



School of Psychology  

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Ysgol Seicoleg

# **Team Formulation in Intellectual Disability Services**

Thesis submitted in partial fulfilment of the requirement for

the degree of:

**Doctorate of Clinical Psychology (DClinPsy)**

South Wales Doctoral Programme in Clinical Psychology

Cardiff University

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**Dr John Fox & Dr Bronwen Davies**

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This thesis is being submitted in partial fulfilment of the requirements for the degree of ... (*insert PhD, MD, MPhil, etc., as appropriate*)

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*“I’ve learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel”.*

*Maya Angelou*

## *Acknowledgements*

First and foremost, I would like to thank all of the staff who have participated in this study. This thesis would not have been possible without them and the study has motivated me to continue both my research in the area and clinical work helping people with intellectual disabilities.

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Lastly, I would like to express my gratitude to my husband, Gavin thank you for providing me with patience, emotional and practical support. I look forward to spending some quality time with you and Maya!

## *Thesis Abstract*

The systematic review (Paper 1) explores the evidence base for team formulation in intellectual disability settings. The systematic review aimed to (1) synthesise and evaluate how team formulation is defined and implemented in intellectual disability (ID) practice and (2) analyse team formulation outcomes for ID practice. The review suggested that there is no standard definition of team formulation in ID practice and psychologists use different terms to label team formulation. The review also showed that there is no specific way team formulation was applied, a common factor was a structured and collaborative approach using frameworks and protocols. Overall, there is a moderate evidence base for the outcomes for team formulation in ID practice.

The empirical study (Paper 2) examines team formulation in ID. The study uses a mixed- methods design to evaluate the effectiveness of team formulation meetings. The quantitative phase measures the impact of team formulation on carer empathy, emotions, therapeutic optimism within staff that support people with an intellectual disability. Twenty staff were asked to complete three questionnaires pre-formulation and post formulation attendance. Statistical analysis shows no significant changes in staff empathy, therapeutic optimism, attachment security or emotional responses to challenging behaviour. The qualitative phase of the study involved semi-structure interviews to explore staff experiences of team formulation within the service. Twelve staff were asked a series of open-ended questions about team formulation meetings and the data was analysed using thematic analysis. These findings are discussed in more detail.

The final paper (Paper 3) provides a critical reflection of the author's research process. This includes a discussion of the decisions behind the systematic review and empirical study as well as the methods, challenges and learning.

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# **Defining and Applying Team Formulation in Intellectual Disabilities and its Clinical Outcomes: A Systematic Review of the Literature.**

**Prepared in accordance with the author guidelines for  
British Journal of Learning Disabilities (Appendix A)**

Word Count: 8,000 excluding references, figures and tables.

# **Defining and Applying Team Formulation in Intellectual Disabilities and its Clinical Outcomes: A Systematic Review of the Literature.**

## **Accessible Summary**

- People with intellectual disabilities (ID) are often supported by their family members, learning disability nurse, support workers, social worker, psychologist and other professionals. This can be described as the person's team. It is sometimes hard for staff in the team to understand why a person is having the difficulties they are having.
- Formulation is a word that means making sense of a person's life, by thinking through their problems, how they might have developed in the first place and what keeps them going. Does developing a formulation as a team help staff feel differently about a persons' problems and help them to have better care?
- This review tried to find out what research said about formulation and what it is like for the staff team. Eight research studies were looked at to see what they said about formulation.
- Research describes formulation as different things. More research needs to be done to know more about how formulation can help to make people's lives better and whether writing a formulation as a team, changes staff feelings and behaviours about the person with ID.

## **Abstract**

**Purpose:** Team formulation can help professionals further understand the service user and aid the development of positive relationships. This systematic review had the following aims: identify how team formulation is defined in ID practice; understand how psychologists apply team formulation in this setting; analyse and describe the outcome data.

**Methods:** Electronic databases were searched (November 2018). Eight articles met the inclusion criteria and were quality assessed. Extracted data were synthesised using content analysis.

**Results:** Within the research literature, team formulation has several definitions and applications. The main ones are a structured, consultation approach; a semi structured systemic approach of sharing hypotheses to be tested; and a semi structured reflective practice meetings. The existing literature conveys that the outcomes of team formulation need to be assessed using a variety of measures. This included outcome measures and qualitative self-report.

**Conclusions:** There is a lack of robust evidence of the effectiveness and efficacy of team formulation in ID practice. There is a need for a standardised definition of team formulation in ID practice to enable practitioners to have a common shared language to understand team formulation.

**Keywords:** *Clinical psychology, team formulation, learning (intellectual) disabilities*

## Introduction

Formulation has been termed as a defining skill in the profession of clinical psychology (Kinderman, 2001). Formulation can be understood as both an event or process (BPS, 2011) and involves the clinician drawing on psychological theory to generate hypotheses about how a service user has come to experience their emotional, behavioural, and/or interpersonal difficulties at a specific point in time (Division of Clinical Psychology (DCP), 2011).

Psychological concepts are used to show how the difficulties relate to one another and to provide an account of how these problems have developed and are maintained. Then the formulation is used to guide appropriate interventions and is open to revision and reformulation as new information emerges (Johnstone & Dallos, 2013).

### *Formulation in individual therapy*

Formulations focus on different aspects of a case depending on the theoretical orientation of the clinician (Flinn, Braham and das Nair, 2015). For example, a psychodynamic therapist may focus on unconscious processes whereas, a cognitive therapist is likely to focus on a cognitive process such as, beliefs or appraisals. Furthermore, formulations can be developed for an individual that either takes account of all their difficulties or focuses on a specific problem. Within the literature about individual psychological therapies, there are debates about sharing formulations and also the effect of formulation on the outcome of therapy. For example, sharing a formulation directly with clients in therapy has been suggestive of both positive and negative effects, and in one study, therapists felt that sharing the formulation strengthened the therapeutic relationship whereas clients did not (Chadwick, Williams, & Mackenzie, 2003). This suggests that a clinician can still have a clear formulation but may not necessarily share it and this may predict better outcomes for therapy.

Despite the emphasis placed on formulation in individual therapy, the research regarding its reliability and validity is not well established (Chadwick et al., 2003; Kuyken et al., 2005). Research into the reliability of formulation has mainly focussed on inter-rater reliability, that is, the rate of consistency between clinicians on aspects of a case (Flinn, Braham & das Nair, 2015) and less on test-retest reliability that is, whether formulations remain stable over time (Bieling & Kuyken, 2003). A systematic review of the literature highlighted that the overall reliability of case formulations is mixed across studies. A number of limitations have been noted, such as, the level of competency and qualification of the clinician and the different methods used to measure reliability (Flinn et al., 2015).

Previous research has developed methods to evaluate the validity of their own theoretical formulations (for example, psychodynamic approaches (Horowitz & Eells, 2007) and cognitive behavioural approaches (Mumma, 2011; Mumma and Fluck, 2016). In addition, some researchers (Mumma, 2011; Aston, 2009) have appraised the evidence on the validity of formulation and outlined some important issues. Firstly, variability in the quality of formulations (Kuyken et al., 2005) and secondly, issues of treatment adherence to the formulation were not addressed. For example, Jacobson et al., 1989 found that experienced therapists tended towards idiosyncratic formulations within manualised treatments even when instructed not to do so.

Butler (2006) argues that issues of low reliability within case formulation are due to multiple approaches underpinning their development. Further, not only may clinicians use different theories, but they may also focus on different aspects of a client's / team's presentation. Consequently, Butler (1998) argues that formulations should be assessed via their usefulness rather than accurateness of understanding a client's difficulties. A recent study investigated the reliability and validity of formulation -based treatment planning rather than formulations themselves (Dudley et al., 2015). The study examined a) how clinicians utilised a pre-

constructed CBT case formulation to plan treatment and b) how a clinician generated formulation impacted on treatment planning. Both studies considered the effect of therapist experience. The findings indicate that clinicians of all levels are able to make appropriate treatment choices when provided with a comprehensive formulation. Although that this is significantly reduced when the formulation was developed by novice clinicians.

One study (Kuyken et al., 2005) looked at inter-rater reliability of cognitive formulation produced by clinicians in comparison to the 'benchmark' formulation provided by Beck. They found that the reliability of formulations developed by different clinicians emphasised that a formulation is a provisional, working hypothesis and open to revision and can therefore be difficult to separate out from other aspects of therapy that influences change for example, an empathic therapeutic relationship (Kuyken et al., 2005). Therefore, developing a shared understanding of the presenting issues through using formulation may act as a tool for other inter-/intra-personal processes which are key to helping the individual move forward. For example, strengthening the therapeutic alliance between therapist and client (Aston, 2009), and nurturing a sense of hope and self-efficacy (Redhead, Johnstone & Nightingale, 2015).

### *Team formulation*

Team formulation can be undertaken with or without the service user and, like individual formulations can be based on multiple psychological models and theory. Team formulation has many potential functions, such as, case management and treatment planning. However, it can also be used to address team splits around a specific case or other specific team functioning issues. The Department of Health (1999) suggests a team formulation to guide the care of a service user would help to address communication breakdown within a multidisciplinary team. Team formulation can take multiple forms (Christofides et al., 2012),



although it generally refers to the process of facilitating a group of professionals to construct a shared understanding of a service user's difficulties, and generating hypotheses to inform intervention planning (Johnstone, 2014). Team formulation is a key competence for clinical psychologists (Health Care Professions Council [HCPC] Standards of Proficiency, 2009; British Psychological Society [BPS] Training Accreditation Criteria, 2010; Division of Clinical Psychology [DCP], 2011), and is recommended by the DCP when psychologists engage in multidisciplinary teamwork (DCP, 2001).

The National Health System (NHS) is under pressure to make significant “efficiency savings” (Walton, 2011, p10) and both clinically effective and prudent interventions are therefore recommended (NICE, 2015). Team formulation has emerged as a promising intervention within community (Christofodes et al., 2012) and inpatient settings (Berry, 2015). There is an increasing drive for the utilization of team formulation across services and ‘it can be a very effective use of a psychologist’s limited time’ (Onyett, 2007, p23). Team formulation is one way for psychologists to shift staff cultures towards more psychosocial understandings and promote interventions which are more informed by psychological thinking (Johnstone, 2015). This can then have multiple cost saving benefits such as, increasing effectiveness of interventions and reducing staff burn out.

### *Efficacy of Team Formulation*

Researchers working in the field have been using cohort study designs (Berry et al., 2009; Ramsden et al., 2014) and qualitative designs to evaluate the perceptions of effectiveness of team formulation (Murphy, Osborne et al., 2013; Christofides et al., 2012; Summers, 2006).

Berry et al. (2009) implemented a pilot intervention that supported staff on a psychiatric inpatient unit to develop psychological formulations for individual service users. Staff perceptions of the service users were measured pre and post intervention and they showed that staff developed an increased understanding of the service users' problems, had more positive feelings towards their service users and increased confidence in their work and optimism about treatment. Berry et al (2009) recommend that future research should directly measure the impact of formulation on the relationships between the staff team and the service user.

Another study set in a high dependency rehabilitation inpatient unit (Summers, 2006) reports positive benefits from team formulations such as, improving team working, staff satisfaction, staff-service user relationship and care planning. However, a small number of participants reported that they felt unable to contribute effectively and some participants felt formulation made excuses for the service users' behaviour.

One UK study reported the largest and most controlled evaluation of the use of team formulations on psychiatric rehabilitation inpatient wards (Berry, Haddock, Kellet, Roberts, Drake, & Barrowclough, 2015). Team formulations were evaluated across 10 rehabilitation wards (85 staff and 51 service users) using a cluster randomized controlled trial (RCT), with half of the wards randomized to the team formulation plus treatment as usual (TAU) or TAU only. A significant finding of the study was that compared with TAU, service users on the wards who received the team formulation felt less criticized by staff and reported improvements in the ward environment. These findings suggest that team formulation had a positive impact on staff, which in turn, had a positive impact on service users' care and experience of inpatient psychiatric care. Staff in the team formulation arm of the trial also reported less emotional distance from service users' post-intervention. The findings from this

study are important given the high levels of staff burnout usually found in psychiatric inpatient environments (Totman, Hundt, Wearn, Paul, & Johnson, 2011).

Overall, the findings from the literature suggest that team formulations provide the teams with a model of understanding the service users' problems. This understanding improves consistency within the team, as well as, increasing confidence and increased levels of empathy for the service user. Despite the growth in theoretical and clinical interest on team formulation, there is limited published literature evaluating psychological formulations within teams. DCP (2011) state that the evidence to support formulations as a specific intervention is limited. There are also inconsistencies in the way team formulation is carried out in services (Cole, Wood, & Spendelow, 2015). Therefore, it is difficult to critically appraise and draw conclusions about team formulation as an intervention and identify the key components of team formulation (Glasziou, Chalmers, Green & Michie, 2014).

This means that it is currently difficult to label team formulation as an evidence-based approach to understanding and supporting service users, across all settings, including those with intellectual disabilities (ID).

### *Team formulation in ID settings*

Many people with ID receive life-long support from paid carers throughout their education, home living environments and day services. In addition to this, individuals may also receive care from a number of health and social care professionals meaning that a large network of people will be involved in a person's care at any one time (BPS, 2017). This presents risks to the psychological wellbeing and quality of care of people with ID due to factors such as, frequent changes of staff (which may lead to inconsistent approaches) and high workload of staff. Therefore, it has been suggested (Ingham, 2015) that there is a need for team

formulation in ID practice due to the complex systems around people with ID. Additionally, team formulation would be useful in ID practice because people who have additional considerations (such as limited communication, neurodevelopmental difficulties, profound and multiple ID) means there could be an increased risk of being misunderstood and service users may present with behaviours that challenge. Team formulation provides understanding about the function of challenging behaviours (unmet needs) and it can also have an impact on staff attitudes towards service users. Literature highlights that staff attitudes and attributions towards people with ID impacts upon care (Allen, 1999; Dagan et al., 1998; Bailey et al., 2006). To further argue its importance, people with ID are more vulnerable to abuse than the general population (Johnson & Drum, 2006) and there has been evidence of repeated abuse scandals for example, Winterbourne View (DH, 2012) and Whorlton Hall (2019). Team formulation may be particularly important in ID settings, given some of the findings regarding the impact on staff attitudes, which may prevent negative attributions from staff, improve care and reduce punitive practices or physical restraint.

As mentioned, there is no universally agreed definition of team formulation, it has been defined as a hypothesis about the causes, precipitants and maintaining influences regarding a person's psychological, interpersonal and behavioural problems (Eells, 2007). However, differences in the clinical context means there are inconsistencies in how team formulation is understood and operationalized (Flinn, Braham, & Nair, 2015). In ID practice, different terms are used to describe team formulation for example, network training (Jenkins and Parry, 2006); case formulation (Ingham, 2011); and case consultation (Worwood, Papadopoulou and Fredman, 2018). As the definitions and implementation of team formulation is complex, ascertaining the effectiveness of team formulation poses a challenge. For example, as shown in individual formulation there are issues around reliability, and this can play a role in team formulation. A person with ID experiencing mental health difficulties and/or behaviour that

challenges is likely to have a large number of people involved in their care with a number of potentially competing treatment approaches (Ingham, 2015). This could present an issue of teams all sticking to the formulation. Ingham (2015) reports that team formulation in ID services is an under-researched area that requires more focused evaluation, which is the focus of this paper.

## **Rationale**

A recent systematic review was conducted exploring the definition, implementation and outcomes of team formulation across different clinical settings (older adults, adult mental health and ID). The review concluded that there is no singular implementation of team formulation (Geach et al, 2018). The review identified three elements of implementation of team formulation: sharing ideas informally; reflective practice; and formulation-focused consultation. As a whole, these three elements represent a shared understanding of the service user. However, one criticism of the review is that it is not clear how these elements interact to help us develop a shared understanding of the service user.

The broadness of Geach's paper did not allow for an in -depth analysis of specific populations. In order to address the specific needs of ID teams, the aim of this review is to provide an in-depth analysis of team formulation research in ID settings. This broad aim was broken down into the following specific questions:

- 1) How team formulation is defined in ID practice?
- 2) How team formulation is applied in ID practice?
- 3) What are the outcomes of team formulation in ID practice?

A systematic review was the chosen method to address the above aims because “systematic reviews are considered the best (‘gold standard’) way to synthesise the findings of several studies investigating the same questions” (Boland, Cherry & Dickson, 2014 p3). In addition, a systematic review provides a clear methodology to investigate the current empirical evidence, critique it and then draw conclusions from the findings. However, there are other methods to achieve these aims for example, a Delphi study. The Delphi method uses a group of participants (known as panellists) selected for their expertise on a topic. Panellists are asked to identify the range of salient issues and ideas are collated from ‘rounds’ and then analysed (Iqbal & Pison-Young, 2009). There are advantages of using this method for example, it is useful in areas of limited research because ideas are generated from a knowledgeable participant pool (Hasson et al., 2000). However, a Delphi study is used when there are gaps in the literature and the current review’s aims were to investigate the available research on team formulation in ID practice and state its findings and therefore, a systematic review approach was the chosen method.

## **Method**

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed (Moher, Liberati, Tetzlaff, Altman, & PRISMA Group, 2009). A literature search was conducted in November 2018 using the following databases: Psycinfo (Ovid), ASSIA, Scopus and Web of Science. These databases were selected as they included articles relating to team formulation and ID. No date restrictions were applied.

Search terms were developed by examining keywords on the topic of team formulation and ID as identified by published studies (Ingham, 2011; Geach, 2018). Search terms were tested through carrying out scoping searches within the selected databases. Each database searched the title and abstract using the following search terms:

“team formulation” OR “case formulation” OR “case consultation” OR “case conceptualisation” OR “case conceptualization” OR “psycholog\* formulat\*” OR “network training” OR “formulation” AND “learning disabilit\*” OR “intellectual disabilit\*” OR “intellectual impairment” OR “intellectually impaired” OR “intellectual developmental disorder” OR “autis\*” OR “learning difficult\*” OR “mental impairment” OR “mentally handicapped” OR “mentally retarded” OR “mental retardation”.

## **Study Selection**

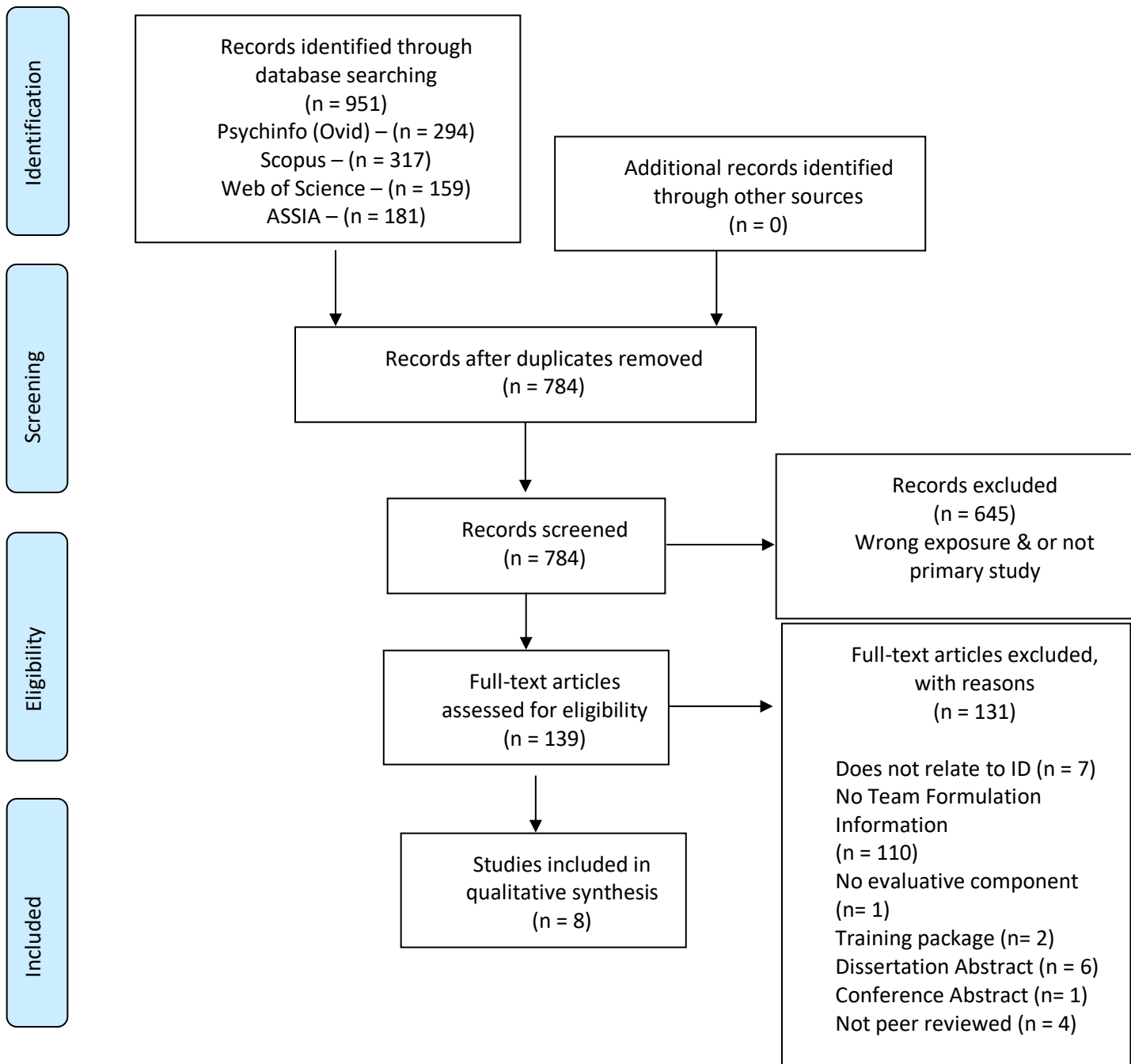
Titles and abstracts of studies downloaded from the databases were screened against the inclusion and exclusion criteria outlined in Table 1. PRISMA procedural steps adopted are illustrated in Figure 1.

Articles meeting the inclusion criteria were taken to the next stage of screening. Where the relevance was unclear, the full text was obtained and considered for inclusion. The full texts of potentially eligible studies were assessed, and eight studies were identified and included in the review; a summary of each is provided in Table 2.

