

Medical Research Future Fund Information Session

Presented by the SA_MRFF Working Group



Government of South Australia
Department for Innovation and Skills



Acknowledgement of Country

We acknowledge the Kurna people as the traditional custodians of the Adelaide region, we recognise the Kurna peoples cultural, spiritual, physical and emotional connection with their land.

We honour and pay our respects to Kurna elders, both past and present, and all generations of Kurna people, now and into the future.



Health Translation SA

> RESEARCH > ACTION > IMPACT



To accelerate the translation of research along the impact pathway to improve health outcomes for South Australians



Strategic Priorities

01

Mobilise **leadership** and **collaboration** to address health and system challenges

02

Build **expertise** through **projects** and **capacity building** initiatives

03

Develop the state-wide **translational pathway**

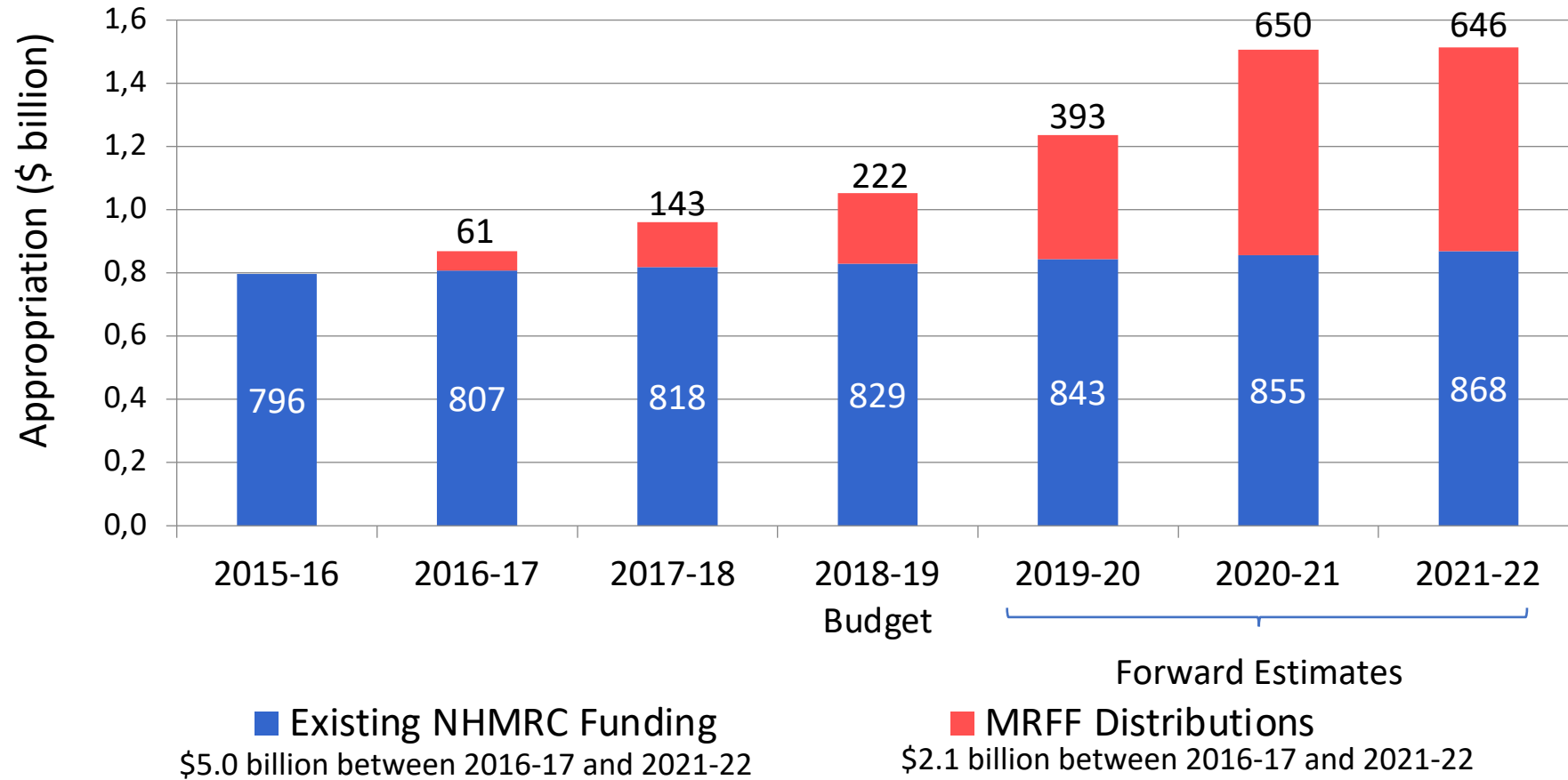
Medical Research Future Fund (MRFF)

- Endowment fund (\$20b), with capital preserved in perpetuity
- Dedicated vehicle for priority-driven investment

