Evidence to Practice: Role of ‘Living’ Stroke Clinical Guidelines

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Acknowledgement Prof Per Vandvik
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Conflicts of Interest

- Organisational employment
- Nil financial or non financial interests

"So, I'm the only one who sees a conflict of interest here?"

Overview

1. Background (why)
2. Methodology (how)
3. Results / update
4. Knowledge Translation for living guidelines
5. Discussion

Challenges for research/guidelines, for patients and society

Evidence is often lost in practice, or takes years to impact as systems are siloed and inefficient.

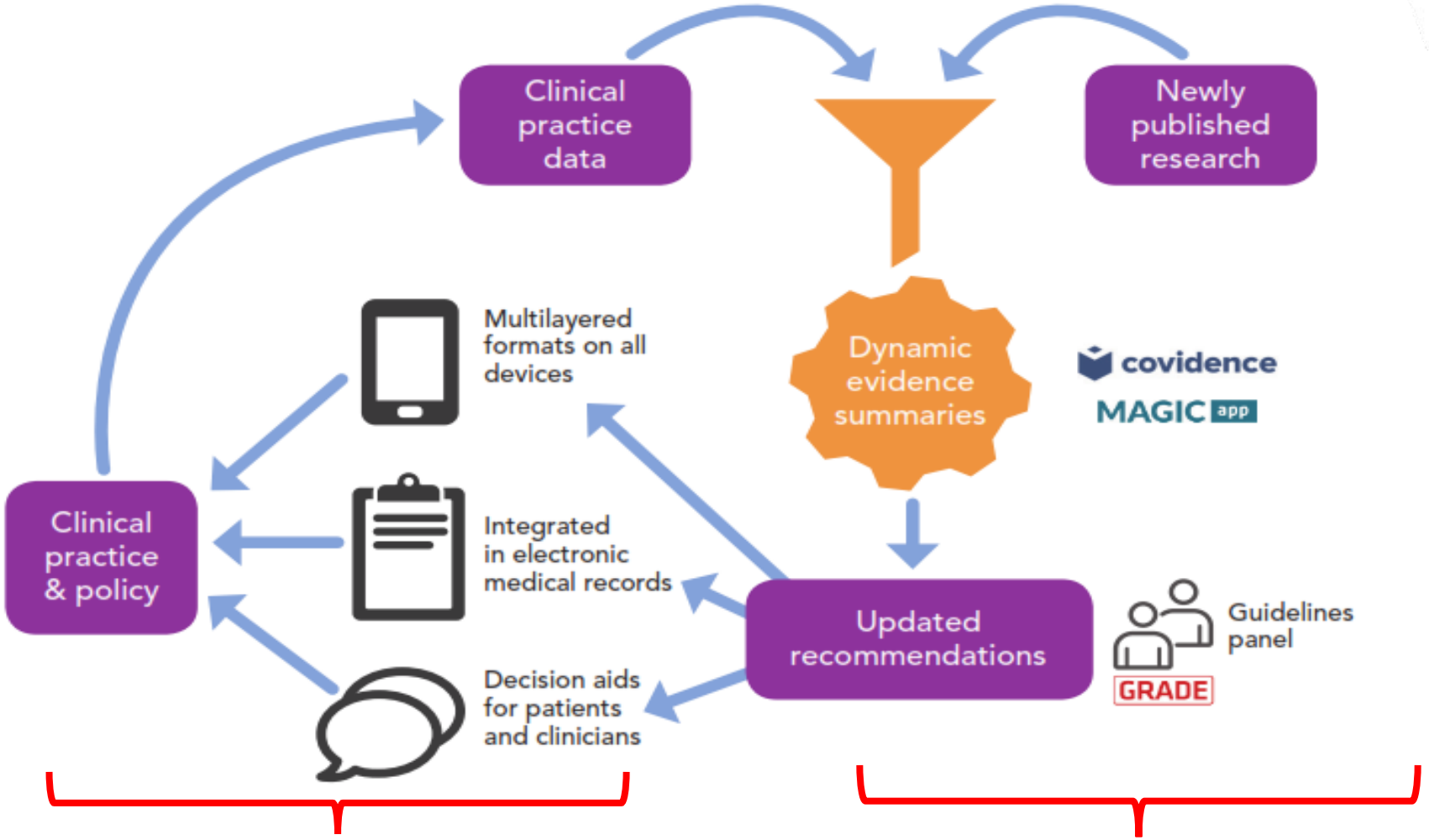
The Challenge

- Approx. 150 new stroke RCTs and SRs each month!!
- Huge scatter of publications (180 for RCTs, 88 journals for SRs)[1]
- Clinical guidelines useful tool but takes significant resources and can be out of date within months (20% recs out of date < 3 yrs)[2]

