

Ask an Informationist

Choosing Wisely @ Austin Health

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Austin Health Sciences Library

Austin
HEALTH



Choosing Wisely
Australia

An initiative of NPS MedicineWise

A conversation about unnecessary tests, treatments & procedures

Global conversation; clinician led-initiatives

In Australia Lead by



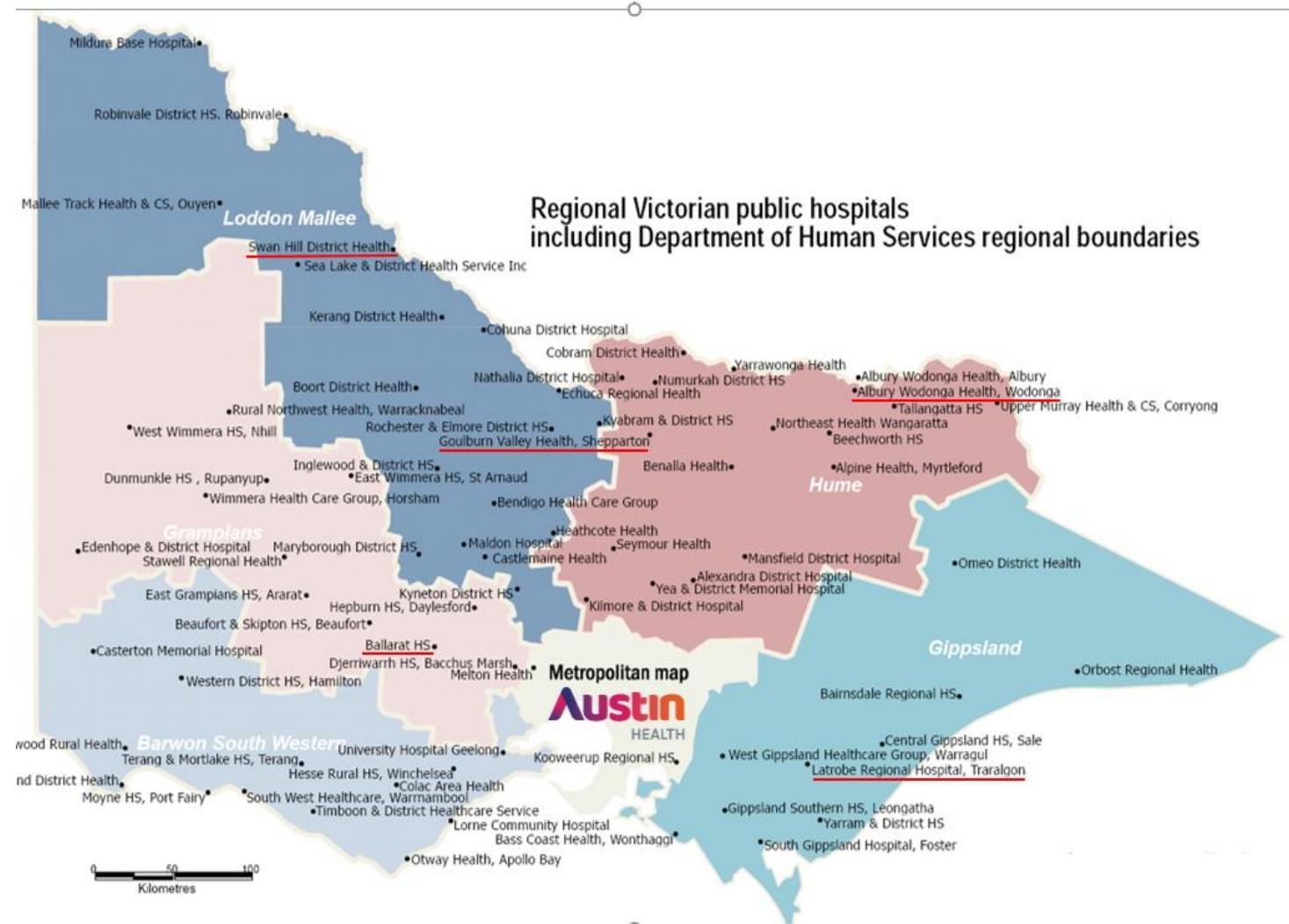
Launched April 2015

30 Health Services Champions in Australia



Austin Health – Lead

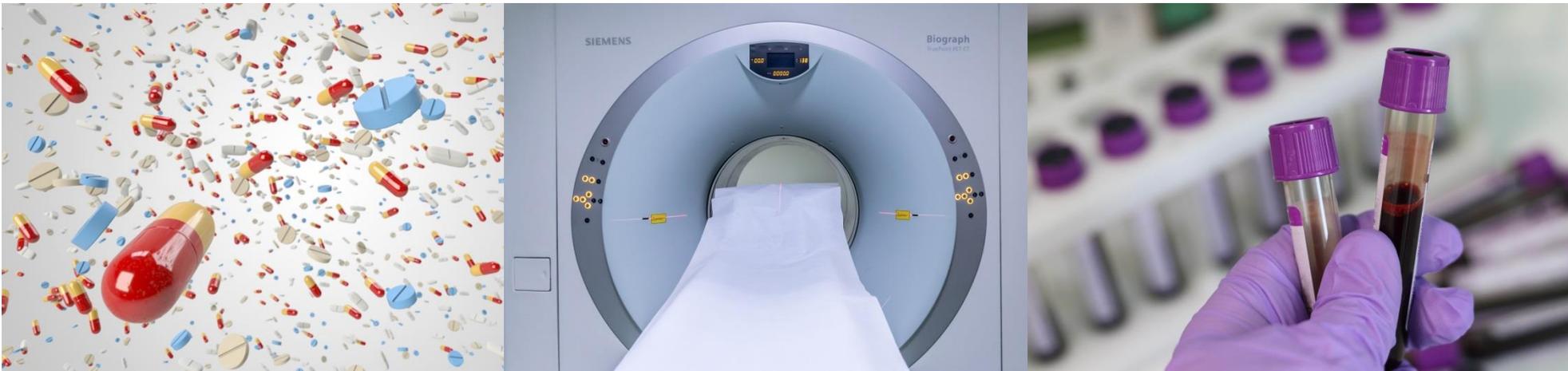
- Albury Wodonga
- Ballarat Health
- Goulburn Valley Health
- La Trobe Regional Health
- Monash Health
- Northern Health
- Peninsula Health
- Royal Children’s Hospital
- St Vincent’s Hospital
- Swan Hill Hospital
- Western Health



**To help our clinicians Choose Wisely in their
practice and care of our patients,
the Austin Health Sciences Library
prepare an evidence report with an
infographic summary
based on suggested clinical questions**

Issues

- Amount of information available can be overwhelming
- Does emerging evidence question existing practices?
- Has a previous finding been overturned through new research?



Objective

Ask an Informationist is an initiative that translates clinical questions into practice.

- Clinical question submitted to the Austin Health Choosing Wisely Steering Committee
- Library team create an infographic - supported by a written report

IS THERE EVIDENCE TO SUPPORT THE USE OF IV MAGNESIUM IN ATRIAL FIBRILLATION?

Fact or Fiction?

- At present, the available data would suggest that magnesium, as an adjunct to electric cardioversion or for prevention, is more myth than a practical, easy to implement solution to the growing problem of AF.

2017 Systematic Review Evidence

- Magnesium administration post-cardiothoracic surgery appears to reduce AF without significant adverse events.
- Optimal timing, postoperative with duration much shorter up to 48 hours, administered as bolus.
- Insufficient evidence supporting magnesium therapy for treatment or prophylaxis of other arrhythmias.
- Magnesium was **inferior** to beta-blockers and amiodarone in preventing postoperative atrial fibrillation (Atrial FIB) which is consistent with the findings in cardiac surgery.