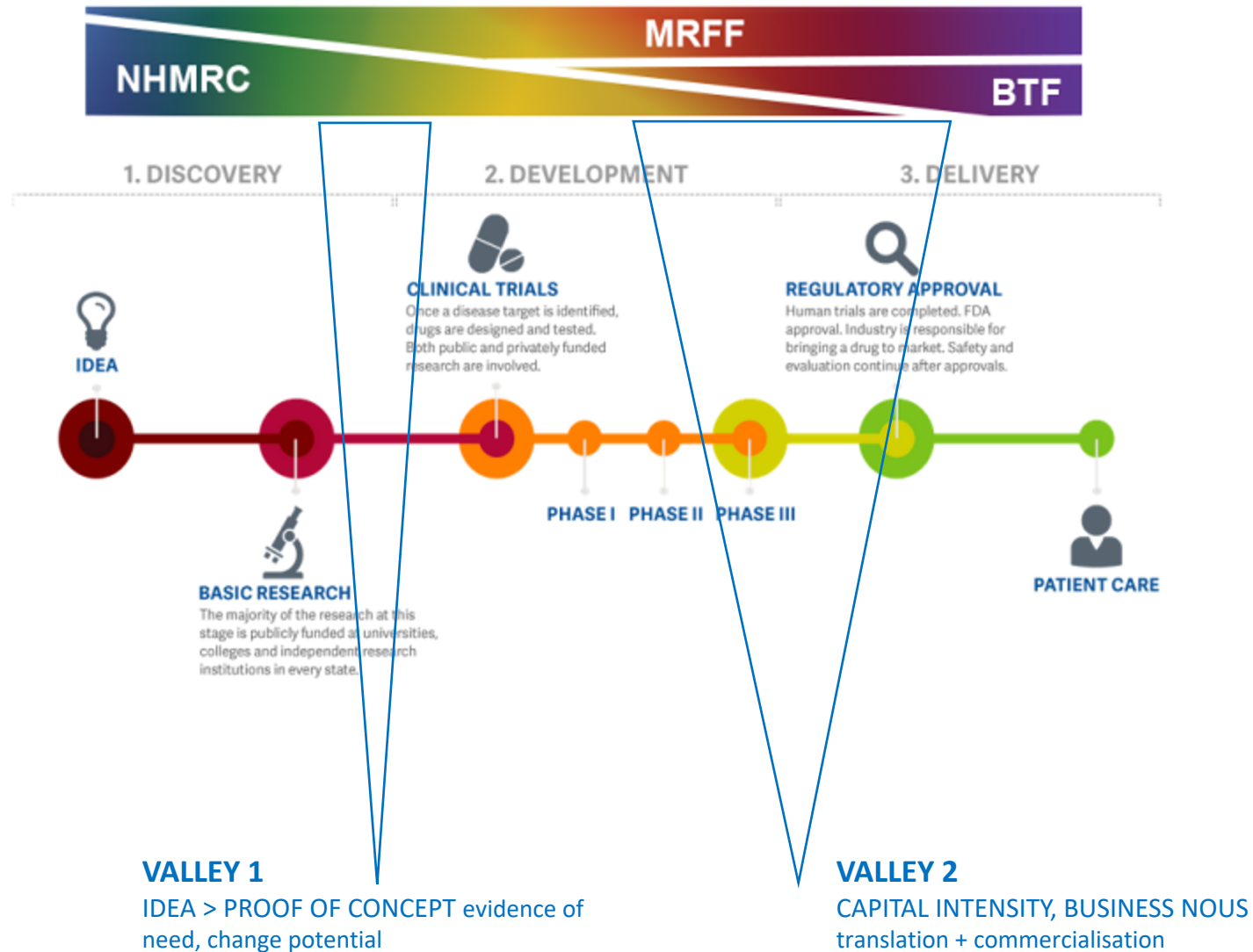
2016-17 (\$m)	2017-18 (\$m)	2018-19 (\$m)	2019-20 (\$m)	2020-21 (\$m)	2021-22 (\$m)
18.0	30.1	222.4	392.7	650.2	646.0

Source: 2018-19 Health Portfolio Budget Statement (pg47). Note disbursements have been updated to reflect actuals in 2016-17 and 2017-18.

- Additional and complementary to NHMRC



Pipeline Concept



Medical Research Future Fund - 10 year plan

Federal Budget 2019-20 (2 April, 2019)