1. Hoffmann 2012. The Scatter of research. BMJ, 344,e3223

2. Garcia 2014. The validity of recommendations for clinical guidelines: a survival analysis. CMAJ, 186(16):1211-19.

Vision



Knowledge translation

Knowledge synthesis

Living Guidelines Project

- 3 years government funding to develop and evaluate living guidelines (commenced July 2018)
- Partnership with Cochrane Australia
- First such project in Australia (and in world)
- Important aspects
  1. Increased consumer involvement
  2. Knowledge translation efforts (actual practice change)
  3. Improved process for identifying new studies

- Over 85 experts and 37 consumers (lived experts!) involved

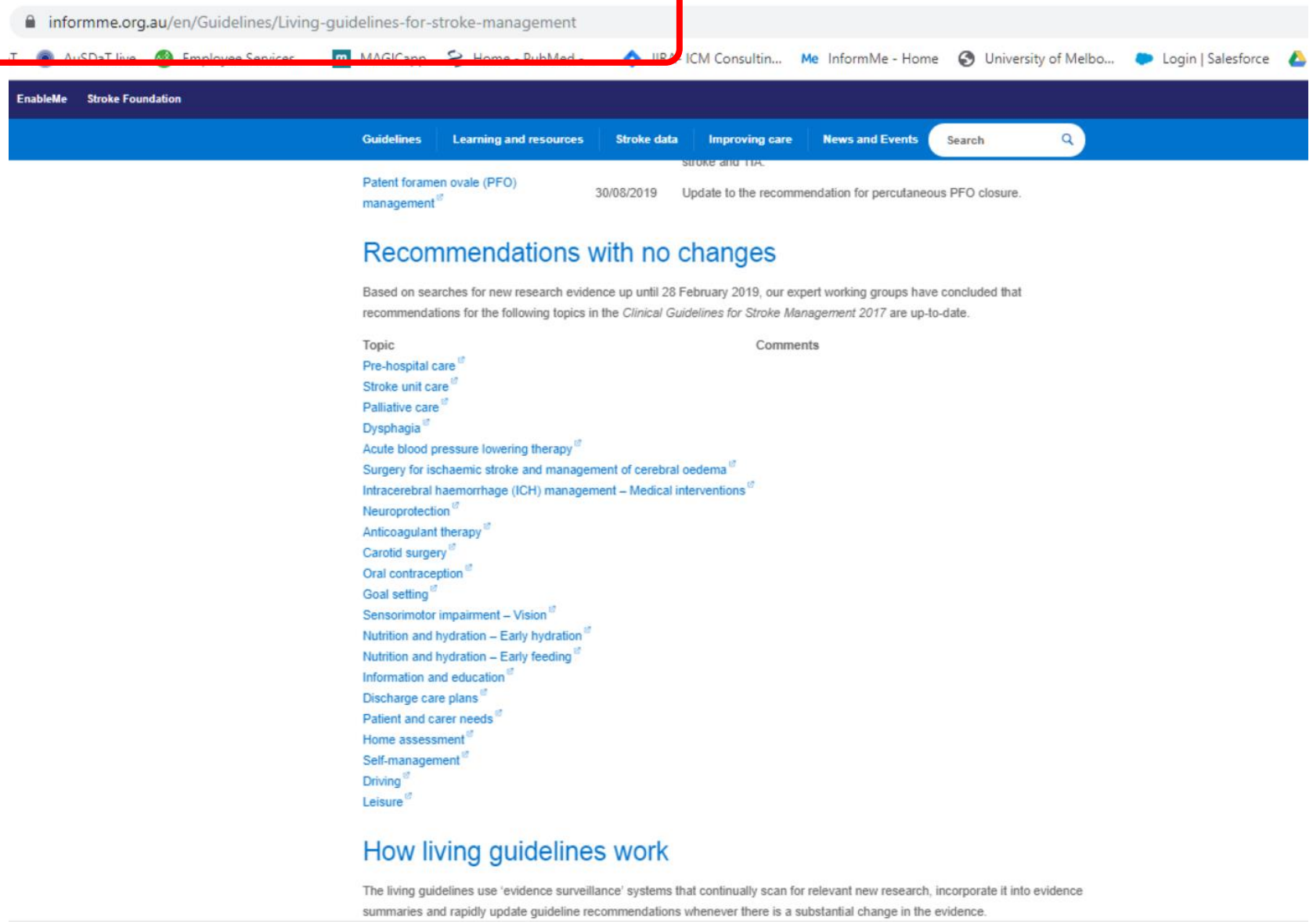
Where are we at?