**Table 1: Inclusion & exclusion criteria for articles**

Inclusion Criteria	Exclusion Criteria
<p>Written in English language            Published in a peer-reviewed journal            Empirical research using qualitative or quantitative methods to evaluate team formulation</p>	<p>Unpublished dissertations or books</p>
<p>Setting or population relevant to ID</p>	<p>Setting or population not relevant to ID</p>
<p>The article provides:            A definition or theory of team formulation            An account of how team formulation was implemented in practice            An account of how team formulation practice was evaluated</p>	<p>Articles which did not include information on the review aims.</p>
<p>Team Formulation includes the following:            Involves a psychologist            Is created for or with a service user</p>	<p>Not a staff training package            Not presented as, a fictional case example or vignette</p>





**Figure 1 – PRISMA flow chart on the identification of studies for systematic review.**

**Table 2: Summary of included articles**

Author/ Year	Demographics	Study Design	Aims	Definition	Application of Team Formulation	Evaluation	Key findings
<b>Beardmore &amp; Elford (2016)</b>	Community Team (Adults aged 18 and over)  England,  UK	Qualitative	To provide information on setting up team formulation groups with clinicians from a community Learning Disability team.	Butler (1998) definition <i>'the tool used by clinicians to relate theory to practice...It is the lynchpin that holds theory and practice together...Formulations can best be understood as hypotheses to be tested'</i> .	Initial training sessions on formulation (5Ps model) delivered to support staff working with clients with challenging behaviour.  2hr monthly/ or bimonthly team formulation groups.  Psychologist led; ideas shared about interventions. Formulations and recommendations written up.	<b>Data Collection:</b> At the end of each formulation group questionnaires were given to staff as an outcome measure to gauge participant experience. Questionnaires were based on the 'good practice guidelines for the use of psychological formulation' (BPS, 2011) – adapted for the role of clinicians in the community team. Information for baseline was unavailable as authors did not report it in the study. A feedback questionnaire was also administered which consisted of open -ended questions. The questions were designed to elicit the effectiveness of the groups. Thematic Analysis was used to examine this	Staff related: analysis showed the groups were found to aid professionals in managing risk and developing care and intervention plans. Increased support, idea sharing, peer support and encouraged reflective practice.  Service related: Team formulation plays an important role in providing support to MDT professionals.

<b>Cooper &amp; McElwee (2016)</b>	Community Team (up to the age of 18)  England, UK	Single Case Design  N = 1 service user N= 9 staff	To investigate the impact and outcomes of Network Training for a boy with learning disabilities & behaviour that challenges	<i>“Network training began as a platform for sharing the results of functional analysis with an individuals’ system, to ensure a consistent response to behaviours that challenge across different settings. It has developed into an approach presented by Jenkins &amp; Parry 2006, which adds a systemic component to the training with the application of techniques such as hypothesising, circularity, neutrality and reframing... to develop new understanding of the individual”.</i>	Psychologist led; a shared group formulation was developed for the young person and an action plan devised at the end, based on the formulation.	information from the questionnaires.  <b>Data Collection:</b> Baseline information- The Challenging Behaviours Attributions Scale (CHABA) was completed by all attendees of the team formulation meeting one month prior to the intervention and immediately post-intervention and was completed just twice due to its longer length. The idiosyncratic measures designed by the author were taken one month prior to the intervention, immediately prior to the intervention, immediately after the intervention, and at 1 month follow up. pre and post network training.  See outcomes section for changes in scores.	Staff related: Network training led to positive changes in the confidence, understanding and joint working of the individuals’ network.
<b>Ingham (2011)</b>	Residential Unit (Adults aged 18 and over) England, UK	Single Case Design	To pilot formulation workshops with direct care staff	BPS definition (2004) of formulation. Developed collaboratively with staff	2 x 3hr workshops; psychologist led. Service user history and life events; training on	<b>Data Collection:</b> Behavioural observations; staff perceptions of impact	Staff related: Increased understanding of service user’s problems; decreased perception of challenging behaviours

	N= 1 service user N= 7 direct care staff		involved in the presenting problem.	formulation; exploring factors contributing to behaviour that challenges and recommendations for support based on formulation.	of behaviour (Likert scales); formulation workshop questionnaire developed by the author. Information for baseline was unavailable as authors did not report it in the study.	Service user related: no longer at risk of placement breakdown.
<b>Ingham et al (2011)</b> <b>Inpatient Unit (Adults aged 18 and over)</b>  <b>England, UK</b>	Cohort N=48 staff	To evaluate the perceived effectiveness and satisfaction with formulation-based working.	Developed collaboratively with staff using biopsychosocial approaches. This “ <i>integrates different strands of clinical information, explains the development and maintenance of problems; and selects appropriate interventions to address those problems (Kinderman &amp; Tai, 2006)</i> ”.	Formulations were developed using the ‘Five Ps structure’ (Dudley & Kuyken, 2006; Ingham et al., 2008; Ingham, 2011).	<b>Data Collection:</b> A survey questionnaire was designed by the author and a copy was sent to all multidisciplinary professionals who had attended a formulation meeting in the in-patient service within the last year. A reminder was sent to those who had not replied after a month.  Information for baseline was unavailable as authors did not report it in the study.  Descriptive analysis was carried out.	Likert scale responses indicated staff benefitted from team formulation; Themes included: ‘Sharing information’, ‘Developing a new, shared understanding’, & ‘Facilitating MDT working’

<b>Rowe &amp; Nevin (2013)</b>	Inpatient Unit (Adults aged 18 and over)  England, UK	Case Series  N=4 service users	To pilot the use of 'patient voice' in formulation  To provide a person-centred bespoke solution for each service user to achieve this	BPS definition (2007), with a focus on service user involvement in formulation.	Psychologist led; Inclusion of service user voice through different modes of communication including visuals; Functional analysis of behaviours.	<b>Data Collection:</b> Author observed extent to which service user's voice is understood and included within the formulation.  Information for baseline was unavailable as authors did not report it in the study.	Service user related: Service user views were incorporated within the formulation; increase in service user choice and action plan put forward to staff. Service related: includes the service user voice into care pathway as standard practice.
<b>Turner et al. (2018)</b>	Inpatient Unit (Adults aged 18 and over)  Wales, UK	Qualitative  N=15 staff	To evaluate the staff perceptions of team formulation within an assessment & treatment unit for individuals with learning disabilities.	Lucy Johnstone, 2014 definition: ' <i>the process of facilitating a group of professionals to construct a shared understanding of a service user's difficulties.</i> '	Psychologist led; team formulation sessions on a weekly basis (40 minutes). Review of service user's history; current difficulties; possible thoughts, feelings and beliefs, relationships and social support; and coping strategies.  Flip chart paper used to illustrate potential patterns and links.	<b>Data Collection:</b> Questionnaires completed by staff after attending a team formulation meeting. Questions based upon a questionnaire created by Bensa & Aitchison, (2016).  Information for baseline was unavailable as authors did not report it in the study.	Benefits and challenges team formulation meetings present. Staff related: formulation meetings increased understanding of service users and helps to create ideas on working with service users.
<b>Whitton et al. (2016)</b>	Forensic Inpatient (Medium/Low Secure)- Adults aged 18 and over  England, UK	Cohort Study  N=89 ward staff	To evaluate the usefulness of team formulation and consider the implications for care and treatment and	Formulation embedded in theory; provides hypotheses about service user's behaviour.	Psychologist led, routine meetings, attended by a range of MDT staff including staff nurses, OTs, psychiatrists, social workers and speech and language therapists.	<b>Data Collection:</b> Pre and Post Questionnaire developed by the author based on research into the aims and benefits of formulation.  Attendees completed	Staff related: negative views of TF decreased over time (d=-0.50). Staff found team formulation increased their psychological understanding about the service user, helped increase empathy and led to improvements in team functioning.

			impacts on length of stay.				the questionnaire prior to the team formulation meeting and then again after the team formulation meeting had taken place.	Service related: Implications for reducing 'splitting' in teams and encourages consistent staff approach for the service user.
<b>Wilcox (2013)</b>	Community Team (Adults aged 18 and over)  England, UK	Opinion article  N=19 staff	To provide information on the process of setting up and running team formulation meetings	Pilgrim (2008) definition: ' <i>supporting others to develop a better understanding of people, systems and situations through an individualised formulation or set of working hypotheses.</i> ' Consultation when the team are "stuck, split or scared"- author describes it as 'Multidisciplinary reflective practice meeting' (MDRPM).	Monthly 1 hour 45 minutes meeting, psychologist led. Focus on reflective practice, using a consultation approach, includes a focus on risk. Introduced at a time of transition and change.	<b>Data Collection:</b> Pre and post team formulation meeting questionnaires designed by the author. Information for baseline was unavailable as authors did not report it in the study.	Information for baseline was unavailable as authors did not report it in the study.	No statistical tests used – sample underpowered.
						Authors views on challenges and opportunities to the formulation meetings.		

## **Data extraction and Quality Appraisal**

Data extraction from eight studies was completed using a standard form developed by Geach et al., (2018) to gather information on the three review questions proposed in this systematic review:

- 1) How is team formulation defined in ID practice?
- 2) How is team formulation applied in ID practice?
- 3) What are the outcomes of team formulation in ID practice?

In order to address question one, each paper was rated by whether they defined team formulation and how well it was defined. Therefore, a question was added to the quality assessment (Item A) to indicate whether the paper achieved this. To address question two, the way team formulation was applied in practice, this was rated on a paper by paper basis (e.g. format of the meeting, structure, models of formulations, 5Ps etc). With regards to question three, each paper was rated by the evaluations of team formulation for example, quantitative data observing effect sizes and qualitative data observing themes and perceptions of outcomes. Therefore, a question was added to the quality assessment (Item B) to indicate whether the paper had achieved this (See Table 3).

There is no specific quality assessment tool to assess the quality of team formulation designs i.e. one service user and a group of staff. There was significant heterogeneity in study designs, the studies used a variety of methods in terms of sample characteristics and measurements. Therefore, three checklists were used to improve the evaluation of individual papers. The quality appraisal tools were also based on previous reviews in the area (e.g. Geach et al., 2018) to increase the capacity for comparison. These checklists include The Critical Appraisal Skills Programme (CASP, Public Health Resource Unit, 2013); The Centre

for Evidence-Based Management (CEBM) checklist and the Joanna Briggs Institute Critical Appraisal Checklist for Narrative, Expert Opinion and Text (McArthur, Klugarova, Yan & Florescu, 2015). Each checklist holds its own purpose and aim. All checklists include a series of questions that can be responded with yes/no/can't tell. The questions were used to better understand the relevance and accuracy of the article content.

Certain checklists were used to quality appraise particular articles. First, the CASP conducted quality appraisal on the articles that contained cohort studies and qualitative studies. CEBM checklist was used for three articles containing case studies. The Joanna Briggs checklist is used for narrative, expert opinion and text and this was applied to one article (as previously used by other researchers including Geach, 2017).

In order to understand the outcome of the quality appraisal, a score of 2 was given for a yes 'criteria met'; 1 was given for 'partially met' and 0 for 'not met'. The scores were summed to give a total quality score. The checklists varied in the number of items given. Therefore, the scores were split into thirds and the following descriptions were used 'high quality', 'moderate quality', 'low quality'.

## **Data Synthesis**

The eight studies were analysed in two stages; first, for descriptive information (Table two), second, to analyse the data using content analysis (as described by Elo & Kyngas, 2008).

Content analysis involved coding the text into phrases or sentences and then organising this data into categories based on their meaning (themes). Sandelowski (1995) noted that content analysis is a systematic and replicable technique of describing and quantifying data and can be useful when analysing data that is multifaceted (Elo & Kyngas, 2008) for instance, when using both quantitative and qualitative data. However, some argue that content analysis as a



research method is reductive, despite being used to examine health care practice (Evans & FitzGerald, 2002).

To address the first review question – How is team formulation in ID practice defined? and the second review question – How is team formulation in ID practice applied? text and quotes were extracted from each article. The data relating to definition was compared to the transtheoretical aspects of the definition of formulation by Division of Clinical Psychology (DCP, 2011). The DCP uses a definition of formulation that summarises and links presenting problems, uses psychological theory to explain the development and maintenance of these problems; develops an intervention plan; and remains open to reformulation (Table four).

To answer the third review question - What are the outcomes of team formulation in ID practice? the results and findings sections of each article were reviewed in order to assess their study's outcomes. In these studies, outcomes were described in both qualitative and quantitative measures.

## **Results**

Two quantitative (Ingham, Selman & Clarke, 2011; Whitton, Small, Lyon, Barker, & Akiboh, 2016), two qualitative (Beardmore & Elford, 2016; Turner, Cleaves & Green, 2018), three case studies (Cooper & McElwee, 2015; Ingham, 2011; Rowe & Nevin, 2013) and one descriptive (Wilcox, 2013) articles were included in the data synthesis. From the studies that provided details on type of profession or service user, approximately 200 staff (including care staff, nurses, OTs, psychiatrists), 9 clinical psychologists, and 5 service users were represented. The types of ID settings included, community intellectual disability teams (3), residential unit (1), assessment and treatment unit (2), autism/ ID inpatient unit (1), forensic medium/low secure unit (1). All articles were published in England and Wales from intellectual/developmental disability and forensic services.

## **Quality of included articles**

The eight articles were rated to be of moderate quality. With regards to quantitative articles, Ingham et al., (2011) had good quality descriptors for the definition and application of team formulation in ID practice. However, there was a lack of measurement of confounding variables and author developed questionnaires may have introduced bias into the evaluation of team formulation. It was unclear whether the changes were associated with team formulation or other factors. Whitton et al., (2016) identified confounding variables of the study and the outcome data provided statistical analysis. However, exposure to team formulation varied widely and there was little information regarding definition and application of team formulation in practice.

One case study investigated the impact of team formulation (described as network training) in relation to an eleven-year-old boy who presented with ID (Cooper & McElwee, 2015). Although, this study showed some good descriptions with regards to definition and application of team formulation, conclusions are limited by the small data set and the lack of direct measurement of behaviours that challenge or changes to staff practice as an outcome measure. The second case study, Ingham (2011) showed good definition descriptors but it was unclear how the single case was recruited. The third case study, by Rowe and Nevin (2013) was the only study which incorporated the service users voice in formulations and lacked description of team formulation.

Two qualitative studies used thematic analysis, but the authors did not examine their role or relationship to the participants (Turner et al., 2018; Beardmore & Elford, 2016). The opinion article (Wilcox, 2013) demonstrated good characteristics with regards to definition and application of team formulation. However, this article used different numbers of staff at

different points in time, meaning there was a lack of developed arguments as to the advantages of team formulation. Table three provides a summary of the quality appraisal ratings.

**Table 3a: Quality Appraisals of included studies by study type.**

**Cohort Study Checklist (CASP, 2006)**

Article	1. Did the study address a clearly focused issue?	2. Was the cohort recruited in an acceptable way?	3. Was the exposure accurately measured to minimise bias?	4. Was the outcome accurately measured to minimise bias?	5. Have the authors identified all important confounding factors? And have they taken account of the confounding factors in the design and analysis?	6. Was the follow up of subjects complete enough? And long enough?	7. What are the results of this study?	8. How precise are the results?	9. Do you believe the results?	10. Can the results be applied to the local population?	11. Do the results of this study fit with other evidence?	12. What are the implications of this study for practice?	A- Item rating quality of team formulation descriptions	B- Item rating quality of evaluations of team formulation	Quality Score	Rating
Whitton et al. (2016)	Y	Y	N	P	Y	P	Y	P	P	Y	Y	P	N	P	17	Moderate
Ingham et al. (2011)	Y	Y	P	P	N	N	Y	P	Y	Y	Y	P	Y	P	16	Moderate

**Table 3b: Quality Appraisals of included studies by study type.**

**Case Study Checklist (CEBM).**

Article	1. Did the study address a clearly focussed question/issue?	2. Is the research method (study design) appropriate for answering the research question?	3. Are both the setting and the subject' s representative with regard to population to which the findings will be referred?	4. Is the researcher' s perspective clearly described and taken into account?	5. Are the methods for collecting data clearly described?	6. Are the methods for analysing the data likely to be valid and reliable? Are quality control measures used?	7. Was the analysis repeated by more than one researcher to ensure reliability?	8. Are the results credible, and if so, are they relevant for practice?	9. Are the conclusions drawn justified by the results?	10. Are the findings of the study transferable to other settings?	A- Item rating quality of team formulation descriptions	B- Item rating quality of evaluations of team formulation	Quality Score	Rating
Cooper & McEliwee (2016)	Y	Y	P	P	Y	P	N	P	P	P	P	P	12	Moderate
Ingham (2011)	Y	Y	Y	P	P	Y	U	Y	Y	Y	Y	P	17	Moderate
Rowe & Nevin (2013)	Y	Y	P	Y	P	P	N	P	Y	P	N	P	13	Moderate

**Table 3c: Quality Appraisals of included studies by study type.**

**Qualitative Study Checklist (CASP, 2006)**

Article	1. Was there a clear statement of the aims of the research?	2. Is a qualitative methodology appropriate?	3. Was the research design appropriate to address the aims of the research?	4. Was the recruitment strategy appropriate to the aims of the research?	5. Was the data collected in a way that addressed the research issue?	6. Has the relationship between the researcher and the participants been adequately considered?	7. Have ethical issues been taken into consideration?	8. Was the data analysis sufficiently rigorous?	9. Is there a clear statement of findings?	10. How valuable is the research?	A- Item rating quality of team formulation descriptions	B- Item rating quality of evaluations of team formulation	Quality Score	Rating
Beardmore & Elford (2016)	Y	Y	Y	Y	Y	N	N	P	Y	Y	Y	P	15	Moderate
Turner et al. (2018)	Y	Y	Y	P	Y	N	P	P	Y	P	Y	P	14	Moderate

**Table 3d: Quality Appraisals of included studies by study type.**

**Expert Opinion Checklist (Joanna Briggs Institute, 2015)**

Article	1. Is the source of the opinion clearly identified?	2. Does the source of the opinion have standing in the field of expertise?	3. Are the interests of clients the central focus of the opinion?	4. Is the opinions basis in logic/ experience clearly argued?	5. Is the argument developed analytical?	6. Is there reference to the extant literature/evidence and any incongruency with it logically defended?	7. Is the opinion supported by peers?	A- Item rating quality of team formulation descriptions	B- Item rating quality of evaluations of team formulation	Quality Score	Rating
Wilcox (2013)	Y	Y	Y	P	P	Y	N	P	P	10	Moderate

## **How is team formulation defined in ID practice?**

General definitions of formulation were often presented rather than a team-specific description. Three studies (Beardmore & Elford, 2016; Rowe & Nevin, 2013; Whitton et al., 2016) did not provide the definition of team formulation, which was the aim of the first review question. These studies were therefore not included in this synthesis. It is important to note that not all research studies in ID use the term team formulation but that some studies (e.g. Copper & McElivee) label this as network training (a term developed by Jenkins and Parry, 2006). Content analysis was conducted on the remaining five studies which showed four categories of definitional terms. These are: shared understanding; hypothesis to be tested; consultancy; reflective practice.

All of the studies defined team formulation as a shared understanding. Two of the studies (Cooper & McElwee, 2015; Wilcox, 2013) defined team formulation as collaborative working to create hypotheses which could be tested. Four authors defined team formulation as consultation or similar (Ingham, 2011; Ingham et al. 2011; Wilcox, 2013; Turner et al, 2018). Finally, one study reported using team formulation as reflective practice to discuss team difficulties (e.g. feeling “stuck”, “split”, or “scared”) when working with people with ID (Wilcox, 2013, p 212)

### *Comparison to trans-theoretical aspects of formulation definition*

In order to answer the first review question, the DCP (2011) definition of formulation was used as a deductive frame of reference. In practice this meant the DCP definition was broken down into its respective components and these were mapped onto the definitions present in the articles (as shown in table 4).



Both the DCP and all five reviewed studies included the description of summarising the service user's presenting problems. The DCP, as well as four of the five reviewed studies, used the category, 'explanation of the development of problems', which is identified through the relationship between predisposing and presenting problems (Ingham, 2011; Ingham et al., 2011; Cooper & McElwee, 2016; Wilcox, 2013).

The DCP and five reviewed studies reported 'psychological theory' to be a transtheoretical aspects of formulation. Studies have built upon this description of psychological theory and noted that, in particular, systemic approaches are used (Ingham, 2011; Ingham et al., 2011; Cooper & McElwee, 2016; Wilcox, 2013) as well as cognitive-behavioural models (Turner et al., 2017).

The DCP and five of the reviewed studies identified 'intervention plans' as being a transtheoretical aspect to formulation. Some studies have found that interventions can include engaging people with ID in activities (Ingham, 2011; Ingham et al., 2011). Risk management also appears to be an important consideration in intervention plans (Cooper & McElwee, 2015; Wilcox, 2013) as well as agreed changes to care planning (Cooper & McElwee, 2015; Turner et al., 2018). Despite the DCP identifying reformulation as a transtheoretical aspect of formulation, none of the studies considered reformulation within their definitions.

**Table 4: Categories of definitions of team formulation in ID practice**

Articles	Terms for team formulation				Trans-theoretical aspects of formulation*			
	S.U	Hypothesis	C	RP	Summary	Dev Prob	Psych Theory	Intervention
Cooper & McElwee (2015)	✓	✓	✓		✓	✓	✓	✓
Turner (2018)	✓		✓		✓		✓	✓
Wilcox (2013)	✓	✓	✓	✓	✓	✓	✓	✓
Ingham et al., (2011)	✓		✓		✓	✓	✓	✓
Ingham (2011)	✓		✓		✓	✓	✓	✓

\*Note as described by the Division of Clinical Psychology (2011)  
 S.U = shared understanding; Hypotheses = Hypotheses to be tested; C= Formulation-focused consultation; RP= Reflective practice

### **How do psychologists apply team formulation in ID practice?**

Seven studies were included in the synthesis for the review’s second question (see Table five). Whitton et al. (2016) did not provide any information with regards to how team formulation was applied so therefore this study was not included. All studies provided a detailed description outlining the steps involved in the process of applying team formulation. Some studies used team formulation at times when service user’s difficulties emerged, in particular, behaviour that challenges (Ingham, 2011; Ingham et al. 2011; Cooper & McElwee, 2015). Other studies conducted team formulation as standard care (Turner et al. 2018; Beardmore & Elford, 2016; Wilcox, 2013). All seven studies noted that collaboration and partnership working between staff and the psychologist is important in its application. The

purpose of team formulation was varied. This was reported as a way to: change existing perceptions of service users (Ingham, 2011); enhance staff skills to work with behaviour that challenges (Cooper & Elwee, 2015); increase psychological understanding (Ingham et al., 2011; Beardmore & Elford, 2016); and to inform person-centred interventions (Rowe & Nevin, 2013).

The psychologist's role in team formulation was either trainer and facilitator or solely facilitator. In three studies the psychologist provided training on formulation (biopsychosocial approach) and its function within ID settings (Ingham, 2011; Beardmore & Elford, 2016; Ingham et al., 2011) and in one case, teaching was provided on attachment theory which was used as a theoretical basis to understand behaviour that challenges (Cooper & McElwee, 2015). The remaining two studies did not have a teaching component and psychologists positioned themselves as facilitators (Turner et al., 2018; Wilcox, 2013).