Projects		2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	Total over 10yr
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
PATIENTS	97.8	124.4	140.3	146.5	135.1	129.1	125.6	125.6	125.6	125.6	1,275.6
Emerging Priorities and Consumer Driven Research (EPCD)	53.7	54.3	71.2	80.9	69.5	63.5	60.0	60.0	60.0	60.0	633.0
Clinical Trials for Rare Cancers, Rare Diseases and Unmet Needs (RCRDUN)	42.3	67.1	66.5	62.6	62.6	62.6	62.6	62.6	62.6	62.6	614.2
Global Health – Tackling Antimicrobial Resistance and Drug Resistant Tuberculosis	1.8	3.0	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	28.4
RESEARCHERS	4.3	49.3	92.6	102.1	94.0	90.0	90.0	90.0	90.0	90.0	792.8
Frontier Health and Medical Research	-	20.0	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	570.0
Industry Research Exchange and Training	-	8.0	10.0	10.0	4.0	-	-	-	-	-	32.0
Clinical Researchers	4.3	21.8	22.6	22.1	20.0	20.0	20.0	20.0	20.0	20.0	190.8
MISSIONS	47.8	140.6	175.7	166.9	161.9	148.0	148.0	138.0	138.0	119.2	1,384.0
Australian Brain Cancer Mission (Total = \$123.6m ¹)	9.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-	49.0
Million Minds Mental Health Research Mission	5.0	5.0	15.0	15.0	25.0	15.0	20.0	10.0	10.0	5.0	125.0
Genomics Health Futures Mission	8.8	56.6	68.7	69.9	54.9	50.0	50.0	50.0	50.0	41.2	500.0
Ageing, Aged Care and Dementia Mission (Total = \$185m ²)	10.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	167.5
Indigenous Health Futures (Total = \$160m ³)	15.0	22.5	22.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	147.5
Stem Cell Mission	-	6.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	150.0
Cardiovascular Mission (Total = \$220m ⁴)	-	23.0	24.0	24.0	24.0	25.0	20.0	20.0	20.0	20.0	200.0
Traumatic Brain Injury Mission (Total = \$50m ⁵)	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	45.0
TRANSLATION	54.2	77.8	171.2	212.0	176.5	173.5	163.5	163.5	163.8	163.8	1,519.7
Preventative and Public Health Research	18.8	32.5	57.1	33.5	29.5	26.5	15.5	15.5	15.8	15.8	260.4
Primary Health Care Research	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	45.0
Rapid Applied Research Translation Centres	20.0	20.0	20.0	22.0	22.0	22.0	23.0	23.0	23.0	23.0	218.0
Medical Research Commercialisation	15.4	15.3	35.3	35.3	35.0	35.0	35.0	35.0	35.0	35.0	311.3
National Critical Infrastructure	-	5.0	43.8	106.2	75.0	75.0	75.0	75.0	75.0	75.0	605.0
Data Infrastructure – Registries, biobanks, linkage platforms	-	-	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	80.0
TOTAL	204.1	392.5	579.8	627.5	567.5	540.6	527.1	517.1	517.1	498.6	4,972.1
TOTAL 10 year plan⁶											5,093.4
Balance over the forward estimates	18.3	3.5	0.1	18.5	82.6	Funds from the \$20 billion MRFF endowment fund will continue to be disbursed beyond the forward estimates					
Current MRFF disbursements over the forward estimates	222.4	396.0	579.9	646.0	650.0						

¹ Australian Brain Cancer Mission \$123.6m = \$49m MRFF funding, \$65.3m in philanthropic contributions, \$5m in RCRDUN clinical trials funding and \$3.4m in EPCD research funding and \$1m in 2017-18

² Million Minds Mental Health Mission total includes \$17.5m in 2028-29

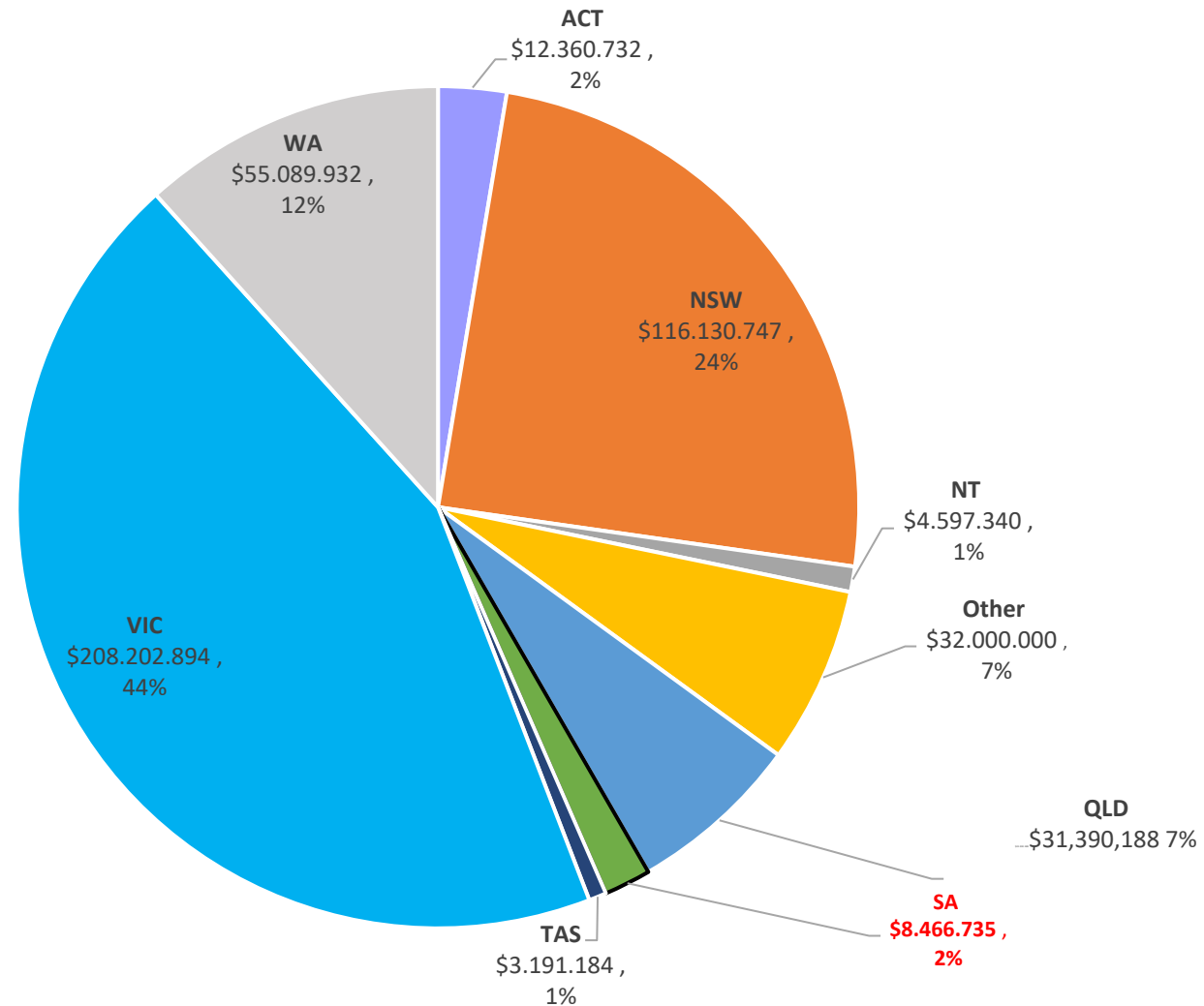
³ Indigenous Health Futures total includes \$20m in 2028-29