- Over 10,000 abstracts screened
- Almost complete ‘backlog’ and moving to ‘living’
- Impact assessment by experts underway
- Most topics assessed report no impact
- Topics updated and out for consultation:
  - tPA (extended time window & TNK);
  - PFO (possible surgery)
  - Acute dual antiplatelet (minor stroke/TIA)

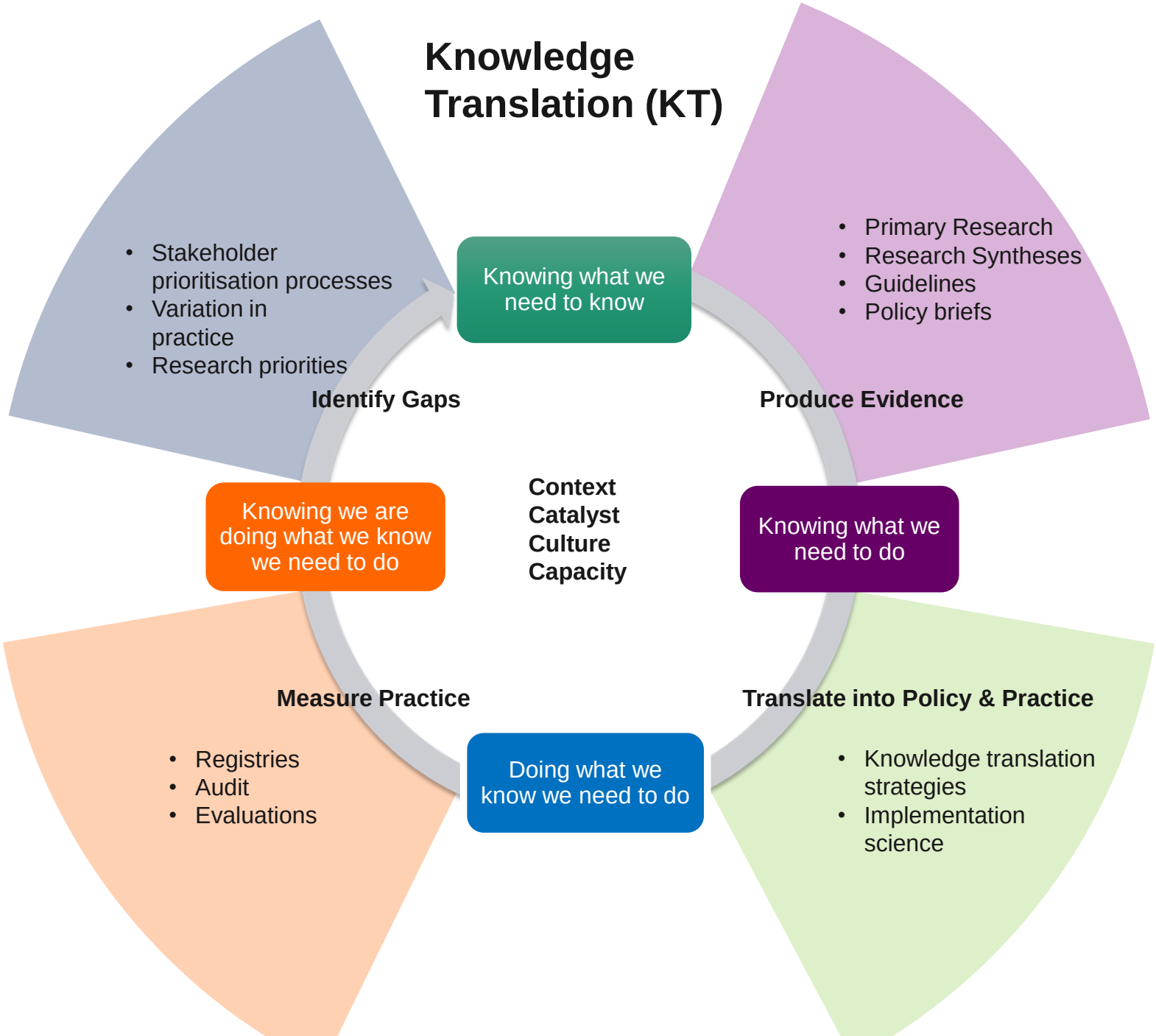
Topics under review

• Pyrexia management	• Carer support
• Oxygen therapy	• Sexuality
• Dysphagia	• Home based rehab
• Weaknesss	• ESD
• Swelling in extremities	• HRT
• Oral hygiene	• Artery dissection
• Early mobilisation	• BP lowering

Topics deemed to be current



Knowledge Translation (KT)



Why KT prioritisation?

