



Course: BSc Environmental Health

ENH531: Environmental Health Project

**Design-Stage Health and Safety Risk Management in
Practice: A Comparative Study of Northern Ireland and
the Republic of Ireland**

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Contents

Acknowledgments	pg 3
Abstract	pg 4
1.0 Introduction	pg 5
1.1 Aim of the research.....	pg 5
1.2 Research objectives.....	pg 6
2.0 Literature Review	pg 6
2.1 Construction Health and Safety and Hazard Specific Design Influence.....	pg 6
2.2 Design-Stage Risk Management and Pre Construction Coordination.....	pg 7
2.3 Design-Stage Risk Management under the Construction (Design and Management) Regulations (Northern Ireland) 2016.....	pg 7
2.4 Design-Stage Risk Management in the Republic of Ireland.....	pg 8
2.5 Comparative Analysis and Identification of a Research Gap.....	pg 9
2.5.1 Table - Comparison of Principal Designer and PSDP roles.....	pg 9
3.0 Methodology	pg 9
3.1 Research Design.....	pg 9
3.2 Data Collection Procedure.....	pg 10
3.3 Participants.....	pg 10
3.4 Data Analysis.....	pg 11
3.5 Ethical Considerations.....	pg 11
4.0 Results	pg 12
4.1 Understanding Duties and Timing of Appointment.....	pg 12
4.2 Client Involvement, Risk Identification and Collaboration.....	pg 12
4.3 Risk Elimination, Residual Risk and Practical Barriers.....	pg 13
4.4 Perceived Effectiveness, Authority and Improvements.....	pg 13
5.0 Discussion	pg 14
5.1 Early Appointment and Prevention at Source.....	pg 15
5.2 Client Involvement, Collaboration and Coordination Quality.....	pg 15
5.3 Risk Elimination, Reduction and Residual Risk Transfer.....	pg 16
5.4 NI and ROI Differences in Role Clarity and Authority.....	pg 16
5.5 Framework versus Practice.....	pg 17
5.6 Limitations of the Study.....	pg 17
6.0 Conclusion and Recommendations	pg 18
7.0 References	pg 20
8.0 Appendices	pg 23

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Abstract

This study explored how design-stage health and safety risk management operates under the Construction (Design and Management) Regulations (Northern Ireland) 2016 and the Safety, Health and Welfare at Work (Construction) Regulations 2013 in the Republic of Ireland. It was developed in response to evidence that construction risks originate during early project stages and that pre-construction decisions can influence later health and safety outcomes. A comparative design was adopted. Semi-structured interviews were carried out with five construction professionals across jurisdictions, and the data were analysed using thematic analysis.

The findings suggest that both frameworks provide a basis for managing health and safety during the design-stage, but that effectiveness depends more on implementation than on formal duties alone. The clearest themes were appointment, client involvement, communication and coordination during pre-construction decision making. Participants indicated that risks were often reduced rather than fully eliminated, particularly where time pressure, developing information or late appointment limited opportunities for meaningful design change. The comparison also pointed to a difference in role identity and authority, with the PSDP appearing more distinct than the Principal Designer role.

Overall, the study concludes that pre-construction arrangements in both jurisdictions can support design-stage risk management, but not always fully or consistently in practice.

1.0 Introduction

Construction remains one of the highest risk industries in relation to fatal and serious injury, despite continued improvements in regulation and site safety management (HSE, 2025). Although accidents are often linked to unsafe acts or site conditions, research shows that many risks arise much earlier during briefing, planning and design (Hide et al., 2003; Behm, 2005; Gibb et al., 2006). Design decisions can affect access, maintenance, sequencing, service routes and temporary works, meaning they can strongly influence health and safety before construction begins (Manu et al., 2014).

Design-stage risk management is therefore an important part of improving construction safety. Prevention through design research suggests that the greatest opportunity to eliminate or reduce hazards exists at the earliest stages of a project, before risks become fixed in the design and passed into construction (Szymberski, 1997; Gambatese, Behm and Rajendran, 2008; Toole and Gambatese, 2008). Where this does not happen, greater reliance is placed on later controls, which are generally less effective than eliminating hazards at source (Lingard, Cooke and Blismas, 2014).

In Northern Ireland, design-stage health and safety is regulated by the Construction (Design and Management) Regulations (Northern Ireland) 2016, under which a Principal Designer must be appointed where more than one contractor is involved. In the Republic of Ireland, it is regulated by the Safety, Health and Welfare at Work (Construction) Regulations 2013, which do not require a Principal Designer and instead require a Project Supervisor Design Process to coordinate the design-stage (HSENI, 2016; HSA, 2013).

Existing literature supports the importance of early coordination, competence and communication in design-stage safety management, but there is limited research directly comparing how these arrangements operate in practice across Northern Ireland and the Republic of Ireland (Rasmussen, 1997; Hale et al., 2015; Ndekugri et al., 2023).

This creates a relevant gap in knowledge, particularly in understanding whether differences in regulatory structure influence how effectively design related risks are identified, coordinated and managed before work starts on site.

1.1 Aim of the research

To explore how design-stage health and safety risk management operates in practice under the Construction (Design and Management) Regulations (Northern Ireland) 2016 and the Safety, Health and Welfare at Work (Construction) Regulations 2013 in the Republic of Ireland.

1.2 Research objectives

1. To examine how professionals understand and apply design-stage health and safety duties in Northern Ireland and the Republic of Ireland.
2. To identify the factors that influence the effectiveness of pre-construction health and safety coordination in practice.
3. To compare how the Principal Designer and PSDP roles are experienced and understood across both jurisdictions.

2.0 Literature Review

2.1 Construction Health and Safety and Hazard Specific Design Influence

Construction remains one of the highest risk industries for fatal and serious injury, despite long-standing regulatory controls and improved site-based safety management (HSE, 2025). While unsafe acts and site conditions are often identified as immediate causes, research increasingly shows that many construction accidents are shaped by decisions made at earlier project stages.

Accident investigation studies provide strong evidence of early-stage influences. Analysis of construction incidents in Great Britain identified that the majority could be traced back to originating factors such as permanent works design, project planning and deficiencies in early risk management (Hide et al., 2003). Subsequent studies reinforced these findings, showing that a substantial proportion of construction accidents and fatalities were linked to design-related decisions that constrained how work was undertaken on site (Behm, 2005; Behm, 2006; Gibb et al., 2006). Research examining broader project characteristics further highlights the role of design complexity, procurement strategy and construction sequencing in shaping exposure to risk (Manu et al., 2014).

More recent hazard-specific studies show how these factors continue to appear in day-to-day construction practice. Research on dropped object incidents identifies inadequate consideration of access, containment and temporary works integration during design as recurring contributory factors, with little evidence of sustained improvement despite extensive site-level controls (Peatie et al., 2024). Similar design and procurement issues are also seen across construction, including falls from height, structural instability and hazards linked to access, sequencing and site movement, where risks can become embedded before construction begins (Haslam et al., 2005).

These findings highlight the importance of briefing, design and procurement in shaping health and safety outcomes. Decisions taken at these stages can strongly influence later exposure to risk, yet are often dominated by cost, programme and aesthetic considerations rather than safety (Manu et al., 2014). This evidence provides a clear

rationale for focusing on design-stage risk management and pre-construction coordination.

2.2 Design-Stage Risk Management and Pre Construction Coordination

Design-stage risk management seeks to address health and safety risks at a point where they can be most effectively eliminated or reduced. Within construction projects, design-stage decisions influence matters such as structural form, sequencing, access arrangements, service routes, plant layout and the need for temporary works, all of which have direct implications for worker safety.

Research consistently indicates that the effectiveness of design-stage risk management is closely linked to coordination during the pre-construction phase. Szymberski's time safety influence curve (Figure 1) demonstrates that the opportunity to influence safety outcomes declines rapidly once construction begins, meaning that hazards not addressed during design must later be managed through less reliable controls (Szymberski, 1997). As a result, risks are frequently transferred downstream rather than eliminated.

