2007-2017: 10 years of emergency medicine research funding

Improving emergency medicine care through research

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• Anti-venom
• Resuscitation
• Pre-hospital stabilisation
• Traumatic brain injury
• Haemorrhage, shock and inflammation
• Disaster recovery
• Clinical emergency medicine

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FOREWORD

Queensland emergency medicine specialists successfully lobbied the Queensland Government for funding to establish the Queensland Emergency Medicine Foundation (QEMRF) in 2007. QEMRF was designed to build emergency medicine research capacity and capability in Queensland; to enable those healthcare professionals to instigate and lead clinically-driven research projects. Thanks to ongoing support from the Queensland Government, the State has the only dedicated emergency medicine research fund in Australia.

Building on the success of QEMRF, the organisation launched a national body in 2014 – the Emergency Medicine Foundation (EMF). The two entities were merged in 2016 to allow for the development of multiple, dedicated emergency medicine research programs Australia-wide. At present, these include a national Rural and Remote Program and the Queensland Research Program (formerly QEMRF).

In less than 10 years, research projects funded by QEMRF/EMF are generating clinically-relevant outcomes, which are being adopted by Emergency Departments nationally as well as, in some cases, internationally. These projects are delivering significant improvements in patient care, public health and the healthcare system.

Considering EMF’s modest budget, our successes are testament to the power of funding quality research with the potential to drive clinical change. We are proud of our achievements and look forward to working more closely with industry, universities and hospitals to increase the funding available to emergency medicine research. In addition, EMF also hopes to establish research programs in other Australian States and Territories – contingent on other jurisdictional Health Departments following the example set in Queensland.

This booklet was developed to mark EMF’s 10th anniversary and celebrate our research outcomes. I would also like to take this opportunity to acknowledge Queensland Health’s ongoing support and commitment to emergency medicine research along with the many people who have supported EMF.

Our gratitude also to the sponsors – many of whom are research collaborators – for helping make the publication of this document possible: The University of Queensland, James Cook University, Griffith University, the Queensland University of Technology, Hesta and Vocera.

I hope you enjoy reading about the EMF research projects, which are changing the way we care for Australians in a medical emergency.

Dr Anthony Bell
Chair – Emergency Medicine Foundation
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2007-2017: 10 years of emergency medicine research funding

**Research investment by EMF (2008/09-2016/17)**

- **$195,000**
- +
- **3** national Rural & Remote Research Program grants

**Economic benefits to the healthcare system**

- **$18.9m** annually from **4** projects¹
- **$43.7m** leveraged, in-kind, linked and follow-on grants
- Estimated further **$97m** annually from **1** project² due to reduced patient deaths
- Potential to deliver **$349m** annually from **6** projects³ if rolled out nationally

Total current and potential economic contribution to the Australia healthcare system from 6 projects funded by EMF

**$564m**

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¹ Patient Admission Prediction Tool (PAPT); ADAPT Protocol (chest pain); Nasal high-flow (bronchiolitis in infants); change in treatment protocol for intoxicated patients (Gold Coast only)
² PAPT (Deloitte Access Economics)
³ PAPT; ImpACT Protocol (chest pain); Nasal high-flow (bronchiolitis in infants); CREDIT program; use of medical glue to hold IV lines; adoption of Tamulin to treat larger kidney stones
ABOUT EMF

EMF is an Australian not-for-profit organisation, dedicated to emergency medicine research.

Our purpose is to support high-quality research directed at improving the care of patients in a medical emergency, and to develop emergency medicine research capacity nationally. Long-term, every Australian will benefit from our research programs.

We fund innovative, evidence-based research with the potential to improve clinical practice in the short-term as well as deliver economic benefits to the healthcare system. In addition, we also help to raise the profile of emergency medicine research and foster the transfer of research outcomes into real and practical benefits in medical emergencies.

With $2 million dedicated funding per year from Queensland Health along with philanthropic and industry donations, this small organisation has invested more than $13 million in emergency medicine research, with a further $2 million invested in a Research Support Network.

VISION

Our vision is for Australia to be regarded as an international leader in emergency medicine research.

Achieving this vision relies on us identifying and funding the current and next generation of researchers and research initiatives, which will improve patient care and emergency medicine outcomes as well as delivering tangible economic benefits for the national healthcare system.

It’s a bold vision that when realised, will result in all Australians receiving better care in a medical emergency. More lives will be saved and our hospital Emergency Departments and emergency services will operate more efficiently and effectively.

KEY ACHIEVEMENTS: OCT 2007- JUNE 30, 2017

INITIATIVES

- Began awarding grants through Queensland Research Program (formerly QEMRF) in 2008
- Launched national Rural and Remote Research Program in 2014
- Rolled out Research Support Network in Queensland in 2015 (funded initially for three years)

RESEARCH GRANTS

- Awarded 134 grants totalling $13.14 million
- 33 grants worth $2.8 million awarded to further educate, train or build research capacity
- Received 400 grant applications totalling $41.57 million

RESEARCH IMPACT

- 431 journal articles, conference abstracts and articles and books and book chapters
- Secured $43.7 million in leveraged, in-kind, linked and follow-on grants and funding
- Funded 80 clinical trials, clinical studies and patient data analysis involving 218,000+ patients
OUR HISTORY: KEY MILESTONES