Evidence-based guidelines need evidence-based implementation strategies

BUT!

~ 400 recommendations, each with different behaviours to change and different barriers and enablers

Technique for behaviour change	Techniques judged to be effective in changing each construct domain										
	1	2	3	4	5	6	7	8	9	10	11
Goal/target specified: behaviour or outcome											
Monitoring											
Self-monitoring											
Contract											
Rewards; incentives (inc. self-evaluation)											
Graded task, starting with easy tasks											
Increasing skills: problem-solving, decision-making, goal-setting											
Stress management											
Coping skills											
Rehearsal of relevant skills											
Role-play											
Planning, implementation											
Prompts, triggers, cues											
Environmental changes (e.g. objects to facilitate behaviour)											
Social processes of encouragement, pressure, support											
Persuasive communication											
Information regarding behaviour, outcome											
Personalised message											
Modelling/demonstration of behaviour by others											
Homework											
Personal experiments, data collection (other than self-monitoring of behaviour)											
Experiential: tasks to gain experiences to change motivation											
Feedback											

Michie et al 2013. Ann Behav Med. 46(1):81-95

Prioritise for greatest benefit

Criteria:

1. Strength of evidence (GRADE)
2. Clinical importance (to consumers and HPs)
3. Gaps in practice (National Stroke Audit)
4. Feasibility and strategic impact
5. Measurability