⁴ Cardiovascular Mission total includes \$20m in 2028-29

⁵ Traumatic Brain Injury Mission total includes \$5m in 2028-29

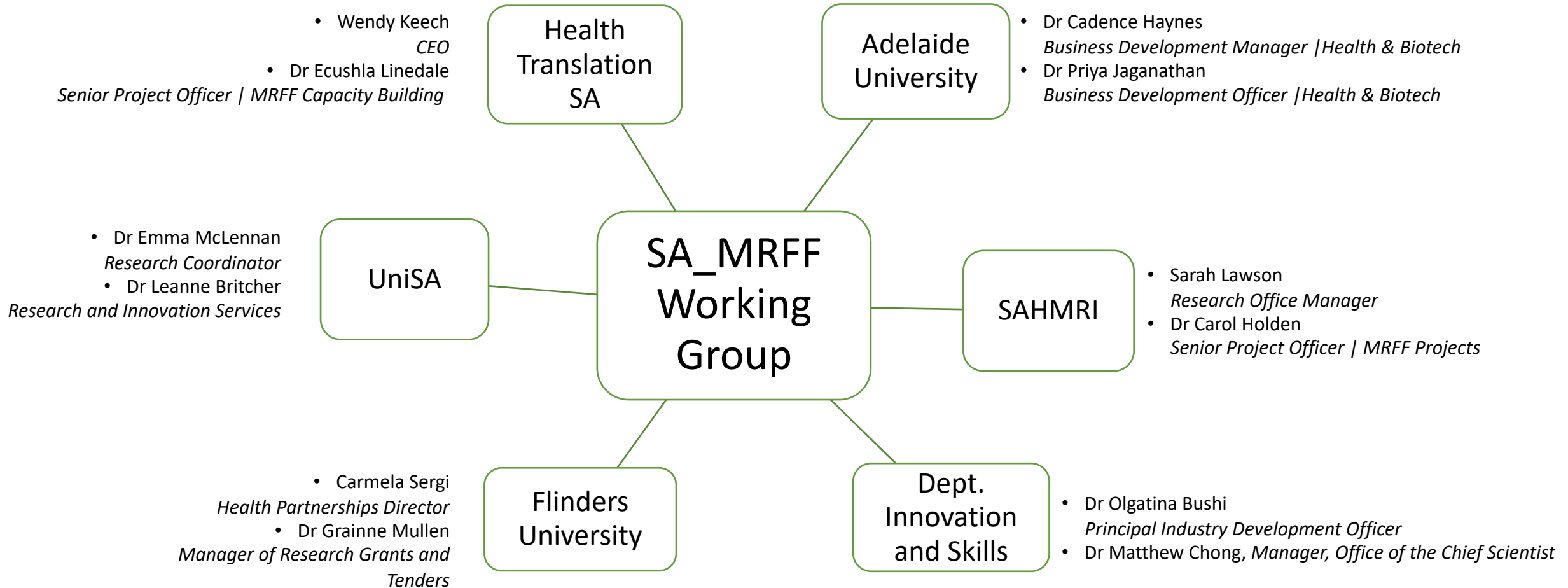
⁶ Total 10 year plan includes \$63.5m in philanthropic funding, \$1m in 2017-18 and \$55m in 2028-29

South Australian Share of MRFF Funding



Medical Research Future Fund Grant Recipients Announced and Under Contract since 2016 – 2017 (as at 5 April 2019)

The South Australian MRFF Working Group



Session Overview

- SA_MRFF Working Group Wendy Keech (Health Translation SA)
 - MRFF Introduction Carmela Sergi (Flinders University)
 - Upcoming MRFF Rounds Dr Cadence Haynes (Adelaide University)
 - Peer Review Perspective Prof Susan Hillier (UniSA)
 - Frontiers Case Study 1 Dr Martin Donnelley (The Australian Lung Health Initiative)
 - Frontiers Case Study 2 Prof Chris Levi (The Australian Stroke Alliance)
 - Q&A with Speaker Panel
-

MRFF – A New Approach

Ms Carmela Sergi
Flinders University

Presented on behalf of the SA_MRFF Working Group



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MRFF – What is it

- Almost a doubling of funding for H&M research by 2022
- At full capitalisation will be a \$20 billion fund; at 23 July 2019 - \$17.5 billion;
- Over \$2 billion set for disbursement from 2016 to 2021
- Forecast \$650m pa from 2022 onwards
- **Aims: Australian health system fully informed by quality health and medical research**



