Occupational therapy and complexity: defining and describing practice

Duncan Pentland, Sarah Kantartzis,
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Royal College of Occupational Therapists

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1 Introduction and how to use this document

In 2016, the Royal College of Occupational Therapists (then the College of Occupational Therapists), the professional body for occupational therapists in the United Kingdom, commissioned a review of the document *Occupational therapy defined as a complex intervention* developed on their behalf by Jennifer Creek and published in 2003. This document had proved useful in describing occupational therapy within education, practice and research, but with considerable changes occurring in these areas as well as in the wider context over the intervening years, a review was considered necessary. Following a call for proposals, a research team from Queen Margaret University, Edinburgh, was appointed to carry out this review. While initially a revision to Creek's 2003 publication was the aim of this work, a new, contemporary view of occupational therapy emerged. This new publication describes the process and outcomes of occupational therapy, and it is hoped that it will provide useful guidance for all working within and in partnership with occupational therapy, both today and for some years to come.

Aims

This revision of *Occupational therapy defined as a complex intervention* (Creek 2003) aims to describe and define contemporary occupational therapy, and to consider if and how this description aligns with ideas about complex interventions. This was undertaken with the recognition that considerable changes, within both occupational therapy and the wider context, have occurred since the original publication. The theories associated with the concept of 'complex intervention' have also developed during this period.

Similar to the original, the objectives of this work were to:

i. Describe the current practices of occupational therapy based on data drawn from reports of, and reflections on, occupational therapy practice.

ii. Generate a model of contemporary occupational therapy that describes and explains the components.

iii. Identify and explain how contemporary occupational therapy aligns with the concept of complex interventions.

iv. Consider and suggest terminology and language to aid with practice, research and other work involving consideration of occupational therapy.

Overview of methodology and process

To address the aims and objectives of this project, it was essential to consider multiple perspectives on occupational therapy. Three different data collection approaches were used. In brief, these were a literature review of 256 papers published between March 2015 and October 2016 describing current practice; a survey of occupational therapy practitioners, educators and students (783 respondents); and online focus groups (17 participants). These three approaches were used so that written accounts of

occupational therapy practice from both peer-reviewed and non-peer-reviewed publications, as well as the perspectives, opinions and descriptions of occupational therapists, could be gathered. While the survey and online focus groups primarily involved occupational therapy practitioners, educators, researchers and students located in the UK, the literature review included all international occupational therapy journals widely accessible in the UK.

Following the analysis of the data obtained from each of these methods, the research team engaged in a range of activities to identify the different core components that feature in occupational therapy so that a valid description of practice could be developed. Alongside descriptions of these components, a model was constructed.

The final methodological step was to introduce the work to a range of 'critical friends'. These critical friends were asked to comment on the work (including elements of consistency, logic, language, validity and so forth) and ask provocative questions. The outcomes of these processes are described within this document.

Potential uses

The work presented here has several potential uses for readers, while recognising that limitations exist whenever there is a dual focus on theory and empirical data. The description of occupational therapy and associated definitions and explanations may serve as tools to support a range of critical activities. For example, readers (whether individuals or teams) focusing on understanding and considering their own practice may find this work useful. Used alongside the *Career development framework* (RCOT 2017), this document could support continuing learning and professional development. Similarly, it could aid practitioners to identify contexts and how these interrelate with practice, and uses specific terms and language that may be helpful when analysing and reflecting on practice. Alternatively, it may provide different perspectives for readers seeking to further their understanding of theoretical aspects of occupational therapy practice and associated concepts. Those engaged in developing and evaluating interventions may find this a useful framework within which to situate such work, so that it aligns with the wider debate around complex interventions. Finally, the document may be useful in describing and promoting occupational therapy to other professional groups and service user organisations.

Limitations

'Essentially all models are wrong, but some are useful.' (Box and Draper 1987, p.424)

To enable occupational therapy in the UK to be described, and associated terms to be defined, data was collected from multiple sources. Consequently, an extremely broad range of practices and underlying ideas required consideration. Any practice in which multiple components interact in dynamic ways will be difficult to describe. This work has attempted to do this by developing a single description along with a visual representation to consider and examine practice, collectively termed 'a model'. This model was largely informed by data collected from occupational therapists or reported in written work describing occupational therapy. As all models are attempts to represent something else on a smaller or more simplified scale, the model presented in this document is only one way of viewing occupational therapy and cannot provide a complete picture of practice. Furthermore, because many of the components that feature in the model of occupational theory are theoretical, it is influenced by viewpoints that are open to challenge. Other ways of considering and understanding occupational therapy based on different perspectives and other data are also valid, useful and necessary. To expand on Box and Draper's aphorism above: the model in this work provides an informed and simplified way of looking at contemporary occupational

therapy from a point of view informed by ideas of complexity. This does not mean that the model represents an entire or singular 'truth' about occupational therapy practice.

The information discussed in this work is not a theory or a statement about what 'should be' in the practice of occupational therapy. Rather, it provides a framework through which to think about what happens in therapy, and does so in a way that enables ideas about complexity to become apparent. Of course, not all occupational therapy practices will easily align with the model; divergent approaches and understanding may continue to exist, and their value or contribution is not to be seen as compromised. These may form part of the future discussions that we hope this work will encourage.

In addition to acknowledging the limitations associated with modelling current practice, a note should be made of the continually evolving theory of occupation. To allow this work to proceed, it was necessary to identify and think with a theory of occupation (more detail provided in the following section). Use of this theory of occupation was made with the recognition that including and exploring emerging definitions of occupation, which may be differently understood, was beyond the scope of this work.

There are also two necessary paradoxes to note. The first can be termed 'the reductive language paradox'. It was necessary to create a set of terms with clear definitions to allow occupational therapy to be conceptualised from a perspective that included concepts of complexity. There are multiple, potentially boundless, components that directly or indirectly influence occupational therapy. In recognition of this convergence, the identified components have been reduced and categorised in ways that allow them to be accessible for thinking and dialogue. However, in categorising these components and providing definitions for them, they have necessarily been simplified. Thus, some of the methods and efforts to understand and represent complexity have limited the degree to which complexity can be understood, hence the reductive language paradox.

The second paradox can be termed the 'dynamic–static model paradox' and it refers specifically to efforts to represent occupational therapy visually. The description of occupational therapy presented here recognises dynamism (constant flux), both in terms of the intersecting therapy contexts and the multiple practices and interactions which occur. However, visualising this required the development of static two-dimensional illustrations, which can be useful in showing how interactions might occur but which lack the ability to illustrate the dynamic nature of occupational therapy. The paradox is thus that occupational therapy as a complex dynamic process is represented as a static model.

Nevertheless, it is hoped that this conceptualisation will become a focus of debate and critique for how occupational therapy is thought about, both now and as practice develops in the future.

A (working) theory of occupation

The project adopted a theoretical perspective that positions occupation at the core of occupational therapy and recognises people as occupational beings. Occupation is fundamental to survival, to development across the life span, and to the construction of society as a whole.

Although occupation has been discussed in many ways in the literature and its relationship with tasks and activities has been widely explored, a broad and comprehensive understanding of the concept is used here, in line with Wilcock's (2006, p.xiv) definition of occupation as *'all the things we need, want or have to do'*. These ideas around occupation also indicate the essential interrelatedness of the person and

their context. While the satisfaction of needs and wants may be related to internal physical and psychological functioning, what we have to do places our occupation firmly into the world of relationships and external demands shaped by our social, economic, historical and cultural contexts. At the same time, how we are able to satisfy our needs and wants is also clearly shaped by environmental factors. This essential interrelationship is framed within the idea of person-in-context and places occupation at the core of the person–environment interaction. The complexity of this relationship reflects the understanding of occupation as more than observable doing; it also involves being, becoming and belonging (Wilcock 2006).

Complexity is also evident in the relationship of occupation to health and wellbeing. While all people *do* all the time, not all *doing* leads to health-supporting outcomes. While the meaning of an occupation is commonly linked to positive experiences and outcomes for the person, meaning may not always be experienced as positive or lead to positive outcomes. Some meaningful occupations may be deeply distressing or painful; some occupations identified as meaningful are dangerous or destructive. The same occupation may support health and wellbeing, or not, depending on how each person engages with and performs it in their particular context. At the same time, the context and wider structural conditions shape not only what occupations are available but also the value given to them and the range of beliefs and assumptions around them.

Occupation has traditionally been considered in terms of an individual, perhaps influenced by a historical focus on named doings and a close alliance with theoretical underpinnings supporting individual agency. More recently, literature and discourse have recognised that occupation happens in, and is often framed by, people in groups. These may be therapeutic groups, communities, families or classrooms. In such situations, focusing on the individual (one person and their occupation) may lead to a loss of recognition and understanding of those essential elements of occupation and health that emerge from the interactions between the numerous people involved.

The occupational therapy process considers occupation in multiple ways, namely occupation as means and occupation as ends (McLaughlin 1998). Occupation and the construction of a healthy occupational life is arguably the overall aim – the end – of many occupational therapy processes. Occupation as the means of therapy is subject to the various understandings of occupation. In some therapeutic contexts, a narrow perspective of occupation may be enacted, linked to a demonstrable process of change: for example, when occupation is primarily considered as 'physical doing' and is employed to develop muscle strength or range of movement. When more complex understandings of occupation are used, it becomes possible to consider the person who is belonging and becoming through their being in and with an occupation in their context.

In conclusion, constructing a healthy occupational life is complex and dynamic, shifting according to the changing needs of the person and their context. Understanding people as occupational beings places occupation as foundational to who we are and who we will become, to processes of change (doing *is* change), and to understanding the essential interconnectedness of people and their contexts.

Structure

This document has been structured to be accessible to a range of audiences. It is divided into two main sections. The first presents the description of occupational therapy, associated definitions and examples, and examines some core theories. The second section presents the methods and results of the research on which the description and

definitions are based. Therefore, while much of the content derives from research activities, it is not presented in the typical format of a research study. The structure of the document, along with brief descriptions of the chapters, is noted here.

- **Introduction**

  Chapter 1 (this chapter) introduces the work, gives an overview of the document, notes some limitations that may be useful for readers to be aware of, and frames the theory of occupation used throughout the document.

- **Section 1**

  Chapter 2 provides a revised description of occupational therapy and associated definitions. It is focused around a visual representation of occupational therapy that is intended to be the simplest depiction of the revised description. This visual representation and written description form the model of contemporary occupational therapy, and its components, that was developed for this book.

  Chapter 3 gives a detailed example using the model. This is intended to illustrate how the model of occupational therapy can be applied to a specific case example. It has been designed to highlight specific components of the model that can help in understanding the practice of occupational therapy.

  Chapter 4 revisits each core term used in the model. Additional and more detailed explanations of each term are provided and linked to selected examples drawn from analysis of the data gathered during the research process (survey, focus group and reviewed literature).

  Chapter 5 examines the core theory associated with the description and aims to clarify technical concepts from earlier chapters. These include theories about complexity, systems and processes. This chapter concludes with a brief discussion about how the description of occupational therapy fits with current understandings of complex interventions.

- **Section 2**

  Chapter 6 explains the methodological approach used during the development of this work.

  Chapter 7 provides detailed methods and findings from a literature review.

  Chapter 8 provides detailed methods and findings from a survey of occupational therapists, occupational therapy students and associated support workers.

  Chapter 9 provides detailed methods and findings from a set of online discussion groups.

Appendices – relevant appended materials such as reference lists and data summaries are located here.

Section 1

2 A model of occupational therapy as a complex dynamic process

The most recent Medical Research Council (MRC) framework for developing and evaluating complex interventions was *'intended to help researchers to choose appropriate methods, research funders to understand the constraints on evaluation design, and users of evaluation to weigh up the available evidence in the light of these methodological and practical constraints'* (Craig et al. 2006, p.4). More recently, Moore et al. (2015) offered guidance on conducting process evaluations of complex interventions. This was developed in response to the realisation that process evaluations can help to clarify the causal mechanism and identify contextual factors that are associated with intervention. Process evaluations aim to determine the degree to which a set of activities have been implemented as intended, and are therefore based on identifying components and their interactions. Moore et al.'s (2015) guidance provides useful terms for classifying components of interventions, and key terms used below are taken from their work. In the written description key terms are marked with (*) and appear on Figure 1. Further definitions and explanations of these may be found in the following section of this chapter, while descriptions based on the data obtained may be found in Chapter 4.

Core aspects of occupational therapy:

- Occupational therapy is a complex dynamic process undertaken to enhance the health and/or wellbeing of people.
- Occupational therapy is based on a causal assumption* that doing, as *'the medium through which people engage with occupations'* (Hitch et al. 2014, p.241), causes changes to occur within and between different components of person(s)-in-context*.
- The occupational therapy process comprises multiple practices – the actual application or use of an idea, belief or method, as opposed to theories relating to it (Stevenson 2010, p.1394) – which form the implementation content*. These practices include a range of strategies and techniques that are understood to cause change due to a variety of mechanisms; they are configured and used with the person(s)-in-context* in a way deemed optimal for causing changes. These changes occur in the unique person(s), their environments and their occupations.
- The selection and optimal configuration of these practices results from multiple components, including the understood mechanism(s) of impact*, a shared understanding of the person(s)-in-context* and the particularities of the therapist(s)-in-context*.
- Carrying out the implementation content causes multiple changes to the person(s)-in-context*.
- These changes may be expected and may occur due to the understood mechanisms of impact* or may be unexpected (non-determined) due to the individualities of the person(s)-in-context*. These mechanisms of impact are affected by numerous influencing factors* that have an impact on the type and size of change.
- The multiple changes to person(s)-in-context*, when identified in the intervention context*, may be considered as transitions. These transitions initiate responsive

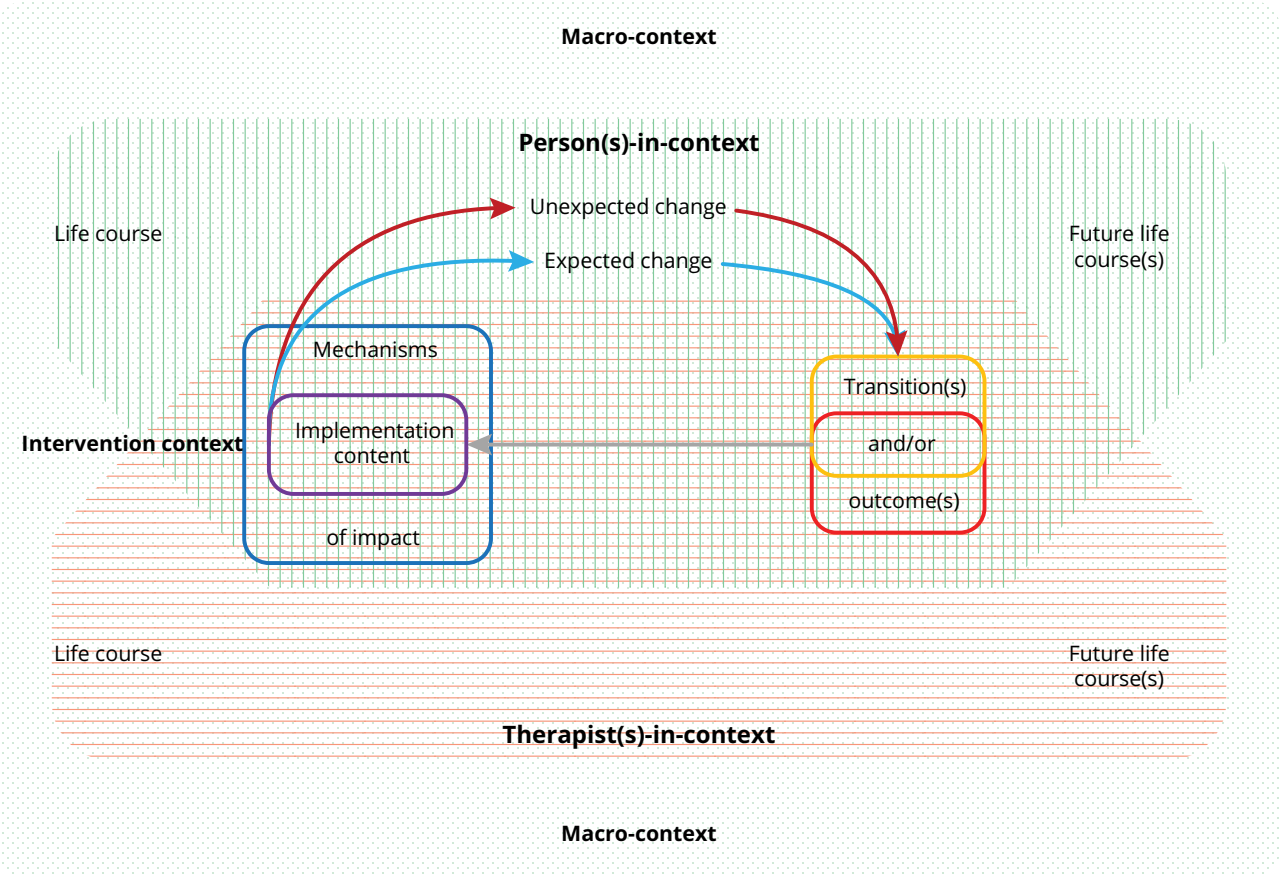


Figure 1 Visual representation of the model of occupational therapy as a complex, dynamic process

reconfigurations to the implementation content to accommodate new understandings of the person(s)-in-context* or may be measured or estimated as outcomes.

- This implementation content, change and response interaction continues dynamically until the end point of the process is reached. This end point may be determined by person(s)-in-context* and/or therapist(s)-in-context* factors.
- The end point of an occupational therapy process will not be the end of the change(s) that occur from occupational therapy. The person(s)-in-context* will continue along a life course that has been altered by their involvement in or experience of the process. Similarly, the therapist will continue along a life course that has been altered by their involvement in/experience of the process.

Core definitions

Detailed definitions for each of the core terms noted above are given in the following sections. Where relevant, some additional examples from occupational therapy have been provided. Additionally, an expanded visual version of the model that includes these definitions has been provided for reference (see Figure 2).

Causal assumptions

In the MRC guidance and associated literature (Craig et al. 2006, 2008, Moore et al. 2015, Greenwood-Lee et al. 2016), 'causal assumption' is a term used to refer to the theoretical understanding of how an intervention causes change. Therefore, constructing this

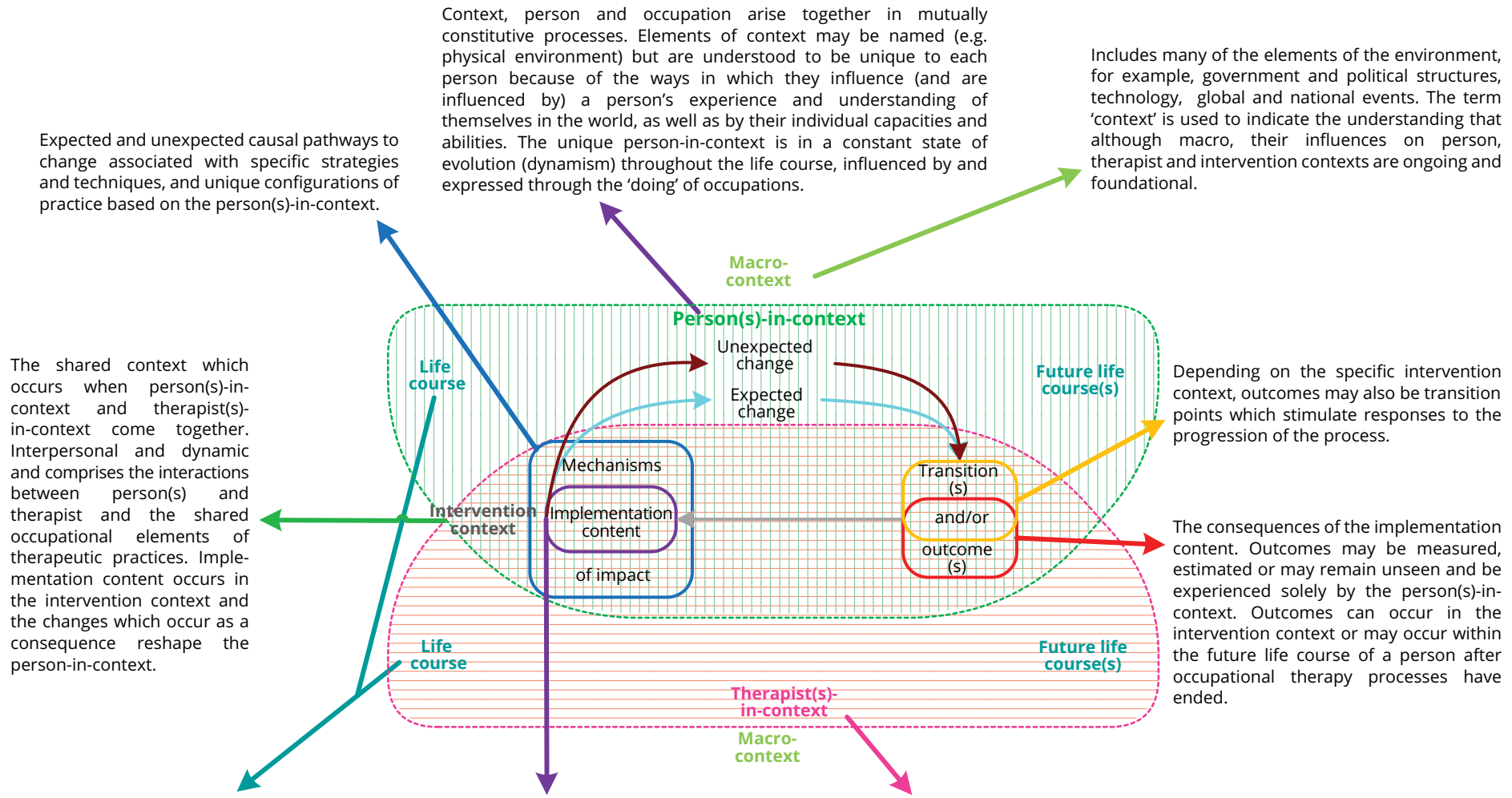


Figure 2 Expanded visual representation including definitions

model of contemporary occupational therapy was based on identifying underpinning causal assumptions.

In occupational therapy, *doing* (engaging with occupations) and *change* (the act or process through which something becomes different) are indivisible from one another. Doing causes changes within and between different components of the person(s)-in-context. These changes can occur immediately (at the same time as doing) and/or gradually (after the doing has occurred). The changes that occur while doing can be identified at various levels, from the individual's body structures and their operations, through to how groups of people perceive and engage with their world. By way of an example, consider reading this paragraph as *doing*. As you read, the process itself will lead to differences in your neurophysiology, and the way in which you choose to read it may cause changes to your posture, your cardiovascular function and so forth. The way you interpret the material may change the way you think and feel about yourself and others, and thus the way you interact with both your current and future contexts. Reading with a group may change how that collective critically understands their situation and perceives their potential for action leading to change.

The foundational philosophy of the profession is that doing can be therapeutic because doing and change are indivisible. This incorporates the recognition that certain types of doing may lead to optimal positive change. Hitch et al.'s (2014) work to explicate the relationship between doing and wider dimensions of the occupational perspective of health and wellbeing is potentially helpful in understanding this causal assumption. Key characteristics of this, identified consistently from the data obtained in this project, are first, the degree of positive meaning associated by the person(s) with the doing. 'Meaning' here refers to the meaning that is experienced during the particular doing (for example, the sensory and emotional experiences of joy during play), as well as the meaning that may be constructed through doing (such as establishing an ongoing sense of 'family' through playing together). These possible meanings associated with doing can be positively related to health and wellbeing.

A second key aspect is that doing should have purpose. This purpose can stem from the importance and relevance to the person's needs and/or the demands of their environment. When doing is understood to be an integral part of being, becoming and belonging, the four dimensions of occupation identified by Wilcock and Hocking (2015), the complexity of using doing to achieve optimal positive change becomes evident.

It is important to acknowledge that change is not always positive, and that the doing implemented therapeutically may not always have the requisite characteristics to enable optimal or possible change. There are many examples and much valuable discourse about the use of purposeless activity with minimal meaning for the person(s) and the reasons for its primacy during periods of the profession's history. Similarly, theories of complexity highlight that changes may have expected and unexpected outcomes, which may or may not be positive. While the argument put forward here states that doing causes change during occupational therapy, this is not to suggest that the doing is the *only* thing that causes change. Rather, as is discussed shortly, occupational therapy is never separate from context, because people are never separate from context. There will be many multiple contextual features that contribute to change and serve to enhance or impede positive changes associated with occupation. Some of these features may be utilised as part of therapy, but many will not be. Later in this document, the important role context plays in creating complexity is examined (see Chapter 5).

Nevertheless, the core idea in occupational therapy is that doing can be used to cause positive change. This idea featured as the foundational causal assumption in the data

collected about contemporary occupational therapy. The components of occupational therapy used to enable this positive 'doing that causes change' are multiple and are formed by the different practices implemented during the process.

It is important to note that there is a necessary (and artificial) separation here between doing that causes change as the causal assumption in occupational therapy, and recognising that occupation is core to understanding people as part of the wider philosophy upon which the profession is based. The concept that occupation is both the means (the causal assumptions that underpin the complex process of therapy – doing that causes change) and the end (the ultimate aim of the process; the realisation of *well beings* who can successfully engage in living) may create challenges to the ways in which therapists understand their roles and practices.

Implementation content

Implementation content refers to all the strategies and techniques that are configured and used to form the practices of occupational therapy. In a dynamic occupational therapy process, implementation content alters over time in response to person(s)-in-context changes and in adaptation to other contextual factors. Implementation content includes many discernible occupational therapy process practices (forming partnerships, gathering information, undertaking assessment, identifying needs and priorities, setting goals, planning and taking action, evaluation and response, measuring outcomes and so forth) and recognises that these practices cause changes to occur in their own right as part of complex mechanisms of impact.

Many of these practices might normally fall outside ideas of implementation content in other discussions of complex intervention. There is little reference in current literature to complex interventions and the impact that practices such as establishing trusting relationships and working with compassion might have on the process of an intervention and its consequent outcomes. In situations where intervention is founded on an interpersonal relationship, as is the case in occupational therapy, the role of this as part of the implementation content is therefore worth considering and is recognised in the literature reviewed as an important component promoting change.

Mechanisms of impact and types of change

The mechanisms of impact in occupational therapy refer to both expected causal pathways to change associated with specific strategies and techniques, and unexpected changes that may occur because of person(s)-in-context. Mechanisms of impact are strongly related to the causal assumptions in occupational therapy noted earlier and are typically the more discrete aspects of practice that are configured to produce expected changes in specific components of a person and their occupations. For instance, some of the mechanisms of impact in occupational therapy during which a joint protection intervention is provided are the application of ergonomic principles to ensure that the proper use of joint and body mechanics, body structures and function are protected or improved, and the maintenance of ability to engage in occupation. The broader causal pathway might include specific practices such as altered work methods or modification to components of occupations and/or the environment to allow these ergonomic principles to be maintained during everyday life. The broader causal assumption is that by actively focusing these practices on occupations that have meaning, value and relevance, the mechanisms of impact will have a greater effect on outcomes uniquely important to a person. It should be noted that other mechanisms of impact might operate at the same time. These may be distinct approaches in their own right, such as educational approaches aimed at improving time and energy management, or might be intrinsic and harder to identify, such as the impact of interpersonal relationships on the processes.

