# Clinical Judgement and Decision-Making in Children's Social Work: An analysis of the 'front door' system

**Research report**

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# Executive Summary

In May 2013, the Secretary of State for Education and the Prime Minister commissioned the Behavioural Insights Team (BIT) to undertake a project to look at social workers' decision-making.

Given the potential breadth of this project, and the limited resources available, BIT and the Department for Education (DfE) decided to focus upon the entry point for children coming in to contact with the Child Protection System, usually referred to as the 'front door'.

The specific question that was set for the project team was:

> ***What behavioural factors affect social workers' decisions at the 'front door' and how can we improve the 'front door' process to help social workers make better decisions?***

To answer this question, BIT undertook research in three different domains:

- Site visits to five different Local Authorities. BIT uses a form of participant observation to understand better the conditions faced by the users or deliverers of services, so this was a key part of the analysis.

- A review of the relevant behavioural science literature. In particular, we examined the latest research on expert and professional decision-making.

- A more domain-specific literature review. This literature was focused specifically on research relating to social workers and child protection more generally.

The analysis suggested that there were four key behavioural factors that complicate or reduce the efficiency of social workers' ability to make often highly complex, challenging decisions. These are that:

- Time and workload pressures increase the reliance upon social workers' intuition to make decisions. Other similar professions have focused more overtly on the development of evidence-based, skilled intuition.

- A range of behavioural biases affect social workers' ability to make objective judgements. These include, for example, the availability heuristic (people make judgments about the probability of events based on how easy it is to think of examples), confirmation bias (only looking for evidence that confirms pre-existing views) and the tendency to judge cases on their relative rather than objective merits.

- The complexity of social workers' decision-making is increased further by the fact that many sequential decisions have to be made through the course of a single day, which engenders depletion or 'decision fatigue'.

- The information provided to social workers is often of relatively low quality. This means that significant energy is expended piecing together a full picture of the relevant information, leaving less time for analysis of each case.

**Finally, there is an over-arching issue that complicates all of these behavioural factors: there is an almost total lack of robust evidence available or given to social workers on what works in particular contexts. This weakness in analytics compromises both current diagnostic practice and the development of better approaches.**

As well as indicating areas in which behavioural factors create challenges for social workers, the literature also shows how they might be overcome. We conclude that insights from the behavioural sciences could be brought to bear to help social workers make faster, more evidence-based decisions in the future.

In the short time available to undertake this study, BIT has drawn four recommendations. The first of these recommendations supports the final three, each of which could be tested using a randomised control trial:

**Recommendation 1: Develop quantitative, predictive modelling to identify effective practices.**

All of our five site visits showed that social workers have a poor grasp of the evidence base relating to effective practices. Stronger emphasis is placed upon the 'experience' and 'expertise' of an individual, than an understanding of which interventions are likely to have the most positive effect. DfE should consider strengthening considerably its quantitative capabilities in this field, with the ambition of creating a model which enables analysts to map:

- The specific decisions that have been made, including coding 'soft data' (e.g. number of times that something has occurred, which might not usually be encoded);
- The outcomes associated with these decisions.

To facilitate the development of evidence based practice, DfE could consider:

- Creating a sister organisation to the Education Endowment Foundation for social work;
- If necessary, using the forthcoming data bill to unlock and connect the data.

**Recommendation 2: Introduce feedback loops to help social workers learn from past decisions.**

Our research shows that social workers rarely receive information about what happened as a consequence of their decisions. Feedback loops, which give professionals information about the consequences of an action or inaction, could be tested, using a randomised controlled trial, by measuring the outcomes over time of those social workers receiving feedback against those who receive no feedback. These Feedback Loops would ideally be linked to the data modelling exercise (Recommendation 1) and may take different forms. For example, alongside the simple communication of information on outcomes and the perceived quality of decision at the front door, we propose drawing on tested methods for professional development. Specifically, we propose trialling the use of the 'Shadowbox' method, which has been used to enable more experienced professionals with a strong grasp of the evidence base to support more junior staff to develop their own decision-making skills through instant feedback on hypothetical case studies.

Once feedback loops are in place and proven to be effective, we also propose drawing on behavioural science evidence for the successful development of professional environments that are more conducive to continuous improvement and learning. Such research would inform the design of further professional development initiatives.

**Recommendation 3: Improve the inputs to the system, by developing simpler systems for filtering out irrelevant information.**

We saw time and again from work shadowing and service data that a huge amount of time is spent by staff in the front door team sifting through referrals that are not of value to the service and information-only documents from partners. BIT recommends that DfE works with a group of Local Authorities to develop systems for streamlining information. BIT has had success in doing this in other areas (e.g. simplifying the Jobcentre process). New systems and processes could be trialled by looking at whether, and how much, a more streamlined system can speed up and increase the accuracy of the decision-making process.

**Recommendation 4: Development of heuristic tools and/or checklists to guide decision-making without the complexity of actuarial tools.**

There is considerable interest in the development or mainstreaming of actuarial tools to guide the decision-making process. However, our research (both domestic and international in focus) suggests that the existing set of actuarial tools are not operating effectively, largely because they are highly complex and are under-utilised. There are three potential alternatives to actuarial tools which have been shown to work in different professional decision-making settings:

- 'Fast and Frugal Trees', most associated with the research of Gerd Gigerenzer, are simpler, more intuitive versions of actuarial tools.

- Checklists, which can be used to ensure, for example, that specific questions have been asked of a case relating to a child before it is closed down.

- Integrating the rules of thumb, also known as heuristics, that serve experts well in fast decision-making directly into reporting tools.

DfE could potentially trial each of these methods, though which one is most appropriate would depend upon the specific objective (e.g. checklists for ensuring specific actions have been undertaken, fast and frugal trees to simplify and make more efficient the decision-making process). The rest of the paper elaborates on each aspect of this summary.

# Introduction

This paper is not a comprehensive review of all aspects of social workers' decisions, but rather focuses on the entry point for children coming in to contact with the Child Protection System, usually referred to as the 'front door'.

It is set out in three sections:

Section 1 details the approach that BIT took to gathering the analysis. This focuses principally upon the methodologies that the team used to gather information, which took the form both of academic literature reviews and front-line visits to a number of local authorities. It also sets out, in simplified form, the 'front door' process that most Local Authorities use.

Section 2 is the most substantial part of this paper. It sets out the findings from the research undertaken by BIT. Four major behavioural factors are identified which we judge to have the greatest effect upon social workers' decision-making capacity and capabilities. Each of these is set out in turn, and evidence from research and field experiments is brought to bear to enable us to understand better what the implications might be for the way that the front door process is organised.

Section 3 takes forward this analysis and presents four high level recommendations. The first of these centres around the way that data is drawn upon and analysed (or not) to help inform the front door process.

The final three recommendations focus on three areas in which this information could be used to run randomised controlled trials in the UK – which we believe could help to build up the evidence base around 'what works', while pioneering the introduction of a range of new tools and techniques that have been demonstrated to work well in other areas of complex, professional decision-making.

# Section 1: Project Approach and the 'Front Door'

## Project Approach

In May 2013, the Secretary of State for Education and the Prime Minister commissioned BIT to undertake a project to look at social workers' decision-making.

BIT put together a small research team, which was composed of two senior members of the team, a BIT Research Fellow (final year PhD student from Warwick University), and a Fast Streamer from the Department for Education.

The review began in July 2013, and focused on three different modes of research. These are also summarised in the table that follows:

### a) Site visits with Local Authorities

BIT uses a form of participant observation as a key part of its research. This usually involves visiting those organisations delivering the services, and involves engaging with the individuals responsible for delivering the service, as well as those using the service.

The aim is to understand better, through a series of repeat visits and across a range of different geographical locations, what factors affect decisions and behaviours in practice, and how these decisions might be improved.

Very often, for example, this work reveals that there are a range of simple things that could be done that would not have been identified through desk-based research, and sometimes that ideas that seem theoretically suited to solving a problem do not necessarily work in practice.

This project was highly resource constrained, so BIT was not able to do as much in the way of front-line engagement as it would have liked. We were also not able to engage with children or families, though this was partly a result of the fact that the project itself was focused on the 'front line' decision-making process. So while these visits have given the opportunity to observe a broad range of ways in which the service is set up, future work would benefit from a more detailed on site analysis period.

Nonetheless, BIT undertook 7 separate days of Local Authority visits, totalling 15 people days (i.e. more than one member of the project team was on each visit). Though we would have liked to have visited a wider range of Local Authorities, we were still able to see a range of different practices, including one that had been identified as introducing innovative new practices (Hackney).

The Local Authorities were:

- London Borough of Hackney (one day orientation visit)

- Essex County Council (one day observation)

- Leeds Metropolitan Borough Council (two day observation)

- London Borough of Sutton (two day observation)

- London Borough of Harrow (one day observation)

Much of the analysis set out in Section 2 draws directly from these front-line visits.

## b) A review of the behavioural science literature

In particular, we examined the latest research on expert and professional decision-makers, which included evidence on the kinds of biases and complexities that can affect clinical judgements and pointed to a number of areas in which methods had been developed to overcome these.

The analysis in Section 2 sets out much of this research in more detail.

## c) A more domain-specific literature review

The more domain-specific literature review sought to learn from existing work that has been done in relation to Child Protection and social workers. This included Child Protection studies, a review of the social worker evidence base, and interviews with leading academics in the field.

One of these leading academics has been Professor Eileen Munro, whom the team has met with at key stages and has expressed a desire to be involved in any follow-up work.

**Table 1: Timetable Setting Out when the Research was Undertaken**

| Phase | Key tasks | Time frame |
|---|---|---|
| **Planning and research** | - Desk-based research into behavioural literature and the end to end process for Children's Services casework <br><br> - Once the full system is understood at a high level, focus on the "front door" of the service, understand how it works in theory and how success can be defined | July – September |

| Phase | Key tasks | Time frame |
|---|---|---|
| **Field visits** | • Supplement desk-based knowledge through: semi-structured interviews; shadowing; review of existing tools, processes and systems | July – Early October |
| **Analysis** | • Bring together the desk and field research to build a realistic picture of the "front door" process and identify how behaviour is shaped and determined<br><br>• Once trigger points and issues have been identified, run a team-wide brainstorming session to come up with alternative modes of delivery that may improve the quality of referral decisions<br><br>• Define metrics that would help measure changes in outcome quality effectively | Mid-August-October |
| **Early Report** | • Write up the analysis | Mid-September (iteration 1) |
| **Phase 1 checkpoint** | • Checkpoint meeting to determine whether the approach is robust, whether the findings resonate and whether the recommendations are useful and practicable<br><br>• Meet and involve other key stakeholders, such as the Chief Social Worker so that their views can be captured before further work is done | Mid-September |

# The Front Door

This section of the report provides a basic overview of the end-to-end Child Protection system. It draws upon the analysis conducted, but seeks purely to describe how the system works as opposed to setting out the analytical conclusions (which are the subject of Sections 2 and 3).
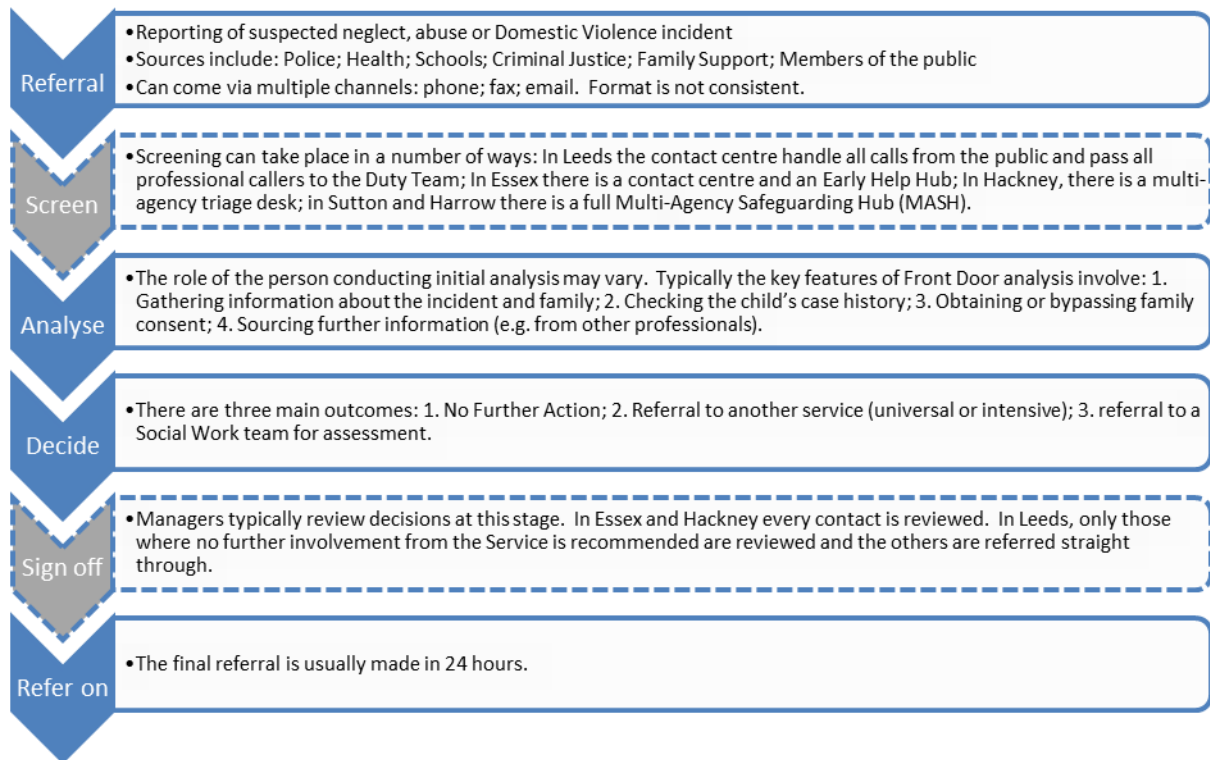
The flow of the Child Protection process is broadly consistent nationally, although the specifics within each stage vary from Local Authority to Local Authority. Key elements of the 'front door' process are set out in the flow chart below (Figure 2) and a map of the full end to end system is included in the appendix for reference.

The input in to the 'front door' process takes the form of a referral or alert (from an external agency or other source). The output is a decision which takes one of the following forms:

- Onward referral to Child Protection Services. Generally the type of assessment will not be determined at the front door stage but the types are detailed below for reference:

  - Immediate protection order (IPO)
  - Child protection assessment (s47)
  - Child in need assessment (s17)

- Onward referral to other services including specialist assessments, or

- No further action

The flow chart below shows the key stages of the front door process in more detail. Once again, it should be noted that local variations exist, which enhance the details and alter the flow. Examples are referenced, where relevant.