MRFF – What is it

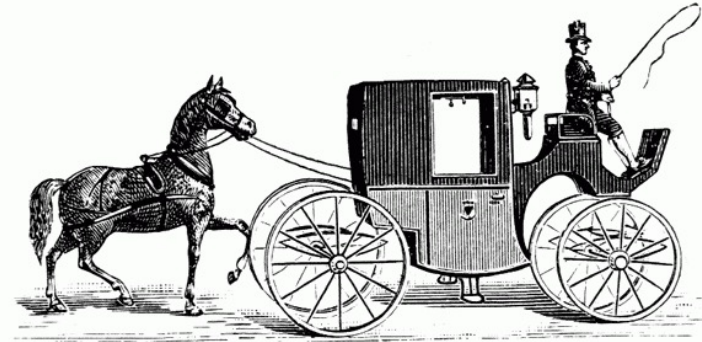
- Industry growth plan recognising Medical Technology, Biotechnology and Pharmaceutical (MTP) as a growing sector and health as an economic growth opportunity
- Vision beyond 2030 – new globally relevant products and business ecosystems, high value MTP companies, highly skilled jobs, enhanced researcher-industry collaboration and global market share



MRFF – a new approach

- Strategic and priority driven research (not investigator driven) for direct health and economic outcomes

This isn't working at all... I should warn others not to put their cart before the horse.



Married To The Sea.com

MRFF Key Streams

PATIENTS

delivery of more advanced healthcare and medical technology

RESEARCHERS

supporting our best researchers to make breakthrough discoveries, develop their skills and careers

MISSIONS

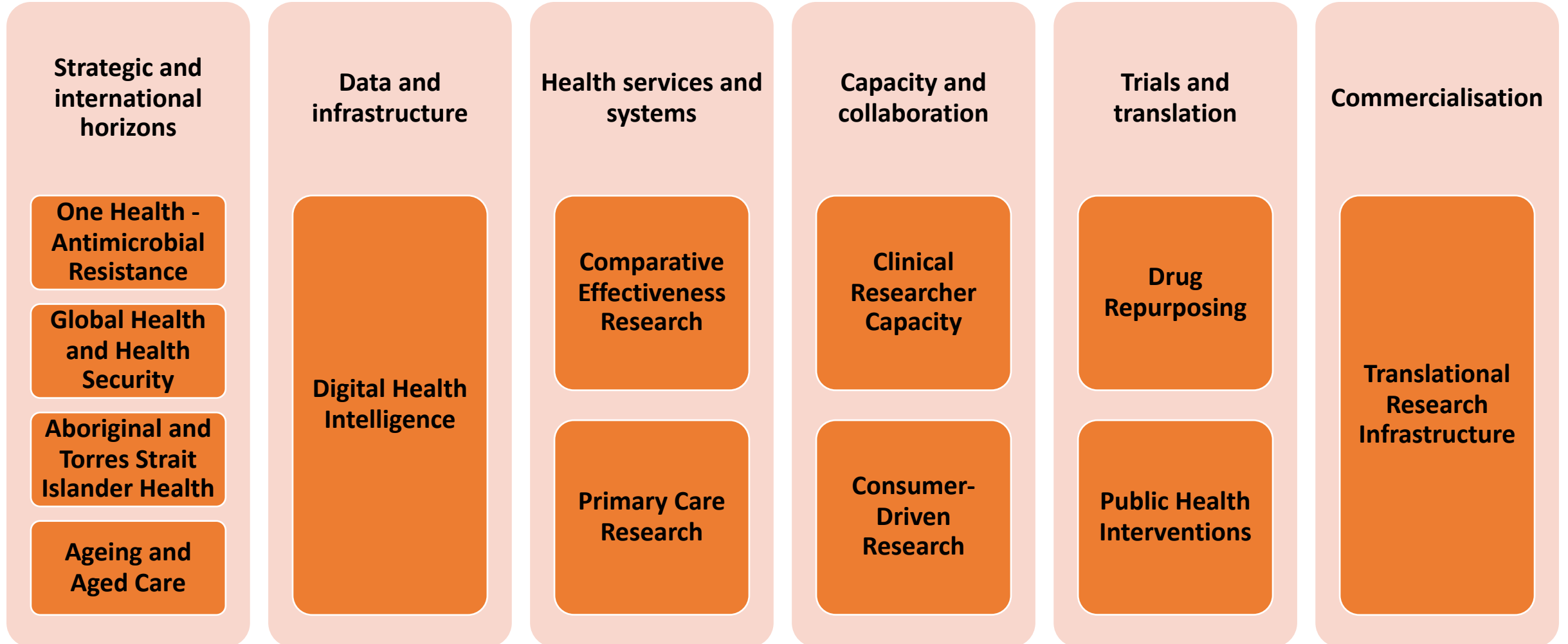
programs of work with ambitious objectives made possible through major funding, leadership & collaboration

TRANSLATION

turning research discoveries into new treatments and cures

MRFF – a new approach

- Strategic Platforms (2016 – 2021) and Priorities (2018 – 2020)