The combined mechanisms of impact are conditional to particular person(s)-in-context. To continue with the example above, the changes related to effective joint protection may also lead to changes in a person's perception about their condition, their psychological and physical health status, their social participation, and so forth (see Hammond 2004). These changes, which are further removed than the physiological changes associated with joint protection, can be termed unexpected, in that they are more dependent on variations in context and in person and therefore harder to consistently predict.

As the occupational therapy process is responsive and adaptive, the practices that allow these mechanisms of impact to cause change occur recursively in the continuing intervention context. Consequent changes can be incremental and may be difficult to anticipate. This can be seen when changes occur which enhance or create the conditions needed for further changes to happen. These recursive mechanisms of impact can happen over very short time periods during therapeutic interactions, or may happen over elongated timescales.

Outcomes and transitions

Outcomes are the consequences of the implementation content (the practices of occupational therapy), mediated by context. These may be evaluated in numerous ways, ranging from formal standardised measurement to clinical expertise and estimation or service user self-evaluation and feedback. There may also be consequences that remain within, and are experienced solely by, the person(s)-in-context. Outcomes can occur in the intervention context or may occur within the future life course of a person after occupational therapy processes have ended.

Depending on the specific intervention context, the consequence of the implementation content may be considered transition points rather than outcomes. These transition points occur when change is evaluated, measured, estimated or observed, but serve to stimulate responses to the progression of the process, rather than being considered outcomes.

Contexts

Context can be considered in four ways during occupational therapy: the person(s)-in-context, the therapist(s)-in-context, the intervention context and the macro-context.

The terms 'context' and 'environment' are typically used interchangeably or without distinction. However, contexts differ from environments. Environment(s) may be considered in isolation (i.e. the physical environment or the social environment) or in combination. However, context pertains to the unique combination (Latin *contextus*: from *con* 'together' and *textere* 'to weave' (Stevenson 2010, p.376)) of environments, personal factors and histories that influence the occupational being at a given point in time. Two people may be present in the same physical environment, but their context will be unique, given the particular characteristics of each and that which has gone before.

Person(s)-in-context expresses how context, person and occupation arise together in mutually constitutive processes. While components of the context may be named (such as the physical environment or social stigma around disability), they are understood to be unique to each person because of the ways in which they influence and are influenced by a person's experience and understanding of themselves in the world, as well as by their individual capacities and abilities. The unique person-in-context is in a constant state of evolution (dynamism) throughout the life course, informed by and expressed through the doing of occupations.

The person(s)-in-context concept may be reflected in the ways in which people are conceptualised or understood as part of occupational therapy. During practice, this understanding is often generated by the use of underlying theories and their corresponding models e.g. the Person, Environment, Occupation model (PEO model) (Law et al. 1996), the Canadian Model of Occupational Performance and Engagement (CMOP-E) (Townsend and Polatajko 2007), the Model of Human Occupation (MOHO) (Taylor 2017), the Kawa model (Iwama 2006) and so forth, and typically produces a representation of the person at a given point in their life course.

The therapist(s)-in-context concept represents a similar idea, but with a declared focus on their role as therapist some components of person and environment are consequently privileged. For instance, institutional environment, professional competence and so forth are components that are more central or may recur more frequently. However, there is recognition that the occupational therapist is also a person-in-context and thus components of non-professional life course will influence the therapy process. Therapist(s) is used in the plural to indicate that the person(s) may encounter several therapists during their process of occupational therapy.

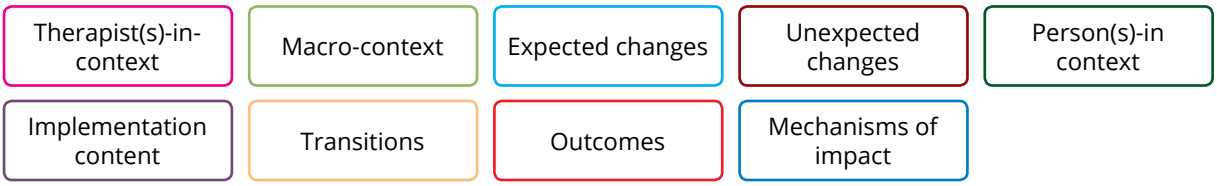
The intervention context can be understood as the shared context that occurs when person(s)-in-context and therapist(s)-in-context come together. It is inherently interpersonal and dynamic and comprises the interactions between person(s) and therapist(s) and the shared occupational components of therapeutic practices. Implementation content occurs in the intervention context and the changes that occur consequently reshape the person-in-context. Included within the intervention context are a range of components that can be identified as either facilitators or barriers to change, arising from the unique characteristics of the person(s)-in-context with the therapist(s)-in-context. These may incorporate the nature of the dynamic relationship between person(s) and therapist(s), governance structures, extent of available evidence, resources and so forth.

The macro-context comprises many of the components of environments, such as government and political structures, technology, and global and national events. The term ‘context’ is used to indicate the understanding that although macro, its influences on person, therapist and intervention contexts are ongoing and foundational.

3 Expanded model and exemplar

This chapter attempts to give a fuller, more detailed illustration of the potential interactions and influences between the multiple components that together comprise occupational therapy. A narrative account and explanation of this based on a hypothetical case is provided. An additional visual representation, linking components of this case to the model presented in the preceding chapter, is included (Figure 3).

At different points in the example that follows, components that feature in Figure 1 and Figure 2 are placed in boxes next to the text to illustrate how they cause the process to move in dynamic ways. The colours used to denote different components of the model have been replicated here (as indicated below). While this narrative account is an attempt to illustrate complexity, it does not capture all the different potential and interacting influences.



David and Sandra

David is a 68-year-old man who lives with Sandra, his wife of 45 years, at their home in Newcastle, north-east England. He has been retired from his profession as a structural engineer at a large building company for just over five years. Sandra retired from her job as a primary school teacher at roughly the same time and since then they have enjoyed retirement. They describe themselves as 'comfortable baby-boomers' as they own their own home and both receive good pensions.

Person
Social context
Physical and environmental context
Occupational context and performance

David has stayed in contact with some of his old professional colleagues. He occasionally teaches at his local technical college and sits as a trustee on the board of a local charity that organises outdoor residential courses for young adults who have had contact with the criminal justice system. He enjoys his daily routine, which starts with making himself and Sandra breakfast before taking their dog Digby for a walk to get the daily paper. David likes to spend an hour or so reading the paper and normally saves the crosswords for after dinner because he says he's 'useless' in the afternoon unless he has a good nap.

David and Sandra (and Digby) regularly go on short breaks around the UK – they would normally have about ten such breaks every year. David jokes that they are making up for lost time for all the holidays he skipped while he was working. David and Sandra have three grown-up sons, all living and working in London. Their two eldest sons have children and David and Sandra are proud grandparents to two grandsons and a granddaughter.

Three months ago, David started to show some signs of memory loss. He was diagnosed with likely mixed Alzheimer's disease and vascular dementia. He has been referred to the community service, where Julie is a practising occupational therapist.

Previous professional experiences
Continuing development
Personal dispositions

Julie has been a practising occupational therapist for three years since her graduation. Julie does not know Newcastle very well, having moved there from Leeds six months ago when her husband's job was relocated. Her previous job in Leeds was in a community rehabilitation centre working with people with long-term conditions like multiple sclerosis and motor neurone disease. Most of the people she worked with had experienced strokes and were learning to manage residual impairments. The service typically saw people over a three- to four-month period, usually on-site but occasionally at their home. They used the Canadian Occupational Performance Measure (COPM) (Law et al. 2000) as their primary outcome measure and as the process for setting goals with people. Julie's previous team comprised several occupational therapists, as well as two physiotherapists, a speech and language therapist, community support workers and a social worker. Specialist input from a clinical psychologist and neurologist were available as needed, though they were not based on-site.

While Julie has worked with people with dementia before, this has always been secondary to the role of the team she was working with previously. For instance, she had experience working with older adults in both general medical wards and orthopaedic rehabilitation during her student placements. She encountered people with dementia and other complex cognitive issues, but the focus of the services meant that dementia was never the primary cause for contact.

Policy/organisation expectations around practice

Demographics, populations and other macro-pressures

National strategies
Available funding

Reasoning, judgement, reflexive skills

Julie is settling into her new team but finds it very different to her previous role. She has found the move from working in a mixed team difficult, and feels less confident now she has less easy access to occupational therapists and other care professionals with more experience than she has. She is also a little daunted by the range of different people she is expected to work with and the high pressure to move through caseloads quickly. There is an 'unwritten rule' in place by the team's line manager (the social worker in charge of social care services for older adults in this sector of the city) that people should only get three visits from an occupational therapist: one for assessment, one to put an intervention in place, and one for follow-up or discharge. Julie has struggled with this and has been criticised for not completing her work in the 'three-visit window', having been used to seeing people over a much longer period of time.

The new team has no uniform approach to working with people, though there is an expectation that, if they are the first profession a person has contact with, they will complete a shared initial assessment that includes information about social circumstances and care needs. The team tends to collect measures of daily function to indicate outcomes, and while there is no agreed measure to use, the organisation's information management system has space to record the Barthel Index (Collin et al. 1988), so this is the tool most frequently utilised by the team.

Julie's team typically works with people in their own homes (one of the more senior therapists does 1.5 days per week in a specialist memory clinic attached to the teaching hospital), therefore Julie will work with David and Sandra at their home.

Julie knows that the NICE Clinical Guideline 42 (2006)[1] suggests she should be aiming to support 'independent functioning' through the use of adaptations and assistive devices, and should be encouraging David to stay active as much as possible. She is not sure how to achieve this and the clinical guidelines do not specify possible techniques or practices that might be used. She is confident that she can make recommendations for compensatory strategies and basic adaptations, and she is aware of the advice about maintaining physical activity, especially when vascular dementia is indicated. However, Julie is not sure whether the wider evidence base supports methods for implementing these in practice. She's also aware that there is evidence for cognitive stimulation therapy but that this pertains primarily to cognitive performance. Given the timescales she is expected to work within, she is not sure whether this is a feasible option.

Neuropsychology research and knowledge:

In early-stage dementia people may retain the ability to make new memories.

There is some evidence for cognitive rehab (compensatory and restorative strategies to enable people to continue with occupations).

Multiple approaches exist for supporting a person to retain the ability to learn and hold on to information and skills.

Occupational therapy research and knowledge: focusing on occupations of importance to the person and locating therapy at home is more likely to be effective/valued.

Julie must complete the service's initial assessment when she meets David and Sandra. This takes up a good portion of the available time permitted for the visit and generates a lot of information which Julie does not feel is particularly relevant (information about the physical layout of the property, for instance). Julie does manage to initiate wider conversations about the things that are important to them. Although she's not able to use the COPM (Law et al. 2000), Julie draws on her previous experience to begin conceptualising a picture of David and Sandra, the things they value and the issues they're currently experiencing.

Previous experiences of these concepts.

Exposure to an ability to internalise information about these concepts

Use of thinking tools (e.g. conceptual models for occupational performance)

Julie asks David to complete the Barthel Index (Collin et al. 1988) as a baseline as this features in the initial assessment. While answering the questions, Sandra becomes very upset and David starts to get anxious and upset too. When Julie inquires, Sandra says that the questions about continence and feeding have suddenly *'made their future real'*.

Policy/organisation expectations around practice

Assessment and information gathering

Julie immediately stops using the Barthel Index and changes the conversation. She reassures them that the reason for their referral to occupational therapy is so that they can start planning and working together so that even if David's ability to do things does start to decline, they can manage this and they will be able to stay at home doing the things that are important to them for as long as possible. She tells them that she's worked with hundreds of people with brain injuries and other conditions and that living life the way they want to is achievable.

Compassion

Active listening

Humour

Effective communication

Previous professional experiences

Continuing development

Personal dispositions

[1] NICE Clinical Guideline 42 (2006) *Dementia: supporting people with dementia and their carers in health and social care. https://www.nice.org.uk/guidance/cg42*

Julie starts to talk with David and Sandra about the things they want to be able to do, but has to stop so that she can move on to her next client. They arrange for Julie to visit again but due to her busy schedule, this is three weeks away. Julie asks David and Sandra to think about the things they are having difficulty with because of David's memory problems. She encourages them to keep a record of the daily activities that have become harder, and to write down other things that might be difficult to do but which are important to them.

Policy/organisation expectations around practice

Demographics, populations and other macro-pressures

National strategies

Available funding

At her next visit, Julie begins by asking David and Sandra to tell her about the things they've found difficult and the things they're worried about. David and Sandra identified the following issues:

Assessment and information gathering

Reasoning, judgement, reflexive skills

- David misplaces things in the house, specifically his keys, his newspaper or Digby's lead and treats. He has become frustrated looking for these things and has snapped at Sandra a couple of times. He's also forgotten to take his medication at the right time on several occasions.
- David is also worried about his ability to carry on with his work at the charity. He's worried he will forget what people have told him; he was really embarrassed at a meeting the previous week because he forgot the names of some people. David normally goes for a drink with some of the board members after meetings, but he found it difficult this time because he couldn't follow the conversation. He says he left early and came home feeling quite low. David says he was upset a few days ago because he couldn't remember some of his grandchildren's names.

Person

Social context

Physical environmental context

Occupational context and performance

- Sandra is worried that David will get lost at the shops or while he's out driving, even though this hasn't happened yet. She says she's worried whenever David goes out with Digby, or if he's going out to the college or to see friends, that he won't come back and will end up lost and at risk. She says she's looked at some 'satellite thingies' but that David won't even consider them because the ones she showed him were for children. He says having one would be like a big flag that says 'demented!' when he's out and about.

Prioritisation, goal setting

Self-confidence and perception of self

- Both of them are worried that they won't be able to continue their long weekends or visit their sons in London. David says he'd read on the internet how important familiar environments are to people with dementia, and he's worried that he may not cope in new surroundings. He says he doesn't want the holidays to become stressful for Sandra and that he'd rather not go than go and worry about her.

Julie says she has ideas to help with all of these concerns and tells Sandra and David that they could think about some small changes in the house. She recommends they put up a whiteboard, refreshed each day, to note down important messages, appointments and jobs for the day, including a checklist David can tick off when he's taken his medication. She suggests that

Previous experiences of concepts of cognitive rehabilitation and neuropsychology

Exposure to and ability to internalise information about these concepts

David could develop some habits around the things he often loses, like having a hook for his keys, a rack for his newspaper and a place to keep Digby's treats. She also suggests that David tries using a small notebook or diary to write things down when he leaves the house.

Assistive device/aids (support to learn and habituate use)

Changes to activities

Environmental adaptation

Available resources and funding

Julie says she knows how David's smartphone can be set up so that Sandra can see where it is if she's ever really worried about him. Her own husband showed her how to do this after she lost her phone, and she used the technique a couple of times successfully in her previous post. She explains that Sandra would need to have copies of David's username and password to be able to secure access, along with ensuring the phone's GPS or internet is turned on. Julie doesn't have time to explain how to do this, though, because again she has to move on to another client. Before she leaves they agree that over the next week David and Sandra will try to find a suitable whiteboard and notebook (these are not provided by Julie's equipment store) and they will try out a few things, such as listing what medications to take and noting jobs for the day.

Julie thinks it is important to see them again soon to assess whether the suggested adaptations have been working. She schedules an appointment for the end of one day the following week, so that she can run over time if needed and not have to go on to another client.

Reasoning, judgement, reflexive skills

Personal disposition

During that week David and Sandra follow all Julie's suggestions: they put up a hook in the hall for David's keys, buy a whiteboard and use it to keep track of David's medications and any appointments he has. However, he has difficulty using some of these, and his memory continues to cause problems. He left the house to go for a walk with Digby and forgot to take his keys because he went out the back door. He also forgot his phone, so he and Digby were locked out of the house for three hours while Sandra was having lunch and going shopping with friends. David also had a really difficult experience at a meeting of the charity's directors and trustees. They changed their normal meeting place and instead used a hotel function room. David hadn't been there before, and he got lost trying to locate and return from the toilets and needed to ask for help. In a fluster, the next day David and Sandra cancelled a trip to the Lake District they'd been planning.

Hopefulness and aspirations for the future

Self-confidence and perception of self

Perceived quality of life

Ability/capacity for occupational performance and engagement

Willingness and motivation to work with therapist

Assessment and information gathering

When Julie visits them the following week she sees that both David and Sandra look tired and worried. Sandra hasn't been sleeping because she's increasingly anxious, and David is frustrated that none of the things Julie suggested seem to be working.

Julie explains that on their own the aids probably won't work. What is necessary is to help David create new memories about how to use the aids and form this use

Reasoning, judgement, reflexive skills

Assistive device/aids (support to learn and habituate use of)

Response

into habits. Then they can feature as typical parts of his day. She explains how memory works, and how the disease might affect this. Julie proposes that it might help if they know some of the theory behind how they should learn to use the adaptations to help David during the day. She suggests that they look at each of the strategies in turn to figure out how best to do this.

There is some evidence for cognitive rehab (compensatory and restorative strategies to enable people to continue with occupations).

Multiple approaches exist for supporting a person to retain the ability to learn and hold on to information and skills.

Focusing on occupations of importance to the person and locating therapy at home is more likely to be effective/valued.

Julie suggests that instead of solely relying on the whiteboard in the kitchen, they could put a card on the front and back doors with reminders of the things David should check he has with him (his keys, his phone, his notebook, anything Digby needs).

To embed the strategy, Julie encourages David to start using his notebook to record lots of things, not just essentials – writing down things he's done during the day such as putting the laundry on or taking the bins out. Julie encourages David to keep the entries clear, showing him how he could record their conversation, as an example. Julie explains to David that repetition is thought to be key to learning the new memories he will need to use the strategies.

Assistive device/aids (support to learn and habituate use).

Previous experiences of concepts of cognitive rehabilitation and neuropsychology.

Exposure to and ability to internalise information about these concepts.

Julie feels it is important to inform David and Sandra that, unlike in her previous job, where she was able to work with people over a longer period, this current service does not permit such flexibility. As a result, Sandra and David will be required to work at building new 'strategy use' memories. Julie goes to the whiteboard and writes several upcoming appointments that David has planned.

She returns and begins speaking to David and Sandra about how they could use David's phone so that if Sandra is ever really worried she can check that he's not lost. A few minutes into this discussion, Julie stops and asks David what he's doing next Tuesday. She immediately prompts him to go and check his board, even if he thinks he already knows. When David comes back and tells them that he's due to take Digby to the vet for his check-up, Julie uses positive reinforcement by saying *'It's great to see David using the board so well'*. Julie explains to Sandra and David that they should repeat this sort of exercise regularly, randomly asking David questions about what he has to do (or things that he has done to record in his notebook). Julie tells Sandra that as David's responses improve she should start to lengthen by one second the gap between asking the questions and prompting David to use one of his strategies. Julie explains that this approach is called 'spaced retrieval' and that there is some research to show that it can improve the retention and recall of information. She also notes that they should initially try to use it at home when there are fewer demands on David's attention. Julie further explains that part of this approach uses a technique called 'cuing' and, over time, Sandra should reduce the number and frequency of cues provided as David develops his ability to use the aids. She suggests

There is some evidence for cognitive rehab (compensatory and restorative strategies to enable people to continue with occupations).

Multiple approaches exist for supporting a person to retain the ability to learn and hold on to information and skills.

Focusing on occupations of importance to the person and locating therapy at home is more likely to be effective/valued.

Previous experiences of concepts of cognitive rehabilitation and neuropsychology.

Exposure to and ability to internalise information about these concepts.

that Sandra can start by using a full phrase such as *'Could you go check the whiteboard please?'* and gradually move this back to *'Could you go check…'* and eventually *'check'.*

At the end of her scheduled time, Julie arranges to see David and Sandra a fourth time because she wants to review how these strategies are working. She also acknowledges how the stress and anxiety following David's problems at the hotel have affected David and Sandra. She wants to make sure they explore some ways to help David manage unfamiliar or busy situations so that he can stay involved with the charity, the college and the associated social activities. She manages to find a time slot over her lunch break in a fortnight.

Policy/organisation expectations around practice

Assessment and information gathering

Reasoning, judgement, reflexive skills

After Julie leaves, David and Sandra start practising the techniques. At first, David is a bit grumpy when Sandra keeps asking him about things he has planned or things he has coming up. However, he has a good couple of weeks. He manages the trip to the vet and uses his notebook to keep track of the changes to Digby's medication. He has no problems remembering to take things with him when he goes out, and on the way to get his paper one morning he sees an ad for a new exercise group for older adults at his local leisure centre and notes it down in his book. Sandra feels less anxious – not because she's less worried about David but because she feels that she's more confident and actually doing something to help manage things. She has developed a good habit of prompting David to transfer things from his book to the board and has been using the spaced retrieval strategies well.

Interactions with family and other social networks

Self-confidence and perception of self

Hopefulness and aspirations for the future

Knowledge and understanding of condition

Willingness and motivation to work with therapist

Confidence in managing memory problem

New memories/procedual knowledge – how to use

David's trip to the exercise class doesn't go as well as he'd hoped. He forgets to set his alarm for his after-lunch nap, is running late, and is flustered. At the class he finds it difficult to remember people's names and feels disorientated. He's not sure he'll go again.

Assessment and information gathering

At the start of Julie's next visit, they review how the strategies have been working. David tells Julie that although he's disappointed that the exercise class didn't go well, because other things have been working out he's willing to give it a go again, especially if Julie can look at how to help him manage the memory issues he experienced there.

Reasoning, judgement, reflexive skills

Response

Education about conditions and theory for techniques

Julie starts by explaining that David might have found the exercise class particularly challenging this time because he was feeling rushed and stressed, and that this might have reduced his ability to concentrate. Julie repeats some of the information about how memory works. She helps David and Sandra understand that busy social situations might affect the degree David can attend to information. This

barrier to his attention prevents him from encoding the information and laying it down as memory.

Changes to activities

Julie explains that there are things David can do to help in these situations and that he can start practising them in less busy and more familiar settings until he's able to do them more comfortably. When it comes to remembering people's names, Julie encourages David to repeat their name out loud. She says that an easy way of doing this is to say something like *'Gary, nice to meet you Gary'* and then for David to repeat the name several times in his head while looking at the person. Julie also says that if David can use rhymes or associations it will help to remember names. She also encourages David to use his notebook and write down a little bit about the person so that he can review it later: for instance, *'Gary from exercise class. Glasses and a beard, two sons also living in London'.*

Julie stresses that the most important thing is to concentrate on this as it's happening and to try not to be distracted by other things happening nearby. Julie also tells David not to be too hard on himself. She tells him she has a really good memory for faces and names but not for matching them up, and regularly forgets people's names. In her experience, most people don't mind if you forget their name; it can be nice if you ask again because it shows you're interested in them. Julie tells David and Sandra that if he continues having difficulty concentrating in busier situations they can try a similar approach to the spaced retrieval, but to focus on things that need his attention. This could include practising the names of new people and gradually increasing distractions at the same time until he's able to regularly use the strategies.

Confidence in managing memory problems

Julie also reintroduces the topic of their mini-breaks and asks whether they might wish to plan to go away again. David and Sandra are unsure, so Julie asks them to reflect on possible challenges or concerns. Apart from their worry about being in unfamiliar houses, they do not identify any single issue that really worries them. Julie encourages them to think about how they could use the strategies so they can still go on breaks. Sandra says she's been thinking about whether they could use grading for this, that is, taking it one step at a time from what they feel they can achieve at this time to more challenging situations in the future. To begin she suggests that they go away for one night, somewhere nearby, so if it's too difficult or they don't enjoy it, they can come home again and it won't feel as though they have lost a lot of money.

Reasoning, judgement, reflexive skills

Policy/organisation expectations around practice

Ability/capacity for occupational performance and engagement

Perceived quality of life

Julie is happy that David and Sandra are using the strategies and aids to help with memory problems and that they are beginning to develop their own solutions and strategies at home. She decides this will be her final visit because of pressure on the service but confirms that she will give David and Sandra a follow-up call to see how they're getting on. When she does, David and Sandra have been to visit their sons and their families in London. David took his notebook and the whiteboard with them and used techniques to help with remembering his grandchildren's names. They managed well, had a great time, and are planning another trip.

At a team meeting, Julie raises the issue of the use of the Barthel Index (Collin et al. 1988), reflecting that it did not feel like a relevant assessment. It had a negative

effect on her work with David and Sandra, and at the end of her sessions with them she had no meaningful way of capturing the positive outcomes. She says that writing her report was difficult, as she had to describe what she thought the key outcomes were, having to explain possible improvements to David's performance and quality of life, which was inefficient. She suggests the team members think about how to evaluate outcomes that are more relevant to their work, and also suggests these would evidence the need for longer involvement with some clients.

Reasoning, judgement, reflexive skills

Personal disposition

Figure 3 presents a visual representation of this case, indicating some of the relationships between different components. The potential for different components to act as influencers is also shown. The colours used in Figure 3 match the component areas shown in Figures 1 and 2, a key for which is presented here:

Therapist(s)-in-context

Macro-context

Expected changes

Unexpected changes

Person(s)-in-context

Implementation context

Transitions

Outcomes

Mechanisms of impact

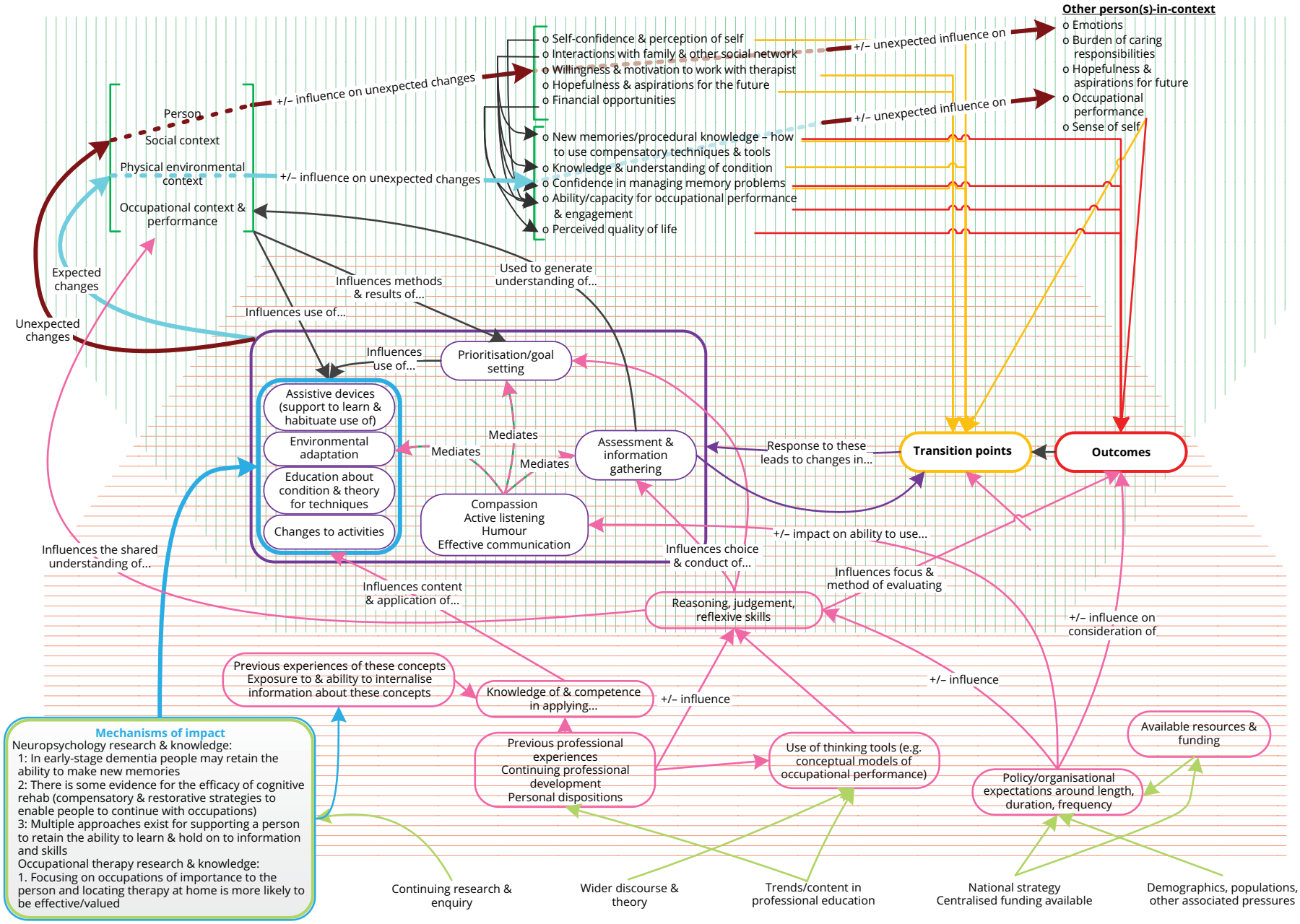


Figure 3 Case-linked visual representation

4 Expanded descriptions of model components

This section aims to provide further, detailed descriptions of each of the model components. To do this, it provides examples from the results of the survey, focus groups and literature review. These examples should not be presumed to be exhaustive of the wide range of components in contemporary occupational therapy, but are presented to illustrate and expand the descriptions. Detailed reference to data sources will not be provided here, and further information on the methodology and results underpinning this discussion is provided in Section 2. In the following discussion each component is named and described separately. However, they should be understood within an ongoing and dynamic interaction, and this will be evident in the descriptions provided.