**Figure 1: Flow Chart of the Front Door Decision-Making Process**

| | |
|---|---|
| **Referral** | • Reporting of suspected neglect, abuse or Domestic Violence incident<br>• Sources include: Police; Health; Schools; Criminal Justice; Family Support; Members of the public<br>• Can come via multiple channels: phone; fax; email. Format is not consistent. |
| **Screen** | • Screening can take place in a number of ways: In Leeds the contact centre handle all calls from the public and pass all professional callers to the Duty Team; In Essex there is a contact centre and an Early Help Hub; In Hackney, there is a multi-agency triage desk; in Sutton and Harrow there is a full Multi-Agency Safeguarding Hub (MASH). |
| **Analyse** | • The role of the person conducting initial analysis may vary. Typically the key features of Front Door analysis involve: 1. Gathering information about the incident and family; 2. Checking the child's case history; 3. Obtaining or bypassing family consent; 4. Sourcing further information (e.g. from other professionals). |
| **Decide** | • There are three main outcomes: 1. No Further Action; 2. Referral to another service (universal or intensive); 3. referral to a Social Work team for assessment. |
| **Sign off** | • Managers typically review decisions at this stage. In Essex and Hackney every contact is reviewed. In Leeds, only those where no further involvement from the Service is recommended are reviewed and the others are referred straight through. |
| **Refer on** | • The final referral is usually made in 24 hours. |

In some Local Authorities, front door assessment teams rotate on and off the "duty desk", whilst in others dedicated social workers are responsible for handling and assessing referrals at all times[1].

From speaking to and observing staff making decisions on the front door, we found that there are five core steps to the decision-making process at the front door:

a) Check whether the child is known to Social Services and, if they are an open case, pass the information to their social worker.

b) Gather as much information as is required to get the fullest possible picture of the incident and its context;

c) Review the case histories of all children and adults involved in the incident and consider the episode in the context of this broader information;

d) Seek consent, if required, from the family involved in order to conduct further investigations;

e) Contact partner agencies to gather additional information about the children and family. This may be a result of the partner agency interacting with the family

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[1] Some councils have also adopted a multi-agency safeguarding hub (MASH) model, which co-locates key services (e.g. police, health, schools, housing) around a referral desk to facilitate joint information capture and analysis.

already but the front door team may also request case history information from partner agencies' systems.

Local thresholds and decision-making support tools are then used to help the member of staff in making an initial judgement on whether the contact should proceed to referral stage, be passed to another service or closed (no further action).  It should be noted that thresholds are not rigid and are designed to be dynamic enough to accommodate the specific requirements of particular cases.  How closely the threshold documents and their supporting tools are referred to and drawn upon varies considerably, although the variation is more pronounced between Councils than between individual social workers.  In other words, where these tools are used consistently, all levels of staff, even the most experienced, make reference to them.  Based on reviewing some of these tools, this seems to be a product of organisational culture rather than the quality of the tools themselves, as many are similar.

Three significant points of variation in process between Authorities are as follows:

- **Informational inputs:** Teams we observed typically had one of three mechanisms for receiving information:

    o No set format and no filtering: referrals come straight to a social worker in the front door who reads all of the information presented and follows up directly with the contacting party for clarity.

    o No set format but a filtering team: junior social workers or administrative staff receive the initial contact, gather any missing information and then pass the case to an experienced social worker with the relevant information summarised.  Sometimes there may be a Manager who directs them in this activity.

    o Set format and filter: Information is rejected unless it arrives in the required format (unless there is an obvious reason why there was not time for this).  The referral is then reviewed by a Manger who passes it on to a member of staff for follow up based on their initial assessment of its severity and on staff workload for the day.

- **Sign off procedure:** whilst many Authorities ensure that every case is funnelled through the Duty Managers for sign off, one Authority we visited only required sign off on cases which are not recommended to progress to referral stage.  All other cases are handed off immediately by the social worker handling the referral.

- **Feedback:** There is substantial variation between Councils as to how much (and in what way) feedback is relayed to teams and individuals regarding the quality of their decision-making.  This applies to both the front door team and the individuals and agencies that refer concerns to them.
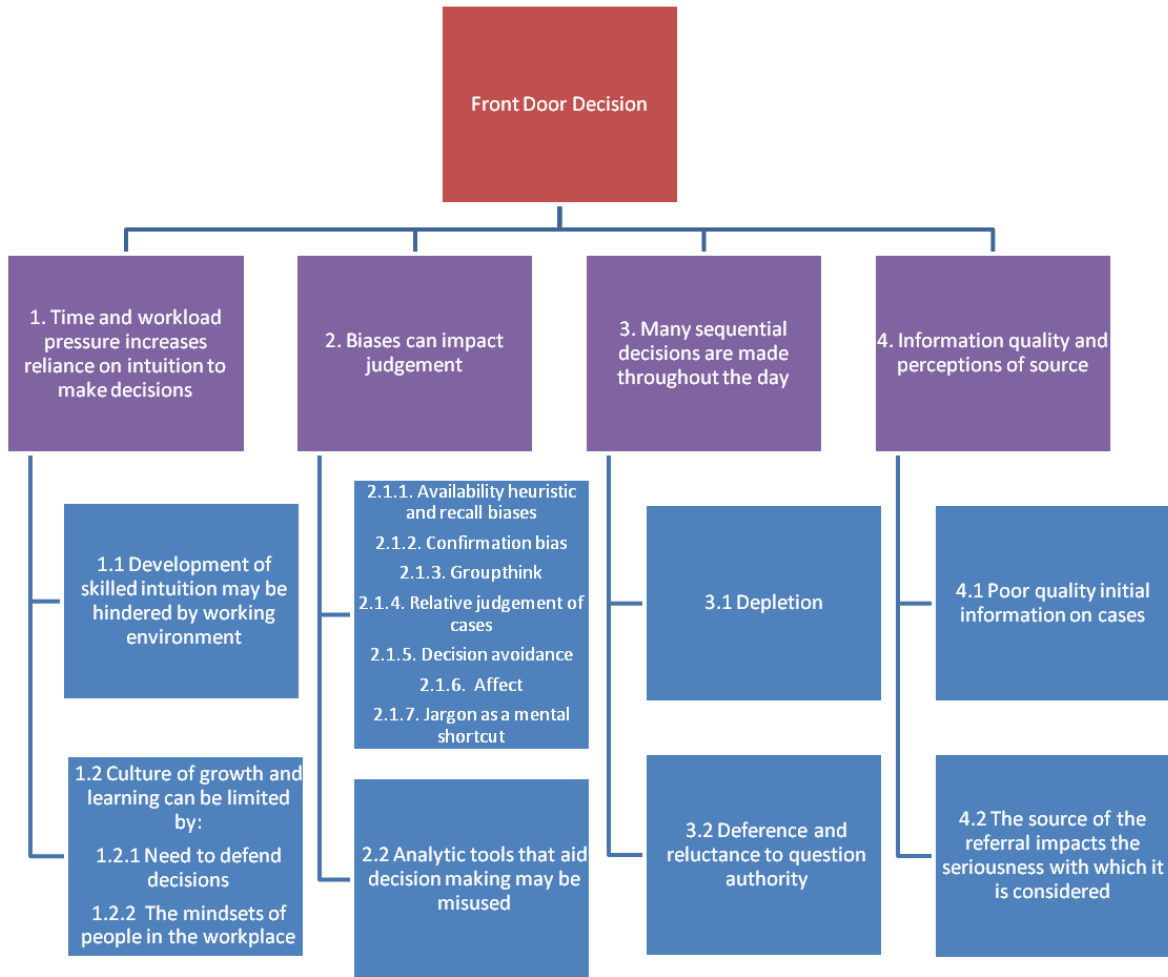
# Section 2: Analysis

The research undertaken through the site visits, the behavioural science literature review, and more domain-specific analysis showed, perhaps unsurprisingly, that social workers routinely make highly complex, highly challenging decisions.

The analysis suggested that there are a range of overarching behavioural factors that complicate or reduce the efficiency of social workers' decision-making. The four which we have identified as being of most significance are summarised in figure 3 below. They are:

a) Time and workload pressures increase the reliance upon social workers' intuition to make decisions.

b) A range of behavioural biases affect social workers' ability to make objective judgements.

c) The complexity of social workers' decision-making is increased further by the fact that many sequential decisions have to be made through the course of a single day, which engenders depletion or 'decision fatigue'.

d) The information provided to social workers is often of relatively low quality. This means that significant energy is expended piecing together a full picture of the relevant information, leaving less time for analysis of each case.

A full literature review is included in the appendix of this document.

**Figure 2: A Summary of the Key Issues Identified through the Various Methods of Analysis**

Front Door Decision

1. Time and workload pressure increases reliance on intuition to make decisions

2. Biases can impact judgement

3. Many sequential decisions are made throughout the day

4. Information quality and perceptions of source

1.1 Development of skilled intuition may be hindered by working environment

1.2 Culture of growth and learning can be limited by:
1.2.1 Need to defend decisions
1.2.2 The mindsets of people in the workplace

2.1.1. Availability heuristic and recall biases
2.1.2. Confirmation bias
2.1.3. Groupthink
2.1.4. Relative judgement of cases
2.1.5. Decision avoidance
2.1.6. Affect
2.1.7. Jargon as a mental shortcut

2.2 Analytic tools that aid decision making may be misused

3.1 Depletion

3.2 Deference and reluctance to question authority

4.1 Poor quality initial information on cases

4.2 The source of the referral impacts the seriousness with which it is considered

In the following part of this Analysis Section, we examine each of these areas in more detail.

Each of the four purple boxes is discussed in an introductory paragraph followed by an examination of each of the blue boxes as follows:

- **Issue:** the problem we identified

- **Theory:** Behavioural Science theory behind why these kinds of issues exist

- **Evidence:** Experimental results from behavioural science research (and other areas) that support the theory described

# 1. Time and Workload Pressure Increases Reliance on Intuition to Make Decisions

Behavioural psychology literature repeatedly shows that, under conditions of uncertainty, where decisions have to be made quickly and with limited information, people have to rely more on their intuition – or mental shortcuts – to inform their judgement. Our field visits suggested that these were the conditions facing many social workers as they made their decisions, suggesting that we can learn important lessons from related fields.

Contrary to common understanding of the word, intuition is not primarily innate. Intuitive judgements are rapid, automatic and generally unconscious responses to events based on a wide range of prior knowledge and experience gained over a lifetime.

There are generally considered to be two different classes of intuitive judgements: those that are developed and deployed by experts, often as a consequence of years of experience and professional training; and those that are common to the general population. Both are supported by mental shortcuts or rules of thumb that have been learned through experience and assimilated into the unconscious mind.

The intuitions of experts tend to be more sophisticated and specialised than those of the general population – often based on complex pattern recognition, for example. For the most part, both classes of *heuristics* serve us extremely well and lead to accurate processing of information quickly.

However, these methods – by virtue of their simplicity – can also be flawed and prone to biases (Kahneman & Klein, 2009) and can therefore result in consistent and predictable errors in judgement. Both the benefits and limitations of heuristics are discussed below.

One crucial element is that individuals need to receive feedback in order to develop their intuitive decision-making. This is important so that individuals are able to develop their intuitive responses based on a growing understanding and knowledge of the impact of decisions upon the relevant outcome.

## 1.1 Development of skilled intuition may be hindered by the working environment

**Issue:** Social workers often do not receive timely, regular feedback on their decisions and when received the quality of feedback is often poor. It is therefore difficult for them to develop accurate, skilled intuition.

In front door work there is plenty of opportunity to gain experience and knowledge through dealing with referrals but there is often little time for reflection and it is difficult to provide feedback when so many decisions are being made.

We saw this in action in many sites and were explicitly told by one Service Manager that they do not have time to incorporate feedback sessions and follow up on cases. However, we did see examples of organisations that do make time for feedback and use the information to inform the development of the service and its workers.

Feedback is also rarely provided to referring agencies or individuals. Indeed, the overview of the Safeguarding Children Across Services report (2013) states "the failure to respond with feedback to referrals is a significant difficulty in gaining co-operation and good working with other professionals... Specific efforts should be made to improve referrals".

As an additional complexity, feedback is biased: due to the nature of the work it is possible to learn if incorrect decisions were made when risks were underestimated but not if they were overestimated. Such overestimation is a significant problem as social workers may be risk-averse and therefore more likely to overestimate negative outcomes.

Feedback is also not straightforward: a number of social workers are often involved in one case and it is very difficult to determine which decisions along the process resulted in the outcomes seen, particularly as it often takes a long time for outcomes to occur.

This highlights the importance of team feedback and reflection; for all social workers who have worked on the case to come together to discuss the quality of decision made during the case. This may help less experienced workers to develop more accurate judgements as well as an understanding of how their decisions affect the whole process. This is very much in line with the observations made by Professor Munro in her 2011 review.

**Theory:** Klein (1998) identifies four key elements to developing expertise and skilled intuition, each of which has been translated into front door Social Work terms below:

a) Practice: engaging with information and other professionals, setting specific goals and criteria for evaluation.

b) Gathering experience: compiling case banks to build up knowledge of the cues relating to various types of outcomes so that these can be recognised automatically in new cases.

c) Feedback: obtaining accurate, timely feedback about the outcomes of referral decisions.

d) Reflection: reviewing prior decisions to gain new insights and learn lessons from mistakes.

**Evidence:** Klein's findings are based on years spent observing natural decision-making in the field particularly amongst emergency responders (such as fire-fighters, nurses and the military) who have to make complex decisions under time pressure and uncertainty (see Klein, 1998 for a review).

### 1.2.1 Culture of growth and learning can be limited by the need to defend decisions

**Issue:** Development from novice to expert requires the right work culture as well as the right working environment. A defensive culture can be a hostile learning environment since following procedures may be seen as more important than making competent decisions, and admitting mistakes may be difficult.

Similarly, expertise should also include an understanding of when success or failure is attributable to individual professionals and when it should be attributed to the system and environment they are operating in.

If an Authority openly attributes its strong performance to the skills of its staff, when evidence shows that the environment and systems are the critical success factors, then it is probable that a bad organisation could just as easily blame bad practice on poor social workers, and underplay the role of weak organisational structure.

This issue of defensiveness is pervasive across the whole system. For example, we were told the following by different Police officers: "*I refer everything by the book so I can't be taken to court over it*".

Of course, it may be that such cautious practice is not a bad thing, particularly if the Police are also putting more effort into ranking cases and drawing out information relevant to the child before handing over. However, such practice should be a product of strategic intent, not personal protection or a defensive culture.

**Theory:** Child protection services are under considerable social, legal and political pressures to avoid catastrophic outcomes which can lead to the adoption of a defensive culture. The risk of outcomes such as child deaths can never be fully removed because of our limited understanding of human nature and the inevitability of errors in human reasoning (Munro, 2008; see further below).

Because of this, services may prioritise securing a defensible position over prevention. One way of achieving protection is through what Hood, Rosthstein and Baldwin (2000) call 'protocolisation': a number of procedures to guide 'best practice' are put in place that workers are asked to follow closely, even when inappropriate, so that if anything happens the service can say that all the 'correct' procedures were followed and has an audit trail to prove so. A culture where defence is paramount is therefore not conducive to growth and learning.

**Evidence:** Defensive cultures have been seen to be operating in Child Protection Services in the UK (Munro, 2008). An emphasis on ascertaining whether procedures were followed rather than whether good decisions were made has been shown in enquiries into deaths of children known to Child Protection Services (Cambridgeshire County Council, 1997; Norfolk Health Authority, 2002).

