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International Session

Behaviour Change Techniques and Theory: The 'Sepsis Six' Clinical Care Bundle

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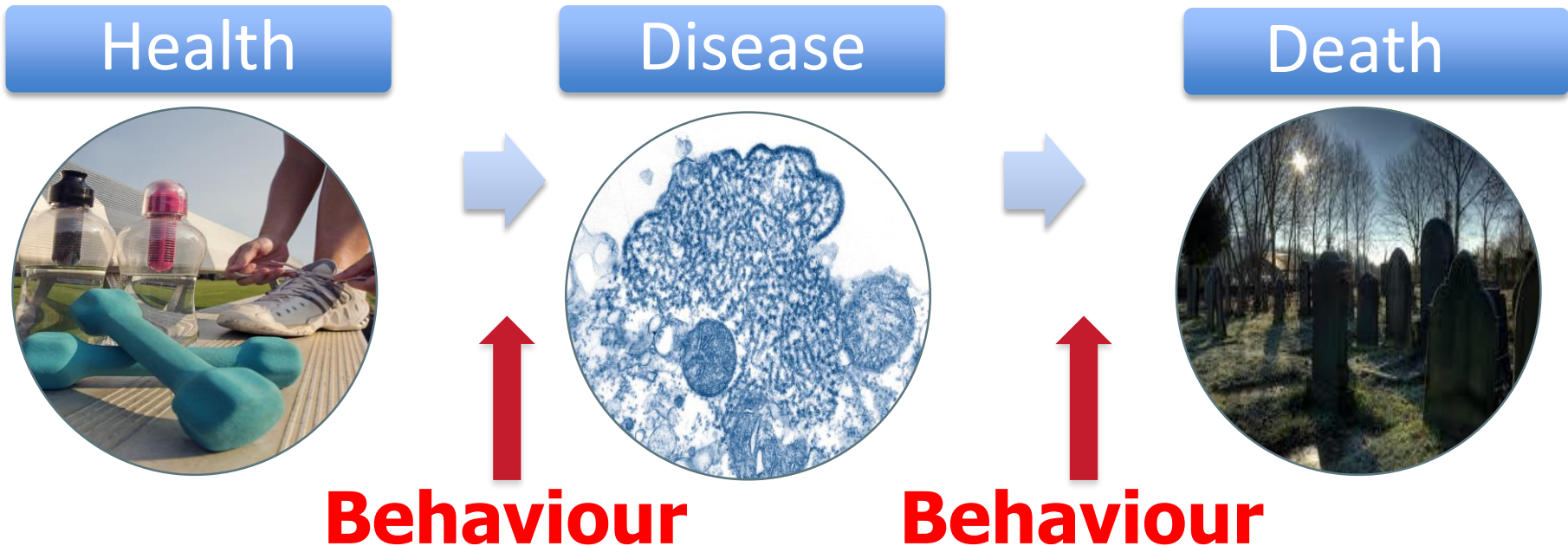
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Overview

- Why talk about behaviour change?
- A systematic method for changing behaviour
- Developing a theory-based intervention for implementation of the 'Sepsis Six'
- Summary & conclusions
- Acknowledgements & resources

Why talk about behaviour change?



Behaviour change is relevant to the prevention of ill-health, management of illness, **delivery of effective health care**

Delivering effective healthcare

- Improving patient outcomes can depend on **changing behaviour on a number of levels**

Policy

(e.g. publishing national guidelines)



Organisational

(e.g. putting up posters)



Individual

(e.g. implementing recommended behaviour)



Changing behaviour is not easy!

- There is a **science** of behaviour change – but it is not always applied
- Many interventions designed according to ISLAGIATT principle¹...

