

Combining theory and usability testing to inform optimization of a primary care depression management tool

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Background

- Supporting people with depression can be challenging; barriers include lack of expertise and resources
- The 'Ottawa Depression Algorithm' (Figure 1), an online tool, was developed to support primary care providers with depression care
- Introducing a new tool does not guarantee use
- An implementation strategy designed to address factors influencing use could maximise uptake

Aim

- Identify barriers to and enablers of using the Ottawa Depression Algorithm to diagnose and provide care for adults with depression

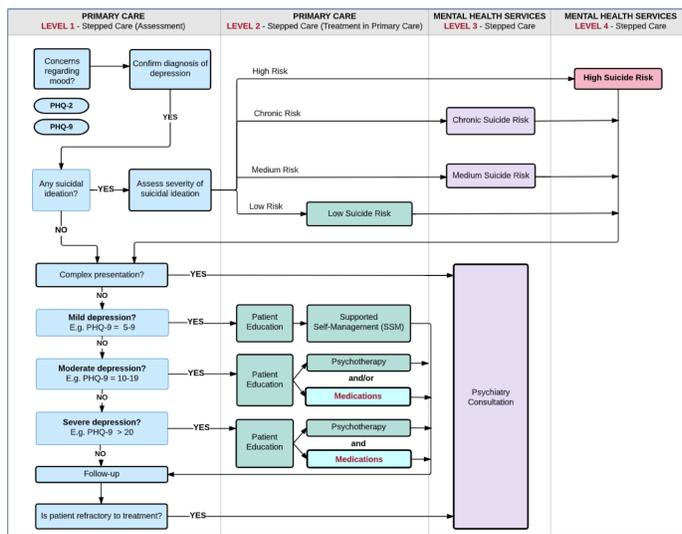


Figure 1. The Ottawa Depression Algorithm

Methods

- Semi-structured interviews with 20 primary care providers in Ottawa, Canada

TDF Domains
Knowledge
Skills
Memory, attention and decision processes
Behavioural regulation
Environmental context and resources
Social Influences
Beliefs about capabilities
Intention
Goals
Social/professional role and identity
Beliefs about consequences
Reinforcement
Emotion
Optimism

Figure 2. Theoretical Domains Framework

- Used directed content analysis
 - Two researchers assigned statements to pre-specified codes representing aspects of usability/TDF domains
 - One researcher identified sub-themes within usability/TDF domains
 - One researcher identified overall themes across usability/TDF domains

Interview part 1: Usability
Participants worked through algorithm using a written patient scenario while verbalizing thoughts (Think-Aloud)

Interview part 2: Uptake
Participants responded to questions informed by the Theoretical Domains Framework (TDF), which includes domains outlining modifiable factors influencing behaviour

Table 1. Participant characteristics

Role, n (%)	Physician	10 (50)
	Nurse Practitioner	7 (35)
	Resident	2 (10)
	Administrator	1 (5)
Practice type, n (%)	Academic Family Health Team	7 (35)
	Non-Academic Family Health Team	8 (40)
	Community Health Centre	5 (25)
Sex, n (%)	Female	13 (65)
	Male	7 (35)
Years qualified, mean (SD), range		13.9 (12.3), 1-41

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Results

- Experience with algorithm:
 - 2/20 had used it before; 6/20 aware but not using; 12/20 unaware of it
- When would the algorithm be used? What parts?
 - I would use it when I need help deciding what to do next
 - I would use the 'Medications' section
 - I would use the 'Patient Education' section

"I use it when I'm going to second line treatment or if I'm switching... my question is, should I go up on this med? Should I completely switch, or should I add something?" FP1

Usability: need for improvement in...

1 – Visibility of medication guidance

"Is there any section, I'm not sure if there's a separate section, but to have a section about either augmenting or switching?" FP9

2 – Understandability of information

"Insomnia 1+ so I'm assuming you've got a scale of what this means, the 1+? No? Okay so that would be helpful." NP6

3 – Navigation through the algorithm

"Oh actually, these are all the clickable boxes this colour? So making all the clickable ones a little bit more obvious... some of them can have almost like a button like it's rising out and there's a shadow behind it... that's one way that seems to indicate you can click on things." R1

Barriers to uptake

1 – Lack of knowledge of algorithm and how to use it: familiarisation requires time commitment

Knowledge; Skills; Environmental Context and resources

"To use this you'd just have to go through it a few times before seeing patients so that you understand how it works" FP5

2 – Concerns about how algorithm will be updated

Environmental context and resources

"Would it be updated regularly according to best practice guidelines? I would probably use it but I'd have to be sure that I don't have to double check on another website" NP5

Enablers to uptake

1 – Algorithm brings together disparate evidence-based resources

Beliefs about consequences

"More self resources for clients, and all the possible referral and community resources available, it might provide more resources and options rather than just using the hospital" NP1

2 – Algorithm could enhance use of a common language across providers and streamline care

Social/professional role and identity; Beliefs about consequences

"If everybody's using the same tool... we understand each other... we're talking the same language. It will be beneficial to patients and to us in terms of giving us a standardized approach." FP6

Conclusions

- Modifications to the Ottawa Depression Algorithm could improve usability (such as highlighting the medication guidance available; clearly defining all shorthand used; clarifying which sections can be clicked on for further support)
- An implementation strategy to enhance uptake could include training in algorithm content and use, and materials emphasizing potential positive consequences of algorithm use
- Combining usability testing with questions based on the TDF allowed for a fuller assessment of factors influencing use of a new tool