Prioritisation so far…

From 400 down to 32 recommendations with strong evidence and audit data

Chapter	Topic	Sub-topic	Recommendations	GRADE	Primary level to focus implementation (professional, organisation, consumer, system/regulatory)	Acute audit results 2019	Rehab audit results 2018	Combined benchmark	Practice gap
1 Pre-hospital care	1.1 Pre-hospital care		Ambulance services should preferentially transfer suspected stroke patients to a hospital capable of delivering reperfusion therapies as well as stroke unit care.	Strong	Organisational	76%		94%	-18%
2 Early assessment and diagnosis	2.2 Rapid assessment in the emergency department		All suspected stroke patients who have been pre-notified to the stroke or ED team, and who may be candidates for reperfusion therapy, should be met at arrival and assessed by the stroke team or other experienced personnel.	Strong	Professional / organisational	52%		90%	-38%
2 Early assessment and diagnosis	2.3 Imaging	2.3.1 Brain imaging	All patients with suspected stroke who are candidates for reperfusion therapies should undergo brain imaging immediately. All other suspected stroke patients should have an urgent brain CT or MRI ('urgent' being immediately where facilities are available and preferably within 60 minutes).	Strong	Professional / organisational	38%		90%	-52%
2 Early assessment and diagnosis	2.3 Imaging	2.3.2 Vascular imaging	All other patients with carotid territory symptoms who would potentially be candidates for carotid re-vascularisation should have urgent vascular imaging to identify stenosis in the ipsilateral carotid artery. CT angiography (if not already performed as part of assessment for reperfusion therapies), Doppler ultrasound or contrast-enhanced MR angiography are all reasonable options depending on local experience and availability.	Strong	Professional	69%		90%	-21%
3 Acute medical and surgical management	3.1 Stroke unit care		All stroke patients should be admitted to hospital and be treated in a stroke unit with an interdisciplinary team.	Strong	Organisational	67%		96%	-29%
3 Acute medical and surgical management	3.4 Reperfusion therapy	3.4.1 Thrombolysis	For patients with potentially disabling ischaemic stroke who meet specific eligibility criteria, intravenous alteplase (dose of 0.9 mg/kg, maximum of 90 mg) should be administered.	Strong	Professional / Organisational	10%		27%	-17%
3 Acute medical and surgical management	3.4 Reperfusion therapy	3.4.1 Thrombolysis	Thrombolysis should commence as early as possible (within the first few hours) after stroke onset but may be used up to 4.5 hours after onset.	Strong	Professional	26%		56%	-30%
3 Acute medical and surgical management	3.6 Antithrombotic therapy		Patients with ischaemic stroke who are not receiving reperfusion therapy should receive antiplatelet therapy as soon as brain imaging has excluded haemorrhage.	Strong	Professional	76%		90%	-14%
3 Acute medical and surgical management	3.12 Glycaemic therapy		All stroke patients should have their blood glucose level monitored for the first 72 hours following admission and appropriate glycaemic therapy instituted to treat hyperglycaemia (glucose levels greater than 10mmols/L) regardless of their diabetic status.	Strong	Professional / Organisational	30%		90%	-60%
4 Secondary Prevention	4.3 Long-term blood pressure management		All stroke and TIA patients, with a blood pressure of >140/90mmHg should have long term blood pressure lowering therapy initiated or intensified.	Strong	Professional	77%	79%	91%	-12%
4 Secondary Prevention	4.3 Long-term blood pressure management		Blood pressure lowering therapy should be initiated or intensified before discharge for those with stroke or TIA, or soon after TIA if the patient is not admitted	Strong	Professional	77%	79%	91%	-12%
4 Secondary Prevention	4.4 Antiplatelet therapy		Long-term antiplatelet therapy (low-dose aspirin, clopidogrel or combined low-dose aspirin and modified release dipyridamole) should be prescribed to all people with ischaemic stroke or TIA who are not prescribed anticoagulation therapy, taking into consideration patient co-morbidities.	Strong	Professional	98%	94%	88%	8%
4 Secondary Prevention	4.5 Anticoagulant therapy		For ischaemic stroke or TIA patients with atrial fibrillation (both paroxysmal and permanent), oral anticoagulation is recommended for long-term secondary prevention.	Strong	Professional	98%	94%	88%	8%
4 Secondary Prevention	4.5 Anticoagulant therapy		Direct oral anticoagulants should be initiated in preference to warfarin for patients with non-valvular atrial fibrillation and adequate renal function.	Strong	Professional	74%	28%	89%	-38%
4 Secondary Prevention	4.6 Cholesterol lowering therapy		All patients with ischaemic stroke or TIA with possible atherosclerotic contribution and reasonable life expectancy should be prescribed a high potency statin, regardless of baseline lipid levels.	Strong	Professional	88%	85%	88%	-2%
5 Rehabilitation	5.1 Early supported discharge services		Where appropriate stroke services are available (see practical information section), early supported discharge service should be offered to stroke patients with mild to moderate disability.	Strong	Organisational	2%	5%	90%	-86%