Outside of the social work domain, there is a significant body of evidence that shows that people make different decisions, which they are less happy with at a later point in time, when they feel compelled to choose a particular option or choose using a particular method (e.g. Gigerenzer, 2007). This resonates with the pressures of a defensive culture.

### *1.2.2 Culture of growth and learning can be limited by the mindsets of people in the workplace*

**Issue:** We saw a range of mindsets across the Authorities we visited when it came to learning and development. Although many managers and practitioners talked about how they learn from their mistakes and are open to feedback, the extent to which this attitude translated into regular development sessions was varied. Indeed, many social workers were open to saying that they valued continuous improvement through constructive criticism, learning and development but found it difficult to name a specific time when they had learned a lesson, done something differently as the result of feedback or given actionable feedback to their staff. Clearly this can limit the ability of the staff to perform better with experience.

**Theory:** Dweck (1996; 1999; 2006) proposes that people view abilities and traits, such as intelligence, as either being fixed attributes that cannot be developed or as qualities that are malleable and expandable through effort and learning. These views or 'mindsets' (fixed versus growth mindset) that people adopt can have profound effects in the working environment. Workplaces that adopt the view that people's talents and abilities are fixed and unchanging tend to undervalue the benefits of continued professional development and create environments that are not conducive to growth and learning.

**Evidence:** As Dweck discusses in her book 'Mindsets' (2006), evidence has shown that teams in the workplace whose members have predominantly growth mindsets work better with each other, are more innovative, push themselves harder, set higher standards and generally outperform teams whose members have predominantly fixed mindsets. Similarly, managers who have a growth mindset generate better working environments than those who have fixed mindsets because they focus more on learning and development and so they make better mentors and are more open to feedback and understand the importance of it.

Murphy and Dweck (2010) showed how an organisation's mindset regarding intelligence influenced how participants presented and conceived themselves and how they behaved towards others. Participants wishing to gain acceptance from an organisation emphasised aspects of themselves that were relevant to the organisation's mindset regarding intelligence. When participants perceived the organisation had a fixed view of intelligence they emphasised their grades, IQ and test scores and when they perceived the organisation had a growth view they emphasised their motivation and personal development.

This has a powerful effect. In the same experiment, it was noted that, when participants went on to enact the organisation's mindset in a subsequent, completely unrelated, hiring task, they strongly favoured people that endorsed the view of intelligence that they themselves had presented in the previous task.

# 2. Biases Can Impact Judgement

In the absence of the conditions required for skilled intuition, rapid judgements can be made intuitively through the use of heuristics – mental shortcuts or rules of thumb. Heuristics are simple rules that work well under many circumstances and can produce very accurate intuitions. They can, however, also lead to systematic errors in judgement.

Research has identified numerous heuristics and biases. Outlined below are seven that appear to be particularly relevant to front door work. It is worth noting that this list is not exhaustive and many other biases may also have a bearing on decisions in this environment.

## 2.1.1 Availability heuristic and recall biases

**Issue:** People's perceptions of the likelihood of things like a specific event occurring are strongly influenced by their ability to rapidly recall a similar example or event. Such recollections are often biased which leads to inaccurate probability judgements.

Events with a strong emotional dimension can be particularly susceptible to rapid recall. This is difficult to see in action. However, we were told several stories that pointed to these kinds of issues. For example, in one Local Authority, we were told that a child death that resulted from a fall from a window led to a higher rate of referrals about children near windows and, importantly, a higher number of referrals to the assessment teams for these instances based on social worker nervousness.

**Theory:** Tversky and Kahneman (1973) first described the availability heuristic as the tendency to judge the probability or frequency of an event by the number of examples of the event that can easily be brought to mind. For example, people overrate the risk of airplane travel because when a crash occasionally occurs, it attracts much media attention and is dramatic and easy to recall.

Our perceptions of likelihood increase with the ease and number of instances of the event that come to mind. For example, if the worker can think of a number of cases where the abuser has been an alcoholic and these examples come quite readily into mind then they may perceive alcoholism to be a strong risk factor of abuse. Whilst this belief may be factually correct, the point is that the perception has been formed in the absence of objective data.

Use of the availability heuristic can lead to a number of errors in judgement as there are many things that can impact upon retrieval of events. Recent examples are more likely to

be retrieved than earlier ones, with the possible exception of the first example ever encountered. Examples that are more salient are also more likely to be recalled.  For example, you are more likely to remember road accidents that you have witnessed than those you have read about and, subsequently, seeing a road accident is likely to have a greater impact on how likely you think road accidents are than reading about one.

Biases in media reporting of events can also bias availability of events.  For example the media report heavily on the very few children known to Child Protection Services that come to harm and hardly at all on the vast majority that don't and so the public's perception of the likelihood of a child in public care coming to harm is likely to be grossly inflated.

**Evidence:** Of the many studies investigating the effect of the availability heuristic and recall biases, some of the most interesting are those which have shown how low probability but widely reported causes of death, like homicides, are perceived to be more probable than objectively more likely but less reported causes such as common diseases. For example, when surveyed, people often perceive deaths from accidents to be more likely than deaths from disease, and judge homicide to be a more likely cause of death than suicide.  In fact, the opposite is obviously true for both cases (Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978).

## 2.1.2 Confirmation bias

**Issue:** People have a tendency to maintain their intuitive beliefs even in light of evidence that challenges them.  Once again, this is difficult to observe directly but we did see many cases where staff discussed a case with an initial hypothesis that they then sought to fit the subsequent evidence around.  On a more positive note, we also saw some strong examples of more experienced staff suggesting a differential diagnosis, although when asked they did not say that they were deliberately or formally playing Devil's Advocate.

Another manifestation of this practice was the way in which social workers treat information from different sources.  For example, we observed many staff reviewing Police reports by skim reading, as they did not expect to find anything relevant owing to the high volume of non-relevant reports.  In some cases this led to them missing crucial information the first time around (typically a colleague would pick up the mistake but this was by no means owing to a structured review process).

**Theory:** This is known as confirmation bias: people become attached to their judgements and employ strategies to ensure that new challenging evidence is not recognised or gathered (Janis & Mann, 1977; Nisbett & Ross, 1980; Baron, 1994). For example, people may avoid gathering information from sources that may provide evidence against their beliefs. They may only remember details that reflect their intuitive feelings about the case and reject evidence against their beliefs, for example, by questioning the reliability of the source. Similarly, research findings that agree with the dominant view tend to be

accepted but those that don't are ignored (Nisbett and Ross, 1980). Evidence may also be re-interpreted to fit in line with beliefs.

First impressions, in particular, influence how new information about a person is interpreted. People place a lot of confidence in the swift appraisals that they make about new people they meet and pay more attention to evidence that supports their first impression (Sutherland, 1992). In a similar way, even highly qualified professionals make such mistakes. For example, a common problem impacting the accuracy of cardiac episode assessments stems from the fact that doctors know that ethnicity is a variable risk factor. When a patient presents with chest pain and the doctor immediately notes that they belong to a higher risk ethnic group, the subsequent assessment becomes distorted (Gigerenzer, 2007).

**Evidence:** People test hypotheses by searching for confirming evidence; this is known as positive test strategy (Klayman & Ha, 1987). Munro (1999; 2008) reports evidence of social workers rejecting information from both children and junior staff such as day nursery helpers and junior nurses when the information didn't conform to the their preconceptions.

There is also substantial evidence on how to offset this effect. For example, cardiology departments now use a "fast and frugal tree", which distils the key risk factors (determined by actuarial analysis of case data) into a simple series of yes/ no questions which aid diagnosis (Gigerenzer, 2007; see recommendation 4 below).

### 2.1.3 Groupthink

**Issue:** In social work, important decisions are sometimes made in a group context where information and expertise can be shared. However, group reasoning can be susceptible to severe biases. We observed staff problem-solving in groups and believe that groupthink can be an issue in the social work environment. The fact that the environment is stressful may also aggravate the situation as people are less willing to challenge colleagues as they seek to avoid further stress.

**Theory:** Janis (1982) describes a bias called 'groupthink' that occurs when a group's desire to avoid conflict and achieve unanimity drives the decision-making process and subsequently results in bad decisions being made. Loyalty to the group often leads to ideas not being critically evaluated and alternative solutions not being raised. Furthermore, when unanimity is achieved, extreme decisions tend to be made not moderate ones (Moscovici & Zavalloni, 1969).

**Evidence:** A number of studies have shown that at group discussions of Child Protection cases there is a very low level of disagreement between group members indicating that they may be susceptible to this bias (Birchall & Hallett, 1995; Farmer & Owen, 1995; Bell, 1999). If so, group discussions, even at the front door, may result in extreme decisions with either high or low risk assessments being made.

One particularly extreme example of how not questioning the group can lead to severe consequences is brought out in the story of nine children being unnecessarily removed from their families on a remote island in Scotland without any of the agencies involved ever questioning whether others had established the basic facts determining whether the children should be removed (Munro, 2008).

## 2.1.4 Relative judgement of cases

**Issue:** Social workers may judge new cases by comparing them to others because, cognitively, this is easier than judging them in isolation. In one Local Authority, we were told that if a bad case comes in the morning the staff are likely to use it as a reference point for other cases throughout the day.

**Theory:** Models of relative judgement (e.g., decision by sampling; Stewart, Chater, & Brown, 2006 and range-frequency theory; Parducci, 1965) state that new items are judged in relation to a sample of other previously encountered similar items retrieved from memory. For example, a social worker may judge the severity of a case by bringing to mind a selection of previously encountered similar cases and using them as a benchmark to judge the new case. This may lead to errors in judgement of the new case when the sample drawn is biased. For example, if the worker has recently encountered a lot of very severe cases then the severity of the new case may be underestimated simply because it is not as severe as the unrepresentative sample brought to mind.

The nature of our memory retrieval process makes the occurrence of this situation quite probable as we are more likely to remember severe cases as they are more salient and emotive (see section on availability bias). Equally, if the social worker has previously encountered a lot of relatively mild cases then a moderate case may appear to be more severe than it actually is.

**Evidence:** Two studies (Perrett, 1971; Wedell, Parducci, & Lane, 1990) have shown this effect in clinical judgements of psychopathology based on information presented in case studies. Moderate cases were presented amongst either mild or severe cases and clinicians judged the moderate cases to be more severe when they were amongst milder cases than when they were amongst severe cases.

## 2.1.5 Decision avoidance

**Issue:** People don't like making hard and emotionally challenging decisions and may avoid doing so when there are multiple options to choose from.

In the front door context, a decision is partially forced by the need to make a call on cases within a short amount of time (generally 24 hours). However, there is still scope for passing around responsibility to adequately define the issue, take a number of smaller decisions (such as calling the family to request consent) and make the final judgement.

**Theory:** There are a number of reasons why decision avoidance occurs (see Anderson, 2003 for a review). Complex decision-making involves considerable mental effort which humans seek to minimise. Choosing the default option, maintaining status quo, taking no action, delaying or deferring decisions are all ways in which mental effort can be conserved as they are all easy and quick options to choose.

Decision avoidance can also be explained through cognitive misperceptions such as loss aversion (losses weigh heavier than equivalent gains: Kahneman & Tversky, 1979). If inaction or one particular choice option is seen as the default response then loss aversion may lead to an increased preference for this response. This is because the potential risk of losses, through deviating from the status quo, may seem larger as the fact that the status quo exists suggests, in itself, that others have already performed a cost-benefit analysis of this nature. As, psychologically speaking, losses consistently outweigh the gains that they may provide, it becomes more likely that the status quo will hold and alternative choices will be rejected.

Finally, the likelihood of decision avoidance increases as the level of negative emotional response to choice options increases (Luce, 1998). In this respect, decision avoidance can be seen as a coping mechanism: the person can attribute a non-decision to environmental factors, whereas once a person makes a decision they are responsible for it and have to deal with any resulting emotional reactions, such as regret.

**Evidence:** Research on consumer choice has shown that people are more likely to defer choosing when decisions involve a number of conflicts and trade-offs (Luce, 1998).

It has also been shown that Physicians and Legislators faced with difficult decisions involving the correct course of action from multiple choices often opt for the default option or to maintain status quo, even where this is suboptimal (Redelmeier & Shafir, 1995).

## 2.1.6 Affect

**Issue:** The information that front desk workers have to process is often of a highly emotive nature and their affective response to the situation may bias their decision-making.

We saw many experienced social workers mention how incidents reminded them of particularly memorable cases they had dealt with in the past. Usually these were highly distressing incidents, meaning that the events were likely to colour their response to the present situation. Whilst this may be a good thing, we also spoke to social workers who had some compelling stories about how, as junior staff, they had allowed their emotions to govern their actions and subsequently spent time on the wrong thing.

**Theory:** Response to the prospect of risk involves both cognitively evaluating the risk and reacting to it emotionally. Emotional reactions to a situation happen automatically and with minimal cognitive processing (Zajonc, 1980) suggesting that emotion, in part,

mediates the relationship between the cognitive risk assessment and the subsequent behavioural response (Loewenstein, Weber, Hsee, & Welch, 2001). In other words, emotions change the outcome of our decisions.

In situations where decisions have to be made quickly or mental resources are depleted, basing a decision on one's affective response to it can be an easier, more efficient, way of making a decision (Slovic, Finucane, Peters, & MacGregor, 2007). However, use of affect as a heuristic may also lead to biases.

**Evidence:** Under time pressure, people have been shown to rely on their emotional responses to make decisions (e.g., Dijker & Koomen, 1996; Finucane, Alhakami, Slovic, & Johnson, 2000). For example, the addition of a photo of an attractive woman to a loan advert has been shown to increase loan demand as much as a 25% reduction in interest rates (Karlan et al., 2009). Similarly, campaigns to encourage people to wash their hands have been shown to be far more effective if they trigger an emotional sense of disgust (from not washing) than campaigns based on giving people better information about risks and causes (Porzig-Drummond et al., 2009).

La France and Hecht (1995) asked participants to judge cases of academic misconduct by students and supplied them with photographs of the students. Participants exercised more leniency to students shown in their picture to be smiling than those shown not to be. This suggests that the positive affect generated from the smile influenced their subsequent judgement. Indeed, those students pictured smiling were also judged to be more trustworthy, genuine, sincere, good and honest than their non-smiling counterparts.

### 2.1.7 Jargon as a mental shortcut

**Issue:** All professions naturally and necessarily develop a particular vernacular as a useful way of short handing complex concepts within an expert group. However, jargon can also mask a lack of understanding and promote less sophisticated thinking.

A particularly pervasive example in Social Work of how technical language is misused is in the distinction between a risk and an issue; something that social workers are required to do continuously as cases come into the front door.

Much of the technical language is centred on the idea of risk (indeed, the "Child at Risk" label itself suggests this). In cases where there is evidence that a child is currently being maltreated, this leads the discussion to focus on risk not actual harm. When coupled with a systemic nervousness about classifying anything as "low risk" (meaning that terms like "standard risk" are used instead), this closes the descriptive gap between a serious issue and non-risk. This makes it very difficult to rank and prioritise cases on a continuum from extremely severe issues to low level risks requiring no further action.