It **S**eemed **L**ike **A** **G**ood **I**dea **A**t **T**he **T**ime



¹Martin Eccles, Newcastle University

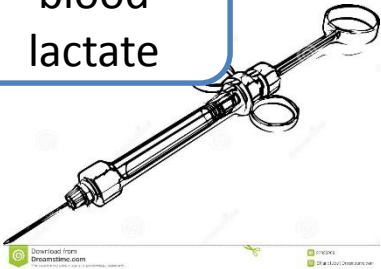
A systematic method

- **Understand** the behaviour you are trying to change
 - Define precisely who needs to do what, where, when, how
- Make a '**behavioural analysis**'
 - Identify barriers and facilitators
- Use a **framework** that points to the types of intervention that are likely to be effective
 - Consider the full range of options available

Application: Development of intervention for Sepsis

6 steps of sepsis treatment: 'Sepsis Six' Clinical Care Bundle

Measure
blood
lactate



Give IV
fluids

Give IV
antibiotics



Measure
urine
output



Take blood
cultures

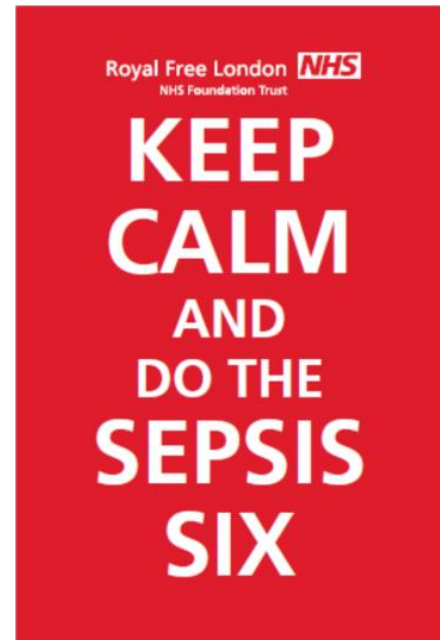
Give high-
flow
oxygen



Background to the Research

Sepsis Intervention in Royal Free hospital (London)

- Aim: To improve Sepsis Six delivery
- Target Behaviour: Use of Sepsis Six pathway by healthcare professionals
- Limitations: ‘trial and error’ approach, not based on theory, took 4 years and target compliance not reached for all areas.



Research Aims

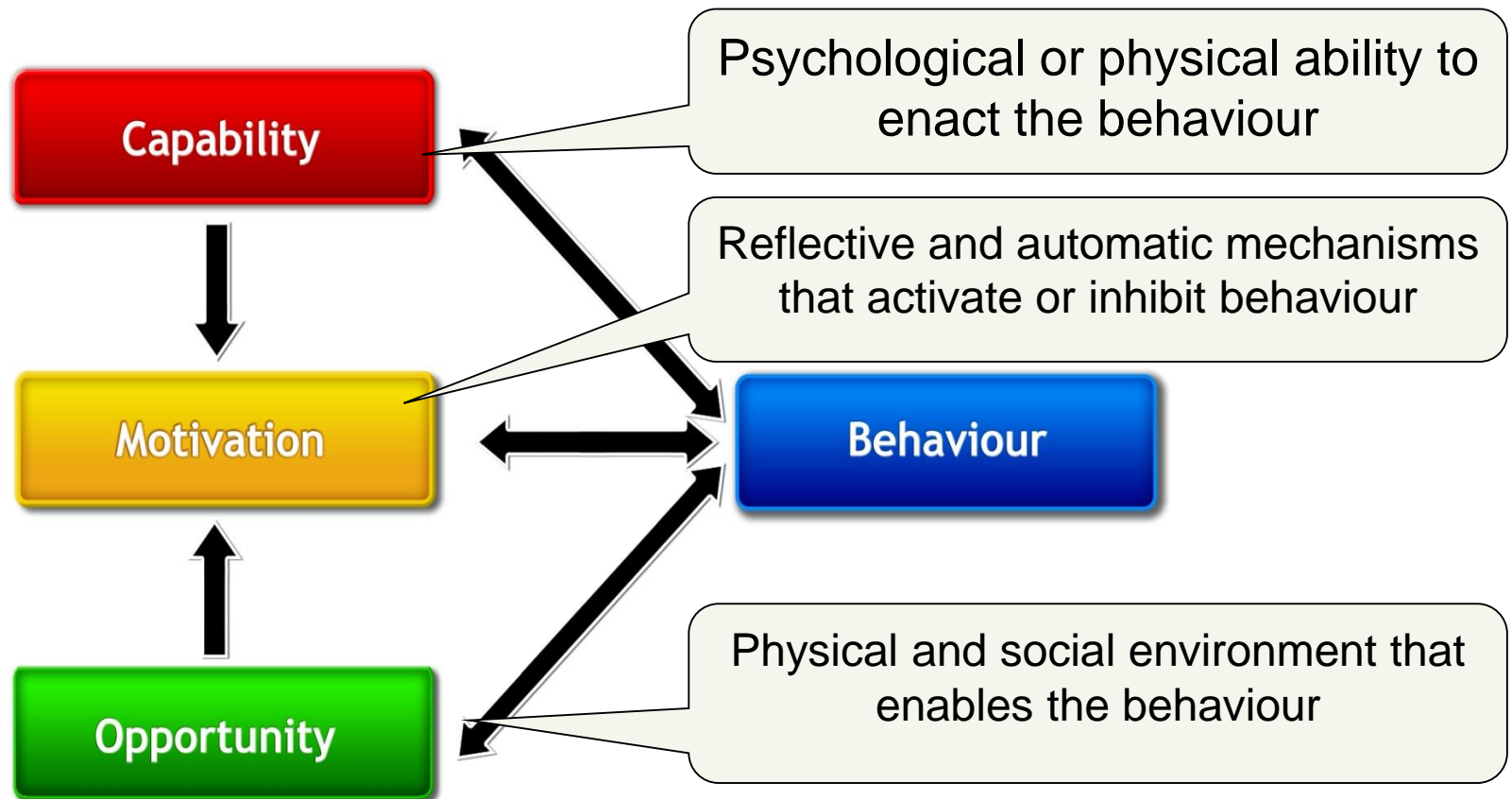
1. To describe the content of the existing Sepsis Six intervention¹
 - What is currently being delivered?
2. To modify the intervention using theory and evidence²
 - What are the barriers and facilitators?
 - How can we address these in a theory-based intervention?

