



EUROPE

# Feasibility Study for a What Works Centre for Safety

Giulia Maistrello, Robert Donoghue, William Phillips, Avery Adams,  
Jessica Dawney, Eliane Dufresne, Fifi Olumogba, Richard Heron,  
Christian van Stolk, Nick Fahy



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# Summary

## Context and research methods

In 2022, Lloyd's Register Foundation (LRF) requested proposals to establish a global What Works Centre for Safety, focused on the safety of life and property, aiming to become a focal point for evidence-based activities for safety at a global scale. After reviewing proposals, LRF commissioned this feasibility study to understand the potential impact of taking a 'what works' approach to the establishment of a global centre and network for safety of life and property, how such a centre can achieve and show impact, as well as how such a centre could best be established and sustained in the longer term.

The feasibility study was conducted using a combination of research methods:

- A literature review to provide context on how evidence influences policy and practice (section 3.1), the 'what works' approach (3.2) and the potential impact of evidence centres (3.3; we use the term evidence centre in this report to refer to any centre focused on generating, translating and adopting evidence into policy and practice).
- Interviews and a workshop with experts and representatives of evidence centres were conducted to identify the key components, dimensions of such centres and the challenges they face (3.4.1).

- Mapping of a sample of five centres based on these dimensions (3.4.2).
- Synthesis of the opportunities and issues for an evidence centre on safety from stakeholders (3.4.3).
- Two scoping studies on how an evidence centre on safety could operate in particular areas, one on psychological wellbeing (3.5.1) and one on safety in small and medium-sized enterprises (3.5.2), which used their own specific literature reviews, interviews and workshops.
- Analysis based on these findings to produce recommendations, with additional input from LRF through an option appraisal workshop (4).

## Key findings

The main findings from the activities carried out in the feasibility study are summarised as follows:

- Achieving impact from evidence centres is feasible, but active engagement with stakeholders throughout the process is central, as is recognition that decisions on policy and practice are complex processes where evidence is important but not the sole factor.
- For similar reasons, demonstrating impact from evidence centres is difficult; it is more

feasible to measure outputs and outcomes and combine these with a clear model for how these are expected to achieve impact over time.

- The research team identified six strategic dimensions that characterise the composition of evidence centres: area of focus, geography, target of change, function, stakeholder engagement, and funding. Existing evidence centres adopt diverse approaches along these dimensions, indicating multiple ways in which a novel centre for safety could achieve its objectives.

## Recommendations

We make the following recommendations, structured around the six strategic dimensions identified through our findings:



**Area of focus:** The scope of targeting 'safety of life and property' is very broad; we recommend working with stakeholders to identify priorities and reduce the potential scope to a manageable focus.



**Geography:** We recommend that the centre takes an international perspective and progressively seeks out partnerships and opportunities around the world that reflect priority areas of focus and that can support sustainable engagement.



**Target of change:** We recommend that the centre primarily targets safety professionals, rather than primarily policymakers, and engages with the private as well as the public sectors.



**Function:** In addition to generating evidence, we recommend that the centre supports the use of evidence on safety for policy and practice more broadly.



**Funding and form:** Based on the experience of existing 'what works' centres and other evidence into policy and practice centres, we recommend an initial commitment to funding for ten years to safeguard independence and start seeing an impact, with the centre also using that period to explore other financing options. There are a wide range of forms the centre could take; the key recommendation for the centre's governance is to be independent and credible, regardless of how it is formally constituted.



**Stakeholder engagement:** We recommend placing stakeholders at the heart of the centre and adopting a participatory approach from the start.

## Conclusions

Our findings show that establishing a novel evidence centre and stakeholder network for safety would add value to existing work in this area. The feasibility of the centre will depend on the balance struck across the different strategic dimensions identified above, and our recommendations set out how this could be done.

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## Abbreviations

ESRC	Economic and Social Research Council
EUOSHA	European Agency for Safety and Health at Work
HSE	Health and Safety Executive
ILO	International Labour Organization
IMO	International Maritime Organization
LRF	Lloyd's Register Foundation
NIOSH	National Institute for Occupational Safety and Health
OSH	Occupational Safety and Health
SME	Small and Medium-sized Enterprises
ToC	Theory of Change
WWC	What Works Centre
WWN	What Works Network

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# 1 Introduction

In 2022, Lloyd's Register Foundation (LRF) requested proposals to establish and run a global LRF What Works Centre for Safety and network, focused on the safety of life and property. Following their review of proposals to achieve this, the Foundation commissioned RAND Europe to carry out a feasibility study to understand in more detail the potential impact of taking a 'what works' approach to safety of life and property. It would also consider how such an approach could best be established and, importantly, sustained in the longer term. This is the final report of that feasibility study.

In the next section, we describe the methods used for this study. Our findings are then broken down into five sections:

1. Evidence about the process of making best use for evidence in policy and practice itself. These evidence centres can make a valuable contribution, but doing so is not simple, and the challenges involved are important to bear in mind for any new evidence centre on safety.
2. Experience from the existing 'what works' centres. This experience reflects wider lessons about the importance of not only generating and communicating evidence but also supporting its adoption, and engaging with stakeholders throughout the process.

3. Setting out a model for how evidence centres can have an impact. Demonstrating impact from evidence centres is challenged, and can be helped by combining measurement of outputs and outcomes with a clear logic for the impact that these are intended to have.
4. Reviewing the different strategies taken by different evidence centres. We propose a model of six strategic dimensions and analyse the different strategies taken by a sample of evidence centres through this lens. We also consider opportunities and issues for the strategy to be taken by a new evidence centre for safety.
5. Illustrating how such a new evidence centre for safety might work in practice through two scoping studies on the wellbeing of seafarers, and safety within small and medium-sized enterprises (SMEs).

On the basis of these findings, we then make recommendations for how best to proceed with a new evidence centre for safety, broken down by the six strategic dimensions identified through our findings.

## 2 Methods

LRF commissioned RAND Europe to conduct a feasibility study for the establishment of a novel 'what works' centre for safety in late November 2022. The study was completed, and this report written in April 2023. The narrow time available has been the main limitation for this study, which created challenges with identifying, contacting and obtaining input from experts, in particular those outside the UK. Nevertheless, the research team was able to engage with a total number of 80 stakeholders (including our collaborators within LRF) who participated in interviews and workshops. The majority of stakeholders were based in the UK, but some were from other countries, including New Zealand, Australia, Singapore, Thailand, Bangladesh, Ghana, Brazil, United States, Canada, Finland, Denmark, Switzerland and Spain. To see the breakdown of stakeholders by category, please see Appendix A.1. Please note that some stakeholders have been involved in multiple occasions.

To conduct the feasibility study within the timeframe, the research team at RAND Europe took an iterative and interactive approach, conducting multiple streams of work at the same time. Here we describe each workstream and the research methods that supported it:

- The first workstream provides **context** on how evidence influences policy and practice (described in section 3.1), the 'what works' approach (3.2) and the

potential impact of evidence centres (3.3). The findings in these first chapters of the findings are through a combination of literature review, interviews and a workshop with key stakeholders (described below), and our own analysis.

- The second workstream outlines six **dimensions** that can help describe evidence centres in their principal components (3.4.1). This framework is the result of 16 interviews with stakeholders from various backgrounds, including experts in the approach of 'what works' centres, academics in the field of occupational safety and health (OSH), trade union representatives, and members of national and international OSH organisations, such as the European Agency for Safety and Health at Work (EU-OSHA), the National Institute for Occupational Safety and Health (NIOSH), the International Labour Organization (ILO), and the UK Health and Safety Executive (HSE).
- The framework was then presented to and discussed with a group of experts during a virtual **workshop on the key challenges** for the establishment of a novel evidence centre for safety held on 23 March, 2023. The workshop attendees (N=20) provided useful feedback on this model and confirmed its validity.

- The fourth workstream is a **mapping** of a sample of five centres based on the key dimensions mentioned above (3.4.2). This exercise helped the research team better understand how existing evidence centres navigate different tensions and trade-offs and was conducted by:
  - » Selecting five centres that were similar enough to the proposed novel centre for safety to be relevant while also providing insights from a range of different locations and approaches (for more information on these selection criteria see Appendix A.4).
  - » Interviewing one representative from each centre (N=5) and gathering publicly available information in order to score the centre alongside the key dimensions.
  - » Seeking confirmation from the centre representatives on the scoring (four out of five provided feedback).
- The fifth workstream contains two **scoping studies** on how a novel evidence centre on safety could operate in particular areas: one on psychological wellbeing of seafarers (3.5.1) and one on safety in small and medium-sized enterprises (SMEs) (3.5.2). Our approach for the scoping study was to first identify the key issues and contributing factors in these areas by reviewing existing literature and engaging with stakeholders in interviews and workshops. A brief survey was also developed to seek consensus of the most pressing issues and to identify stakeholders, as survey participants could leave their email address to be recontacted for interview. During the interviews, stakeholders were asked to identify issues and challenges, as well as how they thought a novel evidence centre could help. Once interviews were completed, the research team held a virtual workshop for each scoping study with key stakeholders to discuss preliminary findings and seek feedback. See table 1 below for more details on the stakeholder engagement for each scoping study.

**Table 1. Details of stakeholder engagement for each scoping study**

Scoping study	Stakeholders interviewed	Workshop date	Workshop attendees	Stakeholders' background
Seafarers' wellbeing	24	1 March 2023	10	Academia, trade unions, charities, protection and insurance companies, vessel inspections, accident reporting organisations, international organisations, as well as representatives from various sub-sectors of the maritime industry such as shipping, fishing, search and rescue, yacht and cruises, and military.
Safety within SMEs	14	16 March 2023	8	Academia, health and safety consulting in various industries (e.g. construction, oil, gas, chemicals, forestry, agriculture, lumber), and governmental and public agencies.

- The sixth workstream was the conduction of an **internal workshop** held on 29 March, 2023, where preliminary findings were presented and discussed with LRF colleagues (N=10).
- And the final workstream focused on **analysing** the findings and producing **recommendations** (4).

The following chapter will describe our findings for each workstream, followed by chapters with our recommendations and conclusions.

# 3 Findings

## 3.1. Evidence can shape policy, but it is not simple

In this section, we look at the evidence about making best use of evidence in policy and practice. We start by looking at this evidence because the UK's 'what works' centres (which are the reference point for LRF's potential new evidence centre on safety) are an example of these efforts that have been going on for many years to make better use of evidence in policy and practice. Therefore, we begin with the lessons from that experience. This section is primarily informed by a review of literature on the overall processes of how policy and practice are decided, as well as on the strategies used to promote the use of evidence in policy and practice.

Making effective use of research and evidence for policy is a long-standing challenge – indeed, RAND itself as an organisation was established to help address this. These challenges can be broken down into three groups: the role of evidence in policy, how evidence itself is generated, and how to link the two. These are outlined in the following sections.

### 3.1.1. Evidence is one contribution to a wider process of decision making

Making policy is a complex and frequently unclear process, drawing on multiple sources of information of which evidence is only one

(Cairney 2016). Arriving at a decision is not about finding a single perfect choice with clear evidence that will satisfy everyone, which is almost never the case (Cairney 2016). Rather, policymaking is about balancing competing values through a complex system of stakeholders (formal and informal) and processes, with policy actors having incomplete information and varied, often conflicting aims (Cairney 2012). Within these processes, evidence is not neutral; the evidence that policy actors identify, accept and act on is itself shaped by values and how it fits into wider policy discussions (Cairney & Oliver 2020). Moreover, what policymakers use as evidence is much more than just the outputs of formal research, but can also include data, analysis, expert advice, lessons from other places, and views of stakeholders (Gabbay et al. 2020).