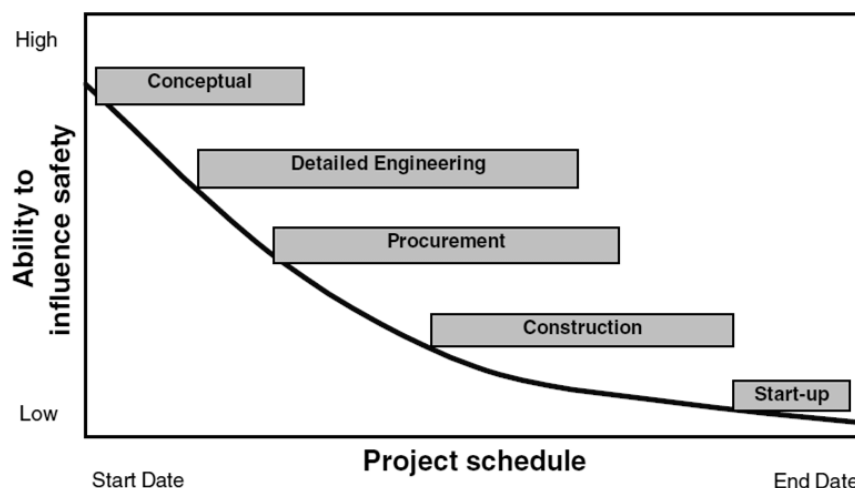


Figure 1. Time/safety influence curve, adapted from Szymberski (1997).

Prevention through design literature reinforces the importance of early coordination. Studies show that designers can reduce construction risk by simplifying designs, improving access and reducing reliance on temporary works when safety is considered alongside other design requirements (Gambatese et al., 2008; Toole and Gambatese, 2008). Quantitative studies also show that early identification and mitigation of design-related hazards are associated with better safety outcomes than construction-stage interventions alone (Lu et al., 2021; Lee et al., 2025).

Despite this, barriers to effective coordination remain, including fragmented design responsibility, time pressure and limited integration between designers, clients, coordinators and contractors (Morrow et al., 2016). Where upstream risks are not

adequately addressed, greater reliance is placed on downstream controls such as supervision, training, PPE and method statements, which are often ineffective against hazards arising from design decisions (Choudhry and Fang, 2008). This highlights the need to treat design-stage risk management as an integrated coordination process rather than a standalone design activity.

2.3 Design-Stage Risk Management under the Construction (Design and Management) Regulations (Northern Ireland) 2016

In Northern Ireland, design-stage health and safety risk management is governed by the Construction (Design and Management) Regulations (Northern Ireland) 2016 within the wider framework of the Health and Safety at Work (Northern Ireland) Order 1978, which places general duties on employers and others to ensure health and safety so far as is reasonably practicable. The Regulations aim to ensure that health and safety considerations are addressed during the early stages of project planning and design, rather than relying solely on construction stage controls (HSENI, 2016).

The Regulations place primary responsibility on clients to ensure that suitable arrangements are in place for managing health and safety, including the allocation of adequate time, resources and competent appointments. Designers are required to eliminate or reduce foreseeable risks arising from their designs and to communicate residual risks where elimination is not reasonably practicable, reflecting prevention through design principles (Bussey, 2015).

On projects involving more than one contractor, the Regulations require the appointment of a Principal Designer to plan, manage and coordinate health and safety during the pre-construction phase (HSENI, 2016). Guidance and early evaluations of CDM implementation highlight that the effectiveness of this role depends on early appointment, appropriate competence and sufficient authority within the design team (HSE, 2015; Liddle et al., 2016).

However, research suggests that practical implementation is often constrained by late appointments and an emphasis on documentation rather than proactive hazard elimination (Bussey, 2015). Studies examining competence further indicate variability in how the role is understood and delivered in practice (Adaku et al., 2022).

2.4 Design-Stage Risk Management in the Republic of Ireland

In the Republic of Ireland, design-stage health and safety risk management is regulated through the Safety, Health and Welfare at Work (Construction) Regulations 2013. These Regulations adopt a more prescriptive approach to pre-construction coordination through the mandatory appointment of a Project Supervisor Design Process (PSDP), responsible for coordinating health and safety during the design phase (HSA, 2013). Clients must appoint a competent PSDP at the earliest practicable stage and provide

sufficient time and resources for coordination. Designers must identify hazards arising from their designs, eliminate or reduce risks where reasonably practicable, and cooperate with the PSDP in applying the general principles of prevention. This framework aims to prevent foreseeable design-related hazards from being passed downstream without adequate consideration.

Professional guidance suggests that the statutory clarity of the PSDP role can support earlier and more structured coordination, particularly in relation to construction sequencing, access arrangements and temporary works planning (Cairn Risk, 2023). The Irish framework closely reflects the intent of Directive 92/57/EEC, which emphasises early coordination and prevention at source (European Commission, 2011). However, the effectiveness of this approach remains dependent on competence, authority and client engagement, with late appointment limiting opportunities for hazard elimination during design (Cairn Risk, 2023).

2.5 Comparative Analysis and Identification of a Research Gap

The literature demonstrates broad agreement that a substantial proportion of construction risk originates during early project stages and that effective risk reduction depends on structured design-stage coordination. However, regulatory systems differ in how responsibilities for pre-construction risk management are organised. Northern Ireland's principles-based approach under CDM (NI) 2016 seeks to integrate health and safety into routine design practice, whereas the Republic of Ireland adopts a more prescriptive model through the PSDP role.

Table 2.5.1 shows that both roles address design-stage risk, although the PSDP is framed more explicitly as a separate coordination role.

Table 2.5.1 - Comparison of Principal Designer and PSDP roles		
Area	Principal Designer, NI	PSDP, ROI
Framework	• CDM (NI) 2016	• SHWW Construction Regulations 2013
Appointment	• Appointed by client where more than one contractor is involved	• Appointed in writing before design work starts
Role	• Plans, manages, monitors and coordinates pre-construction health and safety	• Coordinates designers' work during the design process
Risk duties	• Identifies, eliminates or controls foreseeable risks	• Identifies hazards and eliminates or reduces risks
Practical distinction	• Often integrated into the design team	• More distinct project supervision role

Source: HSENI, 2016; HSA, 2013

Comparative research links Ireland's relatively strong construction safety performance partly to regulatory structure and enforcement rather than behavioural interventions alone (Meekel et al., 2011). It may therefore be theorised that these structural differences influence how consistently design-related risks are identified and controlled before construction begins. However, regulation alone does not ensure effective risk management and must be supported by appropriate oversight, competent duty holders and sufficient authority within project teams (Rasmussen, 1997; Hale et al., 2015).

Although NI and ROI regulate design-stage safety differently, limited research has compared how these systems operate in practice, particularly in relation to design-stage hazard management (Ndekugri et al., 2023). This study therefore addresses that gap by exploring how professionals involved in design-stage coordination understand and experience these arrangements in both jurisdictions.

3.0 Methodology

3.1 Research Design

This study adopted a qualitative comparative research design to explore how design-stage health and safety coordination operates in practice under the Construction (Design and Management) Regulations (Northern Ireland) 2016 and the Safety, Health and Welfare at Work (Construction) Regulations 2013 in the Republic of Ireland.

A qualitative approach was selected as the research aimed to examine professional interpretations and implementation of regulatory duties rather than to measure outcomes statistically. Qualitative methods are appropriate for investigating professional experience and contextual processes within real world settings (Creswell, 2014; Qu and Dumay, 2011).

Semi-structured interviews were used as the primary data collection method, allowing consistency across participants while retaining flexibility to explore individual perspectives (Bryman, 2016). A schedule of twelve core questions was developed around role context, regulatory duties, coordination practices and perceived effectiveness, with minor wording changes made to reflect participant roles while maintaining consistency for cross-role and cross-jurisdiction comparison.

Interviews were designed to last approximately 30 minutes to ensure focused discussion while remaining practical for industry professionals. Questions were not provided in advance to encourage spontaneous responses in the participants' project experience.

3.2 Data Collection Procedure

Participants were recruited using purposive sampling to ensure direct experience of design-stage or pre-construction health and safety activities relevant to the research aims (Etikan, Musa and Alkassim, 2016). Recruitment was conducted through a

combination of professional contacts developed during industry placement and external professional networks. This ensured representation from both Northern Ireland and the Republic of Ireland, and from both coordination and designer perspectives.

Five interviews were conducted over a two-week period in April. Interviews were held either in person or via Microsoft Teams, depending on participant availability. All interviews were audio recorded with participant consent, and no video recordings were taken.

