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Paediatric Research in Emergency Departments International Collaborative

HEAD INJURIES IN CHILDREN – WHAT INFLUENCES YOUR DECISION MAKING?: Qualitative interviews

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Aims

- Understand the factors influencing the use of CT scanning of the brain (CTB) in children presenting to the Emergency Department with mild head injuries

- Determine the information needs of clinicians managing children with mild head injuries in the emergency department
  - Are there situations or patients that are particularly challenging?
  - How are you currently keeping up to date?
  - How can we improve the uptake of information in the ED setting?

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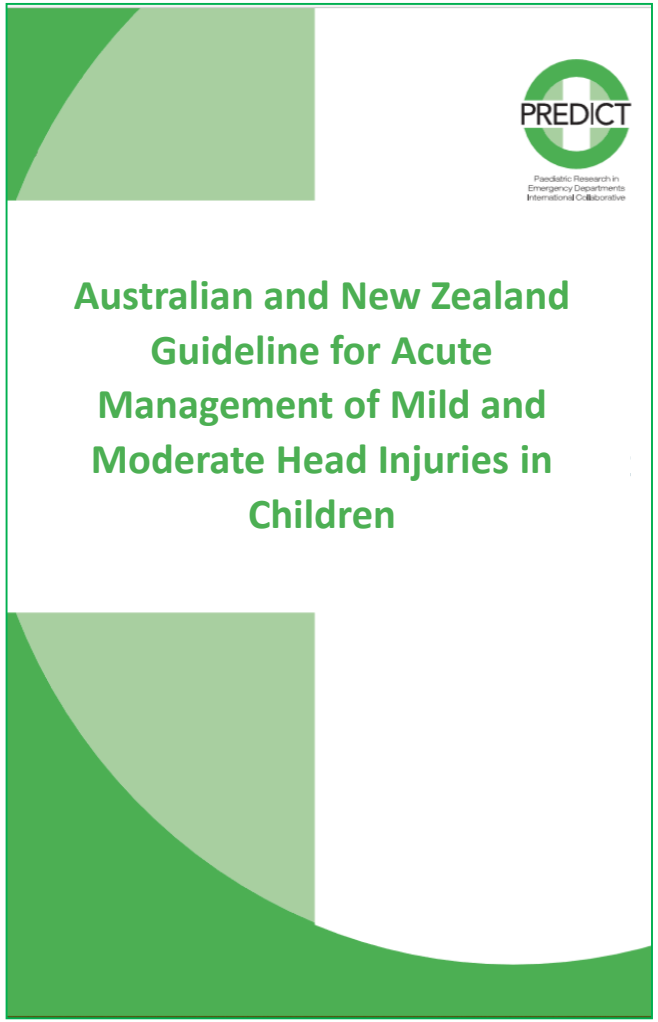

