

Barriers and Enablers to Self-management in Atrial Fibrillation and Perceptions on how eHealth can help: The BE-SAFE Study

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Background

Adherence

- 'Extent to which a person's behaviour corresponds with agreed recommendations from provider'

Adherence & Outcomes in Atrial Fibrillation (AF)

- Oral anticoagulant (OAC) adherence reduces stroke risk in AF
- Exercise adherence improves symptoms in AF

OAC & Exercise Adherence Rates in AF

- Overall adherence rates to OAC in AF ~ 40%-47%
- Overall adherence rates to exercise in AF ~ 44%

eHealth

- 'Use of information & communication technologies for health'; smartphones are eHealth tool
- Smartphone-delivered interventions show promise for supporting self-management

Theory-Informed Behaviour Change

- Capability, Opportunity, Motivation (COM) are sources of behaviour
- Theoretical Domains Framework (TDF) is a validated link to COM to identify sources of behaviour
- Barriers & enablers to OAC and exercise adherence in AF are unknown
- Barriers & enablers to using eHealth to support OAC & exercise adherence in AF are unknown
- Smartphone-delivered behaviour change interventions (BCI) to improve medication & exercise adherence can be implemented and evaluated by targeting barriers and enablers

Objectives

PHASE 1

- To identify barriers and enablers to oral anticoagulant adherence in patients with AF

PHASE 2

- To identify barriers and enablers to exercise in patients with AF
- To identify barriers and enablers to smartphone use for supporting self-management in AF

Methods

PHASE 1	PHASE 2
Design	Design
<ul style="list-style-type: none"> Qualitative descriptive study 	<ul style="list-style-type: none"> Survey study
Setting & Sampling	Setting & Sampling
<ul style="list-style-type: none"> KGH AF Clinic December 2017-February 2018 Purposeful sampling of 10 participants 	<ul style="list-style-type: none"> KGH AF Clinic January-March 2018 Consecutive sampling
Inclusion Criteria	Inclusion Criteria
<ul style="list-style-type: none"> ≥ 19 years Receiving OAC for AF ≥ 1 RAND criteria risk for OAC non-adherence 	<ul style="list-style-type: none"> ≥ 19 years Received care at KGH AF Clinic
Data Collection	Data Collection
<ul style="list-style-type: none"> TDF-based, semi-structured, phone interview 	<ul style="list-style-type: none"> 42-item, TDF-based, paper questionnaire 5-point Likert scale
Data Analysis	Data Analysis
<ul style="list-style-type: none"> Directed content analysis coding using TDF Enabler & barrier themes identified using COM 	<ul style="list-style-type: none"> Barrier: ≥ 50% rate Strongly Disagree-Neutral Enabler: ≥ 50% rate Agree- Strongly Agree

Results – Phase 1 Qualitative Descriptive Study

Table 1. Demographics		Table 2. TDF Code Distribution				
Characteristic	n (%)	COM	TDF Domain Code	Utterances (participants)		
				Barrier Enabler		
Age (years)		C	Knowledge	27 (8)	47 (10)	
< 65	2 (20)			1 (1)	14 (10)	
≥ 65	8 (80)			4 (4)	19 (9)	
Female	5 (50)	O	Memory/attention/decision	2 (2)	4 (2)	
AF Subtype				Envir. context & resources	17 (7)	4 (4)
Paroxysmal	8 (80)				0 (0)	25 (9)
Persistent	2 (20)	M	Social/Role & Identity	1 (1)	11 (7)	
AF Duration				Beliefs - capabilities	0 (0)	13 (6)
< 1 month	2 (20)				3 (1)	7 (6)
1 – 6 months	2 (20)	Beliefs - consequences	3 (3)	26 (9)		
> 6 months	6 (60)		1 (1)	10 (6)		
CHADS ₂		Goals	Intentions	0 (0)	9 (5)	
1	3 (30)			1 (1)	12 (10)	
≥ 2	7 (70)	1 (1)	3 (3)			
OAC Type		Emotion	Social influences	1 (1)	12 (10)	
VKA	1 (10)			0 (0)	9 (5)	
DOAC	9 (90)			1 (1)	3 (3)	
Non-Adherence Risk Factors				1 (1)	3 (3)	
Knowledge Deficits	7 (70)					
Regimen Complexity	4 (40)					
Safety Concerns	4 (40)					
Cost Concerns	3 (30)					
Effectiveness Concerns	0 (0)					
Unsatisfied with Care	0 (0)					
Lacks Trust in Providers	0 (0)					
Communication Issues	0 (0)					