2016 Canadian Cardiovascular Society Guideline

- We suggest that patients who have a contraindication to β -blocker therapy and amiodarone before or after cardiac surgery be considered for prophylactic therapy by intravenous (IV) with intravenous magnesium.

(Conditional Recommendation, Low-Quality Evidence)

2014 NICE Clinical Guideline

- Do not offer magnesium or a calcium channel blocker for pharmacological cardioversion.

Why not?

- The guideline Development Group (GDG) determined that magnesium was more effective than placebo. However, the GDG considered some drug should not be used for cardioversion.

2013 Cochrane systematic review: "The ability of magnesium to prevent atrial fibrillation may be slightly less than that of the other pharmacological agents."

FOR ACUTE NON-VARICEAL UPPER GI BLEED... SHOULD IV PPIs BE GIVEN TWICE DAILY OR CONTINUOUSLY?

Current

2016 Globally, guidelines recommend in high risk patients, with acute non-variceal UGIB, post endoscopic haemostasis, administer PPI as IV bolus (80mg) followed by continuous infusion (8mg/hr) for 72 hours

2002 BSGE 2002, ACCO 2002, ESGE 2006, NICE2006, Hinchburg 2006, JGIM 2006

but wait...

2017 UTD recommends administering IV PPI "at a dose of **40mg twice daily** rather than a high-dose continuous infusion"

and...

"Intermittent PPI therapy has been found to be safe and effective while significantly reducing cost, even in patients with high-risk stigmata after endoscopy"

plus...

- Low dose IV PPI achieved the **same efficacy** as high dose PPI post endoscopic haemostasis
- "High dose PPI show little or **no difference** in the risk of rebleeding and mortality"
- "The risk/benefit and cost/benefit balance are probably unfavorable to the use of high-doses"

Evidence summaries 2006 & 2008

WHAT IS THE EVIDENCE FOR MINIMUM RETESTING INTERVALS IN MICROBIOLOGY TESTS?

THE ISSUE

- Laboratory test over-use is a known contributor to unnecessary interventions & patient harm

MINIMUM RETESTING INTERVALS

The minimum time before a test should be repeated, based on test properties and clinical situation

"Defining appropriate use of clinical microbiology tests remains an elusive goal" Wilson 2002

BEST EVIDENCE FOR MICROBIOLOGY

- If no evidence-based guidance existed... recommendations were based on consensus"

"All recommendations in this area of pathology were based on consensus expert peer opinion." Royal College of Pathologists 2015

THE WAY FORWARD

- Studies indicate implementing computerised alert systems based on retesting intervals can save ~12.8% test cost
- Cleveland Clinic's "Hard Stop" method prevents same-day testing for 1200+ tests (at 2013)

EXPERT OPINION

- "We need a stronger evidence base!"

???

Your question could be next

???

austin.org.au/cw-ask

Are opioids necessary FOR THE MANAGEMENT OF PAIN FOLLOWING LIMB FRACTURE SURGERY OR EXTREMITY TRAUMA?

The issue...

The "opioid crisis" has recently been rebranded as a "public health emergency"

plus ...

Postoperative prescription opioids are often unused, unneeded & undisposed

Recent evidence ...

Non-opioid analgesia is as effective as opioid analgesia for acute extremity pain

Combination non-opioids reduce opioid consumption post-operatively

"Multimodal analgesia is available and the evidence is strong to support its efficacy"

The balancing act...

Optimal pain management vs Responsible prescribing

MANAGEMENT of RENAL COLIC

DO IV FLUIDS MAKE A DIFFERENCE?

- No reliable evidence to support the use of diuretics and high volume fluid therapy to renal colic
- IV fluids are not recommended to facilitate stone passage
- IV fluids not supported by evidence but use continues

IS TAMUSOLISIN MORE EFFECTIVE THAN PRAZOSIN?

- Tamsulosin is widely used as the most effective drug for medical expulsi...
- Evidence indicates a lack of need to treat with α 1-blockers or other alpha-blockers
- Alpha-blockers are most effective if stones are <5mm

INDOCID: RECTAL or ORAL?