### 3.1.2. Different approaches to what constitutes good evidence

There is no consensus among either those who generate evidence or those who use it about what evidence is, how it should be generated, and what it means (MacKillop et al. 2019). Different academic disciplines each have their own methods and views about what evidence is relevant and how to generate it. For example, while some researchers argue in favour of a 'hierarchy of evidence' favouring

methods such as randomised controlled trials, meta-analyses or systematic reviews as presenting the strongest evidence, others argue that a simple hierarchy is not useful or adapted to policymaking (Parkhurst 2017). This is because policymaking addresses complex problems with potentially multiple causes and where contexts, mechanisms and outcomes are linked together in complicated ways, reflecting similar discussions in the field of evidence-based medicine. Rather, evidence should be considered from the perspective of how appropriate and useful it is to the problem being solved, which includes evidence that is specific to particular contexts and settings (Hantrais et al. 2015; Parkhurst 2017). This is particularly relevant for an evidence on the safety of people and property, where many of the issues are likely to involve multiple factors with increasingly complex and interacting technological and human systems, and for which it is important to consider multiple perspectives (e.g. engineering, individuals, organisations and wider systems) (Hovden, Albrechtsen, and Herrera 2010).

One key issue around the generation of evidence is not just the technical quality of the evidence, but what questions are being asked, and how they are framed. For example, later in this study, we look at a scoping study around the psychological wellbeing of seafarers. There is some evidence around these issues that is focused at the individual level – that of the actions of the seafarers themselves; for example, what kind of activities they can undertake, such as exercise or meditation. However, there are also organisational issues, such as the environment provided by their employers, such as whether they have internet connections to stay in touch with family, how much time they can have off their ship in port, and how certain they are to be relieved at the end of their scheduled working period. Evidence about wellbeing interventions

focused on the individuals alone might be of a high technical standard, but still not be very appropriate in how well it addresses issues that affect the wellbeing of seafarers.

### 3.1.3. Challenges around linking evidence and policy: an active process

How best to link evidence and policy has also emerged as a challenge. Evidence does not speak for itself, and what it means is often not immediately clear. While researchers may follow new research in their field, policymakers typically do not. Moreover, it is often hard and time-consuming to build an understanding of what evidence is available in relation to a particular policy problem, especially as policy problems are typically multi-dimensional and can be informed by evidence from across many different disciplines. This can be helped by building capacity of policymakers to work with evidence, but this needs to be linked to their capability and motivation to act (Langer, Tripney, and Gough 2016).

This has led to growing interest in organisations that specifically aim to bridge the gap between research and policy, variously described as knowledge brokering organisations, or research intermediaries, or centres providing evidence for policy and practice (such as the ‘what works’ centres in the UK). We use the term ‘**evidence centre**’ in this study as a general term for such organisations engaged in generating (whether through primary research or through synthesising existing research) and communicating evidence for policy or practice. There is a wide range of such organisations, and no single model for how they function. However, some core elements have been identified, such as the credibility of the centre, how useful its research is for its audience, and how well that evidence is communicated (Lenihan 2015).

More fundamentally, even the choices of what questions to research can be seen as part of the process of evidence into policy. Involving stakeholders throughout the process, right from the definition of what issues to research and generate evidence about, helps to ensure that the resulting evidence is appropriate to help address the problem at hand, as well as promoting the engagement of stakeholders in its uptake. An example from the health field is priority setting partnerships, which bring together researchers with clinicians and patients to collectively define (and redefine) priorities for evidence generation in their field (Staley et al. 2020).

Many of these processes are analysed and described in relation to specific problems or topics. In order to have a sustained and broad impact, though, structural changes are needed to build in evidence and engagement at the system level and throughout the process (Cairney and Oliver 2020). For the remit of an evidence centre on the safety of people and property, there are some structures that can be built upon. These include the occupational safety and health (OSH) systems in different countries (and the International Labour Organization (ILO) at global level), as well as the different sectoral regulators for safety of property, and their implementation within different organisations. However, these systems vary widely in their capability and interest in engaging with evidence; understanding these different evidence ecosystems will be crucial for impact in this area (Stockwell et al. 2022).

### 3.1.4. Conclusions

The key message from wider experience of evidence centres is that these activities can make a valuable contribution to policy and practice, but that doing so is far from straightforward. Evidence can help to inform decisions about policy and practice, and

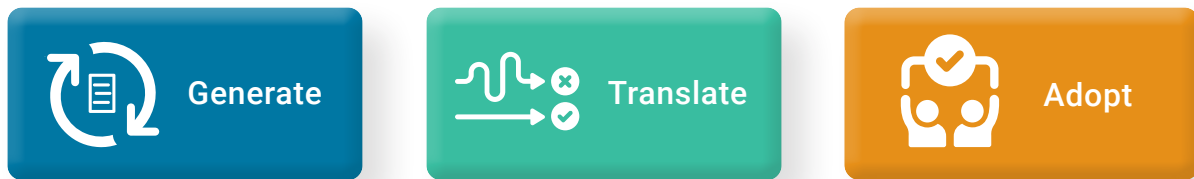
evidence centres can help to strengthen the contribution of evidence, but it is only one contribution. What evidence is appropriate is also contested, and standards should be adapted to the field and the specific issue. In any event, supporting best use of evidence in decision making also depends on active engagement, and both generating the most appropriate evidence and maximising its use in practice will be helped by involving the relevant stakeholders throughout the process.

## 3.2. Experience from existing 'what works' centres

In this section we look at the UK's 'what works' centres, the approaches that they take and what lessons can be learned from their experiences. This section draws in particular on recent evaluations of the 'what works' centres (Frontier Economics 2022; Gough et al. 2018) and the experiences of those involved with them (ESRC 2016; Sanders & Breckon 2023), together with the interviews and the workshop on key challenges carried out for this study.

The UK's 'what works' centres represent a distinctive and coordinated effort to 'improve outcomes and productivity' (Evaluation Task Force 2023) across the public sector by making better use of evidence in policy and practice. They can be seen as an example of evidence centres, though with a particular focus on comparative evaluation of interventions (in order to assess 'what works') (Evaluation Task Force 2022). These 'what works' centres are coordinated through the What Works Network based in the Cabinet Office of the UK government, which was established in 2013, though two centres already existed at that point: the National Institute for Health and Care Excellence (NICE) and the Education Endowment Foundation (EEF). A list of current members of the What Works Network is in Appendix A.2 below (Evaluation Task Force 2023).



**Figure 1. The three core functions of 'what works' centres**

The three core functions of 'what works' centres (Evaluation Task Force 2022) are summarised in Figure 1 and below:

- **Generate:** producing high-quality and relevant evidence on what works and what doesn't in their policy area.
- **Translate:** understanding users' needs and involving them in everything they do, in particular translating technical research into a format that key decision makers can understand and use.
- **Adopt:** improving the use of, and demand for, high-quality evidence among decision makers.

The following sections describe key aspects of the approach taken by the 'what works' centres and the lessons that can be learned.

### 3.2.1. Initial focus on generating evidence, shifting towards adoption

There is variation between centres on the type and balance of work between creation, sharing and use of evidence. The main focus has been on generating and translating evidence rather than supporting its use in practice (Gough et al. 2018). There has been relatively less effort spent on engaging stakeholders to identify problems and needs; in other words, more of a 'push' than a 'pull' strategy. However, this is changing over time, with a shift in emphasis of the activities of the 'what works' centres more towards engagement and supporting use in practice. This reflects priorities of stakeholders (ESRC 2016), and has been

identified as a key area of development for 'what works' centres. It is also worth noting that even regarding generating evidence, relatively little primary research is carried out by the centres themselves. Their role in generating evidence is thus principally about identifying and synthesising existing research rather than generating new evidence through primary research.

### 3.2.2. Variety of strategies across centres

There is a wide variety of approaches in how centres engage with their stakeholders, from the products and services provided (e.g. briefings, summaries, toolkits) to their wider role within their sector (e.g. from the relatively targeted and specific role of NICE to the much broader approach of the EEF). However, there is a relative lack of explicit strategies from centres (such as theories of change) for their role in the wider evidence and policy systems of which they are part (Frontier Economics 2022; Gough et al. 2018).

Similarly, standards for evidence vary both between centres and across different areas of work carried out by centres, and have been evolving over time. This variation reflects the different aims, contexts, evidence base and methodologies of the different centres. However, while variation may be appropriate, clarity about the evidence standards that any given centre is using would be useful (Gough et al. 2018).



### 3.2.3. Difficult to assess the precise impact of centres

Although the ‘what works’ centres are positively evaluated by their stakeholders and in overall assessments of their contribution, it has been difficult for the ‘what works’ centres to evaluate their precise impact on their ultimate beneficiaries (Frontier Economics 2022). As described in section 3.1 above, this reflects wider challenges about assessing the impact of evidence centres. The ‘what works’ centres have so far focused monitoring and evaluation of impact on outputs and intermediate outcomes, such as raised awareness or use of centre outputs. While this is a pragmatic first step in assessing impact, it could be strengthened by being combined with a clear logic about how those contributions are expected to have impact, and so far there is a lack of these explicit theories of change or impact frameworks (Frontier Economics 2022). Better evaluating the impact of the centres has been identified by the Economic and Social Research Council (ESRC, a core funder for the network) as one of their core priorities for the future of the What Works Network (ESRC 2017).

### 3.2.4. Scope, funding and governance vary

The governance and funding arrangements of the centres vary widely, from NICE with a formal governmental role and an annual budget of over £50m, to the Wales Centre for Public Policy with a budget of just over £500k, roughly one-hundredth of the size (Gough et al. 2018). Yet the scope of NICE is relatively narrow and tightly defined (even though the volume of work that it does is very large), and the scope of the Wales Centre for Public Policy is potentially extremely wide, covering potentially any policy area.

Similarly, governance arrangements vary, with centres set up as formal public bodies (e.g.

NICE), charities (e.g. the Education Endowment Foundation), Community Interest Companies (e.g. What Works Centre for Wellbeing), limited companies (e.g. What Works Centre for Crime Reduction, as part of the College of Policing), or within universities (e.g. Wales Centre for Public Policy). Most are single centres, but the What Works Centre for Wellbeing has a single hub and four strands, each of which is hosted within a separate institution. The key governance issue is, rather, that the centre is perceived as being independent, and as a credible source of evidence for their policy areas. This reflects evidence from similar bodies outside the UK, which likewise vary in their governance but for whom independence and credibility is vital (Lenihan 2015). The centres use different mechanisms to ensure this, typically through ensuring independent funding sources and oversight by boards of trustees or similar, in some cases supported by additional groups of expert advisors ensuring links to academia (Gough et al. 2018; Sanders & Breckon 2023). This reflects evidence from similar bodies outside the UK, which likewise vary in their precise governance but for whom independence and credibility is vital (Lenihan 2015).

### 3.2.5. Different evidence is relevant in different ways

What is seen to be relevant and high-quality evidence varies according to the centre, and to the purpose for which the evidence is being used (Gough, Maidment, and Sharples 2018). For example, different evidence is considered appropriate according to whether it concerns new primary research, reviews of existing research, synthesis of research in relation to a policy question, communication and engagement, or processes of knowledge brokering themselves.

This use of different types of evidence reflects broader practice in evidence centres beyond the ‘what works’ network, as discussed above.

Moreover, there is a tension with setting the bar too high for evidence standards, and thus excluding so much evidence as to not provide a response to key policy questions, even when there is evidence available (Frontier Economics 2022). Whatever standards of evidence are used, however, it is useful for evidence centres to be transparent about them.

### 3.2.6. Wider context of centres shapes their role

The context within which different centres operate shapes their role and strategy. For example, some centres have a strongly defined role within their setting (such as NICE) or direct engagement with policymakers built into their structures (such as the Wales Centre for Public Policy), whereas others address broader topics or operate from a less central position within their wider context (such as the Centre for Homelessness Impact). The evidence context for centres also varies, and this has implications for how the centre itself seeks to strengthen the existing evidence base. Most existing 'what works' centres do not carry out major programmes of primary research (with the exception of the EEF), though some do seek to influence others to do so (Gough et al. 2018).