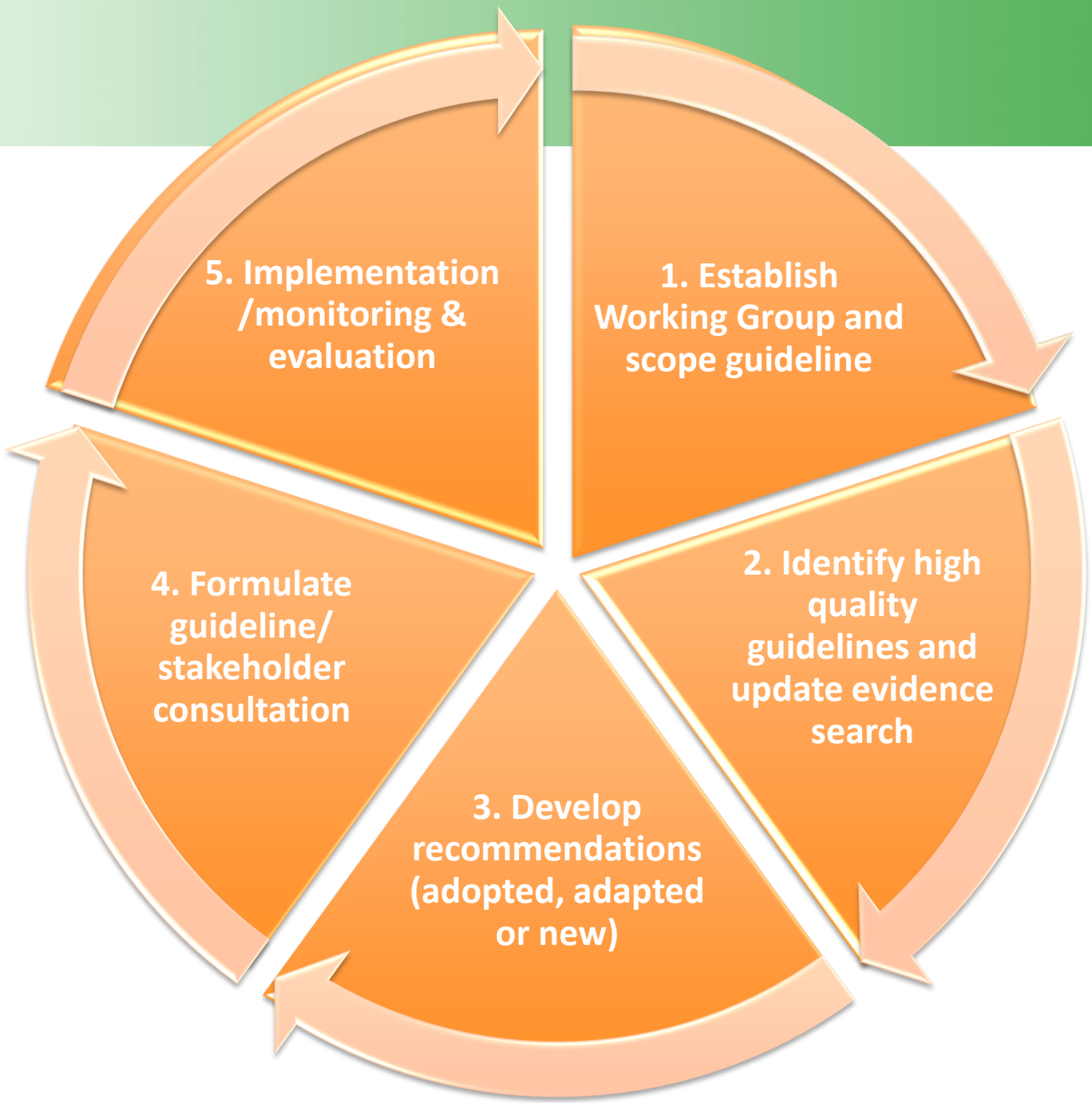

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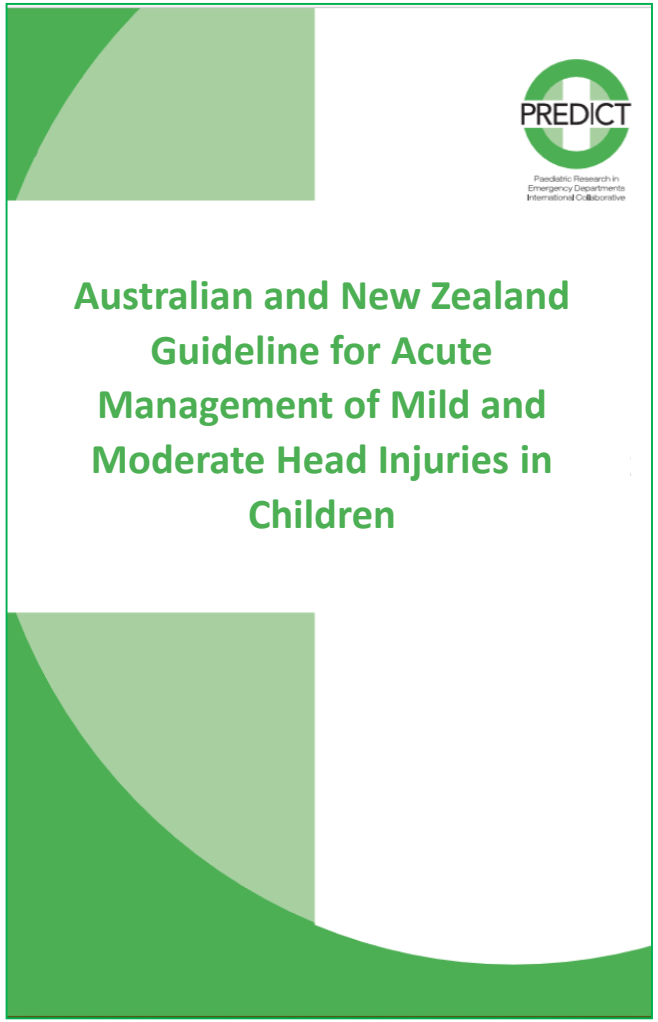