Each interview followed the same structured schedule to support comparability across participants. Follow-up prompts were used where clarification was required, while care was taken to avoid leading questions. Audio recordings were transcribed by the researcher shortly after each interview to maintain familiarity with the data and ensure accuracy.

3.3 Participants

The study involved five construction professionals across Northern Ireland and the Republic of Ireland. These included a Principal Designer, a Northern Ireland designer, a Project Supervisor Design Process, a Republic of Ireland designer, and a cross-jurisdiction coordinator with experience of both the PSDP and Principal Designer roles. Participants were selected based on their professional role and involvement in projects requiring formal design-stage coordination.

Including both coordination and designer roles across both jurisdictions allowed comparison of regulatory interpretation and practical implementation from different professional perspectives. Although the sample was limited, qualitative research prioritises depth and contextual understanding over statistical generalisability (Creswell, 2014). The focused sample was therefore appropriate for the exploratory nature of the study.

3.4 Data Analysis

Data were analysed using thematic analysis. Following each interview, detailed notes were reviewed and expanded to ensure accuracy, then read several times to identify recurring ideas relating to regulatory duties, coordination practices, authority, barriers and perceived effectiveness.

Key statements were labelled with short descriptive terms and grouped under consistent labels, such as late appointment, limited influence and client support, to allow comparison across participants. These labels were then organised into broader themes aligned with the research objectives.

Comparative analysis was undertaken across two dimensions: differences between Northern Ireland and the Republic of Ireland, and differences between coordination roles and designers. Manual coding was used due to the manageable size of the

dataset, allowing close engagement with the material and identification of similarities and contrasts in professional experience.

3.5 Ethical Considerations

The study adhered to Ulster University's research ethics guidelines (Ulster University, 2026). Participants were provided with information outlining the purpose of the research and were informed that participation was voluntary. Informed consent was obtained prior to each interview.

Participants were assured that their responses would remain confidential and that no identifying information would be included in the dissertation. Care was taken to avoid reference to specific projects or employers.

Audio recordings and transcripts were stored securely on the researcher's password protected university Microsoft OneDrive account, with access restricted to the researcher. In accordance with university research data management policy, data will be retained securely for the required retention period. As participants were construction professionals discussing their occupational roles, the study did not involve vulnerable groups or sensitive personal data.

4.0 Results

Participants were assigned anonymised labels to preserve anonymity while retaining role context: P1, Northern Ireland designer; P2, Republic of Ireland designer; P3, cross-jurisdiction coordinator with experience of the PSDP and Principal Designer roles; P4, Republic of Ireland PSDP, and P5, Northern Ireland Principal Designer.

4.1 Understanding duties and timing of appointment

Participants described design-stage health and safety as integrated into the design process rather than treated as a separate compliance task. Duties were framed in practical terms, including identifying foreseeable hazards, coordinating discussion across teams, and seeking to eliminate or reduce risks before they reached site (P1, P2, P3, P4, P5). A difference emerged in how the PSDP and Principal Designer roles were understood. P3 drew a clearer distinction between the two, describing the Principal Designer as a designer in that role, while the PSDP was presented as a client-appointed design-stage safety coordinator with a broader function. By contrast, P5 framed the Principal Designer role as part of the design process rather than a separate safety role

"It's about making sure the regulations are properly understood and then actually applied in practice, not just treated as a box-ticking exercise" (P3-Cross-jurisdiction Coordinator).

Early appointment was a clear theme. All five participants linked early involvement with a greater ability to influence layout, access, maintenance strategy and wider design

decisions, while later appointment was associated with a more reactive role (P1, P2, P3, P4, P5). P1, P4 and P5 were clear that once key design decisions had advanced, the opportunity for meaningful prevention was reduced.

“When that happens, you’re often in more of a mitigation role than a prevention role” (P1-NI Designer).

4.2 Client involvement, risk identification and collaboration

Client involvement was variable. Better outcomes were associated with clients who understood their duties, made appointments early and supported coordination from the outset (P1, P4, P5). In contrast, P3 noted that day-to-day support often came more from the client-appointed design team than from the client directly, while P2 suggested that engagement varied between clients and project types (P2, P3).

“From my experience, the strongest projects are usually the ones where the client understands their role from the start, sets the tone early, appoints the right people on time, and supports coordination across the design team” (P4-ROI PSDP).

Risks were generally identified through design reviews, coordination meetings, workshops, risk assessments and ongoing discussion as the design developed (P1, P2, P3, P4, P5). Collaboration was viewed positively, but several participants suggested that it still depended on project culture, communication and willingness to engage properly (P1, P3, P4, P5).

“Usually, they’re identified through design reviews, coordination meetings, workshops, drawing reviews, and ongoing conversations with designers and specialists as the design develops” (P4-ROI PSDP).

4.3 Risk elimination, residual risk and practical barriers

Participants consistently reported that the intention of the process was to eliminate risk where possible, but that in practice risks were more often reduced than fully removed (P1, P2, P3, P4, P5). P2 distinguished between smaller risks, often eliminated if identified early enough, and more complex issues more likely to be carried forward. Similarly, P3 and P5 described reduction to an acceptable level as the more realistic outcome.

“In my experience, the risks are more often reduced rather than completely eliminated” (P3-Cross-jurisdiction Coordinator).

A related issue was the transfer of residual risk into later stages. P1 and P4 described a tendency for identified risks to be recorded and passed forward where time pressure, incomplete information or late appointment limited the opportunity for meaningful design change (P1, P4). P5 also indicated that many issues were reduced as far as reasonably possible rather than fully designed out.

“There’s still a degree of transfer rather than full resolution” (P1-NI Designer).

The main barriers identified across the interviews were late appointment, programme pressure, fragmented communication, limited client understanding and a tendency to treat health and safety as paperwork rather than an active design issue (P1, P2, P3, P4, P5).

“The main barriers would be late appointment, time pressure, fragmented communication, limited client awareness, and a tendency to treat the documentation as the end product rather than the coordination process itself” (P4- ROI PSDP).

4.4 Perceived effectiveness, authority and improvements

Participants viewed the regulatory framework positively. It was described as clear and capable of supporting design-stage risk management, but its effectiveness depended heavily on how consistently it was applied in practice (P1, P2, P3, P4, P5). P1 described it as fundamentally sound, while P4 and P5 stressed that the main weakness lay in uneven implementation rather than the wording of the regulations themselves.

“The issue isn’t really the wording of the regulations; it’s more the consistency of how they’re applied in practice” (P4-ROI PSDP).

Views on authority showed a clearer difference between the PSDP and Principal Designer perspectives. P1, P4 and P5 suggested that coordination roles had influence, but not always direct control over design decisions (P1, P4, P5). By contrast, P3 placed greater emphasis on the formal authority available within the PSDP role.

“It’s influence through coordination more than control, really” (P5-NI Principal Designer).

“There are measures within the regulations that allow the PSDP to insist on designers following direction on health and safety concerns” (P3-Cross-jurisdiction Coordinator).

The strongest shared recommendation was earlier appointment and stronger integration of health and safety into design from the outset (P1, P2, P3, P4, P5). However, P1 also raised a more specific concern about NI practice, suggesting that the Principal Designer should be appointed independently and early rather than being absorbed into the designer’s role by default.

“If I could change one thing, I’d probably say the Principal Designer should be appointed independently and right at the beginning of the project, rather than it so often being absorbed into the designer’s role by default” (P1-NI Designer).

“Health and safety should really sit alongside the main design decisions from the beginning and not be something that’s picked up afterwards” (P2-ROI Designer).

5.0 Discussion

The main aim of this study was to explore how design-stage health and safety risk management operates in practice under the Construction Design and Management Regulations Northern Ireland 2016 and the Safety, Health and Welfare at Work Construction Regulations 2013 in the Republic of Ireland. The findings suggest that both frameworks provide a sound basis for managing design-stage health and safety, but that effectiveness depends more on implementation than on formal duties alone. Across both jurisdictions, participants linked stronger risk management with early appointment, client involvement, communication and meaningful pre-construction coordination.

Although the regulatory structures differ, the interviews suggest that outcomes are shaped more by project conditions than by legislation alone. This supports the view that regulation provides a framework for action, but that its influence depends on competence, authority and the quality of application in practice (Rasmussen, 1997; Hale et al., 2015).