Used theory-based model (COM-B) and systematic framework (Behaviour Change Wheel)

¹Steinmo, Fuller, Stone, Michie (2015)

²Steinmo, Michie, Fuller, Stanley, Stapleton & Stone (2016)

COM-B: A simple theory-based model to understand behaviour



Each component can be broken down further...

Beliefs about Consequences

Does the person believe the behaviour will result in desirable consequences?

Beliefs about Capabilities

Does the person believe that they can make the behaviour change?

Motivation

Behavioural Regulation / Habit

Is the behaviour habitual? Can we use habit formation or disruption principles?

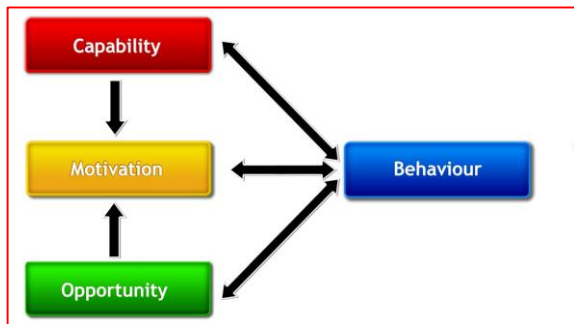
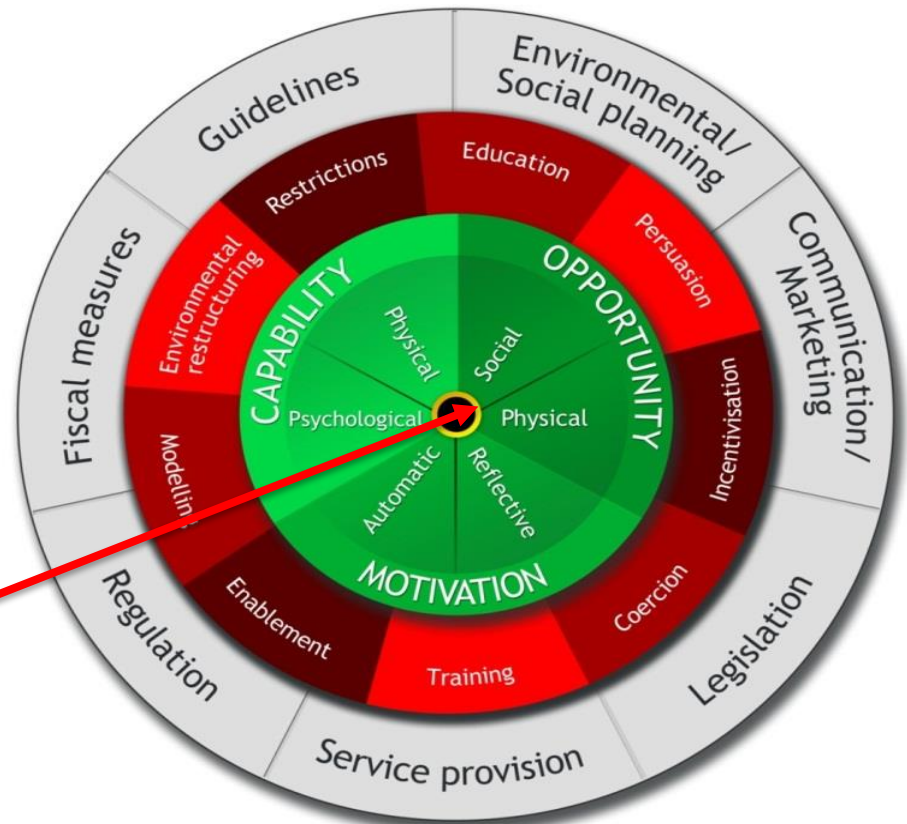
‘Most of the time what we do is what we do most of the time. Sometimes we do something new.’
(Townsend & Bever, 2001)