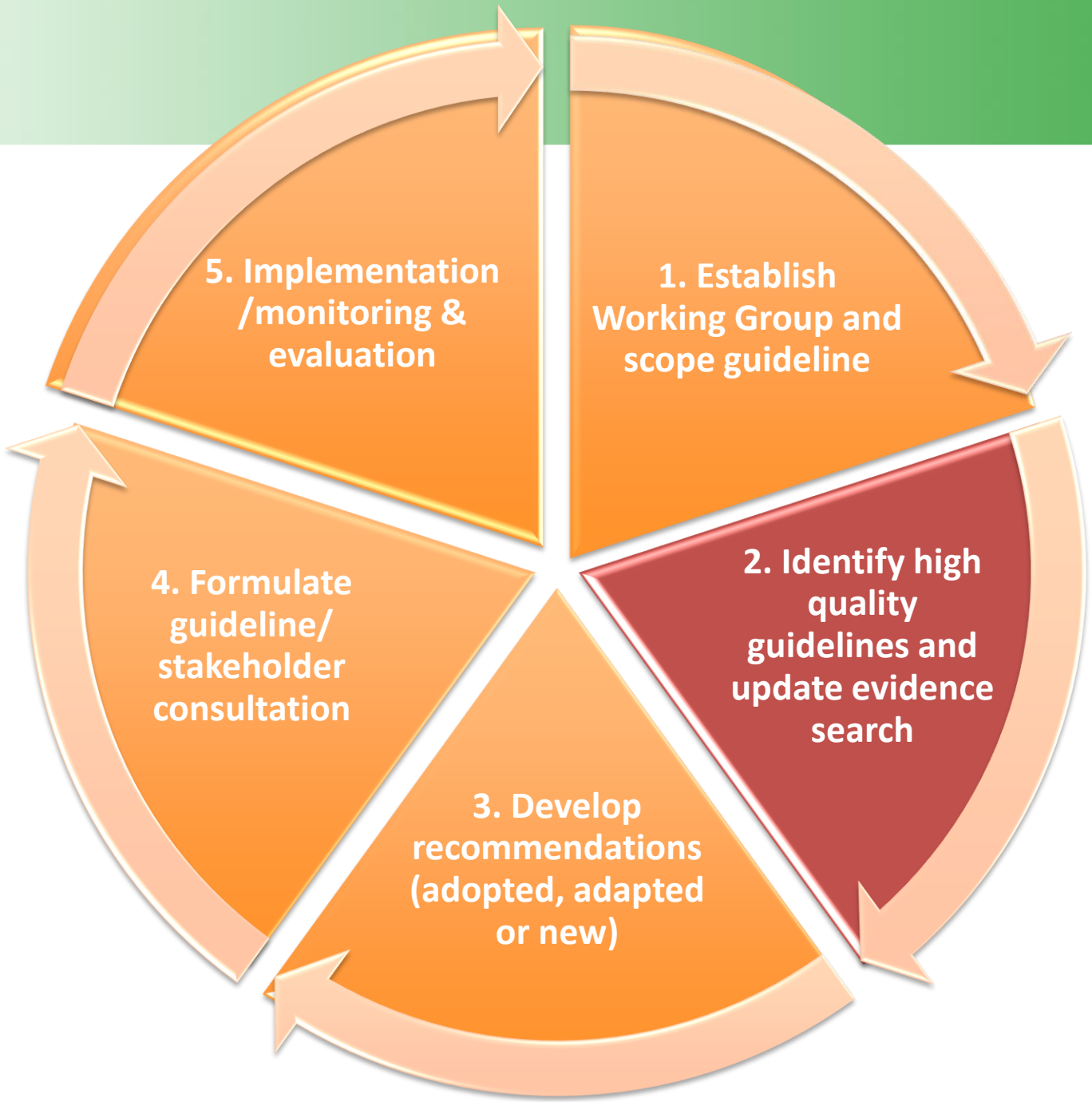

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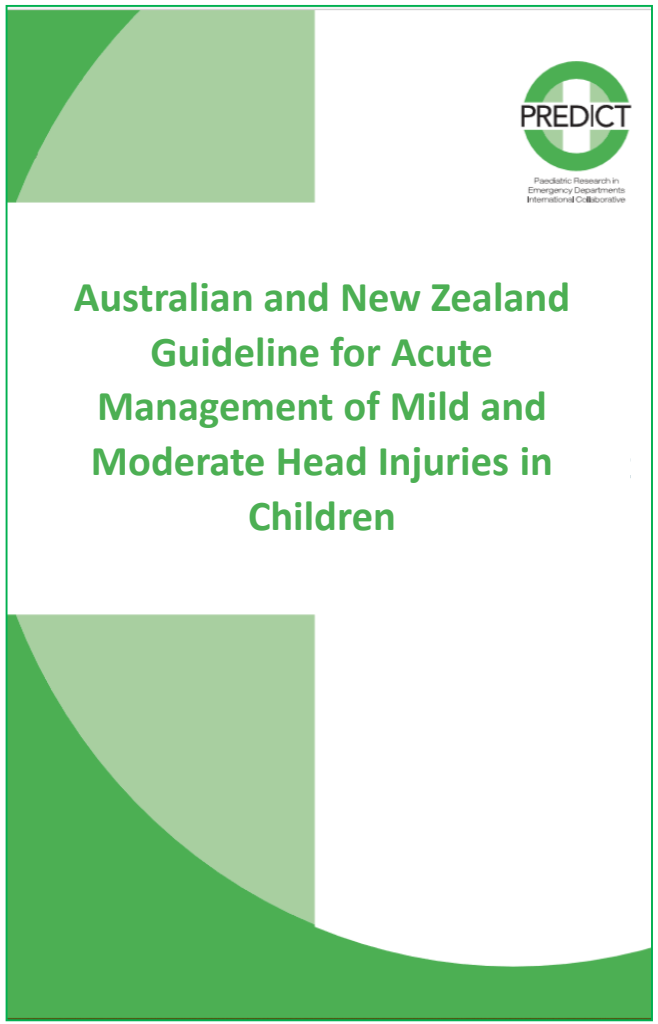