### 3.2.7. Conclusions

While the 'what works' centres are a distinctively British approach to evidence centres, their experience reflects similar lessons to wider experience of evidence centres as summarised in section 3.1. The progressive shift from a focus on generating evidence towards more work on adoption reflects wider experience about the importance of engagement to support the effective use of evidence. There is no single model for a 'what works' centre, with different centres taking quite different approaches, being constituted in different ways, and this reflects their different targets, audiences and the context in which

they are operating. Nevertheless, despite the difficulties of assessing the precise impact of their work, their work is well received by their stakeholders and is seen as sufficiently valuable for their funding to be sustained, even though greater efforts to assess impact have been identified as a priority for the future.

## 3.3. How can evidence centres have an impact?

In this section we describe how evidence centres can have an impact, by developing a model of impact and articulating its components. Developing such a model reflects recommendations about how better to demonstrate the impact of existing 'what works' centres (see section 3.2.3 above).

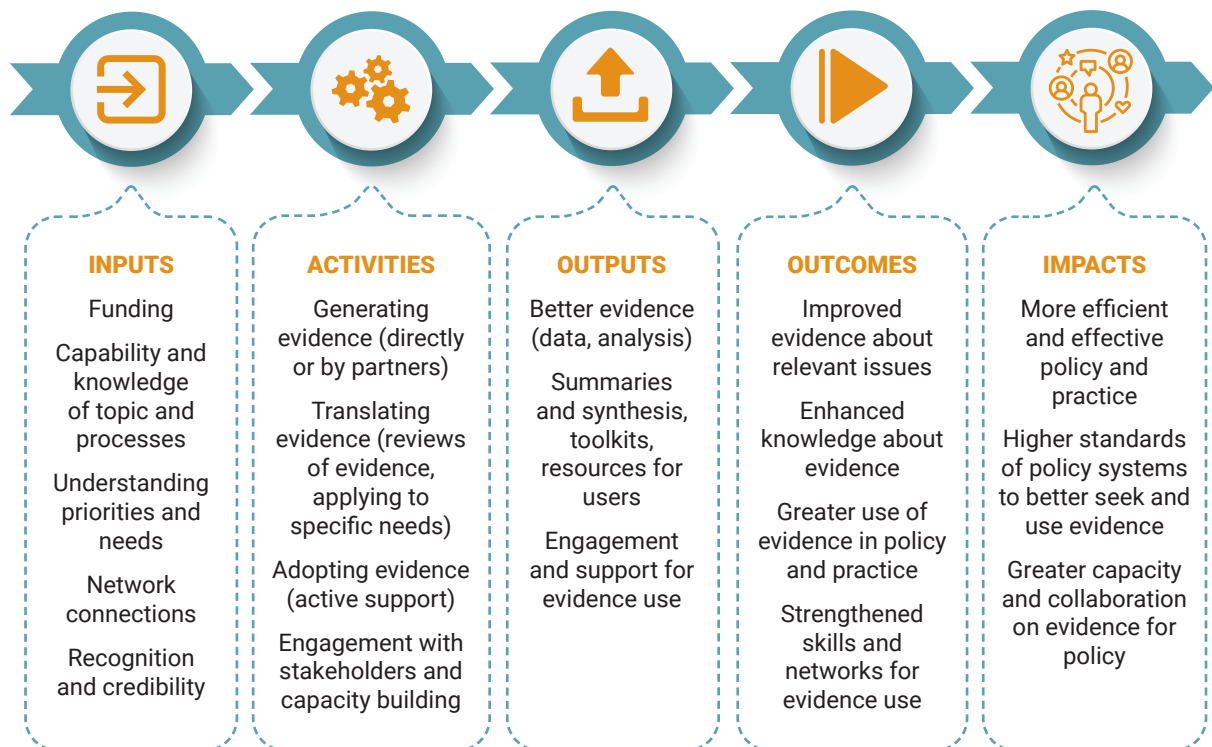
### 3.3.1. Overall model of impact

Figure 2 below provides an overall model for how evidence into policy centres can have impact. To prepare this, we have drawn on the specific and generic logic models for 'what works' centres identified in a recent evaluation report of those centres for the ESRC (Frontier Economics 2022), together with our analysis of other centres for evidence into policy outside the UK (described in more detail below) and the additional literature reviews, interviews and in particular the workshop on key challenges for a new evidence centre carried out for this study. This model provides a synthesis of approaches across those different sources.

### 3.3.2. Inputs: funding, capacity, links, recognition

Funding is a critical input for evidence centres, and has predominantly come from public funding. For the 'what works' centres in the UK, this is mainly from government sources (directly or from indirect sources such as the ESRC), although the core funding for the Centre for Homelessness Impact is from philanthropic

**Figure 2. How evidence into policy centres can have impact**



sources (Sanders & Breckon 2023). Ensuring sustained funding is seen as a key mechanism for ensuring their independence and credibility (see section 3.2.4 above).

However, while most analysis of evidence centres focuses on funding as the key input, our analysis of their experience shows that there are clearly other key non-financial resources needed to ensure their success. The capability and knowledge of those involved in the evidence centre is often taken for granted, but is an essential input, especially when funding is limited. This core knowledge is not only the policy area that is the focus of the centre, but also of the field and processes of evidence centres themselves, about which there is now a substantial body of evidence in its own right that is not always well reflected.

Understanding needs for evidence has also emerged as a key input for evidence centres, incorporating the perspective of evidence users

and other stakeholders in setting priorities (in contrast to defining evidence needs solely from a researcher perspective; see section 3.1.3 above; this was also emphasised during the key challenges workshop). This relates to being connected to the right stakeholders; one of the most effective ways to ensure that evidence has impact is to involve stakeholders from the start (Gough et al. 2018). Ensuring recognition and credibility for an evidence centre is also important amid what are frequently crowded evidence ecosystems (see section 3.2.4 above).

### **3.3.3. Activities: generating, translating, adopting; plus engagement and capacity building**

The activities of evidence centres broadly reflect the three core activities of the 'what works' centres, of generating evidence (directly or by partners), translating evidence (reviews of evidence, applying to specific needs), and

supporting the adoption of evidence. However, the balance and character of the specific activities taken in pursuit of these objectives varies substantially between centres. Alongside these activities the work of engaging with stakeholders and building capacity to generate, translate and use evidence is less visible but is an important area of activity. Broader capacity building could include support to researchers in developing relevant research funded elsewhere, and capacity building for research in an area, for example through convening events such as conferences and workshops, seed funding or co-funding, and scholarships.

### **3.3.4. Outputs: variety of forms, tangible and intangible**

The outputs of evidence centres reflect the activities described above, with centres producing new evidence (including syntheses of existing research) where this is needed to address a particular policy issue for which there is an evidence gap. The 'what works' centres concentrate in particular on evidence of comparative effectiveness of different interventions (see section 3.2 above); other evidence for policy centres often take a broader approach, building relationships and mutual understanding over time, and seeking to convey what can be gleaned from existing evidence in addressing a particular problem (Cairney & Oliver 2020).

Syntheses of evidence are intended to bring together evidence that is relevant for a particular issue in a way that is useful for the relevant policy audience. This type of output helps policymakers to make better use of existing evidence, especially when existing evidence is fragmented, hard to interpret or to apply to a specific context, or voluminous (Cairney & Oliver 2020).

These outputs can take a wide variety of forms. Some may resemble traditional research products such as publications or

reports of new evidence. Evidence centres also use more varied forms of presentation and communication than traditional research outputs, adapting evidence for different audiences according to their policy area. Some outputs are in the form of services, such as meetings with stakeholders, briefings or workshops for policymakers, training sessions or scholarships for students or practitioners (Gough et al. 2018).

### **3.3.5. Outcomes: better use of better evidence**

The outputs of evidence centres are intended to lead to improved evidence for policy; either specifically what works (i.e. comparison of the effectiveness of different interventions in relation to a specific set of outcomes), or more broadly a better knowledge base regarding a particular policy challenge. Having better evidence is not enough on its own, though; improving the knowledge of policymakers and other stakeholders about the evidence is also therefore a desired outcome. This can also be supported by better capacity for working with evidence among the target community, meaning stronger skills in using evidence and stronger links into evidence-related networks and resources. These elements together provide a basis for greater use of appropriate evidence in the target policy area.

### **3.3.6. Impact: helping to improve policy over time**

Ultimately, the outcomes of centres are intended to bring about more efficient and effective policy and practice for better public services, in the case of the 'what works' centres, or for other desired impacts in the case of other evidence centres – better safety of people and property, in the case of the proposed new evidence centre for safety. This may be a one-off impact, or a centre's outputs may lead to more structural change, such as

a cultural or systemic shift towards making better use of evidence.

However, better policy outcomes will not result from better use of evidence alone; this may be a stronger input and play a bigger role in shaping policy, but policymaking is a complex system with many different factors involved. It is therefore hard to disentangle the specific impact of evidence centres, and it assumes that better evidence will lead to better decisions, which is not necessarily the case (Oliver et al. 2014). Moreover, the timelines involved are typically long, with the process from evidence to impact taking a decade or longer. Therefore, part of the usefulness of a logic model such as the model in Figure 2 is to describe the routes to impact that an evidence centre can have, and thus enable monitoring of activities, outputs and outcomes as part of an overall model showing how these lead to impact.

### 3.3.7. Conclusions

In this section we describe how evidence centres can have an impact through a model of impact and by articulating its components. Setting this out clearly from the start will help an evidence centre to articulate exactly how its activities are expected to lead to impact, and to evaluate that. This remains a general model of impact, and depends on the specific strategy taken by an evidence centre. We turn to these different strategies in the next section.

## 3.4. Different strategies for evidence centres

### 3.4.1. Trade-offs and strategic dimensions

Existing evidence centres can adopt a number of different strategies to achieve their objectives. Each evidence centre is unique in its approach and constitution. There are tensions and trade-offs that all centres face to

achieve their best impact. In the establishment of a novel evidence centre for safety, these trade-offs are at the basis of the decision making to determine how the future evidence centre will operate.

In order to understand these different approaches, we have developed a framework that can help us analyse how existing centres navigate trade-offs and strategic compromises, and that can be used to guide considerations for the novel centre for safety. This framework is based on the thematic analysis of the interviews held with experts that were conducted throughout the duration of the study (N=16), as well as on the material described above (i.e. strategies and evaluations of existing 'what works' centres and other evidence for policy centres around the world, as well as evidence on how evidence informs policy and practice).

Our framework is made up of six dimensions that can help describe evidence centres in their principal components, as represented in Figure 3:

- **Area of focus** refers to the topic around which the centre directs its research and activities. A centre could focus on a very specific topic, for example preventing car crashes, or it could encompass a broad scope, such as public policy.
- **Geography** refers to the region(s) that are under the remit of the centre. These regions might be involved in the centre activities or be the beneficiaries of its outputs.
- The **target of change** refers to what a centre could aim to influence with its activities. For a novel centre for safety, there are broadly three levels: (a) the systemic level, which includes national or international regulators, government and policymakers; (b) the organisational level, which includes duty holders and decision makers within organisations; and

(c) the behavioural level, which includes individuals and workers.

- The **function** refers to the core functions of evidence centres as described in Figure 1: evidence generation, translation and adoption.
- **Funding** refers to the overall budget that a centre has access to annually, as well as to the sources of revenue. Some centres are fully financed by a core funder, while others receive an income from additional sources, such as the award of grants or private donations.
- **Stakeholder engagement** refers to the extent towards which a centre includes stakeholders in its activities and research.

### Validation of these dimensions

The framework shown in Figure 3 was presented to and discussed with a group of experts during a virtual workshop on key challenges for the establishment of a novel evidence centre for safety held on 23 March, 2023. The workshop attendees (N=20, excluding RAND attendees) provided useful feedback on this model and confirmed its validity. The key themes emerging from this workshop can be found in Appendix A.3 and are integrated into our final set of recommendations (section 4).

