

## VICTORIAN MANAGED INSURANCE AUTHORITY (VMIA) RESEARCH AND INNOVATION PROGRAM TRIAL FACT SHEET

As part of VMIA’s Research and Innovation Program, BehaviourWorks Australia conducted seven behaviour change trials between 2017 and 2020. These trials explored how simple, scalable interventions could reduce avoidable risks in delivering healthcare in Victorian public hospitals.

### SUMMARY OF TRIAL 1: Improving medical diagnosis

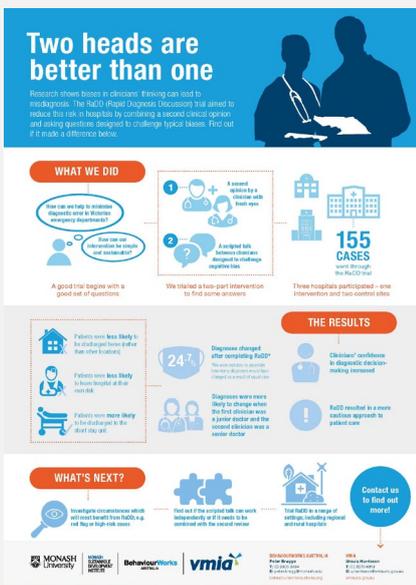
*Two heads are better than one. Can a mini review of a working diagnosis with another doctor reduce cognitive bias?*

#### Background

Hospital Emergency Departments (EDs) are busy environments where clinicians must quickly and accurately diagnose cases that are often complex and where they are not familiar with the patient. In this environment there is a risk of misdiagnosis which can affect patients receiving timely and appropriate care. While Australia faces similar issues to other Western countries, estimates suggest that diagnostic errors happen in 10-15% of cases.

One of the main contributing factors to misdiagnosis is cognitive bias - the mental shortcuts we all use – which can influence clinician decision-making, leading to diagnostic errors, poor patient outcomes and possibly even deaths. Cognitive bias is thought to be at play in more than three-quarters of misdiagnosis cases, with two biases being:

- anchoring bias, where clinicians lock onto salient information early in the patient’s presentation and fail to adjust this impression in light of further information and,
- premature closure, where the investigative process ends too early and disconfirming information is not sought.



#### What did we do?

We developed and trialled a Rapid Diagnostic Discussion (RaDD) tool to help reduce cognitive bias in the diagnosis of abdominal pain - the most common presentation to Victorian hospital EDs and one that can be complex to diagnose.

Doctors at Eastern Health’s Box Hill Emergency Department used the tool to query diagnoses on 155 patient cases. Patients were:

- first examined by one doctor
- then independently reviewed by a second doctor.

Both doctors then engaged in a prompted discussion about their working diagnoses before proceeding with patient management.

See full size infographic page 3.

Question prompts were:

- “What else could this be?”
- “Are there any symptoms or signs that don't fit? Any red flags?”
- “Are additional tests/investigations needed, or do you already have sufficient confidence in the diagnosis to proceed without them?”
- “Do we have all the relevant information about the patient?”

\* The trial involved participants at three Victorian hospitals. Box Hill represented the ‘test’ hospital. Two other ‘control’ hospitals were involved (they did not use the tool).

### What did we find?

RaDD was shown to be an effective tool for reducing cognitive bias and improving communication between clinicians. The trial showed that RaDD can result in doctors rethinking their working diagnoses.

Of the 155 patients enrolled in RaDD, the original working diagnosis of the first doctor was changed in almost a quarter (24.7%) of cases. Clinician confidence in their diagnoses also increased and the use of RaDD led to fewer patients being discharged home.

### What does this mean?

#### **For patients**

There were some cases in the RaDD trial where the final diagnosis was a more serious condition than the initial one, avoiding potentially catastrophic outcomes. The tool not only helped to reduce risk but improved patient outcomes. It also has the potential to reduce costs across the health system.

#### **For VMIA**

Misdiagnosis is a contributing factor in around 30% of our Medical Indemnity Claims. Using behavioural science, this trial developed a tool for doctors to navigate and mitigate some of the common challenges behind misdiagnosis. Initial results from the trial are promising, but further work is needed to assess its future use.

#### **For the public health system**

*“Clinicians got an enormous amount of relief and confidence by having someone else also assess the patient and have a structured conversation about what their thoughts were.”* - Dr Paul Buntine, Emergency Doctor, Box Hill Emergency Department

#### **For behavioural research**

This trial demonstrates that a second opinion and brief peer discussions can alter a doctor's working diagnosis by reducing cognitive bias. More research is needed to see if this works on other types of patients and in other settings, such as smaller emergency departments, wards or non-hospital environments. Further research is also needed to examine whether the savings of identifying misdiagnoses outweigh the costs.

See full size infographic below.

For further information, visit: <https://www.behaviourworksaustralia.org/victorian-managed-insurance-authority/>

# Two heads are better than one

Research shows biases in clinicians' thinking can lead to misdiagnosis. The RaDD (Rapid Diagnosis Discussion) trial aimed to reduce this risk in hospitals by combining a second clinical opinion and asking questions designed to challenge typical biases. Find out if it made a difference below.



## WHAT WE DID



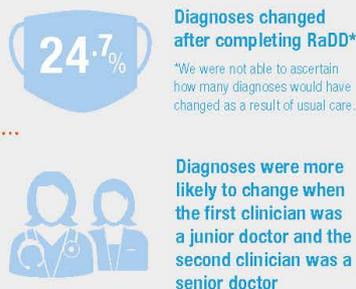
A good trial begins with a good set of questions



We trialled a two-part intervention to find some answers



Three hospitals participated – one intervention and two control sites



## THE RESULTS



## WHAT'S NEXT?



Contact us to find out more!