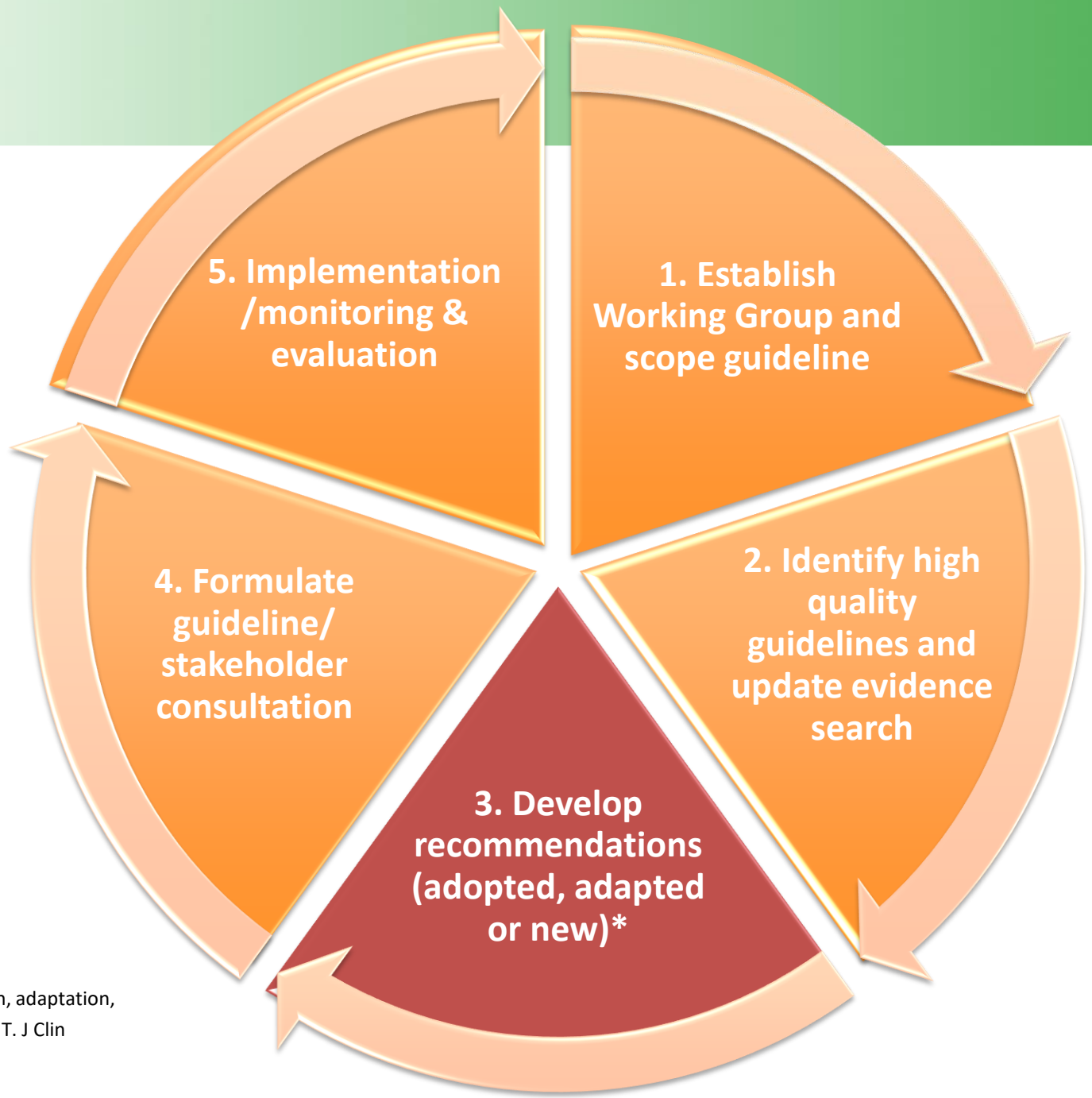

* Schünemann HJ et al. GRADE Evidence to Decision (EtD) frameworks for adoption, adaptation, and de novo development of trustworthy recommendations: GRADE-ADOLOPMENT. J Clin Epidemiol. 2017 Jan;81:101-110.