**Figure 3. Framework to capture the principal components of evidence centres**





### 3.4.2. Mapping of evidence centres

#### Selection of centres

In order to better understand how existing evidence centres navigate these different tensions and trade-offs, we mapped five centres along the six key dimensions described above. To select which centres to focus on, we initially assembled a long list that could loosely fit the definition of ‘evidence centre’ as described in section 3.1.3 above. We then selected a sample of centres that were similar enough to the proposed novel centre for safety to be relevant while also providing insights from a range of different locations and approaches (for more information on these selection criteria see Appendix A.4). Using these criteria, we identified the following centres to be mapped in our exercise:

- The **Institute for Work & Health (IWH)**. A Canadian research organisation that aims to improve the health and safety of working people through research and knowledge transfer.
- The **Asian Disaster Preparedness Center (ADPC)**. A regional organisation based in Thailand that focuses on improving disaster risk reduction and climate resilience in Asia and the Pacific through capacity building, training and technical assistance.
- The **Safety + Health for All programme**. A global initiative by the International Labour Organization (ILO) that aims to promote OSH in the workplace by providing technical support, building capacity, and

promoting the use of evidence-based approaches to prevent work-related injuries, illnesses and fatalities.

- The **What Works Centre for Wellbeing**. A research and evidence programme, part of the UK What Works Network. It aims to inform policymakers, practitioners and individuals about the most effective ways to improve wellbeing. The programme reviews and synthesises existing research on interventions and policies that promote wellbeing and provides evidence-based recommendations for action.
- The **African Health Observatory (AHOP)**. A platform established by the World Health Organization (WHO) that aims to support evidence-based decision making for health policy and planning in five African countries, by providing health data and evidence-based recommendations to governments, policy makers, health professionals and the public.

#### Scoring and mapping of centres

To illustrate the degree of variety in approaches taken by existing centres, and thus also the range of different strategies that could be taken by a novel centre for safety, we quantified how these centres positioned themselves on each of the six dimensions described in section 3.4.1 above by assigning a score from 1 to 5 for each dimension. To facilitate this exercise, the dimensions ‘Function’ and ‘Funding’ were split into their components. The criteria for scoring and the scores for each centre are provided below in Table 2.

**Table 2. Scoring criteria along key dimensions**

	1	2	3	4	5
<b>Area of focus</b>	Very narrow	Narrow	Balanced	Broad	Very broad
<b>Geography</b>	Sub-national (e.g. Wales)	National (e.g. UK)	Multiple nations	Continental	Global
<b>Target of change</b>	Individual behaviour	Organisations	National policy makers	Supranational organisations (e.g. EU)	International organisations
<b>Generation</b>	Very little	Somewhat	Moderate	Major	Extensive
<b>Transmission</b>	Very little	Somewhat	Moderate	Major	Extensive
<b>Adoption</b>	Very little	Somewhat	Moderate	Major	Extensive
<b>Stakeholders' engagement</b>	None	A little	In some aspects of the work	Mostly	Integrated throughout
<b>Overall budget</b>	£1m/year or less	£1 to £5m/year	£5 to £10m/year	£10 to £15m/year	>£15m/year
<b>Core vs external funding</b>	All budget is from external funding	Mostly external	Balanced	Mostly core	All budget is from core funding

We assigned the scoring based on interviews that were conducted with one representative for each centre as well as publicly available information gathered from the centres' website and public reports. We shared our proposed scores with each centre representative to seek feedback on our approach and scoring. Four out of five centres responded with revised scores; one centre did not respond.

The results of this exercise are visualised in Figure 4, and the description of our scoring for each centre is in Appendix A.5. It is important to note that these scores are only illustrative and are not intended to judge the effectiveness of the centre or their approaches. Rather, the purpose of this scoring is to facilitate a visual representation of the variety of approaches.

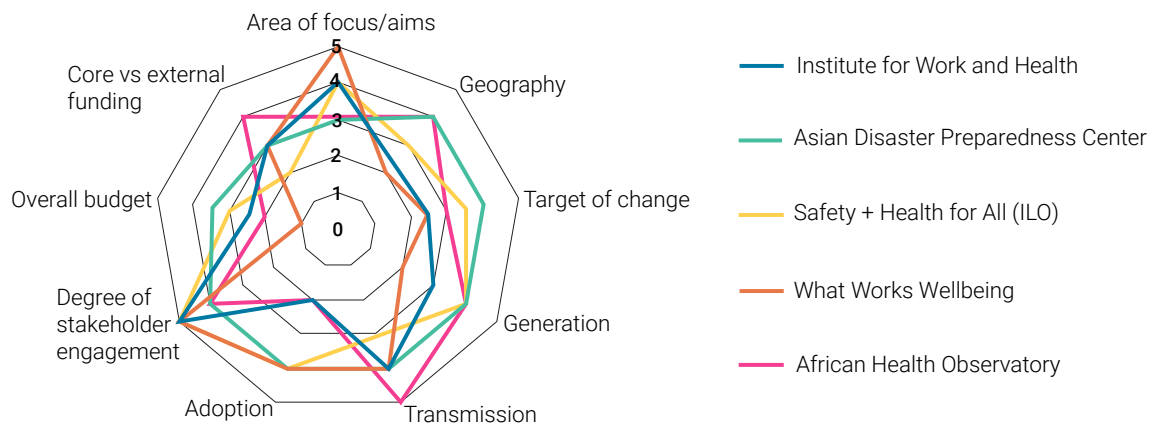
### 3.4.3. Opportunities and issues for an evidence centre on safety

Our interviews with stakeholders and the key challenges workshop provided useful insight into the opportunities for an evidence centre on safety, and the issues that it would face, which we summarise in this section. Overall, there was excitement about such a potential evidence centre on safety, alongside recognition that balances would need to be struck for it to be workable in practice. Some particular issues that emerged from interviews and the workshop include:

- The evidence base on safety was seen as sparse, often of low quality, and primarily focused on high-income settings. There would thus be a lot of potential value from an evidence centre, but pragmatism would



**Figure 4. Mapping of five evidence centres along key dimensions**



be needed to make the best use of the available evidence. However, the key challenge was seen as adoption of evidence and use in practice, rather than its generation.

- Context is not very well understood, but is key to understanding what works and why, and making best use of evidence for decision making. This is particularly the case for SMEs, which are an especially challenging context, as are low- and middle-income countries. A global scope would be challenging or perhaps not even possible for this reason, creating an unfeasibly large number of contexts to understand, so some degree of focus is required.
- The importance of engaging with stakeholders throughout was a clear theme, including bringing in operational and practical perspectives. The centre could also explore different ways of engaging, such as helping to share data in a trusted way.
- The business case for safety emerged as a frequent route for engaging with evidence (though they often do not in practice). A good business case on safety should include more than only financial dimensions, such as also injuries and deaths. It may also take an external perspective, such as return on investment assessment by external investors and shareholders.
- Regulation is an important tool for safety, though is facing its own challenges (in particular in relation to adapting to new technology), and is typically very slow to change. But the presence of regulation – which is seen as being relatively well established for safety, at least in high-income settings and at global level – is no guarantee of implementation in practice. This challenge of implementation was seen as central, and means engaging with those companies and other organisations where implementation is taking place. Standards and their implementation were suggested as another area to explore, bridging regulation and practice.
- Measuring impact is seen as particularly challenging for safety, because it is about an absence of events (e.g. accidents). Thus, in this area, it is often more useful to consider indirect issues such as engagement with issues, understanding of evidence, or perceptions of risk and safety. The time needed to see impact was also emphasised (e.g. 8–10 years).

- Culture change: while improvements can come from the impact of specific interventions, greater impact comes from a broader cultural shift in an organisation towards improved safety, learning from mistakes, and addressing root causes. There was interest in making better use of behavioural science to understand not just what people do, but why.

There was no consensus on specific sectors or areas to prioritise; rather, there was a general perceived gap in relation to safety that covered many sectors and areas, and emphasis on the need to engage with stakeholders to narrow down priorities in those areas where the centre chose to work. Some particular suggestions were the impact of new technologies, such as technological responses to climate change, automation and artificial intelligence; new ways of working such as platform and gig economy workers; and using strategic tools such as foresight to anticipate future safety challenges.

#### 3.4.4. Conclusions

There are two central conclusions that can be drawn from this review of strategies taken by a range of evidence centres. First, there is no consensus or single model for how centres such as a novel centre for safety should function. Even in the case of the UK 'what works' centres, with their relatively focused mandate, there is in practice a wide variety of strategies taken to play their role. Looking beyond the UK, while the basic role is similar, there is again great variety in the approaches taken.

Second, centres have struck a balance between their aims and their resources in different ways, but all have some dimensions where they are more limited and others where they take a broader approach. For example, some centres might address a broad policy area, but then focus their efforts more narrowly in terms of their geography or target audience.

Put together, this suggests that the key message for a new centre is not that there is a single model to be followed, but rather a set of balances to be struck in a way that is appropriate for its aims. The responses from the interviewees and workshop participants underlined the potential value of an evidence centre on safety while also illustrating some of the challenges involved and the choices that would need to be made.

### 3.5. How a novel centre for safety might work in practice: two scoping studies

To illustrate how a novel evidence centre for safety might work in practice, the research team conducted two scoping studies in areas of interest for LRF: the wellbeing of seafarers, and safety within small and medium-sized enterprises (SMEs).

In these scoping studies, we focused on identifying the issues and factors contributing to these two areas, as well as the role that evidence can play in shaping policy and practice, to better understand the potential impact that a novel centre could have. Our aim for these studies was to carry out a rapid version of the type of engagement that a novel centre for safety might undertake on these issues, to exemplify how a centre could operate along the trade-offs involved.

Findings are reported below by briefly introducing the topic and the issues, followed by examples of how a novel centre could improve outcomes along the dimensions described in section 3.4.1 above. As these dimensions are interconnected and interdependent, here we report the possible contribution of a centre by combining multiple domains together. We forgo any consideration of funding options, as these areas were not discussed with stakeholders during interviews or the workshop. These findings are the results

of interviews with stakeholders, workshops and a review of literature, as described in the methods section. Stakeholders' opinions have been reported in an aggregated and anonymous form, except where explicit consent was given by participants.

### 3.5.1. Scoping study on the wellbeing of seafarers

#### Why is seafarer wellbeing important?

Seafarers play a vital role in the global economy as, according to the International Chamber of Shipping (International Chamber of Shipping, n.d.), around 90 per cent of worldwide trade relies on cargo ships. However, despite their importance, seafarers, not only in shipping but in all sub-sectors of the maritime industry, often work under challenging and unjust conditions that do not reflect their significance in the workforce. Throughout this scoping study we have identified several factors that can jeopardise their physical and psychological wellbeing by talking to stakeholders and reviewing the literature on the topic (for a more detailed description of the factors influencing the wellbeing of seafarers, please see Appendix A.6). Seafarers often face long working hours, harsh environments, spend months on end at sea with little rest and are not always rewarded by adequate pay. Neglecting the wellbeing of seafarers can have catastrophic consequences, as the maritime sector is already experiencing problems with recruitment and retention of workers, as highlighted by a representative of the International Maritime Organization (IMO) during an interview, and losing skilled workers due to the demanding nature of the job could lead to a further deterioration of working conditions for those who remain. Furthermore, it is important to recognise that wellbeing is a fundamental component of ensuring safety at work (Ćorović & Djurovic 2013; Hystad et al. 2013; Tong et al. 2020; S. Brown et al. 2020;

S. D. Brown et al. 2022). When seafarers are not well, whether it is due to physical or mental health issues, fatigue or stress, their ability to perform their duties safely and effectively can be compromised.

What would a novel centre for safety look like in this space?

#### **Area of focus, function and target of change**

Findings from this scoping study highlighted that there is no one-size-fits-all solution to enhance the wellbeing of seafarers, as the maritime sector is complex and subject to various, sometimes conflicting, political tensions. Nevertheless, through the consultation with stakeholders we identified four areas that a novel centre for safety could target to have an impact in this space. Two of these areas are visualised in the logic model represented in Figure 5.