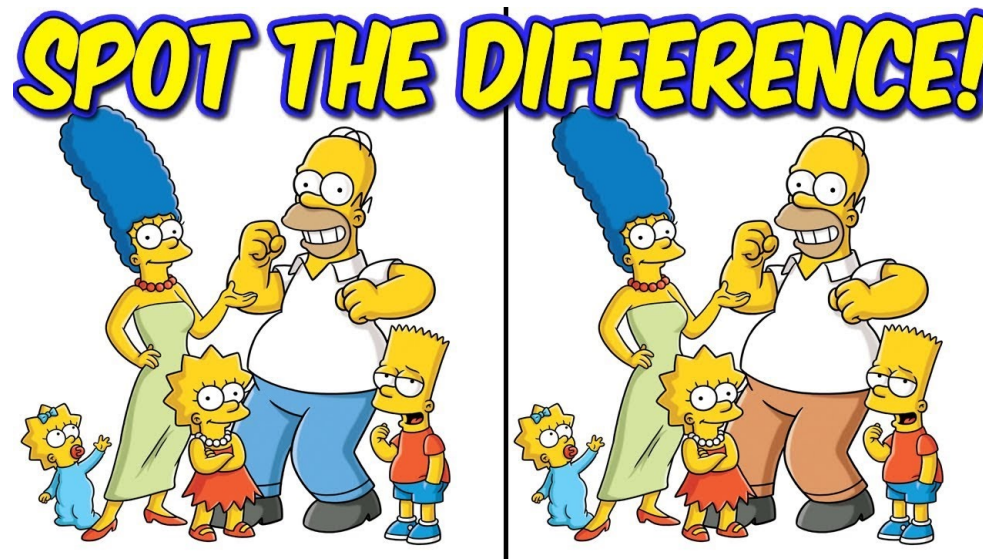


MRFF – How it is different

Focus on partnerships collaboration, leverage and co-investment together with burden of disease and unmet need.

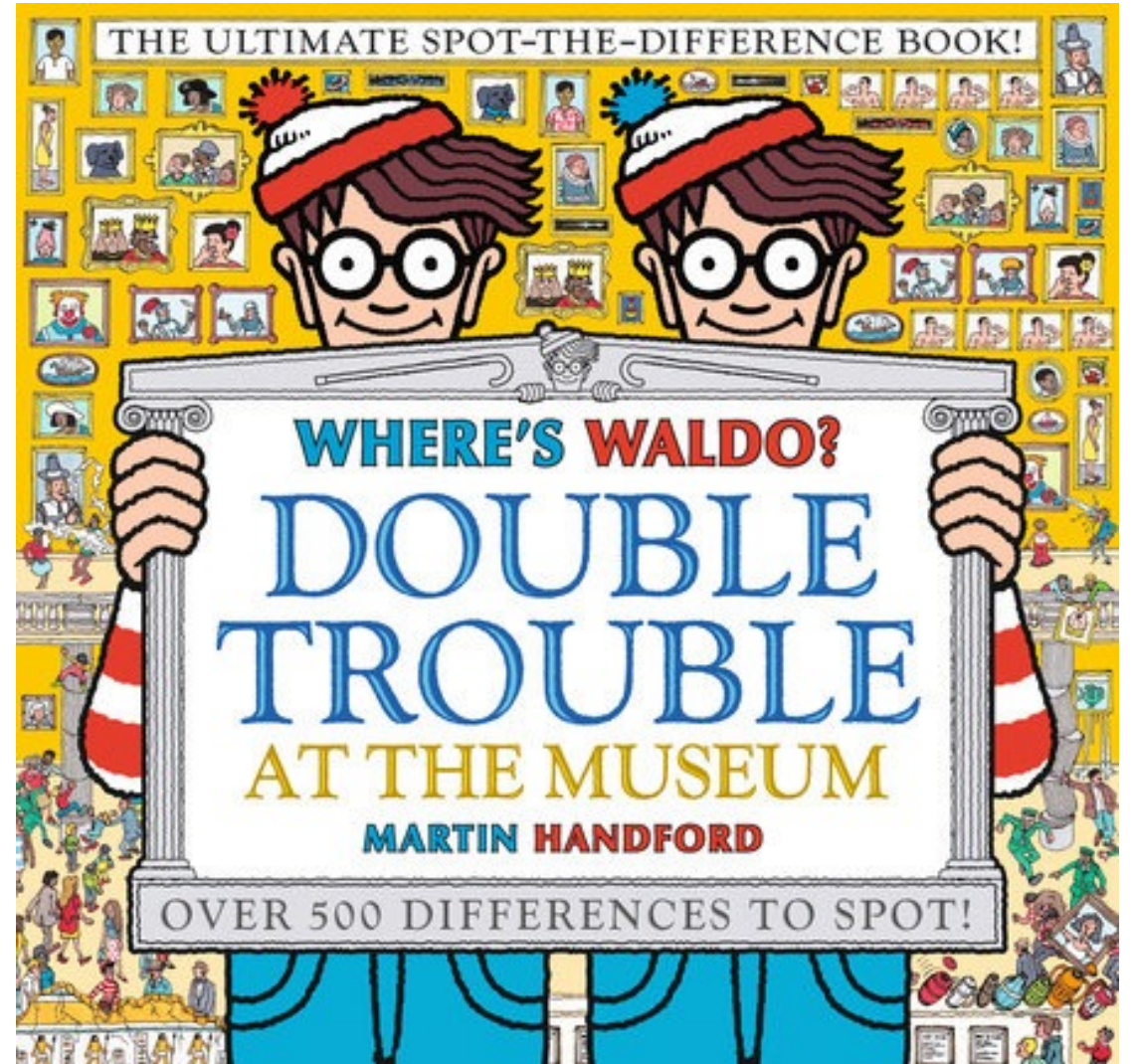
key indicators for the MRFF:

- better patient outcomes;
- beneficial change to health practices;
- evidence of increased efficiency in the health system;
- commercialisation of health research outcomes; and
- community support for the use of and outcome from funding.