Emotion

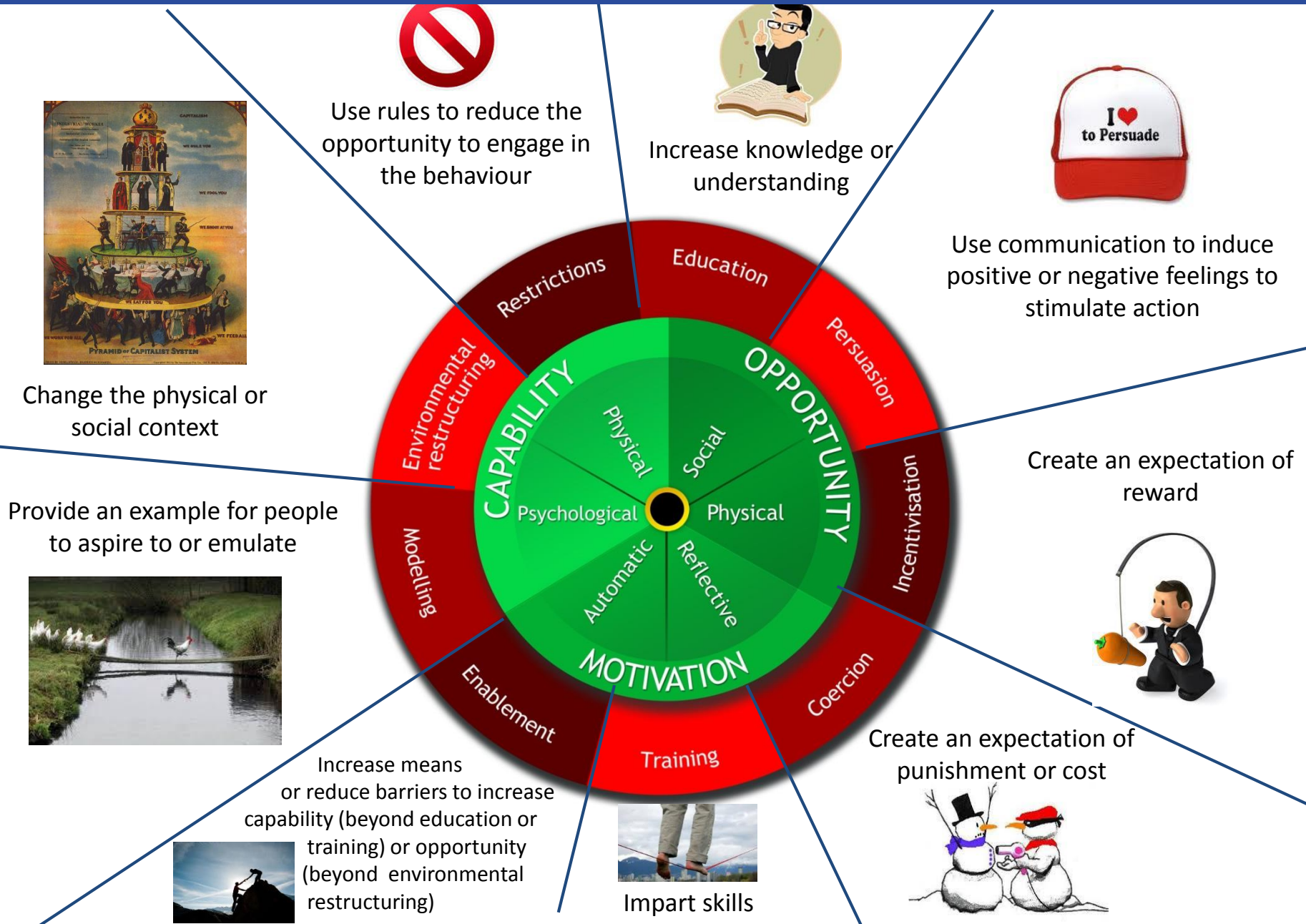
What is the role of emotion and how can this be modified?