- No evidence in past decade directly addressing benefit of PR indocid over oral indocid
- Insufficient data to determine efficacy of PR route for any NSAID suppositories used in renal colic
- If renal stones expected to pass spontaneously, either NSAID tablets or suppositories may help

BOTTOM LINE?

NSAIDS for 1st line therapy

- Reserve opioids for refractory pain
- Intramuscular NSAIDs offer most effective sustained analgesia and have fewer side effects

WHAT IS THE EVIDENCE FOR THE USE OF PREGABALIN IN ACUTE NEUROPATHIC PAIN?

EVIDENCE OF AN ISSUE?

- Widely prescribed off-label for various pain syndromes - possibly as alternative to opioids?
- In 7 Australian dispensed pregabalin - at high risk of misuse
- Review: No increase in the number of pregabalin-related ambulance attendances during 2010-2012
- US - sales more than **double** since 2010
- UK - prescribing increased 2006 Nov-2007-2010

In Australia - only approved as second line treatment for neuropathic pain

EVIDENCE FOR USE IN SHINGLES?

Acute herpetic neuralgia - pain during first 30 days after onset of herpes zoster

- 2006 study - All patients, combination therapy (gabapentin, morphine/paracetamol & pregabalin) had better efficacy than dual or single drugs
- 2016 study - 30 patients pregabalin reduced pain compared with tramadol
- 2011 study - 40 patients pregabalin reduced pain compared with placebo

scant evidence - further research required

EVIDENCE FOR USE IN SCIATICA?

"... appears to be ineffective in patients with sciatica"

- pregabalin did not significantly reduce intensity of leg pain nor response after outcomes
- incidence of adverse events substantially higher than placebo
- recent trials do not exclude possible benefit in chronic sciatica

RISKS & CONCERNS?

- "Clinicians should be cautious about prescribing pregabalin... consider whether its benefits outweigh potential harms"
- addition potential - particularly with potent history of opioid abuse
- comparative research shows a high prevalence of adverse effects in relation to the number of doses
- may require postoperative analgesia of the expense of increased sedation and opioid discontinuation
- greater transparency required with independent, publicly funded trials encouraged



Steps

We are not writing the evidence:

- We formulate a good clinical question
- We conduct a systematic literature search
- We collate in a well referenced report
- We synthesize in an infographic
- We consult the Subject Matter Expert
- We publish on our website



IS THERE EVIDENCE TO SUPPORT THE USE OF IV MAGNESIUM IN ATRIAL FIBRILLATION?



Fact or Fiction?

"... at present, the available data would suggest that magnesium, as an adjunct to electric cardioversion or for prevention, **is more myth** than a practical, easy (or magical) solution to the growing problem of AF."

2017 Systematic Review Evidence

"Magnesium administration post-cardiothoracic surgery appears to reduce AF without significant adverse events."

- ✓ Optimal timing = postoperative with duration >24h, doses up to 60mmol, administered as boluses
- ✗ Insufficient evidence supporting magnesium therapy for treatment or prophylaxis of other arrhythmias
- ✗ *Magnesium **was inferior** to β-blockers and amiodarone in preventing postoperative atrial fibrillation/flutter (POAF), which is consistent with the findings in cardiac surgery*

2016

Canadian Cardiovascular Society Guideline

- ✓ "We suggest that patients who have a contraindication to β-blocker therapy and amiodarone before or after cardiac surgery be considered for prophylactic therapy to prevent POAF with intravenous magnesium"

(Conditional Recommendation, Low-Quality Evidence)

2014

NICE Clinical Guideline

- ✗ "Do not offer magnesium or a calcium-channel blocker for pharmacological cardioversion"

Why not?

The Guideline Development Group (GDG) determined that Magnesium was more clinically effective than calcium channel blockers but **less effective than placebo**. Therefore, the GDG considered these drugs showed harm and should not be used for cardioversion."