**Theory:** Human action is generated by one of two cognitive systems (Kahneman & Tversky, 1979): System one is automatic, requires no effort and comes naturally; System two requires mental effort and is reserved for heavy-duty cognitive tasks.

When we become increasingly familiar with something we can move it from System two to System one. For example, learning to drive is extremely difficult but experienced drivers rarely think about what they are doing.

Jargon may make its way into System one through overuse, thereby removing the need for thoughtful interpretation and creating a mental shortcut. This would reduce the quality of thought and cause professionals to miss key questions.

**Evidence:** Evidence from the University of Chicago shows that thinking about an issue in a foreign language "provides a distancing mechanism that moves people from the immediate intuitive system to a more deliberate mode of thinking," (Keysar, 2012). This provides evidence that routine linguistic patterns can facilitate lower quality thinking.

Meanwhile, in a clinical trial, NICE guidelines for schizophrenia that were expressed in plain English (as opposed to technical language) led to stronger intentions to implement the guidelines, more positive attitudes towards them, and greater perceived behavioural control over using them (Michie and Lester, 2010).

In terms of on-site evidence, we observed the use of jargon in every Authority we visited and amongst all of the partners. For example, Police Domestic Violence notifications often make reference to the fact that the adult was "in drink". This simply means that the adult had been drinking alcohol.

## 2.2 Analytic tools that aid decision-making may be misused

**Issue:** Novices may over-use analytic tools and experienced social workers may underuse them.

Of all the decision-aid tools we saw, social workers were able to tell us where they came from (e.g. they were adapted by the management team in response to the release of a national guidance document) but not the methods by which they were developed or the evidence on which they were based. As such, it is difficult to compare the various tools in terms of their accuracy and usefulness.

We do, however, know that tools were consulted to varying degrees between organisations (with most workers in any given organisation using them to much the same extent as others working with them).

**Theory:** In a situation where a decision has been based largely on intuition it is important that a person consciously checks and reviews the judgement, using objective evidence where possible, in order to detect any errors even if they are confident about the accuracy of their decision (e.g., Kahneman, 2011; Munro, 2008).

There are many tools that can help make reasoning more explicit, informed and systematic. In social work these include assessment frameworks, decision trees, checklists, evidence from research and risk assessment tools.

Frameworks and decision trees can be used to help decide the best course of action to take i.e. the one that is most likely to have the most desirable and least undesirable outcomes.

Checklists can be used to make sure that information is being gathered from a wide range of sources and research findings can provide evidence to substantiate intuitions and broaden knowledge.

Risk assessment tools can help social workers with the very difficult task of judging the probability of a child being at risk.

**Evidence:** Many tools have been developed to help and improve social workers' reasoning skills but they are generally met with scepticism (Munro, 2008). One survey of over three hundred Child Protection workers in the US showed that only 14% thought that using risk assessment tools was 'very important' and 75% thought their use increased their workloads but provided little benefit in doing so (American Humane Association, 1993).

Experienced social workers often only use analytic tools to check decisions that have already been made rather than to help make them (English & Pecora, 1994; Fluke et al., 1993). At the other end of the spectrum, novices may be likely to over-use analytic tools and follow guidelines and procedures thoroughly as they do not have sufficient experience to recognise patterns in the situation (Beach, 1997). Such overuse of analytic tools may hinder development of skilled intuition.

In other domains, many simpler data-based tools have been developed with considerable success (see recommendation 4).

# 3. Many Sequential Decisions are made throughout the Day

Front door workers have to make many difficult decisions throughout the day. This places a strain on mental resources and can affect decision-making.

## 3.1 Depletion

**Issue:** Sequential decision-making requires considerable mental effort and results in the gradual depletion of mental resources, which can lead to poor decision-making and even decision avoidance.

Social workers testified to experiencing this effect first hand with one telling us:

> *"when it gets to 3pm on a Thursday, I can't even make a decision about what kind of tea I want, let alone decide on a referral without help: it's exhausting!"*

**Theory:** When mental resources are depleted decision-makers display a reduced ability to make trade-offs between options and exert self-control (Baumeister, 2002). Mental depletion often results in decision-making being simplified by choosing the default option, or maintaining status quo (Levav, Heitmann, Herrmann, & Lyengar, 2010; Danziger, Levav, & Avnaim-Pesso, 2011) or through basing the decision on intuition (Vohs et al., 2008) which can lead to errors in decision-making.

**Evidence:** A study reviewing sequential parole decisions made by experienced judges showed that more lenient decisions were made at the start of the day and immediately after a food break, such as lunch (Danziger et al., 2011). The findings indicate that we are more likely to select the default option (in this instance to deny parole) when our mental resources are depleted.

## 3.2 Deference and reluctance to question authority

**Issue:** In a non-collaborative working environment there is a risk that workers may defer decision-making to superiors who they believe have better knowledge or more experience than them. This becomes an issue when the superiors subsequently make a bad decision that is not questioned because of their status. Inevitably, it is often the case that the more senior person has to make their decision based on less information. This can lead to mistakes through omission of critical information. This may be particularly pertinent in a social work environment as the most common operating structure at the front door is for all decisions to be signed off by a manager before being passed on for assessment or out of the service.

Even where the environment is collaborative, an extremely hierarchical structure can override this collaboration as it suggests invalidity of junior opinion. Such structures, which we observed in most sites, also make it very difficult to transition smoothly to a management position as there is little room for developing the requisite skills in advance.

**Theory:** Team members often assume that team leaders or people of a higher grade or rank possess superior knowledge and readily defer decision-making and decision-relevant responsibilities to them (Goldstein, Cialdini, & Martin, 2007).

Furthermore, team members have been shown to not question leader judgement even when they believe it to be wrong. This is a particular issue when the leader is both in authority, and *an* authority (i.e. professionally "superior", a typical example may be doctors and nurses), and team members could be reprimanded for challenging.

**Evidence:** These effects have been studied extensively in aircraft settings where instances of air crew and co-pilots deferring judgement to the pilot has resulted in often catastrophic consequences (for discussion see Goldstein et al., 2007).

They have also been seen repeatedly in medical settings where nurses have deferred judgement to doctors often exposing patients to great risk of harm. In one famous study (Hofling, Brotzman, Dalrymple, Graves, & Pierce, 1966), 22 nurses were asked by doctors unknown to them to administer a dangerous dose of a drug to their patients. Twenty-one complied with the request and would have gone through with the administration despite violating official guidelines. These findings show the importance of working in a culture where decisions can be openly challenged without fear of reproach.

# 4. Information Quality and Perceptions of Source

The information provided when a referral comes into the service: varies from source to source; can be inconsistent; provide too much or too little information; and can vary in relevance. This can create unnecessary work for the front desk worker.

## 4.1 Poor quality initial information on cases

**Issue:** The quality of contact information arriving into the front door service is highly variable and can, at times, be very poor.

Whilst this is unavoidable in some instances (e.g. anonymous referrals with little information that come from the public via NSPCC), the real issue is communications from other professionals. This often seems to arise from the fact that reports for a different purpose (e.g. Adult-focused domestic violence incident records, medical record notes etc.) are simply copied and sent to the social work front door team. As such, the salient information is often buried in a longer report and resource must be invested to chase up the answers to simple questions. If social workers also deploy the everyday rule of thumb that relevant information will be presented early in a report, they are likely to miss critical information if it is not immediately apparent.

A second reason that poor quality information may be presented is that referral can be seen as a means to absolve the referring agency and individual of any further duty to the child and this can promote laziness in referral activity. Even in multiagency settings, where there was a shared purpose and increased focus from representatives of all agencies on child protection, we often saw this kind of behaviour in action. Similarly if organisational partners are not aligned with one another in their focus, they will inevitably communicate poorly.

**Theory:** For the most part, this is as much a time management and organisational design issue as a behavioural one. Clearly, the longer the material within which to identify the

relevant information, the longer processing the task takes and the higher the basic level of comprehension skill needs to be to effectively synthesise the information.

In addition, there is a significant body of research that demonstrates that more information does not necessarily lead to better decisions. Instead, a small amount of the right kinds of information is often enough for an expert to make a highly accurate judgement (e.g., Gigerenzer, 2007). Additional, even if irrelevant, information often creates powerful 'dilution' effects.

**Evidence:** It is self-evident from observing the time spent following up basic information or checking the basic facts on referrals that this is an issue for social workers.

A significant body of evidence exists in support of the dilution effect – where irrelevant information impacts the decision made. For example, a recent study shows that interviewers are typically worse at predicting the future performance of students when they have the opportunity to ask them questions that do not directly relate to grades than when they are simply shown their academic record (Dana, J., et al., 2013).

## 4.2 The source of the referral impacts the seriousness with which it is considered

**Issue:** The social worker's experience with the contact source and beliefs held about them could affect how they deal with information that they provide.

**Theory:** This is another example of how use of heuristics may impact upon front desk workers' decisions.

For example, as witnessing violence between adults in the family constitutes a form of emotional abuse, if a child witnesses domestic violence then the Police are required to report this to Child Protection Services. This results in a large number of referrals being sent by the Police with limited information focused on the impact for the child. These incidents range in severity from one-off arguments between couples to attempted/actual murder. Crucially, many are not cause for concern in and of themselves. Decisions made about Police referrals may be biased because a worker may have encountered many referrals from the Police, none of which they have passed on for assessment, so they may be likely to judge that all future referrals from the Police are not concerning based on the source. This can most helpfully be described as a "crying wolf" effect.

This is particularly worrisome as we consistently observed that reviewing the history of a family and not an isolated incident was found, by social workers, to be the most valuable activity in informing a referral decision. If Police referrals are chronically underweighted in such analysis then a long history of Domestic Violence that makes the likelihood of emotional abuse (and other types of maltreatment) higher may be missed or discounted.

As discussed under confirmation bias, some sources such as children and junior staff may be deemed to be unreliable and their evidence rejected if it does not support the social worker's opinion.

**Evidence:** In the Yorkshire and Humber region in 2008 police contacts accounted for 22% of all contacts received and the majority of these concerned domestic violence (Thorpe, Denman, & Regan, 2011).  Similarly, in many of the sites we visited, Police Domestic Violence notifications account for up to 40% of the total volume of referrals.

In Yorkshire and Humber the most common outcome for these contacts was no action taken (Thorpe et al., 2011), a finding consistent with the other sites we visited.

# Section 3: Recommendations

**Recommendation 1: Develop quantitative, predictive modelling to identify effective practices**

All of our five site visits showed that social workers have a poor grasp of the evidence base relating to effective practices. Stronger emphasis is placed upon the 'experience' and 'expertise' of an individual, than an understanding of which interventions are likely to have the most positive effect. DfE should consider strengthening considerably its quantitative capabilities in this field, with the ambition of creating a model which enables analysts to map:

- The specific decisions that have been made, including coding 'soft data';

- The outcomes associated with these decisions.

Some of the questions that such analysis might aim to answer are as follows:

- What presenting factors predict particular outcomes (no further action; no re-referral; re-referral; adoption; fostering; admission to care; Children in Need cases; length of stay in the system; health, education and employment outcomes etc.)? Existing databases hold much of the information required already (for example, the National Pupil Database identifies Child Protection status alongside general information and educational attainment) and it is also worth considering what other data sources exist that may not have been thought of as data previously, such as 'soft data' which is not generally coded.

- How confidently can these predictions be made and when? How have counterfactual data been incorporated into the analysis? Can predictions even be made with confidence at the front door in relation to some factors? What are the estimated false positives and negatives?

- How do the demographic/ situational profiles of children referred to the front door compare to those of onward referrals to assessment teams? Are there biases that lead to over/ under-representation at contact stage? For example, do cultural differences lead to over/ under referral of children from particular groups to the front door?

- How do outcomes and presenting issues vary for children by local area? Is there a way of establishing the link between local thresholds and factors such a budget, supply of care and demand for services? Can this data be used to allocate resources so that there can be greater parity in terms of access to services nationally?

- How do decisions and referral patterns change over time?  E.g. throughout the course of the day, across the budgetary cycle, following significant media coverage of cases.

- Which models are most effective at handling cases (although it is acknowledged that measuring effectiveness requires a mix of qualitative and quantitative analysis)?  e.g. co-location of multiple agencies versus Council-only.

Once this primary piece of work has been undertaken, there are undoubtedly a number of further opportunities to improve the current front door set-up and trialling these with confidence will be easier.  Supplementary recommendations are:

- If there are considered to be legislative barriers to the coding and sharing of social work data to build better models, then consider adding measures on the forthcoming data bill to unlock access and better analysis

- Consider creating a sister foundation to the Education Endowment Foundation dedicated to empirically testing more effective social work interventions.

The following three recommendations stand alongside this central, overarching recommendation.

**Recommendation 2: Introduce feedback loops to help social workers learn from past decisions.**

Our research shows that social workers rarely receive information about what happened as a consequence of their decisions. Feedback loops, which give professionals information about the consequences of an action or inaction, could be tested, using a randomised controlled trial, by measuring the outcomes over time of those social workers receiving feedback against those who receive no feedback.   These Feedback loops would ideally be linked to the data modelling exercise (Recommendation 1).

We propose two phases:

a) **Trialling the effectiveness of feedback over time in a Local Authority where the front door team does not this in place already**.  This feedback would consist of two parts and would, ideally, be addressed to specific individuals, not whole teams:

   i. Assessment teams' feedback to front door staff

   ii. Front door staff feedback to initial referring individuals

It is recognised that feedback loops would be more complex in Social Work than, say, for fire-fighting (where many of the most celebrated case studies are found). However, it

would be far from impossible to develop feedback tools for social workers that inform individuals (or groups of social workers) about the ultimate outcomes of their previous decisions and we have seen such feedback loops in practice.

Feedback should be more sophisticated that simply getting data back on the outcome of certain decisions and their quality. For example, one clear issue in a social work environment is that instant feedback, which is shown to enhance learning greatly, is rare. To find a way to replicate the value of rapid feedback, we propose trialling the use of the 'Shadowbox' method. This technique, pioneered in other professions in which fast, expert decision-making is critical, has been used to enable more experienced professionals with a strong grasp of the evidence base to support more junior staff to develop their own decision-making skills by working through hypothetical scenarios.

We saw some models that drew on a similar premise during our time with Local Authorities. However, it is critical that the experts providing the input to this method are able to link their own practice to evidence and have developed their expertise through doing so. This was not apparent in the way that many experts talked about their experience and knowledge.

By building in solid feedback loops that provide outcome data and specific case feedback from assessment teams (or, in the case of the front door, feedback from the front door worker who handled the case to the referring agency), individuals working in and interacting with the system would be able to make more informed decisions about what is helpful, acceptable and appropriate further down the chain. The decisions that are made further along the Child Protection process (which lead to the outcomes) should, of course, be based on evidence-based practice as well as expertise and experience.

b) **Devising a trial that would instil and test the value of a "growth mindset"** (i.e. an organisational culture that prizes the value of learning and views mistakes as opportunities to improve, as defined by Behavioural Psychologist Carol Dweck).

