – Prof Geoffrey Coombs (0.2FTE) <sup>2</sup>	\$46,980	\$4,698	\$51,678
ASSOP 2021 Laboratories	\$42,000	\$4,200	\$46,200
AESOP 2021 Laboratories	\$84,000	\$8,400	\$92,400
GNSOP 2021 laboratories	\$18,000	\$1,800	\$19,800
Storage of Isolates (-80°C)	\$35,500	\$3,550	\$39,050
Insurance	\$8,000	\$800	\$8,800
IT Agreement	\$20,000	\$2,000	\$22,000
Development and Upgrades	\$13,000	\$1,300	\$14,300
Face to face meetings with DoH	\$5,000	\$500	\$5,500
Total	\$787,648	\$78,765	\$866,413

<sup>1</sup>AGAR Scientific Officers

Salary based on the Western Australian 2021 HSUA WA Level P6.3  
(\$103,257) plus 23.39% salary on costs – long service leave, annual leave,  
worker's compensation insurance, superannuation

<sup>2</sup>AGAR Development and Management Officer

Salary based on the Murdoch University 2021 Classification ACPRE  
(\$180,482) plus Super and L/Loading (\$32,220) plus on costs (\$22,195)