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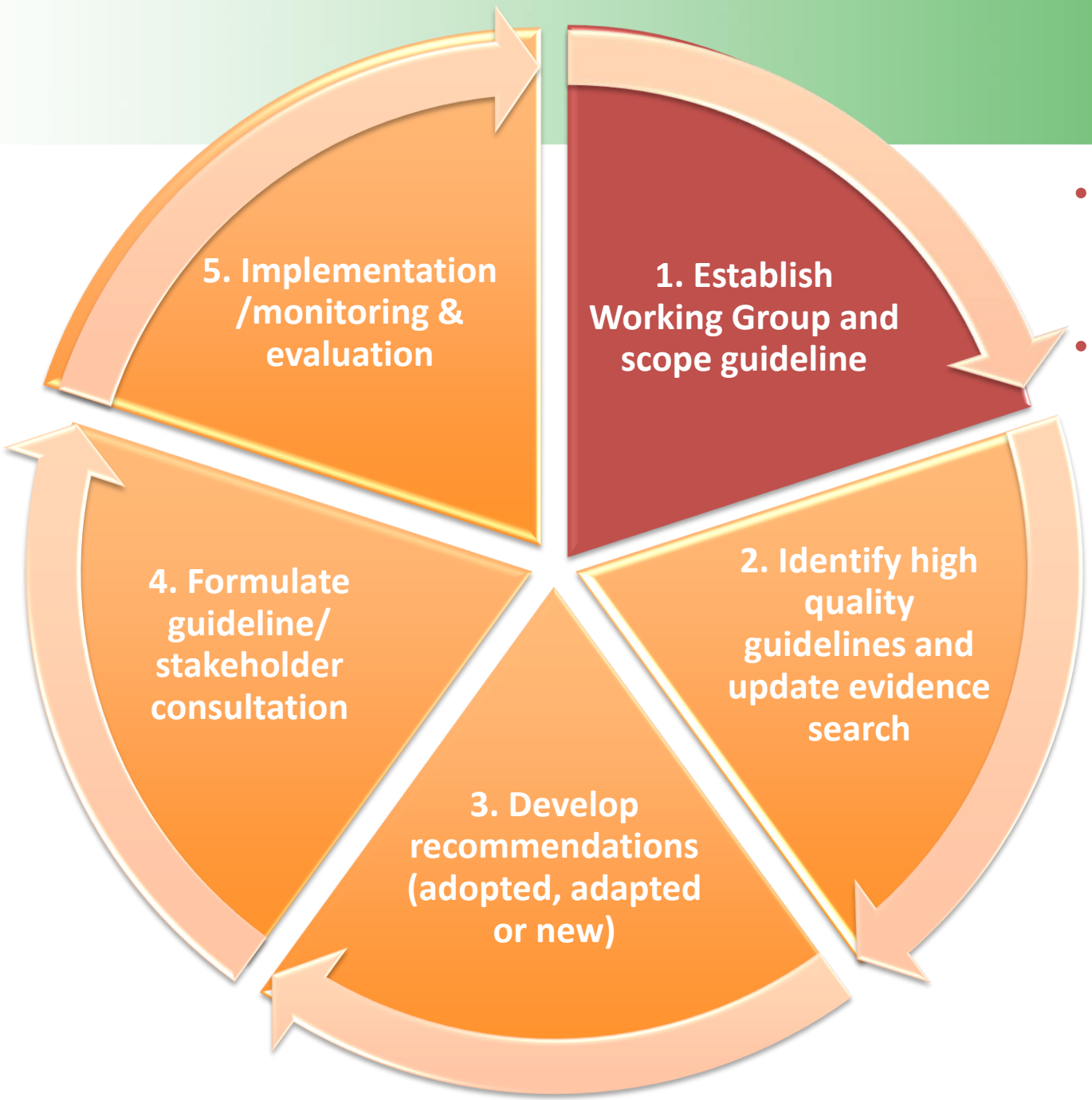

- What are the key clinical questions?
- Do these questions cover the difficult situations or scenarios?