5.1 Early appointment and prevention at source

One of the clearest findings from the interviews was the importance of early appointment in allowing health and safety to influence design decisions before risk becomes embedded in the project. Participants linked early involvement with greater scope to shape layout, access, maintenance, sequencing and wider design development, while later appointment was seen as reducing the role to mitigation rather than prevention. This supports prevention through design literature, which argues that the greatest opportunity to improve safety exists during the earliest stages of project development (Szymburski, 1997). Gambatese, Behm and Rajendran (2008) and Toole and Gambatese (2008) similarly emphasise that hazards are more effectively addressed during design than during construction.

The findings also suggest that design-stage safety is most effective when integrated into core design decisions from the outset rather than added later as a compliance exercise. This reflects Lingard, Cooke and Blismas (2014), while Baxendale and Jones (2000) found that late appointment weakens practical implementation of design related duties. In practical terms, this suggests that early appointment helps reduce the extent to which avoidable risks are carried into the construction phase, where they are more difficult to control.

Overall, the interviews suggest that timing is a central condition of effectiveness because it creates greater scope for hazard elimination before risks become fixed within the design.

5.2 Client involvement, collaboration and coordination quality

A second clear theme was the importance of client involvement in shaping how well design-stage safety was managed in practice. Participants linked stronger outcomes with clients who understood their duties, made appointments early and supported coordination from the outset, while weaker engagement reduced effectiveness even where formal duties were in place.

Risk identification was described as developing through design reviews, coordination meetings, workshops, drawing reviews and ongoing discussion as the design progressed. This suggests that pre-construction safety management depends on communication and willingness to engage, as well as technical competence.

This supports literature which presents design-stage risk management as a collaborative rather than isolated task. Morrow, Hare and Cameron (2016) and Ndekugri et al. (2023) identify fragmented responsibility and weak coordination as barriers to effective pre-construction safety management.

This is also consistent with the regulatory position in both jurisdictions, where clients are required to make suitable appointments and ensure that sufficient time and resources are available to support coordination during design (HSENI, 2016; HSA, 2013). In practical terms, the findings suggest that stronger client engagement helps create the conditions in which reviews, meetings and wider team discussion can meaningfully influence risk pre-construction.

5.3 Risk elimination, reduction and residual risk transfer

A further important finding was that, although elimination was the preferred aim of design stage risk management, reduction was often the more realistic outcome in practice. Risks were more likely to be reduced than fully removed, particularly where time pressure, developing information or late appointment limited meaningful design change. Some issues were therefore passed into later project stages rather than fully resolved before construction began. The findings suggest that current pre-construction arrangements can support design stage risk management, but do not always achieve full prevention in practice.

This is consistent with the wider literature. Szymberski (1997) argues that the opportunity to influence safety declines as a project progresses, meaning risks not addressed early are more likely to remain. Gambatese, Behm and Rajendran (2008) similarly stress that the greatest value of design-stage intervention lies in eliminating hazards before they reach site, while Manu et al. (2014) show that project features such as complexity and sequencing can shape how risk is carried into construction. In that sense, the interviews suggest that where early intervention is limited, the outcome is

often partial reduction rather than full elimination, leaving more risk to be managed during construction.

5.4 Northern Ireland and Republic of Ireland differences in role clarity and authority

The interviews suggested a difference in how the coordinating role was understood across the two jurisdictions. In the Republic of Ireland, the PSDP role appeared to be viewed as a more distinct coordination function, whereas in Northern Ireland the Principal Designer role was more easily absorbed into the wider designer function. Participants from the Northern Ireland side therefore spoke more in terms of influence through coordination than direct control, while the Republic of Ireland perspective pointed to somewhat clearer formal authority within the pre-construction process.

This broadly reflects the regulatory position. Under CDM in Northern Ireland, the Principal Designer operates within a more principles-based framework that depends heavily on competence, early appointment and integration into the design process (HSENI, 2016). In contrast, the Republic of Ireland regulations give the PSDP a more clearly defined statutory coordination role during design (HSA, 2013). Cairn Risk (2023) also notes this distinction in cross border practice, while Liddle, Lingard and Cameron (2016) and Adaku et al. (2022) show that the effectiveness of the Principal Designer role can vary according to how it is understood and delivered in practice.

In practical terms, the findings suggest that clearer role identity may strengthen authority to raise concerns, challenge unsafe design decisions and keep health and safety visible during coordination. However, this should be treated as an exploratory point rather than a firm conclusion.

5.5 Framework versus practice

Participants were generally positive about the regulatory framework itself. The main weakness was not the wording of the regulations, but the inconsistency of how they were applied in practice.

In the context of this study, this meant late appointment, programme pressure, fragmented communication, limited client understanding and a tendency to treat health and safety as documentation rather than active coordination. These factors reduced the opportunity to influence design decisions early and left more risk to be managed later in the project. This supports the wider view that regulation alone does not guarantee good safety outcomes. Rasmussen (1997) argues that risk control depends on how systems operate in practice, while Hale et al. (2015) similarly suggest that formal structures must be supported by effective oversight and day-to-day application.

In construction, this is particularly important during pre-construction stages, where barriers to coordination can weaken control before work reaches site (Ndekugri et al.,

2023). Overall, the findings suggest that the main challenge lies less in regulatory design and more in ensuring that duties are translated into consistent project practice.

5.6 Limitations of the study

This study has several limitations. The sample was small and was intended to provide qualitative depth rather than broad representation, so the findings should be interpreted with caution. The study also relied on participants' professional experience and interpretation, meaning the findings reflect perceived practice rather than direct observation of project decision making. In addition, the cross-jurisdiction comparison was exploratory and based on a limited number of roles.

Time pressures and professional availability also restricted participation, which reduced the potential sample size. However, the study still provides useful insight, as participants were selected for their direct experience of design-stage health and safety coordination in Northern Ireland and the Republic of Ireland.

6.0 Conclusion and Recommendations

This study explored how design-stage health and safety risk management operates in practice under CDM (NI) 2016 and the SHWW Construction Regulations 2013 in the Republic of Ireland. The findings suggest that both frameworks provide a sound basis for managing pre-construction risk, but effectiveness depends more on implementation than formal duties alone. Across the interviews, the clearest themes were early appointment, client involvement, communication and coordination. This supports wider literature showing that the greatest opportunity to improve safety exists early in project development (Szymburski, 1997). Gambatese, Behm and Rajendran (2008) and Toole and Gambatese (2008) similarly show that hazards are addressed more effectively during design than construction.

The study found that, although elimination remained the preferred aim, risks were often reduced rather than fully removed. This was most evident where time pressure, developing information or late appointment limited design change. Some hazards that might have been designed out earlier were instead managed later through site controls, supervision or revised methods of work. Current pre-construction arrangements in both jurisdictions can support design-stage risk management, but not always fully or consistently. This reinforces the importance of embedding health and safety into mainstream design thinking from the outset rather than treating it as a later compliance exercise (Lingard, Cooke and Blismas, 2014; Baxendale and Jones, 2000).

The comparison between Northern Ireland and the Republic of Ireland also pointed to a difference in role identity and authority. The PSDP appeared to be understood as a more distinct coordination role, whereas the Principal Designer role was more easily absorbed into the wider designer function. This matters because clearer role identity

may strengthen authority to raise concerns, challenge unsafe design decisions, coordinate residual risk information and keep health and safety visible. Although this does not show that one framework is inherently superior, it suggests that role clarity may influence how strongly health and safety management is carried through. More broadly, this supports the view that regulation provides a framework for action, but that its influence depends on competence, authority and consistent application (Rasmussen, 1997; Hale et al., 2015).

Several recommendations arise from the study. Those responsible for design-stage health and safety should be appointed early so that hazard elimination can occur before key decisions become fixed. Clients should receive clearer support on their responsibilities, as their understanding was shown to influence coordination quality. Project teams should also emphasise communication through reviews, meetings and collaborative risk discussions rather than relying too heavily on documentation alone. There is relevance for the Environmental Health profession, particularly in understanding how similar legal duties are applied across Northern Ireland and the Republic of Ireland. Finally, future research should focus on the difference between the PSDP and Principal Designer roles and evaluate how effectively each supports health and safety management in practice.

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8.0 Appendices

Section A – Role Context

Q1.

Core Theme: Role and experience

- Coordinator version (PD / PSDP):
“Could you briefly describe your role and your experience in managing design-stage health and safety?”
- Designer version:
“Could you briefly describe your role and your involvement in design-stage health and safety on projects?”