Structured methods in team formulation, where frameworks and protocols were followed, were reported by five studies (Beardmore & Elford, 2016; Cooper & McElwee, 2015; Ingham, 2011; Ingham et al. 2011; Turner et al. 2018). One study partially used structure in their application of team formulation (Wilcox, 2013).

**Table 5: Application of team formulation**

Study	Purpose	Format	Psychologist's role	Level of structure	Level of collaboration
Beardmore & Elford (2016)	Increase psychological understanding & Enhance staff skills to work with people with ID/ challenging behaviours	2hr monthly/ or bimonthly team formulation groups	Trainer and facilitator	Protocol driven	Jointly developed
Cooper & McElivee (2016)	Increase staff understanding and skills to work with a young boy presenting with behaviours that challenge	When requested	Trainer and facilitator	Protocol driven	Jointly developed
Ingham (2011)	To build staff skills to work with a challenging service user and to change staff perceptions of service user	2 x 3hour workshops for service users direct care staff	Trainer and facilitator	Protocol driven	Jointly developed
Ingham et al (2011)	To develop more effective ways of understanding service user distress	A 2hour time slot was allocated for formulation meetings for each client admitted to the service	Trainer and facilitator	Protocol driven	Jointly developed
Rowe & Nevin (2013)	To inform person centred interventions	Meetings as standard part of care pathway	Not reported	Not reported	Includes Service user's voice
Turner et al. (2018)	To investigate staff perceptions of team formulations	Meetings on a weekly basis (40 minutes)	Facilitator	Protocol driven	Jointly developed
Wilcox (2013)	To provide a reflective space for staff	Monthly meetings open to all staff	Facilitator	Semi-structured	Jointly developed

## **What are the outcomes of team formulation in ID practice?**

Six studies were included in the synthesis for the review's third question (see Table 6). Three of the studies used quantitative data and the remaining three studies used descriptive outcome data qualitatively analysed. Content analysis showed six outcome areas which are detailed in Table 6.

### **Quantitative outcomes**

Effect sizes were used for two of the three studies (Cooper & McElwee, 2015; Whitton et al., 2016). Cohen's (1988) conventions were used to interpret the effect size. Cohen suggested that  $d=0.2$  be considered a 'small' effect size, 0.5 represents a 'medium' effect size and 0.8 a 'large' effect size. One study (Ingham, 2011) did not provide the relevant data in order to calculate the effect size.

#### *Staff-related outcomes*

Cooper and McElwee (2015) used two questionnaires to measure the efficacy of the team formulation. The Challenging Behaviours Attribution Scale (CHABA; Hastings, 1997) and an idiosyncratic scale based on the aims for team formulation, with a 10-point Likert scale response from strongly agree to strongly disagree. There were no significant changes in scores on the CHABA pre and post intervention, indicating that the team formulation did not improve staff attributions of behaviours that challenge. However, staff's self-reported perception of understanding on the idiosyncratic scale found large effect sizes. For example, ( $d=1.84$ ) on the staff's understanding of the service user's behaviour that challenges; ( $d=1.27$ ) in confidence of approach to working with the service user; ( $d=1.82$ ) with confidence in the service user having a positive transition to secondary school; ( $d=2.78$ ) in

knowledge about others' approaches to working with the service user; ( $d=3.22$ ) in similarity of understanding of service user's behaviour across individuals and ( $d=1.11$ ) in the ability to focus on the service user's strengths.

Whitton et al., (2016) found a medium effect ( $d= -0.5$ ) on the extent to which staff perceived team formulation as useful. However, the data should be carefully considered as the questionnaire to measure this variable was developed by the author, meaning that data were of an unknown reliability or validity.

#### *Service user- related outcomes*

There have been few studies, that have looked at the evidence of change for service users with ID following team formulation. One of which is the study by Ingham (2011) who reported that staffs' perceptions of the frequency and intensity of challenging behaviours decreased over time resulting in the service user's placement no longer being at risk of breaking down. However, the relationship from when the team formulation was introduced to the point of change in staff perception was not directly measured, therefore, limiting the validity of this finding.

**Table 6: Summary of quantitative and qualitative (descriptive) outcomes from ID team formulation studies**

	Staff related			Service user related		
	Satisfaction with TF	Understanding of SU	Change of attitude	Influence on care management	Staff–SU R/ship	Risk
Whitton et al (2016)	++					
Ingham et al (2011)		-/+				
Cooper & McElwee (2015)		++	++	++		
Beardmore & Elford (2016)		+		+		+
Turner et al (2018)	+	+				

Note: TF= Team Formulation; SU = Service User; ++ = statistically positive finding; + = positive finding; -/+ = positive and negative findings

### **Descriptive outcomes**

Two studies employed thematic analysis (Beardmore & Elford, 2016; Ingham et al., 2011). As well as using thematic analysis, Ingham et al. (2011) used descriptive statistics. Turner et al. (2018) also used descriptive statistics and grouped respondents' qualitative answers by theme. All three studies show that views on team formulation differed and the studies reported positive and negative themes. Ingham et al (2011) reported the following themes to be of benefit from team formulation: sharing information; developing a new shared

understanding; and facilitating team work. However, these qualitative findings lacked depth and were descriptive rather than an exploratory analysis of staff views.

Beardmore & Elford (2016) report that team formulation was found to aid professionals in managing risk and developing care and intervention plans when working with people with ID. Their analysis of the qualitative data identified five themes; supportive, reflective, development and learning, planning and confidence. To provide further explanation these results summarise that professionals value support from the multidisciplinary team and reflective practice is encouraged allowing time to discuss service users with ID. For example, one participant in Beardmore and Elford’s study (2016, p31) reported: “the groups have helped me to realise each profession brings their own expertise to the table; this has helped with problem-solving”. Professionals also reported that team formulation encouraged development and learning (through exposure to psychological models and research), planning of care plans and enhanced confidence in abilities.

Beardmore & Elford’s (2016) thematic analysis shares similarities identified to Turner et al. (2018) descriptive findings. This is represented in table 7.

**Table 7 – Beardmore and Elford (2016) themes and Turner et al., (2018) findings.**

Beardmore & Elford (2016) Themes	Turner et al. (2018) Findings
Confidence	Greater understanding of service user
Supportive	Team working – sharing ideas/ opinions
Development and Learning	Hearing new/other perspectives
Planning	Creating a consistent approach
Reflective Practice	Gives protective time to discuss difficult situations



The outcomes of team formulation were not always regarded as highly positive. For instance, Ingham et al., (2011) found that some participants reported that their understanding of the service user changed only 'a little'. Ingham et al., (2011) explained that this was possibly due to team members already having a good understanding of the service user and so did not see the value of the process.

Challenges to team formulation were also highlighted in other studies. More specifically, Turner et al. (2018), Beardmore & Elford (2016) and Wilcox (2013) acknowledged themes such as, time constraints and logistics of carrying out team formulation. Turner et al., (2018) reported pitfalls included participants feeling that there was "too much to discuss" and team formulation not having clear aims or practical outcomes.

In summary, the research highlighted above shows that team formulation can provide many positive outcomes for staff teams. It is important to note that the suggested benefits of team formulation could be due to factors other than the formulation itself, as reported by Hollingworth and Johnston (2014). These authors note that increased team contact and opportunities to consult with each other are factors that are useful. Hence, a measurement of non-team formulation factors would be valuable.

## **Discussion**

This review aimed to provide a synthesis and critique of the current evidence regarding the use of team formulation and their impact in ID settings. A systematic search of the literature identified eight papers that used a variety of qualitative and quantitative methodological approaches. Team formulation meetings were psychologist led involving a range of multidisciplinary staff. Most studies used a biopsychosocial framework to structure the

meetings (Beardmore & Elford, 2016; Ingham, 2011; Ingham et al., 2011) or a cognitive-behavioural framework (Turner et al., 2018). One study used a behavioural framework with systemic concepts to co-construct an understanding of the service user and inform potential ways of responding (Cooper & McElwee, 2015).

#### *How is team formulation defined in ID Practice?*

With regards to the first review question the studies revealed that there is no standard definition of team formulation in ID practice. Psychologists use different terms to label team formulation in ID practice for example, 'network training' and 'case formulation'. This finding means that the different definitions of team formulation used in ID practice encompasses a variety of activities. Based on this systematic review of the existing literature a working definition of team formulation in ID practice is to: enable staff to develop a shared understanding of the service user and their presenting difficulties, how they are developed and maintained and guides intervention and person-centred care planning.

#### *How is team formulation applied in ID practice?*

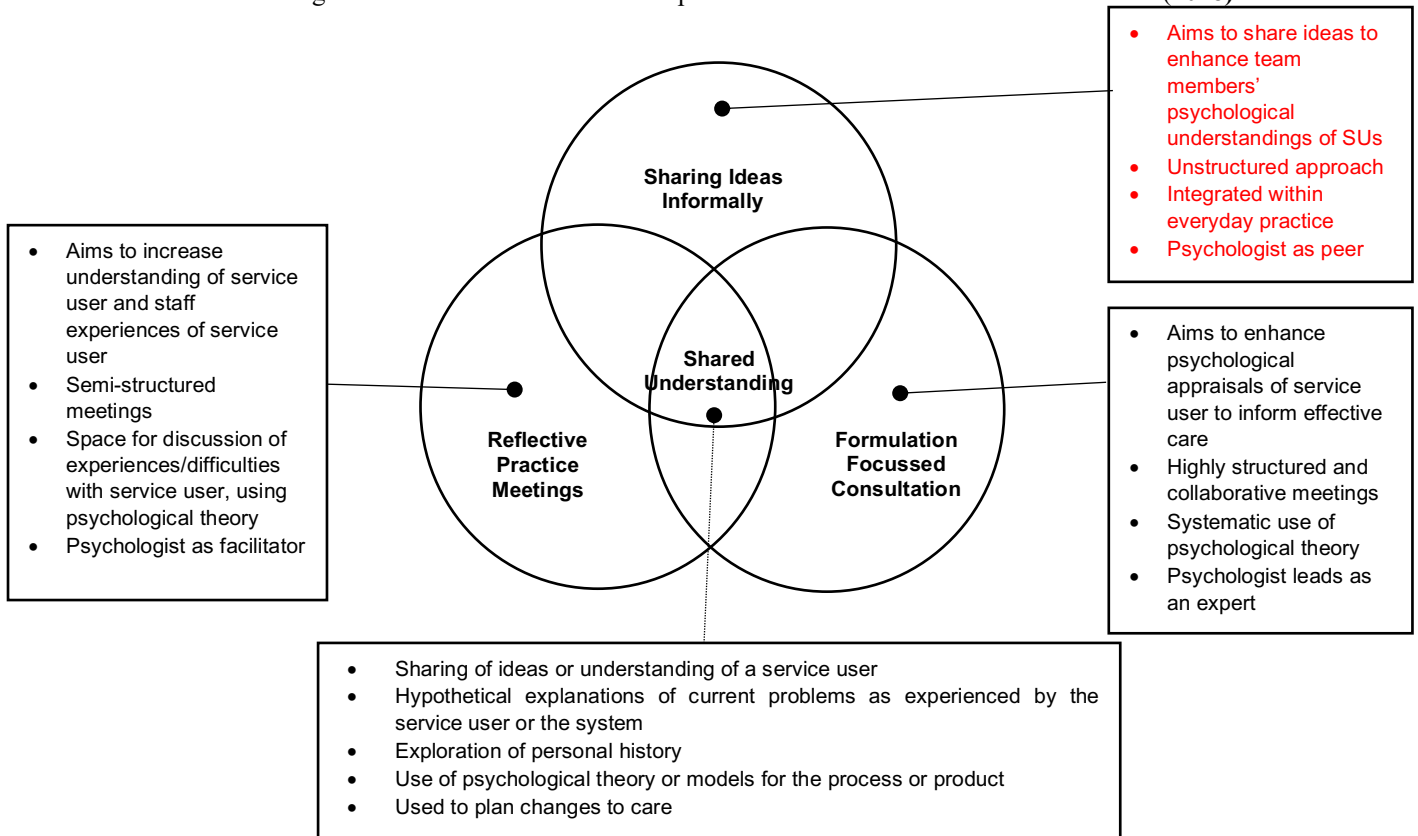
The second review question showed that although there was no specific way team formulation was applied; a common factor was a structured and collaborative meeting using frameworks and protocols, illustrated by five studies (Beardmore & Elford, 2016; Ingham, 2011; Ingham et al., 2011; Turner et al., 2018; Cooper & McElwee, 2015). The three studies that scored highly from the quality assessment were studies that incorporated brief staff training in formulation prior to team formulation (Ingham, 2011; Ingham et al., 2011; Beardmore & Elford, 2016).

Geach et al., (2018) identified three elements of implementation of team formulation: sharing ideas informally; reflective practice; and formulation-focused consultation. They argued that

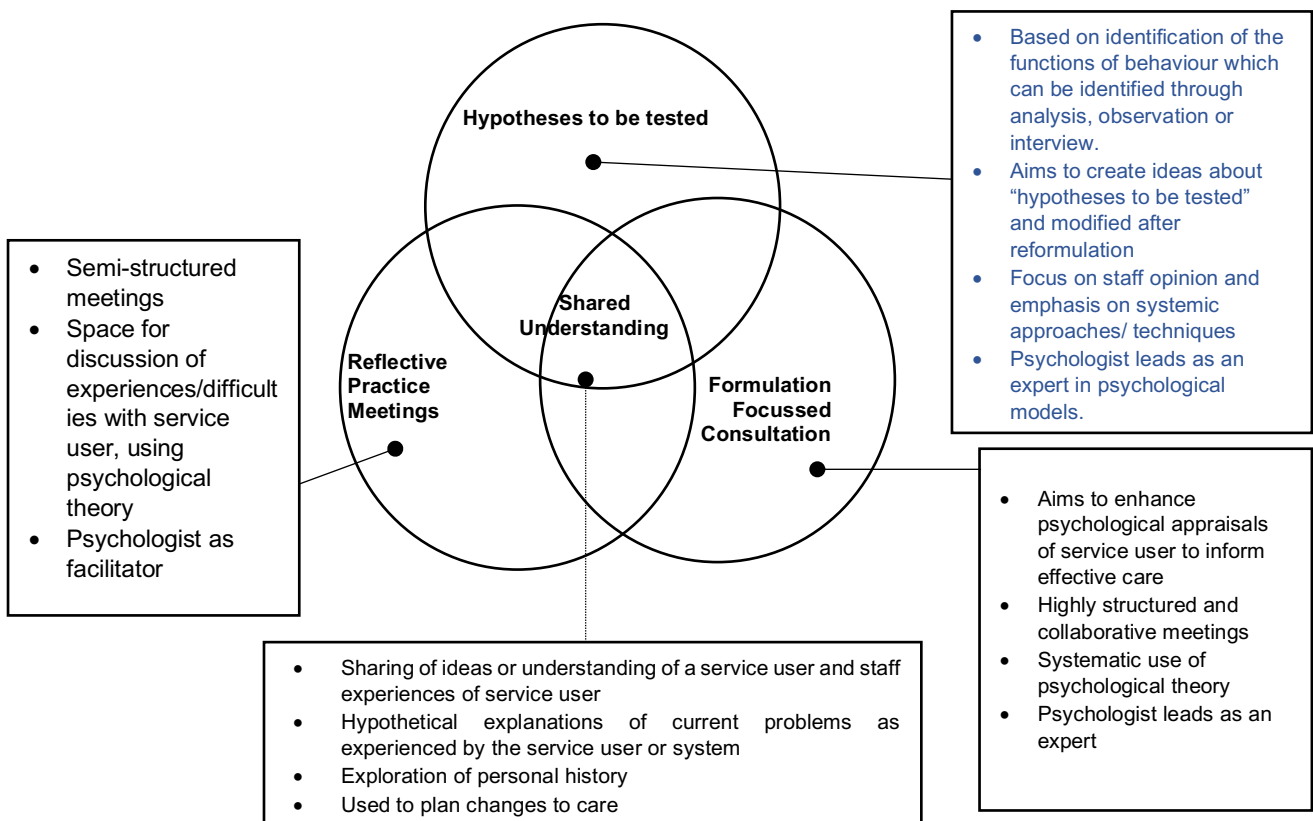
all three of these elements each with slightly different aims lead to a shared understanding of the service user. As a whole, these elements represent a shared understanding of the service user. One of the findings from this systematic review is the distinct component that functional analysis plays in the understanding of challenging behaviour even with team formulation based upon alternative psychological theories. Based on this review it is proposed that there is a modification to Geach et al., (2018) model to emphasise the element of 'hypotheses to be tested' in ID practice. This is illustrated in Figure 2.

Figure 2. Geach (2018) Venn Diagram of Team Formulation Descriptions from ID literature and modified version

Venn Diagram of Team Formulation Descriptions from Peer Reviewed Literature Geach (2018)



Modified version based on Geach (2018) Venn Diagram of Team Formulation Descriptions from ID literature



Key: *red in the initial model = items removed in modified version* *blue in modified model = additions*

Figure 2 shows that team formulation-focused consultation is a collaborative approach that uses psychological theory through applying protocols and frameworks. This leads to increased understanding of service users (Ingham et al., 2011; Turner et al., 2018) changes in staff attitudes towards the severity of challenging behaviour (Ingham, 2011; Cooper & McElwee, 2015) and developing care and intervention plans (Beardmore & Elford, 2016; Ingham et al., 2011). However, this current review found that there is moderate evidence for team focused consultation due to the increased use of author developed questionnaires, lack of formal evaluation and small sample sizes.

As seen from Figure 2, when team formulation is delivered in a semi- structured reflective approach, it provides staff the opportunity to discuss the emotional impact of working with people with ID (Wilcox, 2013). Other researchers (e.g. Lewis-Morton et al., 2015; Chiffey et al., 2015) have also found that team formulations provide staff with protected time and space to engage in reflective practice. However, it's important to consider the challenges of reflective practice. For example, Heneghan et al., (2014) noted that there is limited research around the guidelines of reflective practice, prevalence and effectiveness.

As illustrated in the Figure 2, hypotheses to be tested is an important aspect of team formulation in ID practice (Beardmore & Elford, 2016; Cooper & McElwee, 2015; Wilcox, 2013). The synthesis of factual functional analysis data and staff opinion is a different aspect of ID team formulation. Kinderman & Lobban, 2000 argue that formulations should be tested and modified over time. Therefore, the application from theory to practice is one of the most

important aspects of the shared formulation approach (Johnstone et al., 2015). This finding suggests that reformulation fluctuates over time and context and is particularly relevant in ID services who provide care for people who have limited communication, limited cognitive abilities and receive life- long care.

Further work is needed to ensure that formulations are used to inform interventions (Cole et al., 2015). For example, formulations are not always recorded and shared (Chiffey et al., 2015). Furthermore, Walton (2011) found that only 46% of their recommendations from team formulation were recorded as attempted or completed and this questions the effectiveness of team formulation as an approach that impacts on service user care. In summary the second review question showed that there was no specific way team formulation was applied. However, key elements included, a structured collaborative meeting focusing on functional analysis data and staff views (“hypotheses to be tested”).

#### *What are the outcomes of team formulation in ID practice?*

Evidence from this review highlighted how team formulation has limited impact upon clinical outcomes for service users (e.g. Ingham, 2011). However, there was evidence that team formulations provided the team a space to develop a shared understanding of the service user and plan person centred care (Ingham et al., 2011; Rowe & Nevin, 2013). Some studies in the current review linked team formulation with changes with team working for example, improved communication amongst staff and increasing consistency of care for service users (Ingham, 2011; Ingham et al., 2011; Beardmore & Elford, 2016). These findings are consistent with other literature in the area of team formulation (Christofodes et al., 2012; Berry et al., 2015).

A critical appraisal of the studies found that studies varied in the level of methodological quality and service evaluations did not demonstrate a high level of rigour due to small sample sizes which limits the generalisability of their findings. There were no high-quality studies using randomised experimental designs and no studies that showed rigorous qualitative methodology. The current literature on team formulation in ID settings is predominantly on small n designs and would benefit from a large -scale cluster randomised design examining the effects of team formulation in ID settings. Finally, other studies were unable to demonstrate that benefits were a direct result of team formulation as their research design was not robust, or their benefits lacked reliable measurement by using author developed questionnaires.

## **Limitations**

The findings of the review are the result of a systematic attempt to synthesise a body of research on team formulation in ID practice. Systematic criteria (PRISMA) were used to identify relevant studies and quality assessment tools were used in order to critically appraise these. However, the findings must be considered in view of its limitations. All studies included in this review consisted of published journal articles. Research indicates that published and unpublished studies often differ in both effect size and the statistical significance of the study results. This is referred to as publication bias (Onishi & Furukawa, 2014). This review made no attempt to retrieve unpublished data to mitigate for the effect of publication bias.

Within the published literature there are no Randomised Control Trials that sufficiently address the role team formulation may play in ID services. Without appropriate controls it becomes difficult to ascertain if post-treatment change has occurred as a result of treatment or by other unknown factors. This review failed to establish which components of team formulation are likely to be efficacious. Additionally, studies were unable to indicate how

many team formulation sessions were needed to produce change. Given the research concerning team formulation efficacy is relatively sparse, the evidence base has yet to reach a stage whereby the effective components of team formulation can be established.

The three quality assessment tools used in the present study can pose problems with regards to interpretation of the results and understanding the quality of studies. One stand- alone mixed methods tool could be used for example, the quality assessment tool, QATSSD to ensure quality of studies. Furthermore, most of the studies included in the review had relatively small samples sizes thus rendering the studies underpowered to detect moderate to large treatment effects.

There were also differences in the definition of team formulation and the measures utilised to measure outcomes. Measures used in the majority of the studies included clinician developed questionnaires (self-report scales) and one study used The Challenging Behaviours Attributions Scale (CHABA; Hastings, 1997). Given the lack of a homogenous definition of team formulation and universally accepted measures, it remains impossible to sufficiently compare treatment outcomes between studies as one cannot say with certainty that outcomes speak to the same phenomena.

Finally, not all of the studies could be reviewed by an external person to ensure quality and validity of the findings which may limit the reliability of the results.



## **Clinical Recommendations**

An important clinical finding in the current review is that the higher scoring papers incorporated brief staff training in formulation prior to team formulation. Clinical psychologists working in ID settings could provide staff training on formulation so staff can learn and understand the aims and process of team formulation including the importance of regular times for reflective practice that may also cause shifts in staff thinking; one of the criticisms is that team formulation may not lead to changes in practice and using teaching to embed both formulation and practice implications may be helpful.

It would also be helpful for psychologists working in the area of ID to bring forward a best practice framework for team formulation which includes a definition for team formulation in ID as well as standardising a way of how it is applied and measured. This could inform future research and studies could use larger samples, cluster randomised designs and a standardised battery of outcome measures to ascertain the effects of team formulation with regards to staff-service user relationships, team working and service user quality of life.