#### **Improving data collection and sharing (generation).**

The maritime industry faces significant challenges with regard to the collection and sharing of data. As mentioned by several interviewees, there are often insufficient data, and their quality is not always reliable. In general, this industry is notably lacking in its evidence base, which is scattered and thin (Carter & Karlshøj 2017). Findings both from the interviewees and previous studies suggest that maritime organisations often underreport accidents, near misses and occasionally even deaths (Nielsen & Roberts 1999; Ellis et al. 2010; Hassel et al. 2011). This is partially due to what interviewees identified as a 'blame culture' within the industry and a fear of repercussions for those who want to raise concerns. Several interviewees, including representatives from the IMO, suggested the need to have access to better data to inform regulations and guidelines. There are already good examples of organisations, such as CHIRP, which are providing ways of reporting safety risks anonymously. A novel centre for

safety could expand on these efforts and create an international database to be used for conducting research and analysis, identifying patterns, understanding which interventions work best in different contexts, benchmarking and sharing lessons between organisations in a protected manner.

#### **Systemic vs organisational change (adoption).**

During our scoping study, we found that there was disagreement among interviewees about the level of change that would bring the most impact to the maritime industry. Some argued that the centre should focus on improving regulations, as these are often viewed as the only means for change in this sector. For example, some interviewees suggested that the centre could lobby to introduce multi-days mandatory port stops during loading and unloading of cargo, so that seafarers could rest and spend some time ashore. However, others noted that regulations are challenging to enforce in this industry and believe that change could only happen at the organisational level by creating better strategies to promote implementation and compliance. One way to do so, as suggested by several interviewees, is to build a business case for safety and wellbeing. For example, conducting primary research to demonstrate the long-term financial harm of having a fatigued workforce, could convince duty holders to allow rest days in ports for seafarers. However, there are a few factors that should be considered. As a representative from a trade union highlighted during an interview, the centre should be careful of not appearing to be prioritising cost-saving measures for companies over prioritising the safety and wellbeing of seafarers. Furthermore, in regions where labour costs are low, there might not be a business case, as implementing evidence-based interventions could simply be more costly than replacing burnt-out workers. For these reasons, one interviewee suggested that the centre could lobby for a 'cultural and moral

shift' that would bring maritime duty holders to implement evidence-based safety and wellbeing interventions, not because they are mandatory or financially beneficial but because they are the 'right thing to do' for the welfare of the workforce.

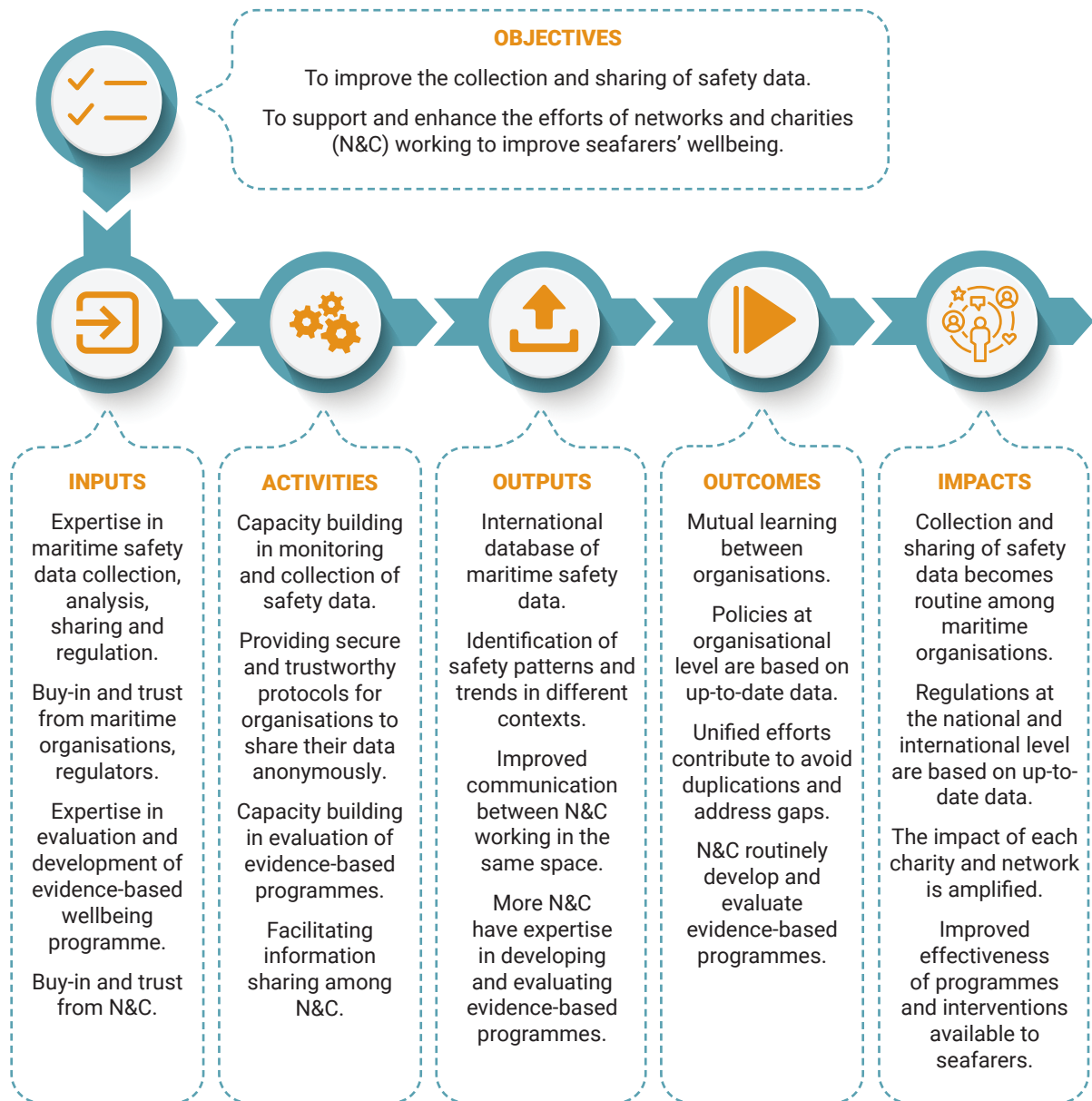
#### **Supporting existing networks and charities in this space (transmission).**

There are numerous charities and non-profit organisations that are dedicated to improving the wellbeing of seafarers, but often there is a lack of collaboration among them, as well as a lack of internal capacity for evaluating their programmes. The centre could help by facilitating information sharing, as well as building capacity to evaluate and develop evidence-based programmes. Additionally, the centre could direct seafarers to existing initiatives as they are not always aware about the resources available to them. As part of this study, we held a number of discussions with 'Together in Safety', a membership organisation looking to improve safety in the maritime sector and consisting of several large shipping companies. We investigated several ways in which a centre could provide support to the industry, ranging from identifying key issues and themes with stakeholders, to bringing evidence to new initiatives or evaluating existing practices in the sector. We detected a strong appetite for such support and indeed working alongside such networks would place the work of the centre right at the coalface. However, there are some wider considerations. Working closely with sectoral partners may make the work of the centre less visible and perhaps limit the wider dissemination of the work.

#### **Focusing on other areas within the maritime industry (generation).**

Even if the interviews focused on the wellbeing of seafarers, several interviewees mentioned that a novel centre for

**Figure 5. Logic model of a potential centre focused on seafarer wellbeing and maritime safety**



safety could focus on other pressing issues within the maritime sector. One such issue is the decarbonisation of the shipping industry, as the handling of potentially explosive and dangerous fuels like ammonia does not have clear regulations or provisions for their consequences and is a looming safety concern. Other areas of worry are the use of new instruments and technologies, such as

artificial intelligence, and the consequences of increasing automation on board ships.

### **Geography and stakeholder engagement**

If the centre for safety focused on the maritime sector, it would need to have a global presence, given that maritime is an inherently international industry. The centre would need to work with governments and international organisations, such as the IMO,

to ensure alignment with global efforts to improve safety. Jurisdictional and regulatory differences between countries would need to be considered, and cultural and social contexts should be taken into account for effective interventions in different regions. Furthermore, the involvement of stakeholders would be essential for the centre to achieve its objectives. Understanding 'who cares' as well as 'what works' has been suggested as a key element to unlock change in this sector. Interviewees have also emphasised that to obtain a cultural shift in the maritime industry it is important to involve sector representatives at all levels, including seafarers, regulators, owners and investors, as well as clients. RAND Europe has already started building such a network by including stakeholders at the core of this scoping study.

### Conclusions from the seafarers' wellbeing scoping study

Establishing an evidence centre for the maritime sector would present a unique set of challenges due to the systemic and structural nature of the problems within the industry. Different national bodies having varying levels of control and authority, as well as having different political agendas, creates a complex regulatory environment that can be difficult to steer, and where enforcement of existing regulations can be inconsistent. Implementing changes in this space would be difficult and would require a long timeframe. We therefore advise caution when considering maritime as a central focus for the novel centre for safety, unless the centre targeted specific aspects of this sector. For instance, a strategy focusing solely on decarbonisation of shipping and the increase of automation in this sector may drive clearer impact.

### 3.5.2. Scoping study on safety within SMEs

#### Why does safety within SMEs matter?

Small and medium-sized enterprises (SMEs) play a vital role in the global economy. SMEs 'represent about 90 per cent of businesses and more than 50 per cent of employment worldwide' and are responsible for generating seven out of every ten formal jobs in developing countries (The World Bank, n.d.). Researchers have long noted that SMEs fare worse in securing the health and safety of workers (for our findings on the factors influencing safety within SMEs, please see Appendix A.7). According to the ILO, 'occupational hazards in micro and small enterprises are much higher compared to those in large firms' (International Labour Organization (ILO) 2020). This discrepancy in health and safety outcomes between large and small firms, which has been called the 'size effect', is of great concern, as the majority of the world's workers are ostensibly exposed to needless risk. This naturally raises questions about how the existing evidence related to improving OSH standards in SMEs is being translated and adopted into practice. It is this context that makes the following scoping study, and the prospect of a novel centre for safety, essential.

Before proceeding to the findings, first a note on language. This section will adopt industry standard language and therefore speak of occupational *health* and safety. The literature surveyed in preparation of this study presents health as inseparable from safety when thinking about worker welfare. On top of that, we received explicit feedback from study participants that the centre ought to consider health as integral to its mission in addressing safety, as focusing exclusively on the latter would result in the occlusion of a fundamental dimension that is itself part of ensuring safety.



Moreover, while these concepts are conjoined, health is arguably ascending as the more primary point of consideration among relevant actors in this space. The transformation of work in recent decades, particularly in post-industrial nations, has commenced a shift in focus away from traditional OSH risks like trips, slips and falls, to other health-based indicators like stress, anxiety, fatigue and so on. An evidence centre would have a larger impact, and better engage with the priorities and communities of stakeholders, by moving in the direction of this tide.

**What would a novel centre for safety look like in this space?**

#### **Areas of focus, functions and target of change**

The findings of this study indicate that a narrower approach that prioritises translation and adoption would have the most significant impact for improving health and safety outcomes in SMEs. A central theme of the interviews and workshops is that the size effect is not the result of too little evidence about what is needed to improve outcomes. Nor did participants stress a need for better regulations. Instead, it was repeatedly suggested by interviewees and workshop attendees that small businesses suffer predominantly from ignorance about their duties of care and how to outfit the workplace to best protect workers. This suggests a critical, extant gap in the transmission and uptake of what is already known about OSH within SMEs. A centre might, therefore, make the greatest difference by focusing on the closure of this gap. Our research process has revealed three potential areas of focus in line with what is needed. Two of these are visualised in the logic model represented in Figure 6.

**Implementation (Generation).** The first area involves sustained exploration into how OSH

implementation can be improved within SMEs. Indeed, this focus contains numerous potential and implied lines of research given the many gaps identified in existing literature. To start with, more work is needed to identify and categorise the main ‘drivers’ of OSH interventions within SMEs (Cagno et al. 2016). Another important angle in need of investigation is how well different intervention models support the uptake of OSH standards. For example, Sinclair et al. (2013) call for ‘more case studies and empirical validation’ to understand how OSH intervention diffusion to small businesses takes place through intermediaries. This suggests a need for greater evidence generation related to implementation.