5 Rehabilitation	5.3 Goal setting		Health professionals should initiate the process of setting goals, and involve stroke survivors and their families and carers throughout the process. Goals for recovery should be client-centred, clearly communicated and documented so that both the stroke survivor (and their families/carers) and other members of the rehabilitation team are aware of goals set.	Strong	Professional	85%	94%	98%	-8%
5 Rehabilitation	5.3 Goal setting		Goals should be set in collaboration with the stroke survivor and their family/carer (unless they choose not to participate) and should be well-defined, specific and challenging. They should be reviewed and updated regularly.	Strong	Professional	85%	94%	98%	-8%
5 Rehabilitation	5.4 Early mobilisation		For stroke patients, starting intensive out of bed activities within 24 hours of stroke onset is not recommended.	Strong against	Professional	79%		10%	69%
5 Rehabilitation	5.4 Early mobilisation		All stroke patients should commence mobilisation (out of bed activity) within 48 hrs of stroke onset unless otherwise indicated (e.g. receiving end of life care).	Strong	Professional	91%		90%	1%
5 Rehabilitation	5.6 Physical activity	5.6.6 Walking	Stroke survivors with difficulty walking should be given the opportunity to undertake tailored repetitive practice of walking (or components of walking) as much as possible.	Strong	Professional		92%	90%	2%
5 Rehabilitation	5.6 Physical activity	5.6.7 Upper limb activity	For stroke survivors with some active wrist and finger extension, intensive constraint induced movement therapy (minimum 2 hours of active therapy per day for 2 weeks, plus restraint for at least 6 hours a day) should be provided to improve arm and hand use. (Corbetta et al 2015) Trunk restraint may also be incorporated into the active therapy sessions at any stage post-stroke.	Strong	Professional		12%	90%	-78%
5 Rehabilitation	5.7 Activities of daily living		Community-dwelling stroke survivors with difficulties in performance of daily activities should be assessed by a trained clinician.	Strong	Professional		100%	90%	10%
5 Rehabilitation	5.7 Activities of daily living		Community-dwelling stroke survivors with confirmed difficulties in personal or extended ADL should have specific therapy from a trained clinician (e.g. task-specific practice and training in the use of appropriate aids) to address these issues.	Strong	Professional		92%	90%	2%
5 Rehabilitation	5.8 Communication	5.8.2 Aphasia	For stroke survivors with aphasia, speech and language therapy should be provided to improve functional communication.	strong	Professional		72%	90%	-18%
6 Managing complications	6.1 Nutrition and hydration	6.1.1 Early hydration	All stroke patients should have their hydration status assessed, monitored, and managed throughout their hospital admission.	Strong	Professional		89%	90%	-1%
6 Managing complications	6.1 Nutrition and hydration	6.1.2 Early feeding	All stroke patients should be screened for malnutrition at admission and on an ongoing basis (at least weekly) while in hospital.	Strong	Professional	69%	95%	90%	-8%
6 Managing complications	6.1 Nutrition and hydration	6.1.2 Early feeding	For stroke patients whose nutrition status is poor or deteriorating, nutrition supplementation should be offered.	Strong	Professional		75%	90%	-15%
6 Managing complications	6.10 Mood disturbance	6.10.4 Treatment for depression	For stroke survivors with depression or depressive symptoms, antidepressants, which includes SSRIs should be considered. There is no clear evidence that particular antidepressants produce greater effects than others and will vary according to the benefit and risk profile of the individual.	strong	Professional		58%	90%	-32%
7 Discharge planning and transfer of care	7.1 Information and education		All people who have had a stroke and their families/carers should be offered information tailored to meet their individual needs using relevant language and communication formats.	Strong	Professional	58%	62%	94%	-34%
7 Discharge planning and transfer of care	7.2 Discharge care plans		Comprehensive discharge care planning that addresses the specific needs of the patient should be developed in conjunction with the patient and carer prior to discharge.	strong	Professional / Organisational	69%	80%	97%	-23%
8 Community participation and long-term care	8.7 Support	8.7.2 Carer support	Carers of stroke survivors should be provided with tailored information and support during all stages of the recovery process. This support includes (but is not limited to) information provision and opportunities to talk with relevant health professionals about the stroke, stroke team members and their roles, test or assessment results, intervention plans, discharge planning, community services and appropriate contact details. Support and information provision for carers should occur prior to discharge from hospital and/or in the home and can be delivered face-to-face, via telephone or computer.	strong	Professional / Organisational	63%	63%	89%	-26%