Behaviour Change Wheel: A framework for designing interventions

- Sources of behaviour
- Intervention functions
- Policy categories



Behaviour Change Wheel: 9 Intervention 'Functions'



Research Aim 1

Characterising the content of the existing intervention: What is currently being delivered?

Data collected through:

- Semi-structured interviews, document analysis, unstructured observations

Findings:

- Consisted of: Education, Enablement, Environmental Restructuring, Training, Persuasion, Modelling
- Targeted: Psychological Capability & Reflective Motivation in particular (e.g. knowledge & beliefs about consequences)



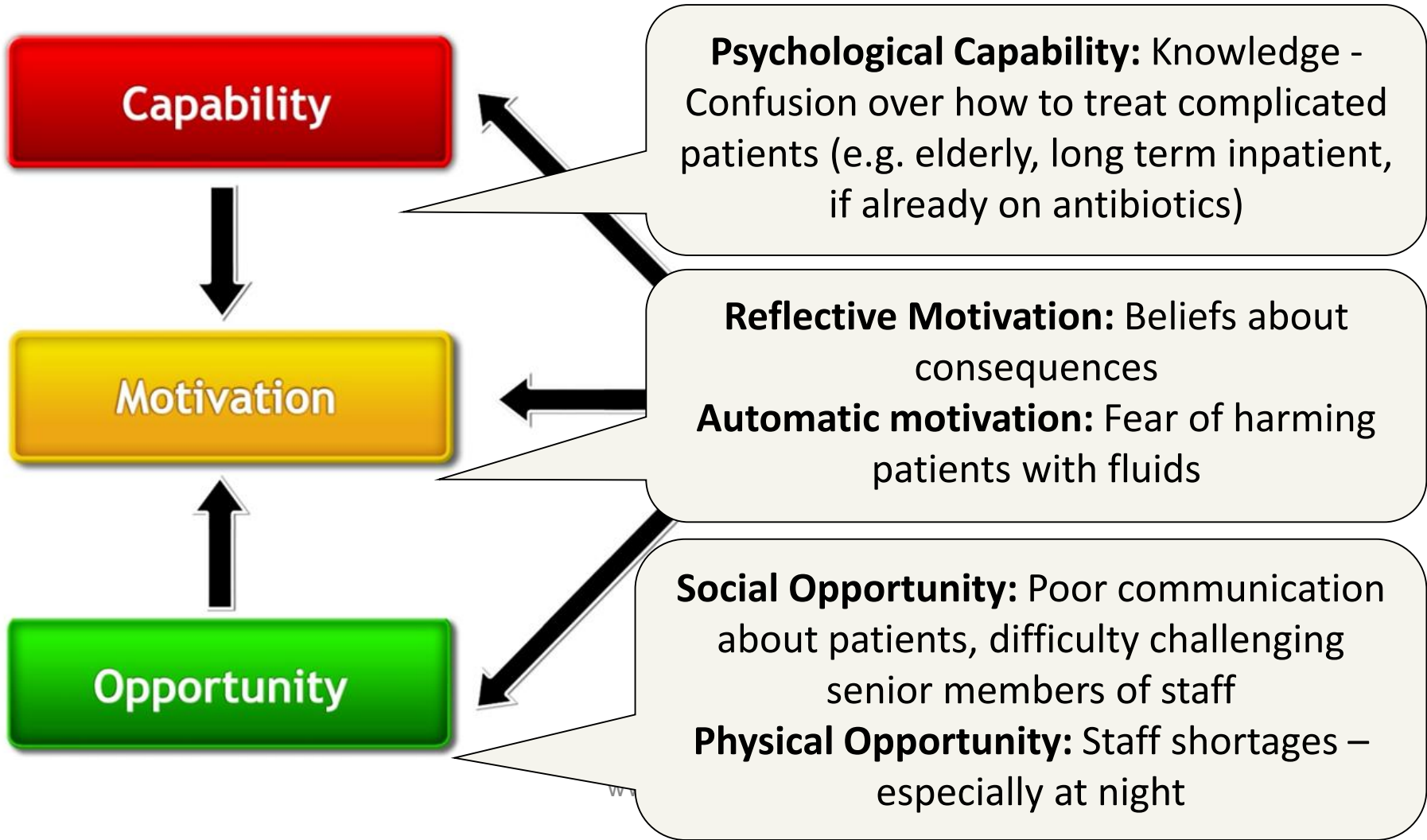
Research Aim 2: Method

What are the **barriers** and **facilitators** to implementation?

Data collected through:

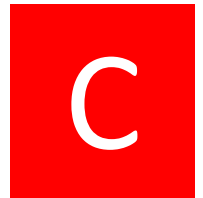
- Semi-structured interviews with health care professionals about what they believed affected implementation
 - *‘What got in the way?’*
 - *‘What would have helped?’*
- Interview content analysed according to **COM-B** model (‘behavioural analysis’)