Table 3. Themes Associated with OAC Adherence

COM	Barrier Themes	Enabler Themes
Capability	<ul style="list-style-type: none"> AF patients overestimate the relative benefits of DOAC compared to warfarin and could be at risk for non-adherence if they switch agents in the future AF patients believe they receive symptomatic benefit from OAC which could result in non-adherence if symptoms emerge 	<ul style="list-style-type: none"> AF patients understand their condition and their OAC AF patients use systems that enable adherence to OAC
Opportunity	<ul style="list-style-type: none"> AF patients have concerns about their ability to afford DOAC when they retire with a fixed income 	<ul style="list-style-type: none"> AF patients trust their prescribers which may impact OAC adherence
Motivation	None	<ul style="list-style-type: none"> AF patients believe OAC non-adherence increases their risk for experiencing a stroke Participants trust that their OAC is very effective to prevent stroke

Results – Phase 2 Survey Study

Table 4. Demographics	
Characteristics	n (%)
Male gender	48 (62)
Age	
< 65	18 (23)
≥ 65	61 (77)
OAC Type	
DOAC	51 (65)
VKA	10 (13)
COACH Participant	
Yes	10 (13)
No	68 (86)

Figure 1. Barriers and Enablers to Exercise

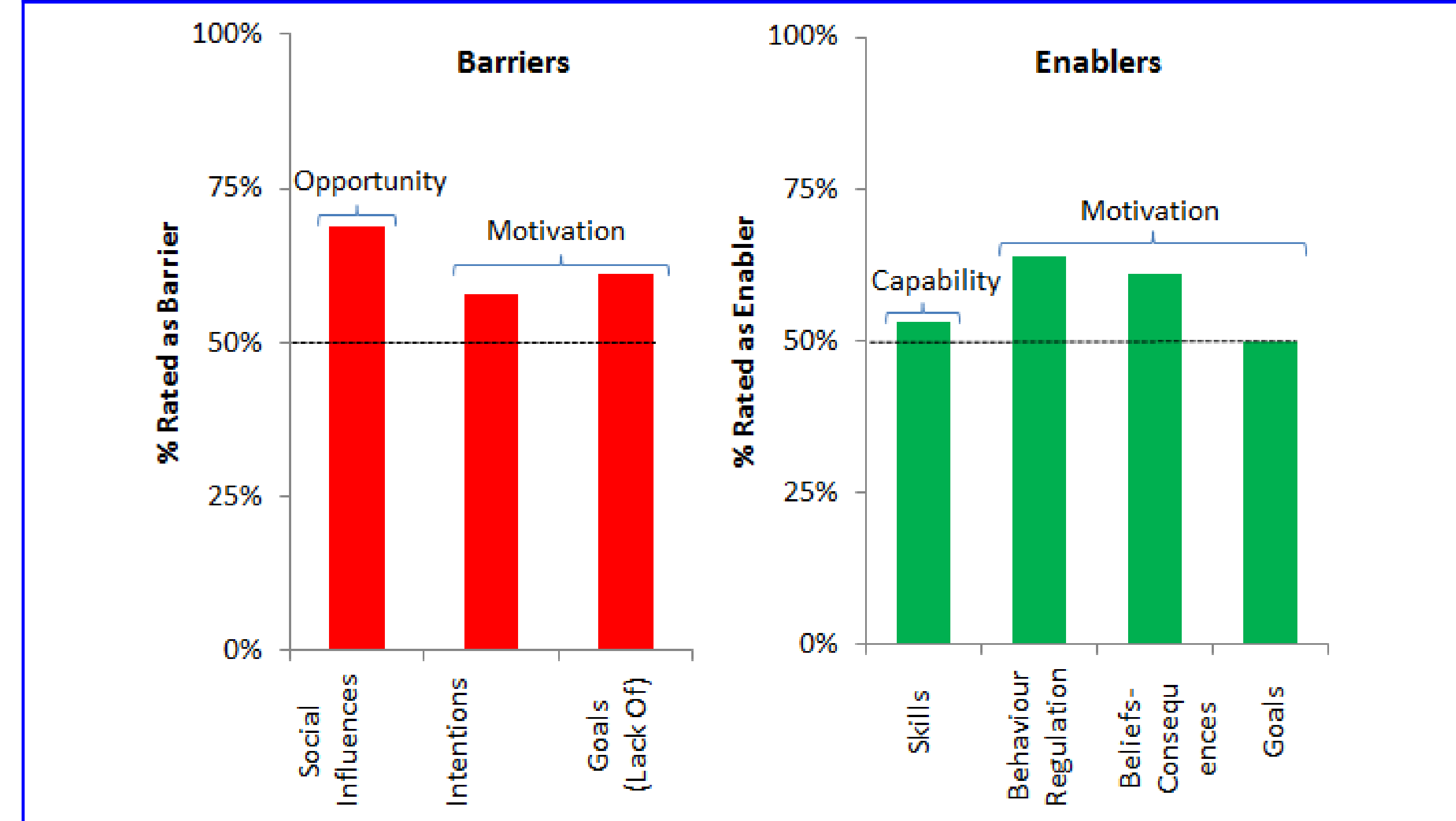
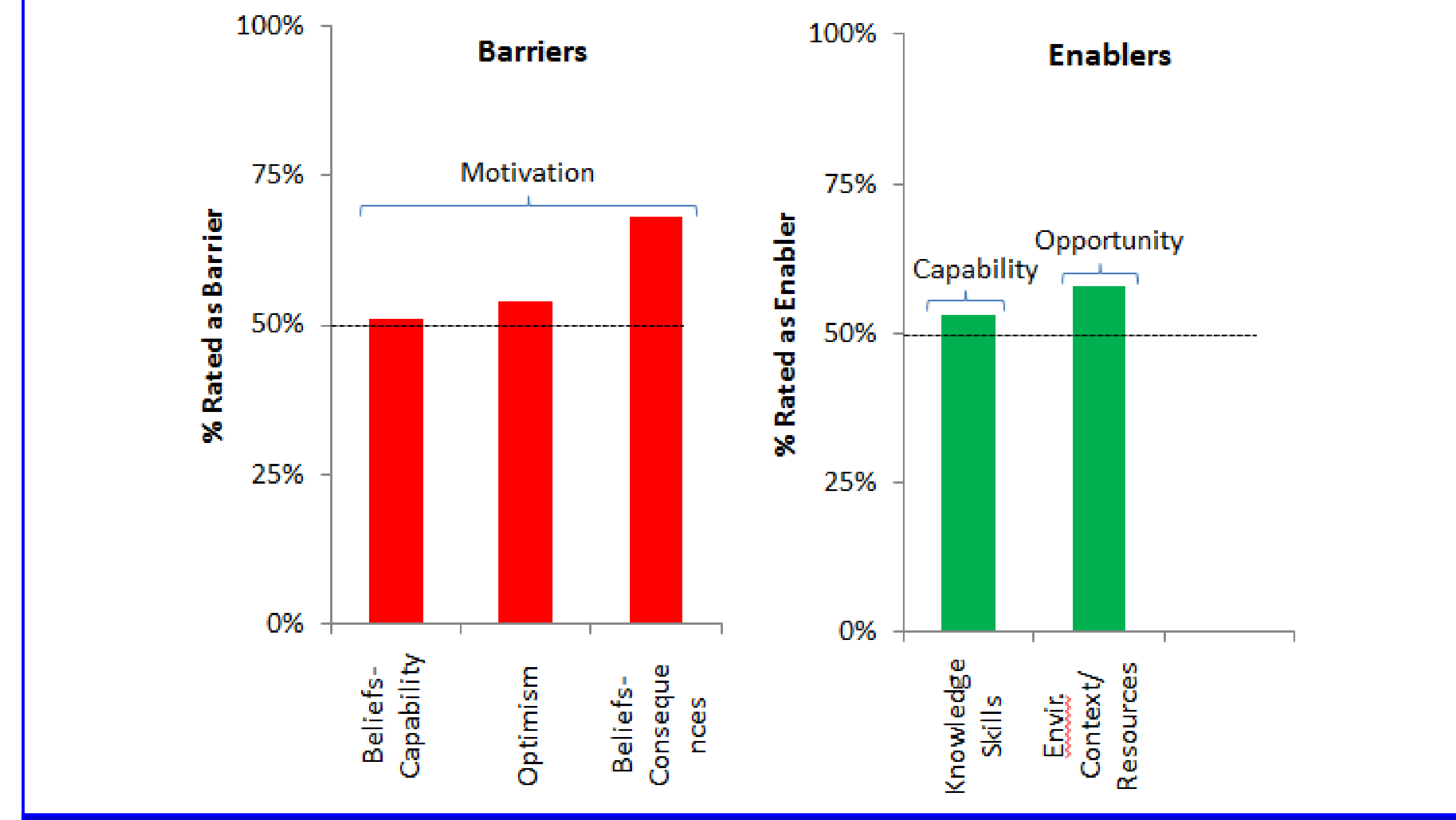


Figure 2. Barriers and Enablers to Smartphones



Conclusions

- OAC adherence barriers reflected capability & opportunity; enablers reflected capability, opportunity, & motivation
- Exercise barriers reflected opportunity & motivation; enablers reflected capability & motivation
- Smartphone barriers reflected motivation; enablers reflected capability & opportunity
- BCI to improve OAC adherence & exercise should address themes