This review recommends that clinical psychologists working in ID should consider the use of measures other than author developed measures evaluating staff's understanding of a service user and instead use measures completed by service users with ID to assess whether their relationships with staff have changed after team formulation. Practitioners in the field of ID could start to evaluate the impact of team formulation on service users by using the Goals Based Outcome Measure.

## **Research Recommendations**

At present, quality appraisal tools do not present with the appropriate criteria to critically appraise studies that focus on team formulation. The existing criteria of the quality appraisal tools instead has been used to appraise research designs that include randomised controlled trials, cohort studies and qualitative studies. Therefore, it is important for future research to address this gap and to consider the use of these tools when using other designs such as, one case (service user) and a group of staff known to this service user. Another important consideration is that due to the multifaceted nature of team formulation it makes it difficult to understand which components of team formulation contribute to which outcomes. Future research could help identify the individual components which are needed for successful outcomes for people with ID. For example, this could mean identifying that one component of ‘increased understanding of service user’, could have an impact on one outcome of ‘positive relationships’.

## **Conclusion**

Although team formulation attracts considerable clinical and theoretical interest, overall there is a moderate evidence-base at present to support its effectiveness in promoting interventions that are informed by psychological models and practice. This review provides a number of recommendations such as standardising the term ‘team formulation in ID practice’ (i.e. how it is defined and applied) to enable rigorous evaluation and inform best practice for ID services. Furthermore, it has been identified that team formulation is applied in ID using a structured, consultation approach focusing on systemic techniques. In line with the government vision of providing people with ID with care and support in the community, clinical psychologists and their colleagues need to re-think and evaluate the delivery of team formulation. This is

because the benefits of team formulation could help sustain community placements and reduce inpatient admissions.

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# **Staff in Intellectual Disability Settings: Using a Team Formulation Approach**

**Prepared in accordance with the author guidelines for  
British Journal of Learning Disabilities (Appendix A)**

Word Count: 7,338, excluding references, figures and tables.

# **Staff in Intellectual Disability (ID) Settings: Using a team formulation approach**

## **Accessible Summary**

- Sometimes it is hard for staff who work with people with a learning disability to understand why a person is having the difficulties they are having. Formulation is a way of making sense of a person's life experiences, by thinking through their problems- how they might have developed in the first place and what keeps them going. Formulations that are created with teams can help staff understand people with a learning disability better, and help staff feel differently about a person's difficulties.
- This study wanted to find out whether team formulation had an impact on the way that staff thought and felt about people with learning disabilities and their difficulties.
- Information was collected in different ways, using questionnaires and by talking to staff. Twenty staff working on the assessment and treatment unit answered three questionnaires before the team formulation and then again after the team formulation. Twelve staff were also interviewed to understand their experiences about team formulation.
- The results showed that after team formulation there were no differences on the questionnaires but by talking to staff, it was clear that they felt team formulation helped them think and feel more positively about the people they were working with.

## **Abstract**

**Background:** Many people with Intellectual Disabilities (ID) receive care from a large network of people including health and social care professionals. Research suggests that the use of team formulation may improve staff understanding of service users' difficulties and increase team empathy. This study aimed firstly to examine the impact of team formulation within an ID setting and secondly to explore the experiences and perceptions of team formulation for the staff working within the ID service.

**Method:** A mixed method design was utilised. Twenty multi-disciplinary staff members were asked to complete three questionnaires pre and post team formulation. The questionnaires aimed to measure staff empathy, therapeutic optimism, and emotional responses to challenging behaviour. In addition, twelve multi-disciplinary staff members were interviewed to understand their experiences of team formulation. Interviews were semi-structured and transcribed verbatim. Thematic analysis revealed three overarching themes: "procedure of formulation", "process of formulation" and "perceived outcomes of formulation".

**Results:** There were no statistically significant changes in staff empathy, therapeutic optimism or emotional responses to challenging behaviour. However, qualitative results indicated that staff perceived team formulation meetings to be valuable in addressing the challenges of working with people with ID.

**Conclusions:** Although the quantitative tests did not capture any change, qualitative feedback suggests team formulation may be beneficial for staff working in ID inpatient settings: staff felt team formulation helped with changing their attitude/feelings towards service users and increased empathy.

*Keywords: Learning (intellectual) disabilities, clinical psychology, attachment, team formulation, challenging behaviour, support staff*

## Introduction

Psychological formulation is a core skill in the training of clinical psychologists and is used to develop a detailed description explaining why an individual has come to experience mental health difficulties based on their personal history, psychological theory and research (Division of Clinical Psychology (DCP), 2011). Johnstone (2017) defines psychological formulations as *“the process of co-constructing a hypothesis or “best guess” about the origins of a person’s difficulties in the context of their relationships, social circumstances, life events, and the sense that they have made of them. It provides a structure for thinking together with the client or service user about how to understand their experiences and how to move forward. Formulation draws on two equally important sources of evidence: the clinician brings knowledge derived from theory, research, and clinical experience, while the service user brings expertise about their own life and the meaning and impact of their relationships and circumstances “(p32).*

The BPS Division of Clinical Psychology (DCP) published the first set of *Good Practice Guidelines* on the use of psychological formulation (DCP, 2011) and outlines that formulations should summarise the client’s presenting issues, suggest how these difficulties relate to one another, and offer a perspective concerning the development and maintenance of such problems which then guides the path of appropriate interventions (Johnstone & Dallos, 2006). Formulations can be revised in the light of new information. Although formulation is a key aspect of psychological therapy with individual clients (Aston, 2009; Rainforth & Laurenson, 2014), its application is not limited to such contexts.

### *Psychological formulation with multidisciplinary teams*

Team working is a key component of psychological practice (Onyett, 2007), and is considered to improve the effectiveness of health care (West & Markiewicz, 2004). The ‘New Ways of Working’ initiative (Department of Health (DoH), 2007) detailed the need for mental health professionals across different disciplines to work collaboratively to provide effective care to service users. A key recommendation involved psychologists acting as consultants and supervisors within their existing teams. Using formulation during team-based peer consultation, psychologists can add specific value to the multidisciplinary team working by sharing skills with other disciplines (Onyett, 2007). It can also promote a psychosocial perspective through ‘formulation’ as an alternative to diagnosis (DoH, 2007). The added value psychologists bring is the knowledge of a range of psychological models to understand human distress, the capacity to develop formulations and person-centred interventions and the skills required to evaluate the effectiveness of these interventions to inform future practice (Lake, 2008). All these skills are important when working with complex and entrenched client difficulties and service systems (Lake, 2008).

Team formulation draws on similar concepts to individual formulation, but aims to integrate the views of all members of staff in order to develop joint hypotheses about service users which then forms the basis of the team’s intervention plan (Hollingworth & Johnstone, 2014). It can also include the client, however, Johnstone (2017) notes that in team formulation the main client is the team, whose “counter-transference feelings of stuckness, hopelessness, anger and despair are likely to have prompted the request for a discussion” (p36) and therefore, it may not be appropriate to share them directly with the service user (Johnstone, 2013). Formulating with teams has been associated with a number of positive effects. For example, disseminating clinical information and skills (Kellett, Wilbram, Davis & Hardy, 2014), supporting staff to develop empathic working relationships with service users (Berry

et al., 2015), improving team efficiency (Lake, 2008) and sense of cohesion (Davenport, 2002).

The efficacy of team formulation is supported by multiple research studies and evaluations of practice within inpatient wards (Berry, Barrowclough & Wearden, 2009; Berry et al., 2015; Robson & Quayle, 2009) and community mental health teams (Christofides, Johnstone & Musa, 2012; Hood, Johnstone & Christofides, 2013). However, there has been little investigation regarding its use or impact in other settings.

### *Research in Team Formulation*

Some researchers argue that there are issues regarding reliability and validity of individual formulation (Kuyken, Fothergill, Musa & Chadwick, 2005). This may be a result of different theoretical modalities employing different ways of evaluating validity and reviewing reliability (Mumma, 2011; Flinn, Braham and das Nair, 2015). However, Butler (2006) argues that low reliability is inevitable due to there being no one correct way to formulate and suggests that the practice of formulation is best assessed in terms of 'usefulness'.

Summarised below are three areas in which team formulation has been useful and beneficial in helping teams.

### *Staff Wellbeing*

Prosser et al. (1999) argue that providing containment, validation and peer support may, in the longer- term, help protect against the 'burnout' that is common for mental health staff and also increases the likelihood of psychologically informed practice. For example, Maguire (2006) provided training in case formulation and found that staff reported a reduction in their stress levels, and an increase in their perceived ability to help their clients. Furthermore, Berry et al. (2015) compared wards using weekly team formulation meetings with treatment

as usual (TAU) over a period of six months. They found that only their team formulation group showed improvements in staff-patient relationships. Staff from a range of professions considered team formulation to improve staff-patient experiences through development of less blaming perceptions of and increased empathy for service users (Berry et al., 2015).

#### *Reducing 'stuckness'*

Team formulation can help staff teams identify alternative ways of working with service users who are experienced as complex (Hollingworth & Johnstone, 2014). For example, Allen (2015) found that staff members' perceptions of 'stuckness' with a client reduced as a result of team formulation. Walton (2011) also noted that staff wanted advice for the service users considered challenging to work with, or at high risk of harm to themselves or others.

#### *Reduction of challenging behaviour/client well-being*

Ingham (2011) reported a link between the introduction of team formulation workshops, and a reduction in observed displays of behaviours which challenge by an individual supported by a staff team. Furthermore, Newman-Taylor and Sambrook (2012) found that the use of team formulation increased staff members' understanding of their clients' behaviour, followed by fewer incidents of challenging behaviour.

However, it has proven difficult to demonstrate a direct clinical impact of formulation-driven therapy on clients' well-being (Christofides et al., 2011). Even when interventions are in place, there is a lack of evidence as to whether they can make a difference to client outcomes (Charlesworth, 2010). For example, Oliver et al. (2010) found that staff members were not clear about how formulations might improve the wellbeing of their service user. More research is required to determine how team formulation impacts on measures such as use of medication, service user wellbeing, recovery rates, etc (Cole et al., 2015).



### *Psychological Models for Team Formulation*

Similar to individual formulations, team formulation can be based on multiple theoretical models and the psychological principles are generally based on attachment theory, developmental theory, cognitive behavioural theory or systemic theory. Psychologists use specific models to help structure discussions during team formulation meetings, this encourages a shared language around formulation between staff and makes the process of formulation transparent (Lake, 2008).

Some studies (Berry, Barrowclough & Wearden, 2009; Berry et al., 2015; Murphy, Osborne & Smith, 2013) have used a cognitive-behavioural framework during team formulation meetings, which followed Beck's (1976) longitudinal model. Other studies have used a biopsychosocial model when formulating with teams known as the '5Ps' approach (Dudley & Kuyken, 2006; Ingham, Clarke & James, 2008).

Two studies focusing on team formulation meetings in intellectual disability services (Wilcox, 2013; Turner et al., 2018) based their formulation on the Lake model (2008). Lake's approach to team formulation draws on theories such as, cognitive-behavioural therapy (Beck, 1976), systemic theory (Hedges, 2005), cognitive analytical theory (Ryle, 1990) and attachment theory (Bowlby, 1988). The framework is broken up into three stages. Firstly, gathering history to encourage the team to consider issues from a biological (e.g. looking at temperament), psychological (service user's history of relationships) and social perspective (e.g. employment, housing, social environment). Secondly, to focus on the service user's relationship history emphasising coping strategies in childhood and repeated patterns in adulthood. Lake (2008) notes that it is often at this point that the team reflect on how working with the service user makes them feel and what patterns are enacted in the team.

The final part includes bringing the history together to explore the core beliefs (Beck, 1996) that the person may have developed about themselves, the world and the future; how particular unhelpful beliefs and emotional difficulties arise from core beliefs; their ‘feelings/transference’ and responses to working with a service user. Then there is discussion about how a service user’s social support, work and domestic environment might be helping to alleviate or exacerbate their difficulties. Finally, the service user’s strengths and personal resources are identified (Lake, 2008).

#### *Evidence for importance of team formulation in ID*

Many people with intellectual disabilities (ID) present with complex physical, developmental and mental health comorbidities (Ingham & Clarke, 2009). People with ID therefore, can receive care from a number of health and social care professionals as well as paid care staff that offer personal care. Therefore, a large network of people will be involved in a person’s care at any one time (BPS, 2017). This presents risks to the wellbeing and quality of care of people with ID due to factors such as frequent changes of staff which may lead to inconsistent approaches. The team formulation approach may be especially pertinent in services working with people with ID who present with complex biopsychosocial needs, requiring a coordinated and consistent approach to care (Ingham, 2015; Onyett, 2007). Research has shown better clinical outcomes when interventions are evidence-based and delivered consistently by all team members (Gearing et al., 2011).

Team formulation is reported to help staff with no psychological training to understand service users, removing blame for problems, leading to more benevolent staff perceptions of service users, and increasing psychological understanding. All of which in turn reduce service user distress and increases therapeutic outcomes (Ingham, 2011; Ingham, 2015; Cooper & McElwee, 2015).

Empathy, responses to challenging behaviours and therapeutic optimism are important for service user outcomes and care. Whame and Spilsted (2011) reported that that through team formulation “insights are gained which enable empathy to develop and opportunities are found to improve service user’s quality of life”. If teams are not given this opportunity this may impact on service user care, increase the risk of punitive and restrictive practices and prolong the length of stay.

## **Aims**

This study aimed to examine the impact of team formulation in an assessment and treatment unit (ATU) for adults with an intellectual disability and mental health difficulties, based within South Wales. The study employed a mixed methods design. The quantitative phase set out to examine the following hypotheses, following team formulation:

- 1) Staff will increase their measured empathy,
- 2) Staff will increase their measured therapeutic optimism,
- 3) Staff will increase their positive emotions/decrease their negative emotions to the service user’s challenging behaviour.

The qualitative phase aimed to explore the experiences and perceptions of team formulation for the staff working in the ATU for people with ID and mental health difficulties.

## **METHODS**

### *Ethical Approval*

The study received ethical approval from the University of Cardiff Research and Governance Team and Health and Care Research Wales (See Appendix B and Appendix H). The relevant Research and Development approval from the health board was also obtained (See Appendix C).

### *Recruitment and Consent*

The study was based in South Wales and was conducted in an Assessment and Treatment Unit (ATU). The unit has 10 beds and covers a catchment area of about 500,000 people. The ATU provides short term care for people with ID who have difficulties with their mental health. Whilst on the unit, inpatients receive daily input from a multidisciplinary team (MDT) of professionals including psychologists, occupational therapists, behaviour clinical specialist, learning disability nurses, managerial staff, and direct care staff. Information sheets about the study were disseminated to staff on the unit (See Appendix D and Appendix I), who were invited to participate in the study. If participants agreed to take part, they completed a consent form (See Appendix E and Appendix J).

### *Design*

A mixed method design was used to evaluate the effectiveness of the team formulations. A repeated (pre/post intervention) within-subjects design was used in the quantitative phase while the qualitative phase employed semi-structured interviews (see Appendix K for interview schedule) consisting of open -ended questions to explore staff experiences of team formulation.

## **Quantitative Phase**

### *Procedure and Participants*

Team formulation meetings took place at the ATU on a weekly basis and the meetings were facilitated by a clinical psychologist. Training in attachment and trauma informed practices had already been introduced in the service. The clinical psychologist used the team formulation model by Lake (2008) as mentioned earlier. The quantitative phase of the present study included five formulation meetings for five different inpatients receiving assessment and treatment and retrieved the data from twenty staff members working on the unit. The composition of the staff group varied between sessions, due to shift patterns. The five inpatients were aged between 20-28 years and comprised of four females and one male. As well as having a mild/moderate ID, the inpatients also had various psychiatric diagnoses including psychosis, schizophrenia, borderline personality disorder or delusional disorder. Twenty staff who attended a team formulation session were given a demographic questionnaire asking details about their gender, age, job title and the number of years working in the service. Participants also completed three questionnaires prior to the team formulation (focusing on the client that they had worked with). These three questionnaires were repeated after the team formulation had taken place. The questionnaires were anonymous in order to minimize response bias.

### *Measures*

The Empathy Towards People with Intellectual Disabilities Scale (Collins, Gratton, Heneage and Dagan, 2015; EMP-ID) is a validated measure of empathy towards people with ID, which is noted to be associated with attachment security (Mikulincer and Shaver, 2007). The EMP-ID comprises 21 items, each rated using a six-point Likert scale and in turn grouped

into three subscales, *proximity* (items relating to shared psychological experiences between the self and people with ID); *active attunement* (items relating to actively working to understand people with IDs' internal experiences); and *challenge* (items relating to whether it is difficult to empathise with people with ID, [NB: these items were reversed scored]). There are different reports about the acceptable values of alpha, ranging from 0.70 to 0.95 (Bland & Altman, 1997). All subscales show acceptable internal reliability, with Cronbach's alpha of 0.73 for proximity, 0.73 for active attunement, and 0.76 for challenge (Collins, Gratton, Heneage and Dagan, 2015).

The Elsom Therapeutic Optimism Scale (Byrne, Sullivan and Elsom, 2006; ETOS) is a self-report measure of therapeutic optimism. It consists of 10 items divided into three subscales: general treatment outcome, personal treatment outcome, and pessimism, rated on a seven-point Likert scale. The measure has been validated in the mental health population and has low internal consistency. However, the items within the scale measure different independent factors and therefore, may not show high internal consistency (general treatment outcome Cronbach's alpha = 0.65; personal treatment outcome Cronbach's alpha = 0.58; pessimism Cronbach's alpha = 0.44). This measure was used because evidence shows that clinician therapeutic optimism has an impact on patient outcomes (Cardoso and Xavier, 2015).

The Emotional Responses to Challenging Behaviour Scale (Mitchell & Hastings, 1998; ERCBS) is a validated measure to assess staffs' negative emotional responses to challenging behaviour and positive emotions. The measure consists of 23 items rated using a four-point Likert scale. The ERCBS has three subscales: depression/anger, fear/anxiety, and positive emotions. The measure has acceptable internal reliability for two subscales (depression/anger Cronbach's alpha = 0.85 and fear/anxiety Cronbach's alpha = 0.82). However, there are no psychometrics available for the positive emotion subscale. This measure was used

because emotional responses to challenging behaviour reported by carers are important in terms of helping behaviours (Dagan, Trower and Smith, 2011).

### *Data Analysis*

It was not possible to calculate the power analysis because an ‘expected effect’ could not be derived from extant studies using any of the current measures. Therefore, it was intended that post hoc effect size would be reported for any significant findings.

All data were analysed using Statistical Package for the Social Sciences (SPSS) version 25. The data were screened for normality following guidance for paired- samples t- test data (Field, 2013, p463). With the paired samples t -test it is important to check the sampling distribution of the difference scores, therefore, testing for normality means to compute the differences between scores, and then check if this new variable is normally distributed as a proxy for the sampling distribution (see Appendix G). Results showed no significant differences from normality with the exception of three variables (ERCB-FA, ETOS-PT, ETOS-P). Due to skewed distributions and small sample size, t-tests with bootstrapping were used to evaluate pre-post change. Bootstrapping was used because it helps to reduce effects of deviations from assumptions such as equality of variance, kurtosis and skewness. Bootstrapping involves estimating the properties of the sampling distribution from the sample data and it produces percentile bootstrap confidence intervals based on the values between which 95% of bootstrap sample estimates fall (Field, 2013).

This study introduces cluster effects as it is a group -based intervention and a hierarchical analysis should be used however, this approach was not used in the present study due to small sample sizes (Field, 2013, p950)

## **Qualitative phase**

### *Procedure and Participants*

The qualitative phase of the present study took place after collecting the outcome measures and quantitative evaluation. Interviews were conducted with twelve members of multidisciplinary staff. The interviews utilised a conversational, semi-structured approach allowing flexibility to ask spontaneous questions in response to the interviewee's narratives. Interviews lasted between 30-40 minutes and were audio recorded and transcribed verbatim before commencing the next interview. Interviews lasted for an average of 16 minutes. This approach allowed for naïve reading of the transcripts so that emerging patterns could be identified along with developing preliminary codes. This in turn guided potential areas of inquest in the subsequent interviews. In addition to this, a research journal was kept so that reflections could be made of the author's own assumptions and biases (Merriam, 1998).

### *Data Analysis*

The data were analysed using an inductive thematic analysis framework to allow for predominant themes and recurring patterns to emerge (Saldanna, 2009). Braun and Clarke (2012) six stages of thematic analysis was followed to guide the coding process (see appendix L for a coded excerpt). A list of preliminary codes was produced during data collection. Transcripts were frequently read and re-read and relevant sections of text were assigned to the existing codes. New codes were subsequently developed to capture data that did not fit into the existing codes. Each code was assigned an operational definition to highlight how the code was to be applied during the coding process.



### *Credibility Checks and Peer verification*

This process was supported by supervision and additional credibility checks. Some authors argue that it can be beneficial to have outside peer reviewers also code the data for consistency (Connelly & Peltzer, 2016). However, Braun and Clarke do not advocate the use of a second reviewer for the coding of data. In fact, as coding is a primary analytical process and ultimately reflects the interpretation of the researcher it is important that any derived codes should be generated by the researcher who is ultimately making the interpretation of the data rather than a secondary party. With this in mind the author made the decision not to involve external people in reviewing the coding of the data in order to maintain quality.

However, a peer researcher/ trainee was involved with the analysis of the theme development. Credibility checks were achieved via a process of inter-rater analysis of themes and subthemes. Brief descriptions of each themes with quotes were shared with a peer researcher. As a result, the analysis was modified to include outcomes for individual staff and the staff team as a whole. One theme was removed which included the context of working with people with intellectual disabilities for example, limited communication and the impact of stigma.

### *Participant Verification*

The respondent verification technique was also used (Burnard, Gill, Stewart, Treasure, & Chadwick, 2008). During the interview process four participants indicated that they would be willing to offer comments on the identified themes. Brief descriptions of each theme with anonymised quotes were sent by email to each participant separately. They were asked to offer comments as to whether the themes suggested were representative of their experience and if there was anything they would like to change or add. One participant responded and suggested no revisions, indicating that she was “very happy with the content” (Appendix O). This was not a very comprehensive verification due to the lack of response from participants.

### *Subjective Positioning*

Thematic analysis was selected by the researcher as it is a flexible and accessible method of analysis. The flexibility of the method has often been a point of criticism as its rigor and quality is questioned. Therefore, the researcher adhered to the systematic approach advocated by Braun and Clarke (2006) to ensure quality in data analysis. Furthermore, the researcher was guided by the recommendations proposed by Braun and Clarke (2006) and O'Brian and Harris (2014), to ensure quality, especially in relation to reflexivity. Smith (2007) outlines that the researcher has an active role in qualitative research and is part of the construction of meaning. Therefore, for this piece of research, the researcher engaged with their subjectivity through reading qualitative texts and discussing their position, own biases and assumptions as a researcher and psychologist with their supervisor.