This second recommendation could be considered as a follow on piece of work once basic feedback loops had been installed and shown to be beneficial. Much of our research showed us that defensive cultures do develop in a social work environment and there is a significant body of behavioural science research highlighting the damaging nature of such cultures. Supplementing successful feedback loops with training that would aim to initiate and sustain broader cultural transformation would help ensure that any feedback process did not become another contributor to "protocolisation", as described in the literature review.

**Recommendation 3: Improve the inputs to the system, by developing simpler systems for filtering out irrelevant information**

We saw time and again from work shadowing and service data that a huge amount of time is spent by staff in the front door team sifting through referrals that are not of value to the service and information-only documents from partners.

Furthermore, the quality of the information is inconsistent and the relevant information is not always presented up-front. This can make decisions take longer than they should and can lead to critical information being missed. The Police, in particular, pass on a vast quantity of information that requires no further action. For example, it is not uncommon for Police contacts to account for 40% of total referrals each year into a Council's Child Protection Services front door. Of these cases, less than 5% where the family is not already working with a social worker are typically progressed for further assessment.

From the small sample we observed, Local Authorities that do not work with a multi-agency safeguarding hub (MASH) model tended to find that this is a greater issue. In some such Local Authorities, the front door team has introduced a standard template that its partner agencies must use to refer a concern about a child. Although comparative data was not available, observation of teams doing this suggests that they are able to process relevant information about a child much more quickly and reach agreement on a decision in a shorter amount of time.

Where teams were operating a MASH model, the volume of information presented to the social workers managing the front door was still an issue, although partners typically referred things in a way that communicated the relevant information more effectively and they did appear to pre-screen cases more effectively overall.

MASH models also bring the difficulties surrounding data-sharing between partner agencies – even when sat in the same room – into sharp focus, whilst these issues are much less visible in non-MASH models.

BIT recommends that DfE works with a group of Local Authorities that do not operate a MASH model, in consultation with the partner agencies that refer to them, to develop systems for streamlining information being received. BIT has had success in doing this in other areas (e.g. simplifying the Jobcentre process). New systems and processes could be trialled, by looking at whether a more streamlined system helped to speed up the decision-making process. It should be noted that, as with BIT's work in the Jobcentres, devising such processes does not have to equate to removing local freedom and flexibility to design services.

It is likely that a one-size fits-all form will not provide a solid solution here and that different modes of gathering information will be required for different partner agencies. It makes sense to begin by targeting Police contacts owing to the volume of information received. This would focus on particular issues affecting the Police and it should be

recognised that these issues may not be pertinent to other agencies. For example, any alterations to the current way of working with Police would need to consider the following issues:

a) **Legislative requirements can lead to over-reporting.** Legislation defines witnessing adults involved in domestic violence as a form of child abuse, meaning that Police are compelled to refer even low-level incidents which are likely not to warrant investigation by social services.

b) **Child Protection is not a Police priority**. As such, anything in this area is immediately referred to Social Services to be dealt with. We have heard this from both the police and Social workers.

c) **Institutional misalignment**. For example, a single Police organisation may serve multiple Local Authority areas, each of which may have different processes for dealing with Police communications and each of which demand time from the Police team to make clarifications etc...

d) **The standard DASH assessment[2] of Domestic Violence incidents is not child-centric**. As such, risk is based on an assessment of the adults involved and the presence of a child is enough to determine whether it should be passed on to Social Services or not. Sometimes risk to an adult is not a good proxy for risk to the child.

e) **Information that is most salient to Children's Services may be recorded as secondary to information that is more valuable to the Police**. As such, key details can be missed or diluted.

f) **The systems used to capture information by the Police and the Council are not accessible to the other partner**. As such, key contextual data may be missed by either party. Whilst data protection is clearly critical, the services we observed which could easily draw on other agencies' systems were able to make far richer assessments at the front door more quickly.

g) **The Police systems are typically not child-centric** and records are created for adults, not children. This means that there is not a record of involvement of a child in multiple instances of abuse.

h) **Councils often have limited time when handling domestic violence notifications and, owing to the sheer volume of notifications, cannot create a record for a new child on their system each time**. Repeat involvement in

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[2] Domestic Abuse, Stalking and Honour Based Violence Risk Identification, Assessment and Management Model – since 2009 all police services and a large number of partner agencies across the UK have used a common checklist for identifying and assessing risk.

incidents which do not meet Social Services' threshold for further investigation in isolation may, therefore, be missed purely because the first incident was not recorded.

i) **Similarly, Police have limited time** to calibrate the information they are already tasked with collecting to meet the needs of Social Services.

As **a second trial**, that also looks at sharing and flow of information between agencies, we also suggest comparing the effectiveness of multi-agency safeguarding hub (MASH) models (recognising that they may be different from one another) to non-MASH models. Many Local Authorities are considering transitioning to a MASH model in the near future already. As such, assuming each Local Authority's model shared a set of underlying principles and features that made them comparable, it may be possible to work with the Councils to stagger the roll out order so that meaningful performance analysis can be conducted (e.g. using a "stepped wedge" trial structure).

**Recommendation 4: Development of heuristic tools and/or checklists to guide decision-making without the complexity of actuarial tools.**

There is considerable interest in the development or mainstreaming of actuarial tools to guide the decision-making process. However, our research (both domestic and international in focus) suggests that the existing set of actuarial tools are not operating effectively, largely because they are highly complex and are therefore under-utilised. The research around decision-making tools tends to highlight three things:

- **Data:** the decisions that the tools guide the practitioner towards must themselves be based on evidence-based practice (hence Recommendation 1);

- **Simplicity:** they must be very simple to use for practitioners;

- **Supportive:** such tools must allow for expertise to develop and contribute to the decision (hence Recommendation 2).

Our research has shown that experts often fail to use complicated actuarial tools and/or resent the fact that actuarial tools minimise the need for their judgement. In some circumstances, this leads to them manipulating the input to meet the desired outcome. Junior staff, on the other hand, can come to rely too much on actuarial tools, which does not help them to develop their expertise.

There are three potential alternatives to actuarial tools which have been shown to work in different professional decision-making settings:

a) **'Fast and Frugal Trees',** most associated with the research of Gerd Gigerenzer, are simpler, more intuitive versions of actuarial tools (and are developed through a similar analytical process to such tools). They enable professional decision-makers to continue to use their 'professional judgement', but give them an evidence-based

set of simple rules of thumb to guide the decision-making process (see the Combined Analysis section for details). Determining the right key questions to ask on a Fast and Frugal Tree is critical (and reliant on having good data on how presenting factors link to outcomes). An example of a fast and frugal tree is included below to show how the lessons from complex case data analysis can be expressed in simple, highly prioritised terms to make complex diagnoses simpler. Such a tree shows how patients can safely and quickly be screened out so that emergency care can be focused on emergency cases:

**Figure 3: Example of a Fast and Frugal Tree for Coronary Care Medics**
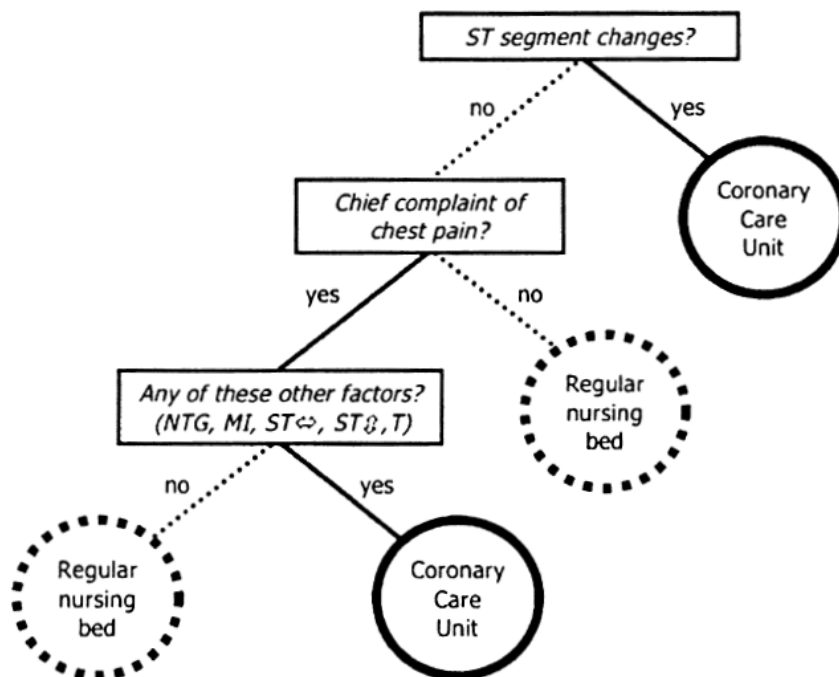


b) **Checklists** are widely used in many professional settings (most famously the airline industry and medical surgery theatres) where specific actions that might easily be forgotten need to be undertaken. They can also be used in group settings in which a less junior member undertakes the 'checks', and might be most appropriate to ensure – for example – that specific basic questions have been asked of a case relating to a child before it is closed down. It is important to note that effective checklists are not exhaustive "how to" guides containing all steps of a process. Instead, they focus only on those steps that are routinely missed out or minimised.

c) **Building expert heuristics into record-taking.** For example, hospitals in New South Wales reduced deaths from coronary complications by one third by redesigning the charts on which basic health statistics were recorded, building in a simple heuristic that highlighted risk factors and when these should trigger further

investigations or referral[3]. Similar 'low-tech' solutions may be possible for social work.

Each of these methods clearly requires a strong evidence base (recommendation 1) and could be trialled with a group of Local Authorities.

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[3] http://www.cec.health.nsw.gov.au/programs/between-the-flags

# Conclusion

As many reports before this one have stated, social workers are under a considerable amount of pressure and they need the most supportive environments to help them avoid human errors. One thing that was particularly striking from our visits was the breadth of skills required to be a social worker. Social workers must be at once highly analytical; empathetic; decisive and assertive in their communications. These are not skills which commonly occur together and, as such, there are certainly practising professionals who are weaker in some of these areas than others and require substantial support and development.

Whilst there are clear areas of concern, there is also opportunity in this space. We believe that continued emphasis on building a better evidence base across the social work lifecycle, in conjunction with an increased insistence on trialling new interventions, can help make strong improvement quickly.

Clearly, our study looked at a small and fairly discrete part of the process. During our time with social workers in the front door team we were also directed to many other aspects of the Child Protection system that may benefit from analysis using a behavioural science lens.

# Appendix

## Map of End to End Child Protection System

The portion of Figure 3 above and within the red dotted line describes the front door.

**Figure 4: Map of End to End Child Protection System**
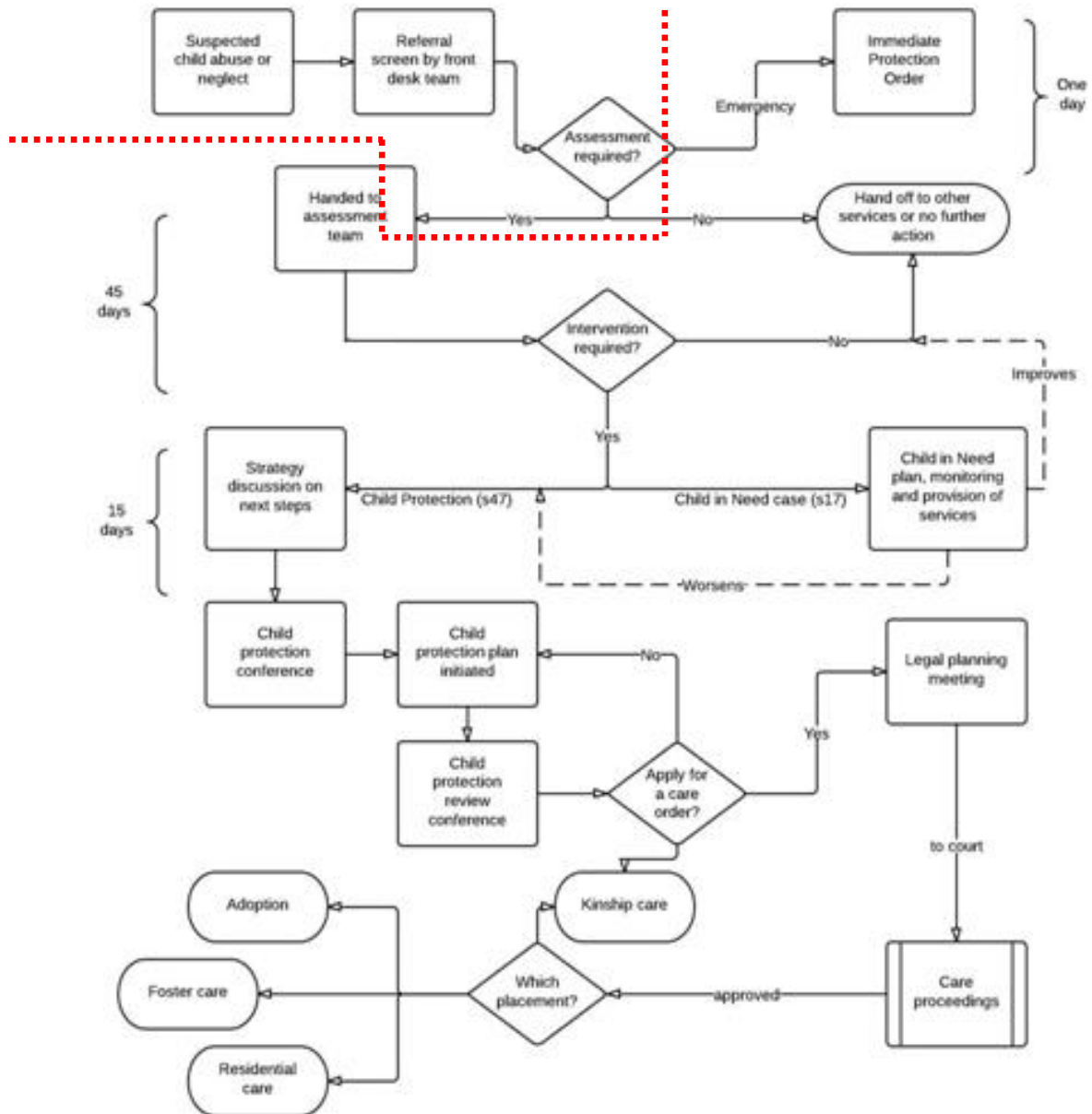
# Literature Review

## *Introduction*

Front desk workers are responsible for processing initial referrals into children's services. They have to decide whether the contact needs any further action and if so what this should be; whether the child needs immediate protection, the case needs further investigation or whether they should be referred to other services. These judgements are based on an assessment of both immediate and long term risk to the child with more focus on negative rather than positive outcomes i.e. the risk of a child suffering harm if no action is taken (Munro, 2008).