Designing KT interventions

French et al. Implementation Science 2012, 7:38
http://www.implementationscience.com/content/7/1/38

IMPLEMENTATION SCIENCE

METHODOLOGY Open Access

Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework

Simon D French[1,2*], Sally E Green[1], Denise A O'Connor[1], Joanne E McKenzie[1], Jill J Francis[3], Susan Michie[4], Rachelle Buchbinder[1,5,9], Peter Schattner[6], Neil Spike[6] and Jeremy M Grimshaw[7,8]

Abstract

Background: There is little systematic operational guidance about how best to develop complex interventions to reduce the gap between practice and evidence. This article is one in a Series of articles documenting the development and use of the Theoretical Domains Framework (TDF) to advance the science of implementation research.

Methods: The intervention was developed considering three main components: theory, evidence, and practical issues. We used a four-step approach, consisting of guiding questions, to direct the choice of the most appropriate components of an implementation intervention: Who needs to do what, differently? Using a theoretical framework, which barriers and enablers need to be addressed? Which intervention components (behaviour change techniques and mode(s) of delivery) could overcome the modifiable barriers and enhance the enablers? And how can behaviour change be measured and understood?

Results: A complex implementation intervention was designed that aimed to improve acute low back pain management in primary care. We used the TDF to identify the barriers and enablers to the uptake of evidence into practice and to guide the choice of intervention components. These components were then combined into a cohesive intervention. The intervention was delivered via two facilitated interactive small group workshops. We also produced a DVD to distribute to all participants in the intervention group. We chose outcome measures in order to assess the mediating mechanisms of behaviour change.