Q2.

Core Theme: Type of projects

- All roles:
“What types of construction projects do you typically work on, and at what stage do you usually become involved?”

Section B - Regulatory Duties in Practice

Q3.

Core Theme: Understanding of duties

- Coordinator version:
“How do you interpret your regulatory duties in relation to managing or coordinating design-stage health and safety?”
- Designer version:
“How do you understand your regulatory duties in relation to design-stage health and safety?”

Q4.

Core Theme: Timing of appointment

- Coordinator version:
“At what stage are you typically appointed on projects, and how does this affect your ability to influence design decisions?”
- Designer version:
“At what stage is design-stage health and safety coordination typically introduced on projects, and how does this affect your work?”

Q5.

Core Theme: Client involvement

- All roles:
"How involved are clients in supporting design-stage health and safety, in your experience?"

Section C - Coordination in Practice

Q6.

Core Theme: Identifying risks

- Coordinator version:
"How are design-related health and safety risks typically identified and addressed in your projects?"
- Designer version:
"How are design-related health and safety risks identified and communicated to you on projects?"

Q7.

Core Theme: Collaboration

- All roles:
"How would you describe the level of collaboration between designers and coordinators during the pre-construction phase?"

Q8.

Core Theme: Risk elimination vs documentation

- All role:
"In your experience, are design-stage risks genuinely eliminated or reduced where possible, or are they more often recorded and transferred to later stages?"

Q9.

Core Theme: Practical barriers

- All roles:
"What are the main barriers to effective design-stage coordination on projects?"

Section D - Effectiveness & Comparative Insight

Q10.

Core Theme: Perceived effectiveness

- **All roles:**
“Overall, how effective do you believe the current regulatory framework is in managing design-stage health and safety?”

Q11.

Core Theme: Authority and influence

- **Coordinator version:**
“Do you feel you have sufficient authority to influence design decisions when health and safety concerns arise?”
- **Designer version:**
“Do you feel health and safety coordination roles have sufficient authority to influence design decisions on your projects?”

Q12.

Core Theme: Improvements

- **All roles:**
“If you could change one aspect of how design-stage health and safety is managed, what would it be?”

Participant 1 - Northern Ireland Designer

Designer Interview Transcript – NI

Interviewer: Right, so just to get us started, could you tell me a bit about your role and how health and safety fits into it at design stage?

Respondent: Yes, of course. I'm an architect and lead designer within an ICT, so I'm involved in leading the design process from the early concept stage right through to construction. Alongside that, we quite often take on the Principal Designer role under the CDM Regulations, so there's a fairly significant health and safety coordination element to what we do as well. In practice, that means making sure risks are identified early, designed out where possible, and properly communicated to the wider team as the project moves forward.

Interviewer: Right enough. And what sort of projects would you usually be involved in, and at what point would you normally come in?

Respondent: I mainly work on industrial projects, although they can vary quite a lot in scale and value. More often than not, we're brought in fairly early, usually around feasibility or concept stage, especially where a client is still testing options or shaping the business case. From there, we'd typically stay involved all the way through to handover and use, so it tends to be quite a continuous role across the life of the project.

Interviewer: Okay, that's useful. And when you think about your regulatory duties around design-stage health and safety, how would you describe them in practice?

Respondent: I'd say my duties are really about making sure health and safety is properly integrated into the design process, rather than treated as a separate compliance exercise. So it's about identifying foreseeable risks, looking at whether they can be eliminated or reduced through design, and then making sure any remaining issues are communicated clearly. It also means coordinating with the other designers and making sure there's a proper understanding across the team of who's responsible for what. Quite frankly, when that coordination isn't there, things start to fall between the gaps very quickly.

Interviewer: Aye, and just staying with that for a second, when is that coordination usually brought in on projects, and what difference does that make to your work?

Respondent: Ideally, it's there from the outset, because that's when you can have the most influence over the bigger strategic decisions. In reality, it doesn't always happen that way, and sometimes the coordination only really kicks in once key design moves have already been made or planning has already progressed. When that happens, you're often in more of a mitigation role than a prevention role, which obviously limits what you can achieve. If I'm honest, that's still quite a common issue.

Interviewer: Fair enough. And what's your experience of client involvement then — are clients generally engaged with design-stage health and safety?

Respondent: It varies quite a bit. Some clients, particularly in the industrial sector, are very switched on and understand their duties properly. They'll make early appointments, put the right resources in place, and usually have in-house people who understand operational risk and maintenance, which makes a real difference. Others are less engaged, and in those cases the whole process can become much more reactive

than it ought to be. In my experience, the better the client understands their role, the better the design-stage process tends to work overall.

Interviewer: Right, I see what you mean. And when it comes to risks in the design itself, how are those usually identified and fed back to you?

Respondent: Usually through design reviews and coordination with the wider consultant team, so structural, civil, fire and MSE engineers, for example. A lot of that communication comes through risk registers, drawings, specifications, and general discussion as the design develops. That said, it does depend quite heavily on how engaged the rest of the team is. Some disciplines are very good at surfacing those issues early, while others need a bit more prompting, particularly where there are longer-term maintenance or access implications. Actually, that's often where the more difficult conversations sit.

Interviewer: Okay, and would you say collaboration is generally working well during pre-construction, or does it still depend a lot on the team?

Respondent: I'd say it's generally improving, particularly on larger or more complex projects where there's a clearer structure around coordination. On smaller projects, though, it can still feel a bit fragmented. A lot depends on procurement, team structure, and whether roles have been clearly understood from the beginning. Where that's been set up properly, collaboration tends to be much more productive. Where it hasn't, it can feel slightly piecemeal and a bit reactive.

Interviewer: And just on that point, would you say risks are usually being eliminated properly through design, or are they still ending up recorded and pushed further down the line?

Respondent: In principle, the aim is obviously to eliminate or reduce risks at source, and that certainly does happen in some cases. But in practice, there's still quite a strong tendency for risks to be identified, recorded, and then effectively passed into later stages rather than fully resolved through design. That can come down to time pressure, budget constraints, or limited influence over specialist packages. So I think genuine risk elimination does happen, but probably not as consistently as it should. More often than not, there's still a degree of transfer rather than full resolution.

Interviewer: Right. So if you were to pick out the main barriers, what tends to get in the way of effective design-stage coordination?

Respondent: The main barriers are usually late appointment of the Principal Designer, limited client understanding, time and cost pressure, and fragmented project teams. There's also still a tendency in parts of the industry to see health and safety as essentially a compliance requirement rather than part of good design practice. Once that mindset is there, coordination becomes much more procedural and a lot less meaningful. To a degree, that's one of the biggest challenges, because it affects how seriously people engage with the process from the start.

Interviewer: Okay, sure. Looking at the bigger picture then, how effective do you think the current framework actually is in managing design-stage health and safety?

Respondent: I think the framework itself is fundamentally sound. It sets out responsibilities clearly and gives a sensible structure for managing design-stage risk. The inconsistency, really, comes more from how it's applied in practice than from any major issue with the regulations themselves. In some teams there's a

Interviewer: And do you think those coordination roles have enough influence in real terms to shape design decisions?

Respondent: I think they can have influence, but whether that translates into real authority in practice is a slightly different question. Quite often, commercial pressure, programme constraints, or aesthetic considerations can end up carrying more weight, particularly if the client or wider design team isn't fully aligned. The Principal Designer role is clearly defined, but its actual influence depends quite a lot on client backing and on how collaborative the rest of the team is willing to be. If I'm honest, that can vary enormously from one project to the next.

Interviewer: Right, final one then. If you could change one aspect of how design-stage health and safety is managed, what would you change?

Respondent: If I could change one thing, I'd probably say the Principal Designer should be appointed independently and right at the beginning of the project, rather than it so often being absorbed into the architect's role by default. I think that would give the role more independence, more clarity, and a much better opportunity to shape design decisions at the point where it actually matters. It may be a slightly unfashionable view in some circles, but I do think it would move things closer to genuine prevention rather than retrospective mitigation.

Participant 2 - Republic of Ireland Designer

Interview Transcript – ROI Designer

Interviewer: Thanks for taking the time today. Before we get into it properly, are you happy enough to just speak from your own experience across the projects you've worked on?

Respondent: Yeah, absolutely, that's no problem.