These important and difficult decisions about the correct course of action to take often have to be made under adverse conditions. Firstly, they have to be made under considerable time pressure – generally within one working day and, where an immediate protection is required, in under four hours. In this limited timeframe decisions are likely to be made quickly and potentially with limited information. Secondly, front desk workers are often under considerable workload pressure. In 2011/12, data from 69 Local Authorities showed that they each received, on average, over 1100 contacts from external agencies and individuals per month and this number has been steadily increasing in recent years (ADCS, 2012). This high volume of work also limits the amount of time available to spend addressing each contact. Thirdly, due to high turnover of staff front desk workers may also be inexperienced which will affect their decision-making.  It is important to note that even experienced social workers will be "inexperienced" in front door terms when they arrive.  Social workers that we spoke to told us that the front door environment and the way in which decisions are made is very different to case work and assessment.  One remarked that "it took [her] a few months to get rid of the urge to just go and see the child itself before I made a decision". Finally, the nature of the work is highly emotional and this will also impact on the worker's reasoning. This review aims to provide an understanding of how each of these issues; limitations of time, experience and information and emotional involvement, may impact on the "front door" decision-making process and how social workers could be supported in making better decisions

## *Intuitive Judgements*

In conditions of uncertainty when decisions have to be made quickly and with limited information people have to rely more on their intuition. Although it is generally considered that the best and most accurate decisions are made using as much time and information as possible, there is evidence that intuitive judgements can be highly accurate. After all, we have long relied on our intuition to make sense of the world around us. However, there are factors which affect the accuracy of intuitive decisions and these decisions are inherent to a number of biases. These factors, along with ways of overcoming biases and improving intuitive decisions, will be discussed below.

Intuitive judgements are rapid, automatic and generally unconscious responses to stimuli and situations based on a wide range of prior knowledge and experience gained over a lifetime. There are two different classes of intuitive judgements; those that are skilled and based on experience and those that are produced by more general heuristics – mental shortcuts or rules of thumb. The former tend to be more accurate than the latter, although both are prone to biases (e.g., Kahneman & Klein, 2009). Both shall be discussed in turn.

## Skilled Intuition

As Simon (1992, p.155) states: "Intuition is nothing more and nothing less than recognition". Situations provide cues that are processed automatically and if they have been encountered before (i.e., if they are recognised) then they prompt knowledge gained from this prior experience to be retrieved unconsciously from memory which then forms the basis of the intuitive judgement (Simon, 1992).

The ability to make rapid, accurate, intuitive decisions has been studied by Klein and colleagues for the last 30 years (e.g., Klein, 1998). Their research showed how experts would seemingly not make any decisions about how to proceed in a situation requiring an immediate response. They would not compare different courses of action they would intuitively know what the best course was just from looking at the situation and recognising how to proceed based on their previous experience (Klein, 1998).

The recognition-primed decision model (RPD; Klein, Calderwood, & Clinton-Cirocco, 1986) was developed based on these findings to explain how experts make rapid decisions about how to act in a situation using their experience. The model comprises two processes: situation assessment and mental simulation. When a situation is assessed and recognised as being familiar or typical this recognition elicits an understanding of what can be expected next, which cues in the environment are relevant, what types of goals are plausible and typical ways of responding (Klein, 1998). Therefore recognising a familiar or typical situation also means that a successful course of action is recognised very quickly.

In more complex situations the expert may also evaluate the course of action by simulating it in their mind and if they reject that course then another option would be assessed. Different courses of action are never compared together but are evaluated one at a time; this strategy is known as a singular evaluation approach. The expert does not continue to search for the most optimal course of action, they stop searching when a good enough option is found and this is often the first option that is brought to mind after recognition. This is known as satisficing (Simon, 1957): setting a level above which an option would be deemed as satisfactory and then choosing the first option above this threshold that comes along. Munro (2008) states that experienced social workers probably often use this tool when making quick decisions.

If the expert immediately recognises that the situation does not match previous experiences exactly or maps onto more than one experience then more attention is

placed on diagnosing the situation. If this is not the case and the situation is first recognised as being typical then any anomalies of the situation will be picked up when expectancies about a situation are violated. For example, a fire may start off as looking typical but when it doesn't respond to water as expected then the situation needs to be diagnosed further. Diagnosis may involve matching features of the situation to other experiences where these features were also present to check the interpretation of the situation and/or building a story to account for the anomalies (Klein, 1998).

Munro (2008) highlights the relevance of the RPD model to the rapid decisions made by experienced social workers, particularly those working on the front desk where speed is crucial. Experienced front desk workers build up a repertoire of referrals that they have encountered and subsequent actions taken so that when they see a new contact they are able to very quickly match it to ones they have seen before and recognise the action they should take.

It is important to note that Klein's work and the RPD model explain rapid decision-making in experts only. Novices faced with new situations are unable to recognise familiar patterns within them because of their lack of experience. They are limited to assessing each feature of the situation in isolation which can be time-consuming and often resort to analytic decision-making strategies such as following guidelines and procedures in order to do so (Beach, 1997). In situations where rapid decisions need to be made such as the front door it is, therefore, ideal to have experienced workers in place who don't have to spend a lot of time making analytical decisions but who can use their intuition to make accurate, fast decisions which can then be checked and challenged using analytic methods. However, this may not be viable or sustainable due to the high turnover of staff and we shall discuss below how novices may be trained to make better intuitive judgements.

It is not just experience that is key to developing the ability to make skilled and accurate intuitive judgements; certain conditions in the learning environment must also be present (Kahneman & Klein, 2009). Firstly, the environment must be regular and must provide valid cues to the nature of the situation. Secondly, there must be an opportunity to learn these cues through repeat practice followed by quick feedback. When these conditions are met, individuals can develop skilled and accurate intuition after gathering enough experience.

Certain professional environments lend themselves more to these conditions than others. For example, fire-fighters are repeatedly exposed to environments of high validity – there are consistent and stable relationships between cues and subsequent events or outcomes such as the way different types of fire react to water or what happens just before a building collapses. Fire fighters are able to learn these relationships and regularities through repeat exposure and the immediate feedback that they receive so that after enough experience they know instantly how best to respond to a fire.

In social work, front desk workers have to assess referrals into the service and decide how they should be dealt with. When they are doing this they may take into account the content of the contact, who has made it and what is known about them, what is known about the family and what resources are currently available. Over time it is possible to learn how to classify referrals into types using these cues and to then be able to recognise what type of contact has been made and how to respond to it (Munro, 2008).

However, due to the complexity and lack of feedback that front desk workers receive about the consequences of their decisions, although they can develop experience and skilled intuition they could still be making imprecise decisions. The intuitions that they develop may be inaccurate because they may not be able to learn whether the decision they make about how a contact should be dealt with is correct or not. Although it can make organisational sense to have front desk workers that only process referrals, this structure hinders development of expertise because, due to the volume of referrals processed, these workers hardly ever find out the long-term outcomes of their decisions.

Feedback is not straightforward – it is very difficult to determine which decisions along the process resulted in the outcomes seen and it often takes a long time for outcomes to occur. Feedback is also biased – due to the nature of the work it is possible to learn if incorrect decisions were made when risks were underestimated but not if they were overestimated which is a potentially bigger problem as social workers may be risk averse and therefore more likely to overestimate risk. If risk is underestimated and no action is taken but a child subsequently comes to harm then a worker (if they find out that this has happened) can learn from their mistake. However, if risk is overestimated then measures will probably be taken to protect the child and if no subsequent harm comes to them they may think that this is because they made the right decision when actually no harm might have come to the child anyway.

It is therefore possible for front door workers to develop expertise and accurate, skilled intuition but only if they receive timely feedback about their decisions and are able to reflect on the decisions they have made.

## *Developing Expertise and Skilled Intuition*

Klein (1998) identifies four key elements to developing expertise and skilled intuition; these are explained here in the context of front desk work:

a) **Practice:** engaging with information and other professionals, setting specific goals and criteria for evaluation.

b) **Gathering experience:** compiling case banks to build up knowledge of the cues relating to various types of outcomes so that these can be recognised automatically in new cases.

c) **Feedback:** obtaining accurate, diagnostic and as timely feedback as is possible about the outcomes of referral decisions.

d) **Reflection:** reviewing prior decisions to gain new insights and learn lessons from mistakes.

There are a number of ways in which practice and experience can be obtained in addition to gaining these through day-to-day front desk working. Case studies and videos could be used to build intuitive skills such as recognising patterns in cues and subsequent actions in order to be able to intuitively identify how best to deal with referrals. Case studies can also be used to give examples of situations where both good and bad contact decisions were made to help develop accurate intuition. Using case studies it is possible to gain feedback on other people's decisions and to reflect on and draw lessons from them in order to inform one's own.

The ideal way for front desk workers to receive feedback about their decisions is to keep them informed of case progression and how the child fares. As previously mentioned, this may be difficult due to the large number of referrals processed but it may be possible that a selection of cases could be followed for feedback purposes.

Weekly or fortnightly team meetings provide the perfect opportunity for feedback and reflection to be gained through peer review. If teams are not doing so already, a number of contact decisions could be constructively reviewed so that the front desk worker can see how other people would have dealt with the situation and reflect on their own decisions. Munro (2008, p157) states that "critical review by supervisors, colleagues and other professionals needs to become a standard part of the culture within a non-blaming atmosphere". This highlights the importance of managers maintaining an emphasis on supervision (i.e., providing advice and support) rather than case management (i.e., making sure procedures are followed).

Klein (1998) argues that expertise is not about learning more information, rules and procedures it is about learning how to perceive. Experts do not follow rules as novices do and this is not because they have learned the rules it is because they can see patterns in the situation that the novice cannot and have an overall picture of the situation, past, present and future. Therefore, another way of helping novices to develop expertise is by showing them how experts perceive situations.

## Training Methods

Hintze (2008) has developed a technique called the ShadowBox method that allows trainee fire-fighters to shadow the thinking of their more experienced counterparts. This method has also been used to train police officers in social interaction skills (Klein, Hintze, & Saab, 2013) and could be a useful method of developing expertise in front desk workers.

The ShadowBox method uses scenario-based exercises and cognitive task analysis materials to allow novices to see situations through expert eyes. Essentially, a booklet of challenging, unusual scenarios (in front desk work these could be different referrals) is developed and presented to a panel of experts who write down how they would handle the situation and the rationale for their decisions. The information they provide is then synthesised and used to illustrate expert mindset. During training, novices are given the scenario booklet and an answer booklet to record answers to questions posed at predetermined decision points in separate boxes. After the novice has worked through a scenario they compare their responses to those of the expert panel and then move on to the next scenario. Importantly, it does not require an expert to be present for delivery.

Training is typically administered by a facilitator (who does not have to have any experience in the area) who reads each scenario aloud. Novices are then asked to write down what information they want to remember for the first decision point along with a rationale for why they chose this information. The novices then answer the decision point question and the facilitator compares their entries and answers to that of the expert panel explaining the expert's rationale for their answers. The novices then compare their answers and rationales to that of the experts and describe the differences between them before moving on to the next scenario.

Klein et al. (2013) comment that a drawback with the ShadowBox method is the time taken to both gather the expert panel data and to administer the training which takes anywhere between 30 and 80 minutes per scenario. However, although the training has previously been administrated by a facilitator, the method is such that novices could work through the training on their own through computer-based delivery which may reduce the time taken to complete it.

## The Workplace Culture and Mindset

We have talked about the environmental conditions required for developing expertise and skilled intuition but development from novice to expert also requires a work culture and mindset that is conducive to growth and learning. A defensive culture can be a hostile learning environment as following procedures may be seen to be more important than making competent decisions. Child protection services are under considerable social and political pressures to avoid catastrophic outcomes which can lead to the adoption of a defensive culture. The risk of outcomes such as child deaths can never be fully removed because of our limited understanding of human nature and the inevitability of errors in human reasoning (discussed more below) (Munro, 2008). Because of this, services may prioritise protection over prevention. One way of achieving protection is through what Hood, Rosthstein and Baldwin (2000) call 'protocolisation': a number of procedures to guide 'best practice' are put in place which workers are asked to follow closely, even when inappropriate, so that if anything happens the service can say that all the 'correct' procedures were followed and has an audit trail to prove so. A culture where defence and protection is paramount is therefore not conducive to growth and learning. Defensive

cultures have been seen to be operating in child protection services in the UK (Munro, 2008). An emphasis on ascertaining whether procedures were followed rather than whether good decision were made has been shown in enquiries into deaths of children known to child protection services (Cambridgeshire County Council, 1997; Norfolk Health Authority, 2002).

Workplaces that adopt the view that people's talents and abilities are fixed may undervalue the benefits of continued professional development and may create environments that are not conducive to growth and learning. Dweck (1996; 1999; 2006) proposes that people view abilities and traits such as intelligence as either being fixed, stable aspects of a person that cannot be developed or as qualities that are malleable and expandable through effort and learning. These views or 'mindsets' (fixed versus growth mindset) that people adopt can have profound effects in the working environment. As Dweck discusses in her book 'Mindsets' (2006), research has shown that teams in the workplace whose members have predominantly growth mindsets work better with each other, are more innovative, push themselves harder, set higher standards and generally outperform teams whose members have predominantly fixed mindsets. Managers who have a growth mindset generate better working environments than those who have fixed mindsets because they focus more on learning and development and so they make better mentors and are more open to feedback and understand the importance of it.

## *Other Consequences of Decision-Making under Pressure*

Front door workers work under considerable time and workload pressures meaning that they have to make many difficult decisions about referrals throughout the day. We have talked about how this will lead to an increased reliance on intuition when making decisions but the task of making so many decisions requires considerable mental effort resulting in the gradual depletion of mental resources which in itself can lead to poor decision-making and decision avoidance.

When mental resources are depleted decision-makers display a reduced ability to make trade-offs between choices and exert self-control (Baumeister, 2002). Humans seek to minimise mental effort wherever possible and this can lead to decision avoidance and/or simplification strategies being employed such as delaying decision-making, deferring decision-making to others, deciding to take no action at all, to maintain status quo or to select the default option (Anderson, 2003).  For example, a study reviewing sequential parole decisions made by experienced judges showed that more lenient decisions were made at the start of the day and immediately after a food break such as lunch (Danziger et al., 2011). The findings provide evidence of the effect of depletion on decision-making; in this case the default option (denial of parole) was more likely to be selected at times when mental resources were depleted. In another study, physicians and legislators faced with difficult decisions involving selecting the correct course of action from multiple choices were shown to often opt for the default option or to maintain status quo (Redelmeier & Shafir, 1995). Research on consumer choice has also shown that people

are more likely to defer choosing when decisions involve a number of conflicts and trade-offs (Luce, 1998).

In front door work, there may be a high risk of depletion leading to deference of judgement to seniority as the most common operating structure at the front door is for all decisions to be signed off by a manager. A depleted social worker may decide to choose the default option regarding the outcome of a contact thinking that any error will be picked up by superiors who they may believe have better knowledge or more experience than them. This can become an issue if the superior's decision-making is impaired (they spend all day checking decisions and so could also be depleted) and they then make a bad decision about a contact.

Whilst on the subject of deference, it is important to note that team members often assume that team leaders or people of a higher grade or rank possess superior knowledge and readily defer decision-making and decision-relevant responsibilities to them (Goldstein, Cialdini, & Martin, 2007). Furthermore, team members have been shown to not question leader judgement when they believe it to be wrong. This is a particular issue when the leader is both in authority and an authority, and team members could be reprimanded for challenging seniority. These effects have been studied a lot in aircraft settings where instances of air crew and co-pilots deferring judgement to the pilot has resulted in often catastrophic consequences (for discussion see Goldstein et al., 2007). They have also been seen in medical settings where nurses have deferred judgement to doctors often exposing patients to great risk of harm (e.g., Hofling, Brotzman, Dalrymple, Graves, & Pierce, 1966).