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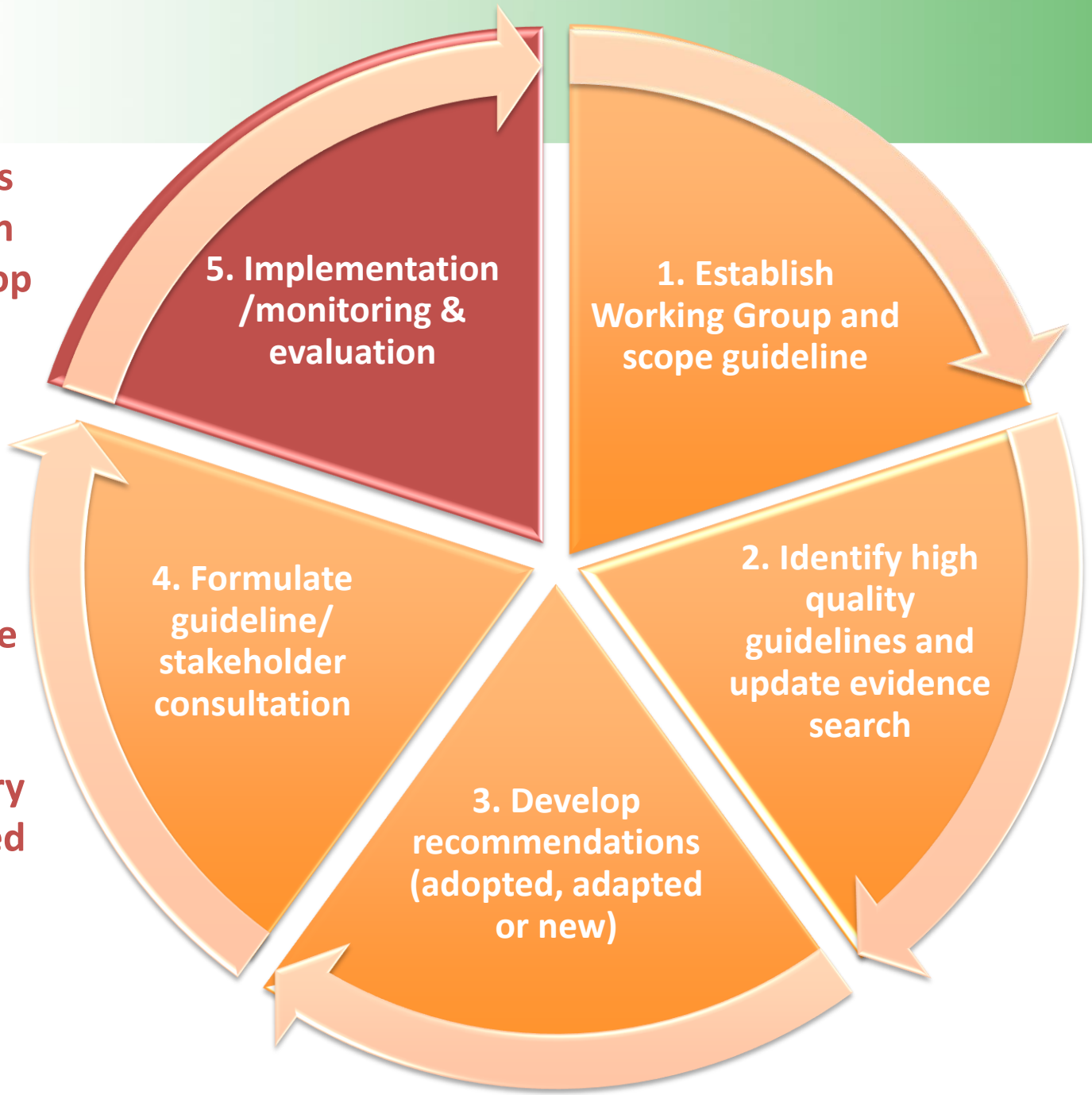
- What are the factors influencing variation in practice to develop targeted implementation materials?
- How should we package the guideline to improve uptake?
- What supplementary materials are needed to improve management?



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Methods

- Qualitative semi-structured interviews
- Stratified sample clinicians (doctors & nurses) from participating A-Gap audit sites
- Varied seniority, type of ED, location
- Theoretical Domains Framework*

*Michie et al. Qual Saf Health Care 2005; 14(1); Cane et al. Implement Sci 2012; 7(1).