MRFF – How is it different

- Funding calls often require complex applications in short timeframes
- Open all hours
- Consultation on Mission Roadmaps
- Diverse and one-off funding calls
- Competitive or non-competitive
- Targeted and/or non-targeted
- Administered through diverse channels



Insights from the Cardiovascular Mission roadmap consultation – investment priorities

- \$22m in 2019/20 year
- Game-changing research
- Global impact
- Defined target, inclusive and focussed
- Leveraged investment in partnership with industry and philanthropy
- Consideration of health economics and impact
- Recognise and strengthen role of Primary Care and preventative measures



Take home message



- Priority-driven research
- Value analytics
- Multi-disciplinary
- Collaborate with research end-users
- Impactful research

Contact us EARLY for assistance in

- developing applications and support material
- Desire to partner

SA_MRFF Working Group Contacts



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MRFF – Upcoming Rounds

Dr Cadence Haynes
Flinders University

Presented on behalf of the SA_MRFF Working Group



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Upcoming MRFF rounds

- **Investigator grants** - Administered via NHMRC's Investigator Grants 2020 scheme, restricted to applicants at EL1 and EL2 across specific MRFF Priority areas. \$15.3m available = ~14 additional grants. Applications open 2 October 2019 and close 27 November 2019.
- **Clinical Trials for Reproductive Cancers** - The next round of MRFF funding from the Rare Cancers, Rare Diseases and Unmet Need (RCRDUN) Clinical Trials Program will focus on reproductive cancers: cervical, ovarian, fallopian and testicular. Applications open 14 October 2019 and close 14 February 2020.
- **Round 2 Frontier Health and Medical Research** Program, stage 1 provides up to \$1m to develop detailed research plans for significant research projects in the health and medical research sector that are innovative at a global level and have great potential to have a transformative impact on health care. *Think Silicon Valley, not NHMRC.*
- **MRFF Missions** – Various grant rounds across the 8 active MRFF Missions. None formally announced at this time. Short deadlines, variable focus.

Missions

- **The MRFF provides funding for RESEARCH MISSIONS with vision and transformative impact.**
- A Mission is a program of work with ambitious objectives that are only possible through significant investment, leadership and collaboration.
- A Mission brings together key researchers, health professionals, stakeholders, industry partners and patients to tackle significant health challenges. This joint effort supports:
 - **the discovery of new techniques and treatments**
 - **healthier Australians**
 - **new jobs and business growth.**

Missions – *new opportunities on the horizon*

- \$185 M (over 10 years) **Dementia, Ageing and Aged Care Research Mission** for research into diagnosis, treatment and prevention and dementia; fall prevention and avoidable hospitalisations; assistive technology to support independence.
- \$220 M (over 10 years) **Mission for Cardiovascular Health**, for prevention strategies, earlier detection and improved outcomes after heart attack or stroke.
- \$50 M (over 10 years) **Mission for Traumatic Brain Injury**, to better predict recovery outcomes after a traumatic brain injury, develop new technologies and identify the most effective care and treatments.
- \$160 M **Indigenous Health Research Fund** (“mission-scale initiative”)
- \$150 M (over 10 years) **Mission for Stem Cell Therapies**, to stimulate regenerative medicine research and industry in Australia.
- **Million Minds Mental Health Mission** will make \$8 million available to support research on **suicide prevention**. A round will be opened for competitive application in November 2019.

Missions – *Understand the scope and scale*

Mission	MRFF \$ allocated											
	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	2025–26	2026–27	2027–28	Over 10 Years	
Australian Brain Cancer Mission	\$9.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	-	\$49m
Million Minds Mental Health Research Mission	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m	\$125m
Genomics Health Futures Mission	\$8.8m	\$56.6m	\$68.7m	\$69.9m	\$54.9m	\$50.0m	\$50.0m	\$50.0m	\$50.0m	\$50.0m	\$41.2m	\$500m
Ageing, Aged Care and Dementia Mission	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m	\$167.5m
Indigenous Health Futures	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m	\$147.5m
Stem Cell Mission	-	\$6.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$150m
Cardiovascular Mission	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m	\$200m
Traumatic Brain Injury Mission	-	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$45m

← 19% of current NHMRC investment →

← 33% of current NHMRC investment →

← 30% of current NHMRC investment →

← 20% of current NHMRC investment →

Missions – *Prepare for opportunities*

Mission	MRFF \$ allocated											
	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	2025–26	2026–27	2027–28	Over 10 Years	
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Million Minds Mental Health Research Mission	\$5.0m	\$5.0m	\$15.0m	\$15.0m	\$25.0m	\$15.0m	\$20.0m	\$10.0m	\$10.0m	\$5.0m		\$125m
Genomics Health Futures Mission	\$8.8m	\$56.6m	\$68.7m	\$69.9m	\$54.9m	\$50.0m	\$50.0m	\$50.0m	\$50.0m	\$41.2m		\$500m
Ageing, Aged Care and Dementia Mission	\$10.0m	\$17.5m	\$17.5m	\$17.5m	\$17.5m	\$17.5m	\$17.5m	\$17.5m	\$17.5m	\$17.5m		\$167.5m
Indigenous Health Futures	\$15.0m	\$22.5m	\$22.5m	\$12.5m	\$12.5m	\$12.5m	\$12.5m	\$12.5m	\$12.5m	\$12.5m		\$147.5m
Stem Cell Mission		\$6.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m	\$18.0m		\$150m
Cardiovascular Mission		\$23.0m	\$24.0m	\$24.0m	\$24.0m	\$25.0m	\$20.0m	\$20.0m	\$20.0m	\$20.0m		\$200m
Traumatic Brain Injury Mission		\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$5.0m		\$45m