Contexts

> *Context can be considered in four ways during occupational therapy: the person(s)-in-context, the therapist(s)-in-context, the intervention context and the macro-context. … Context pertains to the unique combination (Latin* contextus*: from* con *'together' and* textere *'to weave' (Stevenson 2010, p.376) of environments, personal factors and histories that influence the occupational being at a given point in time.* (p.13)

As previously introduced and presented above, context indicates the ongoing interweaving of the multiple factors that influence the occupational being at a given point in time. The terms 'person(s)-in-context' and 'therapist(s)-in-context' are used to indicate the idea that people are not separate from their contexts. Whenever attempts are made to isolate components, there is the risk that an awareness of interactions and understanding about how these influence change will be lost. One example would be looking purely at an environment, without considering how, when and why a person engages with or within that environment in particular ways.

In the model, four contexts are described. The person(s)-in-context and the therapist(s)-in-context come together for the duration of the occupational therapy process, and in doing so form the intervention context. These three contexts are situated within the much broader macro-context.

In the data obtained from the survey, the literature review and the focus groups, factors originating from these contexts are regularly identified as influencing the occupational therapy process and introducing complexity to the process. Examples include the influence of context on: the individualised nature of implementation content; the ways in which change occurs; and how outcomes are experienced and evaluated. In the data these factors are described as having positive, negative and possible influences on the occupational therapy process. Here they are presented as influencers (rather than as barriers and facilitators) in recognition of their potential to have both positive and negative effects on the process of occupational therapy.

Macro-context

The macro-context includes many of the components of environments, such as government and political structures, technology, global and national events, and social trends. The term 'context' indicates the significant influences, through an intertwined and ongoing relationship, that these macro components have with the person, therapist and intervention context.

The macro-context includes political ideologies, such as neoliberalism, that are seen to impact on the way health is understood (for example, the importance of individual self-management) as well as on how health and social services are structured and organised. It also includes the contemporary economic climate (moving on from the economic crisis of 2008) and continuing policies of austerity in the UK. Occupational therapy is influenced by theoretical ideas about health, wellbeing and occupation and components directly influencing practice, such as resource availability, national policies and legislation, national service framework quality requirements and professional codes of practice and conduct. Technological advances are influencing the daily occupations of people, as well as the impact of the possible uses of telehealth and virtual reality as components in occupational therapy.

Person(s)-in-context

In occupational therapy each person is understood to be unique and in a constant state of development. Their own individual capacities and abilities, the unique features of their own social and spatial environment, aspects of their life course, and their past, present and future occupations are important in shaping this development. The person(s)-in-context idea enables recognition of how occupational therapy is one small part of a life in progress for the person(s). Their rich history is essential to who they are in the intervention context that occurs during occupational therapy, and their history informs the shape of the process. On completion of the process, change – ideally – will have occurred that will positively influence the future life they will lead. Furthermore, the person(s)-in-context idea reflects the importance of these considerations in the approaches occupational therapists take to practice.

Components of person(s)-in-context identified from the data included:

- immediate and expanded social networks;
- personal and family values and worldviews;
- opportunities for participation in desired occupations; access to these in spaces local to the person;
- physical environments with which they interact;
- individual lifestyles and socio-economic characteristics (financial status, housing and employment);
- personal characteristics, including dispositions and abilities. Particular note was made of the ability to take responsibility, readiness to engage with therapy, and individual awareness and insights.

Therapist(s)-in-context

Describing the therapist(s) as 'in-context', as with the person(s)-in-context, enables the recognition that each therapist is unique, bringing to the therapeutic process their own professional and personal history, perceptions and abilities. Similarly, this idea of a therapist located in a specific context allows changes that happen to them during, and because of, each therapeutic encounter to be considered as a contribution to complexity.

Therapist(s)-in-context factors were discussed in the data in two broad categories. The first category relates to factors personal to each therapist. These include their knowledge and skills as well as the personal qualities they bring to the professional therapeutic relationship. The second category refers to a range of socio-institutional structures that create boundaries or broadly frame the context within which occupational therapy takes place. In each case, the various components are interrelated: for example, the knowledge a therapist holds about how practice is informed by their experiences, by the aims and structures of the service in which they practise, and by the social structures they encounter as professionals.

Therapist(s)-in-context factors identified in the data are listed below, along with examples from the data.

Personal factors: knowledge, skills and professional artistry of the occupational therapist

- Knowledge of and ability to apply specific theories and models to the process of therapy (e.g. recovery model).
- Degree of knowledge and understanding of associated information: for example, biomedical understandings of the human body.
- Ability to use and to reflect critically on evidence associated with practice.
- Practice skills, such as clinical reasoning, activity/occupation analysis, reflexivity, client-centred practice, verbalising an occupational perspective, group-work skills.
- Therapeutic use of self/professional artistry to facilitate trust. This may include kindness and compassion, persistence/determination, modesty, understanding, non-judgemental attitudes and the ability to use humour appropriately.
- Management skills to enable the creation of facilitative intervention contexts, including environmental conditions, availability of equipment, organisation of client programmes of therapy (particularly in relation to implementing occupation-based practice), time management.
- Practice experience and/or expertise.
- Personal values (ethics).

Socio-institutional structures

- Supervision, including the expertise of the supervisor and the frequency of access to supervision.
- Knowledge and expertise in the team and immediate professional networks.
- Collaboration between team members and other agencies; the degree of integration of services.
- Management structures, including operational meetings, annual planning, role clarity, service integrity, memoranda of understanding and leadership.
- Quality improvement processes and service delivery standards and guidelines.
- Service aims/models of practice and congruence with occupational therapy philosophy and models. Examples include appropriate referrals, understanding of expertise, autonomy, and power to change established practice.
- Financial factors. Examples include the availability of services such as home visits, community care or intervention beyond discharge; the opportunity to implement occupation-based and client-centred practice; the chance to establish new

interventions or develop practice; the opportunity to work collaboratively with family, carers or schools; and the number of occupational therapists available.

Intervention context

The intervention context occurs when person(s)-in-context and therapist(s)-in-context come together. The process of occupational therapy is located within this shared context. It is inherently interpersonal and dynamic and comprises the interactions between person(s) and therapist(s) and the shared occupational components of therapeutic practices.

Each unique intervention context includes components outlined in the descriptions of the person(s)-in-context and therapist(s)-in-context. The distinctive way in which these components come together means that the intervention context for one person(s) is different to that for the next person(s). Similarly, each time the person(s) and therapist(s) come together during an occupational therapy process, there will be differences from the previous and the following occasions. The intervention context provides the boundaries within which different occupational therapy practices are configured and used.

In this model the term 'person(s)' is used. Occupational therapists' clients are individuals, families, groups or organisations. In addition, while an occupational therapist may be working with a named individual, other people – for example, family members, carers and teachers – may be part of the intervention process, either directly or indirectly. The intervention context can therefore extend beyond the shared context of one individual and the therapist to include direct contact between a therapist and a family, a group, a classroom, an organisation and so forth, as well as indirect contact with similar social influencers.

A range of factors contribute to the unique interactions of the person(s) and therapist(s) within the intervention context. While some of these have also been referred to in the discussion of the person(s)-in-context or the therapist(s)-in-context, it is seen that within the intervention context these factors come together and operate in unique ways. Therefore, these factors are identified as important influencers (potentially with both a positive and negative impact) on the intervention process.

From the data these influencers are categorised as relating to motivation and knowledge, financial and other resources, culture and diversity, environmental factors, families and carers, research evidence and structural factors. Each of these is presented in continuation with examples from the data:

- *Motivation:* The person(s)'s motivation is essential to successful engagement in occupational therapy. Motivation may be reduced when confidence is low, interest in the process is reduced (e.g. therapy is seen as boring), or when social stigma is experienced (e.g. from classmates). Motivation is also affected by the ability to concentrate.
- *Knowledge:* The client's knowledge of the medical diagnosis and how this affects function or ability; limited perception of problems is seen to equate to limited participation in the intervention process.
- *Financial and other resources:* The availability of financial and other resources affects the intervention process in multiple ways. Examples include a person's ability to participate in certain occupations; the availability of certain interventions or the number of sessions; the amount of work that can be undertaken with families and/or carers; a person's ability to attend sessions due to transport costs or lost hours of work.

- *Culture and diversity:* This includes working with diverse groups as well as recognising the culture of services. Examples include respect for individuals' values and beliefs, as well as their varying occupation/daily activities; the culture of the service and whether it 'fits' with the needs of clients (for instance, an emphasis on safety and risk management rather than on occupation and wellbeing); language, both the accessibility of the 'language' of occupational therapy to people and families and the use of translators; applying evidence and research information with diverse groups (e.g. in terms of disability, sexual orientation or religion).
- *Environmental factors:* This means all components of the person's environment (physical and social) that affect the intervention process. Examples include whether a person's workplace will make required accommodations; availability of suitable leisure occupations in the community; restricted environments (prison, secure hospitals); suitability of the social and home situation for visits; social environment such as stigmatising attitudes; access to technology; geographical location (isolation) and transport links.
- *Families and carers:* The importance of the interrelationships client(s) have with their families and/or carers. Examples include working with parents; appreciation of variations in parenting styles and acknowledgement that parents may feel overwhelmed and unable to participate; carers may experience stress, or due to their own age/health condition may be unable to provide sufficient support.
- *Research evidence:* The availability of research evidence, particularly from robust trials. Examples include the difficulties of working with specific conditions; approaches and configurations of therapy where there is very limited evidence.
- *Structural factors:* These relate to the service within which the intervention takes place. Examples include the overall aim of a setting and what outcomes that service prioritises in terms of relevance and value; documentation (referral forms and assessments) that shape practice; challenges people (clients) experience when navigating health and social care systems and administration; the importance placed on safety and risk factors.

Causal assumptions

> *In occupational therapy,* doing *(engaging with occupations) and* change *(the act or process through which something becomes different) are indivisible from one another. Doing causes changes within and between different components of the person(s)-in-context. These changes can occur immediately (at the same time as doing) and/or gradually (after the doing has occurred).* (p.11)

The section in a preceding chapter (Chapter 2 Causal assumptions) gives an underpinning statement about the core theoretical causal assumption in occupational therapy: occupation is related to change. Change in occupational therapy focuses on improving or maintaining the health and wellbeing of people. This idea is largely based on the extent to which occupational therapists referenced this idea, or the conceptualisations that are based on it, in the three data sources analysed.

The importance of the active engagement of the person(s) in the occupational therapy process is a key characteristic of how changes occur. Engagement is often referenced as allowing occupation (rather than task or activity) to form part of the intervention, and this is seen to be important. In addition, centring therapy on occupation is referred to as being part of wider 'named approaches' such as person-, client- or family-centred practices. These in turn are used to frame a range of key practices, such as developing

relationships that enable a partnership approach to goal setting and evaluation, as 'fitting' the person(s). This fitting of practice to person(s) ensures they engage in occupations that have meaning for them, thus facilitating an effective process.

The interdependent nature of different components that allow occupation to occur (typically the person, their contexts and occupations) are referenced routinely when change is considered. Changes in one component are understood to lead to change in another. There is also the understanding that changes might occur simultaneously (or that the direction of change is difficult to estimate), due to multiple dependencies between these components. These understandings are often used to explain decisions on the focus of intervention.

These embedded references to conceptual understandings of occupation can be taken to point towards a set of root causal assumptions:

i. Occupation is intrinsically related to health and wellbeing.

ii. Occupation-embedded health and wellbeing emerges from a person and their context.

iii. Occupational therapy focuses on causing changes to a person and/or their contexts and/or their occupations to achieve health and wellbeing.

Mechanisms of impact

> *The mechanisms of impact in occupational therapy refer to both expected causal pathways to change associated with specific strategies and techniques, and unexpected changes that may occur because of context. Mechanisms of impact are strongly related to the causal assumptions in occupational therapy noted earlier and are typically the more discrete aspects of practice that are configured to produce expected changes in specific components of a person and their occupations.* (p.12)

Various mechanisms of impact are understood to produce change in occupational therapy. These can be linked to the component areas of occupation, environment and person, and links between these component areas are noted. As an example, changes in a person's environment are often linked to changes in occupation or occupational performance. Some examples of the different mechanisms of impact from the data are presented here, together with references to the associated impact on other components.

Environmental mechanisms of impact

- Modifying the physical environment to eliminate environmental barriers, associated with improved occupational performance, reduced risk and increased confidence and ideas about a sense of 'home'.
- Modifying the sensory environment to reduce additional stimuli/pressures and allow a focus on components of performance.
- Modifying the environmental context of intervention (sometimes referred to as 'ecological approaches in real-life situations') associated with concepts of conditioning, skill development, mastery and agency.
- Modifying social environments (peers, teachers, researchers, therapists, wider society) to allow opportunities balanced to the needs of the person. This is associated with occupational performance at the level of the whole person, including concepts of self and benefits from social processes such as shared experiences and goals; learning

from each other/'peer learning'; being part of a team; sense of community/emotional sharing.

Intrapersonal mechanisms of impact

Mechanisms of impact related to the components of a person are prevalent in the diverse examples shared. These range from mechanisms of impact associated with body structures and functions through psychological theories to more complicated theories such as concepts of the relational self, and are sometimes seen to have dynamic and recurring influences on each other. Further examples include:

- Changes to skills, functional ability and occupational performance are associated with ideas about the value of the person. Being seen and seeing themselves as a valuable, capable person is directly linked to increased confidence and self-esteem. This increase to confidence and esteem relates to further improvement at the skill and performance level.
- Increased self-awareness and sense of control and development of identity are associated with achieving occupational performance goals. Achieving a goal enables the person to 'see' that they are 'getting better'. This in turn has positive effects in terms of reinforcing habits and routines, creating meaning and value in performing occupations, encouraging confidence and confirming abilities and assets.

Functional mechanisms associated with the improved occupational performance of the person include:

- Developing an understanding of their circumstances and improving knowledge of self.
- Building knowledge and expertise in using strategies such as problem-solving and self-advocacy.
- Enhancing personal physical capacity.
- Improving motor, social and cognitive skills, neurological changes and emotional regulation.
- Developing the ability to make choices and to use assets and capabilities (personal and environmental), often referred to as an increasing ability to 'take control'.

Occupational mechanisms of impact

Occupation and engagement in occupations is a central causal assumption underpinning processes of change in occupational therapy. Several mechanisms of impact are associated with interventions focusing on occupations themselves. Some of these link directly to changes in the other component areas. For example, environmental adaptation and equipment provision changes the form of the occupation, and altering component aspects of an occupation means that its demands fit a person's capacity. Similarly, grading changes to occupations to allow measured exposure to increasing levels of demand allows capacities, skills or new strategies to develop.

Other examples relate to ideas associated with the psychological changes noted above. These include allowing or enabling a person to engage in occupations that:

- Are creative, related to self and/or community-focused, and are culturally relevant.
- Provide opportunities for healing; self-discovery; identity formation; participation and acceptance in the community; self-expression; change from focus on illness/impairment towards change/recovery; further occupational engagement; developing optimal occupational lives; increased motivation and self-efficacy.

- Give an experience of success so that feelings of competence, increased awareness of capabilities, and motivation to continue developing skills occur.

One final aspect of occupational mechanisms of impact identified in the data is the idea that engagement in occupation is self-replicating: successful engagement in occupation leads to further engagement in occupation. This is key not only to the intervention process but also to the ongoing daily life of the person beyond completion of intervention.

Named theories and approaches from other disciplines

Several papers included in the literature review identified various models other than those specific to occupational therapy, most notably the International Classification of Functioning, Disability and Health (ICF) (World Health Organization (WHO) 2008). It was a helpful framework to ensure holism and person-centredness, while there were also indications that it is used to structure the content of an intervention. Mechanisms of impact developed in other disciplines are also incorporated in the practices of occupational therapy to help explain, inform or frame aspects of both the mechanisms of impact and the implementation content. Specific theories relating to psychology and behaviour, neurology, cognition and ageing are referenced in the data.

Implementation content

> *Implementation content [is] all the strategies and techniques that are configured and used to form the practices of occupational therapy. In a dynamic occupational therapy process, implementation content alters over time in response to person(s)-in-context changes and in adaptation to other contextual factors.* (p.12)

Occupational therapy practices include both theory-driven activities (related to causing changes in person, context or occupation) and more non-specific practices that, nevertheless, are considered fundamental to effective therapy.

Common features or characteristics of implementation content identified from the data are:

- Multiple interventions in terms of the practices that take place, where they take place, and who is involved.
- The focus of the process is individualised and often variable and shifting, based on reasoned responses to changes in the person(s) and/or their context.
- The person(s) are actively engaged in most interventions.

Intervention content consists of a number of practices. These practices are strategies and techniques that are either associated with known theories or are aspects of a therapist's skill or expertise. These practices link to the mechanisms of impact previously outlined and examples from the data are briefly outlined below.

The active involvement of the person and working in partnership

The importance of the active involvement of the person was evident throughout the data. Central to this is the person actively identifying their own needs, setting their own goals, developing the plan and choosing activities, with a sense of trust in the therapist, the setting more generally, and others. The person shifts their perception of their future. Active involvement also involves engagement in occupation, doing both new and familiar occupations. Contact with others with similar experiences to the person, ensuring a

positive and enjoyable social environment, also promotes the person's participation both in therapy and more generally.

Information-gathering activities

Findings from the literature review and survey indicated limited consistent use of the language to describe information-gathering practices. The terms 'assessment' and 'evaluation' are both used (without a clear delineation of difference). Similarly, the intention of these activities is not always differentiated. For instance, 'function' is used in two different ways in reference to assessment: as 'motor function', consisting of muscle tone or range of movement; and to represent activities of daily living such as eating. Assessment ranges from a broad focus such as *'this was the first time the client could tell their whole story'* to a specific focus on explicit skills or body functions. Other assessments direct attention towards specific components of an occupation, such as knowledge of road signs and laws relevant to someone learning to drive.

Information-gathering techniques identified in the survey and literature include:

- interviews, observations and local checklists;
- gaming technology;
- goal attainment scaling;
- previous medical and other care records;
- feedback from colleagues;
- individually designed batteries of assessment;
- standardised measurement;
- opinions, reflections and perspectives of a person's family;
- the therapist's reflections in and on practice.

Goal setting

Goal setting, usually collaboratively with the person(s), is a common practice. Examples include working on care plans, identifying relevant situations with the person and family, building a common vision, creating mind maps, action planning, and prioritising goals with the person. Goal setting and revision may be an ongoing process throughout the intervention process.

Collaboration with others

Occupational therapists rarely work in isolation. To enable the person(s) to achieve their goals they are required to be skilled collaborators, working with a variety of agencies, staff, volunteers, families and carers. Some also work with service users and service user representative groups to design services, while others work with researchers, evaluators and those developing practice. Some examples of collaboration include working with:

- Agencies in the community to develop and co-ordinate interventions e.g. with a client, their employer, and their social insurance and employment services; with the ambulance service; with community groups.
- Staff within the same institution to co-ordinate optimal programmes, to plan discharge and/or to deliver remote services (e.g. prison wardens, care staff and multidisciplinary team members).

- Volunteers, students and classroom assistants to co-ordinate the delivery of intervention programmes.
- Teachers and others to provide consultancy and education.
- External experts, e.g. fitness trainers and financial and legal advisors.
- Policy-makers to drive system change.
- Carers, including parents, to support their mental and physical health, as well as to educate them about their family member's condition.

Occupation

Engaging in occupation is at the core of many interventions. Occupation is characterised in terms of being meaningful, relevant, rewarding, respectful, motivating, providing 'just-right challenge' and facilitating empowerment, enjoyment and engagement. Occupation-based approaches involve or are responsive to the person(s)-in-context, rather than being more limited in focus.

Occupation is employed as a practice in its own right. This may include re-engagement in valued occupations, as well engagement in new occupations that challenge the development of new skills and strategies, such as:

- Engaging in valued recreational activities in the community, including culture, arts, outdoor pursuits, volunteering.
- Occupation within services such as gardening and horticulture, cooking and shopping, play, pre-vocational and vocational training.

Core to practice is a variety of strategies designed to develop engagement in occupation. These include occupation/activity analysis, grading and adaptation. Ensuring motivation and a good 'fit' with individual needs and abilities is central to these practices. Terminology is less consistent here, with 'activity' also used frequently and interchangeably. Examples include:

- Activity/task analysis, used both in preparing occupations to be used during intervention and to identify barriers to participation in occupations.
- Activities graded to enable successful participation in both therapeutic sessions and occupations at home/community. Grading is applied in a number of ways. Examples include grading a series of occupations/activities to develop a person's skills, interests, physical abilities, their ability to engage in more complex tasks or to reduce the amount of support required; grading a specific task into component skills to enable mastery of each; grading frequency of participation (such as a graded return to work).
- Activities adapted or modified to enable participation. Assistive or compensatory devices and strategies support clients to engage with a range of occupations, including communication; bathroom, kitchen and home access; and driving. Therapists engage in assessment for these adaptations, their implementation and follow-up, and occasionally in their production.

Educational processes

Education takes a number of forms but is an integral aspect of many interventions. Included is direct education (typically explanatory), coaching, training and strategies for either component functions or specific skills.

- **Education**

  Practices involving direct education are common. These include imparting knowledge and information on specific conditions, explaining techniques and strategies, sharing information about local resources, explaining how to manage environmental barriers and how adaptations might work. Education is also directed towards the public through social media information campaigns.

- **Coaching**

  Coaching is described in some cases as an enablement skill involving specific models of coaching. More typically, the term is used in a general way to describe performance-related instructions that include observing and providing feedback. Coaching usually takes place in the natural environment with the aim of supporting occupational performance. Coaching of carers and parents to support the person is also undertaken.

- **Training and strategies for cognitive, physical and sensory components/skills/functions**

  Various cognitive, physical and sensory components and skills are addressed through training, strategy instruction and interventions. The literature review identified a variety of named approaches (e.g. cognitive and sensorial stimulation, cognitive retraining strategies).

  With respect to motor function, a range of practices are mentioned, including exercise programmes (including walking and aquatics), fine motor strengthening exercises, gross motor intervention (including hopping and stepping), gross motor co-ordination (including strength and endurance), motor development strategies, training hand function, oedema and scar management and breathing exercises. Repetition is reported to be important in some of these programmes, and 'Repetitive Task Training' is named as a specific strategy.

- **Skill training**

  This includes the training of specific skills for activities involved in daily living (including safety in the home), for work (including return to work) and for school (such as handwriting). Skill training also includes skills in the management of certain issues and/or situations (e.g. stress, handling finances), or to support the person's ongoing engagement in occupation/daily activities (including skills in identifying opportunities for occupation in the community). Skill training may involve practice and repetition, including homework or self-directed practice.

Group-based interventions

Groups have potential for supporting changes, typically in terms of personal components (skills, capacity) or by providing opportunities for occupation. The development and support of groups is managed through in-group activities, creating a sense of 'our group'. Key components for fostering an 'our group' experience are that group members are seen, heard and treated with dignity, which in turn leads to positive relationships, self-acceptance and opportunities for growth.

Supportive practices for group interventions were identified to include:

- shared activities, team-building activities, community living and sharing stories;
- group members experiencing choice and ownership of the group, and shared decision-making.

The environment

As a strategy, environment is used in two main ways, with practices involving virtual environments and 'real' environments. Virtual realities and information communication technology to deliver practice are described in several ways:

- To provide contact between the client and the therapist due to rural locations or other contextual factors.
- To provide a virtual setting for treatment activities, such as for upper limb rehabilitation, or cognitive, perceptual or physical activity training, both individually and in groups. Technology used includes games, Wii™ and fully immersive virtual reality.
- Applications for media devices (such as smartphones) to support client's specific needs, such as time management.

Involving a wide range of 'real' environments – the home, workplaces, community centres, green spaces or classrooms – is identified as important practice for several reasons. The first relates to the importance of change within the actual environments in which daily life takes place. This includes the creation or facilitation of 'conducive environments' and 'real-life' situations that are familiar, safe (incorporating emotional and physical safety), relevant and meaningful. Adaptation to the environment, provision of adaptations to be utilised within different environments and advocating for physical and social accessibility are also central practices.

The relationship between person(s) and therapist(s)

The development of a relationship between person(s) and therapist(s) is a practice used in combination with a number of other strategies and techniques, but is seen as fundamental to successful change. Concepts related to the therapeutic use of self are identified as well as essential characteristics of the relationship. These include the importance of collaboration, working with clients as partners, and engaging with clients and their families. The therapist(s) should be encouraging, inspire trust and share their experiences.

Specific named programmes incorporating multiple strategies

Specific intervention programmes are also part of the intervention content. These typically combine a number of the previously mentioned practices or strategies within a specific protocol for intervention. These include programmes based on occupation (either to promote health or as an intervention targeting specific areas) and those designed to include theories and techniques that have been developed by other disciplines. These latter programmes are identified as causing changes to person, context and/or occupation.

Examples of occupational therapy developed programmes are Cognitive Orientation to Occupational Performance (Polatajko and Mandich 2004) and Sensory Integration (SI) (Ayres 1970).

Programmes developed in other areas but used during occupational therapy include Constraint-Induced Movement Therapy (CIMT), cognitive behavioural approaches, mindfulness and relaxation, and Functional Electrical Stimulation.

Outcomes and transitions

The multiple changes to person(s)-in-context, when identified in the intervention context, may be considered as transitions. These transitions initiate responsive reconfigurations to

> *the implementation content to accommodate new understandings of the person(s)-in-context, or may be measured or estimated as outcomes.* (pp.8–9)
>
> *Outcomes […] may be evaluated in numerous ways, ranging from formal standardised measurement to clinical expertise and estimation. They may also be consequences that remain within, and are experienced solely by, the person(s)-in-context. Outcomes can occur in the intervention context or may occur within the future life course of a person after occupational therapy processes have ended.* (p.13)

Outcomes and points of transition during the therapy process are closely aligned ideas. They both relate to the changes that take place because of occupational therapy. Certain changes are anticipated, identified during initial assessment and goal setting, and measured or estimated as outcomes at identifiable points in the process. Points of transition may be recognised as important stages or steps in change as an ongoing process, incorporated in the therapist's reasoning as they adjust and refine the implementation content to achieve 'best fit' with the person. Within the data, the difference between the two often appears to be related to the contexts in which therapy occurs.