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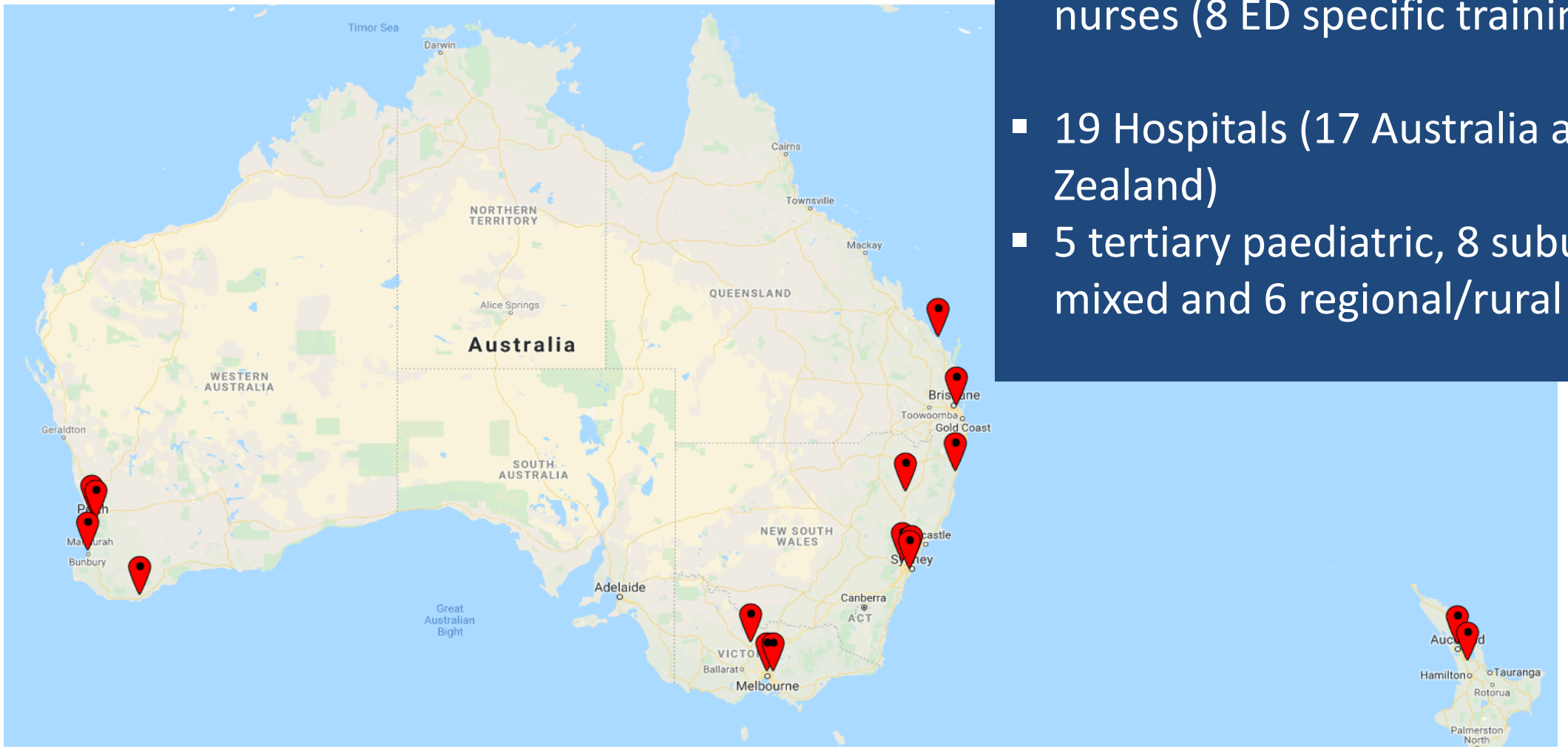
Results

- 43 clinician interviews
- 28 doctors (16 ED consultants, 10 ED registrars, 2 paediatricians) and 15 nurses (8 ED specific training)

- 19 Hospitals (17 Australia and 2 New Zealand)
- 5 tertiary paediatric, 8 suburban mixed and 6 regional/rural hospitals.



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What factors influence the decision to order a CTB?

What do we already know?

