

Outbreaks and the opportunities for Research

Presentation to SIRN

A large, light blue, wavy graphic element that curves across the bottom of the slide.

To cover

- What HPA in the North East (England) are doing
- Briefly what HPS is doing – perhaps
- Some considerations for SIRD

HPA

- During a school outbreak of *S. pneumoniae* a decision was made to treat prophylactically all the children in primary 1.
- However... they wanted to know what proportion of the children were carriers – clear gap in the knowledge

As the answer to the question was not going to affect the decision to treat...

- Needed a decision from research ethics – was formal ethics approval required?
 - Yes
 - Result – no opportunity to get that approval in the time frame

Acknowledgement

- During outbreaks there is a very limited window of opportunity to get ethics approval and thereby undertake [certain types of] research
- Clear benefit for ‘future’ outbreaks for this to be done
- Response – they had to get prepared in advance of outbreaks

Took kit

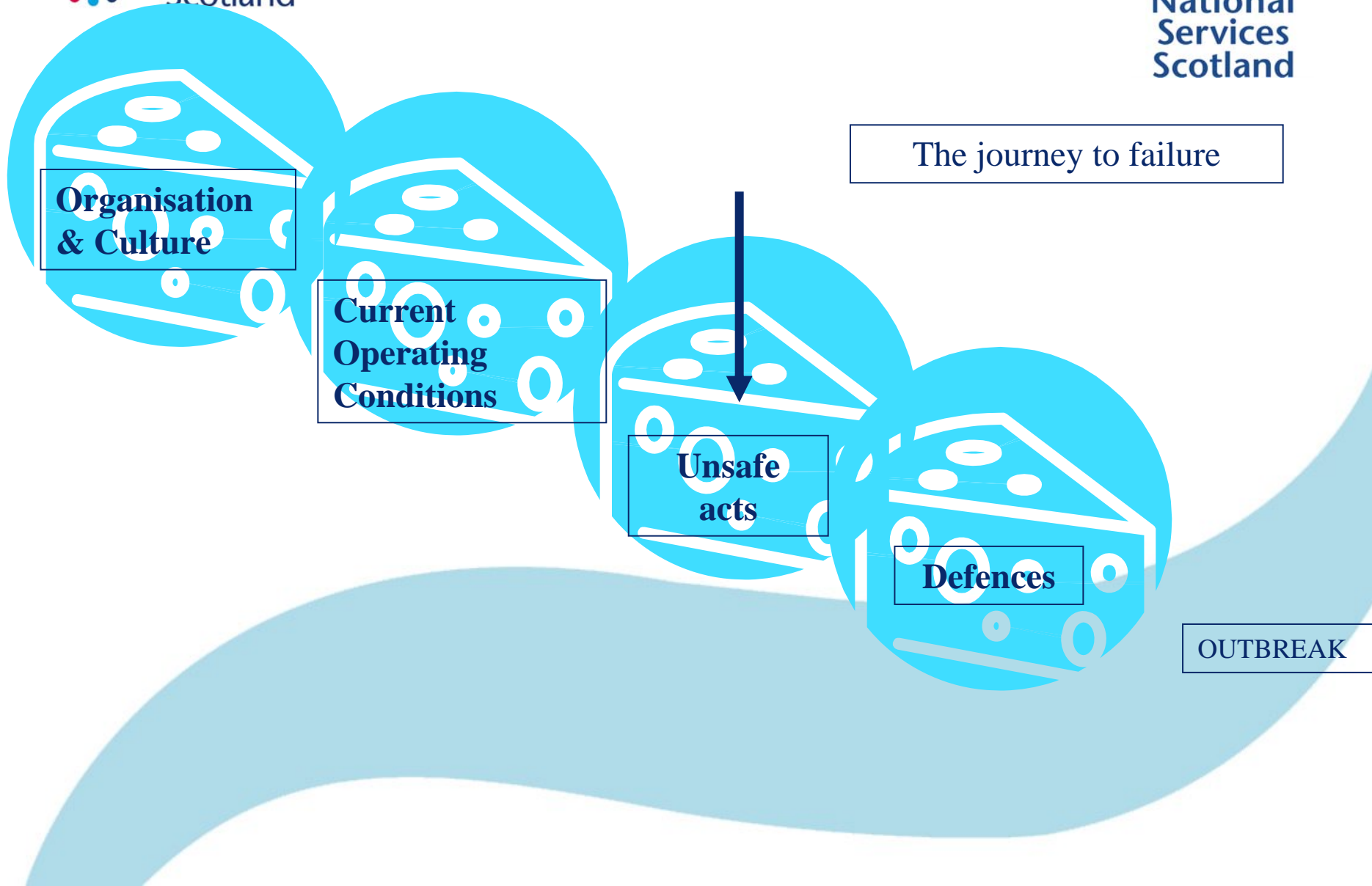
- In draft
- Being tested
- Suggestion for SIRN
 - Do likewise
 - Stay in touch with them and adapt as testing complete – they are happy with this

Dilemma

- Not recognised by all that there was a need.
'I'd just swab them.'
'You are opening a can of worms'
- Ergo: Maybe some work around when ethics is needed in outbreaks in advance of the tool kit.
- Question: Do ICTs know when they need ethics in trying to undertake research during outbreaks?