### **Results- Quantitative Phase**

#### *Demographic Data for participants*

Thirteen staff members were female (65%) and seven staff members were male (35%). The majority of the staff (10/20) were between the ages of 35-44 years old. Staff had worked on their current ward for a mean number of 4 years and had a mean number of 11 years, experience in intellectual disabilities. Six were registered learning disability nurses (30%), nine were healthcare support workers (45%), two were student nurses (10%), one was an occupational therapist (5%), one an assistant psychologist (5%) and one behaviour clinical specialist (5%).

*Pre-and- post formulation questionnaire results*

In total, nine paired t-tests were conducted examining change in; empathy, EMPIDC (whether it was difficult to empathise with people with ID), empathy EMPIDAA (active attunement); empathy, EMIDP (proximity, shared psychological experiences between self and person with ID), therapeutic optimism, general treatment outcome (ETOSGT), therapeutic optimism, personal treatment outcome (ETOSPT), therapeutic optimism, pessimism (ETOSP), emotional reactions to challenging behaviours, depression/anger (ERCBDA), emotional reactions to challenging behaviours, fear /anxiety (ERCBFA) and emotional reactions to challenging behaviours, positive emotions (ERCBPE) scores from baseline to post team formulation attendance (Table 1).

Measures	Pre -Team Formulation		Post Team Formulation		P value from Paired t-test
	Mean	Std	Mean	Std	
EMP-IDC	29.70	5.602	29.10	4.494	p=.621
EMP-IDAA	29.90	3.865	29.95	3.364	p=.953
EMP-IDP	34.90	4.656	35.80	4.708	p=.346
ERCB-DA	5.70	3.715	6.30	4.736	p=.428
ERCB-FA	3.40	2.741	3.35	2.961	p=.897
ERCB-PE	13.30	3.948	13.10	5.467	p=.842
ETOS-GT	27.95	4.058	28.30	4.366	p=.664
ETOS-PT	11.85	1.694	11.35	2.434	p=.437
ETOS-P	16.40	2.722	16.40	2.981	p=1.000

Table One- A summary of outcome measures before and after team formulation and key statistical analyses

Participants' empathy scores for challenge (p=.621), active attunement (p=.953) and proximity (p=.346) indicated no significant improvement after attending the team formulation. Similarly, participants' scores on the therapeutic optimism scale showed no significant difference after attending the formulation; general treatment outcome (p=.664); personal treatment outcome (p=.437); pessimism (p=1.000). Analyses show no significant change in participants emotional responses to challenging behaviour, depression/anger

( $p=.428$ ); fear/anxiety ( $p=.897$ ); positive emotions ( $p=.842$ ). Since there were no significant differences without Bronferroni correction it was not deemed necessary to adjust the alpha value for multiple comparisons.

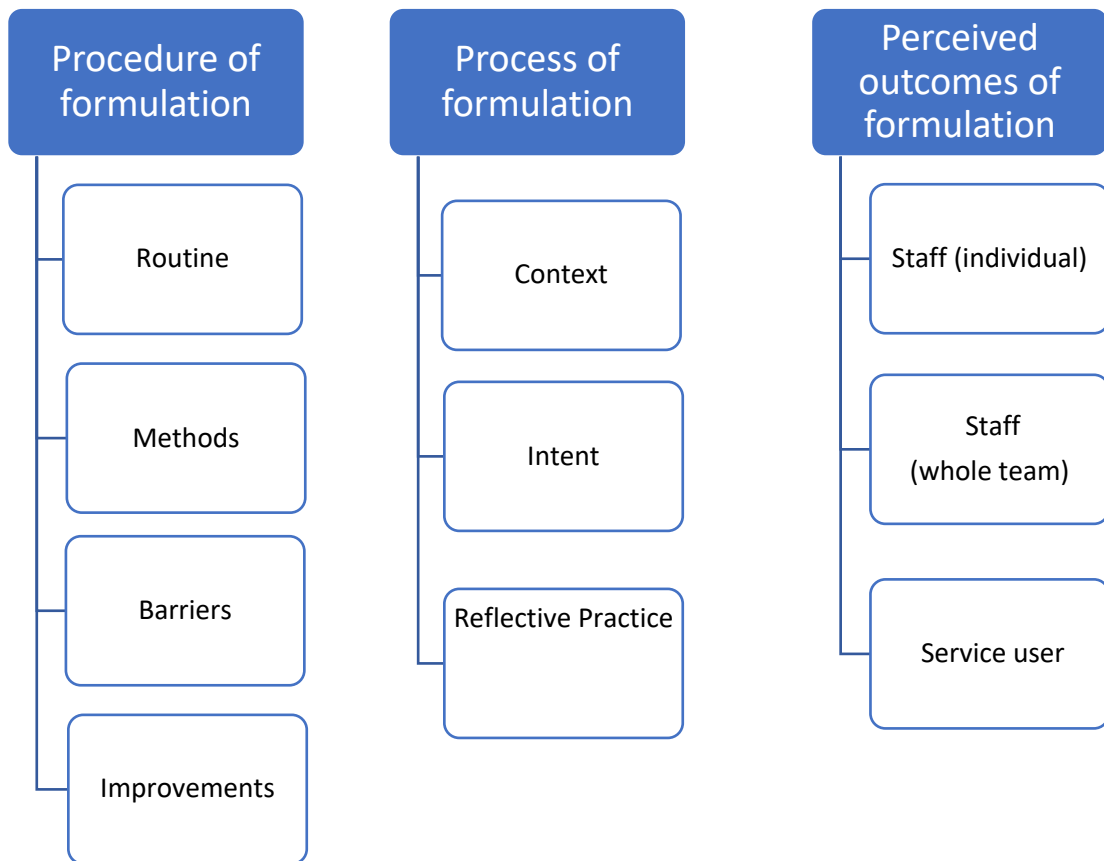
## **Results- Qualitative Phase**

### *Demographic Data of participants*

Six staff members were female (50%) and six staff members were male (50%). The majority of the staff (8/12) were between the ages of 35-44 years old. Six were registered learning disability nurses (50%), four were healthcare support workers (33.3%) one an assistant psychologist (8.33%) and one behaviour clinical specialist (8.33%). Staff had a mean number of 11 team formulation meetings they had attended over the past six months.

### *Qualitative Results*

The complete coding of all transcripts produced 57 tentative codes, refined to 35 codes (see appendix M). Codes were then grouped together based on conceptual similarities, creating 10 subthemes and 3 overarching themes (See Figure 1, See appendix N for full thematic maps).



*Figure 1: Themes and Subthemes*

Each theme and subtheme is outlined in bold in the text below along with a selection of narrative excerpts that have been edited (e.g. speech errors removed) to improve clarity.

### **Theme One- Procedure of formulation**

The introduction of team formulation meetings for staff on the unit led to the procedural aspects of team formulation which include the following subthemes ‘routine’, ‘methods of team formulation’, ‘barriers’, and ‘improvements’.

#### **Routine**

The team formulation takes place every week and interviewees reported that it is protected time and part of the routine.

“dedicated time” (Participant 9)

“embedded in our calendar, in our diaries” (Participant 3)

## **Methods**

Interviewees also highlighted that the method of team formulation helped the staff team generate ideas and plan care. The psychologist used a “visual” (participant 8) diagram which is “structured” (Participant 1,11,12) and includes “logical steps” (participant 2) to thinking about the service user, their history and current needs.

## **Barriers**

Despite team formulation meetings taking place on a weekly basis, it was still recognised that there was a requirement for more planning in order to ensure all staff can attend.

“it’s not accessible to everybody all of the time” (Participant 8)

Interviewees reported that missing a team formulation meeting meant that they missed out on information about a service user (this could be related to risk).

“working on a shift basis, If I’m not in, I haven’t attended a formulation and there could be information that’s been identified that hasn’t been highlighted to me” (Participant 4)

Whilst the consensus among interviewees was that team formulation meetings were “helpful” (Participant 10), it was felt that quality standard issues around actions being written up, acted as a barrier to the process of formulation.

“after the formulation meeting, I might not necessarily get the outcomes of that meeting or what was discussed disseminated to me as a person who was outside that formulation”

(Participant 7).

## **Improvements**

Staff highlighted for the need to increase the accessibility of team formulation meetings by changing “the day it takes place very week” (Participant 10) and for information to be shared to members of the team who are not able to attend.

“it would be nice to see the formulation printed out and shared with the team”  
(Participant 12)

## **Theme Two- Process of team formulation**

The second theme related to the process of team formulation meetings and the role the process has in enhancing staff’s understanding of the service user. This understanding appeared to be enhanced by four distinct processes; ‘content of team formulation’, ‘intent of team formulation’ (whereby staff are able to understand the service user beyond their diagnostic label), and ‘reflective practice’.

### **Content of team formulation**

Interviewees highlighted that the content of formulations were centred around “unpicking the service users” (Participant 9) which increased the understanding of the service user through a collaborative discussion.

“bring together all the information about the person and make an understanding of it”  
(Participant 1)

“get the opportunity to talk about events or situations that are going on” (Participant 3)

Interviewees reported that the content of team formulations resulted in shared understanding and a shared plan.

“sharing information and understanding” (Participant 2)



## **Intent of team formulation**

The subtheme of the intent of team formulation was prevalent in the data. Interviewees observed that team formulations provided staff an opportunity to talk affording them different types of discussions, that staff believe would not ordinarily have taken place had they not participated in team formulation.

“understanding the function of the behaviours and signposting to potential theories or potential answers” (Participant 8)

“how problems have developed” (Participant 6)

“linking the past and present” (Participant 2)

“how problems relate to one another” (Participant 9)

“maintenance of problems” (Participant 5)

“getting advice on the care plan” (Participant 11)

“challenging ideas about diagnostic labels” (Participant 8)

Many interviewees reported the importance of decision-making and enacting a joined -up approach.

“are we doing the right things for them?” (Participant 1)

“so everybody is on the same page so there’s no difference from me delivering care to somebody else going in” (Participant 10)

Ultimately staff felt they were observing improvements in “attributions” (Participant 1) towards people with ID and a “reduction in negative attitudes” (Participant 5).

## **Reflective Practice**

One purpose staff identified with team formulation meetings was the provision of a “space to reflect, think, be honest” (Participant 9). This helps with the wellbeing of the system for example being able to “ground yourself” (Participant 1); “step back” (Participant 6); and

“explore how we feel about service users- You’re not doing the wrong job or you’re not a bad person for feeling frustrated or frightened” (Participant 3).

Interviewees also explained that the reflective space in team formulation allowed them to “debate about caring for people” (Participant 2) and “challenging approaches” (Participant 12).

### **Theme Three- Perceived outcomes of formulation**

Interviewees reported that team formulation meetings resulted in changes at an individual level for staff (to their practice) but also changes at a wider, team level. In addition to these outcomes staff identified the beneficial outcomes for service users.

#### **Perceived outcomes for staff (Individual)**

Interviewees felt that from participating in team formulation they had “more empathy for service users” (Participant 4, 6, 10) and more “understanding” (Participant 1,5,11) which they could “take onto the floor, when you’re working” (Participant 7). Interviewees felt the biggest advantage was about “realising their own feelings” (Participant 3) and “doing something different” (Participant 5).

#### **Perceived outcome for staff (whole team)**

The use of team formulation provided an opportunity for all staff to feel listened to. Staff teams “working together” (Participant 1, 3, 5,10,11) was also commonly expressed as one of the outcomes from the formulation meetings. This allowed staff members to share experiences, generate ways to help with problems and increase consistency amongst the team.

“staff views listened too” (Participant 1)

“alternative view” or “different insight” (Participant 1,2, 5,7,8,9)

“moving forward together” (Participant 1,8,11,12)

“increases staff confidence” (Participant 1,10,11)

### **Perceived outcomes for service users**

Many interviewees were surprised to see how “emotive” the meetings were, and this was largely framed as a positive experience for those participating in team formulation meetings.

“brings that person to life” (Participant 5)

“improved communication” (Participant 1,10,11)

“decreases things like using restraint or seclusion” (Participant 2,7,10)

“informing care plans or interventions” (Participant 1,4,8,9)

Interviewees also explained that as a result of team formulation meetings they felt better able to “advocate for service users” (Participant 1) and “act in their best interests” (Participant 9).

### **Discussion**

The purpose of the current research was to explore the impact of team formulation meetings in an assessment and treatment unit for adults with an ID and mental health difficulties.

Firstly, it measured change in empathy, therapeutic optimism and emotional responses to challenging behaviours and secondly it examined the perspective of staff who work on the unit and participate in team formulation.

This study hypothesised that a significant increase in empathy, therapeutic optimism, and emotional responses to challenging behaviour scores would be observed following attendance

at the team formulation. Specifically, an increase in the following scores: empathy (EMP-ID); therapeutic optimism (ETOS); positive emotions (ERCB) and a decrease in negative emotional responses to challenging behaviour (ERCB). These hypotheses were based on existing research for example, Waugh et al, (2010); Hollingsworth & Johnstone, (2014). Analysis of the data suggests that the hypotheses were not supported. There were no significant changes in any of the measures. The lack of any effects may be due to limitations in the design of the study; small sample size and the use of multiple groups. In addition, the absence of any significant change may be due to the staff team already having a high level of pre-existing knowledge and understanding about the service user. One of the service users included in the study had previous admissions and the staff team knew her well, they therefore had a pre-existing collective and informed formulation of this individual. Similarly, Ingham et al., (2011) also found that staff's understanding of the service user changed only 'a little' when they already had this knowledge.

Contrary to the quantitative findings of this study, the qualitative results showed that people felt team formulation helped with changing their attitude/feelings towards service users and increased empathy. The interviews included many references to enhanced confidence, both on an individual level and wider team level, experienced by professionals through implementing consistent team formulation meetings and allowing allocated time (Casares & Johnstone, 2015).

The feedback from interviews with staff suggested that team formulation meetings brought about many perceived benefits in ID clinical practice. Staff highlighted that meetings resulted in improved communication both between team members and service users as well as other professionals. This is consistent with previous findings from Geach et al (2019) who note team formulation provided an opportunity to improve staff-service user interactions and improve communication. This improvement in communication between staff and service

users was also perceived to improve understanding of behaviours, in particular risk issues.

The sharing of risk information has also been noted to be one of the benefits of team formulation in previous studies (Beardmore & Elford, 2016). Staff reported that team formulation meetings help with an increased awareness of the needs of service users with ID. After attending team formulation meetings staff felt more confident in their ability to engage with service users, advocate for them and incorporate their voice in care planning. This is also consistent with other studies (Rowe & Nevin, 2013; Beardmore & Elford, 2016; Ingham, 2011).

Professionals reported that team formulation meetings provided an opportunity to talk in a different way and think about the service user and the function of the behaviours they were displaying. This is particularly important in an ID setting as some service users have limited verbal communication. This helped them to form a greater understanding of the service users' needs and think about the work undertaken and how they might alter this in the future. Also, the team formulation meetings was perceived as offering a space to reflect (BPS, 2007), which supported the wellbeing of the system and drew on and values the skills of others, which supported multidisciplinary working and is in line with existing literature (Cole et al., 2015; Ingham, 2011).

Despite staff in the current study feeling that team formulation was beneficial, they also highlighted barriers with the procedure of team formulation meetings. Staff reported that the meetings were not accessible to everybody all of the time (due to shift pattern) and raised concerns about missing important information with regards to the service users they work with. In addition to this, staff reported that information is not always disseminated after team formulation. This is consistent with existing literature (Chiffey et al., 2015; Walton, 2011).

Staff felt that if formulations are not recorded or shared this can impact on their understanding of behaviours that challenge, or risk issues.

*Why does the study show contradictory results?*

The following section explores the unexpected mismatch between the outcomes of the two parts of the study. The quantitative phase of the study did not find any statistically significant changes in any of the outcome measures for team formulation. This may have been because, the service (ATU) has a long history of carrying out team formulation and psychological thinking is very much part of their culture and practice. Therefore, staff members attending team formulation may have plateaued in their learning. Improvements in outcomes were likely to have been seen sooner shortly after staff joining the team formulation meetings. This plateau effect has also been noted in other studies for example, Dorning et al, (2016). This study used questionnaires to attempt to capture change due to peer support groups in outcome measures. However, they found no statistically significant changes in outcome measures over time, despite qualitative data demonstrating the value of the groups. A possible explanation for this is because the stroke survivors may have plateaued in their recovery.

Another reason why the quantitative phase of the study did not find any significant changes may have been because of the measures used. The measures represent a framework and understanding of the person who has developed it, and this may not match the views of the staff completing the measures. Future work could involve validating measures with staff such as health care assistants and direct care staff.

Furthermore, the overly positive results of the qualitative phase of the study may have been because of social bias/ social desirability reasons. The staff's relationship to the clinical psychologist could influence their responses. For example, Unadkat et al (2015) suggest that their participants were aware their comments would be fed back to the psychologist who facilitated the team formulation meetings and may have withheld negative feedback for this

reason. Hollingworth & Johnstone (2014) also note that individuals who respond during team formulation research may be influenced by a degree of self-presentation bias. This has been found in other research (Staniszewska & Henderson, 2005) where participants may be reluctant to express general dissatisfaction for a variety of reasons including feelings of loyalty. A suggested improvement could be to have a neutral person deliver the team formulation meetings.

### **Limitations and suggestions for future research**

There are limitations to the design of the current study. In particular, the small sample size (5 cases; 20 staff), the lack of statistical allowance for clustering of participants and the lack of follow up data which limits the generalisability of the findings and the drawing of conclusions. Future research could consider a larger trial across different ID settings, including both NHS and private sector.

It may have been more useful to compare the differences between the staff group using a randomised control trial design. This research design has been conducted by other researchers. For example, Berry et al. (2015) studied wards that used weekly team formulation in comparison to those that did not (i.e. treatment as usual, TAU) over a six-month period. They found that only the team formulation group showed improvements in staff-patient relationships, emphasising the importance of team formulation. Further investigation using rigorous methods of the costs and benefits of a team formulation approach relative to competing approaches (e.g. positive behaviour support, treatment as usual) would be prudent to overcome the gaps in the literature and inform future models of multidisciplinary service provision for people with ID.

Another limitation was the measures that were used in the study. The utility of the measures for research is questionable as it is not clear whether the measures are sufficiently sensitive to

change. There is a need for the development and validation of change sensitive measures for people with ID and their carers (Painter et al., 2016).

With regards to the qualitative phase of the study the main limitation was the low response rate with the participant verification. Due to the nature of shift work and resourcing issues it was difficult to organise time for staff to be released from the unit to part-take in a focus group to gather a more comprehensive verification.

A further limitation is that the present study excluded service user's experiences of care following team formulation. This means that there is a potential threat to the validity of a formulation if it is developed without service user involvement, as also noted by Ingham (2015). In spite of this, many team formulations are facilitated in this way (e.g. Ingham, 2015). It would be interesting to understand if and how team formulation has an impact upon the lives of the people they are supporting.

### **Implications for practice**

- Team formulation is for the team as well as the service user (Johnstone, 2017). This study has identified that staff value team formulation as a space for increasing empathy towards themselves, other team members and the service user. This is an important finding as empathy in staff may help to reduce stress and burn out for teams and is line with the Compassionate Care Agenda (2010-2015).
- Team formulations should be written up, recorded and shared amongst all members of the team. This helps with improving communication with people who cannot attend the meetings and disseminating important information. In addition to this the written notes will aid future reformulations and monitoring of the interventions.
- Team formulation meetings help staff working with people with ID to understand the function behind challenging behaviours and in turn enhance person-centred care.



- Continued research is required to further the understanding of the relationship between team formulation, changes in staff behaviour and service user outcomes.

## **Conclusion**

The current findings showed no changes in questionnaire scores of staff empathy, therapeutic optimism or emotional responses to challenging behaviour post team formulation practice.

This is because there are shortcomings in the study with regards to the small sample size and lack of statistical allowance for clustering effects. However, the feedback from professionals who attended the formulation groups was positive. Professionals value the support, learning, space for reflection, planning person centred interventions for people with complex needs and confidence building that can be achieved through attendance. Further research in multiple ID sites that have implemented team formulation is needed. It would also be beneficial to conduct comparative research into similar services which do not currently participate in team formulation to ascertain the differences team formulations make to a service.

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# Critical Evaluation

Word count 3,174: (excluding tables)

## Introduction

The following paper presents a critical appraisal of the research undertaken in both the systematic review and empirical study as well as a critical evaluation of the research process as a whole. This will include the strengths and limitations of the research project with reference to the methodology and conclusions drawn. Future research directions and implications for theory, policy and importantly clinical practice and service development will also be discussed.

## Topic Selection and Context

This thesis is clinically relevant as it investigated the impact of team formulation with staff supporting people with intellectual disabilities. It is hoped the findings will help practitioners in the ID field consider the utility of team formulation as well as help staff improve care and staff-service user relationships.

### *There is a Clinical Need*

Allan Skelly (2016) highlights the risk of services minimizing the importance of a person's life history and experiences through focusing primarily on challenging behaviour. However, a reduction in risk or challenging behaviours can vary with improvements in relationships



(Skelly, Collins & Dosanjh, 2014). Hastings (2010) note that staff relationships with service users determines quality of life outcomes for people with ID.

### *Psychologists Role*

In the current financial climate, it is important that Clinical Psychologists demonstrate their unique skills and their added value in the development of evidence-based and innovative services. The indirect and direct skills our profession brings from undertaking doctoral training which includes clinical practice and academic study (including research methods) and the fact that clinical psychologists are often placed within multidisciplinary teams, places us in a strong position to shape attachment informed services for people with ID. Many clinical psychologists consider sharing formulation skills to be an effective use of their time, having a much wider impact as compared to working solely with individual clients (Christofides *et al.*, 2012).

### **The research process – entering ‘research wonderland’**

There are ongoing debates within psychology of what constitutes as ‘evidence’. The consequence of the lack of consensus about acceptable approaches and what is regarded as ‘evidence’ means first time researchers may experience that they are in a strange country with arbitrary rules, like Alice in Wonderland (Barker et al, 2016). Hence, the author spent a significant amount of time on the ‘groundwork’ for the research project i.e. reviewing the literature, thinking about practical issues and the number of measures used as well ethical concerns. The author has learned that research is not a linear process and that after completing a piece of research there tends to be more questions than answers.

## **Developing the Initial Research Questions**

### *Rationale for Systematic Review*

Given the scarcity of evidence base in the area, it was important and necessary to build on existing literature. Substantial time was given to scoping exercises on the existing evidence base and observing the gaps in the literature to ensure the identification of a suitable research question. Contacting authors was helpful in formulating and refining the research question as well as ensuring the research review was suitably distinct.