2007
- Launch as Queensland Emergency Medicine Research Foundation (QEMRF)
- $5 million Queensland Government establishment grant

2010
- Introduce hospital capacity grant scheme
- Total grant funding awarded exceeds $5 million

2014
- Create national EMF organisation
- Receive 1st philanthropic donation
- Launch national Rural & Remote Research Program
- Implement more rigorous research governance structure

2016
- Merge QEMRF and EMF
- The National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand update their Guidelines for the Management of Acute Coronary Syndromes to include new EMF-funded research
- Queensland Health and NSW Health issue new clinical guidelines for nasal high flow therapy (paediatrics) based on EMF-funded research

2008
- 1st grant round in Queensland

2011
- National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand amend Guidelines for the Management of Acute Coronary Syndromes based on EMF-funded research

2014
- Launch Research Support Network
- Expand Research Evaluation Panel internationally
- Standards Australia release new handwashing standard based on EMF-funded research
- The Australasian College for Emergency Medicine revise their policy on the care of elderly patients in the Emergency Department, informed by EMF-funded research

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- Launch Research Support Network
- Expand Research Evaluation Panel internationally
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- The Australasian College for Emergency Medicine revise their policy on the care of elderly patients in the Emergency Department, informed by EMF-funded research

2017
- Mark 10th anniversary with a 2-day Research Symposium

GOVERNANCE
- National and international collaborations with 200+ research groups in 160+ institutions/organisations
- Developed a world-class grant governance framework, which is highly-transparent, robust and rigorous
- Created a grant administration platform capable of expansion to include additional grant programs
- Our Research Evaluation Panel (peer reviewers) is drawn from within Australia and overseas
2007-2017: 10 YEARS OF EMERGENCY MEDICINE RESEARCH FUNDING

OUR RESEARCH PROGRAMS

QUEENSLAND RESEARCH PROGRAM

In 2007, the Queensland Emergency Medicine Foundation (QEMRF) was created to provide dedicated research funding to projects led by emergency medicine doctors employed by Queensland Health. The first grant round was launched in 2008.

The QEMRF grant program is now known as the EMF Queensland Research Program.

This program is fully-funded by the Queensland Government Department of Health. Between 2008/09 and 2016/17, Queensland Health had invested $18 million in funding the program (as well as contributing a $5 million establishment grant to QEMRF in 2007).

In the nine years the program has been operating, EMF has awarded 131 grants totalling $12.95 million—having received more than double this amount in funding requests and applications.

As shown in Figure 1, about half the grants awarded in this program were for research projects directed at improving the clinical care of patients in a medical emergency. Other key areas of research funded by EMF include public health, education and improvements to healthcare delivery. The distribution of these grants, via grant type and Emergency Department type, is shown in Figures 3 and 4. The major referral Departments account for the bulk of funding applications and grants. Encouragingly, EMF is seeing increasing research activity in urban and regional and rural hospitals.

EMF collects a range of metrics to measure the success of this program. Most notably over the nine years EMF has been awarding grants, our projects have secured a further $43 million in leveraged and in-kind funding as well as linked and follow-on grants. This funding, contributed a further 77 per cent in research money for projects associated with an EMF grant (see Figure 2). It is worth noting that EMF projects are linked to or have led to 15 grants from the Australian National Health and Medical Research Council (NHMRC) along with overseas grants from the Wellcome Trust, The Thrasher Foundation and the New Zealand Health Research Council.

EMF is also delighted to see an increasing trend in academic publication outputs associated with our projects (see Figure 5). More recently, investigators from EMF projects are being invited to present at conferences, workshops and seminars.
RURAL AND REMOTE RESEARCH PROGRAM

Delivering appropriate emergency healthcare to Australia’s rural and remote population is challenging, which is why EMF launched a dedicated Rural and Remote Research Program. EMF launched the Program in 2014, with philanthropic and corporate funding.

The Program has attracted 160 grant applications totalling $11 million. Of these, 25 were invited to submit a full application and 22 were selected as fundable. To date, EMF has awarded three grants worth $195,000.

Our team is continuing to explore targeted sponsorship and government funding opportunities to expand this program.

FIGURE 3: GRANTS AWARDED BY SCHEME/PROGRAM (2008/09-2016/17)

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<td>Capacity building</td>
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</table>

Total awarded ($ Millions)

FIGURE 4: QUEENSLAND PROGRAM – AMOUNT AWARDED BY EMERGENCY DEPARTMENT TYPE (2008/9-2016/17)

<table>
<thead>
<tr>
<th>Department Type</th>
<th>Amount Requested</th>
<th>Amount Awarded</th>
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<tbody>
<tr>
<td>Major referral</td>
<td>$25m</td>
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<tr>
<td>Urban district</td>
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<td></td>
</tr>
<tr>
<td>Rural/regional</td>
<td>$15m</td>
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<tr>
<td></td>
<td>$10m</td>
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<td></td>
<td>$5m</td>
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<td></td>
<td>$0</td>
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FIGURE 5: EMF PUBLICATION DATA (2009/10 – 2015/16)

- Invited speaker
- Conference abstracts/posters
- Books/Book chapters
- Journal publications

NB: Data incomplete for 2016/17 financial year