Interviewer: Brilliant. So, to begin with, could you talk me through your role and the part you play in design-stage health and safety on projects?

Respondent: In my role, I'd be involved in picking up any risks or hazards at design stage and making sure they're being looked at properly as the project moves on. That would mean preparing the preliminary health and safety plan, doing design risk assessments, and then reviewing the assessments coming in from the rest of the design team and the other disciplines as well. On the larger projects, the client would often appoint an independent PSDP, so in those cases our role is more to work alongside that, coordinate the risks that have been identified, and make sure any recommendations are actually being carried through.

Interviewer: Right, I follow you. And in terms of the types of jobs you'd be involved in, what does that usually look like, and when would you tend to come in?

Respondent: I'd work across a fair mix of projects, really. That would be small and large one-off houses, schools and education projects, commercial offices and fit-outs, and industrial work as well. The stage I'd get involved at can depend a bit on workload and also how big or complex the project is. On dwellings, I'd usually be involved from the very start right through to works on site. On the bigger education or commercial jobs, I'd normally be part of a team from early enough on, although on some larger projects I'd maybe be more involved around tender stage and then again during construction.

Interviewer: And when you think about your regulatory duties, how do you understand them in practice?

Respondent: The way I'd look at it is that the PSDP is a role the client has to appoint to manage and oversee health and safety during design stage. So really, it's about making sure those issues are being considered from the beginning and not just left until works start on site. It's also about making sure risks are identified, talked through properly within the design team, and then either designed out where possible or reduced as much as they can be.

Interviewer: Would you say the timing of that coordination matters a lot in terms of what can actually be achieved?

Respondent: From the outset would always be best. If it's there from the start, it helps set the right mindset early and gives the team a better chance of getting rid of risks before too much is fixed. If it comes in later, then you're really trying to revisit things that might already be well progressed, and that makes it harder. So early coordination makes a big difference, and really good cooperation between the design team is a big part of that as well.

Interviewer: Fair enough. And what have you found in terms of client involvement — are clients generally quite engaged with that side of things?

Respondent: It can vary quite a bit depending on the client. Some are much more involved and much more aware of the health and safety side of things, and others would be a lot more hands-off. Educational jobs are usually the ones where clients tend to be more aware, especially if works are happening during term time, because there's more of a focus on the possible hazards in a live environment. So in those cases, you'd probably find the client is more engaged from the start.

Interviewer: And when risks are identified, how are those usually communicated back to you on a live project?

Respondent: Usually through ongoing meetings at different stages of the project, and also through design risk assessments where potential issues or hazards are being flagged up as the design develops. Drawings can be used as well to highlight certain areas or zones on site where there might be particular concerns. So it would really be an ongoing thing throughout the job rather than one single stage where everything is picked up at once.

Interviewer: That makes sense. Would you say the level of collaboration between designers and coordinators has improved much?

Respondent: In general, communication can be quite good, and I do think it has improved over the last few years. There seems to be a better awareness now that designers and coordinators need to work together properly rather than all doing their own thing separately. That said, a lot still depends on the people involved and how well the project is being run overall.

Interviewer: And just staying with that for a minute, are risks usually being designed out where possible, or do they still end up getting carried forward?

Respondent: I'd say the smaller or more straightforward risks are often eliminated if they're picked up early enough. The more complex issues, though, are often noted and then looked at further during the works with the PSCB. Timing plays a part in that too, because sometimes certain things only become fully clear later in the project. So in reality, it's probably a bit of both. Some things can be removed early enough, and others end up being managed further on.

Interviewer: What would you say tends to get in the way most when you're trying to coordinate that properly?

Respondent: The main ones would probably be time restraints and poor communication. If the programme is tight, people can end up trying to move things on before everything is fully coordinated. And if communication isn't good across the team, things can be missed or only picked up later than they should have been. A lot of the time, those are the things that cause the biggest issues.

Interviewer: Looking at it more broadly then, how effective do you think the current framework is in managing design-stage health and safety?

Respondent: It can vary from project to project, but overall I'd say there is definitely more awareness of health and safety now than there maybe was years ago. The framework does help because it gives a clearer structure for how things should be managed. At the same time, how effective it is really depends on how well it's being applied on the job and how seriously everyone is taking it.

Interviewer: And do you feel those coordination roles carry enough weight to influence the design when they need to?

Respondent: Yes, I'd say they do, because their input is an important part of the process and it should be taken seriously. If health and safety concerns are being raised at design stage, they need to be properly considered and not just pushed aside. So in that sense, the role does have influence, and it should have influence, because the whole point is to make sure safety is being thought about from the start.

Interviewer: Last one from me — if you could change one aspect of how design-stage health and safety is managed, what would it be?

Respondent: I think the main thing I'd change is to make it more central to the whole process rather than something that can still feel a bit secondary at times. Health and safety should really sit alongside the main design decisions from the beginning and not be something that's picked up afterwards. If that happened more consistently, I think you'd get better coordination and probably better outcomes on site as well.

Interviewer: That's great, thanks very much. That's everything I needed.

Respondent: No problem at all.

Participant 3 - Cross-jurisdiction Coordinator

Interview Transcript – Cross-Jurisdiction Coordinator

Interviewer: Thanks again for doing this. We'll just keep it fairly informal. To begin with, could you tell me a bit about your role and your experience in managing health and safety at design stage?

Respondent: Yes, of course. So, I've been managing design-stage health and safety for around ten years now, so I've built up a fair bit of experience over that time. I've worked as a Project Supervisor for the Design Process for over ten years, and I've also done a few Principal Designer roles in Northern Ireland as well. So I've seen both sides of it to an extent.

Interviewer: Right, okay. And just so it's clear, could you expand a wee bit on the PSDP role itself?

Respondent: A PSDP is basically the person appointed by the client to coordinate health and safety during the design stage of a project in Ireland. The reason the role is there is because the regulations require somebody to oversee the coordination of the design work and make sure risks are being picked up early, and then either eliminated or reduced as the design develops. So really it's about making sure health and safety is being dealt with at the point where design decisions are actually being made.

Interviewer: And what about the Principal Designer then, just while we're on it, how would you distinguish that?

Respondent: Well, yes, it is slightly different. A Principal Designer is there to coordinate health and safety during pre-construction and make sure design risks are being addressed as well, but the main difference is that the Principal Designer is specifically a designer in that role, whereas the PSDP is more of a design-stage safety coordinator appointed by the client. So the PD role has a more design-led feel to it, whereas the PSDP can sit a bit more across the wider coordination side of things.

Interviewer: That's useful. And in terms of the projects themselves, what kind of work would you typically be involved in, and at what stage do you usually come in?

Respondent: Throughout my career, I've worked across quite a wide mix of projects really, things like commercial new builds, fit-outs, data centres, retail, and civils. In most cases, I'd usually become involved early in the design stage, and that's obviously when the role works best. Although, to be fair, there have been projects where I've been brought in later, sometimes even at construction stage, and when that happens you're naturally more restricted in what you can influence.

Interviewer: Sure. And how do you interpret your own regulatory duties when it comes to managing or coordinating design-stage health and safety?

Respondent: I take those duties quite seriously. I've completed both PSDP and PD courses to make sure my understanding of the regulations is correct, but for me it's not just about knowing the wording of them. It's about making sure the regulations are properly understood and then actually applied in practice, not just treated as a box-ticking exercise. So a lot of the role is making sure issues are identified, raised, discussed and followed through, rather than just recorded for the sake of it.

Interviewer: And when are you typically appointed on projects, and what difference does that make to your ability to influence the design?

Respondent: Typically, I'd be appointed early in the design process, and that really does make a big difference. If you're involved from the start, you've got a much better chance of influencing design decisions and making sure health and safety is properly considered as the design develops. If the appointment comes later, you're really trying to catch up on decisions that may already be well advanced. So early appointment definitely makes the role more effective, without a doubt.

Interviewer: From your experience then, how involved are clients usually in supporting design-stage health and safety?

Respondent: In my experience, clients themselves would not always be heavily involved in supporting design-stage health and safety on a day-to-day basis. More often, the client-appointed design team would be more involved and would be a good support in that respect. Some clients are stronger than others, of course, but generally speaking it would tend to be the design team you're dealing with more directly when it comes to progressing the health and safety side of things.

Interviewer: And how are design-related health and safety risks normally identified and dealt with on your projects?