Although team formulation has gained rapid interest clinically, it was only recently a systematic review was conducted looking at the definition, implementation and outcomes. The review was carried out by Geach and colleagues, (2018) observing team formulation across different clinical settings. However, it became clear that there had not been a review synthesising the status of the evidence and outcomes of team formulation in ID practice. The author focused in on one domain of team formulation practice as it could be informative for practice especially in an area that is under-reached (Ingham, 2015).

### *Rationale for Empirical Paper*

As outlined above, the use of team formulation is becoming an increasingly popular method of developing a shared person-centred understanding of a service user which then guides intervention. A variety of approaches to team formulation have been taken with community and inpatient mental health teams to date, albeit the evidence-base for these is limited and mainly include service evaluations.

Qualitative studies show that staff members have expressed an increased understanding of a service user's difficulties after facilitation of team formulation meetings (Summers, 2006; Ingham, 2015). Other studies have reported an increase in staff empathy (Berry et al., 2015;

Casares & Johnstone, 2015), and there is evidence that team formulation is integral for enhancing relationships with service users (Roycroft et al., 2015).

It was hoped that the empirical study would provide an understanding of both quantitative and qualitative outcomes of team formulation in ID inpatient settings. The author was interested to know if team formulation helps to improve the staff approach to the care and support people with ID receive in hospital.

## **Systematic Review**

### *Strengths*

#### *Novelty*

Prior to this thesis, no review has been conducted that specifically focused on team formulation in ID practice. Therefore, this systematic review was novel, timely, and imperative as it addressed a gap in the literature.

#### *Methodology*

Conducting a systematic review on team formulation in ID practice provided the opportunity to further develop important research skills; gain an understanding of the current state of evidence in the field and identify gaps in the evidence base.

It is essential that when conducting systematic reviews, that the methodology is replicable and transparent. The PRISMA (preferred reporting items for systematic reviews and meta-analyses) statement was developed for this purpose along with the four-phase flow chart (e.g., Moher et al., 2009). This approach was adopted in the present systematic review and was followed throughout the organizing and reporting of information in an attempt to increase transparency in the process.

### *Search Strategy*

The search strategy was devised in collaboration with the research team in an attempt to ensure appropriate and methodological procedures were adopted. The small scope of the literature made the development of a systematic review question an easier task. The scoping exercises and examination of reviews on team formulation (e.g., Geach et al., 2018) provided examples of appropriate terms and synonyms to utilise. The research team also encouraged the use of subject heading terms and advised on the number and types of databases for searching. Searches would be performed, and then further investigation would reveal the need for the inclusion of further terminology, for instance “mentally handicapped” and “mentally retarded” were needed or different terminology to describe team formulation such as “network training” was required.

In the early stages the sifting process was straight forward with the assistance of a reference management system (Endnote). The more challenging aspect of the process was making decisions at the later stages of the sifting process. A number of texts were necessary for downloading as important inclusion/exclusion criteria could not be ascertained from the abstract alone. For example, abstracts would refer to team formulation but not specify whether formulation had been created for a service user or if it had been presented as a fictional case or vignette. For other studies (papers observing systemic consultations), it was not clear whether the review aims (providing definition of team formulation, how it had been applied and the outcomes) had been explored.

### *Limitations*

#### *Quality Appraisal Tools*

The author used the same quality appraisal tools as previous reviews in the area (e.g. Geach et al., 2018) in the attempt to increase the capacity for comparison.

The quality rating method facilitated the process of reviewing the papers in a more objective and transparent way. It has been noted that quality assessment tools can be prone to biased ratings (Higgins, Altman & Sterne, 2011). The use of another independent rater allowed a less biased approach. However, the quality appraisal tools that currently exist are not fit for purpose to appraisal studies observing team formulation. It is important for future research to address this gap and perhaps develop quality appraisal tools which includes designs such as a group of staff and one service user (N=1) designs.

### *Quality of Studies*

The quality of studies was moderate. The majority of studies used small sample sizes and the mixed nature of their design and methodology created some difficulties in terms of appraising their quality. Another limitation was that researchers tend to use author developed questionnaires to evaluate team formulation. This present review recommends that clinical psychologists should consider the use of measures other than qualitative self-report measures completed by staff teams. The review recommends that self-report measures completed by individuals with ID are also important to capture to assess whether their relationships with staff may have changed after staff team formulation. After-all, the perceptions of service users are just as important as their staff teams.

## **Empirical Study**

### *Strengths*

#### *Service Context*

The study was carried out on an assessment and treatment unit (i.e. inpatient setting) where people are acutely distressed or in crisis. People with intellectual disabilities are admitted to assessment and treatment units so professionals can support them with mental health difficulties or if their behaviours challenge others. The aim is for individuals with ID to stay

on the unit for a short period of time and then to be discharged back into the community feeling happier and safer. Therefore, a key strength of the study is that the research took place in a setting that poses challenges to the staff team i.e. staff are working with one of most complex and ‘challenging’ populations and the research was carried out on real staff reporting on real people and was not based on a vignette.

Following the Winterbourne View report (DH, 2012a; DH, 2012b) there has been a focus on compassionate care and significant changes in the structure of services for people with ID. This has resulted in a shift away from inpatient admissions to community based models of care provision. However, recent data from NHS Digit Assuring Transformation Data, states that in the UK: “Many people with a learning disability and/ or autism have been in hospital for a long time. Of those in hospital at the end of October 2018, 1355 (58%) had a total length of stay over 2 years”. Even more so, individuals in inpatient settings are more likely to receive physical restraint, kept in isolation or highly medicated (Mencap, 2019).

Winterbourne View was also a type of assessment and treatment unit. Since Winterbourne View important work has been carried out with regards to inspection and regulatory systems (Fletcher, Flood and Hare, 2016) however, there has been little attention given to the nature and quality of relationships between support staff and service users.

### *Limitations*

#### *Sample Size*

A small sample size and lack of statistical allowance for clustering of participants is a limitation of the quantitative phase of the study. The author was unable to recruit from other intellectual disability settings such as, from a community ID team. Efforts were made to

contact other providers including both NHS and private sector however, due to time constraints and issues around consent, providers were unable to participate in the study.

### *Staff Feedback and Measures*

On several occasions staff complained about completing one measure in particular, the Emotional Responses to Challenging behavior (ERCB). The author reflected on this and wondered whether staff found it difficult because the measure is specifically asking them about their emotions towards service users who display behaviours that challenge. Did staff think the researchers were critiquing their practice or competencies and resilience to behaviours that challenge?

### **What was not studied**

The outcome of team interventions in terms of service users' wellbeing over time has not been evaluated (Johnstone *et al.*, 2015). Kellet *et al.*, (2014) argue that the chain of processes involved from consultancy to the team, to changes in staff behaviour, to changes in client's distress may be too long and complex to always study effectively.

This study did not investigate service user's wellbeing or quality of life. However, there is a lack of validated measures to assess quality of life for people with ID/ Autism and behaviour that challenges. Most of the instruments only measure some (not all) of the eight theoretically accepted domains of quality of life (Townsend-White, Pham and Vassos, 2011). More instruments that measure quality of life need to be developed and rigorously validated. Townsend-White *et al.*, (2011) argue that this is particularly important in the case for disability populations with high needs or have severe to profound ID, as it is questionable whether existing measures can be used with these populations.

The World Health Organisation have developed a quality of life measure (WHOQOL) which could be used before and after team formulation. With regards to the present study this measure was not used for a number of reasons. For example, the research team discussed issues around capacity and there were many considerations around at ‘What point was it suitable to administer the quality of life measure?’

Additionally, more work needs to be carried out with regards to team formulation and outcomes. For example, what components of team formulation map onto service user outcomes and how can we measure this? It is unclear whether improvement in outcomes for service users are a direct result of team formulation or due to other co-variates such as, Positive Behavioural Support (PBS) interventions, staff changes, or team cohesion. Further exploration using rigorous methods of the costs and benefits of team formulation relative to competing treatment approaches (e.g. PBS, treatment as usual) would be prudent to overcome the gaps in the literature and inform future models of multidisciplinary ID service provision.

## **Discussion of thesis as a whole**

### *Implications for theory and clinical practice*

The systematic review collated the findings currently available regarding team formulation in ID practice. This was an important development in the literature base to summarise evidence in the area of team formulation in ID practice and the various definitions, applications and outcomes which have been proposed. As outlined in the systematic review it is essential for clinical psychologists working in the field of ID to standardise the term ‘team formulation’ in terms of its definition and the way it is implemented. The findings from the systematic review show that different terms are used to describe team formulation such as, network training. From the author’s experience of clinical placements in ID settings, some psychologist’s also use the



term ‘case workshop’ to describe a team formulation meeting. It would be helpful for the profession to identify one term, so practitioners have a common shared language to understand team formulation. Another interesting finding was that from the eight studies in the review none of them considered reformulation within the definition of team formulation. Presumably reformulation should be included in the definition. Does this mean clinical psychologist working in ID do not think reformulation is an important part? Are clinical psychologists reformulating service users?

Figure 2 presented in the systematic review illustrates three elements that are understood to be important in the implementation of team formulation in ID practice. The three elements are: formulation-focused consultation; hypotheses to be tested; reflective practice and as a whole these elements represent shared understanding. The systematic review noted that there is a moderate evidence base for team formulation focused consultation due to a lack of formal evaluation, small sample sizes and increased use of author developed questionnaires. It would be useful to build upon the evidence base in this area and collect data on team formulation focused consultations by evaluating this practice. One suggestion could be using the Goals Based Outcome measure or consultant effectiveness scales used in other sectors which could be adapted to evaluate team focused consultation rather than using author developed questionnaires.

The qualitative phase of the study highlighted that staffs’ views of formulation is generally positive and this is line with previous research (Hollingsworth & Johnstone, 2014).

Professionals view team formulation as an effective way to use time in a climate where funds are low. Although the present study did not achieve any significant quantitative findings this does not mean we should stop carrying out team formulation practice, but instead clinical psychologists need to think about “what are we measuring?” Does this have an impact on care? Or is psychological mindedness more important than team formulation? Benefits

attributed to a formulation may instead be the effect of providing an opportunity for staff to feel listened to and to understand 'patients as people' (Summers, 2006: p 343).

### *Service user or family involvement*

The research did not include service users or family perspectives. Where possible people with ID should be involved in the team formulation process and emphasis should be placed on “personal involvement and participation” (Miller and McClelland, 2006, p133). This is in line with the disability rights movement – “Nothing about us without us” and “Valuing People” government strategy. People with ID may feel disempowered and it is vital to work collaboratively to incorporate their views when planning care. If it is not possible for people with ID to be involved in the team formulation process, then it would be interesting to collect views from their family on the person’s experiences of care from the support staff that have developed a formulation.

### *Policy and guidance*

There is considerable, and arguably sensible guidance on the rights of people with ID for example, “Valuing People” (England); “The Same as You?” (Scotland) and “Fulfilling the Promises” (Wales). These documents discuss the importance of people with ID being fully included in their communities however, there seems to a gap in policy around the emotional needs of people with ID. The gap in policy was recently addressed with a document produced by the BPS (2017) “Incorporating Attachment theory into Practice: Clinical Practice Guideline for Clinical Psychologists working with People who have ID”. This document is informative and offers recommendations with regards to assessment, formulation and intervention. However, it does not include a formulation framework for clinical psychologists to implement when working with staff teams who support people with ID. Amanda Shackleton (2016) discusses the importance of staff being able to provide attuned care and

gives a summary of elements of “good enough” emotionally nurturing care (Table 1 ) which is useful and should be considered in such guidance.

Table 1: Summary of elements of ‘good enough’ emotionally nurturing care

Core staff group	<ul style="list-style-type: none"> <li>• Made up of 6-7 staff members</li> <li>• Enables client to develop trust, emotional safety and attachments in a safe, contained way</li> <li>• Group size ensures the client is always supported by someone they are ‘attached to’ despite staff absence</li> </ul>
Attuned Care	<ul style="list-style-type: none"> <li>• Staff are aware of the individual’s intellectual; and comprehension issues and modify their support style appropriately</li> <li>• Staff are aware of the individual’s emotional arousal cycle and strategies that help the person feel calmer</li> <li>• Staff are aware of significant anniversaries for the person that may impact on their mood and prepared to respond accordingly</li> </ul>
Consistency	<ul style="list-style-type: none"> <li>• Staff are following the same procedures and routines around tasks necessary for support</li> </ul>
Reliable	<ul style="list-style-type: none"> <li>• Minimal changes to the staff rota</li> <li>• Any staff changes and breaks are explained and planned for</li> <li>• Staff do not make promises or arrangements without ensuring they can be followed through</li> </ul>
Demonstrating Nurture	<ul style="list-style-type: none"> <li>• Through warm, interpersonal style with the person, use of considered touch, as appropriate</li> <li>• Doing things now and then for the person to ‘treat’ them, make them feel special</li> </ul>
Boundaries	<ul style="list-style-type: none"> <li>• Keeping contact to shifts, not sharing phone numbers or social media contacts. This can be explained as ‘the rules from the boss’ so as not to be felt personally rejecting.</li> </ul>

## **Future Research**

Both papers make recommendations for future research. With regards to the systematic review it would be helpful for psychologists to create quality appraisal tools to help researchers appraise studies that focus on team formulation. The systematic review also highlighted the importance of clearer definitions of team formulation in ID practice. Progression of the empirical study would be useful in gathering more data with greater number of participants, including community learning disability teams. Furthermore, a randomized controlled trial (RCT) design using a control group i.e. 'treatment as usual' and 'team formulation' as the intervention, could also be a valuable addition to the evidence base. However, RCT's are rarely used in ID research, Fletcher and colleagues (2016) state that this could be "due to difficulties in gathering a suitably large and homogenous group of research participants. However, the apparent lack of 'evidence' in ID populations more generally may reflect not only the challenges in research design, but also a more widespread disinterest and dismissal of important issues for people with ID. This could be related to issues of stigma of people with ID, particularly for those whose communication difficulties mean their 'voices' may not be heard without others advocating for them" (p3).

## **Dissemination**

The first two papers of this thesis will be submitted for publication to the British Journal of Intellectual Disability. In addition, the findings will be presented to the staff and managers of the assessment and treatment unit where the study took place and shared within the psychology department at the Aneurin Bevan University Health Board. The author will look for further opportunities to present at conferences.

## **Conclusion**

Overall the author has thoroughly enjoyed taking a key role in the research process. It has been an opportunity to gain research and analytical skills as well as becoming more aware of bridging the gap between clinical practice and research. The author has also reflected on the role of a clinical psychologist in terms of applied research and evidence -based practice and to think about how our skills are best utilised.

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## **APPENDIX A- The Journal Requirements for The British Journal of Learning Disabilities**

### **MANUSCRIPT FORMAT AND STRUCTURE**

All manuscripts submitted to British Journal of Learning Disabilities should include: Accessible Summary, Keywords, Abstract, Main Text (divided by appropriate sub headings) and References. Manuscripts should not be more than 5,000 words in length.

*Title Page:* This should include: a short title to indicate content with a sub-title if necessary; the full names of all the authors; the name(s) and address(es) of the institution(s) at which the work was carried out (the present addresses of the authors, if different from the above, should appear in a footnote); the name, address, telephone and fax numbers, and email addresses of the author to whom all correspondence and proofs should be sent; a suggested running title of not more than 50 characters, including spaces should be provided in the header of each page.

*Accessible Summary:* As well as an abstract, authors must include an easy-to-read summary of their papers. This was introduced in 2005 and was done so in the spirit of making research findings more accessible to people with learning disabilities. The editorial board also believe that this will make 'scanning' the Journal contents easier for all readers. Authors are required to:

- Summarise the content of their paper using bullet points
- Express their ideas in this summary using straightforward language, and
- State simply why the research is important and should matter to people with learning disabilities.

*Keywords:* these are words which have relevance to the type of paper being submitted, this is for reviewing and citing purposes. You are asked by Manuscript Central to input keywords when submitting a paper, but up to 6 keywords must also be included within the 'main document' underneath the Accessible Summary.

*Abstract:* All papers should use a structured abstract incorporating the following headings: Background, Materials and Methods, Results, Conclusions. These should outline the questions investigated, the design, essential findings and main conclusions of the study.

*Main Text:* The text should then proceed through sections of Background/Introduction, Review of Literature, Research Questions/Hypotheses, Materials, Methods, Results and Discussion, and finally Tables. Figures should be submitted as a separate file.

### **Style**

#### *Abbreviations and symbols:*

All symbols and abbreviations should be clearly explained (e.g. learning disabilities, not LD; developmental disabilities, not DD; intellectual disabilities, not ID). Please also use "people with learning disabilities" wherever possible, not "learning disabled people".

### **References: APA – American Psychological Association**

References should be prepared according to the Publication Manual of the American Psychological Association (6th edition). This means in text citations should follow the author-date method whereby the author's last name and the year of publication for the source should appear in the text, for example, (Jones, 1998). The complete reference list should appear alphabetically by name at the end of the paper.

## APPENDIX B – Ethical approval for the quantitative phase of the study



Dr Dougal Hare  
Clinical Psychology  
Cardiff University  
South Wales Doctoral Programme in Clinical Psychology  
Cardiff University, 11th Floor, Tower Building, 70 Park Place  
Cardiff  
CF10 3AT

Email: [hra.approval@nhs.net](mailto:hra.approval@nhs.net)  
[Research-permissions@wales.nhs.uk](mailto:Research-permissions@wales.nhs.uk)

21 September 2018

Dear Dr Hare

**HRA and Health and Care  
Research Wales (HCRW)  
Approval Letter**

<b>Study title:</b>	<b>Staff in Intellectual Disability (ID) settings: using a team formulation with an attachment focus.</b>
<b>IRAS project ID:</b>	<b>249202</b>
<b>Protocol number:</b>	<b>SPON1683-18</b>
<b>REC reference:</b>	<b>18/HCRW/0003</b>
<b>Sponsor</b>	<b>Cardiff University</b>

I am pleased to confirm that [HRA and Health and Care Research Wales \(HCRW\) Approval](#) has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

**How should I continue to work with participating NHS organisations in England and Wales?**

You should now provide a copy of this letter to all participating NHS organisations in England and Wales, as well as any documentation that has been updated as a result of the assessment.

Following the arranging of capacity and capability, participating NHS organisations should **formally confirm** their capacity and capability to undertake the study. How this will be confirmed is detailed in the "*summary of assessment*" section towards the end of this letter.

You should provide, if you have not already done so, detailed instructions to each organisation as to how you will notify them that research activities may commence at site following their confirmation of capacity and capability (e.g. provision by you of a 'green light' email, formal notification following a site initiation visit, activities may commence immediately following confirmation by participating organisation, etc.).

## APPENDIX C – Research and Development Approval, The Aneurin Bevan University Health Board



Ymchwil Iechyd  
a Gofal Cymru  
Health and Care  
Research Wales



GIG  
CYMRU  
NHS  
WALES  
Bwrdd Iechyd Prifysgol  
Aneurin Bevan  
University Health Board

R&D Department  
Clinical Research &  
Innovation Centre  
St Woolos Hospital  
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### Research and Development Department

☎ 01633 656353  
✉ [ABB.R&D@wales.nhs.uk](mailto:ABB.R&D@wales.nhs.uk)

Ms Kiran Sidhu  
School of Psychology  
Cardiff University  
Tower Building  
70 Park Place  
Cardiff  
CF10 3AT

Dear Ms Sidhu,

#### Letter of access for research project/s:

**Title:** Staff in Intellectual Disability (ID) settings: using a team formulation with an attachment focus.

**Chief Investigator:** Dr Dougal Hare

**Principal Investigator:** Kiran Sidhu

**R&D Reference Number:** RD/1695/18

**IRAS Number:** 249202

We are satisfied that such checks as are necessary have been carried out by your employer and that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. This letter confirms your right of access to conduct research through the **Aneurin Bevan University Health Board** for the purpose and on the terms and conditions set out below.

For R&D reference number RD/1629/17 this right of **access commences on the 26<sup>th</sup> November 2018 and ends on the 1<sup>st</sup> May 2019** unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project. You are considered to be a legal visitor to **Aneurin Bevan**

Advancing Knowledge, Enhancing Care

## APPENDIX D – Participant Information Sheet (quantitative phase of the study)



NHS  
WALES  
GIG  
CYMRU

School of Psychology  
Ysgol Seicoleg

South Wales Doctoral Programme in Clinical Psychology  
*De Cymru Rhaglen Doethuriaeth mewn Seicoleg Glinigol*



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### PARTICIPANT INFORMATION SHEET

TITLE: *Staff in Intellectual Disability (ID) settings: using a team formulation approach*

IRAS NUMBER: 249202

SPONSOR: *Cardiff University*

INVESTIGATORS: *Kiran Sidhu (Student Researcher) Dr Dougal Hare (Academic Supervisor, Cardiff University, Dr Bronwen Davies (NHS Supervisor, Aneurin Bevan University Health Board).*

#### **Introduction**

I am Kiran Sidhu a Trainee Clinical Psychologist on the South Wales Doctoral Programme in Clinical Psychology (DClinPsy) at Cardiff University. I am undertaking doctoral research work as part of my training and I would like to invite you to take part in this research study.

#### **Why have I been invited to take part?**

You have been invited to take part because you are a member of staff or paid carer, who has been involved in supporting service users with ID. Before you agree to participate in this study, it is important for you to understand why the research is being done, and what it would involve for you. Please take time to read the following information carefully. If you want to ask any questions or would like further information then please free to contact me via the email or telephone number below.

[SidhuK3@cardiff.ac.uk](mailto:SidhuK3@cardiff.ac.uk) / or 029 208 70582

#### **Do I have to take part?**

No, participation in this research study is voluntary so it is entirely up to you if you want to take part or not. If you decide to take part you will be given this information sheet to keep and asked to sign a consent form.

If you decide to take part and then change your mind later, you will be free to withdraw from the study at any time without giving a reason, and without it affecting your rights in any way. Please see the 'What will happen to my Personal Data' section below for details about how your data will be used if you withdraw from the study.

### **What will taking part involve?**

I am researching what effect, if any, team formulation (delivered to staff), has on their perceptions of service users with ID. If you decide to take part in the research, you will be asked to attend a team formulation session (the session should last around 1 hour) and asked to complete three questionnaires before and after the session. These questionnaires should take approximately 20 minutes to complete. After three months you will be contacted and asked to complete the same set of questionnaires. You will also be asked to complete a demographic questionnaire (e.g. age group, gender, job title etc) at the beginning of the process.

### **Potential advantages or benefits of participation**

This study has the potential to inform service development improvements in ID settings. For example, the current research will be relevant to individual service user work and team working. Furthermore, there may be more opportunities for teams to work more closely in considering attachment ideas (e.g. team formulation which considers attachment relationships, impact on ID).