DEVELOPING: Advisory Panels assembling, drafting Roadmaps, small round conducted...
AREAS TO PREPARE FOR, ROUNDS TO ANTICIPATE

Frontier Health and Medical Research

- Round 1 closed 26 Feb 2019
 - 110 applications submitted nationally
 - 10 selected for Stage 1, \$1m and 12 months to develop Stage 2 submission
 - *Stage 2 projects will enable research plans developed under Stage 1 to receive a significant investment to develop their ideas into new technological advances + approaches to revolutionise healthcare.
Stage 2 would be in the range of \$10 to \$20 million per annum.*
- Round 2 anticipated imminently....

Frontier Health and Medical Research

- Proposals need to clearly **define the problem** they are seeking to address and articulate the solution. Frontiers is about big ideas, but there also needs to be a **genuine need** and a **clear and deliverable goal**.
- While the proposed solution has to be feasible it also needs to be **bold and innovative**. Frontiers potentially offers ten years of funding, so it is about **more than just the next incremental step**.
- There needs to be a clear articulation of **how the proposal plans to deliver a real outcome**. Securing the initial year's funding is only the first stage; need to **think long-term** from the start.
- **Understanding the global context and the point of differentiation** in terms of the approach and/or the technology is critical. A proposal that duplicates research happening elsewhere is **not likely to impress**.
- **Track record, the team and governance** are all critical. The ultimate goal is to secure up to ten years' funding. Is the proposed structure **sustainable**, and can it accommodate change and **expansion** over time as the project progresses towards the outcome?

Round 1, Stage 1 – announced May 2019

1. **The Precision Medicine for Epilepsy** - Florey Institute - Advanced neuroimaging with artificial-intelligence prediction to transform clinical management, reduce uncertainty and provide earlier decisions and better selection of effective treatments
2. **The Trace, Track and Tackle** – UTS - develop nationwide system: OUTBREAK (One-health Understanding Through Bacterial REsistance to Antibiotics Knowledge) sensor technologies, data, knowledge & AI
3. **The Cortical Frontiers: Commercialising Brain Machine Interfaces** - Monash with Anatomics, and CSIRO - wireless brain implants
4. **Innovative Public Health Program Against Mosquito-Borne Diseases** - Monash - control the spread of Zika virus, dengue fever and other mosquito-borne diseases
5. **Enhancing the Vaginal Environment and Microbiome— EVE-M Initiative** - Burnet Institute - develop and commercialise innovative materials and a novel device to regulate the vaginal microbiota over a woman's lifetime, to deliver drugs, including contraceptives
6. **c-FIND: CRISPR Frontier Infection Diagnostics to Detect Infection** – WEHI - CRISPR/Cas9 to rapidly detect and identify infectious disease and antimicrobial resistance
7. **The Therapeutic Ultrasound for the Treatment of Brain Disorders** – UQ - combining ultrasound and auxiliary technology to treat Alzheimer's and other brain disorders, including dementia
8. **Cerebral Palsy Treatment by Closed Loop Electrical Stimulation** – UNSW - new biomedical technology to deliver spinal cord stimulation as a treatment for cerebral palsy
9. **The Australian Stroke Alliance** – Uni Melbourne - new, portable brain imaging equipment coupled with real-time data transmission
10. **The Australian Lung Health Initiative** - 4Dx, with Micro-X, Monash University, Telethon Kids Institute, The University of Adelaide and SAHMRI - four-dimensional lung function imaging analysis, and new lose-dose imaging science

MRFF – A Peer Review Perspective

Prof Susan Hillier
UniSA

Presented on behalf of the SA_MRFF Working Group



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Peer review of MRFF

1. Varies widely (and wildly) according to schemes

Some conducted as per NHMRC peer review; others go to different departments that run more like tenders

2. Criteria driven – if panels are used then they adhere to criteria and category descriptors RELIGIOUSLY (in the absence of past experience/knowledge)

3. Gambit applications or re-worked NHMRC are obvious and rejected

4. Panels far less likely to be experts in the field – very multi-disciplinary, having to read and be spokespeople for topics way outside comfort zone.



Take home messages

- Know the funding rules and guidelines and criteria FOR THE SPECIFIC SCHEME back to front **AND STICK TO THEM**
- This is about responding to a call for an identified issue not having your (personal) great idea assessed up front
- Your application is answering the stated need (not your need)
- Don't recycle – it is obvious and will be discarded
- Know the assessment process and write for an intelligent audience – if a health research panel then write to them; if for a different government department then do your homework about their drivers (economic, innovation, capacity building etc) and write accordingly
- Be evidence based (verifiable) in everything you say or claim
 - E.g. real partnerships, real impact, real need etc etc.



Frontiers Case Study

Dr Martin Donnelley

The Australian Lung Health Initiative

Co-Director | Cystic Fibrosis Airway Research Group

Research Leader in Cystic Fibrosis | Robinson

Research Institute

Senior Research Fellow | Adelaide Medical School



Government of South Australia
Department for Innovation and Skills

Frontiers Case Study

Prof Chris Levi

The Australian Stroke Alliance

Executive Director | Sydney Partnership for Health, Education, Research and Enterprise
(SPHERE)



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Q & A with Speakers



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