2013

Cochrane systematic review: "The ability of magnesium to prevent atrial fibrillation may be slightly less than that of the other pharmacological agents."

Impact

Evidence + audit data = change

- local policies and procedures
- delivery of patient care
- time and cost

Through this collaboration we are:

- engaging with the evidence
- encouraging critical thinking
- shaping the future



“Optimal opioid management is tricky to navigate but, working together we can set up integrated systems to generate better outcomes for our patients and support clinicians to follow best practice.”

Liz Su

Medicines Optimisation Pharmacist



WHAT IS THE EVIDENCE FOR THE USE OF **PREGABALIN** IN ACUTE NEUROPATHIC PAIN?

EVIDENCE OF AN ISSUE?



- Widely prescribed off-label for various pain syndromes – possibly as alternative to opioids?
- 1 in 7** Australians dispensed pregabalin – at high risk of misuse
- Victoria – **10x** increase in the number of pregabalin-related ambulance attendances during 2012-2017
- US – sales more than **doubled** since 2012
- UK – prescribing increased **350%** from 2007-2012

In Australia - only approved as second line treatment for neuropathic pain

Cairns et al. 2018; Crossin et al. 2019; Goodman & Brett 2019 & 2017; Mumon & Congrave 2018; NPS 2018; Wettermark et al. 2014

EVIDENCE FOR USE IN SHINGLES?

Acute herpetic neuralgia = pain during first 30 days after onset of herpes zoster

- 2018 study – 45 patients: combination therapy (valaciclovir, methylprednisolone & pregabalin) had better efficacy than dual or single drugs
- 2016 study – 20 patients: pregabalin reduced pain compared with amitriptyline
- 2011 study – 45 patients: pregabalin reduced pain compared with placebo

scant evidence - further research required

Choudhary et al. 2018; Gabrani et al. 2016; Kanodia & Singhal 2011

EVIDENCE FOR USE IN SCIATICA?

"... appears to be ineffective in patients with sciatica"

- pregabalin did not significantly reduce intensity of leg pain nor improve other outcomes
- incidence of adverse events substantially higher than placebo
- recent trials do not exclude possible benefit in chronic sciatica



Attal & Barrat 2017; Enke et al. 2018; Mathiassen et al. 2017

RISKS & CONCERNS?

"Clinicians should be cautious about prescribing pregabalin ... consider whether its benefits outweigh potential harms"

- addiction potential – particularly with patient history of opioid abuse
- comparative research shows a high prevalence of adverse effects in relation to the number of users
- may improve postoperative analgesia at the expense of increased sedation and visual disturbances
- greater transparency required with independent, publicly funded trials encouraged

Bafiu et al. 2019; Bonnet & Scherbaum 2017; Evoy et al. 2017; Onakpoya et al. 2019

Pregabalin – evidence for use in acute neuropathic pain

Pregabalin is indicated for the treatment of neuropathic pain and epilepsy.

In Australia it is 'only PBS listed for people with refractory neuropathic pain not controlled by other drugs'.

Sources: [Australian Medicines Handbook](#) 2019; [NPS MedicineWise](#) 2018

"... we suspect that clinicians who are desperate for alternatives to opioids have lowered their threshold for prescribing gabapentinoids to patients with various types of acute, subacute, and chronic noncancer pain."

Source: Goodman & Brett [New England Journal of Medicine](#) 2017; 377: 411-414

Evidence of an issue?

A clinical overview of off-label use of gabapentinoid drugs

- The gabapentinoid drugs gabapentin and pregabalin were originally developed as antiseizure drugs but now are prescribed mainly for treatment of pain
- This report summarizes the limited published evidence to support off-label gabapentinoid uses, describes clinical cases in which off-label use is problematic, and notes how review articles and guidelines tend to overstate gabapentinoid effectiveness
- Clinicians who prescribe gabapentinoids off-label for pain should be aware of the limited evidence and should acknowledge to patients that potential benefits are uncertain for most off-label uses

