



University  
of Stavanger



Resilient  
Health  
Care  
Network

AUSTRALIAN INSTITUTE OF  
HEALTH INNOVATION  
*Faculty of Medicine and  
Health Sciences*



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# Resilience Engineering in Practice

The third Australian Institute of Health Innovation-Resilient Health Care Net  
international prize in resilient health care

**Professor Jeffrey Braithwaite**

Centre for Healthcare Resilience and Implementation Science, Australian Institute of Health  
Innovation

**Professor Erik Hollnagel**

Institute of Regional Health Research, University of Southern Denmark

**Professor Karina Aase**

Department of Health Studies, University of Stavanger, Norway

**Associate Professor Christian von Plessen**

Center for Kvalitet, University of Southern Denmark

# The 2018 Award

## THE INVITATION

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### THE PROBLEM

- Adverse events hover at 10% of all hospital admissions
- Less than 60% of health care encounters receive appropriate care
- The dominant approach to patient safety is “Safety-I”

### THE ALTERNATIVE

- “Safety-II” is based on resilience engineering thinking
- It aims to understand how things typically go right
- Applying resilience engineering has the potential to transform the way we manage patient safety, and deliver more effective care to patients

# The 2018 Award

## THE INVITATION

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### **THE CHALLENGE**

- For individuals or collaborations to document their best work-in-progress, study, demonstration or ideas which help reconcile WAI and WAD.
- Successful submissions must be feasible, innovative, compelling and globally translatable with the potential to transform how health care systems address patient safety and with demonstrable practical outcomes .

### **THE POTENTIAL**

- Prize-winning innovations will have the potential to transform the way we manage patient safety and deliver more effective care to patients

# The Criteria

2017 RHCN PRIZE

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1.  
Relevance to  
RHC



2.  
Persuasiveness  
of case



3.  
Feasibility of  
adoption



4.  
Innovative



5.  
Globally  
transferable



6.  
Practical  
outcomes

# The 2018 Award

## GRADING SCALE

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Each entry was graded on a 5-point scale in accordance with six criteria

1. Poor, not competitive
2. Adequate, but not compelling
3. Good, but not first rank
4. Strong score, just falling short of excellent
5. Excellent, world class

# The 2018 Award

## THE PANEL

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### Professor Jeffrey Braithwaite

Founding Director, AIHI, Macquarie University, Australia (Chair)

### Professor Karina Aase

Professor of Patient Safety, University of Stavanger, Norway

### Professor Sir Liam Donaldson

Professor of Health Policy, Imperial College, London, United Kingdom

# The 2018 Award

## THE PANEL

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### Professor Erik Hollnagel

Professor, the University of Southern Denmark, Chief Consultant,  
Centre for Quality Improvement, Region of Southern Denmark

### Professor Cliff Hughes AO

Past-President, International Society for Quality in Healthcare (ISQua)

### Professor Patrick McNeil

Executive Dean, Faculty of Medicine and Health Sciences (FMHS)  
Macquarie University, Australia



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# The Entrants

2018 RHCN INTERNATIONAL PRIZE:

RESILIENCE ENGINEERING IN PRACTICE



# The 2018 Entrants

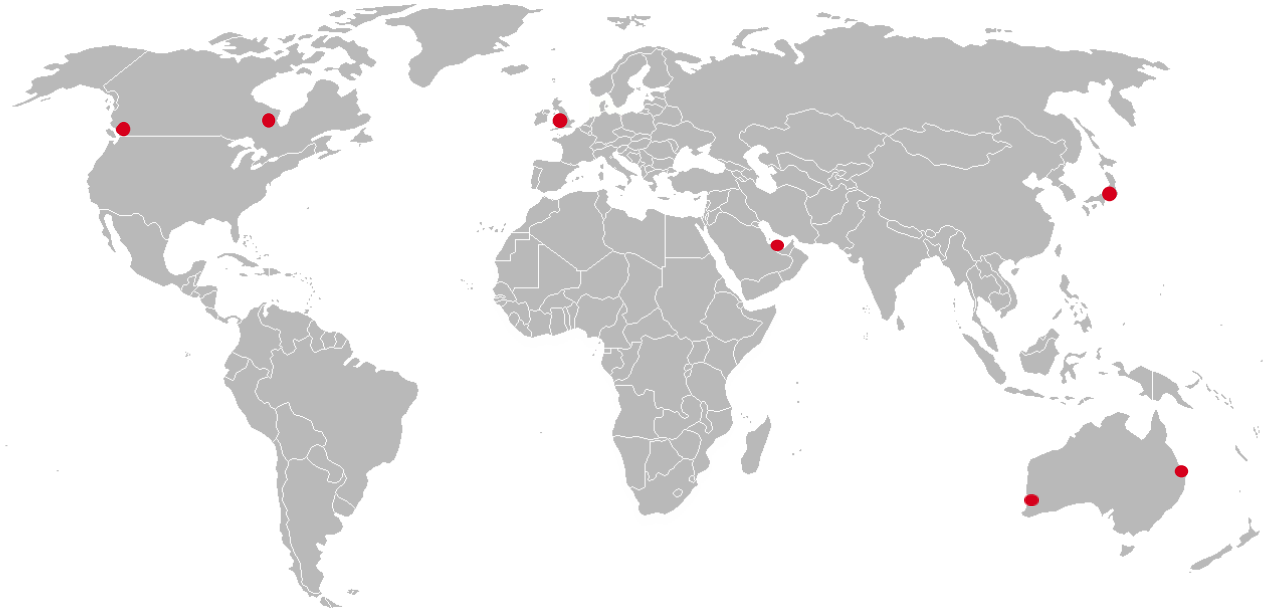
## GEOGRAPHIC DISTRIBUTION



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8 entries, comprising of:

- 1 from the UK
- 3 from Australia
- 2 from Canada
- 1 from Japan
- 1 from Qatar



# The Entrants

## RESILIENCE ENGINEERING IN PRACTICE

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- #1** Better Care Framework: Reconciling Safety-II and Safety-I
- #2** The Resilient Solutions Assessment Tool
- #3** Redesigning the blood transfusion procedure in operating rooms: Aligning WAI and WAD
- #4** Perceptive system analysis: Resilience lens to incidents reviews

# The Entrants

## RECONCILING WORK-AS-IMAGINED AND WORK-AS-DONE

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- #5** Learning from excellence: A call to learn from what goes well in healthcare
- #6** Using a restorative justice and learning lens for critical incident reviews
- #7** Safety Afterhours for Everyone (SAFE): Resilience engineering out-of-hours inpatient care
- #8** Serious games to enhance surgical safety

# RELIABILITY OF JUDGEMENTS



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## JUDGING PROCESS

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- We assessed the degree of correlation among the six judges
- Generally, there were positive moderate-to-high correlations among judges' ratings, with few negative associations
- We looked at the impact of outliers (the most generous and the most stringent) and found that removal of their ratings did not affect top 3 rankings
- That is, removal of the most generous OR the least generous OR both had no impact on the rankings of the top-3
- This suggest judges' ratings were fairly consistent and that the rankings are robust



# RHCN Abstract judges scores and rankings

Pearson Correlation Coefficients, N = 8 Prob >  r  under H0: Rho=0							
	CH	EH	JB	KA	LD	PM	Total
<b>CH</b>	1.00000	0.15338	0.44361	0.70988	0.70078	0.53513	0.71220
CH		0.7169	0.2709	0.0485	0.0528	0.1717	0.0475
<b>EH</b>	0.15338	1.00000	0.34245	0.51117	0.60969	0.56982	0.75351
EH	0.7169		0.4063	0.1954	0.1085	0.1403	0.0309
<b>JB</b>	0.44361	0.34245	1.00000	0.01984	0.56141	0.00453	0.42100
JB	0.2709	0.4063		0.9628	0.1476	0.9915	0.2989
<b>KA</b>	0.70988	0.51117	0.01984	1.00000	0.58842	0.84932	0.84489
KA	0.0485	0.1954	0.9628		0.1249	0.0076	0.0083
<b>LD</b>	0.70078	0.60969	0.56141	0.58842	1.00000	0.57695	0.84462
LD	0.0528	0.1085	0.1476	0.1249		0.1343	0.0083
<b>PM</b>	0.53513	0.56982	0.00453	0.84932	0.57695	1.00000	0.86761
PM	0.1717	0.1403	0.9915	0.0076	0.1343		0.0052
<b>Total</b>	0.71220	0.75351	0.42100	0.84489	0.84462	0.86761	1.00000
Total	0.0475	0.0309	0.2989	0.0083	0.0083	0.0052	



# Prize-winning Applications

THE 2018 AIHI-RHCN INTERNATIONAL PRIZE

# The 2018 Winners

THIRD PRIZE

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## Entry Title:

Better Care Framework - Reconciling Safety-II and Safety I

## Authors:

Associate Professor Andrew Johnson, Dr Robyn Clay-Williams and Dr Paul Lane

## Selected Judge's Comments:

*“Excellent framework to teach complexity of health care”*

*“Of great interest to many clinicians and managers”*

*“Strong and innovative”*

# The 2018 Winners

SECOND PRIZE

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## Entry Title:

Learning from excellence: A call to learn from what goes well in healthcare

## Authors:

Dr Adrian Plunkett

## Selected Judge's Comments:

*“An example of looking at distinct positive outcomes and the work behind that”*

*“Very thoughtfully argued”*

*“ Good application of the theory”*



# The 2018 Winners

FIRST PRIZE

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## Entry Title:

Safety Afterhours for Everyone (SAFE) – Resilience Engineering  
out- of hours inpatient care

## Authors:

Dr Tim Bowles

Dr Deepan Krishnasivam

Ms Katherine Birkett

## Selected Judge's Comments:

*“Down-to-earth and practical”*

*“Scores highly on defining the interventions clearly”*

*“Explicit use of learnings from what works”*



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**2018**  
**RHCN-AIHI**  
**International Prize**