Types of outcome and change reported are detailed below. Ten categories are identified, each of which aligns with one or more of the conceptual models of occupation, including underlying causal ideas about links to health and wellbeing. One further category was formed that captured outcomes and changes associated with the process of providing therapy rather than change in one of the component areas of occupation (see final point below). These are detailed below, along with illustrative examples.

- Body structures (scar healing, range of movement).
- Symptoms (depression, pain, fatigue).
- Body functions (cognition, impairment of arm, shoulder and hand, visual perceptual skill).
- Functional and activity of daily living performance (Barthel Index, Rookwood Driving Assessment Battery, handwriting skills).
- Risk and safety (falls, home safety).
- Environment (environmental impact scales).
- Occupational performance (MOHO tools, COPM).
- Participation (typically in specific occupational roles such as school, groups, work).
- Goal attainment (Goal Attainment Scale (GAS) and informal methods).
- Multi-attribute outcomes (including concepts such as quality of life, wellbeing and recovery).
- Process- and structure-related changes (satisfaction with services).

Change is described in many different ways. When referring to those changes associated with component area outcomes, language reflects linearity and directionality: 'increased', 'improved', 'greater', 'independence', 'function', 'occupational performance', 'skill', 'reduced', 'less', 'lowered', 'disability', 'impairment', 'burden', 'risk' and 'symptoms'.

However, therapists also describe change using language more reflective of stepped, incremental and gradual processes. There are indications that some foundational

changes or transition points must be achieved before further developments can take place. These foundational changes are commonly described as 'coming to terms with' or 'developing an understanding of' changed abilities, occupations or circumstances. Motivation and a willingness to engage in therapy and trusting relationships with the therapist are also seen as foundational to later changes in different areas.

Therapists also noted that unexpected changes occur. These are often located away from the intervention, taking place in the person's context. They may be associated with the effect of therapy, or may occur independent of therapy (such as changes in social networks and circumstances that affect a person's ability to engage in occupations or the occupational therapy process). The reflection that changes in different components of the person(s)-in-context are interrelated and therefore can stimulate or inhibit one another is identified. Examples were previously presented in the section on mechanisms of impact (please see pages 30–32).

Developing an understanding of change in occupational therapy incorporates recognising that it can be difficult to predict accurately all the changes that might happen, when they might occur, and what the impact of change may be. As will be discussed further in Chapter 5, this is not the same as suggesting that changes happen in a non-linear way. Rather, there are clear indications that occupational therapists address specific areas that contribute to concepts of health and wellbeing, do so in ways that are often informed by theory and evidence, and generally report outcomes and changes in terms of direction and magnitude. The 'unexpectedness' of some changes can stem from uncontrolled aspects of a person's context or the variable responses individuals show to particular practices.

Varying approaches are used to capture change and outcomes in occupational therapy. These are presented in categories, but it should be noted that the descriptions of practice indicate that combining evaluative strategies is common.

- *Standardised measurement:* Standardised approaches are designed to capture outcomes in each of the different categories noted above, with the majority of different tools being used to evaluate changes in body function, symptomology and functional performance. Many tools were aligned to models of occupation.
- *Professional estimation:* A variety of non-standardised approaches to evaluating outcomes were reported. Collecting feedback and information from people and their families is the most common method. Other evaluation approaches identified are goal review, feedback from colleagues, observation and expert judgement, and non-standardised assessment of functional performance.
- *Structural outcomes:* Various outcomes are associated with service-related aims and factors. These are classified as structural outcomes as they are seen to arise from the need to demonstrate outcomes against criteria specified by institutional or organisational factors. They include a person's discharge destination, whether or not equipment is provided and used, risk management factors (including safe discharge, a change in care needs, re-admission status, person-reported satisfaction, productivity statistics that include time on waiting lists, number of people seen, length of contact and so forth) and return to work.

5 Is occupational therapy a complex intervention?

Examining if, and how far, this model of occupational therapy aligns with ideas about complex interventions is a key aim of this work. Occupational therapy, as will be noted in detail in Section 2, includes a broad range of practices, based on many different scientific and theoretical bodies of knowledge. This chapter examines whether the model presented above, which describes occupational therapy as a complex dynamic process, supports the application of the definition of 'complex intervention'. The work of the MRC (2000), which was the stimulus for the original work by Creek (2003), and the updated version (Craig et al. 2006, 2008) remain widely cited definitions of complex intervention. It is against the latter that the proposed model of occupational therapy is considered. It is also worth noting that there are different definitions of what may constitute or cause *complexity* in intervention. These are considered later in this chapter, where attempts are made to consider why occupational therapy might be considered a complex intervention.

Craig et al.'s (2006) guidance on developing and evaluating complex interventions offered the following definition:

> *Complex interventions are usually described as interventions that contain several interacting components. There are, however, several dimensions of complexity: it may be to do with the range of possible outcomes, or their variability in the target population, rather than with the number of elements in the intervention package itself. It follows that there is no sharp boundary between simple and complex interventions. Few interventions are truly simple, but there is a wide range of complexity.* (p.7)

Additionally, Craig et al. (2006, 2008) offered a number of key dimensions of complexity. These have been used as a framework to consider the updated model of occupational therapy, and each is discussed here in turn.

- **Number of interacting components (within the experimental and control interventions)**

The model developed during this work to revise occupational therapy defined as a complex intervention highlights a substantial degree of interaction between components of occupational therapy. These components have been identified as occurring in the intervention context and comprise a broad range of practices. These include the application of theories and bodies of knowledge, specific activities considered part of the occupational therapy process, and a range of interpersonal therapeutic techniques or behaviours.

The number of interactions in occupational therapy is typically difficult to establish, as will be seen when the degree of tailoring is considered later (p.42). One aspect that contributes to the high number of interactional components in occupational therapy is that there tends to be little, if any, separation between the intervention and a person's wider context. Indeed, the position that the intervention context in occupational therapy occurs when the person(s)-in-context encounters the occupational therapist(s)-in-context is intended to represent the idea that all components from these two contexts

may feature as components which directly or indirectly interact to influence the structure of an occupational therapy process. The high degree of variability in practices that occur when holistically considering occupational therapy as a complex dynamic process means it is unfeasible to suggest there will be a universal set of components that interact. It is possible, however, to highlight those that occurred regularly in the data collected. These are given in more detail in Section 2 and have been noted in the expanded definitions given in Chapter 4 but, as a brief illustrative example, the survey showed that occupational therapists typically employ an average of 11 different strategies and techniques during practice.

- **Number and difficulty of behaviours required by those delivering or receiving the intervention**

Data collected from the literature review and online survey indicated a number of behaviours on the part of the therapist and the person(s) with whom they are working. Open-ended survey responses and the literature review revealed a range of behaviours commonly frequently reported as central to occupational therapy processes. For a person these behaviours included ideas such as the ability to develop confidence, the willingness to experiment and take risks, the ability to exercise choice, increase knowledge, and develop and maintain skills, being motivated and remaining engaged in therapy. Interestingly, as noted below in the section considering outcomes (p.41), becoming able to demonstrate some of these behaviours was seen as transition points or outcomes during a longer process of therapy.

For occupational therapists these behaviours included the ability to understand multiple components of a person, including their needs; causes of issues with health and wellbeing; a person's priorities and aspirations; and their social and environmental contexts (in themselves comprising multiple components). Similarly, the way various activities were performed was considered to be an important aspect of intervention, including, for example, assessment and measurement, goal setting, continual monitoring and consequent responses. Several practice skills such as compassion, presence (for example presenting as professional, skilled and confident) and humour were also named as being important components of intervention.

- **Number of groups or organisational levels targeted by the intervention**

Just over half of survey respondents (56.8%) reported only working with one type of service user (in this case, 'type' refers to classifications used in the survey: individuals, families, other social groups, community organisations, private organisations and public organisations). The remaining 43.2% reported working with anywhere between two and six different types. The most frequent combination was for therapists to work with people and their families. Although the reasons for working with multiple cases were not comprehensively investigated, plausible arguments can be made for the influence of a therapist's context on this, in particular the service structures that influence practice, as well as an understanding by occupational therapists of the essential interrelatedness of people and their families and carers.

One interesting point to note is that while occupational therapy may predominantly target individuals, there is the potential for changes to happen which have benefits for other people. For instance, immediate family and social networks were noted to benefit from, or be affected by, occupational therapy (this is considered in more detail in the following section considering the number and variability of outcomes (p.41)). This again appeared to be linked to the concept of context. People and their occupations always happen in a context, which typically involves other people. Thus, occupational therapy,

in attempting to improve health and wellbeing through occupation, has a direct impact on this context and may therefore affect the other people within it.

- **Number and variability of outcomes**

The data analysed from the survey and the literature review demonstrated a high degree of variability in outcomes. The literature review identified 106 intervention objectives and 108 measurement methods or assessments across several different categories. Similarly, survey respondents on average reported using three different approaches to collecting evaluation outcome data from 22 different strategies. This was further discussed by occupational therapists in the qualitative survey responses and focus groups, where the experience of witnessing multiple outcomes from therapy was clear. Some of these outcomes were directly related to the practices used and some were unexpected additional outcomes or consequences. These additional consequences were often located in a person's wider context, and examples included references to wider social networks and occupations.

Beyond these descriptive indicators, the model suggests variability in outcome in at least three ways. The first is related to variability in terms of the direction and magnitude of a change and its associated outcomes. While many components of practice are associated with expected changes (typically reported in terms of directional relationships such as 'increase in independence'), reliably estimating when and what size this change would be is much less common. Therapists often reported incremental changes, which were often founded on the establishment of some previous change before outcomes were reached, or where the establishment of one change led to the next until outcomes were reached. More details are given in Section 2, but one example is the common use of the language of 'growth' reflecting slow and incremental development in relation to ideas associated with a person's agency.

The interactional qualities of person(s)-in-context components means that occupational therapy practices can vary in terms of the mechanism of impact, even though the eventual outcomes may be the same. For instance, using practices that adapt physical environments may lead to a person being able to *do* an occupation despite continuing body function impairments. Alternatively, the same outcome may be reached if practices that ameliorate the body function impairments are used, or if the form of the occupation is altered. Regardless of practice used, changes will happen in the other interrelated components and an outcome will have been effected. Consequently, determining the direction of impact can be challenging.

The second component of variability suggests that not all changes that occur during a process of occupational therapy are positively associated with outcome. Realising an outcome in one area (often an outcome that could be considered one of several small transitions) might be conceived as a loss or a negative impact in some other way. Framed within a single illustrative example, the process of 'coming to terms' with altered physical capacity could be seen as a transition point upon which therapy started to be effective, at the same time as reflecting a loss of aspiration.

The final component of variability relates to when and how outcomes are measured or estimated. Some changes associated with occupational therapy could not be captured or adequately explained. These related to both types of change presented in the model – expected and unexpected. They ranged from changes within a person (for example, a person's perception of issues associated with health, wellbeing and occupation) to changes in that person's wider context. These changes were sometimes

seen as outcomes in their own right or as significant points of transition that stimulated a response from the therapist in terms of the practices used.

Reported difficulties around outcome measurement provide evidence of this variability and range. In addition to using many different methods of collecting evaluative information, therapists reported difficulty in finding means of adequately evaluating outcomes. This difficulty was partly due to the nature of unexpected changes, which might occur away from the intervention context but be significant to a person's progression, and partly because many occupational therapists felt there was an absence of tools that adequately measured aspects of human experience such as meaning, and the experience of engaging in occupation.

Occupational therapists reflected that this led to situations where outcomes were judged using discrete and often service-related outcomes or where therapists relied on qualitative accounts, typically termed feedback. One way of thinking about this would be to use Senge's (1990) argument that in complex situations *'cause and effect are not closely related in time and space and obvious interventions do not produce expected outcomes*' (p.364). Because of this it may not be feasible to collect information at baseline that would allow for the traditional 'before and after' estimation of change.

- **Degree of flexibility or tailoring of the intervention permitted**

This is perhaps one of the defining characteristics of occupational therapy. There were strong and consistent indications in the data that occupational therapists configure the content of their practices in response to a range of components. The need to fit practices to the needs, aims and contexts of people came across as a core idea underpinning therapy. This was seen to be fundamental to making sure that a process of occupational therapy proceeded in a way that ultimately contributed to outcomes of value for a person or persons. This was not universal. There were accounts of mechanistic practices, although many of these were tied up with expressions of frustration and discontent at not being able to respond to a person and their context. Conversely, there were also reports in the reviewed literature expressing frustration that people did not follow instructions or comply with recommendations and prescriptions.

Flexibility and tailoring, when they did take place, were seen as key to the early stages of the therapy process and core components of its continuation. The therapist(s) and the person(s) engaged in dynamic processes where practices were continually adjusted and altered in response to continuing knowledge and understanding of a person, their contexts, and – importantly – how these changed as therapy progressed. In other words, a high degree of tailoring and flexibility is not only permitted in occupational therapy practice, but it is seen to be essential.

These ideas are described in more detail below where explanations of why occupational therapy is complex are considered, along with the impact this complexity might have on concepts of standardisation and evaluation.

Occupational therapy as a complex intervention

Describing occupational therapy as a complex dynamic process reflects the wide array of techniques, skills and activities that were reported to form contemporary practice. Judging the model developed from these reports against the core dimensions suggested by Craig et al. (2008) allows a credible claim to be made that the dynamic processes of occupational therapy can be thought of as a complex intervention. In considering

occupational therapy as a complex intervention there are further aspects to be considered, including whether it is *always* a complex intervention, what perspectives on complexity might be helpful, and what impact thinking about therapy as a dynamic process has on how therapy is studied.

In the following sections, several ideas and issues will be considered. First, as complexity remains an emerging concept in science, different types of complexity will be considered. Two current perspectives will be considered: that complexity in interventions is a characteristic of internal features (number of components and degrees of interaction), and that complexity arises as a characteristic of contextual influences on practice. It will be proposed that the model developed in this work more closely aligns with the latter perspective (though still meets the criteria outlined by the MRC), and the reasons for this position will be explained.

Complexity as an internal feature of intervention

Moore et al. (2017) have described the MRC's perspective on complexity as being one in which it is '*an internal property of a new way of working*' (paragraph 1). The term 'internal property' is used because the causes of complexity are theorised as being directly linked with the intervention itself (the dimensions of complexity that were used as a framework to consider whether occupational therapy aligns with the MRC definition earlier, the number of interacting components and so forth). From this perspective, complexity in intervention is associated with the idea that high numbers of interacting components cause a difficulty in establishing which combinations of these form the 'active ingredients' that lead to change. The main body of the MRC guidance (Craig et al. 2008) proposes a range of approaches and methods that can be used to enable interventions to be developed so that their 'internal' complexity can be understood and their outcomes evaluated.

However, the guidance (Craig et al. 2008) also mentions that complex interventions and their real-world implementation can be further influenced by a range of external circumstances. A process model to support evaluation that pays *'greater attention to the contexts in which interventions take place'* (Craig et al. 2008, p.1) was included in their update, in response to discourse which followed the original guidance suggesting that *'complex interventions may work best if they are tailored to local contexts rather than completely standardised'* (p.1). Similarly, the degree to which an intervention can be altered or tailored features as the last of Craig et al.'s (2008) dimensions of complexity.

Underlying this dimension is the understanding that there will be a coherent logic and pathway to change associated with an intervention. Components of context can allow or restrict the degree to which this pathway operates, and can thus influence outcomes. Therefore, altering aspects of how the intervention is applied to respond to the specificity of the context may be necessary to achieve the desired outcomes. Process evaluation that takes place at the same time as the evaluation of an intervention's effectiveness is put forward as a way of understanding the degree of tailoring that takes place and the effects this may have on outcome. Moore et al.'s (2015) proposals for designing such process evaluations specify monitoring the degree of fidelity and the adaptations required as two key components of process to be considered, noting that there is still unresolved debate around the degree of adaptation (and thus potential loss of fidelity) that is acceptable.

> *Fidelity is not straightforward in relation to complex interventions. In some evaluations, such as those seeking to identify active ingredients within a complex intervention, strict standardisation may be required and controls put in place to limit variation in*

> *implementation. But some interventions are designed to be adapted to local circumstances.* (Craig et al. 2008, p.2)

The challenge in considering these ideas in occupational therapy practice is that there is a fundamental tension at play. The occupational therapy process is founded on understanding individuals and their needs, issues, strengths and contexts before decisions are made about how to practise. The centrality of individualising an intervention to fit these various considerations emerged repeatedly in the data, and has been reflected in the visual and textual representation of the model. As stated earlier in the section presenting core definitions of the occupational therapy process:

> *The occupational therapy process comprises multiple practices . . . which form the implementation content. These practices include a range of strategies and techniques that are understood to cause change due to a variety of mechanisms. They are configured and used with the person(s)-in-context in a way deemed optimal for causing changes.* (p.8)

From this perspective, adaptation of the intervention happens at the individual level in response to people in their contexts. Consequently, the cause of complexity can be considered differently and can be seen to stem not only from the interactions of multiple components (though these are still present). Rather, these multiple interactions happen because responsively fitting practice to individual context is a fundamental part of the intervention process. Conversely, literature relating to complex interventions tends to give examples of adaptations occurring in broader settings. Craig et al. (2006) use the example of sexual health interventions in countries with different levels of wealth to demonstrate this idea. As will be discussed later in the section titled 'What does this mean for occupational therapy and complex interventions?' (p.48), the position that adaptation in occupational therapy happens at the level of the individual does not preclude study using controlled experimental techniques to identify causal pathways, nor does it endorse the idea that outcomes of occupational therapy are inherently unpredictable.

Complexity as a characteristic of context

Since the publications of the MRC guidance in 2000 and Craig et al.'s 2006 update, discussion about complex interventions has continued apace, as has the wider discussion of complexity in science. The same has been true in relation to Creek's original work to define occupational therapy as a complex intervention (2003) and the follow-up work by Creek et al. (2005). Duncan et al. (2007) provided a perspective that sought to clarify technical issues around the concepts of complexity. They identified many of the challenges inherent in using a term that has many different and evolving definitions, and challenged the theoretical basis for claims made by Creek et al. (2005) about the unpredictability of occupational therapy and the impossibility of standardisation for study.

Duncan et al.'s (2007) position was that there is a technical difference between the idea of complexity in an intervention and the idea of complexity in a complex adaptive system. Complex interventions, as defined by Craig et al. (2006) and considered above, include multiple interacting components in which the active ingredients can be hard to determine. Complex adaptive systems are characterised by the emergence of intricate structures from individual components following simple rules (Lewin 1999). They have the hallmarks of a system and tend towards internal self-organisation and sustainability through adaptation (Mitchell 2009). In conflating the two conceptualisations of complexity and arguing that the process of occupational therapy functioned like a complex adaptive system, Duncan et al. (2007) argued that Creek et al. (2005) developed their arguments on a misapplied theory for which no empirical evidence existed.

An alternate point of view permits a reconciliation of these two theoretical positions and aligns with the proposed model of occupational therapy developed and presented earlier. Complexity in occupational therapy is not solely a result of internal features of intervention (though they may be multiple), nor is it solely because the process itself is inherently complex and adaptive (though responsiveness and flexibility feature). Rather, occupational therapy is complex because it is focused on causing changes to take place to person(s)-in-context, by therapists operating in context, both of which can be thought of as systems. The purpose of occupational therapy is to alter how these systems function, so that occupation emerges in a way that contributes to health and wellbeing.

There is theoretical precedent for this perspective. Hawe et al. (2009) claimed that interventions can be theorised as events that take place within systems. In reference to community-level psychology and health interventions, Hawe et al. (2009) make a convincing case in arguing that an intervention serves to *'change the future trajectory of the system's dynamics. To be an effective intervention, this change in direction must lead to positive outcomes'* (p.274). The systems considered in their paper are termed 'dynamic ecological systems', and interactions between people, their roles, symbols, time, funds and physical resources are identified as the components of the system. Hawe et al. (2009) and Craig et al. (2006) proposed similar indicators for the dimensions of complexity (number and variability of outcomes, number and difficulty of behaviours required, number of groups or organisational levels targeted), but the former suggested that such features arise in response to the dynamic systems in which an intervention is applied, rather than being inherent to the intervention itself and how it effects change. Thus, the success of an intervention is related to the degree to which it is configured so that the dynamics of the system itself are changed: *'A useful new heuristic in intervention research is to think of interventions as events in systems that either leave a lasting footprint or wash out, depending on how well the dynamic properties of the system are harnessed'* (Hawe et al. 2009, p.270).

These ideas have utility in occupational therapy where the use of systems theories is predominant in Western models of occupation. For example, the original iteration of the Model of Human Occupation (MOHO) (Kielhofner 1985) was explicitly based on understanding human beings as open systems, with the more recent edition claiming a basis in dynamic systems theory (O'Brien and Kielhofner 2017). The Canadian Model of Occupational Performance and Engagement (CMOP-E) (Townsend and Polatajko 2007) and the Person, Environment Occupation (PEO) model (Law et al. 1996) do not explicitly use the language of systems, though reference to systemic perspectives was made in Fearing et al.'s (1997) process model. The CMOP-E and PEO models are arguably based on systems theories. The interactional nature of multiple components and the resulting emergence of occupation and/or health outcomes reflect systemic properties.

Recognising that most ways of thinking about people as occupational beings is founded on systems theories is important because it allows the two different ideas of complexity to be considered. Nevertheless, it is useful to provide some information about systems and the link to occupational therapy here.

A first point is the importance of adopting systems as a 'way of thinking' about occupational therapy. The term 'systems thinking' is used across many scientific disciplines with reference to the idea that thinking about things as systems can be a useful way of describing, analysing and simplifying reality to enable greater understanding (Dekkers 2017). Systems are typically identified at a conceptual level. As systems are open and continually interact with wider environments, any identified boundary is purely conceptual. When something is described as a system, it is because

there has been a purposeful decision to view it as distinct from the wider universe (Dekkers 2017):

> *The separation should serve the nature of the study and an investigation will take only those elements and relationships within the system into account plus the relationships with its environment, i.e. those elements in the universe with which the internal elements have direct relationships.* (p.37)

This concept of selecting a system to allow it to be studied leads on to a second key idea about systems thinking. Different types of situation or phenomena may require different methodological approaches to be used to structure enquiry. The scope of this work does not allow for a detailed description. However, Jackson (1991) gives a useful overview, noting that these systems approaches range from 'hard' functionalist perspectives of phenomena to 'soft' interpretive ways of organising information. Like other approaches to enquiry, different underpinning theoretical assumptions shape how ideas of systems are used, and the different approaches will fit different types of enquiry.

This is an important set of distinctions for occupational therapy, and adds to the challenge of understanding occupation (and thus occupational therapy). The current models available for understanding occupation require different systems approaches to be used concurrently, despite having different underlying assumptions. For instance, in understanding the role of physical capacity in occupation, the human body is typically understood from a functionalist perspective (systems that represent a 'hard' physical reality, understood by identifying patterns and regularities in interactions between component parts). The index for the International Classification of Diseases (ICD-10) (WHO 2016) demonstrates how much of the human body is understood as a functional system (nervous, respiratory, circulatory, digestive, musculoskeletal and genitourinary systems). The systems perspectives here only provide approximations, though, as most musculoskeletal systems are alike but no two are identical.

Concurrently, dominant models of occupation draw attention to specific concepts that seem incompatible with this functionalist systems perspective. The CMOP has at its centre spirituality, defined as an element residing within a person that gives meaning to occupation (CAOT 1997). Similarly, the MOHO draws attention to the concept of volition as one of the core aspects of occupation and suggests that the volitional process is partly shaped by the interpretation of experiences (Yamada et al. 2017). Although never explicitly addressed, it would be plausible to suggest that both of these core ideas are rooted in interpretive theories. Understanding spirituality or volition and their roles in the occupational being must be approached subjectively, so that the points of view and intentions of the people who construct them can be considered.

As another example, 'environment' is identified and featured in most conceptualisations of occupation. Typically, these include classifying environments as physical, institutional/organisational and social/cultural settings. Each of these aspects of environment can be thought about using different systems perspectives. Dekkers (2017) provides a useful response in the discussion of applied systems theories whereby examples of physical environments are described as complex adaptive systems and organisations as cybernetic systems. All of these are valid, as the systems concept is simply a way of categorising a phenomenon to allow it to be considered in a more coherent and structured way.

From a systems point of view, then, occupation and associated health and wellbeing results from the interaction and operation of multiple systems. Each of these systems can be constructed using different perspectives, for good reason. It is possible and

helpful to build quantitative models which give a precise approximation of how cardiovascular systems work under certain conditions. However, it would not be possible to understand a person's spiritual drive or volition in the same way, even though a systems perspective could be used to structure enquiry into these components. Lying in the realm of metaphysics and outside the purview of this document, we can consider the complexity of the rationale for such a declaration of difference. It invites debate and reflection as to whether there *is* a difference, or simply an inability to separate the concepts such as free will from a current inability to examine reality beyond the quantum scale to establish determinism in the universe. As a working proposition, however, it would be reasonable to suggest that occupational therapists think about people as occupational beings using systems approaches underpinned by both functionalist and interpretive theories.

A third key idea is that *'all systems approaches are committed to holism – to looking at the world in terms of "wholes" that exhibit emergent properties, rather than believing, in a reductionist fashion, that understanding is best obtained by breaking wholes down into their fundamental elements'* (Jackson 1991, p.7). In systems thinking, there is a fundamental perspective that individual components or properties, when studied in isolation, become meaningless without the context provided by the whole (the wider system) and the resultant characteristic properties that emerge. Examples, such as this from Checkland and Poulter (2010), are typically given to understand this idea of emergent characteristics from a functional system of interacting components: *'Thus, the parts of a bicycle, when assembled correctly, and only then, produce a whole which has the emergent property of being a vehicle, the concept "vehicle" being meaningful only in relation to the whole'* (p.191).

For occupational therapists, emergence is less straightforward but nevertheless it is central in how to think about people and occupations. Systems thinking enables therapists to understand that occupations are more than just collections of tasks and that people are more than their physical and psychological make-up. Furthermore, systems thinking can help illuminate why different occupations have different values and meanings for people. For instance, the analysis of making a cup of tea using systems thinking facilitates the identification of interrelated components – the tea, hot water, a receptacle for making and drinking, and so forth. However, because these activities are part of a system that includes a person and their occupations, the properties that emerge can only be understood at a system level. In occupational therapy, this is typically the person-in-context. Therefore, it is possible to understand that making a cup of tea may have radically different properties when understood in the wider system of the person, despite having similar components and processes.

Again, examples can be drawn from systemic perspectives offered in contemporary models of occupation. The CMOP-E considers occupational performance and engagement to occur from the interaction of component parts. The PEO model specifically refers to the transaction of components determining occupational performance. Finally, the MOHO suggests *'the concepts of heterarchy and emergence can be used to generate a comprehensive and dynamic understanding of occupation'* (O'Brien and Kielhofner 2017, p.28).