Findings: Behavioural Analysis - Barriers

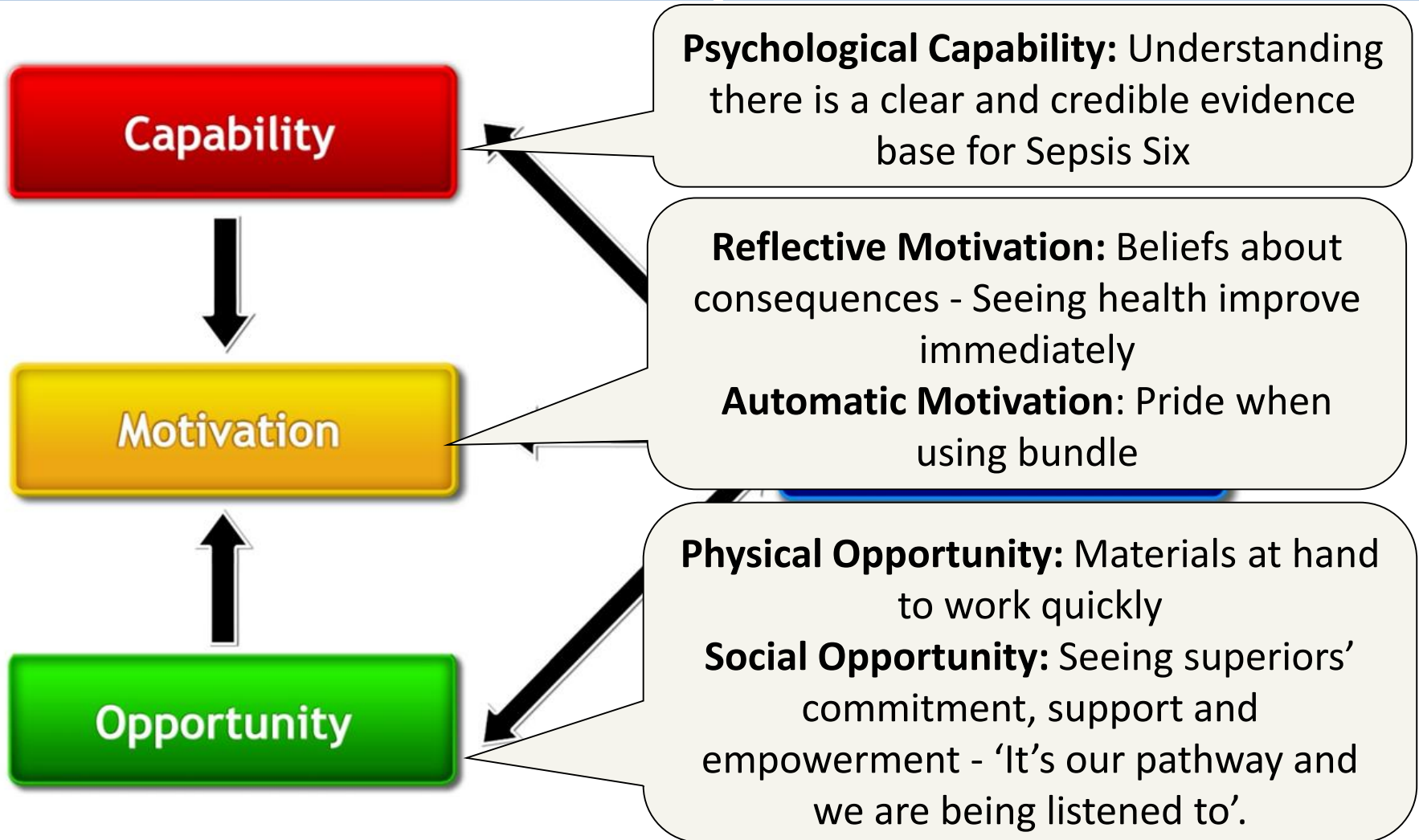


Quotes from interviews: Barriers

- “So that kind of grey area-where do you start them on the pathway because they’re triggering or do you take into account that they might be triggering for some other reason?” (I1 emergency department senior nurse, line 49)
- “Because if they become septic at night time it’s just harder to get doctors and everything just takes that extra bit longer. Because there’s less people.” (FG3 general surgery nurse, line 77)



Findings: Behavioural Analysis - Facilitators



Quotes from interviews: Facilitators

- “I think that after hearing why we are doing it everyone was much more inclined to do it.” (I8 emergency department nurse, line 82)
- “Well if our seniors referred to it that would make a really big difference. So you see your seniors not starting sepsis six and you’re like ‘Well presumably I don’t need to start it then’” (FG1 general surgery junior doctor, line 240)
- “I get more of a kick seeing the bundle work... looking after the patients and seeing them improve. So although it’s useful in some respects to know the figures I much prefer to see how the patient responds” (I5 emergency department nurse, line 44)



Research Aim 2: Method

How can we address the barriers and facilitators in a theory-based intervention?

Intervention modification achieved through:

- Round-table discussion
- Delphi-exercise
 - *Are these modifications affordable, practical, effective, acceptable, safe and equitable?*

Findings: Development of a theory-based intervention

Barriers and Facilitators

Fear of harming patients with stat fluid

Need for superiors' commitment

Lack of doctors at night

Empowered staff = change

Materials at hand



Findings: Development of a theory-based intervention