Source: Goodman & Brett. [JAMA Internal Medicine](#) 2019; online first 25 March

Pregabalin misuse-related ambulance attendances in Victoria, 2012-2017: characteristics of patients and attendances

- There were 1201 pregabalin misuse-related attendances during the study period; the rate increased from 0.28 cases per 100 000 population in the first half of 2012 to 3.32 cases per 100 000 in the second half of 2017
- The attendance rate was strongly correlated with prescription rates in Australia
- 593 attendances (49%) were for people with a history that may have contraindicated



Rose

High visibility
Profile raised
Injecting evidence
Everyone learns
Annual report

Bud

Touchpoints:
Engagements
Invitations
Corridor
conversations

Thorn

Full dance card
Herding the Q cats
Narrowing Q

Library perspective



FOR ACUTE NON-VARICEAL UPPER GI BLEED...
**SHOULD IV PPIs
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CONTINUOUSLY?**

Current

2016 Globally, guidelines recommend: in high risk patients, with acute non-variceal UGIB, post endoscopic haemostasis, **administer PPI as IV bolus (80mg) followed by continuous infusion (8mg/hr) for 72 hours**

BSGE 2002; ACG 2012; ESGE 2015; NICE2016; Nanchang 2016; JGES 2016

but wait...

2017 UTD recommends administering IV PPI "at a dose of **40mg twice daily** rather than a high-dose continuous infusion"

"Our approach differs from 2010 and 2012 guidelines...Meta-analyses of randomised trials have **failed to show superior outcomes with high-dose continuous IV PPI administration compared with intermittent dosing**"

Overview of the treatment of bleeding peptic ulcers, UpToDate 2017

and...

"intermittent PPI therapy has been found to be **safe and effective** while significantly reducing cost, even in patients with high-risk stigmata after endoscopy"

Evidence summary - American Journal of Health-System Pharmacy, Feb 2017

plus...

- Low dose IV PPI achieved the **same efficacy** as high dose PPI post endoscopic haemostasis
- "High dose PPI show little or **no difference** in the risk of rebleeding and mortality"
- "The risk/benefit and cost/benefit balance are probably unfavorable to the use of high doses"

Evidence summaries 2010 & 2016

Current state

Six infographics and reports have been produced and made publicly available.

The initiative has:

- driven change in emergency department practice for intravenous magnesium use;
- led to delivery of clinical education around PPIs through workshops and media activities;
- been a catalyst for broader discussion around opioid use throughout the hospital.



Choosing Wisely Week bake off!



High vis!

Looking for something to read?

scan this



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2017 Systematic *Magnesium administration post-cardiothoracic surgery appears to reduce

Choosing Wisely Australia

Water is vital to your health, 70% of our body is made of the stuff!

It is important to stay hydrated when you're at work, out and about or at home. It is recommended that the average Australian drinks 8 glasses of water per day, even more if engaged in physical activity.

If our body doesn't get this vital hydration we run the risk of dehydration which can affect our brain's ability to function. This can even land us in hospital in severe cases!

One indicator of dehydration is the colour of your urine. Typically the darker your urine, the more dehydrated you are.

See how hydrated you are with the urine chart below

You are doing well! You are well hydrated but keep topping up with water.

You're doing fine, but maybe you need to drink a little more water.

This colour indicates mild dehydration. You need to drink one cup of water soon and keep topping up.

You are dehydrated and need to drink at least 500ml of water within the next hour.

This colour indicates severe dehydration. You need to drink 500ml of water asap and continue to drink another 500ml over the next hour or so.