The way in which occupational therapists think about people and how to bring about change to and through their occupations is based on an understanding of the interaction of different types of systems, and may be useful, therefore, in thinking about complexity and interventions. Viewing people as occupational beings based on a conceptualisation of interrelated sets of complex systems allows occupational therapy to be thought about as a process that aims to alter the ways in which these systems function. Occupational therapy can be considered in a similar way to that which Hawe et al. (2009) proposed for

community interventions: complexity and positive change originate from the way intervention principles can be applied to harness the dynamics of the system. In occupational therapy, however, this means using occupation as a way of altering the dynamics of multiple systems. This perspective follows, along with arguments about how it fits with the current discourse about complex interventions.

What does this mean for occupational therapy and complex interventions?

The development of the model was completed so that a contemporary perspective of occupational therapy could be considered against current theory and ideas about complex interventions. As has been noted elsewhere, it is not a definitive description of what does happen, or what should happen, and as a model it is inherently limited to being a simplified tool for viewing a professional practice that has been influenced by various perspectives and theories. It allows two different ways of thinking about complexity to be considered. The first is that complexity is internal to an intervention with multiple components. The challenge is understanding which components are essential and how they should be configured to achieve the best outcomes. Different contexts add to this internal complexity because they may require these configurations to be further adjusted. The second is that complexity is a property of the contexts in which interventions occur. These contexts are dynamic and composed of multiple interacting sub-systems unique to individuals and do not present a 'stable' system in which an intervention is delivered. Interventions become complex because interactions between their component parts and contexts become less predictable.

This latter perspective on complexity has several potential implications for occupational therapy and how practitioners, researchers and scholars approach its study and development. First, adopting a systems view of occupation may affect how therapy can be thought of as a complex intervention. This perspective suggests that the degree to which occupational therapy is complex will be a function of the level at which it is examined. To borrow and expand on an example from Duncan et al.'s (2007) paper: '*Although some interventions will be relatively straightforward – the provision of a wheelchair, for instance – others will involve a permutation of roles, tasks and relationships*' (p.202). The provision of a wheelchair as an example of an intervention could indeed be seen as simple, if the adopted perspective and evaluative metric is one of 'presence or absence of wheelchair'. For the same intervention, however, examining its impact from the perspective of a person's ability to feel engaged in their community or to continue in a familial role may be much more complex.

This example links to a second key idea: that complexity in occupational therapy is shaped by the system(s) that provide the context for an intervention and the degree to which these underpin a therapist's practices. Earlier in this chapter it was argued that occupational therapists think about people-in-context using a range of systems perspectives. These perspectives are often either components of specific models of occupation, or reference broader bodies of associated knowledge which use systems theories. Of course, this is not always the case; there were indications that a therapist's context can interfere with the extent to which they think about the interacting systems underpinning occupation. Similarly, the strong indications that occupational therapists use their understanding of a person to guide their practice align with Lambert et al.'s (2007) assertions that:

> *… the patient should be used as the central point of reference for a system within which an intervention can be provided. It is often the complexity within this patient-based system that results in some degree of unpredictability, rather than the provision of the intervention itself.* (p.536)

Varying the implementation of occupational therapy to be sensitive to individual circumstances is central to guiding frameworks for practice such as the Occupational Performance Process Model (Fearing et al. 1997) and the Occupational Therapy Practice Framework (AOTA 2014). Recognising that this is a source of complexity is not new, nor is it limited to occupational therapy alone. However, claims like that put forward by Creek et al. (2005) suggesting that this context-related complexity means that occupational therapy is inherently unpredictable and thus cannot be studied remain an issue.

Recognising that complexity arises in occupational therapy practice due to context, and that high degrees of individualisation and adaptation occur, does not preclude the use of the MRC framework (Craig et al. 2008) to help understand how and why components of interventions work. Rather, recognising that occupational therapists select from a range of different practices and fit these to the individuals they work with necessitates a continued determination to establish which techniques and practices have most value in terms of eliciting change, even if the application of these may involve a therapist selecting several different components and fitting these to a person.

However, there may be value in recognising that rigorous scientific enquiries, including randomised controlled trials (RCTs), will only provide part of the picture. This claim is not based on any adherence to the idea that some 'magical' and entirely unpredictable change happens during occupational therapy, or that individualisation means that the results of an RCT will never be valid in practice. Similarly, there is no endorsement of the idea that the study of occupational therapy cannot include the standardisation of interventions. Indeed, the sections discussing change in this work make no such claims and instead refer to the finding that the most common ways of describing change related to therapy use language associated with linear directionality, even if these are embedded in processes that tend to be dynamic and responsive. There is a suggestion that some changes that occur during occupational therapy may be unexpected because of the context in which they are applied, but this is no different from any other type of health intervention where some people will respond differently from the majority, due to factors that were unseen or underappreciated.

Rather, this claim that the methods of designing and evaluating complex interventions will only provide part of the picture is based on recognition that our ability to understand the contexts of therapy (the dynamic and complex systems that interact to allow occupation, health and wellbeing to emerge) is extremely limited, at present. The field of complexity theory and the burgeoning complexity sciences remain comparatively new. There are countless instances where the application of complexity theory fails to begin to facilitate an adequate understanding of how phenomena operate in the real world, with human beings being a clear example, as Strevens (2017) notes:

> *The quantum chemistry of large atoms is difficult enough; that of large molecules is more challenging still. Modelling the complex genetic networks at work in embryological development is fiendishly hard. Predicting many of the significant consequences of interacting human minds—housing bubble collapses, Hollywood megahits, popular revolutions—is quite beyond us.* (p.44)

These ideas may impact how those studying occupational therapy as, or as part of, a complex intervention think about designing their research. One element to consider is that if, as Strevens suggests, understanding causal interactions in complex human

phenomena is 'beyond us' at present, the role of the researcher's point of view, and the impact this has on how an intervention is understood, is elevated. Petticrew (2011) offered further practical perspectives by noting:

> *Underlying most definitions* [of complex interventions] *is the assumption that 'simplicity' and 'complexity' are inherent characteristics of interventions. However, there is another possibility: that in fact there are no 'simple' or 'complex' interventions, and that simplicity and complexity are instead pragmatic perspectives adopted by researchers to help describe and understand the interventions in question.* (p.397)

Petticrew goes on to argue that the choice of what to evaluate in an intervention determines its complexity. He suggests that a multicomponent intervention (the example given is an urban regeneration programme) can be considered complex if research focuses on understanding the synergies among the component parts, the interactions between multiple health and non-health outcomes, and whether these have an impact at a community level. Alternatively, research into the same intervention could '*be simplified for the purpose of assessing outcomes*' (Petticrew 2011, p.397). Rather than trying to examine the whole, the different component parts can be considered and their effect established, as Petticrew noted:

> *Thus, simpler and more complex perspectives on the same question will yield different, and probably complementary, answers. A simpler perspective may focus on individual level outcomes alone, whereas a more complex perspective may focus on outcomes at different levels. … These different analyses may be more or less useful to different types of user. Some users may want to know about outcomes; some are more interested in processes; many want information on both aspects. Some researchers and users of research require simpler answers, while some want more complex explanations.* (p.397)

Broer et al. (2017) go further than recognising that these choices will be driven by different requirements and ideas about what will be valuable, by claiming that the decision about which way to view an intervention is driven by researchers and thus is not value-free:

> *Realising that there is no such a thing as one kind of complexity constitutive of and produced through an intervention might liberate researchers in thinking about and carrying out evaluation studies. Each form of complexity has its own consequences, and therefore using a specific definition of complexity (including leaving its definition open) is not an innocent choice that can be justified by pointing to the intervention itself. Rather, it is a choice with methodological, normative and political components and consequences.* (p.156)

This may have an impact on the approaches taken to evaluating complex interventions that include occupational therapy, or focus solely on occupational therapy, and there will be much debate to come that will inform this. Some discourse has already taken place that may be of value in thinking about this in the context of occupational therapy, and this is noted briefly below.

Hawe et al. (2009) suggest that research in healthcare tends to adopt the latter approach, where interventions are examined using methods established to understand the multiple 'simple' interactions that occur within complex interventions. They caution that in taking this approach, *'it could be argued that all that has been achieved is more meticulous ways of doing the same thing'* (p.269). Similarly, Broer et al. (2017) wrote of a degree of *'methodological determinism'* (p.155) in the evaluation of complex interventions

in which quantification determines the investigation into, and thus the perspective on, complexity. In other words, evaluative approaches based on quantifying components of interventions (such as the frequency, duration and intensity of certain components, and the associated magnitude of outcome) will privilege a focus on some aspects contributing to complexity at the expense of others.

Hawe et al.'s earlier arguments (2004, 2009) in favour of a systemic perspective on intervention may offer some solutions to this dilemma where the value in considering standardisation and fidelity differently was recognised. They argue that standardising form (typically understood as fidelity to dose, frequency and intensity, and delivery mechanism) can quickly fail to work in a specific dynamic context. Therefore, rather than standardising form, it is the *function* of an intervention that should be standardised. 'Function' refers to component steps which need to take place as an intervention progresses towards an outcome. The way in which these functions are achieved is of secondary importance and thus can be altered to fit context, resulting in interventions which can be studied for impact, but which also 'work' in the real world. Hawe et al.'s (2004) paper gives several examples of how standardisation can be achieved for form or function in a complex intervention. One useful illustration of this difference which could be adapted and applied to occupational therapy is given in relation to educating people about depression (p.1562). Standardised form would entail ensuring all therapists provide people with exactly the same written information sheet, whereas standardised function would entail each therapist finding the best way to distribute information tailored to literacy, language, culture and learning styles.

The position taken by Hawe et al. (2004, 2009) may be useful if occupational therapy is conceptualised as a dynamic process that causes changes within a set of complex systems. Standardising the functions of therapy rather than specifying fidelity to form could be a useful way of understanding how implementation in real-world contexts will happen, and will thus give a better understanding of key mechanisms and their impact. Similarly, this approach might have more value when additional theory about occupation is considered. If a truly occupational perspective on understanding health and wellbeing is taken, then occupational therapy research will tend towards the complex. The range, number and level of potential pathways to change and their associated outcomes may reside in and be dependent on multiple systems. Whether or not current measurement methods adequately capture these outcomes is open to debate, but suggesting that it can be difficult to quantify all the changes associated with occupational therapy is partly borne out by the data collected for this work.

This chapter has aimed to address the question framed in its title: 'Is occupational therapy a complex intervention?' As previously stated, the development of the model was completed so that a contemporary perspective of occupational therapy could be considered against current theory and ideas about complex interventions. It is proposed that the model allows two different ways of thinking about complexity to be considered, and that both provide valuable perspectives from which to understand occupational therapy. The first relates to complexity as internal to an intervention with multiple components. The model presented in this work, developed from several data sources, demonstrates the multiple components of occupational therapy intervention, leading to practices that entail numerous and various configurations to achieve the best outcomes. The second way of thinking is that complexity is a property of the contexts in which interventions occur. This introduces ideas around systems and how the contexts of occupational therapy are composed of multiple interacting sub-systems unique to each person. Occupational therapy intervention therefore becomes complex because

interactions between the component parts (implementation content) and contexts become less predictable. These understandings of complexity in occupational therapy may be significant in the continuing research into best practice that leads to health and wellbeing. The understandings have also led to the description of occupational therapy as a complex, dynamic process, comprising multiple and varied interventions or practices.

Section 2

6 Methodological overview

Epistemology and ontology in occupational therapy

In practice, occupational therapists may work with multiple ontologies, often held in balance and brought into focus to serve pragmatic purposes during a therapeutic process. At times, much of the knowledge used to inform practice is firmly rooted in a reductionist ontology, and in particular the idea that there are layers of connected understanding that represent the reality of a situation or this phenomenon. Strevens (2017) illustrates nicely:

> *Different sciences have different ontologies—different ways of dissecting the world into individuals, categories, properties. Fundamental physics does particles, chemistry does molecules, biology does cells and organisms and ecosystems, and so on. The list suggests that a certain neat structure is the rule in this grand ontological project: the things at one level are spatiotemporally composed of the things at the next level down. Animals are made of cells, which are made of molecules, which are made of particles…* (p.42)

Key terms

Ontology *is a term that relates to what is and is not real or in existence, and to ways of categorising 'real' things.*

A ***reductionist ontology*** *is one based on the idea that 'reality' is made up of a minimum number of entities or substances, and therefore all objects, properties and events that occur from their interactions can be* ***reduced*** *to understanding a single substance.*

Key terms

Pluralism *is the idea that there are many different ways of understanding or describing the world which are true, despite conflicting with or contradicting each other. No single view of reality can account for all the phenomena of life.*

Epistemology *is a term that relates to the study or understanding of how we know things, and how we justify what we believe.*

Specific, named epistemologies declare a perspective about how the knowledge of reality occurs. For instance, an empirical epistemology suggests that all knowledge of reality comes first from human experience of it.

Many frames of reference in occupational therapy work within this reductionist ontology (human physiology, biomechanics, developmental theory and so forth), and arguably so do some of the conceptual models we use to understand occupation.

At the same time, core aspects of occupational therapy are located within different ontologies. The profession aspires to keep occupation at the core of practice by understanding and respecting how people (both individually and collectively) value different occupations, and how these come to shape identity. The methods used to understand these issues are often founded in interpretivist ideas, and numerous ontological perspectives can be applied to such understandings of occupation, all of which are arguably valid ways of understanding the subjective nature of what it is to be a person. For example, these include subjectivism (the idea that the nature of someone's reality is dependent on their consciousness of it); existentialism (a view that people define their own meaning in life, and try to make rational decisions despite seemingly irrational contexts); and phenomenology (reality consists of objects and events (phenomena) as they are perceived or understood in the human consciousness). This multiplicity of working ontologies in practice suggests that occupational therapy is based on a

pluralist perspective that recognises that the reality of people's occupations cannot be understood as a single set of universal laws, and that understanding the practice of occupational therapy cannot be achieved only by mapping component parts.

Epistemology and ontology in complex interventions

Craig et al.'s (2008) MRC guidance on developing and evaluating complex interventions reflects this duality, noting the important role that qualitative research can play in *'exploring the experiences people have of illness, health services and treatments in order to develop theory, identify need and evaluate the working of interventions in practice'* (Griffiths and Norman 2013, p.584). However, there is a lack of consistency at the heart of ideas about complex interventions, which continues to evolve as a field of study and discourse. This debate is outwith the scope of this work; however, it is worth noting the work of Broer et al. (2017) in critically addressing the influence of the evaluative approach on how complexity is understood in healthcare interventions. They suggest a *'methodological determinism'* (p.155) in how complexity is understood in the discourse and work surrounding the development and evaluation of complex interventions, arguing that the methodological positions of an evaluator (and therefore the ontological and epistemological assumptions underpinning their stance) fundamentally influence how complexity is considered. They note that:

> *When realist evaluators or other social science researchers claim that one method or another is better able to grasp complexity … they elide* [omit or leave out of consideration] *the possibility that making a choice to use one paradigm over another emphasises some complexities and lets others fade into the background.* (p.156)

Elsewhere in their work Broer et al. (2017) note the focus the MRC guidance gives to quantifying complexity, suggesting that, while it is useful in determining whether an intervention works for given outcomes, it fails to recognise the role of qualitative research in redefining effectiveness and understanding how interventions work.

These observations are noted here simply to draw attention to the continuing debate and fluidity surrounding some of the key concepts that need to be considered for this work.

Methodological approach

The consequence of this duality in ontology and epistemology, both in a practical sense in terms of how occupational therapists think in practice, and how complexity is considered as it continues to evolve as an approach to understanding and improving health and social care interventions, directly impacts the methodological approach taken to understanding occupational therapy as a complex intervention.

The methodology developed for this work was focused on answering specific questions:

- What does contemporary occupational therapy look like?
- Once this is known, does occupational therapy align with the ideas of complex intervention outlined by the MRC? If so, what causes this complexity?

The approaches used to answer these questions needed to be based on an epistemology that permitted multiple elements to be considered – not in isolation, but in a way that allowed them to contribute to an understanding of the phenomenon of

occupational therapy. These multiple components in occupational therapy, as with many professions, are understood to be socially constructed, influenced and shaped by particular and changing social, economic, cultural, temporal and spatial conditions. Furthermore, recognising that occupational therapists can and do work with, and because of, multiple different types of knowing adds a further challenge to this understanding. Thus, the epistemology underpinning this work is constructivist. It is undertaken with recognition that understandings of occupational therapy are contingent on socially mediated experiences, perception and interpretation, and influenced by convention.

To access data so that multiple perspectives on occupational therapy could be considered in attempting to answer the two primary questions noted above, three different data collection approaches were used: literature review, survey and focus groups. These were used so that written accounts of occupational therapy from both peer-reviewed and non-peer-reviewed publications featuring accounts of practice, and the perspectives, opinions and descriptions of occupational therapists, could be gathered. After each of these processes had been completed and the data analysed, a range of activities were undertaken to identify the different core components that feature in occupational therapy so that a valid understanding of occupational therapy could be developed.

The final methodological element was to introduce the work to a range of 'critical friends'. These critical friends were asked to comment on the work (including elements of consistency, logic, language, validity and so forth) and ask provocative questions, suggest alternative explanations and terminologies, and support the refinement of the work. The critical friends were selected to include people with backgrounds in practice, development, applied research and theory development.

7 Literature review

This chapter presents details of the methods and findings of a literature review that provided data related to published descriptions of contemporary occupational therapy.

Search strategy

Searches were developed and run for the Cumulative Index of Nursing and Allied Health Literature (CINAHL) using the EbscoHost interface. Given the range of titles indexed in CINAHL, it was decided not to develop searches in other databases (Medline, PsycINFO, etc.) to avoid unnecessary duplication. CINAHL indexes over 3,000 journal titles and on review it appeared that all relevant profession-specific publications were included.

An initial search including indexed Major Subject (MM) and Medical Subject Headings (MH) containing occupational therapy was executed. Subsequent searches were built to exclude MM and MH terms that appeared to be returning irrelevant results. These subject headings included in the 'not' string were selected from iterative screening of results. When a heading was recognised as being common to irrelevant results during screening, the search was rerun with the identified term included using the 'not' operator. This continued until screening indicated broadly relevant results.

The final search (detailed below) was executed before being limited to English language only sources published between 1 March 2015 and 11 October 2016 to capture contemporary practice.

(MM "Occupational Therapy+" OR MM "Occupational Therapy Practice" OR MM "Occupational Therapy Practice, Research-Based" OR MM "Occupational Therapy Practice, Evidence-Based") NOT (MM "Clinical Competence" OR MM "Education, Continuing" OR MM "Instrument Validation" OR MM "Professional Competence" OR MM "Professional Development" OR MM "Serial Publications/EV" OR MM "Writing for Publication/EV" OR MM "Congresses and Conferences" OR MM "Students, Occupational Therapy" OR MM "Student Recruitment" OR MM "Student Attitudes" OR MM "Historical Research Methods" OR MM "Education, Occupational Therapy" OR MM "Education, Clinical" OR MH "Insurance, Health, Reimbursement+" OR MM "Serial Publications")

As no limits were placed on the peer-review status of papers for consideration, initial breakdowns of publication source were generated after initial screening. It was clear at this point that articles published in *Occupational Therapy News* (OTN) were not routinely or comprehensively indexed on CINAHL. To ensure current practice descriptions of UK-based occupational therapists not appearing in peer-reviewed (and thus fully indexed sources) were included for review, a full search of OTN indexes for the same period (March 2015–October 2016 inclusive) was conducted and full texts identified for consideration.

Exclusion and inclusion criteria

Few inclusion and exclusion criteria were put in place. To be included, a paper had to be written in English and present some content reporting the actual provision or practice of an occupational therapy intervention. Opinion pieces, research protocols and purely

theoretical papers were excluded, as were papers in which descriptions of practice were not sufficiently detailed to allow for relevant data extraction.

Results and screening

From the search conducted in CINAHL, 508 citations were identified. A further 123 articles were identified for consideration from OTN. Initial titles were screened in CINAHL or in hard copy for OTN papers by two researchers. Reviews of abstracts and data extraction were completed by four researchers. If individual researchers were unsure whether a paper should be included or not, it was either flagged in a separate folder for consideration by another team member or resolved during discussion with other members of the team.

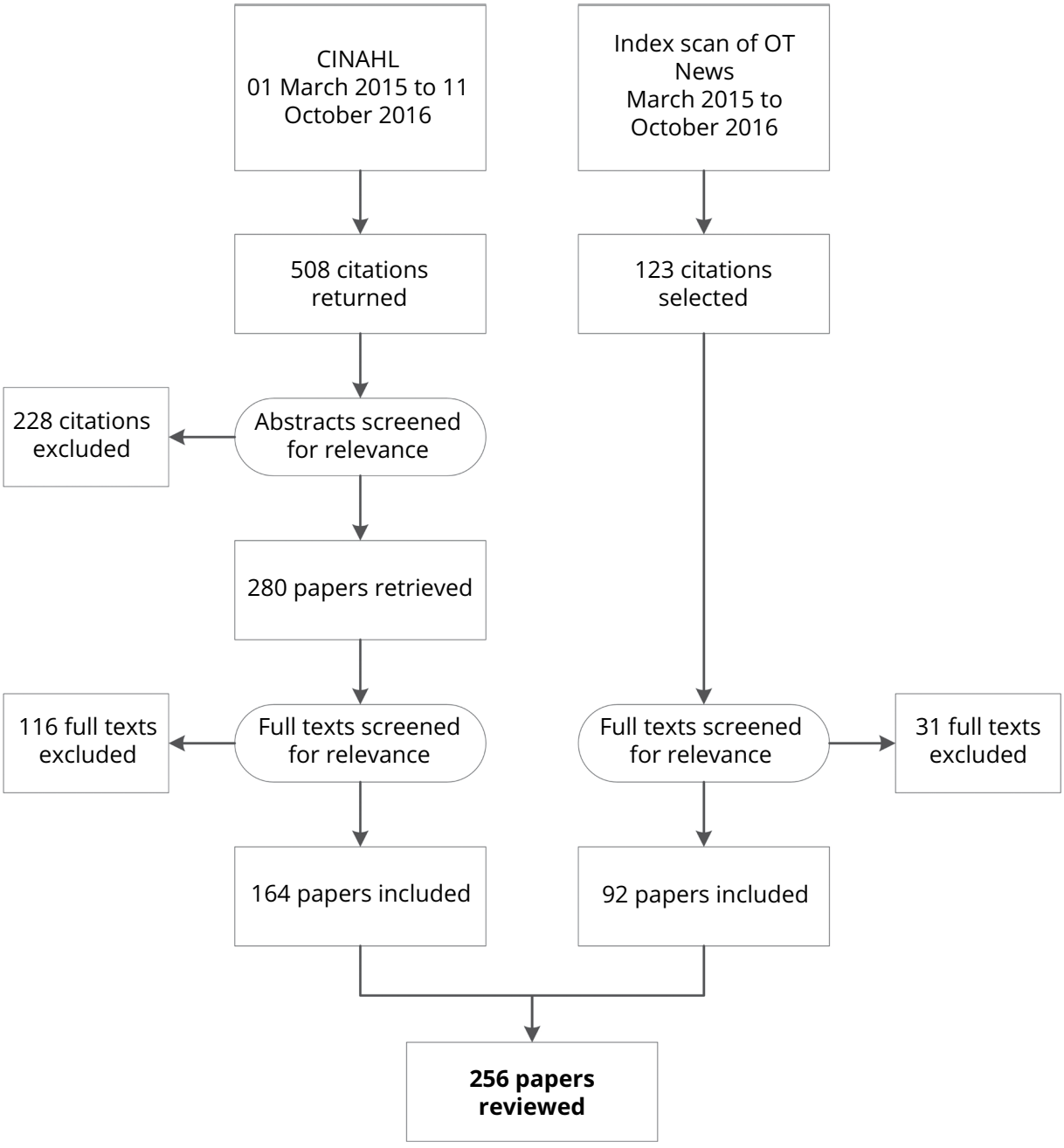


Figure 4 Literature search process

Following further screening, 256 papers were reviewed, 164 papers from the initial search and an additional 92 articles from OTN. Figure 4 presents an overview of this search process.

Data extraction and code formation

Included articles were imported into QSR International's NVivo 10 software (QSR 2012) for analysis. An initial set of codes was developed to capture descriptive information about each paper. These included the country or countries where the intervention took place, an indicator of source type (peer-reviewed primary research, peer-reviewed literature reviews and so forth), the population for which the intervention was delivered, and the location or setting of the intervention.

As analysis proceeded, code structures were developed to capture information relevant for identifying components of occupational therapy interventions: 782 of these were inductively developed and categorised under 17 descriptive headings on an iterative basis (listed below). These headings represented a range of components including the procedural content of interventions as well as more nuanced, qualitative information about their components. The 17 descriptive code headings were:

1. Aim of setting
2. Country of practice
3. Explanations of change
4. Facilitators of occupational therapy process
5. Influences on role and intervention
6. Intervention content
7. Intervention duration and/or frequency
8. Intervention objective
9. Intervention theoretical framework
10. Location of intervention
11. Method of measuring outcomes
12. Obstacles to occupational therapy process
13. Population
14. Practice setting
15. Reported outcomes
16. Source type
17. Indicators of complexity.

Once data from all selected sources had been extracted and coded under these descriptive headings, a process of reviewing and synthesising them was completed. Each code and its content were examined, and where consistent messages or ideas were detected, more discrete codes were generated with additional interpretive and explanatory notes attached. This continued until no further synthesis and categorisation was appropriate.

Descriptive results

Source types

A summary of the types of article included is given in Table 1 in Appendix A. The most commonly included type of article was non-peer-reviewed magazine articles (n=133), followed by peer-reviewed research papers (n=107). Thirteen literature reviews were included and three papers of other types that appeared in peer-reviewed journals were also included.

Geographic area of practice

The geographic area of practice for each article is detailed in Table 2 in Appendix A. Area of practice was recorded with respect to the location in which the intervention took place, rather than the nationality of the authors. Most papers were from the UK and Ireland. This is partly due to the *OTNews* articles included in the review. Literature reviews were excluded from this classification as they included papers from multiple countries. Some references appear in more than one category because the practice described took place in more than one location.

Aim of setting

The 'aim of setting' categories were developed to capture information about the reported aims of the unit, service, team, etc., featured in the account of practice. Some papers reported multiple aims that would typically be pursued in the setting: therefore, sources are often recorded in more than one category (for details, see Table 3 in Appendix A). Of the 24 separate categories developed, occupational performance was the most frequently cited aim (n=50), followed by mental health assessment and treatment (n=27), life skills (n=24), physical rehabilitation (n=23), social integration (n=21), independent living (n=17) and education (n=17).

Practice settings and location of intervention

The locations in which occupational therapists were based, and in which practice took place, varied and included a range of institutional settings (Accident & Emergency, acute medical settings, in-patient rehabilitation units, secure psychiatric units), outpatient services (clinics, day hospitals, local authority services), schools, workplaces, community and third-sector spaces, and supported living settings. People's homes featured frequently and included face-to-face as well as virtual interactions (telehealth).

Population

Demographic information about the people receiving occupational therapy was extracted when possible, and in particular details about medical condition, other diagnostic indicators, and characteristics of other populations that were otherwise identified. The age ranges of people that occupational therapists reported working with spanned infancy through to old age (65 years and over). Table 4 in Appendix A gives an overview of the 48 categories describing the conditions reported in the literature. In addition to these categories that reflect typical medical diagnoses, 68 papers reported on populations that could be defined by circumstance rather than any specific medical issues. Full details are provided in Table 5 in Appendix A, but include carers, veterans, refugees, prisoners and homeless people.