Respondent: Normally, I would carry out a design review and identify any design safety issues that are there. Once these are picked up, they'd be raised with the relevant designer and then ironed out through workshops or meetings with the wider team if needed. So it's really a case of reviewing the design as it develops, spotting where the issues are, and then trying to resolve them through discussion and coordination before they become bigger problems.

Interviewer: Okay, and what would you say the level of collaboration is like between designers and coordinators during pre-construction?

Respondent: By and large, collaboration between designers is good, with regular meetings and workshops arranged. There's generally a decent level of communication where the team is engaged properly, and that obviously helps a lot. That said, it still depends on the people involved and the way the project is being run. If communication is strong, coordination tends to go much more smoothly.

Interviewer: Can I just ask you on that, in your experience are risks actually eliminated where possible, or do they tend to get passed down the line?

Respondent: In my experience, the risks are more often reduced rather than completely eliminated. A lot of design-stage issues relate to future maintenance or the eventual use of the building, so it's not always realistic to remove the risk altogether. But if you can reduce it to a more acceptable level, then that still helps the client a lot. So that's usually the main aim really, getting the risk down as far as reasonably possible.

Interviewer: And what would you say are the biggest barriers to effective design-stage coordination?

Respondent: One of the main barriers is the stage at which we're brought into the project. If the appointment comes too late in the design process, there's usually pressure around deadlines and getting things progressed quickly, and because of that some issues just can't be properly resolved in the time available. So late appointment is definitely a big challenge. On top of that, if communication isn't great, that can make things harder again.

Interviewer: Stepping back from individual projects for a second, how effective do you think the current regulatory framework is overall?

Respondent: Overall, I do think the current regulatory framework is effective. The main issue really is that it only works properly when it's actually followed by the client and the design team. So the framework itself is strong enough, but it depends very much on how well people engage with it in practice. If the duties are taken seriously, it can work very well. If they're not, then naturally the benefit drops off.

Interviewer: And do you feel you have sufficient authority to influence design decisions when health and safety concerns come up?

Respondent: There are measures within the regulations that allow the PSDP to insist on designers following direction on health and safety concerns. With the legislation having the PSDP as a requirement, that helps to make sure we are involved in the various steps and decisions, and that does increase our authority from a design-stage point of view.

Interviewer: Would that be more difficult though, given the PSDP isn't usually the person actually carrying out the design?

Respondent: To an extent, yes, it can be more difficult because the PSDP is not usually the person doing the design itself. The designers still have responsibility for their own design decisions, so the PSDP is influencing the process rather than directly making those decisions. That said, the regulations do give the PSDP authority to issue directions on health and safety matters, and designers are required to cooperate and comply with those directions. So while the role can be a bit more indirect, there is still enough authority there to influence the design where concerns arise.

Interviewer: Right, that makes sense. And just before we finish, if you could change one aspect of how design-stage health and safety is managed, what would it be?

Respondent: If I could change one thing, it would probably be the fact that on some projects health and safety is still treated as an afterthought. I think health and safety consultants should really be involved right from the start, because that gives much more opportunity to influence the design properly. So early involvement would probably be the biggest improvement for me.

Interviewer: That's great, thanks very much. That covers everything I needed.

Participant 4 - Republic of Ireland PSDP

Interviewer: Right, so just to start off, could you tell me a bit about your role and your experience in managing health and safety at design stage?

Respondent: Yeah, of course. I act as the Project Supervisor for the Design Process, so my role is really to coordinate health and safety during the pre-construction stage. A lot of that involves reviewing designs, spotting foreseeable risks, and trying to make sure hazards are either designed out altogether or, where that's not possible, reduced and managed properly.

Interviewer: Of course.

Respondent: I'd also be liaising with the client, the design team and the other duty holders to make sure health and safety is being considered right through the design process and not just left until construction starts. Over time, I've worked across quite a range of projects, so I've built up a good bit of practical experience in balancing compliance, design development and the day-to-day side of project delivery.

Interviewer: Right, okay. And what types of projects would you usually be involved in, and at what stage would you normally come in?

Respondent: I'd usually work across a mix of project types, really, things like commercial, residential, healthcare, education, and some civil or infrastructure-related work as well. Ideally, I'd be involved from concept stage, or at least very early in the design process, because that's when you've really got the best chance to influence the key decisions around layout, buildability, access, maintenance and sequencing.

Interviewer: Yeah.

Respondent: In reality though, that can vary from project to project, and there are definitely jobs where you come in later, once the design is already more developed or planning has moved on a bit.

Interviewer: Okay, that makes sense. And how would you interpret your regulatory duties when it comes to managing or coordinating design-stage health and safety?

Respondent: I'd see the role as both a compliance role and a coordination role, but not just in a paperwork sense. It's really about making sure health and safety is actively being considered by the design team and that there's proper communication between everybody involved.

Interviewer: Right.

Respondent: It's about making sure design risks are picked up and dealt with in a structured way, rather than just being noted down at the end. So that would include coordinating design risk reviews, applying the general principles of prevention, advising the client on their duties, and making sure relevant information is carried forward into the Preliminary Safety and Health Plan and then eventually into the Safety File.

Interviewer: Okay, sure. And at what stage would you typically be appointed, and how does that affect your ability to influence design decisions?

Respondent: Ideally, I'd be appointed right at project inception, or at least very early in concept design. That makes a huge difference, because the biggest opportunities to eliminate hazards usually come before the main layout, structural approach or construction methodology has been fixed.

If the appointment comes later, the role becomes a lot more limited, and instead of actually influencing the bigger design decisions, you're often dealing more with identifying and documenting residual risks. So, really, timing is a major factor in how effective the role can be.

Interviewer: Right. And in your experience, how involved are clients in supporting design-stage health and safety?

Respondent: It varies a lot, to be honest. Some clients are very proactive and they understand that early coordination, enough time, and competent appointments are all key to getting good health and safety outcomes. Others would maybe see it more as an administrative requirement and might be more focused on programme and cost than on the design-stage process itself.

Interviewer: Okay.

Respondent: From my experience, the strongest projects are usually the ones where the client understands their role from the start, sets the tone early, appoints the right people on time, and supports coordination across the design team.

Interviewer: That's helpful. So moving on a bit, how are design-related health and safety risks usually identified and addressed on your projects?

Respondent: Usually, they're identified through design reviews, coordination meetings, workshops, drawing reviews, and ongoing conversations with designers and specialists as the design develops. It works best when those risks are being looked at alongside the live design information rather than being picked up afterwards.

Interviewer: Right, okay.

Respondent: Once a risk is identified, the first question is always whether it can be eliminated through a design change. If it can't, then the focus shifts to reducing it as much as possible and making sure any remaining issues are clearly communicated for construction, maintenance, cleaning, use or future alterations.

Interviewer: Mm, okay. And how would you describe the level of collaboration between designers and coordinators during the pre-construction phase?

Respondent: It really depends on the project culture and the attitude of the design team. On well-run projects, collaboration is generally constructive and health and safety is treated as part of normal design coordination, which is obviously the ideal.

Interviewer: Yeah.

Respondent: On other projects, it can be a bit more reactive, where designers only really engage when they're prompted or when risks are already built into the design. Overall, collaboration tends to be strongest where roles are clearly understood, meetings are well structured, and health and safety is treated as an active design issue rather than a separate compliance task.

Interviewer: Right, and just on that then, in your experience, are design-stage risks genuinely eliminated or reduced where possible, or are they more often recorded and passed on to later stages?

Respondent: In reality, it's a bit of both. There are definitely cases where risks are properly eliminated or significantly reduced through good design decisions, especially where health and safety has been considered early enough.

Interviewer: Yeah that is interesting, anything else?

Respondent: But there are also plenty of situations where risks are identified without ever being fully resolved, and they end up being recorded and passed into the construction stage instead. That usually comes down to things like late appointment, programme pressure, incomplete design information, or sometimes a reluctance to go back and revisit decisions that have already been made. So while the intention is always elimination and reduction, the reality can still lean a bit too much towards recording residual risk.

Interviewer: Okay, I see. So what would you say are the main barriers to effective design-stage coordination on projects?

Respondent: The main barriers would be late appointment, time pressure, fragmented communication, limited client awareness, and a tendency to treat the documentation as the end product rather than the coordination process itself.

Interviewer: Right.