Barriers and Facilitators

- Fear of harming patients with stat fluid
- Need for superiors' commitment
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- Empowered staff = change
- Materials at hand



Intervention

- Education modified to address fluid volumes
- Written agreement drafted by ward clinical leads
- Night coordinator training
- Development of Sepsis Champion roles
- All areas have designated sepsis trolley or area

Two new interventions components added

- Partnership agreement
 - Emphasised roles and responsibilities of senior staff and normalised challenging of colleagues' clinical decision-making
- Training for Hospital at Night Co-ordinators
 - Addressed potential problems implementing intervention at night



In summary...

- Demonstrated feasibility of using behavioural science tools to:
 - Describe current practice
 - Modify the intervention and describe modifications in a format that can be repeated and tested
- Helped bridge the gap between pragmatically-developed patient safety intervention and systematic, theory-guided approach

Conclusions...

- Behaviour change is complex!
 - Drawing on theory-based tools and frameworks from behavioural science can help develop/evaluate interventions

...and some food for thought

- We are not always rational decision-makers...but we are not completely irrational either!
 - Behaviours that persist tend to be serving a purpose for the individual
 - Important to understand what this is if we are to change the behaviour

Acknowledgements

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References

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Steinmo, Michie, Fuller, Stanley, Stapleton & Stone (2016):

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Thank you!



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