Intervention objective

The intervention objectives identified by the author relating to the therapeutic goals established in collaboration with the client and family were recorded for analysis. These objectives were organised into nine categories for study, including: (1) Social integration; (2) Related to service processes (length of stay, etc.); (3) Performance capacity and skill-related improvements; (4) Independent living; (5) Health, wellbeing, quality of life;

(6) Health promotion; (7) Environmental modification; (8) Education and awareness; (9) Occupation, activity and routine. Full details of the references attributed to these categories are given in Table 6 in Appendix A.

Social participation and inclusion were among the most commonly identified intervention objectives. Interventions such as community reintegration through the formation of social groups were commonly utilised by therapists, with the goal of increased social awareness, meaningful discussion, family participation and inclusion.

In the areas of performance capacity and skill-related improvements, the most common intervention objectives were to improve performance skills and function, with specific focuses on upper limb function, sensory needs and communication skills. Several papers suggested links between improved physical function and increased capacity for independent living, and greater satisfaction with daily occupation.

Intervention duration and/or frequency

The frequency and duration of therapeutic sessions during occupational therapy varied greatly. Data was extracted if sufficient information was given in the source. This included both reports of the number of interventions and overall duration of therapy, although these were often not precisely reported. One paper (Habovick 2016) reported a single session intervention, while at the other end of the range one paper (Tomita et al. 2016) reported a 19-month process. Fifteen papers reported on interventions that had no set timeframes and instead provided variable levels of therapy. An overview of extracted data is provided in Table 7 in Appendix A.

Intervention content

Information about intervention content was collected from descriptions of the strategies, techniques and practices used by the occupational therapists. They were organised into 11 main categories. The four most frequent types of intervention content were: 1) use of and facilitation of engagement with occupation and activity; 2) alterations to environments; 3) skill training and development; and 4) education, coaching and methods to increase knowledge and understanding. The other seven categories were identified as: specific named programmes comprising multiple techniques; health promotion; virtual environment and information communication technologies; group-based interventions, training and strategies for cognitive, physical and sensory function; collaboration with client's family, carer, teachers, support, education; and collaboration with other agencies and staff. Table 8 in Appendix A provides reference information for all 11 categories.

Theoretical framework

A variety of different theories and models were referred to in the literature. These were classified as client-, person- and family-centred approaches; various non-occupation-specific models; non-occupation-specific theories; occupation models; and some specific occupational therapy theories. Table 9 in Appendix A gives more details and suggests that there was no clearly dominant theoretical approach.

Thematic analysis

Certain categories were identified for further review and analysis as being particularly pertinent to the aims of this project. These categories were: Explanations of change; Factors influencing occupational therapy; Facilitators of occupational therapy; Obstacles to occupational therapy; and Indicators of complexity. Following the development of code headings and the coding of data within these categories, a clear description was

developed of each, summarising the main ideas and concepts. This process led to the development of the main themes that formed the discrete findings of the review, reported below.

Explanations of change

In the literature, change was most frequently discussed in relation to *what* had changed as a result of intervention rather than *how* that change had occurred, underpinned by a theoretical explanation. Change was described in relation to the three components of environment, occupation and person, either individually or in various combinations. In addition, analysis identified three key components of the nature of change in general. These were:

Change involves multiple components: Multimodal change was a common characteristic either within or across the components (environment, occupation, person). An example given was of successful change that included the therapist, youth and family working together, building family strengths and addressing environmental barriers.

Change occurs in incremental stages: Change in one component was understood to lead to change in another. This might lead to decisions on the focus of intervention: for example, working towards change in the environment or occupation rather than initially building up the person's abilities; participation (quantitative change in number of activities engaged with) being needed before change in satisfaction and emotional engagement (qualitative aspect); success in occupational performance leading to further success.

The direction of change is not predetermined: Change in a number of components may occur simultaneously, with multiple dependencies between components: for example, change in the person together with change in the occupation/activity and environment, leading to an overall increase in engagement in meaningful occupation.

Characteristics of change in relation to the environment, person and occupation were identified. The intertwining of the three components is evident. Changes in the environment and in occupation were primarily referred to in relation to the changes in the person to which they contributed.

The environment: The environment (physical, sensory, temporal and social) was understood to shape the occupation and the occupational performance of the person that takes place within it. Therefore, changing components of the environment as a therapeutic intervention was understood to lead to change for the person and their occupation. These changes were frequently referred to as 'modifying' or 'enabling' the environment in some way to 'fit' the person. Again, characteristic of change in the environment was the overlap between the change in the various types of environment (physical, sensory, temporal or social).

- Modifying the physical environment included eliminating environmental barriers that the person faced; creating a home that was safe and had a sense of home for the person.
- Modifying the sensory environment.
- Modifying the temporal environment of intervention, e.g. the timing of sessions to provide time to complete occupation, enabling individual adaptation and achievement.
- Enabling a social environment that was balanced to the needs of the person, that enabled 'recognition' of the whole person and awareness of the person's goals (by

peers, researchers, therapists and 'society'). The social environment was recognised to include several key people, and change in certain features of their relationship with the person led to corresponding change in the person. Specific examples included:

- Caregivers enabled to provide the right amount of support, to find the right balance; increasing their awareness of sensory input and bodily changes.
- Parents encouraging an adolescent to take ownership, and *'sensitive, responsive parenting'*.
- Teachers creating an *'appropriate classroom environment'*.
- Care staff providing the person with opportunities to make choices; seeing the person as a whole person; being aware of the person's sensory needs.
- Group members: being recognised; *'we together'*; shared experiences and goals; learning from each other/ peer learning ; being part of a team; a sense of community/emotional sharing.

Occupation(s): Occupation and engagement in occupations were seen as important to the process of change, including facilitating occupational adaptation. Occupation and change were connected in three ways in the literature:

i. Characteristics of occupation that facilitated change:

   Certain characteristics of occupation(s) were identified as being particularly important in facilitating change. These included that the occupation was creative; related to the self; involved group work; inspired others; was community-focused; and was culturally relative. Specific occupations were rarely named in relation to change: rather, these characteristics of occupation were the focus, with clear importance given to the relationship of the person with the occupation and therefore to individualised approaches.

ii. Opportunities for change in the person that occupations provide:

   Occupations were also seen to be related to change in that they provided experiences that led to change in the person. The opportunities for change that occupation offered may be seen to be on a continuum from the very broad (e.g. developing optimal occupational lives, healing, changing from a focus on illness/ impairment towards a focus on change/recovery), through a more local level (e.g. participation and acceptance in the community, occupational competence) to the specific and intrapersonal (e.g. the development of specific skills, self-expression).

iii. Changing occupations as part of the intervention process:

   Grading and adaptation of occupations were undertaken to facilitate change in the person's ability to engage in occupations. Engagement in occupation was seen to lead to further engagement in occupation. Repetition and practice of occupations were seen to facilitate the development of skills.

The person

As can be seen, change in the person was inextricably interlinked with their environment and their occupation. In understanding change in the person, the relational self was important, with identity linked to others and the world around them. Change was recognised to occur in both the person's sense of self (primarily psychological concepts were identified) and in their skills for occupational performance. Change in how the person saw themselves as an occupational being was referred to only once.

Change in the person during or as a result of occupational therapy was discussed in terms of:

- Confirmation of the value of the person: being seen and seeing themselves as a valuable, capable person, with increased motivation, confidence and self-esteem.
- Development of self-identity: increased self-awareness, sense of control and self-efficacy.
- Achieving occupational performance goals: enabling the person to 'see' that they were getting better; reinforced habits and routines; created meaning; encouraged confidence; and confirmed abilities.

Changes in occupational performance were seen to be achieved through multiple changes in various areas of personal functioning:

- developing understanding and use of strategies (e.g. problem-solving, self-advocacy);
- developing knowledge of self and performance;
- improved motor, social and cognitive skills;
- neurological change (e.g. theory of mirror neurons, neuroplasticity);
- developing ability to use capabilities (personal and environmental); increasing ability to take control; personal capacity.

Factors influencing occupational therapy

The literature review identified occupational therapy as taking place within and as part of a complex interweaving of components. These components could be considered as factors influencing the process of intervention in dynamic and particular ways, shaping the possibility for optimum change for the person(s). These factors related to the person or groups engaged in occupational therapy, the occupational therapist, the service in which the intervention was taking place, and the wider context, as well as to the interaction between these various components.

Frequently, the factors could operate as both facilitators and obstacles to practice, depending on the circumstances. The factors identified in the review that were seen to be either neutral influencers or positive facilitators of occupational therapy are presented below. It is useful to note that here that factors that were facilitators of the intervention process itself were particularly identified. Comparatively fewer factors were identified as obstacles to occupational therapy (discussed in the following section). This suggests that occupational therapists predominantly consider they can provide a positive intervention involving themselves and the person(s) if there are no obstacles to this from the wider context of the person, the service or at a macro-level.

The key facilitating factors relating to each component are briefly presented. An overview of these along with their source references are provided in Appendix A, Table 10.

Factors relating to the person(s): That the person had motivation for change and that they shifted their perception of their future.

Factors relating to the person(s) and their context: That the person's physical environment was accessible, that they had supportive social environments and emotionally safe environments.

Factors relating to the interrelationship of person(s) and occupational therapist: That the person engaged with the process of occupational therapy. Facilitators of the person's engagement were identified to include:

- The person's active involvement in the process of occupational therapy (e.g. by identifying their own needs, setting their own goals, developing the plan and choosing activities; a positive and enjoyable social environment; and contact with others with similar experiences).
- The person having trust in the therapist, the process, in others involved and in the setting.
- The experience of occupations provided being a good 'fit' with the person (e.g. whether the occupation should be familiar or not, depending on whether a surprise or prior experience was required; for provision of equipment the possibility to try things out).

Factors relating to the therapist: Therapists required knowledge (e.g. of models and medical conditions), skills (e.g. in management, the occupational therapy process) and reasoning, and these were recognised to develop with experience. However, there was understanding of the importance that the therapist engages with each person in a unique way, and the subtlety of this was eloquently summed up in the phrase 'professional artistry'.

Factors relating to the intervention: A range of factors related to the interventions offered, including where, with whom and with what focus, were identified:

- Natural environments, both green spaces and built environments in the community (e.g. hotels, schools, home).
- Collaboration with others (e.g. other services, team members, volunteers, students, people with particular areas of expertise, families and carers).
- Group processes, particularly those where group members are treated with dignity; that provide positive relationships and opportunities for growth; where group members experience choice and ownership of the group; where there are opportunities for shared decision-making and shared support.
- Occupation-based approaches (also referred to as purposeful/meaningful activity) as the core of intervention, including assessment, adapted occupation to support engagement and occupation as outcome (working towards occupations that were important for the person). Occupation-based approaches were seen as holistic approaches that engaged all aspects of the person, facilitating empowerment, enjoyment and engagement.

Factors relating to the service: These were frequently expressed in neutral terms as possible influencers that should be considered: for example, the mix of staff across disciplines as well as across the occupational therapy team, and whether there were both experienced and new graduates, together with time for discussion and exchange of experiences, were noted to be important. Other factors included:

- Supervision and governance structures (e.g. operational meetings, annual planning, quality improvement processes and service delivery standards and guidelines).
- Geographical location – rural and remote areas might provide longer and a greater number of treatment sessions, there might be no locally located services, and the occupational therapist's practice might be more diverse than in urban locations, with the possibility of lone working.

- Service user involvement in the design of services beyond the immediate intervention process.

Factors relating to the wider context: These included new roles for occupational therapy associated with the increasing recognition of the importance of occupation for health and wellbeing, and occupational therapists being involved in driving system change.

Obstacles to occupational therapy

Obstacles to occupational therapy were identified that challenged the possibility of optimum outcomes for persons accessing services. Table 11 in Appendix A provides an overview of the obstacles and their source references. Obstacles arose or occurred in any of the multiple components of the occupational therapy process (as seen also in the discussion of facilitators): that is, related to specific aspects of the person or the therapist, but also to a particular environment (or context) of the person or therapist. Obstacles arose as person and therapist came together, also influenced by the characteristics of the particular setting. Obstacles also related to the practice setting more generally as well as to the wider context. Obstacles arose in dynamic processes that potentially included all components of the intervention: person and their environment, therapist and their environment, service and wider contextual factors. Listed below, with examples, are obstacles in relation to:

- *The individual's process,* including factors internal to the person (e.g. the person's knowledge of their condition and their perception of functional problems, their motivation for change) as well as factors related to the person and their particular context (e.g. financial restraints on the person's ability to engage in certain occupations; physical or social barriers; including limited ability of their workplace to make accommodations, institutional environments, social stigma, limited access and knowledge of technology, family situation where parents or carers were unable to provide sufficient support).
- *The person and service they were accessing*, including cultural discordance regarding language, including use of translators, variation in 'typical' occupations, assessment tools developed by the dominant culture; costs of attendance in terms of direct financial costs, lost working hours and limited time availability; complicated healthcare administration making access difficult; limited transport and/or geographical isolation.
- *The person and wider context*, including limited or absent research regarding the specific condition of the person, robust trials and qualitative studies, and recognition of the situated nature of practice; the geographical location of the person in relation to available services.
- *The occupational therapist*, including their limited experience or expert knowledge, and a reliance on formal evidence.
- *The occupational therapist and person*, including the therapist's limited appreciation of the confidence and motivation of the person and therefore their limited engagement with the programme; difficulties for the person in understanding the language of occupational therapy; applying evidence-based practice/research outcomes to people from diverse groups (e.g. in terms of disability, sexual orientation, religion). These factors also related to the occupational therapist and the person's wider context: for example, people from the wider social context, such as parents and teachers, having limited chances to engage with the therapeutic intervention.
- *The service*, including restrictions to the scope of occupational therapy practice as a result of the service's aims and focus, which could also be evident in the referrals and

assessments used, as well as limited understanding of occupational therapy; conflicting models of practice; difficulties in evaluating outcomes; financial restraints limiting the availability of certain interventions, the development of new interventions, or the focus of intervention, also leading to discharge too soon; reduced staffing levels or staff expertise; an emphasis on safety and risk management; environmental barriers such as limited space for occupational therapy or treatment rooms located a long way from wards.

Indicators of complexity

An understanding of the complexity of occupational therapy was evident throughout much of the literature, although it was rarely discussed explicitly in such terms. It was indicated in multiple ways which are listed below with some examples:

- The combination of practical solutions with aesthetic/emotional aspects – referred to as the 'art and science' of practice. An example was understanding 'home' for people who were receiving adaptations to the physical environment.
- The absence of 'hard' rules and specific procedures which required knowledge, skills and reasoning. An example was navigating the grey areas around risk, where risk was understood to be rarely black and white.
- The uniqueness of each person and their situation, which included a variety of components:
  - The individual circumstances of each person's life, their pathology, their family, their own and others' wishes, dreams and so forth.
  - The complexity of people's needs as a result of the complexity of pathology, which resulted in fluctuating symptoms from day to day, multiple morbidities or areas of impairment, varying energy levels, and changes with age and development.
  - The complexity of the person's situation involving health and social difficulties (e.g. a person on a low income, needing to return to work and their child becoming ill).
  - Cultural differences that challenged the 'fit' of existing interventions with a particular person or situation, but also between the therapist and the person in terms of power and differences in values and beliefs.
  - Each person was connected to partners, family, friends and carers with varying needs and relationships with the person. Many of these people were also involved in the intervention.
- Interventions were not standardised and had multiple components, including:
  - Interventions tailored to each person (e.g. individual care plans/goal setting). Even in group situations, each person was understood to be an individual.
  - Use of grading.
  - Time required for change/learning/the intervention varied from person to person.
  - Frequently there were multiple aims and multiple components to the intervention.
  - Outcomes might be unexpected or go beyond what was planned or those immediately involved (e.g. knowledge obtained by one family member was transferred to others; an adaptation provided for one purpose was innovatively transferred to address other issues).
- Occupational therapy was often part of a multidisciplinary team/approach; there may be conflicting aims and outcomes.

- The reasoning processes of the therapist discussed in the literature indicate multiple considerations.
- The varying impact of the setting and the 'fit' of the setting with client-centred practice. This was also indicated by the following:
  - The setting in relation to the person's performance (e.g. at the clinic versus at school or at home). In addition, the same environment may impact differently on different people, and the difficulties in providing an optimum environment.
  - The potentially conflicting demands/aims of the service and of occupational therapy: for example, the prioritisation of safety aspects; how well documentation 'fits' with the person's priorities.
  - Restrictions to the natural environment of the person: for example, by social stigma or by institutionalised restrictions (e.g. prison).

This chapter has outlined the methods used, and results of, a review of contemporary literature that included descriptions of occupational therapy. It is evident that occupational therapy is composed of varied practices that are used when therapists work in a broad range of settings with people of all ages and with conditions (related to the person and/or their environment) that impact on their health and wellbeing. Occupational therapists demonstrate flexibility, innovation and considerable skills in reflective and reflexive working to build collaborative partnerships with people (service users and their families and carers, colleagues and many others) to enable positive change for each person.

8 Online survey

This chapter provides detailed methods and findings from an online survey of occupational therapists (practitioners, educators and researchers), occupational therapy students and associated support workers.

Aims

1. To identify the key components of current occupational therapy practice.
2. To identify components of current occupational therapy practice reported to indicate complexity during intervention.
3. To identify and distinguish components of process and outcome during occupational therapy.

Methods

A cross-sectional survey was developed to generate quantifiable and exploratory data related to current occupational therapy. Ethical approval was granted by Queen Margaret University (protocol ref: Complex_OT_20160603_version_1).

Sample

The sample population comprised a range of occupational therapy professionals and included all those who had completed formal education in occupational therapy (whether currently in professional practice or not), those currently enrolled on programmes of formal education in occupational therapy, and those currently employed in roles supporting occupational therapy practice. No exclusion was applied based on geographic location of practice.

Convenience sampling was employed. Potential participants were made aware of, and invited to consider, completing the survey via a range of methods. These included placing an advert on the Royal College of Occupational Therapists' (RCOT) website, in the January 2017 edition of *OTNews*, and via informal networks of professionals on Twitter. Invitations were also sent directly to RCOT specialist sections and functional boards.

We estimated a population of 48,000 (approx. 38,000 Health and Care Professions Council (HCPC)-registered occupational therapists plus 10,000 additional population for students, non-registered therapists, retirees, support workers and so forth). A sufficiently powered representative sample was calculated to be 382 (95% CI (confidence interval) with a margin of error at 5%).

Data collection

An online questionnaire was developed based on initial ideas and reflections from the literature review along with considerations of some elements of contemporary theory about complex interventions (Craig et al. 2008, Moore et al. 2015). The questionnaire

was reviewed by members of RCOT staff, and recommendations made to improve elements of fluency and clarity of items, item order and scoring options. An iteration of the questionnaire was also piloted and reviewed by professional members of the RCOT. This process was organised and managed by officers from RCOT, rather than the authors, for privacy and data protection reasons. A final questionnaire comprising 9 closed-response items and 19 open-response items was agreed:

- questions to generate background information about the participant and where they work;
- questions to help understand the nature of their practice;
- questions to help explore the concept of complexity in practice.

The Bristol Online Survey software (BOS 2016) was used to collect responses. Each respondent was anonymous at the point of completion, and unique identifying numbers were generated to enable tracking during analysis. This process was programmed into the online survey software so at no point were individual respondents identifiable.

Data analysis

Data from closed-response options data was imported into SPSS v.21 (IBM 2015) for analysis. Additionally, some open-response items were coded numerically to enable their inclusion into statistical analysis. The full questionnaire dataset including all the text captured in responses to open-ended questions was imported into NVivo v.10 for inductive, thematic analysis. Descriptive statistics were used to analyse data, the results of which are presented below.

Data from the survey questions with open-response options was thematically analysed. Thematic analysis methods allow the encoding and interpretation of written or spoken information through the identification of themes that share common characteristics (Kellehear 1993). Although the inductive nature of analysis was maintained – in the sense that there would be little point in conducting such a study unless there would be genuine interest in the raw information to reveal new themes – the final type of analysis was of a hybrid mode. The researchers' involvement in the data collection and analysis at other stages of the study (literature review and quantitative analysis of survey) led to a subsequent familiarisation with certain concepts, a conceptual organisation suggested by Boyatzis (1998) and Joffe and Yardley (2004).

The survey's aims were:

Aim 1: To identify and distinguish components of process and outcome during occupational therapy.

Sub-themes:
a. Change (e.g. 'what changes' and 'nature of change', as a result of occupational therapy)
b. Change as a process
c. What facilitates/mediates change
d. How is change captured?

Aim 2: To identify elements of current occupational therapy practice which indicate complexity during intervention.

Sub-theme:
a. What constitutes complexity in occupational therapy?

Descriptive results

Respondent profiles

Seven hundred and eighty-three questionnaires were returned. The majority of survey respondents were occupational therapists (n=691, 88.7%), with the remaining 92 participants employed in a range of other roles (see Figure 5). The mean time in current role was a little under 8 years: however, 17% of respondents had been in post for over 15 years (Figure 6).

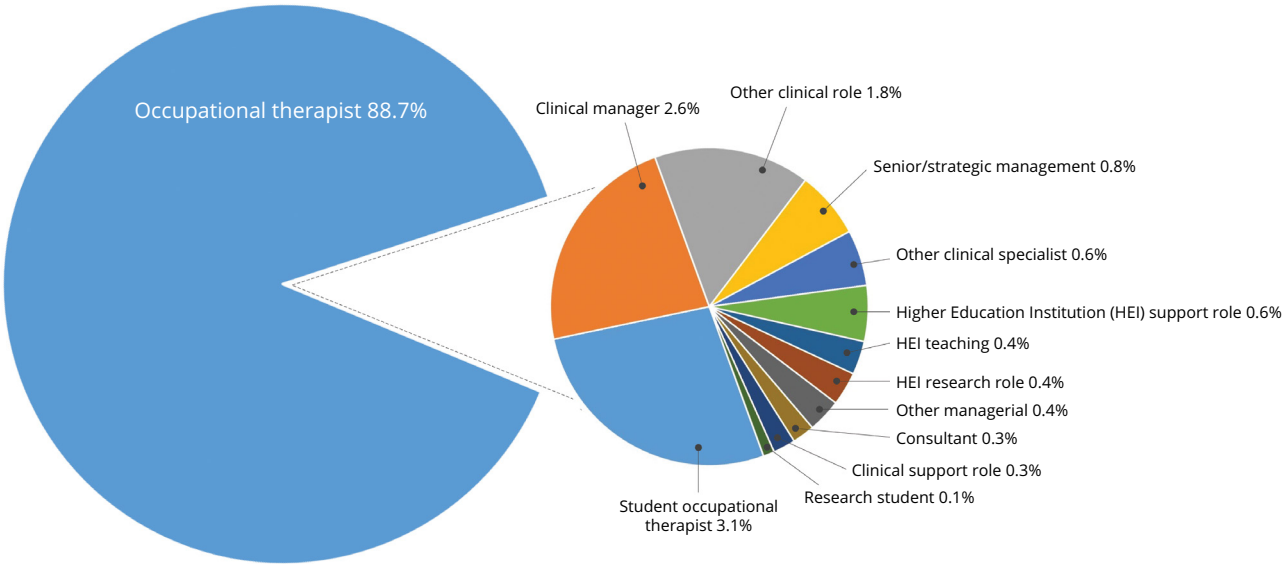


Figure 5 Professional identity of respondents

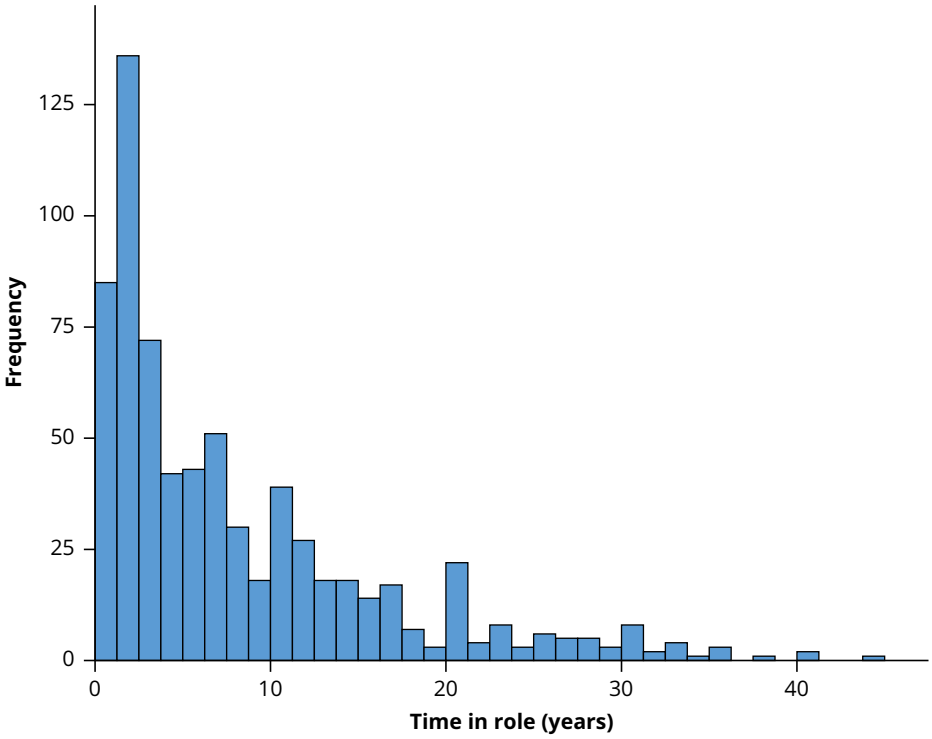


Figure 6 Respondents' time in role

Who occupational therapists work with

Several survey items asked about elements of current practice, including with whom occupational therapists worked, and the reasons for encountering these people. Individuals made up the largest single type of service user, with 709 (90.5%) of respondents indicating they worked with individuals. However, respondents were able to score multiple response items to indicate whether they worked with more than one type of client. Figure 7 shows these cross-referenced values. The most common overlap was respondents who worked with both individuals and families (287 cases), followed by respondents who worked with both individuals and public organisations (106 cases).

Figure 8 shows the percentage of cases by the mean number of types of service user they worked with. The majority (56.8%) worked with only one type of service user, with slightly over a quarter (26.6%) reporting they worked with two types of service user. The mean score was 1.73, with a small number of respondents (13; 1.7%) indicating they worked with six different types of service user.

Respondents were also asked to indicate why they encountered people. Physical conditions and psychological/mental health conditions accounted for almost identical results. These were followed in order of magnitude by issues related to social circumstances, occupational issues related to opportunities for participation and engagement, then developmental conditions or learning disorders (see Figure 9). Again, there was a substantial degree of crossover, with individual respondents indicating that they saw people for multiple reasons or were in a position where they would encounter people for a range of reasons. Figure 10 gives an overview of the crossover between responses and Figure 11 indicates the number of respondents reporting seeing different numbers of presenting reasons.