What is HPS up to re: outbreak management

- HAI Task Force Delivery Plan
 - Knowledge management
 - Tools
 - Human Error Theory
 - What caused the outbreaks
 - RBEs during outbreaks
 - » Right rules applied badly
 - » Wrong rules applied (failure to apply rules)
 - KBEs during outbreaks
 - » Those managing / those supporting



Classification of errors

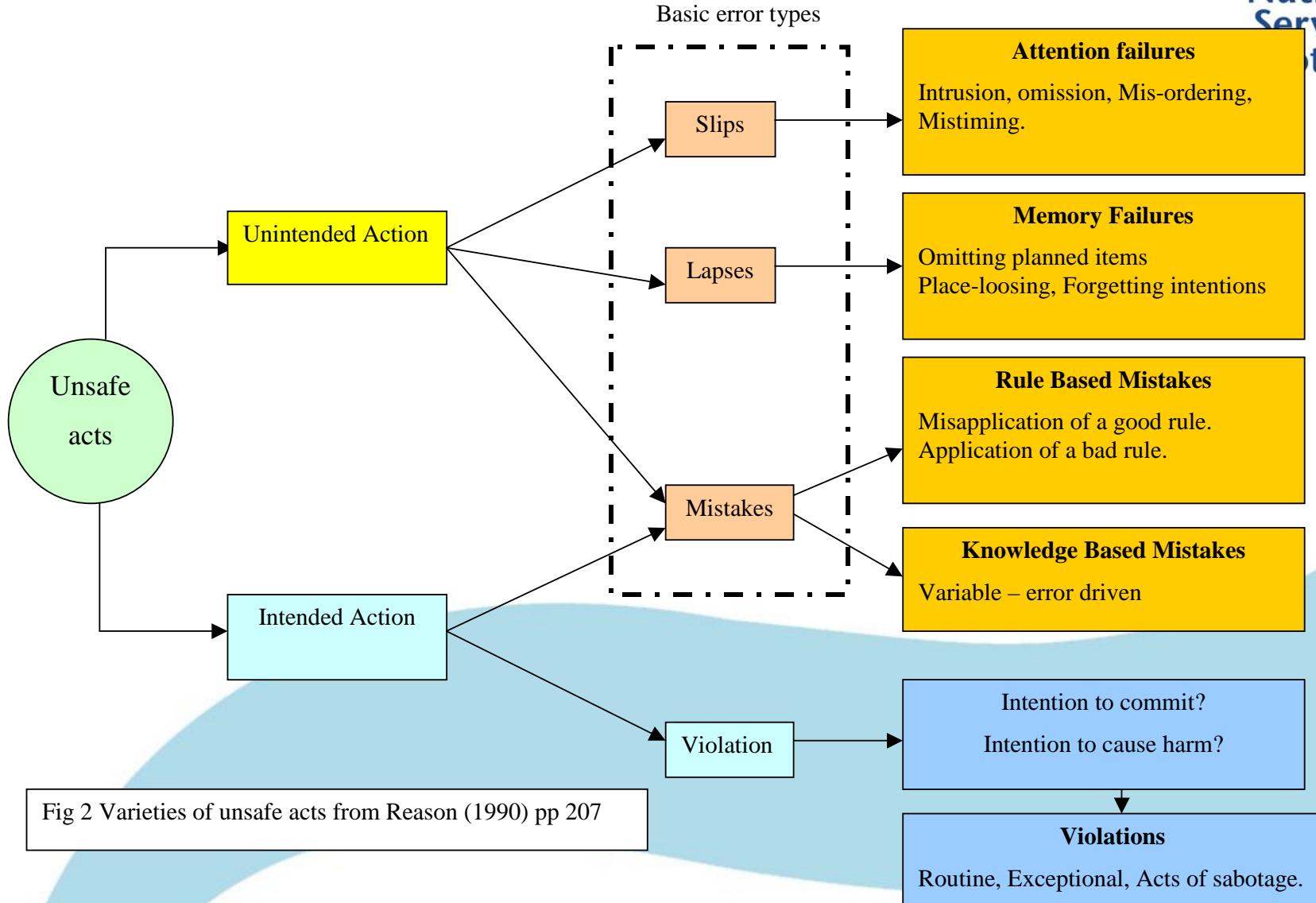
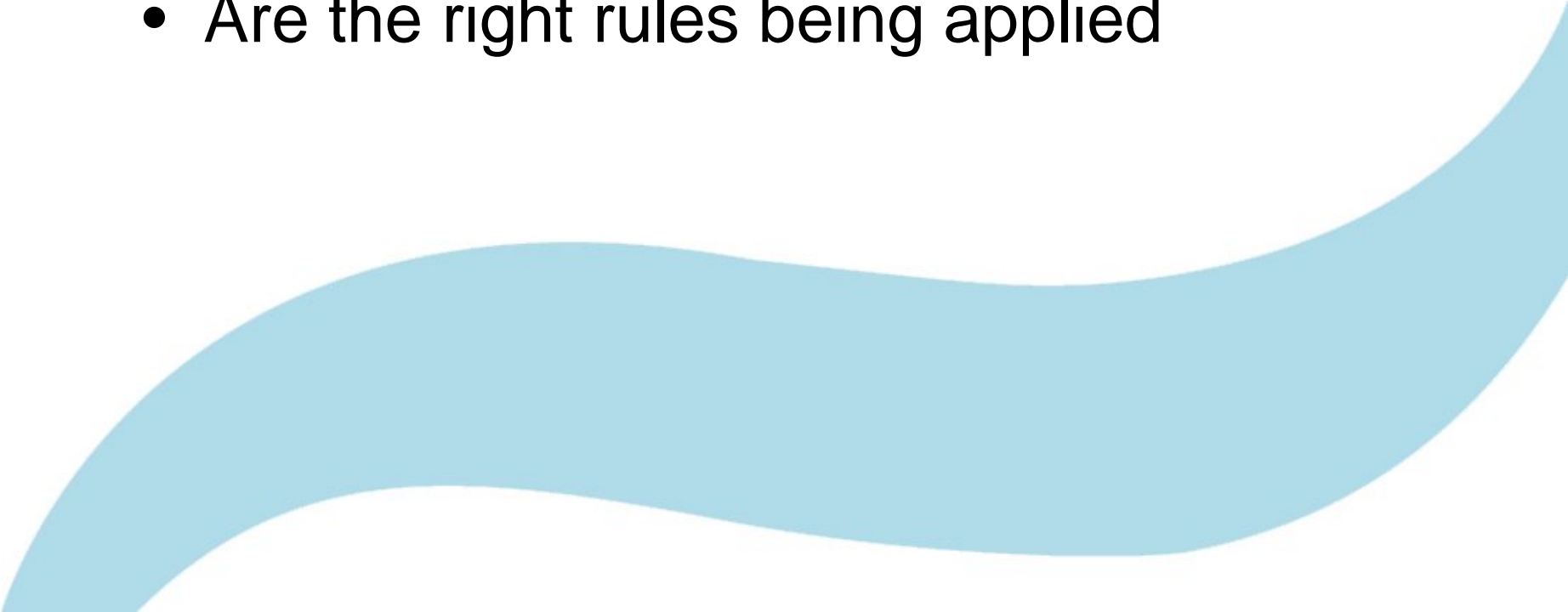