#### **Targeted outreach with local actors**

**(Translation and adoption).** An expert in the field of OSH and SMEs, Peter Hasle, explained in an interview that health and safety improvements are meaningfully promoted through the ‘social mechanism’ of local interventions. SMEs, due to their size, are often overlooked or unheard by larger institutional actors and regulators, which can foster distrust or resentment. A study by Kvorning et al. (2015) underscored the importance of local intermediaries in furthering OSH intervention campaigns. The authors note that a key factor for the successful realisation of OSH outreach efforts is ‘the way the enterprises became aware of the programme’. They explain that ‘By using trusted intermediaries... the small enterprises found it easier to engage in such a programme’. A novel evidence centre for safety could play a central role in amplifying this ‘social mechanism’ to fortifying interventions within SMEs and improve health and safety outcomes for workers. This could consist of identifying and connecting key intermediaries in local areas to produce high-trust networks. It could also entail acting as a trusted

intermediary between regulators or safety agencies and small businesses.<sup>1</sup>

**Building capacity (Translation and adoption).** Both interview participants and the literature review emphasised that a lack of education, experience and financial security inhibits the capacity of SMEs to internally develop robust OSH practices and protocols. This led some participants to suggest that a centre could provide services that would enhance the capability of SMEs to construct health and safety programmes. In that vein, one participant proposed that the centre offer continuing education or certification for designated health and safety officers within SMEs or owner-managers. The participant further noted that these certification programmes could be focused on Environmental, Social and Governance (ESG) development goals to help align businesses practices with other valuable principles. Direct outreach to businesses is the most sensible option because (a) managerial deficiency is the most prominent cause of the size effect, and (b) management can implement immediate change and improvements.

### **Geography and stakeholder engagement**

Given their ubiquity in the world economy, SMEs as an area of focus for the centre would imply a global remit. However, we have seen that health and safety practices within SMEs are heavily influenced by a range of factors, including financial capability, education levels, experience and cultural norms. These factors will, and do, vary considerably from one location to another. This means that

research produced in one socio-economic context cannot necessarily be transplanted into another. Experts from the ILO's 'Health + Safety for All' and 'Score' Programmes confirmed that flagship programmes target only a carefully selected number of countries at a time, as these interventions are not practically or culturally feasible at a global scale. These findings suggest that a centre focused on SMEs could have an international or global reach, but work streams would have to be targeted to specific socio-economic contexts.

### **Conclusions from the SMEs scoping study**

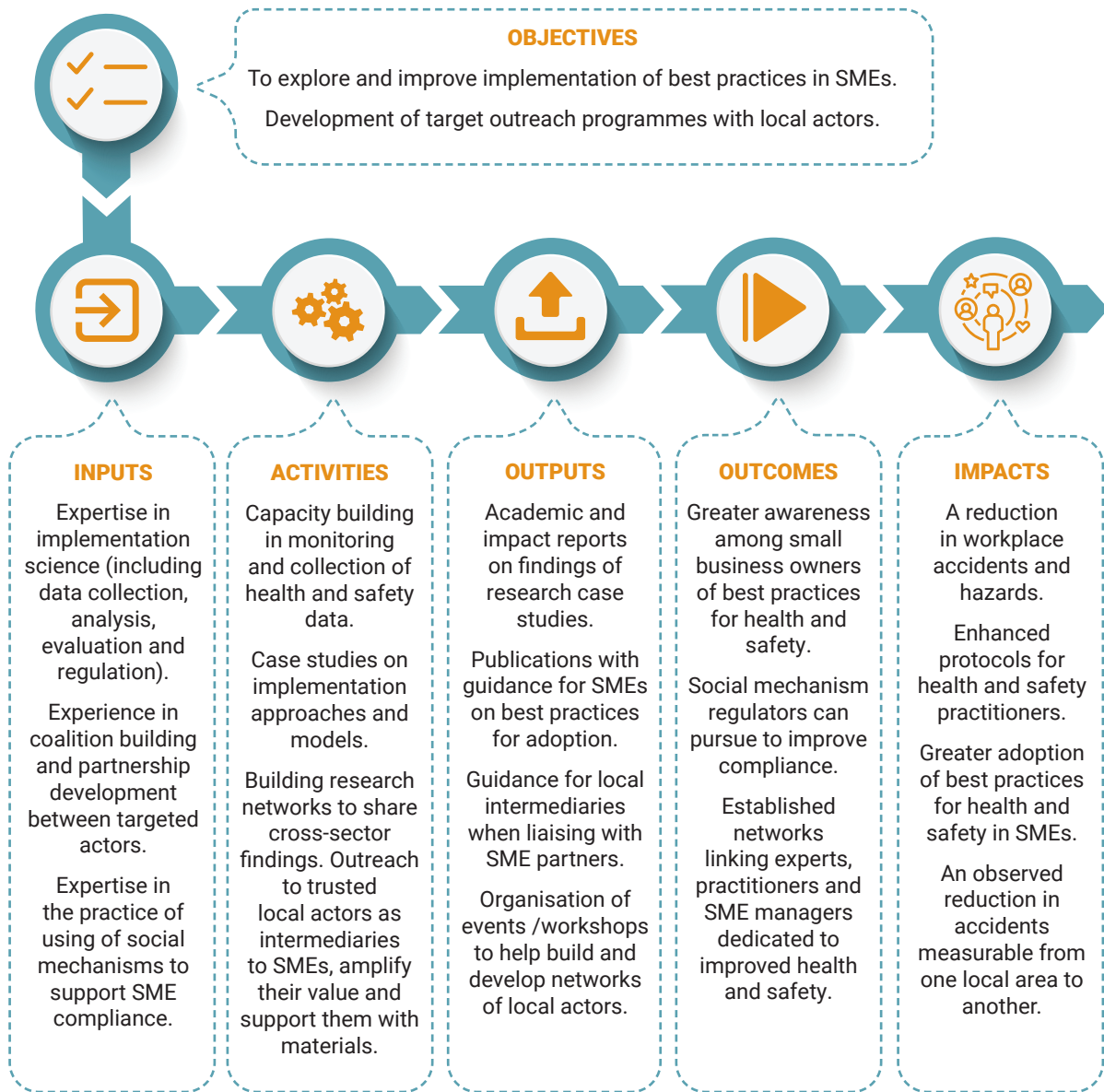
The findings of this study confirm that an evidence centre could have a meaningful impact on health and safety in SMEs. First, a positive reception among interviewees and workshop participants for such a centre indicates an institutional vacuum in need of filling. Health and safety consultants, academics and regulators all conveyed enthusiasm for innovative work in solving the challenges that continue to plague this space. Additionally, the noted gaps in evidence generation, translation and adoption, reveal a range of opportunities for a centre to influence future advancements in OSH in SMEs. Three distinct proposals have been put forward: implementation research, targeted outreach with local actors, and capacity building. While each of these options presents meaningful paths forward, an evidence centre focused on SMEs will face inevitable and unique challenges. Small businesses are hard to access, vary significantly in each context, and demand liaison with a variety of intermediary stakeholders.

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1 Not only would this have an immediate impact, but it would also support the proposal of the previous section by generating new evidence about implementation. That is, by taking an active role in promoting OSH interventions through targeted outreach with local actors, the centre would obtain primary evidence needed for case studies and empirical validation of different diffusion models.



**Figure 6. Logic model of a potential centre focused on safety within SMEs**



### 3.5.3. Overall conclusions from the scoping studies

This section has illustrated the potential different approaches that a new evidence centre for safety might take and what this would mean in practice with regard to two specific topics. While these scoping studies show clear potential for such a centre to add value, they

also illustrate the challenges involved, and some of the different balances to be struck across the different strategic dimensions for a new centre. This underlines the importance of the choices made in relation to setting up such a centre. In the next section, we turn to our overall conclusions and recommendations regarding how to approach this.

# 4 Feasibility study recommendations

In this chapter we set out our recommendations for the establishment of a novel ‘what works’ centre for safety funded by LRF, broken down by the six strategic dimensions identified in our findings. These have been prepared on the basis of the findings described in section 3, and reflect discussion during a workshop with LRF colleagues held on 29 March, 2023.

## 4.1. Area of focus

The potential scope of the centre as ‘the safety of people and property’ is extremely broad. Even if the centre starts with a broad ambition of addressing safety, we recommend taking an exploratory approach to investigate a range of areas where it could contribute. This would be carried out through working with stakeholders and mapping existing evidence gaps in the first two years to identify priorities for maximum impact and narrow this potential scope to a manageable focus. This should not be a one-time exercise; rather, the centre should take a flexible approach overall, exploring and testing different areas of focus over time.

Some particular areas of potential focus emerged from interviews, the scoping studies and the key challenges workshop, including:

- **Future forecasting and future proofing:** how new technologies and the rise of artificial intelligence could support and expand safety assessments and

interventions, the impact of automation, and safety issues related to adaptations to climate change, such as decarbonisation of shipping.

- **Human factors:** behavioural science of why accidents occur, psychosocial factors impacting safety, and effective leadership for safety.
- **Business case for safety:** how to evaluate and show cost-effectiveness of evidence-based interventions for safety.

The centre could combine a topic focus with focusing on one or more sectors. This should strike a balance between need and feasibility; for example, while there are needs for such a centre in the maritime sector, the systemic and global nature of those challenges would make it highly challenging to focus on.

## 4.2. Geography

Seeking to establish activity in each region of the world would be highly ambitious compared with the current remit and reach of existing centres. We recommend that the centre takes an international perspective on evidence, issues and stakeholders; and progressively seeks out partnerships and opportunities around the world that reflect priority areas of focus and can support sustainable engagement.

### 4.3. Target of change, audience and impact

Working with existing communities of safety stakeholders will be key to impact, which the stakeholder engagement should identify. Many evidence centres take their primary target as policymakers; while they are a potential target for change, for safety it is likely to be quicker to target other communities of professionals working on safety, such as OSH consultants and practitioners, businesses and their staff, trade unions, OSH organisations and bodies, and academics. Moreover, while ‘what works’ centres are specifically focused on the public sector, given that safety of people and property in critical infrastructures also depends on private sector operators, we recommend that this centre should engage across the public and private sectors.

The initial interest from LRF was to focus on safety (rather than health and safety) and to address the safety of property alongside people, in order to better differentiate the work of the new centre from other activities. However, existing safety communities typically see safety as tightly linked to health; we recommend that the centre aligns with the perspectives of those communities and focuses safety and health (incorporating the safety consequences of property), to maximise scope for engagement and change. This approach remains entirely compatible with differentiating the work of this centre from other initiatives, which will also be achieved through the stakeholder engagement and mapping of needs recommended in section 4.1.1 above.

Although demonstrating impact from evidence centres is tricky, with the contribution of evidence hard to disentangle and long timelines to impact, we recommend that the centre nevertheless establishes monitoring and evaluation mechanisms from the start, even if these begin by focusing on outputs and outcomes.

### 4.4. Function

We recommend that the centre takes a balanced approach across generation, transmission and adoption of evidence. While generating new evidence will help to address the relatively sparse existing evidence base for safety, making best use of what evidence on safety is available should also include learning across different contexts. Developing methods for capturing and evidencing good practice, and how to transfer lessons learned between sectors and contexts could prove vital to scale the impact of the centre. As well as generating evidence about interventions, we recommend that the centre should support the use of evidence on safety for policy and practice more broadly, for example by looking at emerging issues such as automation and the impacts of climate adaptation on safety.

We do not recommend a specific form or structure for the centre, given the variety of existing arrangements. The essential requirement for the governance of the centre is that it is perceived as independent and credible, however it is formally constituted. This should include robust principles of transparency, accountability, participation, integrity and capacity for the constitution, activities and outputs of the centre.