### **Potential disadvantages or risks of participation**

There are no known risks involved in taking part in this study, however, some participants could find the topic sensitive and may become upset. If this happened, you could stop immediately, you would be under no obligation to continue and could withdraw from the study altogether.

### **Will my taking part in the study be confidential?**

All information collected from (or about) you during the study will be kept strictly confidential and any personal data you provide will be held in accordance with data protection law (please see 'What will happen to my Personal Data' below for further information). The only exception to this would be if you disclosed information that indicated a serious risk to either your own or someone else's safety. If this were to happen, I may be obliged to override confidentiality and to report the matter disclosed to appropriate persons in line with NHS procedures and relevant professional codes of practice. Where appropriate, I would try to inform you of the need to break confidentiality.

The questionnaires you complete as part of this study will not have your name on them and will not require you to provide any identifiable information. To the extent that any identifiable information is inadvertently provided within the questionnaires, this will be anonymised. The anonymised data obtained during the study will be retained securely at Cardiff University for a period of at least 15 years after the study has finished, and will only be accessible to the investigators listed on the first page of this Information Sheet.

### **What will happen to my Personal Data?**

Cardiff University is the sponsor for this study based in the United Kingdom. Cardiff University will be using information from you in order to undertake this study and will act as the data controller for this study. This means that the University is responsible for looking after your information and using it properly. Cardiff University will keep identifiable information about you for 15 years after the study has finished (namely your consent form).

Under data protection law, the University has to specify the legal basis that we are relying on to process your personal data. In providing your personal data for this research we will process it on the basis that doing so is necessary for our public task for scientific and historical research purposes in accordance with the necessary safeguards, and is in the public interest. The University is a public research institution established by royal charter to advance knowledge and education through its teaching and research activities. The charter can be found on the Cardiff University website.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will seek to anonymise data wherever possible and/or use the minimum personally-identifiable information possible.

Cardiff University has a Data Protection Officer who can be contacted at [inforequest@cardiff.ac.uk](mailto:inforequest@cardiff.ac.uk). Further information about Data Protection, including your rights and details about how to contact the Information Commissioner's Office should you wish to complain about how your personal data has been handled, can be found at <https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection>

Psychologists and/or members of the Learning Disability Teams within the Aneurin Bevan University Health Board will be required to access and collect information about you for this research study in accordance with our instructions (namely to provide you with information about this study).

The Aneurin Bevan University Health Board will keep your name, age and job role details confidential and will not pass this information to Cardiff University. The Aneurin Bevan University Health Board will use this information as needed, to contact you about the research study and to oversee the quality of the study. Certain individuals from Cardiff University and regulatory organisations may look at the research records to check the accuracy of the research study. Cardiff University will only receive information from the Aneurin Bevan University Health Board without any identifying information and the only identifying information held by Cardiff University will be the information you provide to the Researchers directly.

The Aneurin Bevan University Health Board will keep identifiable information about you from this study for 15 years after the study has finished.

### **Results of the study**

The results of the study will initially be written up as a doctoral thesis and submitted as part of my examinations towards a Doctorate in Clinical Psychology. The findings from this study will be submitted for publication and also presented at local service meetings and national and international conferences. Please be assured that names of participants and/or other identifiable information will not be included in any reports so you will not be identified in any report/publication related to this research

### **Raising a concern**

If you wish to raise a concern about the study, please contact me using the details contained on the first page of this Information Sheet. I will do my very best to resolve any problems immediately. However, if this does not feel appropriate, please contact my Academic Supervisor, Dr Dougal Julian Hare, at Cardiff University (Tel: 02920870582) or [HareD@cardiff.ac.uk](mailto:HareD@cardiff.ac.uk).

Alternatively, if you would like to raise a concern or complaint with someone who is independent of this study, please contact the Programme Director, Dr Reginald Morris, at Cardiff University (Tel: 02920870582) or [Reg.Morris@wales.nhs.uk](mailto:Reg.Morris@wales.nhs.uk) .

**Who has reviewed and approved this study**

This study is sponsored by Cardiff University and has been approved by the South Wales Doctorate in Clinical Psychology Programme. The study has received ethical approval from Cardiff University's School of Psychology Research Ethics Committee and NHS host organisation approval has been obtained from the Aneurin Bevan University Health Board.

**THANK YOU FOR CONSIDERING TAKING PART AND TAKING THE TIME TO  
READ THIS INFORMATION SHEET**

**IF YOU WISH TO PARTICPATE IN THIS STUDY PLEASE CONTACT ME ON**

[SidhuK3@cardiff.ac.uk](mailto:SidhuK3@cardiff.ac.uk) / or 029 208 70582



## APPENDIX E – Consent Form (quantitative phase of study)



NHS  
WALES  
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School of Psychology  
Ysgol Seicoleg

South Wales Doctoral Programme in Clinical Psychology  
De Cymru Rhaglen Doethuriaeth mewn Seicoleg Glinigol



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Plas y Parc  
Caerdydd CF10 3AT  
Cymru Y Deyrnas Unedig

### CONSENT FORM

TITLE: *Staff in Intellectual Disability (ID) settings: using a team formulation approach*

IRAS NUMBER: 249202

SPONSOR: *Cardiff University*

INVESTIGATORS: *Kiran Sidhu (Student Researcher) , Dr Dougal Hare (Academic Supervisor, Cardiff University) , Dr Bronwen Davies (NHS Supervisor, Aneurin Bevan University Health Board).*

**Please initial the boxes if you agree with the following statements, and sign and date the bottom of this form.**

#### **Participant's statement**

1.	I confirm that I have read the Participant Information Sheet, Version 2, dated June 2018 and understand what the study involves.	
2.	I have been given the opportunity to ask questions about the study and my participation. Where applicable, questions about the purpose of the project have been answered sufficiently.	
3.	I understand that my participation is voluntary and that I am free to withdraw from the study at any time without giving a reason and without it affecting my rights in any way.	
4.	I agree to take part in the attachment focus team formulation for the study.	
5.	I agree to complete three questionnaires before the team formulation, after the formulation session and then again three months later.	
6.	I understand that all of the information I provide during the study will be held securely and in confidence by the research team, unless they are required to disclose information as a result of concerns about my safety, or the safety of others	
7.	I understand that any identifiable information I provide (namely the information contained in this consent form) will be handled in accordance with data protection legislation and retained securely at Cardiff University for a period of 15 years from the end of the study.	

8.	I understand that the anonymised research data will be retained securely at Cardiff University for a period of at least 15 years from the end of the study and will be accessible to the investigators listed on the Participant Information Sheet.	
9.	I understand that my anonymised data will be included in an assignment for the South Wales Doctoral Programme in Clinical Psychology.	
10.	I understand that the write up of this study, including my anonymised data, may be published.	
11	I agree to take part in this study.	

Participant Signature

..... Date.....  
Name (please print)

.....  
Researcher Signature  
..... Date.....

## APPENDIX F – Measure 1 - The Empathy Towards People with Intellectual Disabilities Scale (EMP-ID)

	Strongly disagree	Disagree	Disagree slightly	Agree slightly	Agree	Strongly agree
1. I always try to tune into the feelings of people with intellectual disabilities around me <i>(AA, -0.48)</i>						
2. I feel frustrated when someone with an intellectual disability is unable to do something important to them e.g. go on a local day trip <i>(P, 0.44)</i>						
3. I find it hard to understand why people with intellectual disabilities behave the way they do <i>(C, 0.58)</i>						
4. If a person with an intellectual disability is depressed it brings my mood down <i>(P, 0.41)</i>						
5. It is difficult for me to see things from the points of view of people with intellectual disabilities <i>(C, 0.65)</i>						
6. I take a moment to consider what the person with an intellectual disability might be thinking before I respond to them <i>(AA, -0.55)</i>						
7. I get angry when I think of how people with intellectual disabilities have been treated <i>(P, 0.42)</i>						
8. I find it hard to pick up on the moods of people with intellectual disabilities <i>(C, 0.46)</i>						
9. I imagine myself in the place of someone with an intellectual disability when working with them <i>(P, 0.56)</i>						
10. I try to understand what is going on in the mind of a person with intellectual disabilities by paying attention to what they do <i>(AA, -0.42)</i>						
11. It is hard to put yourself in the shoes of someone with an intellectual disability <i>(C, 0.69)</i>						
12. I can pick up on the mood of someone with an intellectual disability without them needing to tell me <i>(AA, -0.55)</i>						
13. I find it difficult to work out why someone with an intellectual disability is crying <i>(C, 0.39)</i>						
14. I use my own life experiences to help imagine what it might be like to have a learning disability <i>(P, 0.61)</i>						
15. Because no two people with intellectual disabilities are alike, it is difficult for me to see things from their perspective <i>(C, 0.66)</i>						
16. Seeing the world through the eyes of the person with an intellectual disability helps me understand what they want <i>(P, 0.51)</i>						
17. I wonder whether someone with an intellectual disability is feeling the same way as I would in a particular situation <i>(P, 0.51)</i>						
18. I take a moment to consider whether I've understood what a person with an intellectual disability is trying to communicate <i>(AA, -0.60)</i>						
19. It is hard to know how people with intellectual disabilities feel if they can't speak or don't choose to say <i>(C, 0.44)</i>						
20. It's important to find out about a person with an intellectual disability's life to be able to put yourself in their place <i>(AA, -0.33)</i>						
21. I feel upset when I see someone with an intellectual disability is sad <i>(P, 0.51)</i>						

## APPENDIX F- Measure 2 - Emotional reactions to challenging behaviour scale (ERCBS)

TITLE: Staff in Intellectual Disability (ID) settings: using a team formulation with an attachment focus.

SPONSOR: Cardiff University

INVESTIGATORS: Kiran Guye (Student Researcher), Dr Dougal Hare (Academic Supervisor, Cardiff University), Dr Bronwen Davies (NHS Supervisor, Aneurin Bevan University Health Board).

Below is a list of emotions that caregivers have said that they experience when they have to work with people who display challenging behaviours. We want to know how *you* typically feel in this situation. Think about your own recent experience of challenging behaviours displayed by the people that you work with. Consider each of the emotional reactions, and select the response next to each item that best describes how you feel when working with people who display challenging behaviours

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
<b>SHOCKED</b>	0	1	2	3
<b>CONFIDENT</b>	0	1	2	3
<b>GUILTY</b>	0	1	2	3
<b>HOPELESS</b>	0	1	2	3
<b>COMFORTABLE</b>	0	1	2	3
<b>AFRAID</b>	0	1	2	3
<b>ANGRY</b>	0	1	2	3
<b>INVIGORATED</b>	0	1	2	3
<b>INCOMPETENT</b>	0	1	2	3
<b>HAPPY</b>	0	1	2	3
<b>FRUSTRATED</b>	0	1	2	3
<b>HELPLESS</b>	0	1	2	3
<b>SELF-ASSURED</b>	0	1	2	3
<b>DISGUSTED</b>	0	1	2	3
<b>RELAXED</b>	0	1	2	3
<b>RESIGNED</b>	0	1	2	3
<b>FRIGHTENED</b>	0	1	2	3
<b>CHEERFUL</b>	0	1	2	3
<b>HUMILIATED</b>	0	1	2	3
<b>BETRAYED</b>	0	1	2	3

<b>SAD</b>	0	1	2	3
<b>EXCITED</b>	0	1	2	3
<b>NERVOUS</b>	0	1	2	3

## **APPENDIX F- Measure 3- Elsom Therapeutic Optimism Scale (ETOS) – adapted**

TITLE: Staff in Intellectual Disability (ID) settings: using a team formulation with an attachment focus.

SPONSOR: Cardiff University

INVESTIGATORS: Kiran Guye (Student Researcher), Dr Dougal Hare (Academic Supervisor, Cardiff University) , Dr Bronwen Davies (NHS Supervisor, Aneurin Bevan University Health Board).

### **1. Intellectual disability clinicians have the capacity to positively influence outcomes for people with intellectual disabilities.**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

### **2. There is little that can be done to help many people with intellectual disabilities.**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

### **3. My contribution to positive outcomes is insignificant in comparison to other treatments, for example, medications.**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

### **4. I can make a positive difference to outcomes for most people with intellectual disabilities.**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

### **5. Positive outcomes are directly related to the quality of clinician skills and knowledge.**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

### **6. There are always new skills and knowledge I can acquire to improve my work**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

### **7. The outcomes of people with intellectual disabilities is not significantly affected by clinician interventions.**

<b>Strongly disagree</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>Strongly agree</b>
--------------------------	----------	----------	----------	----------	----------	----------	-----------------------

**8. Even the most challenging clients can benefit from my intervention.**

<b>Strongly disagree</b>	1	2	3	4	5	6	<b>Strongly agree</b>
--------------------------	---	---	---	---	---	---	-----------------------

**9. Often there is little I can do to help people with their intellectual disabilities/ challenging behaviour.**

<b>Strongly disagree</b>	1	2	3	4	5	6	<b>Strongly agree</b>
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**10. With my assistance most people with intellectual disabilities/ challenging behaviour will recover.**

<b>Strongly disagree</b>	1	2	3	4	5	6	<b>Strongly agree</b>
--------------------------	---	---	---	---	---	---	-----------------------

## APPENDIX G – Table to show tests for normality

### Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Dempidc is normal with mean 1.41 and standard deviation 4.963.	One-Sample Kolmogorov-Smirnov Test	.066 <sup>1</sup>	Retain the null hypothesis.
2	The distribution of Dempidaa is normal with mean -0.04 and standard deviation 4.090.	One-Sample Kolmogorov-Smirnov Test	.136 <sup>1</sup>	Retain the null hypothesis.
3	The distribution of Dempidp is normal with mean -1.00 and standard deviation 3.863.	One-Sample Kolmogorov-Smirnov Test	.200 <sup>1,2</sup>	Retain the null hypothesis.
4	The distribution of Dercbda is normal with mean -0.48 and standard deviation 2.992.	One-Sample Kolmogorov-Smirnov Test	.200 <sup>1,2</sup>	Retain the null hypothesis.
5	The distribution of Dercbfa is normal with mean 0.37 and standard deviation 1.904.	One-Sample Kolmogorov-Smirnov Test	.007 <sup>1</sup>	Reject the null hypothesis.
6	The distribution of Dercbpe is normal with mean 0.63 and standard deviation 4.683.	One-Sample Kolmogorov-Smirnov Test	.145 <sup>1</sup>	Retain the null hypothesis.
7	The distribution of Detosgt is normal with mean -0.19 and standard deviation 3.247.	One-Sample Kolmogorov-Smirnov Test	.159 <sup>1</sup>	Retain the null hypothesis.
8	The distribution of Detospt is normal with mean 0.30 and standard deviation 2.866.	One-Sample Kolmogorov-Smirnov Test	.002 <sup>1</sup>	Reject the null hypothesis.
9	The distribution of Detosp is normal with mean 0.33 and standard deviation 2.201.	One-Sample Kolmogorov-Smirnov Test	.001 <sup>1</sup>	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

<sup>1</sup>Lilliefors Corrected

<sup>2</sup>This is a lower bound of the true significance.



## APPENDIX H – Ethical approval for study- qualitative phase

**From:** [research-permissions@wales.nhs.uk](mailto:research-permissions@wales.nhs.uk) <[noreply@harp.org.uk](mailto:noreply@harp.org.uk)>  
**Sent:** 30 August 2019 18:49  
**To:** Dougal Hare <[HareD@cardiff.ac.uk](mailto:HareD@cardiff.ac.uk)>; resgov <[resgov@cardiff.ac.uk](mailto:resgov@cardiff.ac.uk)>  
**Subject:** IRAS Project ID 249202. HRA Approval for the Amendment

Dear Dr Hare,

<b>IRAS Project ID:</b>	249202
<b>Short Study Title:</b>	Using a team formulation approach in ID settings
<b>Amendment No./Sponsor Ref:</b>	
<b>Amendment Date:</b>	20 August 2019
<b>Amendment Type:</b>	Non Substantial Non-CTIMP

I am pleased to confirm **HRA and HCRW Approval** for the above referenced amendment.

You should implement this amendment at NHS organisations in England and Wales, in line with the conditions outlined in your categorisation email.

### User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>.

Please contact [hra.amendments@nhs.net](mailto:hra.amendments@nhs.net) for any queries relating to the assessment of this amendment.

Kind regards

**Juliana Araujo**

**Approvals Specialist**

**Health Research Authority**

Ground Floor | Skipton House | 80 London Road | London | SE1 6LH

**E.** [hra.amendments@nhs.net](mailto:hra.amendments@nhs.net)

**W.** [www.hra.nhs.uk](http://www.hra.nhs.uk)

## APPENDIX I – Participant Information Sheet (qualitative phase of study)



NHS  
WALES  
GIG  
CYMRU

School of Psychology  
Ysgol Seicoleg

South Wales Doctoral Programme in Clinical Psychology  
De Cymru Rhaglen Doethuriaeth mewn Seicoleg Glinigol



Cardiff University  
Tower Building  
Park Place  
Cardiff CF10 3AT  
Wales UK  
[www.cardiff.ac.uk/psych](http://www.cardiff.ac.uk/psych)  
Prifysgol Caerdydd  
Adeilad y Tŵr  
Plas y Parc  
Caerdydd CF10 3AT  
Cymru Y Deyrnas Unedig

### PARTICIPANT INFORMATION SHEET

TITLE: *Staff in Intellectual Disability (ID) settings: using a team formulation approach*

IRAS NUMBER: 249202

SPONSOR: *Cardiff University*

INVESTIGATORS: *Kiran Sidhu (Student Researcher) , Dr Reg Moris (Academic Supervisor, Cardiff University) , Dr Bronwen Davies (NHS Supervisor, Aneurin Bevan University Health Board).*

#### **Introduction**

I am Kiran Sidhu a Trainee Clinical Psychologist on the South Wales Doctoral Programme in Clinical Psychology (DClinPsy) at Cardiff University. I am undertaking doctoral research work as part of my training and I would like to invite you to take part in this follow up study.

#### **Why have I been invited to take part?**

You have been invited to take part because you are a member of staff who participated in the original study which involved attending a team formulation session and completing three questionnaires before and after the session. I am contacting you again to ask if you would like to take part in the follow up study.

Please take time to read the following information carefully. If you want to ask any questions or would like further information, then please free to contact me via the email or telephone number below.

[SidhuK3@cardiff.ac.uk](mailto:SidhuK3@cardiff.ac.uk) / or 029 208 70582

### **Do I have to take part?**

No, participation in this study is voluntary so it is entirely up to you if you want to take part or not. If you decide to take part, you will be given this information sheet to keep and asked to sign a consent form.

If you decide to take part and then change your mind later, you will be free to withdraw from the study at any time without giving a reason, and without it affecting your rights in any way. Please see the 'What will happen to my Personal Data' section below for details about how your data will be used if you withdraw from the study.

### **What will taking part involve?**

I am researching what effect, if any, team formulation (delivered to staff), has on their perceptions of service users with ID. If you decide to take part in the follow up study, you will be asked to take part in a semi-structured interview. This interview will consist of questions about your experiences of the team formulation. The interview should take approximately 30-60 minutes to complete.

### **Potential advantages or benefits of participation**

This study has the potential to inform service development improvements in ID settings. For example, the current research will be relevant to individual service user work and team working. Furthermore, there may be more opportunities for teams to work more closely in considering attachment ideas (e.g. team formulation which considers attachment relationships, impact on ID).

### **Potential disadvantages or risks of participation**

There are no known risks involved in taking part in this study, however, some participants could find the topic sensitive and may become upset. If this happened, you could stop immediately, you would be under no obligation to continue and could withdraw from the study altogether.

### **Will my taking part in the study be confidential?**

All information collected from (or about) you during the study will be kept strictly confidential and any personal data you provide will be held in accordance with data protection law (please see 'What will happen to my Personal Data' below for further information). The only exception to this would be if you disclosed information that indicated a serious risk to either your own or someone else's safety. If this were to happen, I may be obliged to override confidentiality and to report the matter disclosed to appropriate persons in line with NHS procedures and relevant professional codes of practice. Where appropriate, I would try to inform you of the need to break confidentiality.

The interview you complete as part of this study will not require you to provide any identifiable information. To the extent that any identifiable information is inadvertently provided within the interview, this will be anonymised. The anonymised data obtained during the study will be retained securely at Cardiff University for a period of at least 15 years after the study has finished and will only be accessible to the investigators listed on the first page of this Information Sheet.

### **What will happen to my Personal Data?**

Cardiff University is the sponsor for this study based in the United Kingdom. Cardiff University will be using information from you in order to undertake this study and will act as the data controller for this study. This means that the University is responsible for looking after your information and using it properly. Cardiff University will keep identifiable information about you for 15 years after the study has finished (namely your consent form).

Under data protection law, the University has to specify the legal basis that we are relying on to process your personal data. In providing your personal data for this research we will process it on the basis that doing so is necessary for our public task for scientific and historical research purposes in accordance with the necessary safeguards and is in the public interest. The University is a public research institution established by royal charter to advance knowledge and education through its teaching and research activities. The charter can be found on the Cardiff University website.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will seek to anonymise data wherever possible and/or use the minimum personally identifiable information possible.

Cardiff University has a Data Protection Officer who can be contacted at [inforequest@cardiff.ac.uk](mailto:inforequest@cardiff.ac.uk). Further information about Data Protection, including your rights and details about how to contact the Information Commissioner's Office should you wish to complain about how your personal data has been handled, can be found at <https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection>

Psychologists and/or members of the Learning Disability Teams within the Aneurin Bevan University Health Board will be required to access and collect information about you for this research study in accordance with our instructions (namely to provide you with information about this study).

The Aneurin Bevan University Health Board will keep your name, age and job role details confidential and will not pass this information to Cardiff University. The Aneurin Bevan University Health Board will use this information as needed, to contact you about the research study and to oversee the quality of the study. Certain individuals from Cardiff University and regulatory organisations may look at the research records to check the accuracy of the research study. Cardiff University will only receive information from the Aneurin Bevan University Health Board without any identifying information and the only

identifying information held by Cardiff University will be the information you provide to the Researchers directly.

The Aneurin Bevan University Health Board will keep identifiable information about you from this study for 15 years after the study has finished.

### **Results of the study**

The results of the study will initially be written up as a doctoral thesis and submitted as part of my examinations towards a Doctorate in Clinical Psychology. The findings from this study will be submitted for publication and also presented at local service meetings and national and international conferences. Please be assured that names of participants and/or other identifiable information will not be included in any reports so you will not be identified in any report/publication related to this research

### **Raising a concern**

If you wish to raise a concern about the study, please contact me using the details contained on the first page of this Information Sheet. I will do my very best to resolve any problems immediately. However, if this does not feel appropriate, please contact my Academic Supervisor, Dr Reg Morris, at Cardiff University (Tel: 02920870582) or [Morris R8@cardiff.ac.uk](mailto:Morris R8@cardiff.ac.uk) .