Fig 2 Varieties of unsafe acts from Reason (1990) pp 207

Norovirus – RBE domain

- Do we have the right rules
 - Are the right rules being applied
- 

Knowledge Based Error(s) Bounded

rationality & Incomplete or inaccurate mental model of the problem space

- **Workspace limitations** – heavy burden on conscious recall affected, conclusions based on order of identification not current information
- **Selectivity** – pick the wrong things to work on
- **Out of sight out of mind** – ignore what is not immediately present
- **Confirmation bias** – preliminary hypothesis stuck to regardless of new data
- **Overconfidence** – problem solvers are likely to be overconfident
- **Oversimplification** of causality
- **Biased review** (check off illusion)– review reveals they are correct
- **Illusory correlation** – single pathologies
- **Halo effect** – Do not like separate orderings aversion discrepancies can do one thing can do all
- **Problems with causality** – oversimplify (RCA)

Safety Culture

- That resulted in the outbreak / outbreak management
- During normal work
 - People know leaders are making errors and do not always tell them:
 - Consider them invincible
 - Consider them a threat
 - An accepted approach is ‘hint and hope’
 - A better approach is for all to be comfortable in saying and receiving.....
 - ‘I am really not confident about this’

HPS needs to help by

- Getting it right quick
- Reducing risk of likely errors
 - Slips or lapses = Outbreak process
 - Rule based errors = right EB rules
 - Knowledge based errors = reduce bounded rationality, support
 - Understanding the culture for both causation and control

HPS Tools

- The process (SB)
- The process with steps (SB)
- Control measure tool (KB)
- Pipeline
 - Knowledge management (SB; RB; KB)
 - Rules for Norovirus (RB)
 - ‘Ready reckoner’ (KB)
 - Outbreak cheese holes (SB; RB; KB)
 - Safety climate tool during outbreaks??

Given this work

- There are known and unknown opportunities for research on the efficacy of these tools

SIRN considerations

- Is there a need for a research Tool Kit (Scottish own or adapted)
 - Links with HPA Newcastle
 - Formal or through me (I don't mind)
- Consideration of opportunities for outbreak research – preparation and understanding to answer outbreak specific research questions [seems obvious that a tool kit would mean it is more likely to happen]
- Consideration of future research opportunities given the development of tools based on HET