Conclusions: We have illustrated a four-step systematic method for developing an intervention designed to change clinical practice based on a theoretical framework. The method of development provides a systematic framework that could be used by others developing complex implementation interventions. While this framework should be iteratively adjusted and refined to suit other contexts and settings, we believe that the four-step process should be maintained as the primary framework to guide researchers through a comprehensive intervention development process.

Step 1. Who needs to do what differently?

↓

Step 2. Using a theoretical framework, which barriers and enablers need to be addressed?

↓

Step 3. Which intervention components could overcome the modifiable barriers and enhance the enablers?

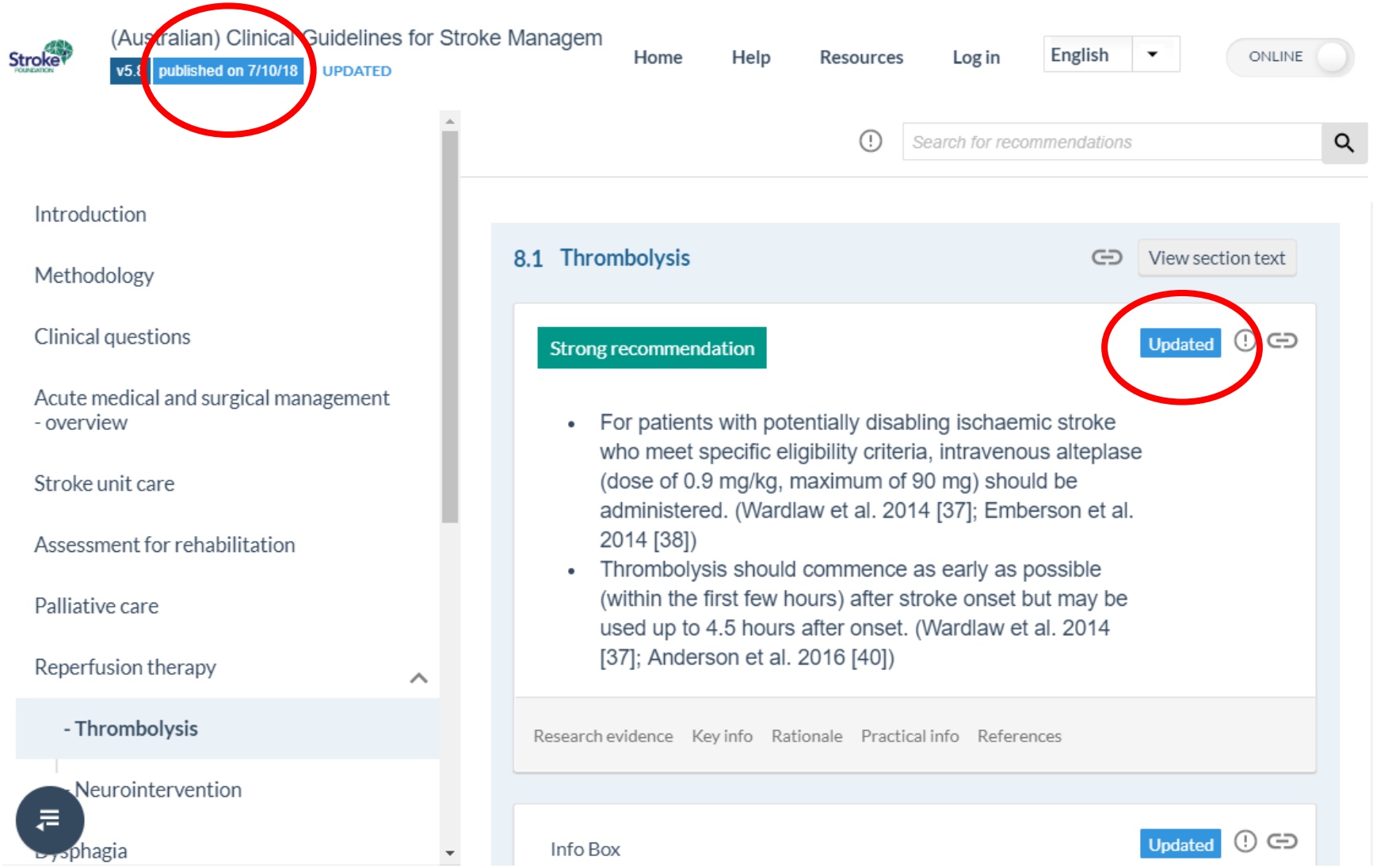
↓

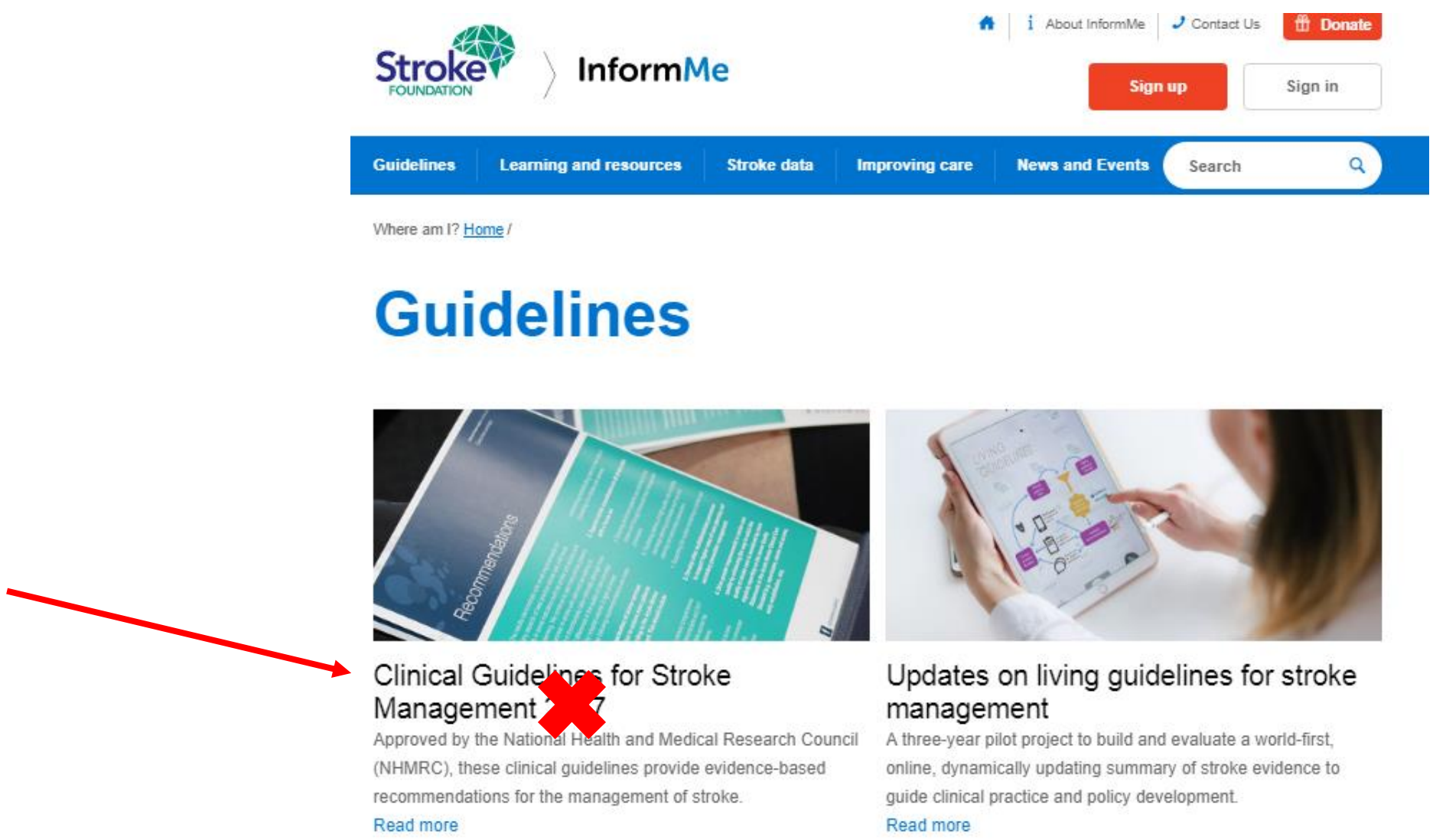
Step 4. How can behaviour change be measured and understood?

What's next?

- Draft changes to recommendations (where relevant)
- Update 'practical considerations' sections
- Communicate changes (or not)
- Enhance **InformMe** to have content directly available (rather than through MAGICapp)
- Month-by-month search for new evidence
- Formal collaboration with international peers
- Evaluation (2020)

What will change?





informme.org.au/Guidelines

For discussion

- Should KT be developed nationally?
- (should we focus on organisational level changes)
- Should consumers be leading prioritisation?
- What would really be useful to support clinical change?

Thank you!

InformMe

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