For more facts about how you can stay healthy and stay hydrated visit our website www.yvw.com.au

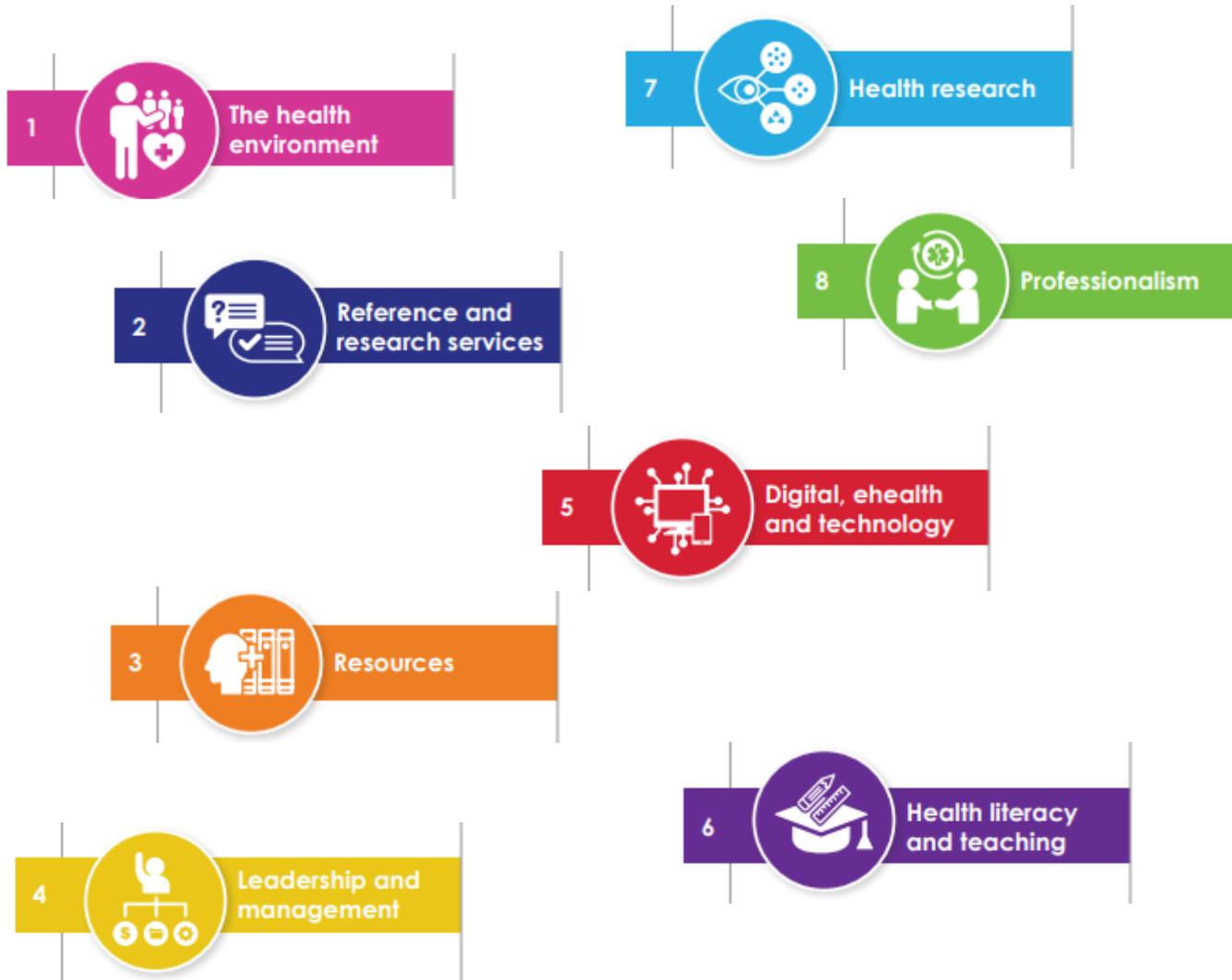
Yarra Valley Water

BE SMART CHOOSE TAP



@National conference

Opportunity to promote our profession



 Michele Gaca
@tomgirl40

Following

Ask an Informationist - from corridor conversion, [#translatingevidence](#) into practice, to [@ChooseWiselyAU](#) meeting poster. Why, because it was [#OkToAsk2019](#) [@JudkinsSimon](#) thank you from [@Austin_Library](#)



2:17 PM - 30 May 2019

3 Retweets 12 Likes



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