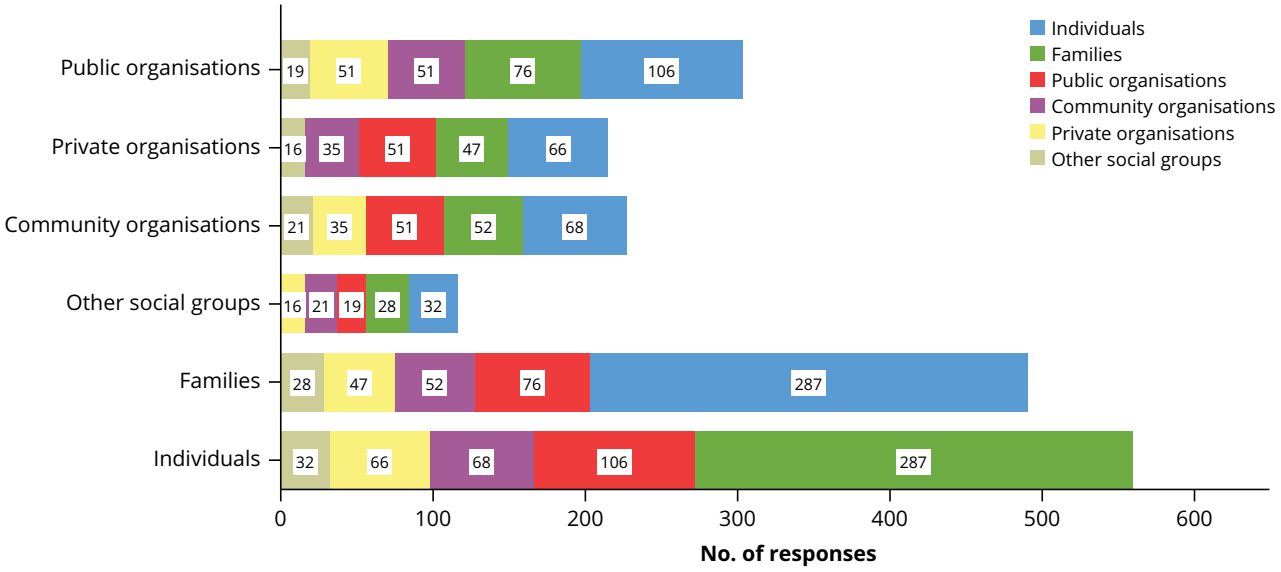


Figure 7 Who respondents work with – cross-referenced

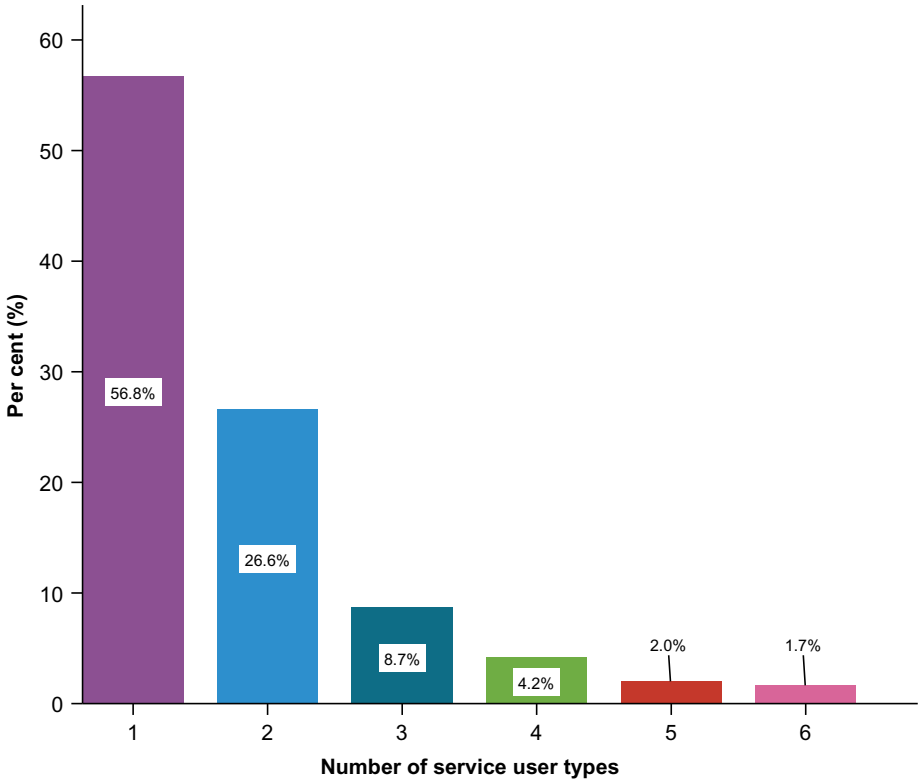


Figure 8 Percentage of respondents identifying different client types

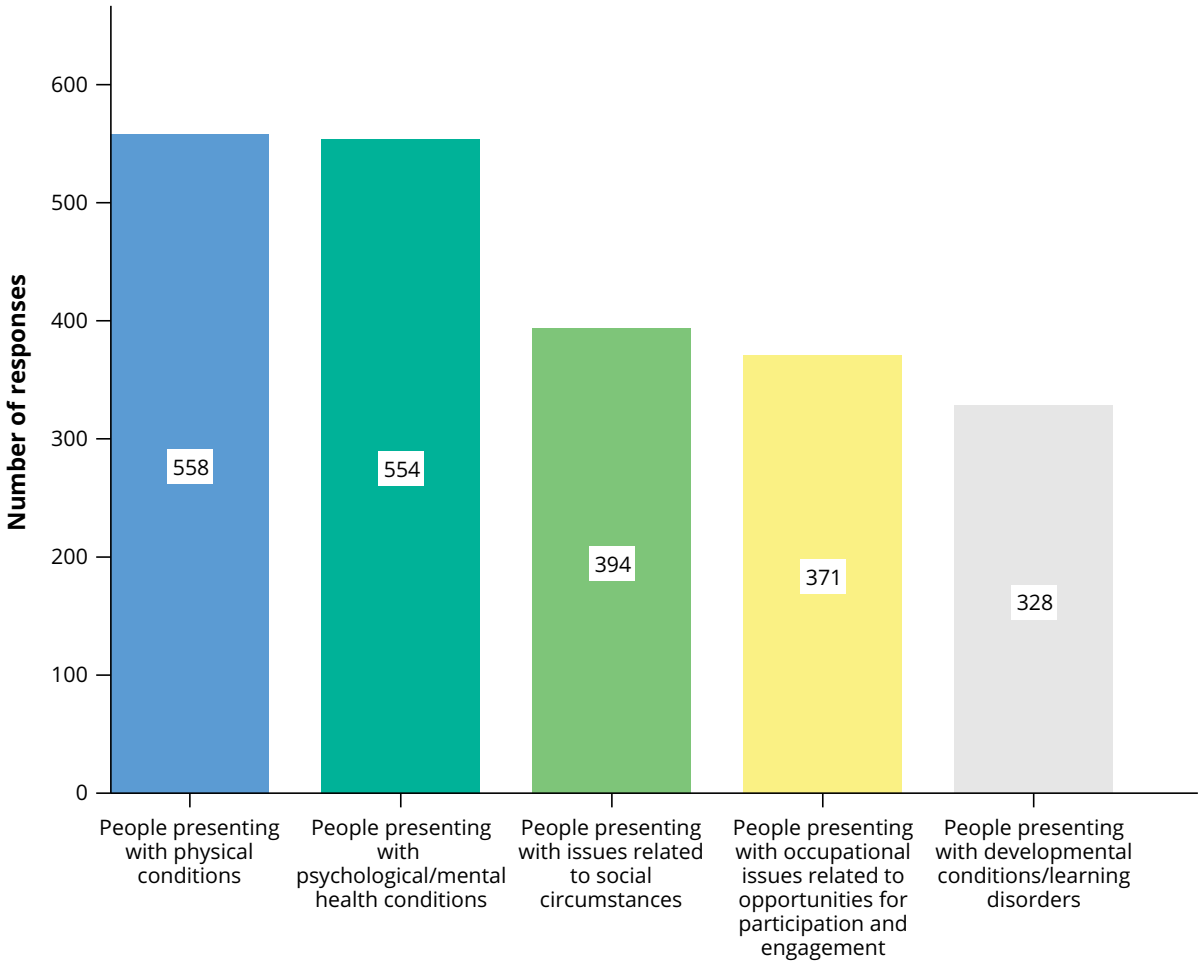


Figure 9 Reasons for encountering clients

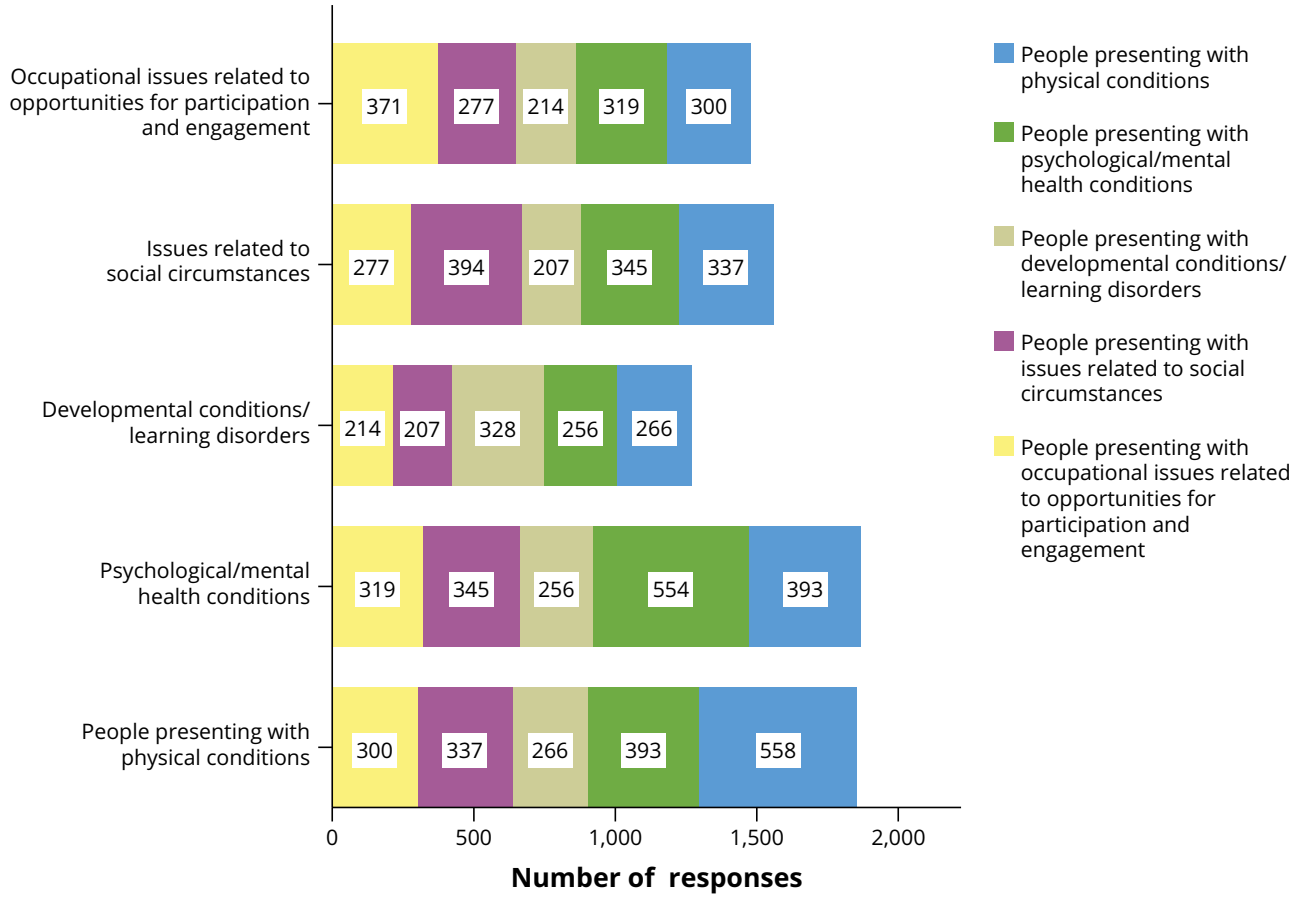


Figure 10 Reasons for encountering clients – cross-referenced values

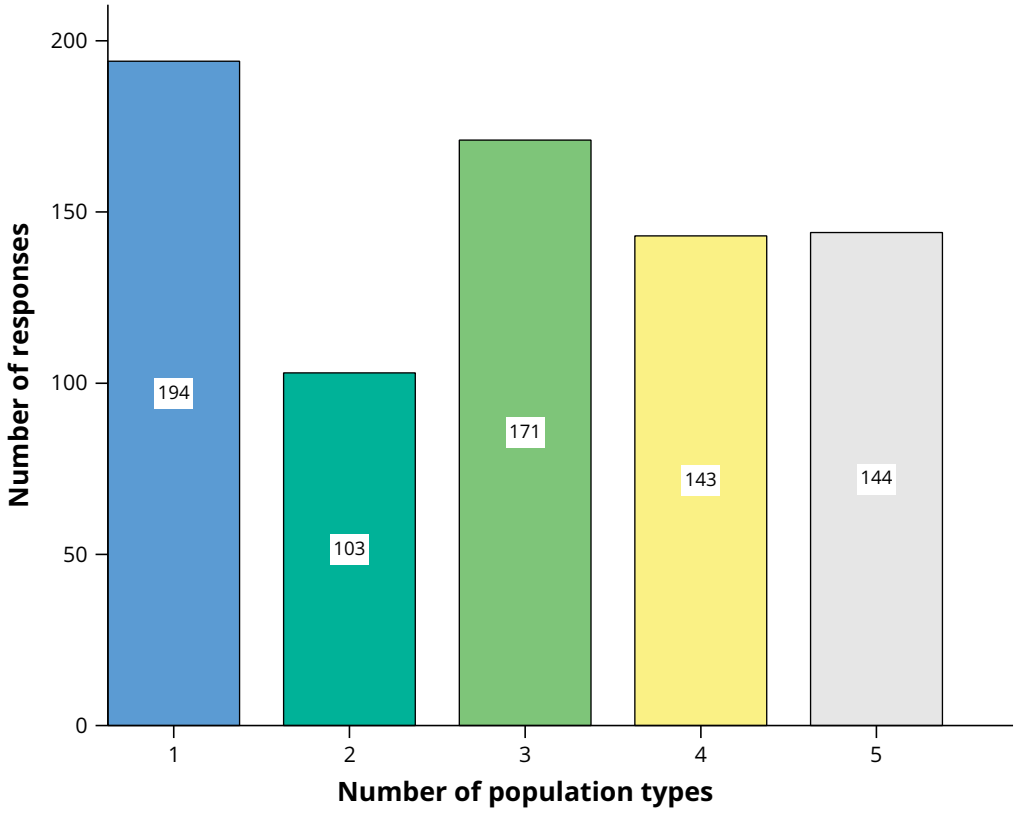


Figure 11 Number of presenting reasons seen

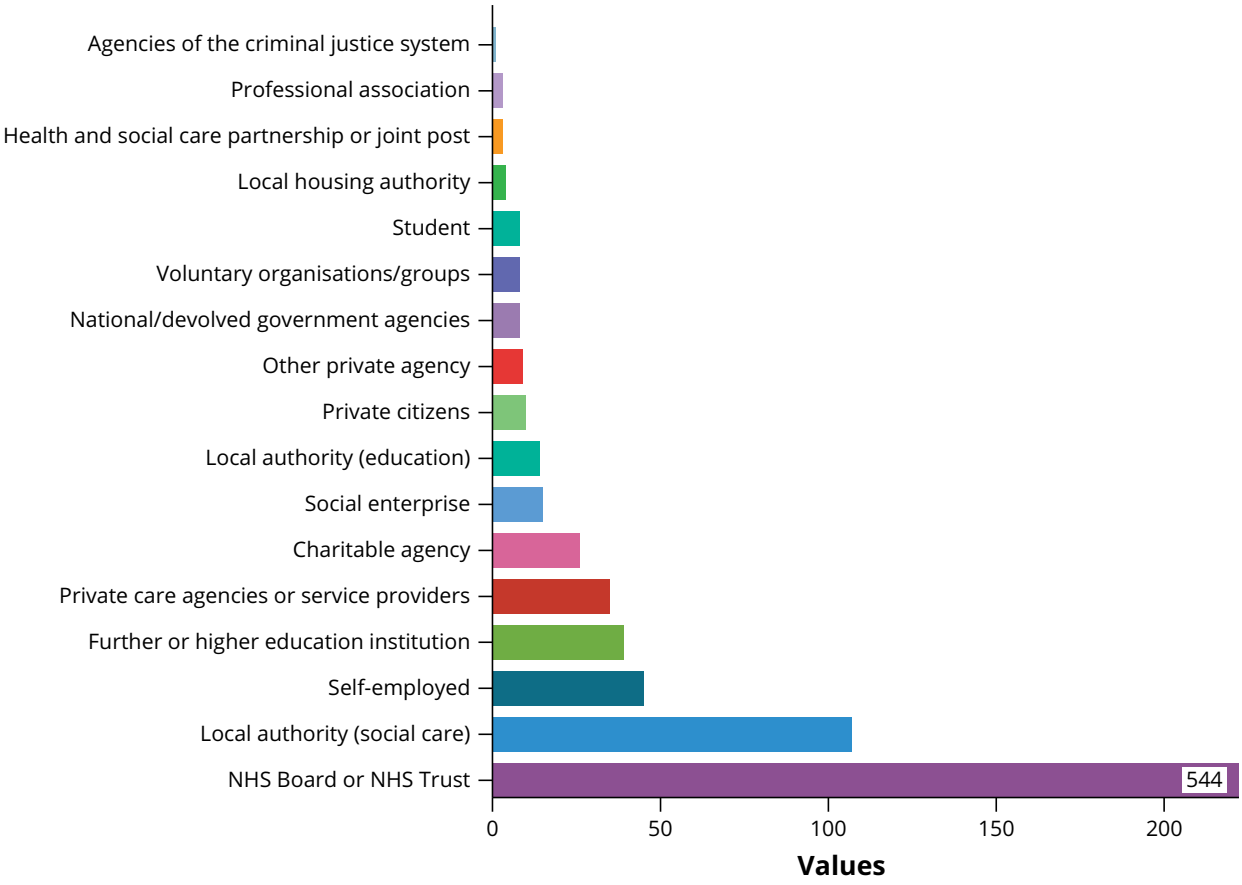


Figure 12 Number of responses by employer

Who occupational therapists are employed by

The profile of employers was diverse, with 17 different employer types identified. National Health Service Boards or Trusts were the single largest category with 544 responses (69.5% of respondents), followed by local authority social care agencies and self-employed therapists (see Figure 12 for details). The majority (90.9%) of respondents were only employed by one agency. Most respondents practised in England (500), followed by Scotland (208), Northern Ireland (53), Wales (39) and a range of other locations (the European Union, Singapore, British crown dependencies and American countries) accounting for 14 responses. A small number of respondents reported practising in more than one location (21; 2.7%).

Service and practice aims

Respondents were asked to describe the aims of (1) the service they worked for, and (2) their practice as occupational therapists. Word frequency analyses were completed to identify the most common ways of describing the aims of services and practices. Commonly occurring words (mainly prepositions and conjunctions) were excluded from analysis. Analysis was expanded to group words sharing the same stems together (for instance, 'occupation', 'occupations' and 'occupational' would appear as a single category). Table 12 gives a side-by-side comparison of the top 50 most frequently occurring words in the pooled responses to each item. Thirty-two out of fifty terms appeared in both categories, and their relative positions are shown in brackets. Terms that appear in one category only are shown in bold.

Table 12: Comparative word frequency analysis – service and practice aims

Aims of service				Aims of practice		
Weighted Percentage (%)	**Count**	**Word**	**Rank**	**Word**	**Count**	**Weighted Percentage (%)**
2.68	248	Health (+11)	1	Occupations (+21)	268	2.31
2.32	215	Service (+4)	2	Support (+1)	257	2.21
2.13	197	Support (–1)	3	Assessments (+5)	244	2.10
2.06	191	Mental (+27)	4	Independence (+8)	223	1.92
1.91	177	People (=)	5	People (=)	184	1.58
1.80	167	Care (+9)	6	Service (-4)	170	1.46
1.73	160	Community (+18)	7	Functional (+35)	146	1.26
1.67	155	Assessments (–5)	8	**Working**	145	1.25
1.62	150	**Works**	9	**Activity**	137	1.18
1.32	122	Homes (=)	10	Homes (=)	134	1.15
1.26	117	Independence (–8)	11	Enable (+15)	128	1.10
1.26	117	Hospital (+32)	12	Health (–11)	127	1.09
1.07	99	Patients (=)	13	Patients (=)	127	1.09
1.06	98	Discharge (+8)	14	Needs (+5)	126	1.08
1.04	96	**Rehabilitation**	15	Care (–9)	119	1.02
0.97	90	**Adults**	16	Individuals (+4)	118	1.02
0.93	86	**Disabled**	17	Living (+1)	116	1.00
0.92	85	Living (–1)	18	Promote (+27)	105	0.90
0.91	84	Needs (–5)	19	Intervention (+18)	96	0.83
0.89	82	Individuals (–4)	20	Clients (+14)	91	0.78
0.88	81	**Acute**	21	**Engaging**	90	0.77
0.86	80	Occupations (–21)	22	Discharge (–8)	90	0.77
0.81	75	Aim (+10)	23	**Skills**	90	0.77
0.69	64	**Physical**	24	**Person**	87	0.75
0.68	63	Safely (+4)	25	Community (–18)	86	0.74
0.68	63	Enable (–15)	26	Management (+19)	85	0.73
0.67	62	Social (+14)	27	Life (+9)	85	0.73
0.63	58	**Treatment**	28	**Participation**	82	0.71
0.61	56	**Conditions**	29	Safely (-4)	77	0.66

Aims of service				Aims of practice		
Weighted Percentage (%)	**Count**	**Word**	**Rank**	**Word**	**Count**	**Weighted Percentage (%)**
0.61	56	**Providing**	30	**Meaningful**	70	0.60
0.57	53	**Children**	31	Mental (–27)	69	0.59
0.56	52	**Admission**	32	Improve (+17)	67	0.58
0.55	51	Within (+7)	33	Aim (–10)	64	0.55
0.52	48	Clients (–14)	34	**Develop**	64	0.55
0.52	48	Equipment (+4)	35	**Facilitate**	64	0.55
0.52	48	Life (–9)	36	**Maintain**	64	0.55
0.52	48	Intervention (–18)	37	**Users**	63	0.54
0.51	47	**Reduce**	38	**Daily**	61	0.53
0.50	46	**Learning**	39	Equipment (–4)	61	0.53
0.50	46	**Team**	40	Within (–7)	61	0.53
0.50	46	Therapy (+2)	41	Social (–14)	60	0.52
0.49	45	Functional (–35)	42	**Increase**	59	0.51
0.49	45	Promote (–27)	43	Therapy (–2)	59	0.51
0.48	44	Adaptations (+6)	44	Hospital (–32)	58	0.50
0.48	44	Management (–19)	45	**Family**	57	0.49
0.48	44	**Quality**	46	**Possible**	56	0.48
0.48	44	**Prevent**	47	**Practice**	56	0.48
0.46	43	**Older**	48	**Ensure**	55	0.47
0.43	40	Improve (–17)	49	**Using**	55	0.47
0.43	**40**	**Settings**	50	Adaptations (–6)	54	0.46

Activities during therapy

Respondents were asked how often they would normally complete a range of activities with their service users. These were categorised as assessment practices (three categories), activities to improve or restore performance or skills (four categories), and activities to alter elements of role, environment, routine or opportunity (five categories). Figure 13 gives an overview of the frequency of responses (the deeper red, the less frequent the response, and the deeper green, the more frequent) for each category, and Figure 14 is a stacked bar chart showing the same data.

Strategies and techniques used during therapy

Respondents were asked to identify the strategies and techniques they used during therapy. A list of 20 categories was presented in the survey, along with an option to list techniques that did not appear on this list: 41 additional comments were provided and were screened and considered for recoding into existing categories. All but four of these were recoded into existing categories. These remaining comments were either identified

	Never	Almost never	Occasionally	Often	Almost all the time	Always
Assessing occupational performance	13	8	46	115	196	387
Assessing functional performance	12	5	35	104	150	462
Assessing needs	7	1	16	68	123	549
Improving or restoring occupational performance	12	15	55	172	222	287
Improving or restoring sensorimotor function/skills	51	108	206	175	122	92
Improving or restoring physical function/skills	29	73	171	152	156	180
Improving or restoring mental function/skills	29	81	161	182	156	147
Learning, resuming and/or maintaining activities, roles and routines	13	23	68	157	225	280
Changing the client's environment(s)	27	47	120	175	199	204
Creating opportunities for meaningful occupation	26	50	119	185	190	197
(Re)patterning occupations	59	89	169	193	143	81
Preventing loss/deterioration of occupational performance	20	29	110	208	207	192

Figure 13 Heat map of typical practices

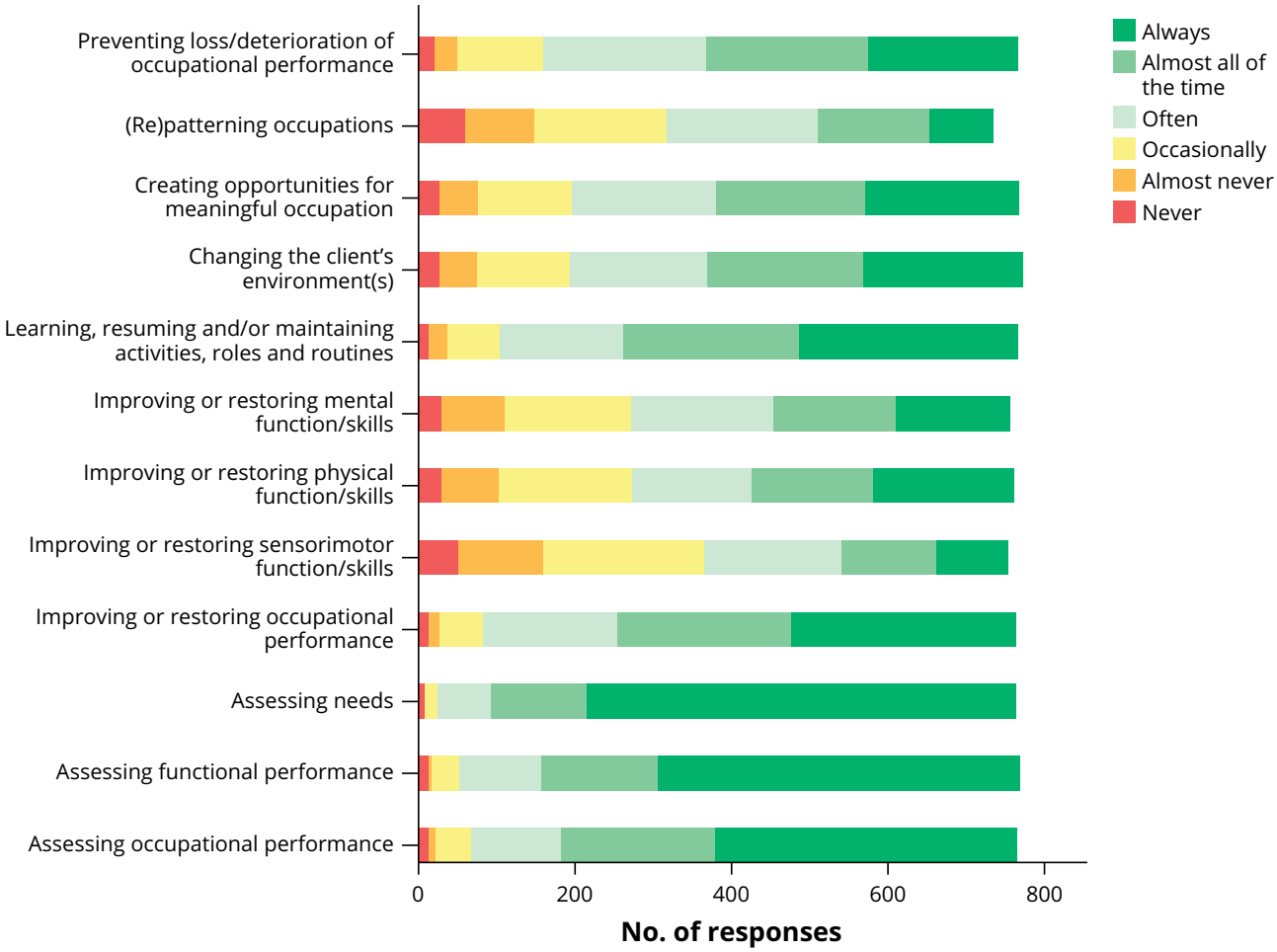


Figure 14 Stacked bar chart for frequency of activity

by respondents as being inapplicable because they no longer provided clinical services (3) or lacked sufficient detail (1). The frequency of responses in each category is shown in Figure 15.