Alternatively, if you would like to raise a concern or complaint with someone who is independent of this study, please contact the Programme Director, Dr Reginald Morris, at Cardiff University (Tel: 02920870582) or [Reg.Morris@wales.nhs.uk](mailto:Reg.Morris@wales.nhs.uk) .

### **Who has reviewed and approved this study?**

This study is sponsored by Cardiff University and has been approved by the South Wales Doctorate in Clinical Psychology Programme. The study has received ethical approval from Cardiff University's School of Psychology Research Ethics Committee and NHS host organisation approval has been obtained from the Aneurin Bevan University Health Board.

**THANK YOU FOR CONSIDERING TAKING PART AND TAKING THE TIME TO READ  
THIS INFORMATION SHEET**

**IF YOU WISH TO PARTICPATE IN THIS STUDY PLEASE CONTACT ME ON**

[SidhuK3@cardiff.ac.uk](mailto:SidhuK3@cardiff.ac.uk) / or 029 208 70582

## APPENDIX J- Consent Form (qualitative phase of study)



NHS  
WALES  
GIG  
CYMRU

School of Psychology  
Ysgol Seicoleg

South Wales Doctoral Programme in Clinical Psychology  
De Cymru Rhaglen Doethuriaeth mewn Seicoleg Glinigol



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Prifysgol Caerdydd  
Adeilad y Tŵr  
Plas y Parc  
Caerdydd CF10 3AT  
Cymru Y Deyrnas Unedig

### CONSENT FORM

TITLE: *Staff in Intellectual Disability (ID) settings: using a team formulation approach*

IRAS NUMBER: 249202

SPONSOR: *Cardiff University*

INVESTIGATORS: *Kiran Sidhu (Student Researcher) , Dr Reg Morris (Academic Supervisor, Cardiff University) , Dr Bronwen Davies (NHS Supervisor, Aneurin Bevan University Health Board).*

**Please initial the boxes if you agree with the following statements, and sign and date the bottom of this form.**

#### **Participant's statement**

1.	I confirm that I have read the Participant Information Sheet, Version 3, dated July 2019 and understand what the study involves.	
2.	I have been given the opportunity to ask questions about the study and my participation. Where applicable, questions about the purpose of the project have been answered sufficiently.	
3.	I understand that my participation is voluntary and that I am free to withdraw from the study at any time without giving a reason and without it affecting my rights in any way.	
4.	I agree to take part in answering questions (semi-structured interview) about the team formulation meetings I have attended in the past 6 months.	
5.	I understand that all of the information I provide during the study will be held securely and in confidence by the research team, unless they are required to disclose information as a result of concerns about my safety, or the safety of others	

6.	I understand that any identifiable information I provide (namely the information contained in this consent form) will be handled in accordance with data protection legislation and retained securely at Cardiff University for a period of 15 years from the end of the study.	
7.	I understand that the anonymised research data will be retained securely at Cardiff University for a period of at least 15 years from the end of the study and will be accessible to the investigators listed on the Participant Information Sheet.	
8.	I understand that my anonymised data will be included in an assignment for the South Wales Doctoral Programme in Clinical Psychology.	
9.	I understand that the write up of this study, including my anonymised data, may be published.	
10.	I agree to take part in this study.	

Participant Signature

.....

Name (please print)

Date.....

.....

Researcher Signature

.....

Date.....

## **APPENDIX K- Interview Schedule**

1. What does team formulation mean to you?
2. What is your experience of team formulation so far?
3. What has been helpful (and unhelpful) about the team formulations you have been in?
4. What steps are followed in the meeting? What is the method or format in the meeting?
5. How is it different to meetings you've had about or with service users? Differences between a TF meeting and a normal team meeting?
6. How did it include the views of service users?
7. What helped you to participate and share your views?
8. How did it change your practice or the way you relate to service users?
9. Why do you think team formulation is relevant to people with a learning disability?
10. What problems were experienced with team formulation? How were they managed? What effects did they have?
11. Do you think team formulation is effective?
12. How could team formulation be improved? Any changes you suggest?



## APPENDIX L- Example of Transcript Excerpts and Coding

The table below shows a sample of excerpts and an example of coding alongside each question. The participants transcripts were chosen at random. The first three questions are taken from participant twelve's transcript, the next three questions are taken from participant nine's transcript, the following three questions are taken from participant five and the final three questions were taken from participant eight's transcript.

Data extract	Coded for
<p>Can you tell me what team formulation means to you?</p> <p>It's getting together with the team and with the support of the psychologist and we usually talk about the service users on the unit. I think for us to discuss why they are presenting the way they are. I think it is also an information sharing session as lots of staff don't get a chance to hear about that person. So especially when you've got people who have had a tough background, I think it helps with understanding. The team formulation meetings gives you permission to ask more in-depth questions.</p>	<p>Team communication</p> <p>Information sharing</p> <p>Person's background/vulnerabilities</p> <p>Opportunity to ask questions</p>
<p>What is your experience of team formulation so far?</p> <p>I'd say mainly positive. It's very much staff team led; so we can choose who we would like to discuss- it could be someone new to help you understand why they are there, things that you've got to be mindful of that's happened to them in the past and what we are doing with them or it could be someone that has been on the ward for a while but we are struggling to understand the behaviours and meaning behind it. And we all, it is a very sort of- it is an informal setting although the psychologist is writing things down in a more formalised way, the conversation itself is quite relaxed and informal and everyone has got their chance to have an input and everybody's opinion is welcomed and accepted.</p>	<p>Understanding service user issues</p> <p>Knowledge</p> <p>Opportunity to talk</p> <p>Staff listened to</p>
<p>What has been helpful and (unhelpful) about team formulations you've been in?</p> <p>Helpful in the fact that sometimes things are uncovered, which we didn't know about an individual. So maybe something about their past history that is brought up or something from another placement or previous admission elsewhere that you know, might share with the team. A background story for the individual is really important</p>	<p>Information sharing</p>

<p>because it helps us understand where the person has come from, what struggles they might be having, and sort of humanises it more and makes it easier to relate in a sense.</p> <p>Unhelpful- Probably not being able to make every meeting because obviously we work on a shift basis. If I'm not in, if I've got two Tuesdays off its three weeks, I haven't attended formulation and there could be information identified during those three weeks that I haven't- that have not been highlighted to me.</p>	<p>Understanding service user issues</p> <p>Logistics</p>
<p><b>What steps are followed in the meeting? What is the method or format in the meeting?</b></p> <p>So the psychologist will use a sort of- model where she will section, you know, the behaviours and the relationships and the emotions and all the history and how it comes together and it's structured I guess. You know, the psychologist sort of makes those distinctions and jots everything down where it needs to go. I quite like the visual structure of the formulation as it helps me to form those thoughts in relation to that particular area because we have a tendency to (once ideas start flowing) to digress into different aspects. And we start talking about someone's case history and then how that's similar to maybe someone else we may have supported and then before you know it, we've gone off on a tangent. So, I find having some structure of some kind really helpful.</p>	<p>Behaviours, emotions &amp; relationships</p> <p>Format</p> <p>Format</p>
<p><b>How is it different to meetings you've had about or with service users? Differences between a team formulation meeting and a normal team meeting?</b></p> <p>Definitely, yeah. I mean they are slightly more informal and I think the atmosphere is a bit more sort of, how would you describe it, compassionate I suppose. There is an emphasis on how it makes us feel, we talk about things like compassion fatigue and how it can be difficult to support a particular person with a particular presentation. Other meetings tend to be about what are we doing, what are the outcomes? Whereas, formulation is about helping staff get an understanding of that person and then understand how it makes us feel supporting that person.</p>	<p>Less judgemental</p> <p>Compassion fatigue</p> <p>Job role</p>
<p><b>How did it include the views of service users?</b></p> <p>Themes do come up around what service users' views are. I think we all consider their views just because it's the way in</p>	

<p>which we work within learning disabilities services- we're always trying to advocate on behalf of the individual and within their best interests where possible. Dependent on the format of formulation meetings, there's often of what do you think is important to the individual? How do you think that person is feeling?</p>	<p>Service user voice</p> <p>Service user perspective</p>
<p><b>What helped you to participate and share your views?</b></p> <p>It's a safe space and I think the environment is non-judgemental - everyone can air their views. No one has a wrong view, but you could help someone look differently on their view. I think it's a chance for you to share experiences and knowledge without being judged and just take it as it is and appreciate that everybody has difficulties and having those shared experiences and shared ideas helps everybody. I think that freedom of expression helps you to express why you think you are struggling or what you think might help and what's worked well for you helps everybody.</p>	<p>Safe space</p> <p>Understanding service user issues</p> <p>Supportive</p>
<p><b>How did it change your practice or the way you relate to service users?</b></p> <p>When I started my role as a nurse, I didn't have much experience of complex presentations like personality disorder so I would struggle to understand why people were displaying behaviours like they did when there was a sort of sense of control over it. Obviously, I knew that there was a reason for it, but until you start doing the formulations and talking about how their history is affecting them, it helps you understand and then I think it enables you to practice in a more empathic and caring manner. Like say for instance somebody has restraint written up in their PBS plan, but they've had terrible abuse in their life, you're not likely to restrain them. You'll do anything not to.</p>	<p>Self- awareness of professional practice</p> <p>Practice issues</p>
<p><b>Why do you think team formulation is relevant to people with a learning disability?</b></p> <p>I think more so than anybody else. Our client group have quite limited communication. You know, a lot of the service users will not able to tell us their experiences. If I go for an assessment and somebody is asking me about my life, I will tell them this is- what happened when I grew up. These are the things I experienced. These are the awful relationships I had. This is the abuse I experienced, or this is the failed placements I had. But people with learning disabilities, you know, haven't got that opportunity. By doing a team formulation we can talk about that individual, bring that person to life, have some real understanding, compassion, with a view to plan person centred interventions.</p>	<p>Service user voice</p> <p>Service user perspective</p> <p>Understanding service user issues</p>

	Productive
<p><b>What problems were experienced with team formulation? How were they managed? What effects did they have?</b></p> <p>No with the formulation itself; more with the way its run. In terms of if I – If I’ve missed the formulation because I was unable to attend or if I wasn’t rota’d on the shift because we work shifts here, I will know a formulation has taken place and I might find out someone has been discussed, But I might not necessarily get the outcomes of that meeting or what was discussed, disseminated to me as a person who was outside of that formulation. So I suppose that’s one of the problems in terms of it’s a great space to have but it’s not accessible to everybody all of the time.</p>	<p>Logistics</p> <p>Quality standards</p> <p>Access</p>
<p><b>Do you think team formulation is effective?</b></p> <p>Yes certainly, I think we’ve seen the positive outcomes for the team and service user. The staff team feel listened to, involved in a person’s clinical care and involved in decision making processes. If it’s only the professionals making the decisions, people working on the ground who are not involved in any of those decisions might not understand why those decisions are made. If they are part of the decision-making process they are part of the formulation, it’s much more collaborative working and everybody is involved and more people can understand the reasons why things are happening. It helps with consistency amongst the team too.</p> <p>Its effective in terms of understanding the service user and gives everyone the opportunity to unpick things and think about their views and their feelings towards how the service user is presenting.</p>	<p>Staff listened to</p> <p>Team collaboration</p> <p>Transparency</p> <p>Self- awareness of professional practice</p>
<p><b>How could team formulation be improved? Any changes you suggest?</b></p> <p>It would be nice to have a little bit longer to do it – time wise and I think it’s important to free up more of the staff team to do it. I think maybe changing the day it takes place each week so more staff can attend.</p>	<p>Logistics</p> <p>Access</p>

## **Appendix M: Code Transformation and Theme Development**

### *Coding Data*

The process of coding forms part of the analysis in thematic analysis (Miles & Huberman, 1994). Coding consists of organising the data into meaningful groups (Tuckett, 2005). Data coding can occur in two ways, depending on whether the themes derived are likely to be more data driven or theory driven. As my research was exploratory in nature the coding became data driven. Prior to formal coding I read and re-read the transcripts to familiarise myself with the data. During this phase I made some initial notes on my ideas and areas of interest within the data before starting coding formally. I coded the data manually, writing notes on the transcripts and using highlighters and coloured pens to indicate potential patterns. Following the advice of Braun and Clarke (2006) I coded for as many potential themes as time allowed.

### *Themes*

When compiling themes, the focus of the analysis was at a broader level, sorting the different codes into potential themes. This process involved me combining codes to form overarching themes. I did this process by the use of a combination of mind maps, coding tables and also hardcopy paper format organising codes into thematic piles. Once initial themes had been established, I reviewed the themes with a peer researcher. We reviewed the data at the level of the coded data extracts by reading the collated extracts for each theme to determine if they present a coherent pattern (Patton, 1990). Once this was established, I reviewed the entire dataset to consider the validity of individual themes in relation to the dataset as a whole and if the thematic map reflects the meaning from the dataset as a whole. Themes were refined and named to reflect the nature and perceived outcomes yielded by team formulation meetings.

The table below shows that fifty-seven tentative codes were established as per stage 2 of Thematic Analysis (Braun & Clarke, 2006). These became reduced to thirty-five codes upon further grouping and refinement as part of the analysis process (Stage 3 of Thematic Analysis). These thirty-five codes clustered around ten sub themes, allowing for the defining and naming of three overarching themes (Stage 5 of Thematic Analysis).

<b>Tentative Codes (57)</b>	<b>Code (35)</b>	<b>Sub Themes (10)</b>	<b>Themes (3)</b>
Less judgemental	Different type of conversations	Routine	Procedure of team formulation
Self-awareness of professional practice	Self-awareness, reflectivity	Methods	Process of team formulation
Valued by the team	Service supporting service users with ID	Barriers	Perceived outcomes of team formulation
Information sharing	Increased understanding of service user issues	Improvements	
Compassion fatigue	Wellbeing for the system	Content of team formulation	
Understanding of service user issues	Increased empathy for service user	Intent of team formulation	
Quality Standards	Writing up formulations and dissemination	Reflective practice	
Logistics	Shift pattern work	Perceived outcomes for staff (individual)	
Logistics	Time restrictions	Perceived outcomes for staff (whole team)	
Access	Not the whole team	Perceived outcomes for service users	
Format	Visual, structured		
Regular	Weekly		
Team communication	Team collaboration		

Organisation/Planning	Team communication		
Team collaboration	Improved decision-making		
Productive	Moving forward		
Service user voice	Advocating for people with ID		
Opportunity to talk	Opportunity to overcome difficulties		
Understanding service user's problems	Holding multiple perspectives or alternative perspectives		
Opportunity to ask questions	Information gathering		
Practice Issues	Reducing negative attitudes/ restrictive practices		
Ideas sharing	Staff confidence		
Knowledge	Understanding the function of challenging behaviours		
Active Listening	Opportunity to ask questions ordinarily wouldn't		
Connection	Increased empathy for team members and self		
Job role	Reflective capacity		
Job role	Improved communication between staff and service users		
Transparency	Joined up approach		
Embedded in calendar	Protected time		
Supportive	Learning and development		
Participation	Peer support		

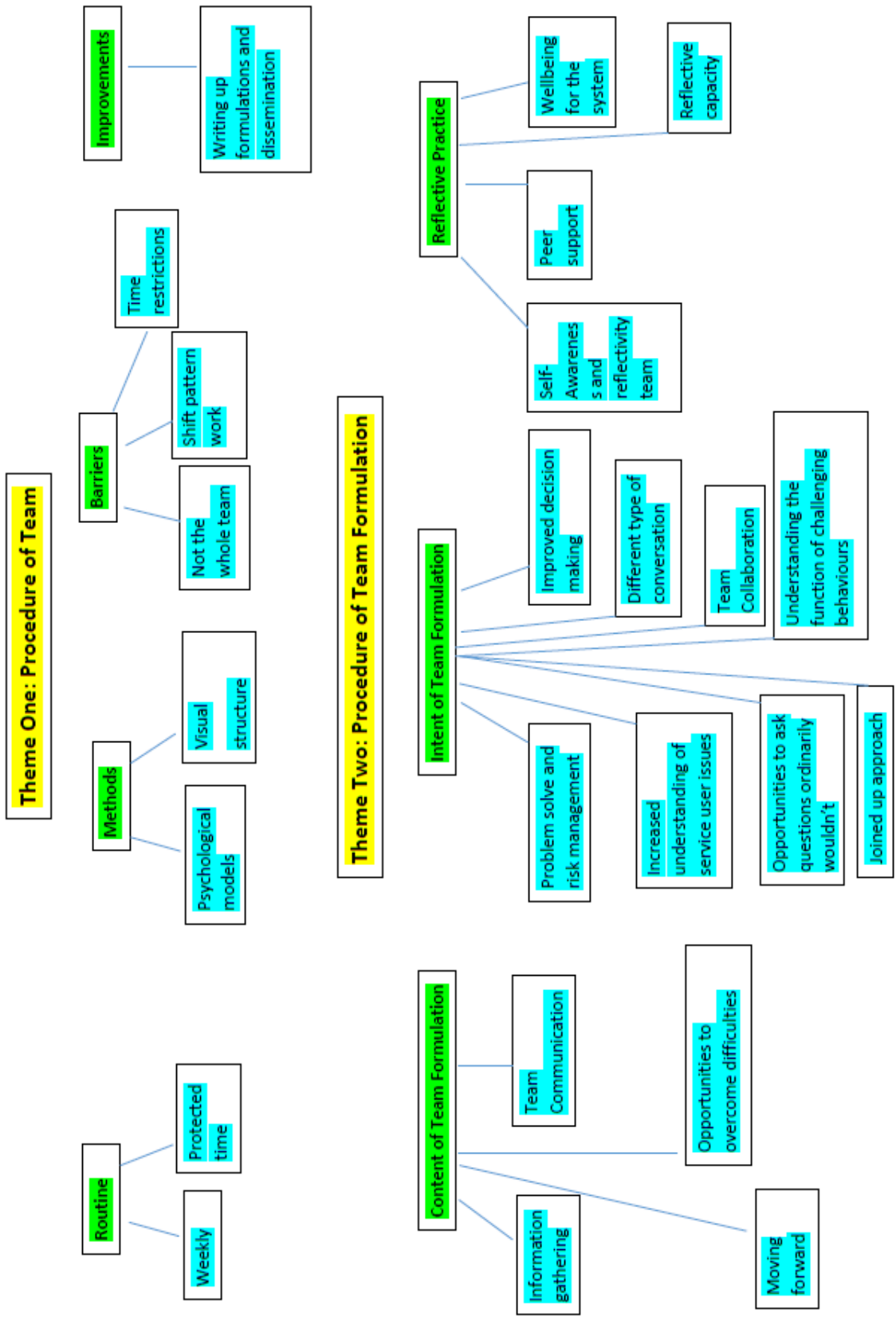
Supportive	Self-assurance		
Safety	Problem solving / Risk management		
Staff listened to	Staff listened to		
Behaviours, emotions & relationships	Psychological Model		
Emotive			
Debates			
Powerful			
Doing something different			
Environment			
Timing of meetings			
Act in their best interests			
Different purposes/ functions			
Managing difficult interactions			
Getting advice			
Responses to trauma			
Biopsychosocial model of health and wellbeing			
Free to talk about things			
Whole team view			
Safe space			
Service user needs			
Significant incident			
Appreciation			
Roots of the presenting problems			
Complex presentations			
Person's background/vulnerabilities			



**APPENDIX N: Thematic Maps- add maps here (from attached document)**

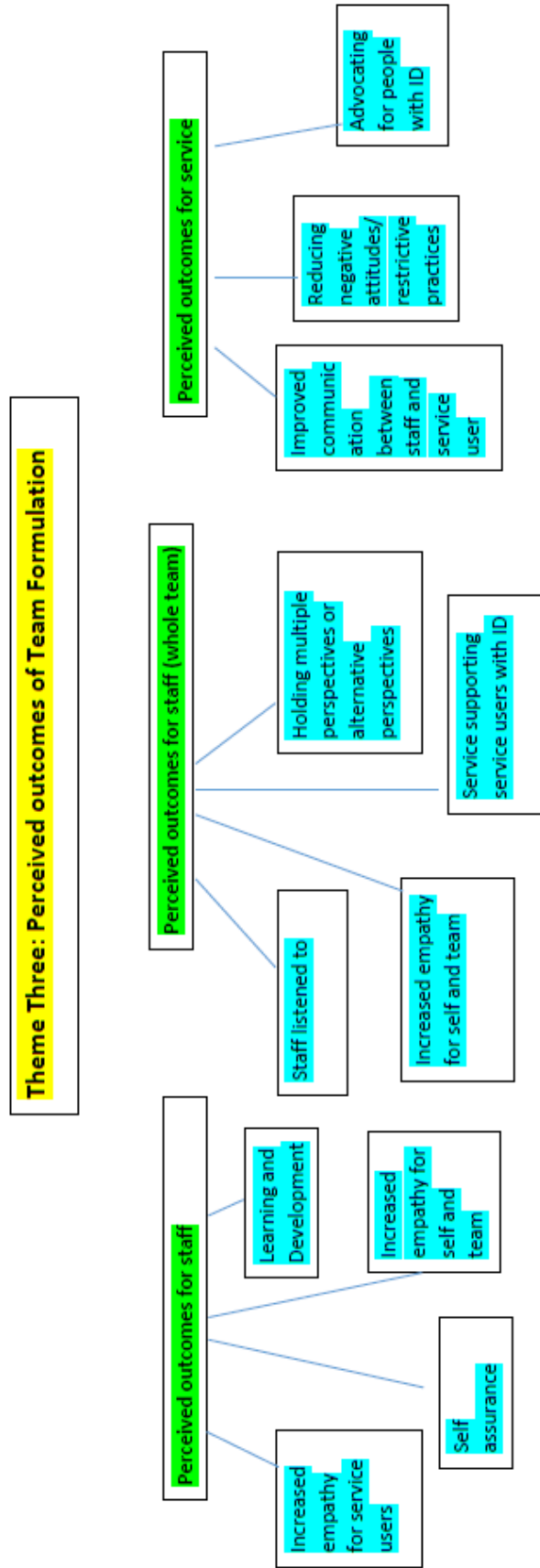
The figure below shows the developed thematic map, showing three main themes and ten subthemes.

**Key: Overarching Theme, Sub-theme, Codes**



The figure below shows the developed thematic map, showing three main themes and ten subthemes.

**Key:** Overarching Theme, Sub-theme, Codes



## APPENDIX O: Participant verification; one participant's anonymised email

Begin forwarded message:

**From:** [REDACTED]  
**Date:** 16 November 2019 at 19:05:34 GMT  
**To:** Kiran Sidhu <[SidhuK3@cardiff.ac.uk](mailto:SidhuK3@cardiff.ac.uk)>  
**Subject:** Research Interviews on the Unit

"Hi Kiran, good evening.

I've read it all in quite some detail and am very happy with the content.

If there is anything more I could do please let me know.

Thanks,  
[REDACTED]