### 4.5. Funding

Most evidence centres operate through core funding for a substantial period or through an endowment, in order to safeguard independence and see impact. We recommend establishing this new evidence centre on safety for an initial period of ten years (spreading the available budget over that time, and with reviews and adaptation throughout).

Regarding sustainability, the primary source of funding for most evidence centres is public funds. We therefore recommend that the centres actively seek sources of public

or philanthropic funds as a primary route for sustainability during this period.

An additional potential source of funding is for the centre to develop and sell evidence-related products and services (such as adapted products, training or an accreditation scheme), but this has challenges. On the one hand, raising revenue through selling products or services may compromise the perceived independence and credibility of the centre, which it is vital to avoid. It is also worth noting that this approach would not be compatible with the membership requirements of the UK's What Works Network that outputs should be made available to users at no cost (Evaluation Task Force 2022). On the other hand, the proposed new centre is likely to be working with commercial stakeholders who are used to commercial provision of support (in contrast to the What Works Network, which is specifically focused on public services).

Therefore, we recommend that the new centre cautiously explores the potential for raising revenue through products and services in a way that is compatible with its mission, while ensuring that any such approach does not undermine the perceived independence and credibility of the centre.

#### **4.6. Stakeholder engagement**

The utility of engaging stakeholders throughout the work of a centre has emerged as a key lesson from previous work. Given LRF's long history of supporting related work, we recommend that the centre start by engaging LRF stakeholders from previous and current support; these networks will be a key resource for the centre to build from, as well as helping to maximise the impact of LRF's funding.

## 5 Conclusion

In this feasibility study, we have reviewed the feasibility of taking a 'what works' approach to safety of life and property through the establishment of a global centre and network, as well as how this could best be established and sustained in the longer term. Our findings show that establishing such an evidence centre and stakeholder network would add value to existing work in this area, and there is enthusiasm across stakeholders for taking such an initiative.

Our findings also showed that there is a range of different strategies that can be taken for establishing a new evidence centre for safety. The aims described by LRF for this new evidence centre on safety are relatively ambitious compared with existing initiatives.

However, all existing centres have had to reconcile the different tensions involved, and an evidence centre on safety can also do so. Such a new centre also has the advantages of being able to draw on a decade of experience with 'what works' centres in the UK and their evolution, as well as lessons learned from other evidence centres around the world, together with the specific resources, networks and experience of the Lloyd's Register Foundation itself. The feasibility of the centre will depend on the balance struck across the different strategic dimensions identified above, and our recommendations set out how this could be done in order to successfully establish an evidence centre that would make a real difference to safety around the world.

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## Appendices

### A.1. Breakdown of stakeholders by category

**Table 3. Breakdown of stakeholders by category**

Category	Number of stakeholders
Academia	11
Health and safety consultants	10
Maritime organisations	8
Evidence centre representatives	5
Charities (maritime)	4
LRF grant holders	4
National and international OSH organisations	4
Government/public bodies	3
'What Works' centre experts	3
Maritime health, wellbeing and fatigue experts	2
Trade Unions	2
Training providers in maritime	2
Charities (SMEs)	1
Military (maritime)	1
Standards in OSH management	1
<b>RAND collaborators</b>	
LRF	15
Health and Safety Executive (HSE)	3
Workplace health and wellbeing expert	1
<b>Total</b>	<b>80</b>

## A.2. What Works Network members

**Table 4. Current What Works Network members (as at April 2023)**

What Works Centre	Policy area
National Institute for Health and Care Excellence (NICE)	Health and social care
Education Endowment Foundation	Educational achievement
College of Policing What Works Centre for Crime Reduction	Crime reduction
Early Intervention Foundation	Early intervention
What Works Centre for Local Economic Growth	Local economic growth
Centre for Ageing Better	Improving quality of life for older people
What Works Centre for Wellbeing	Wellbeing
Centre for Homelessness Impact	Homelessness
What Works for Children's Social Care	Children's social care
Youth Futures Foundation	Youth employment
Affiliate: Youth Endowment Fund	Youth offending
Affiliate: Centre for Transforming Access and Student Outcomes in Higher Education	Higher Education
Affiliate: The Money and Pensions Service	Financial wellbeing
Associate: Wales Centre for Public Policy	Any affecting Wales

## A.3. Emerging themes from the key challenges and options workshop

On 23 March, 2023, RAND hosted a virtual workshop where stakeholders were presented with the options and dimensions described above, were able to provide feedback, and were asked if anything was missing.

Attendees of this workshop included experts in the establishment of what works centres in the UK, academics, representatives from evidence centres and topic experts in the field of safety.

Previous interviews with experts were helpful in the building of these dimensions, and the workshop enabled the research team to gather

feedback on it. Below are the key themes emerging from these conversations.

### Overall

- There was consensus that the dimensions identified were useful and made sense.

### Impact

- It is essential to have a clear idea of the intended outcomes/the change that we want to see as a result.
- No one has fully figured out how to achieve impact. There are metrics that can be used, but they relate mostly to outcomes rather than impact.

**Topic**

- Not much time was spent discussing the area of focus of the centre, but one participant made the point that health has a bigger impact on life than safety, and should be included in the scope of the centre, as talking about one without the other does not make much sense.
- Including safety of property might be perceived as off-putting.

**Time**

- Change takes time, at least 10–15 years.

**Stakeholder engagement**

- Co-production, involving people with lived experience and obtaining buy-in are key.
- It is difficult to orchestrate stakeholder engagement on a global scale.
- It is important to build the appetite for evidence.
- Education can bring a cultural shift by teaching the next generation to be evidence oriented.

**Target of change**

- There was consensus that the target population for the centre should be the professionals, not government and regulators.
- Especially targeting OSH leaders to influence their view on evidence.

**How it works – not only what works**

- In order to bring change, it is important to understand how things work and why, not just what works.

**Contexts and transferability**

- OSH is siloed and multidisciplinary; it is important to reconcile.
- Safety has different meanings in different contexts.

**Dissemination**

- Summarising and distilling information is an important function.
- Importance of keeping evidence alive, as evidence might exist already but has been forgotten.

**Process**

- It is useful to have a pilot period at the beginning of the centre.
- It is important to have a feedback loop when establishing the centre, i.e. evaluate it and adapt it as it grows.
- It would be very useful to adopt a framework for the centre.
- As a first exercise, conduct a mapping of evidence gaps.

**A.4. Selection criteria for evidence centres mapping exercise**

To select which centres to focus on, we have developed the following criteria.

**Geography**

The selection should include centres from a variety of countries. There are many 'what works' and evidence centres in the UK, Europe and North America, so it is likely that some of the selected centres will be from these countries, but there should be representation from Low- and Middle-Income countries (LMICs) as well.

**Access**

Some centres are already known to RAND, which will facilitate scheduling interviews and receiving information. However, we will also go beyond our network and create new connections.

### **Funding model**

There are various funding models that can be adopted by a centre (e.g. membership, donations, public and private grants, etc.). The selection should include different models so that these can be compared.

### **Topic**

The topic of the selected centres should ideally be aligned with areas that are relevant to the future safety centre (e.g. safety, wellbeing, work, risk, etc.). However, other topic areas might be considered if the centre offers relevant insights relating to another criteria (for example if the centre is from an LMIC).

### **Evidence generation**

There are several ways evidence can be generated. A centre might conduct/ commission primary research, aggregate and

synthesise it, or translate it. The selection should try to include various examples of how centres generate evidence.

### **Stakeholder engagement**

The way in which centres engage with stakeholders is also of particular interest. Some centres have little to no interaction with their end users; others put stakeholder engagement and co-creation at the centre of their work. Ideally, this selection would include various examples.

## **A.5. Mapping and scoring of evidence centres**

This section provides the scoring for each of the centres mapped along the six key dimensions described in section 3.4 above.

**Table 5. How existing centres score on key dimensions**

	<b>Institute for Work and Health (IWH)</b>	<b>Asian Disaster Preparedness Center (ADPC)</b>	<b>International Labour Organisation – Safety + Health for All (S+H4A)</b>	<b>What Works Wellbeing (WWW)</b>	<b>African Health Observatory on Health Systems and Policies (AHOP)</b>
<b>Area of focus/aims</b>	4 – IWH focuses on health and safety in the workplace.	3 – ADPC focuses on a broad remit of disaster prevention.	4 – S+H4A focuses on promoting the health and safety of workers.	5 – WWW is focused on a wide range of areas including mental and physical health, culture and education.	3 – AHOP is focused specifically on issues impacting health systems.
<b>Geography</b>	2.5 – Their remit is mainly Canada, with some occasional international study.	4 – ADPC works across the Asia region in countries including China, India, Nepal and Thailand.	3 – S+H4A has a global focus but is operational in 18 countries.	2 – WWW is primarily focused on the UK.	3 – AHOP works with five nations within Africa.
<b>Target of change</b>	2.5 – IWH primarily works with national organisations and policymakers at a national level.	4 – ADPC primarily works with governments and supranational organisations.	3.5 – S+H4A primarily works with national organisations and policymakers at a national and supranational level.	2.5 – WWW primarily works with national organisations and policymakers at a national level.	3 – AHOP primarily generates evidence for policymakers at a national level.
<b>Generation</b>	3 – IWH has a Systematic Review programme including Cochrane Back and Neck, and regularly produces systematic reviews.	4 – ADPC conducts original research on a broad range of topics including risk governance and urban and climate resilience.	4 – S+H4A has a strategic aim of building knowledge and regularly conducts research in OSH.	2 – WWW primarily conducts reviews and assessments of the evidence on wellbeing.	4 – AHOP produces extensive health systems analysis and research to inform decision makers.
<b>Transmission</b>	4 – IWH places a focus on knowledge transfer and exchange through stakeholder networks.	4 – ADPC disseminates and implements its findings through a range of regional, national and sub-national partnerships.	3 – S+H4A disseminates findings through several outputs in different languages.	4 – WWW regularly publishes resources, tools and evidence reviews about wellbeing.	5 – AHOP produces materials such as policy briefs, and country profiles are a vital reference point for decision makers on health systems.
<b>Adoption</b>	2 – IWH conducts case studies and measures the impact of its work but is not implementation-focused.	4 – ADPC implements its work on the ground and creates tools and software to facilitate disaster preparedness.	4 – S+H4A works closely with partners to implement findings and cites impacts for millions of workers globally.	4 – WWW supports adoption through advisory roles, training and evaluation support for charities, businesses and other organisations.	3 – AHOP engages with decision makers and governments, but its primary focus is not adoption.
<b>Stakeholder engagement</b>	5 – IWH hosts several stakeholder networks for a range of audiences on areas including illness and disability prevention.	4 – ADPC conducts a range of stakeholder engagement including targeted research with governments.	5 – Stakeholders are involved from the design to the evaluation of the interventions, and are part of governance structures.	5 – Stakeholders have been co-creating the centre, are part of the board and involved in most activities.	4 – AHOP conducts stakeholder engagement through policy dialogues and its annual face-to-face meeting.
<b>Overall budget</b>	2.5 – IWH had an annual budget of \$7m CAD (or £4m) as of 2021/22.	3.5 – In spite of changes to funding due to COVID-19, ADPC has maintained an annual budget between £7m and £15m equivalent.	3 – S+H4A spent between \$5m (£4m) and £10 (£8m) per year between 2015 and 2020.	1 – WWW has annual revenue and assets equating to ~£1m.	2 – AHOP received £5m in core funding from the Bill & Melinda Gates Foundation.
<b>Core vs external funding</b>	3 – Core funding is from the Ontario Ministry of Labour, but IWH also receives grants from other bodies.	3 – ADPC receives its funding from a regular cohort of organisations including the World Bank and the Bill & Melinda Gates Foundation.	2 – S+H4A is mainly funded by voluntary contributions. Only operational costs are funded by ILO.	3 – WWW has a wide array of funders including the Health Foundation and the Department for Culture, Media and Sport.	3 – AHOP receives funding from the Bill & Melinda Gates Foundation and additional funding from other sources.