Physician factors

Training/experience
Fear of error
Fear of malpractice
Financial incentives
Personality
Consultant input
Perceived harm (radiation, LOS)

Patient factors

Clinical variables
Patient/carer wishes
Discharge circumstances

System factors

Micro- level: local clinical culture, CT availability, compensation method, clinical protocols
Macro-level: national guideline, medicolegal climate, regional variation

Probst MA et al. A conceptual model of emergency physician decision making for head computed tomography in mild head injury. *Am J Emerg Med*. 2014;32(6):645–650

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Results: key factors influencing CTB decision making?

- Beliefs about consequences: radiation risk

"I think the idea of missing a very low chance, but very poor outcome by not doing a scan creates a lot of pressure. The chance of causing cancer if you did lots of scans lurks in the back of your mind."

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Results: key factors influencing CTB decision making?

- Beliefs about consequences: radiation risk
- Behavioural regulation: senior clinician consultation policies

"If it's a junior doctor, a CT needs to be signed off and discussed with a consultant…they can't actually sign the form themselves and then it will be a discussion with the imaging department"

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Results: key factors influencing CTB decision making?

- Beliefs about consequences: radiation risk
- Behavioural regulation: senior clinician consultation policies

"Part of it is also boss-dependent; some are happy with prolonged observation, and some are more risk-averse and will order a CT much more readily"

"I don't think there's a specific rule across the board. I think the consultants each have their own preference for what they use based on what they've read and what they believe is the most effective."

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Results: key factors influencing CTB decision making?

- Beliefs about consequences: radiation risk
- Behavioural regulation: senior clinician consultation policies
- Environmental context and resources: CT access, culture of observation

"The days of having to beg and plead [for a CT] are pretty much over…we have our criteria for requesting a CT, we've discussed it with our consultant and it's been some time since I've had any significant knock back or questioning"

"There's a pretty strong culture in the department of not CT'ing kids …a real culture of observation versus CT.

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Results: key factors influencing CTB decision making?

- Beliefs about consequences: radiation risk
- Behavioural regulation: senior clinician consultation policies
- Environmental context and resources: CT access, culture of observation
- Social influences – parents/other clinicians/GPs

"There's still some poor understanding in general practice of head injury…it's a very common GP referral asking for a scan without providing validated evidence and reasoning…giving a prior assumption to parents "

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Head injury guidelines – how can they be improved?

- Clearer definitions
  - Vomiting
  - Mechanism of injury
  - Severe headache

"Clarity in relation to vomiting - couple of vomits within 5 mins-is that one episode? If they are continuously vomiting – how many episodes is that?"

- Expanded scope
  - Managing representations
  - Younger children (<2 years)
  - Children with underlying medical issues
  - Infants with possible non-accidental injuries
  - Concussion

"Kids less than 2 years of age makes it difficult…kids with underlying medical issues and on medications are not included. Infants with possible non-accidental injuries?"

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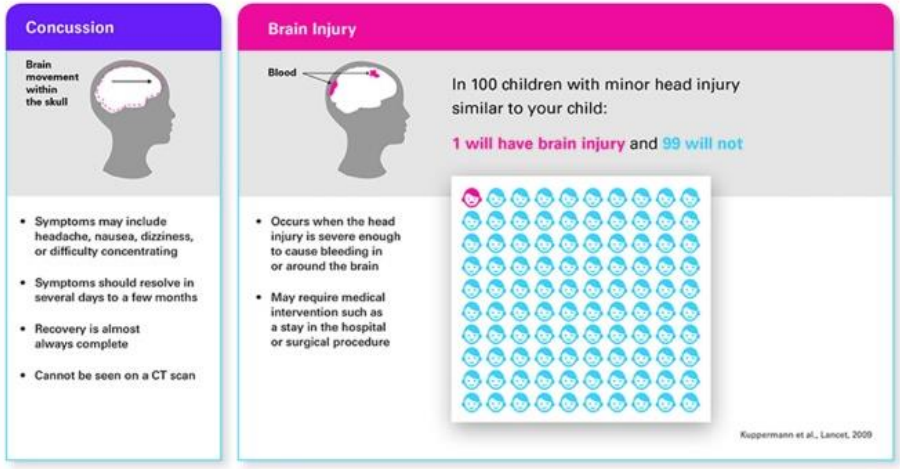
Head injury guidelines – how can they be improved?

- Head injury advice improvements
  - Advice based on severity and age
  - Clearer definitions and explanations
  - Layout and graphics

"We use the XX head injury information sheets but they are poor because they group moderate and severe head injury on one sheet and the definitions are not necessarily accurate or well explained "

- Tools to improve radiation risk discussions with parents



"It would be convenient to have radiation dosing risks versus risk of a clinically-significant bleed included directly in the guidelines because then you could put it in front of the parent and not have to dig around to find it "

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Next steps

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Any questions?
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