It is also important to note that there are a number of reasons why decision avoidance occurs (see Anderson, 2003 for a review), depletion is just one of them. Decision avoidance can also be explained through cognitive misperceptions such as loss aversion (losses weigh heavier than equivalent gains: Kahneman & Tversky, 1979). If inaction or one particular choice option is seen as the default response then loss aversion may lead to an increased preference for this response as the losses involved with choosing an alternative will outweigh the gains that they may provide. Also, the likelihood of decision avoidance occurring increases as the level of negative emotional response to choice options increases (Luce, 1998). In this case decision avoidance can be seen as a coping mechanism - consequences of avoidance can be attributed to environmental factors whereas once a person makes a decision they are responsible for it and have to deal with any resulting emotional reactions such as regret.

## Intuition Produced by Heuristics

We have talked about the conditions required to develop skilled and accurate intuitions; namely that the individual's environment must be regular enough to be predictable and that there must be an opportunity to learn these regularities through repeat practice followed by feedback and reflection. When these conditions are not met rapid judgements can be made intuitively through the use of heuristics – mental shortcuts that

we have developed through adapting to increased cognitive demands. Heuristics are simple rules that, when used, work well under many circumstances and can produce very accurate intuitions but they can also lead to biases (systematic errors) in judgement. Outlined below are a number of heuristics that front desk workers may use and the biases that they may lead to.

## Availability Heuristic

Tversky and Kahneman (1973) first described the availability heuristic as the tendency to judge the probability or frequency of an event by the number of examples of the event that can easily be brought to mind. For example, when judging whether alcoholism is a risk factor of abuse a social worker might think of all the cases of abuse that they have encountered where the abuser was an alcoholic. Our perceptions of likelihood increase with the ease and number of instances of the event that come to mind. For example, if the worker can think of a number of cases where the abuser has been an alcoholic and these examples come quite readily into mind then they may perceive alcoholism to be a strong risk factor of abuse. The availability heuristic is useful when the number of instances of the event that we recall accurately reflects the actual frequency of events in the real world.

Use of the availability heuristic can lead to a number of biases in judgement as there are many things that can impact upon retrieval of examples. For example, recent examples are more likely to be retrieved than earlier ones with the possible exception of the first example ever encountered. Examples that are more salient are also more likely to be recalled, for example, you are more likely to remember road accidents that you have witnessed than those you have read about and subsequently seeing a road accident is likely to have a greater impact on how likely you think road accidents are than reading about one. Biases in media reporting of events can also bias availability of events, for example the media report heavily on the very few children known to social services that come to harm and hardly at all on the vast majority that don't and so the public's perception of the likelihood of a child in public care coming to harm is likely to be grossly inflated.

## Representativeness Heuristic

The representative heuristic is used when the probability that a new item belongs to or originates from a set or class of other items is judged by the degree to which the new item resembles or is 'representative' of a prototype held of the set or class. For example, a social worker may judge the probability of a person being an abuser by comparing what they know about them to their prototype of an abuser.

Use of the representativeness heuristic may lead to an overestimation of likelihood as an item seen as being more representative (i.e. bears more resemblance to the prototype) may be judged to be more probable when it is not. Use of the representative heuristic can therefore lead to base rates being disregarded. For example, the person being judged

may fit the prototype well but is actually more likely not to be an abuser just because there are far more people in the world who are not abusers than are. Furthermore, the more the item fits the prototype the more confidence you are likely to have in your prediction that the item belongs to the prototype, this is called illusion of validity.

## *Similarity Heuristic*

Comparable to the representativeness heuristic the similarity heuristic is used when judging a situation based on its similarity to other situations or prototypes of those situations.

In front desk work it is possible that the availability, representativeness and similarity heuristics are used when making swift judgements about probabilities such as the likelihood of a child being at immediate risk of harm or the likelihood of a contact being cause for concern. When assessing risk or severity the front desk worker is likely to bring to mind other similar cases which they can compare the new case to in order to make judgements about it. For example, when judging whether a child is at risk of immediate harm they may bring to mind a selection of cases where they made this judgement before and compare the degree to which different features of the new case resemble or are similar to features of the cases brought to mind.

These judgements will be accurate if the selection of cases brought to mind are a representative sample of all cases where decisions have been made that the child is in immediate danger. However the sample drawn may be biased as mentioned above, for example, it is likely that the sample will contain recent cases that were quite severe as we are more likely to recall salient and recent examples. Research investigating context effects has shown that when a new case is evaluated against a sample of quite severe cases, the new case may be judged to be not of concern when it actually is simply because it is not as severe as the other cases brought to mind (Wedell, Parducci, & Lane, 1990). This could mean that some cases are not referred for immediate action when they perhaps should be. Furthermore, if the new case highly resembles another one encountered then the worker may be very confident about a decision to take the same course of action when this may be unwarranted if the original decision that was made was incorrect. We are also quite insensitive to the representativeness of small samples and often assume that these samples accurately reflect properties of the population from which they are drawn. If front desk workers are drawing biased samples to base decisions on then they are unlikely to be aware that these samples are not representative. Regular engagement with case study examples that are representative of the whole distribution of cases that result in each possible outcome of contact may help to reduce biases in judgement.

Another example of how use of these heuristics may impact upon front desk workers decisions is when they are judging whether or not the contact is cause for concern. As previously mentioned, they are likely to take into consideration a number of factors other than the content of the contact such as the source and what is known about the family.

All of this information could be subject to bias. For example, a worker may have received 3 referrals from a specific source of which none were concerning. The next time they receive a contact from that source they may be likely to intuitively judge that the contact isn't concerning based on the source. This may be a correct judgement if, out of all the referrals the office has ever received from that source, the majority are not acted upon. However, if the majority received do give cause for concern and that particular worker has been unlucky in that they have received the few that didn't then their judgment may be incorrect.

## Affect Heuristic and the Role of Emotion in Reasoning

The information that front desk workers have to process is often of a highly emotive nature and their affective response to the situation may bias their decision-making. Response to the prospect of risk involves both cognitively evaluating the risk and reacting to it emotionally. Emotional reactions to a situation happen automatically and with minimal cognitive processing (Zajonc, 1980) suggesting that emotion, in part, mediates the relationship between the cognitive risk assessment and the subsequent behavioural response (Loewenstein, Weber, Hsee, & Welch, 2001). In situations where decisions have to be made quickly or mental resources are depleted, basing a decision on one's affective response to it can be an easier, more efficient way of making a decision (Slovic, Finucane, Peters, & MacGregor, 2007). Indeed, under time pressure, people have been shown to rely on their emotional responses to make decisions (e.g., Dijker & Koomen, 1996; Finucane, Alhakami, Slovic, & Johnson, 2000) and use of affect as a heuristic has also been seen when making judgements about risk specifically (e.g., Finucane et al., 2000).

However, as with any heuristic, use of the affect heuristic may also lead to biases. For example, La France and Hecht (1995) asked participants to judge cases of academic misconduct by students and supplied them with photographs of the students. Participants exercised more leniency to students shown in their picture to be smiling than those shown not to be suggesting that the positive affect generated from the smile influenced their subsequent judgement. Those students pictured smiling were also judged to be more trustworthy, genuine, sincere, good and honest than their non-smiling counterparts.

## Confirmation Bias

People have a tendency to hold onto their intuitive beliefs even in light of evidence that challenges them (Janis & Mann, 1977; Nisbett & Ross, 1980; Baron, 1994). We test hypotheses by searching for confirming evidence (this is known as positive test strategy; Klayman & Ha, 1987) and may even employ strategies to ensure that new challenging evidence is not recognised or gathered. For example, a front desk worker who firmly believes that a child is not in danger may avoid gathering information from sources such as school teachers. This can be checked when monitoring the progression of a case. They may also only remember details that reflect their intuitive feelings about the case.

They may reject evidence against their beliefs by questioning the reliability of the source. Evidence given by children and junior staff have been found to be rejected if the evidence didn't conform to the interviewer's beliefs (Munro, 1999; 2008). Also, research findings that agree with the dominant view tend to be accepted but those that don't are ignored (Nisbett and Ross, 1980). Evidence may also be re-interpreted to fit in line with beliefs.

First impressions in particular influence how new information about a person is interpreted. People place a lot of confidence in the swift appraisals that they make about new people they meet and pay more attention to evidence that supports their first impression (e.g. Sutherland, 1992).

Front door workers should be encouraged to consider a wide range of evidence when making a decision about a case in order to overcome this bias and checklists and assessment frameworks can help with this. Encouraging them to keep detailed records of events and information gathered will allow supervisors to check for biases.

## Fundamental Attribution Error

This refers to the tendency to automatically attribute a person's behaviour to their personality or disposition rather than their environment. This could have a large impact on judgements in child protection as typically many families are living in harsh environments (e.g. poverty, poor housing and poor communities) which could be the root cause of problems. Front desk workers need to be made aware of this tendency and encouraged to gather information about a child's environment as well as factors relating to the individuals involved.

## Tunnel Vision and Short-Sightedness

People sometimes cope with time and workload pressures by making tasks manageable through only focussing on a narrow portion of their work environment (Dekker, 2002). In social work this may be exemplified by a front desk worker fixating on a just one aspect of the child's circumstances. Although this tunnel vision enables the worker to stay focused on this one aspect of the case it may lead them to miss other issues or options that arise outside of the area of focus that may be vital to the case.

Experience can also lead to tunnel vision when the expert gets into the routine of responding to situations in a fixed way but doesn't keep up to date with the bigger picture. For example, if new services become available the expert front desk worker may not use or be aware of them because they are fixated on their developed pattern of response and just continue to refer people in line with the skilled intuition they have developed. This highlights how important it is to continually develop skilled intuition especially in changing environments.

Similar to this is the tendency of social workers to become engrossed in present day issues without taking a step back and looking at the bigger picture in terms of how these

issues fit in with the history of the family (Farmer and Owen, 1995; Munro, 1999). Looking at the present day situation in isolation and out of the context of what has happened previously means that patterns of behaviour will not be detected and these could be reliable predictors of future behaviour.

When under time and workload pressure people also tend to take a short-sighted view of a problem (Keller & Ho, 1988; Fischoff, 1996) and only deal with immediate issues without thinking about the effect their decisions may have in the long-term. This could be quite a large problem in social work where professionals are often working with children and/or families for a long period of time.

## Stereotyping

Stereotypes are beliefs held about groups of people or certain ways of doing things (McGarty, Yzerbyt, & Spears, 2002). Like heuristics, stereotypes allow us to make rapid intuitive decisions about a person or situation and can be prone to bias. Stereotyping is a form of categorisation and leads to the assumption that group members all share characteristics that have been attributed to the stereotype. Stereotypes can be activated automatically, are unconsciously influenced by the portrayal of the group in the world around us and can automatically influence behaviour (e.g., Wheeler & Petty, 2001). They can lead to discrimination especially in minority groups that the person doesn't belong to such as different ethnic groups. They are susceptible to confirmation bias and the attribution of behaviour to them (Nisbett & Ross, 1980).

In Britain, black parents are less likely to be offered family support services and black children are taken into care more quickly than others and are over-represented in public care and serious case reviews (Barn, 1990; Chand, 2000; Owen & June, 2009; Brandon et al., 2012). Black children account for around 2% of the child population in England, however, Government statistics show that as of March 2013, 7% of looked after children in England are black (Department for Education, 2013).  Whilst such stark over-representation is almost certainly not a direct product of social workers operating under the influence of stereotypical views, social workers should be mindful that the strength of stereotypes they may hold about this population are likely to be reinforced by such over-representation in the child protection system. One way of overcoming discrimination is through training people to activate counter-stereotypic information on presentation of stereotypic traits. This then reduces the automatic activation of the negative stereotype (Kawakami, Dovidio, Moll, Hermsen, & Russin, 2000).  The section of this review on risk assessment through actuarial and analytic methods also provides some insight into how data can counter skewed views.

## Biases in Group Decisions

In social work, important decisions are sometimes made in a group context where information and expertise can be shared. However, group reasoning can also be susceptible to biases. Janis (1982) describes a bias called 'groupthink' that occurs when

a group's desire to avoid conflict and achieve unanimity drives the decision-making process and subsequently results in bad decisions being made. Loyalty to the group often leads to ideas not being critically evaluated and alternative solutions not being raised. Furthermore, when unanimity is achieved extreme decisions tend to be made not moderate ones (Moscovici & Zavalloni, 1969).

In social work, a number of studies have shown that at group discussions of cases there is a very low level of disagreement between group members indicating that they may be susceptible to this bias (Birchall & Hallett, 1995; Farmer & Owen, 1995; Bell, 1999). If so, group discussions may result in extreme decisions with either high or low risk assessments being made. This bias can be overcome simply through encouraging constructive critical evaluation of ideas at group meetings or systematically analysing the pros and cons of every idea raised. Another way to overcome this bias would be to appoint a devil's advocate in the meeting whose job it is to go against the consensus and critically evaluate ideas (Janis, 1982).

## Jargon as a Mental Shortcut

All professions naturally and necessarily develop a particular vernacular, as a useful way of short handing complex concepts within an expert group. However, jargon can also mask a lack of understanding and promote less sophisticated thinking.

Human action is generated by one of two cognitive systems (Kahneman & Tversky, 1979): System one is automatic, requires no effort and comes naturally; System two requires mental effort and is reserved for heavy-duty cognitive tasks. When we become increasingly familiar with something we can move it from System two to System one. For example, learning top drive is extremely difficult but experienced drivers rarely think about what they are doing. Jargon may make its way into System one through overuse, thereby removing the need for thoughtful interpretation and creating a mental shortcut. This would reduce the quality of thought and cause professionals to miss key questions.

Evidence from the University of Chicago shows that thinking about an issue in a foreign language "provides a distancing mechanism that moves people from the immediate intuitive system to a more deliberate mode of thinking," (Keysar, 2012). Meanwhile, a clinical trial that looked at the use of "plain English" NICE guidelines for schizophrenia revealed that "plain English" guidelines led to stronger intentions to implement the guidelines, more positive attitudes towards them, and greater perceived behavioural control over using them (Michie and Lester, 2010).

## Overcoming Biases

It is important to note that heuristics can be useful when making rapid decisions so the aim should be not to avoid them but to detect and minimise the biases that they cause. One way of accomplishing this is by being more critical and questioning of intuitive judgements. Having a critical and more open-minded approach may lead to higher error

detection rate as people may be more likely to consider other ways of interpreting information and actively look for evidence that challenges their views if they believe that their intuitions should always be checked.