## A.6. Factors influencing the wellbeing of seafarers

### Introduction

#### Methods

The following factors were identified using a rapid literature review, an online survey and interviews with stakeholders (N=24) from various backgrounds including academia, trade unions, charities, protection and insurance companies, vessel inspectors, accident reporting, as well as representatives from various sub-sectors of the maritime industry such as shipping, fishing, search and rescue, yacht and cruises, and military.

#### Working definition of wellbeing

Wellbeing is a broad term, with no general consensus for a single definition (Simons & Baldwin 2021). Here we define wellbeing as a subjective positive experience encompassing various aspects of a person's life, such as physical health, emotional and mental health, social relationships, work gratification and overall life satisfaction.

#### Caveats

It is important to keep in mind that while the following factors were identified to highlight issues in the industry, this does not imply that the entire maritime sector is problematic or that all seafarers experience negative situations. As in any sector, there are both good and bad companies. Additionally, the maritime sector is diverse, with different sub-sectors having their own unique challenges. Most of the interviews and factors presented in this study relate specifically to merchant vessels and shipping, although representatives from other sub-sectors were also consulted.

### Factors

#### Relationship with others

The mental health of seafarers depends heavily on their relationships with colleagues and supervisors (Sampson and Ellis 2019). Unfortunately, bullying and harassment can still occur (Sampson & Ellis 2019). Isolation is also a significant risk factor for seafarers, especially if they do not get along with their colleagues (Nittari et al. 2022a). Although internet access can provide emotional support, not just by enabling seafarers to communicate with friends and families but also to allow access to online emotional support, providing internet access on board is still considered controversial (Sampson & Ellis 2019). Many, especially from older generations of seafarers, see the internet as a distraction from socialising and a potential source of worry about loved ones at home. To address these issues, it is important to provide better mental health training for officers, promote better social events and leisure activities on board, and provide support for seafarers' families through charities and associations.

#### Contracts

The challenges faced by seafarers regarding contracts and job security, as well as discrepancies in wages and difficulties in finding employment during the pandemic, have a significant impact on their mental health and wellbeing. Several interviewees reported that seafarers often face uncertainty regarding their release date from a ship due to contracts not always being respected and minimum crew requirements needing to be met. This lack of certainty causes anxiety and powerlessness, and often leads to seafarers missing out on important life events. Furthermore, the maritime industry largely relies on fixed-term contracts, which leads to job uncertainty for seafarers (Carroll et al. 2022). Wages for

seafarers vary by country, with seafarers from developed countries being more expensive than those from LMICs. While many seafarers are satisfied with their wages, some are underpaid, and there are cases of companies failing to pay their employees what they are due. During the COVID-19 pandemic, while attention was given to seafarers stuck on board ships, many others were unable to find employment due to travel restrictions.

### Fatigue

Fatigue can significantly impact a person's cognitive and physical abilities, leading to slower reaction times, poor decision making, and reduced attention to detail. These effects can lead to human error, which can result in accidents or incidents. For seafarers, who work in a highly demanding and safety-critical environment, fatigue-related human error can be particularly dangerous. There are many factors that can contribute to fatigue, such as spending long periods of time at sea without spending any time ashore (Nittari et al. 2022a), sleep deprivation due to shift patterns, high job demands and stress (Allen et al. 2008), and working longer hours than contractually obliged to (Baumler et al. 2021).

### Culture

The working culture in the maritime sector can vary widely depending on the company, crew and other factors, and can have a large impact on seafarers' wellbeing. As reported by interviewees, it seems that the industry historically has had a male-dominated and 'macho' culture, with a hierarchical and old-fashioned internal structure. Many interviewees also mentioned a fear of speaking up, as seafarers may be afraid of retaliation, and a 'blame culture', where it is easier to blame and fire someone for making a mistake rather than investigating further. Additionally, different cultures on board can sometimes create

clashes (Nittari et al. 2022a), though many seafarers do see the multicultural aspect of the job as a perk and appreciate the diversity it brings to their workplace.

### Living conditions

The conditions on board of ships have a significant impact on the wellbeing of seafarers, particularly in terms of sleeping and living conditions, such as noise, vibration, and hygiene (Jonglertmontree et al. 2022). The quality and balance of food available on board is also crucial for mental health, but vessels sometimes prioritise cost over nutrition, as reported by one interviewee. Additionally, seafarers have limited access to health and dental care, with no requirement for doctors to be on board vessels with fewer than 100 crew members (International Labour Organization (ILO) 2006), and significant costs associated with emergency medical evacuations. As a result, seafarers often have to go without necessary care, causing significant distress (Nittari et al. 2022b; Song et al. 2021). Access to recreational activities on board is also crucial for maintaining positive mental health (Jepsen et al. 2015).

### External threats

According to interviewees, piracy is not currently considered a high priority threat. Although piracy was more of a problem in the past, it still occurs occasionally and could potentially increase again in the future (Tavacioğlu et al. 2022). As for COVID-19, it has been a massive issue for the maritime sectors (Carrera-Arce et al. 2022) and its consequences are still visible, but it is not considered as important now.

### Individual factors

Personal differences, such as age, gender and personal history, can have a large impact on the way seafarers experience life on board

of vessels (Stannard et al. 2015; Brooks & Greenberg 2022). Position in hierarchy, as well as roles and responsibility can also shape the intensity by which some harms are experienced (Brooks & Greenberg 2022). Access to adequate training to conduct the job was also identified as an important factor shaping confidence and wellbeing (Nittari et al. 2022b).

## A.7. Factors influencing health and safety in SMEs

### Introduction

#### Methods

The following factors were identified using a rapid literature review, an online survey and interviews with stakeholders (N=14) from various backgrounds, including health and safety consulting, academia and governmental agencies. The majority of participants were health and safety practitioners with long work histories advising SMEs on how to meet industry standards and regulations. The interviews fulfilled an iterative role by both orienting the research process and generating evidence in their own right.

### Factors

#### Financial

The small size and small revenues of SMEs means that they have less money available to spend on occupational safety and health (OSH) (Institute of Work & Health 2008; EU-OSHA 2016; 2022; Unnikrishnan et al. 2015), and they do not benefit from economies of scale like their larger counterparts (EU-OSHA 2022). This poses a key limitation as compliance with health and safety is often linked to access to financial resources (Arewa & Farrell 2012). As one would expect, financial considerations are central in business decision making, particularly for SME operations (SME News

2021), although evidence suggests that money spent on safety is a beneficial investment that will show returns on profitability and enhance financial performance (Arewa & Farrell 2012). Some authors argue that the economic benefits of OSH investment should be highlighted more, with some perceptions that spending money on OSH will not be beneficial economically (McKeown & Mazzarol 2018). SMEs are also operating under financial pressure, with limited access and money to external resources that could enable further spending on OSH. As such, SMEs are constrained by the limited financial resources they have available (Kheni et al. 2010), with some reliant on informal funding.

#### Education and experience

There is limited knowledge, awareness and competence among some SME owners and managers about OSH and how to implement effective OSH management and policies (EU-OSHA 2016; 2022; Institute for Work & Health 2008). SMEs are commonly less likely to have internal OSH expertise or have the necessary documentation or access to expertise. A high proportion of SMEs have to rely solely on the personal resources and initiatives of workers and owners (Mashwama et al. 2018), yet SMEs are recommended to seek external expertise and support where this in-house expertise is not available (ILO 2019). This then links to the limited funding and resource for SMEs to invest in OSH. Evidence also suggests SMEs have lower levels of access to OSH resources, including guidance materials, training resources, practitioner advice, time and money (EU-OSHA 2022; McKeown & Mazzarol 2018; Dugolli 2021). Many SMEs also do not have the capacity to develop internal safety management resources. A lack of human resources can also act as a barrier to resources and engagement in OSH practices (Dugolli 2021). Finally, SMEs often fail to understand the business case for investing in safety, i.e.

that the benefits of improving safety (reduced accidents, ill health, increased productivity and profits) outweigh implementation costs (EU-OSHA 2022).

### Regulation and penalties

The reduced interaction between SMEs and regulators and other governance contacts (e.g. fewer safety inspections) may result in a lower incentive to comply with safety standards (Institute for Work & Health 2008). Some SMEs also do not report a considerable health and safety burden, which includes having excessive and disproportionate policies and procedures with no clear benefit for workers or the organisation (IOSH 2018). It is also possible that certain forms information, policies and legislation do not fit with the reality of being an SME. Therefore, policies that are unsuitable for SMEs are hard to put into practice (Institute for Work & Health 2008). Also, some SMEs are exempt from certain OSH-related regulations altogether. Lastly, SMEs can be regulated by two hierarchical levels, including penalty-incentive policies and employee behaviour (e.g. whistleblowing) (Wang et al. 2018). Thus, how a hierarchy functions within an SME can influence how OSH practices are conducted and affect outcomes.

### Governance and structure

There are a variety of factors that inhibit OSH uptake within SMEs related to governance and structure. A significant portion of SMEs are part of the informal economy – particularly in LMICs – where there is less organisation, workers tend to be less educated about their work and there are fewer rules and regulations. The informal economy also disproportionately employs vulnerable groups, including migrants, women, children and the elderly (International Labour Organization (ILO) 2020). Relatedly, workers in SMEs also tend to have poor resources and bargaining positions with their

employers. They may have lower levels of education or skills, their employment contracts contain fewer rights, and there tends to be poor formal voice and representation structures and opportunities (EU-OSHA 2018). For example, SME workers are less likely members of a trade union, which affords more rights and protections to workers (International Labour Organization (ILO) 2021).

The varying sizes of SMEs is also a contributing factor because it entails different contextual factors that have to be taken into account when interventions are designed. 'For example, size matters when it comes to work organization, worker representation, business strategy, vulnerability in supply chains, and various other dimensions' (International Labour Organization (ILO) 2020). SMEs are particularly prominent in high-risk sectors such as agriculture and construction. This is particularly so in lower-income countries, such as in East Africa in waste recycling, agriculture and mining.

### Safety culture

Lack of formal work systems means employees are more likely to find themselves in precarious and informal situations at work without formalised OSH procedural oversight (Institute of Work & Health 2008). This can lead to inconsistent work patterns, high workloads and sub-optimal allocation of responsibilities, which intensifies the presence of OSH risk factors (EU-OSHA 2022). OSH practices in SMEs also tend to more heavily emphasise tacit knowledge, learning by doing and improvisation rather than formal training and structure (Gibb et al. 2016). The spatial and social proximity and the informality that characterise SME workplaces (e.g. owner-managers and workers working side-by-side), may mean that employees are socialised into bad OSH practices. In addition, workers may develop a deeper understanding of the needs

of the firm, leading to a failure to recognise, or an over-acceptance of, workplace hazards (Institute of Work & Health 2008). Evidence suggests that in some SMEs there is a culture of shifting the burden of responsibility for safety from the employer (who is responsible), to the employees (who has to work with these risks in an informal structure) (EU-OSHA 2018). In some industries, such as construction, SME workers view safety as part of their craft, for example, how they control and use tools.

### Supply-chains

Data have shown that trends around freelancing, subcontracting and expansion of supply chains have increasingly started encompassing SMEs. As a result, there is concern that larger organisations are less likely to cover these workers in their risk assessments, and a lack of clarity regarding who has employer-worker responsibility for

safety due to increasingly complex supply chains and working structures (EU-OSHA 2022). As supply chains grow, SMEs are increasingly situated in dependent and less powerful positions than their larger counterparts, resulting in a shift of risk from larger operations on to their own (EU-OSHA 2018). This leads to unsecure contracts, loss of wage benefits, unpaid overtime and other OSH risks. As a result, some SME employees are more likely to experience poorer working conditions, lower job quality and other safety risks. Larger firms (clients of SMEs) can also dictate the extent of OSH in SMEs as they may have certain safety standards that need to be met by their subcontractors (SMEs) (Gibb et al. 2016). Some SMEs may need to invest in safety accreditations in order to obtain work from larger organisations; this is particularly so in safety critical industries.