Respondent: Another issue is that some designers may still see health and safety as something secondary to cost, programme or aesthetics, rather than part of overall design quality. You can also run into difficulties where design decisions are already too far advanced, because at that stage the amount of influence the coordinator can realistically have becomes a lot more limited.

Interviewer: Right, okay. Looking at the bigger picture then, how effective do you think the current regulatory framework is in managing design-stage health and safety?

Respondent: I think the framework itself is strong in principle because it clearly places duties on clients, designers and coordinators, and it recognises that risk should be addressed at source during the design stage.

Interviewer: Sure.

Respondent: The issue isn't really the wording of the regulations, it's more the consistency of how they're applied in practice. Where projects are properly resourced and duty holders are engaged early, the framework can work very well. Where appointments are delayed or roles are treated as a box-ticking exercise, the effectiveness drops off. So overall, I'd say the framework is solid, but the way it's implemented can still be quite uneven.

Interviewer: That's interesting. And do you feel you have enough authority to influence design decisions when health and safety concerns come up?

Respondent: I'd say I have influence, but not always authority in a direct decision-making sense. The role gives me the ability to raise concerns, coordinate discussion and challenge unsafe or impractical design choices, but ultimately the actual design decisions still sit with the designers and, in some cases, the client.

Interviewer: Yeah, okay.

Respondent: How effective that influence is can depend a lot on the stage I'm brought in at and how willing the project team is to engage with the process. Where there's a good culture of early coordination, the role can be quite influential. Where the project is already well advanced, that influence is naturally a lot more limited.

Interviewer: Okay, and just finally, if you could change one aspect of how design-stage health and safety is managed, what would it be?

Respondent: The main thing I'd change would be making sure coordinators are appointed as early as possible on every project. Early appointment has the biggest impact on whether health and safety can genuinely shape the design in a meaningful way.

Interviewer: Right.

Respondent: It gives more scope to address risks proactively, improves coordination between designers, and helps avoid health and safety becoming something that's dealt with retrospectively through documentation. In my view, that one change would make a real difference both in terms of compliance and in terms of practical project outcomes.

Participant 5 – Northern Ireland Principal Designer

Interview Transcript – (Principal Designer, NI)

Interviewer: Thanks for taking the time today. Just to get us started, could you talk me through your role and your experience in managing health and safety at design stage?

Respondent: Yes, certainly. I work as a Principal Designer, so my role is really to coordinate health and safety through the pre-construction stage, but from a design background more than anything else. I wouldn't see myself as a standalone safety professional in the role. It's more that I'm involved in the design process itself and I'm looking at how design decisions affect construction, maintenance, access, future use of the building, that sort of thing. A fair bit of the job is making sure those issues are being properly considered by the design team as the project moves on.

Interviewer: That's helpful. And what kind of projects would you normally be involved in, and at what point would you usually come into them?

Respondent: I've worked across a mix of projects really, things like commercial developments, refurbishments, fit-outs, and some more complex jobs where there are a few different disciplines involved. Ideally, you'd want to be involved as early as possible, because that's when you can actually influence things properly.

Interviewer: Sure — from the front end, really?

Respondent: Exactly. In reality, that doesn't always happen, and there are jobs where you're coming in after key decisions have already started to settle, so it becomes a wee bit more difficult to have the same level of input.

Interviewer: And just picking up on that, how do you understand your regulatory duties when it comes to coordinating design-stage health and safety?

Respondent: The way I'd look at it is that my duty is to make sure health and safety is being coordinated through the pre-construction phase and that designers are actually considering foreseeable risk in what they're producing. I'm not there to take over their design role, and I'm not acting as the project's separate health and safety adviser in that sense. It's more about making sure the design process is dealing with risk properly, whether that's around buildability, access for maintenance, sequencing, or things that could create problems later on.

Interviewer: Fair enough. And when you are appointed early enough, how much difference does that make in terms of influencing design decisions?

Respondent: The earlier the better, to be honest. If you're involved right at the start, you can have proper conversations around layout, access, maintenance strategy, coordination between disciplines, all of that, before anything gets too fixed. If you're brought in later, you can still raise issues, but you're more or less trying to improve something that's already established rather than helping shape it from day one. And that does affect how much influence you really have.

Interviewer: Aye, okay. And on the client side of things, how involved would clients usually be in supporting design-stage health and safety?

Respondent: It varies quite a bit. Some clients are switched on and they understand that if risk is dealt with early through the design, the project generally runs better. Others would maybe see it more as a compliance appointment and would rely on the design team to drive it. From my experience, where the client is engaged, asks questions, and backs the coordination process, the role works much better. Where that support isn't there, you're depending more on the design team buying into it themselves.

Interviewer: No, that's useful. And how are design-related health and safety risks normally identified and then addressed on your projects?

Respondent: Normally, it comes through design reviews, coordination meetings, workshops, and just ongoing discussion as drawings and information develop. I'd be looking at things like access for construction, future maintenance, replacement of plant, work at height, sequencing, temporary stability, those practical design issues. Then if something stands out, it gets raised with the relevant designer and worked through with the wider team if needed. The main thing is trying to catch it early enough that the design can still be adjusted, because once it's too far down the line, your options narrow fairly quickly.

Interviewer: And would that be mostly through live discussion, or are there formal records feeding into it as well?

Respondent: It would be both, really. The conversations are important, but you'd also want the issues recorded properly so there's a clear understanding of what's been raised and how it's being taken forward.

Interviewer: Right. And in terms of the pre-construction phase more generally, how would you describe the level of collaboration between designers and coordinators?

Respondent: Generally, it's decent enough where the team is used to working together and there's proper communication from the start.

Interviewer: So it depends a lot on the team dynamic?

Respondent: Yes, very much so. If the right people are involved early and there's a willingness to engage properly, it tends to work well. Where that is n't there, it can become more reactive and a good bit less effective.

Interviewer: And when it comes to risk itself, would you say design-stage risks are genuinely eliminated where possible, or are they more often recorded and pushed into later stages?

Respondent: More often than not, they're reduced rather than fully eliminated. There are definitely cases where you can design something out altogether, and that's obviously the best outcome, but in practice a lot of the issues are tied into maintenance access, future replacement, work at height, temporary conditions during the build, things like that. So a lot of the time you're trying to reduce the risk as far as reasonably possible rather than pretending it can all be removed. That's really the mindset you'd be trying to bring into the discussions.

Interviewer: That makes sense. So what would you say are the main barriers to effective design-stage coordination?

Respondent: Late appointment is probably the biggest one, if I'm honest. If you're coming in after major decisions have already been made, then a lot of the job becomes reactive. Beyond that, there's programme pressure, incomplete information, split design responsibility, and sometimes a lack of real understanding of what the Principal Designer role is meant to do, and what have you. Because you're not acting as some separate safety enforcer, a lot of the role depends on cooperation from the rest of the team, and if that's not there, coordination gets harder.

Interviewer: And just thinking more broadly then, how effective do you believe the current regulatory framework is in managing design-stage health and safety?

Respondent: I'd say it's effective in principle. It gives the role a proper place in the pre-construction phase and it makes it clear that health and safety has to be considered before the work gets to site, which is important. The issue is more in how it works in practice. If the appointment is late, or the client doesn't really engage, or the team sees it as a paperwork exercise, then the value of the framework drops off. But as a structure, it does make sense.

Interviewer: Right enough. And do you feel you have sufficient authority to influence design decisions when health and safety concerns come up?

Respondent: I think there is enough authority to influence things, but maybe not in as direct a way as people sometimes assume. As Principal Designer, you can raise issues, challenge the team, push for matters to be addressed, and make sure discussions are happening, but the individual designers still hold responsibility for their own design decisions. So it's influence through coordination more than control, really. That probably reflects the fact that the role is coming from a design background rather than from being a dedicated safety professional.

Interviewer: Last one from me then — if you could change one aspect of how design-stage health and safety is managed, what would it be?

Respondent: I'd probably say earlier appointment and a better understanding of the role from the outset. At times, people still treat the Principal Designer as if it's just another health and safety layer added on to the project, when really it works best when it's part of the design leadership and coordination process from the beginning. If that was understood better, and if the role was brought in early enough, you'd have a much better chance of influencing the design in a meaningful way instead of just commenting on it after decisions have already been made.

Interviewer: Brilliant. No, that's everything I needed — thanks very much for that.