It is important to encourage front desk workers to be more critical of their intuitions and to test them in a systematic and rigorous way. There are a number of ways that this can be accomplished but generally strategies all involve ways of encouraging people to challenge their current views. For example, Koriat, Lichenstein, & Fischoff (1980) reduced over-confidence in initial judgements by asking people to assume that the opposite of their belief is true and then search for evidence to support the opposite view. This approach can be even more effective if a person is available to play devil's advocate and view can be challenged in conversation. Another method is to build a story around interpretations of behaviour made and then test its adequacy (e.g. Cannon-Bowers & Salas, 2000). For example, after front desk workers have assessed a contact they could construct a story around their decision explaining how they came to it in terms of the judgements/assumptions they made about the behaviours of the people involved and their motivations. They could then make predictions on what they expect to happen next given the way they have interpreted the situation and test whether this occurs. If subsequent events happen that challenge the story then it can be changed in light of the new evidence but if many changes need to be made then a worker should seek other explanations.

As previously mentioned, front desk workers should be encouraged to gather evidence from a variety of sources even if those that may provide evidence that challenges their views. Checklists and assessment frameworks can help with this. Workers should be encouraged to make clear, detailed records of everything that has happened and been done on a case so that it can be scrutinised for biases by others. It can also be helpful for other social workers working on the case to have a clear record of past decisions.

All these methods of challenging intuitions require some conscious, analytic reasoning to take place which, as will be explained below, can be effortful and time consuming but necessary to ensure correct decisions are being made.

## Analytic Judgements

Analytic judgements are more effortful, calculated judgements that are made consciously after time and deliberation. They use formal reasoning, rules and gathered information to compute a decision but are restricted by processing and memory capacity.

Analytic judgements are most useful in situations where the costs of making mistakes are high and the priority is to optimise the decision rather than make a fast decision. Although many front door decisions need to be made quickly the, costs of mistakes are extremely high and therefore a balance needs to be struck between the amount of intuitive and analytical input into the decision. Intuition and analysis are often seen as dichotomous rivals but in the case of social worker's decisions it is more helpful to view them as being

two ends of a continuum with people making decisions using varying amounts of intuition and analysis depending on the demands of the task (Hammond, 1996).

There are many tools that can help make reasoning more explicit, informed and systematic. In social work these include assessment frameworks, decision trees, checklists, evidence from research and risk assessment tools. Frameworks and decision trees can be used to help decide the best course of action to take i.e., the one that is most likely to have the most desirable and least undesirable outcomes. Checklists can be used to make sure that information is being gathered from a wide range of sources and research findings can provide evidence to substantiate intuitions and broaden knowledge. Risk assessment tools can help social workers with the very difficult task of judging the probability of a child being at risk. It should be noted that many tools have been developed to help and improve social worker's reasoning skills but they are generally met with scepticism and, when they are used, are often used to check decisions that have already been made rather than to help make them (English & Pecora, 1994).

## Frameworks and Decision Trees

Frameworks can be used to guide the whole decision-making process from start to finish and to encourage decision-makers to explore all angles and ultimately make the best decision possible. A framework should encourage decision-makers to explore possible options, what information needs to be gathered to help chose an option, what the consequences of each option are, how likely each consequence is to occur and the positives and negatives of each consequence.

Decision trees can be used to aid this process through mapping all of the possible consequences and outcomes of a decision. This can be quite laborious and can produce an inordinate amount of data and therefore may be most useful to guide decisions in the stages of the framework that are most problematic (Hammond, Keeney, & Raiffa, 1999).

Of greater use may be fast and frugal decision trees (e.g. Gigerenzer, 2007) which are used to classify people into two or more categories. They ask a small number of yes and no questions and give a decision outcome after each one (see Figure 6). Fast and frugal trees have been used to great effect in medical diagnosis to make decisions such as where possible heart attack patients need to be triaged. In this scenario the trees focus on the most important factors in predicting heart attacks - the vital cues in the situation. By highlighting what these vital cues are doctors can learn which cues they need to recognise and will eventually be able to make intuitive triage decisions – the environment is such that they are able to develop this expertise.

It may be possible to develop fast and frugal trees to help front door workers decide on outcomes. In order for this to be possible much needs to be known about the factors that predict different types of abuse and whether these differ for different populations. It may be that there are too many factors of around about the same level of predictive strength

to be able to design effective fast and frugal trees in this setting. We shall talk more about this in our discussion of risk assessment tools.

**Figure 5: A Comparison of Full (Top) and Fast and Frugal (Bottom) Decision Trees**
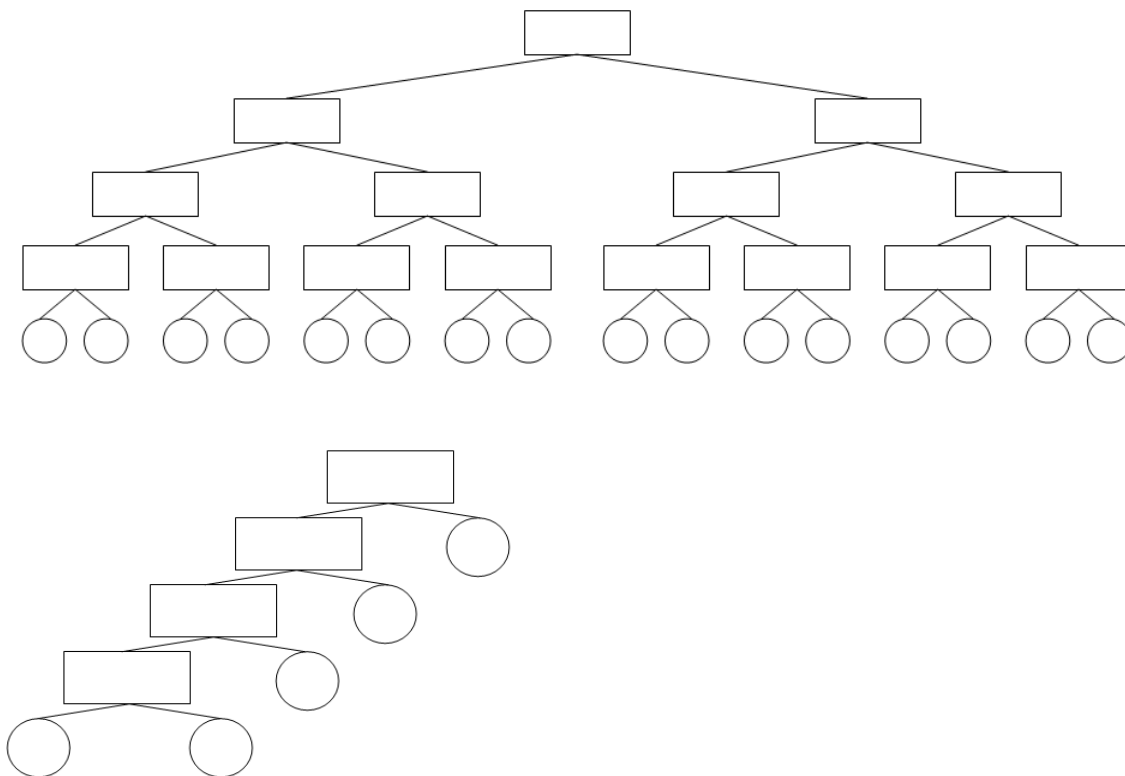


## Checklists

Another method of reducing errors from intuitive judgements is through the use of checklists (Gawande, 2010). Checklists have been successfully applied in both the aeronautical and in medical professions; these fields replicate social work in the complexity and impact of their decisions, if not by the exact nature of the work.

Checklists are used to ensure experts don't miss out on the 'dumb stuff'; they are intended to improve memory recall for basic processes that, if probed, experts know, but are likely to forget precisely because they are so basic.  For example, the cleaning process that surgeons take to avoid infections, the security checks that pilots must make before take-off or for nurses to observe patients in pain. Before the implementation of a checklist, a study conducted in John Hopkins Hospital found doctors skipped at least one step to ensure avoiding infections in more than a third of patient's.

After the implementation of the checklist the 10-day line infection rate went from 11% to 0%. Across a 15 month period only 2 line infections occurred. The checklist prevented 43 infections and 8 deaths and saved 2 million dollars (Berenholtz, et al., 2004; Gawande, 2010).

A checklist should be short and simple. Aviation checklists for example, include around 5-9 points, are never longer than a page and presented plainly in black and white. It is important that checklists only include information that users regularly miss out and **not all** steps of the process. This information is elicited from a constant process of trial, error and adaptation. For example, in aviation, a new checklist would be tested on a simulator endless times until it fits the constraints of the situation. Applying this to social work could be achieved by studying the factors omitted from referral forms that are otherwise deemed significant in assessing child risk (Boorman, 2000; Boorman, 2001; Gawande, 2010).

Checklists should also encourage teamwork to ensure people talk and coordinate to tackle unpredictable circumstances. In one study, 11 surgeons, 7 general surgeons, 2 plastic and 2 neurosurgeons were given a checklist that encouraged communication. After 3 months the number of team members in their operations reporting that they functioned as a well-co-ordinated team leapt from 68-92%. A well-co-ordinated team is the keystone of good decision-making under time pressure. It also relieves responsibility from the individual and places it on the whole group, making it easier to make difficult decisions (Makary et al., 2007, p.1452).

On the other hand, ineffective communication risks removing all the benefits a checklist can bring. To begin with, if checklists are supplied without buy-in from users it risks being dictatorial and experts may also be offended/under too much time pressure to 'fill out the paperwork'. Secondly, feedback from users is crucial to ensure applying the checklists is feasible in the real world.

Therefore checklists work best when used alongside expert judgement; whereby the checklist makes the small, simple decisions, and the expert judgement is reserved for the complex non-routine problems. Applying this to social work would imply using a checklist to remind the social worker about the information they should collect, but leaving the actual judgement of the decision up to the expert. Further, the checklist needs to be piloted in action, to tailor it to fit the needs of the social workers. This is how they differ from actuarial tools, as they ensure judgements abide by a certain process, rather than passing judgement themselves.

## Empirical Research

There is a growing body of child protection literature that can be drawn from in order to both extend social worker's knowledge and experience base and be used to check intuitive decisions. Social workers are being increasingly encouraged to use this literature to inform evidence-based practices (Munro, 2008). However, keeping up to date with research findings requires time and effort and the knowledge base is weak - findings are tentative and often have not been generalised to other populations. For example, much of the research has been carried out in the USA and it is unknown as to whether findings can be extrapolated to other countries.

## Risk Assessment Tools

Risk assessment tools have been developed and applied in a wide range of domains because humans are simply not very good at intuitively calculating probabilities of uncertain future events. These are actuarial tools that calculate the probability of an event occurring (e.g., physical abuse) based on the presence or absence of factors known to predict the event and how strongly they predict it. These risk factors are determined by their prevalence amongst the sub-population of people in which the event is occurring relative to their prevalence in the general population. For example, to determine whether poverty is a risk factor of abuse you need to first find out what percentage of abusive families are poor and then find out what percentage of families in the general population are poor. If these two figures are about the same then poverty is not a predictor of abuse – it is just as common in the general population as it is in the sub-population of abusers. If the incidence of poverty in abusive families is greater than in the general population that it will be a predictor of abuse. The strength of poverty as a predictor of abuse depends on how large the (positive) difference between its prevalence in abusive families and its prevalence in the general population is.

Understanding how the probability of abuse is calculated makes it easy to see how difficult this is to compute mentally. Calculation depends on the worker actually knowing what the risk factors for abuse are and how strongly they predict it. If unknown, this information could be particularly difficult for social workers to compute using only their experience as they have hardly any professional contact with families outside of the child protection system and so may have no idea about the base rates of factors in the general population. Also, their calculation of the prevalence of factors in abusive families will be subject to all of the heuristics and biases previously mentioned. It is not surprising then that actuarial tools have been found to consistently outperform human judgement (e.g. Meehl, 1954; Grove & Meehl, 1996).  It should be noted that such performance is contingent on tools being used accurately and well.  There is a lot of evidence that suggests that actuarial tools, no matter how sophisticated, are effectively not useful if not used properly.

When actuarial tools are developed, data from a number of different sources are gathered to identify risk factors and their predictive strength. In developing child protection tools, data tends to be gathered not from empirical studies providing evidence of the prevalence of factors in both abusive families and the general population but from expert opinion and literature reviews (Keller, Cicchenelli, & Gardner, 1988; Munro, 2008). Perhaps because of this the different tools are not very similar, differing greatly in the number and type of risk factors included. They also tend to claim to predict all different types of abuse when this may not be possible – for example it is likely that sexual and physical abuse have different antecedents (Munro, 2008).

Another issue with the development of actuarial tools in child protection is that the events that they predict are relatively rare and so it is very difficult to develop tools that have a

high rate of accuracy. This means that the potential of the tool incorrectly predicting that abuse will (false positive) or will not (false negative) occur could be high enough to render it useless. Worryingly, Munro (2008) reports that often the information required to compute a tool's accuracy is not specified. However, tools that are developed for use in populations with high levels of abuse rather than the general population where abuse is rare could potentially be quite accurate. These tools would be used on families already known to cause concern rather than for screening the general population. Much work is needed to test the accuracy of existing tools relative to chance and human judgement. As with empirical research, these tools also need to be tested for cultural and population sensitivity.

Although there is not a lot of research on the impact that the use of actuarial tools make on practice, there is evidence of a resistance to use them and that they are used to check decisions rather than make them (Fluke et al., 1993). One survey of over three hundred American child protection workers showed that only 14% thought that using risk assessment tools was 'very important' and 75% thought their use increased their workloads but provided little benefit in doing so (American Humane Association, 1993).

Whilst actuarial tools have the potential to be useful in aiding very difficult decisions regarding the risk of abuse, much work is needed to improve how the tools are developed, their accuracy and how social workers perceive them. For the best outcomes, it is likely that simplified tools, based on the same complex analysis as actuarial tools, might be more usefully deployed in practice. See the section on "Fast and frugal trees" for further information.


## *Conclusion*

Front desk workers often have to make decisions about the outcome of referrals they receive under considerable time and workload pressures. Under these conditions they may rely on their intuitive judgements about the contact to make the decision. Intuitive judgements can be prone to biases when made through use of heuristics. However, under the right conditions, intuitions can also be developed to provide skilled, accurate judgements. Development of skilled intuition requires an environment that is regular enough to be predictable and the opportunity to learn these regularities through repeated exposure, feedback and reflection. Under these conditions front desk workers can become accomplished intuitive decision-makers. In order for this to be possible, this review highlighted the need for front desk workers to receive as timely feedback as possible on their decisions.

Novice front desk workers may also benefit from an adaptation of the shadow box training method to help them learn how more experienced front desk workers make decisions about the outcome of referrals. They can also be aided in their decision-making my analytic tools such as checklists, fast and frugal decision trees and risk assessment tools. However, as acceptance of tools such as these is generally low in helping

professions some work may need to be done first on changing perceptions towards the use of decision aids. There is also much work to be done in developing and evaluating these aids, especially risk assessment tools which lack in accuracy and empirical testing.

Front desk workers should be encouraged to be more critical in their thinking and more challenging towards their intuitive decisions. They should be made aware of the biases that may occur in intuitive judgements and encouraged to use analytic tools and thinking to check their intuitions and test them rigorously.

Finally, the power of emotional reactions to referrals should not be underestimated; these have the potential to guide cognitive risk assessments and subsequent outcome decisions.

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