This question allowed for multiple responses. Figure 16 shows how many respondents indicated they used different numbers of strategies and techniques. The mean number of strategies and techniques respondents reported using was 11, with some respondents indicating they used all 20 techniques in practice and some reporting none (though it should be noted that this also includes respondents who chose not to answer this question).

Figure 17 shows the most common combinations of strategies and techniques as a heat map, with dark green indicating the most frequent combination and red the most infrequent. The most common combination was 'compensation/enablement by assistive or adaptive device, aids or equipment' with 'environmental modification' (552 responses) followed by 'therapeutic use of self' combined with 'use of occupation' (524 responses) and 'use of occupation(s)' and 'educational processes' (also with 524 responses).

Evaluating therapy

Analysis indicated that occupational therapists use a wide range of methods for evaluating their therapy. On average, therapists used three different means for evaluation, though a minority reported using seven or more (see Figure 18). The most

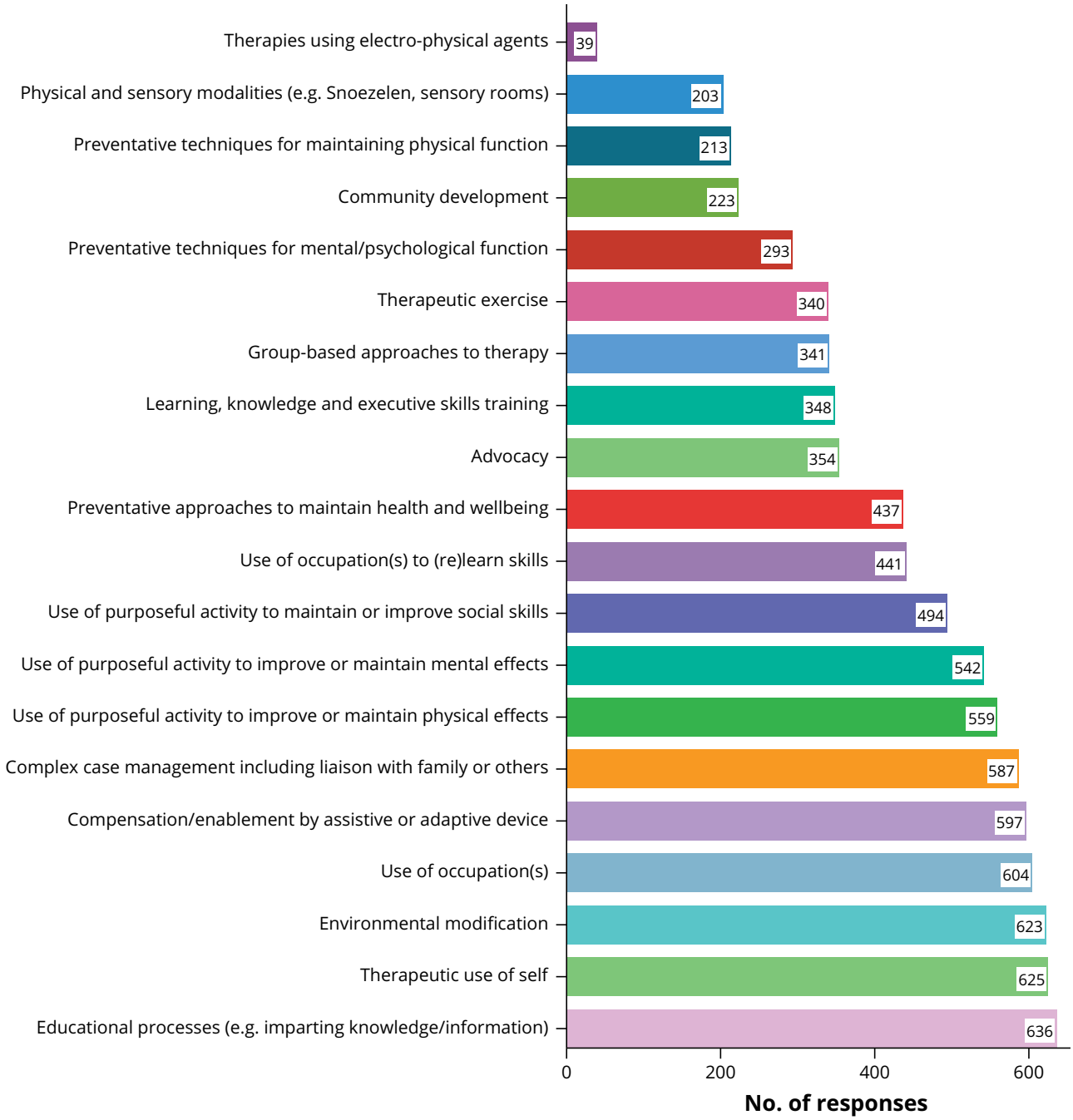


Figure 15 Strategies and techniques used during therapy (by frequency)

frequently used evaluative methods were to gather feedback from the service user, followed by collecting feedback from their family members, carers or other relevant social networks. The third and fourth most commonly reported methods were to use outcome measures (though no other details were provided in these responses) or outcome measures specifically linked to a conceptual model of occupational therapy. Figure 19 provides an overview of the frequency with which different evaluation methods were reported, and Table 13 provides a view of the most common combinations of evaluative methods. The most frequently used combinations included a range of outcome measures, observation and experience, reviewing goals and gathering feedback from people, their families and other health and social care colleagues. Twinning service user reports with feedback from their families or carers was the most frequent combination.

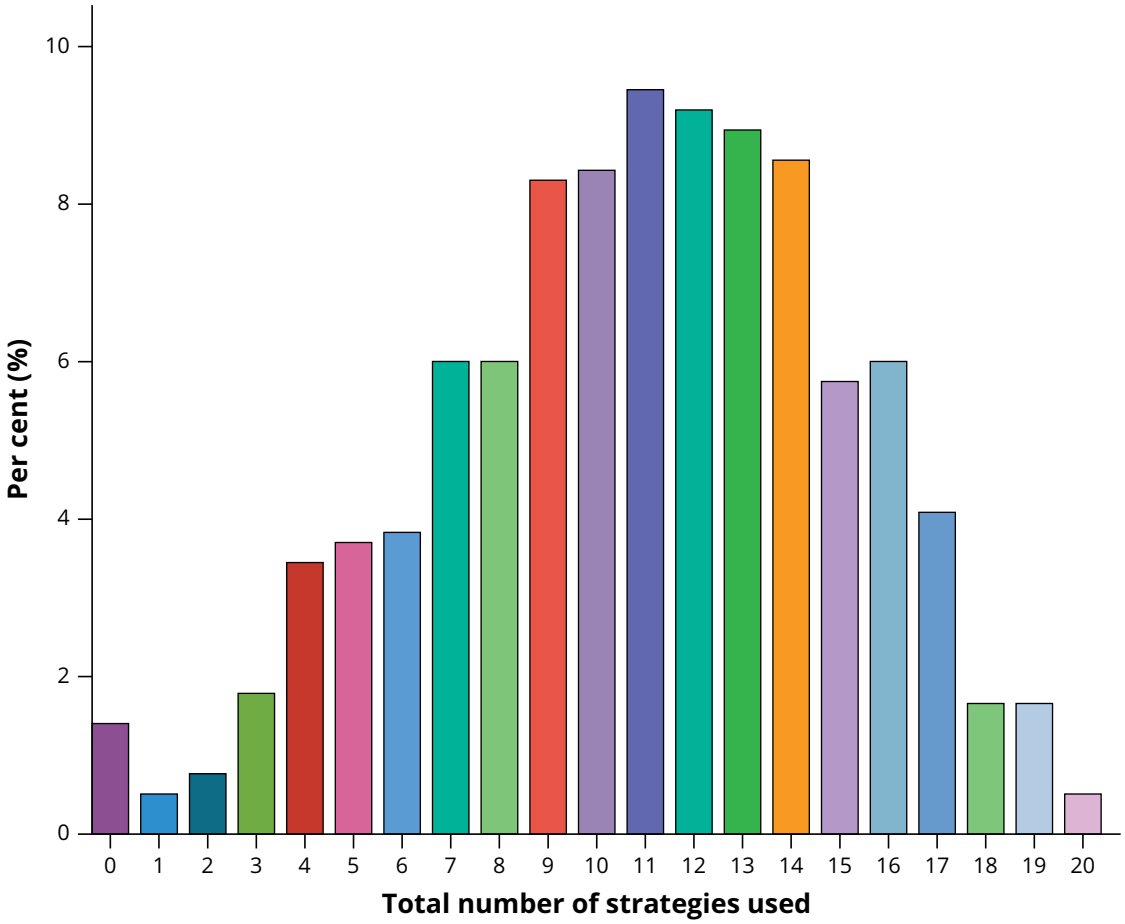


Figure 16 Number of strategies used by number of respondents

Table 13: Most common combinations of evaluation method

	Functional outcome measures	Outcome measures (no detail specified)	Goal status	Obs. & exp.	Service user reports	Family or carer reports	MDT reports
OT model outcome measures	42	25	50	32	83	43	37
Functional outcome measures		13	28	20	50	23	17
Outcome measures (no detail specified)			55	45	84	65	50
Goal status				26	70	48	34
Observation and experience					80	59	45
Service user reports						138	99
Family or carer reports							84

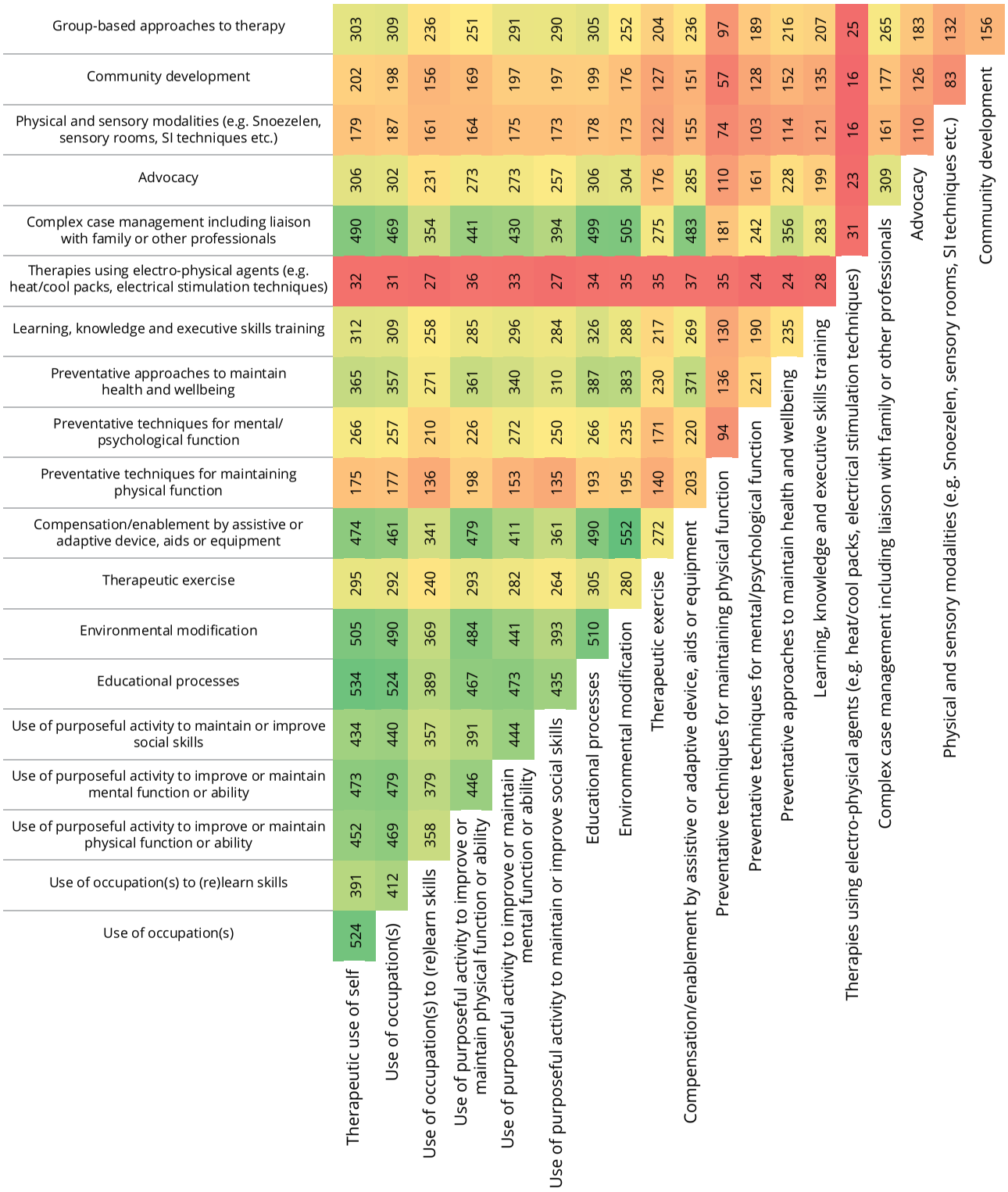


Figure 17 Combinations of intervention strategies and techniques

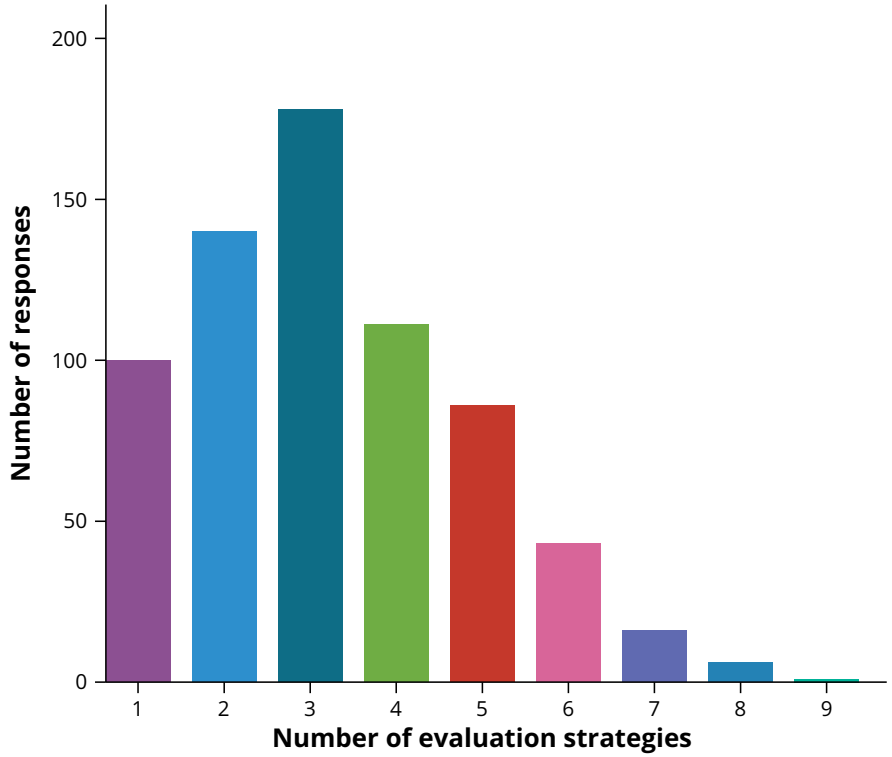


Figure 18 Number of evaluation strategies used

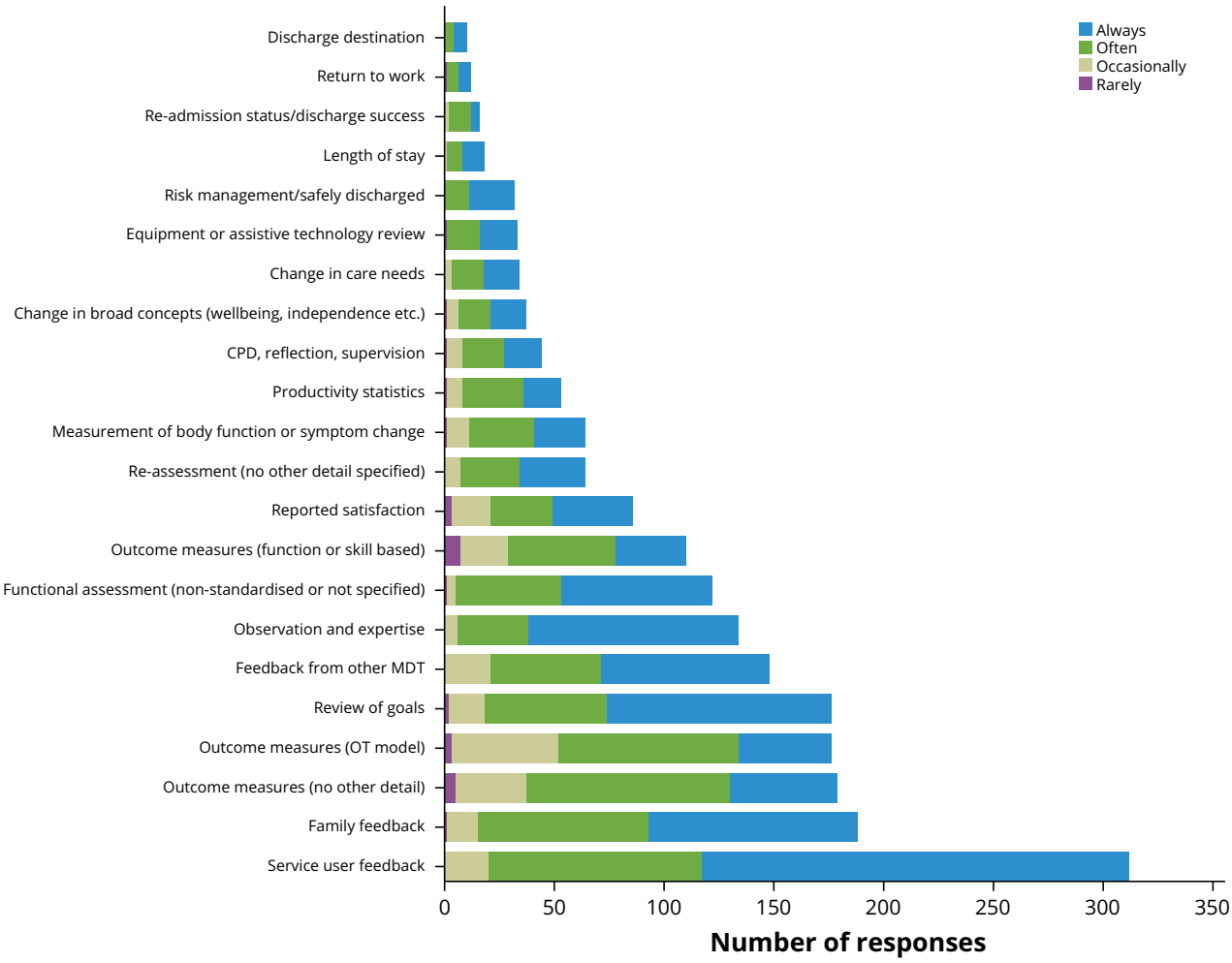


Figure 19 Evaluation strategies by frequency

Influences on practice

Figure 20 displays the responses given when participants were asked to indicate the impact a range of different phenomena had on their practice. Practice experience, clients' values and views, clients' daily lives and participants' professional codes of practice and conduct were among the options consistently scored as having positive effects on practice. Conversely, financial considerations, service structures, social trends, geographic locations and policy (both local and national) were most likely to be scored as having a negative impact on practice (though these negative responses remained in the minority).

Views on complexity

Participants were asked to indicate whether they thought occupational therapy was complex. Most respondents (n=687, 88.8%) indicated they considered their practice to be complex. No associations between other variables and this question about complexity were detected. Of the remaining responses, 6.8% were scored as 'not sure' and 4.4% (n=34) as 'no'. No patterns were noted in the data for those who indicated that they did not feel occupational therapy was complex.

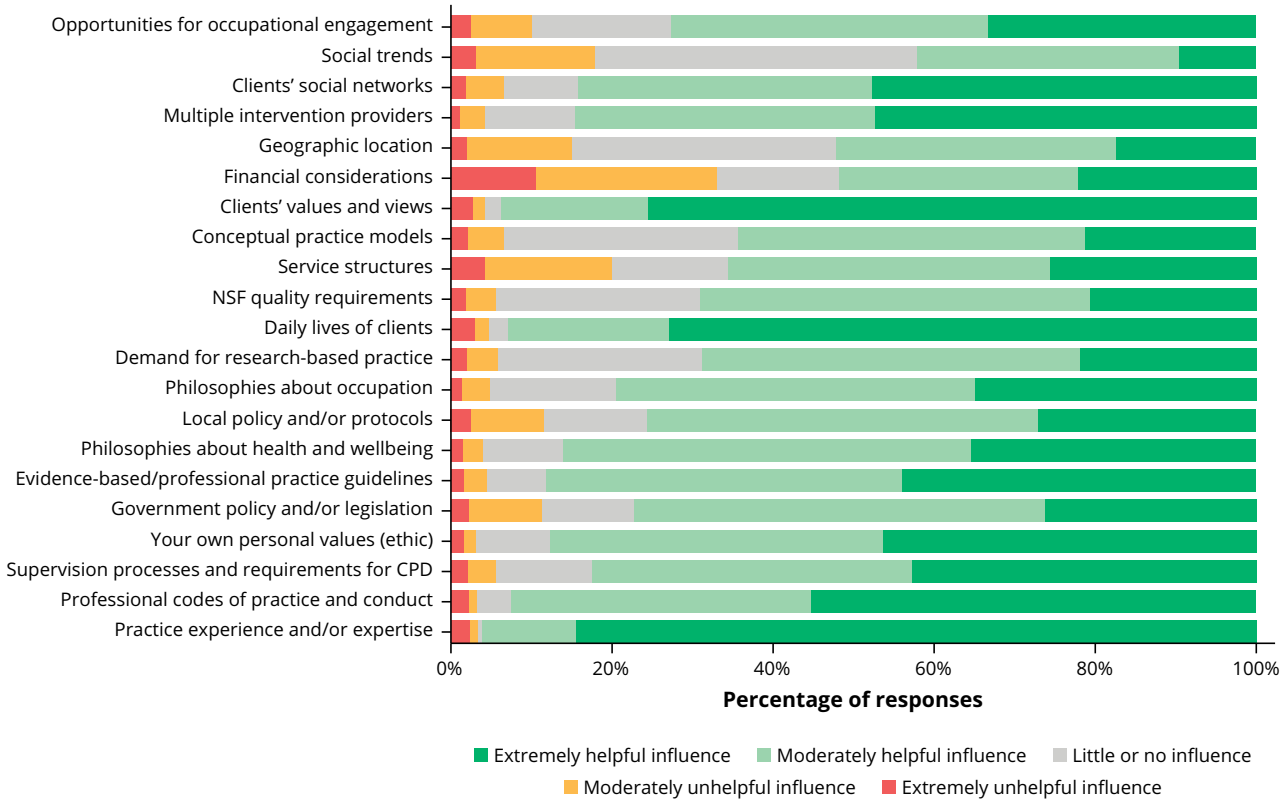


Figure 20 Influences on practice

Findings from thematic analysis

Change occurs in many different ways

Four hundred and twenty-one separate statements related to the nature of change were identified in the survey analysis. Coding and categorisation of these statements led to three distinct thematic areas being identified, each related specifically to what actually changes during, and because of, occupational therapy. Each thematic area was composed of a number of more discrete ideas. These were identified as changes to components of perception and associated attitudes and behaviours, changes to functional characteristics, and changes to a number of concepts.

Changes in areas of self-perception and associated attitudes and behaviours included:

- increased self-awareness; increased or improved understanding/making sense of what has happened or is happening;
- acceptance and changes in perception;
- personal identification of strengths and limitations;
- changes in the way the person thinks about activities and their ability to engage in those; realisation; adaptability; creative ways of thinking (a 'can do' attitude); learning coping strategies, taking control of what is important;
- increased confidence (through co-operatively/actively participating in occupations);
- improved self-esteem;
- improvement in satisfaction with occupational performance;
- restoration of hope, re-emergence of sense of self and purpose;
- self-efficacy; effective adaptation to loss of skill within chosen occupations;
- changes to family's/carers' perceptions of their relative;
- improved motivation and self-worth); notice positive changes/differences in self and occupations;
- sense of empowerment (making informed choices and decisions about what occupations will maintain or enhance physical and psychological wellbeing);
- positive changes to family and social dynamics and interpersonal relationships.

Changes to functional characteristics:

- improved self-management; new knowledge/new ways of managing a condition; finding new ways to cope;
- resuming important roles in life;
- regaining/restoring/maintaining independence; reduced dependency; improved functional ability.

Changes to conceptual areas:

- improved occupational performance and participation;
- enhanced wellbeing; achieving a meaningful and fulfilling lifestyle; better quality of life.

Respondents commonly referred to several of these ideas in the same response, possibly suggesting that multiple changes in several domains are typical of how change is understood to happen in occupational therapy. Similarly, there were indications that some of the above ideas are inherently interlinked during a process of change. This idea is discussed in more detail in the following section examining the process of change.

A word frequency analysis of the statements identified in this theme provides some confirmation of these themes, with 'confidence', 'skill', 'self', 'ability', 'independence', 'activity', 'function', 'life' and 'engagement' all appearing in the top 15 most used terms (a list of the top 50 frequently used words is given in Table 14 of Appendix A).

In terms of the relationship between occupational therapy and change, there were clear and repeated references to expected relationships between the content of therapy and the outcomes that resulted. As a starting point, the word frequency analysis shows that 'improved' and 'increased' both feature in the top five most common terms. Furthermore, 'development', 'achievement', 'regaining', 'reduce' and 'greater' all appear in the analysis and can all be considered as indicators of a directional relationship between therapy and change.

Reponses typically included one of these terms as a qualifier when the change being noted could be considered in terms of some sort of magnitude. These were spread across the three main themes, with numerous examples referring to 'improved confidence', 'increased independence' and 'greater quality of life' as paraphrased examples. Additionally, there were a range of changes which were referred to in binary terms (typically as a presence or absence of some change or characteristic). 'Acceptance' and 'taking control' were common examples of this type of response.

A subset of responses referred to these concepts of magnitude differently, noting that while detectable changes had occurred during therapy, these varied in terms of scale, but that there was not necessarily an obvious relationship between the scale of a change and its outcomes. One respondent noted: "*Change can be small, such as a change in routine to promote health or a whole new direction and purpose in life*", while another commented: "*Change can be slight or significant within OT treatment. Both of these can be life-changing to an individual.*"

Further responses suggested that these ideas could be attributed to variability in need and circumstance, and that changes were not always predictable and not necessarily positive, as suggested by the following respondents' extracts: *"Change is dependent on the individual and their individual circumstances. Change occurs within the roles, routines and level of autonomy of the individual", "Every patient has different changes to make and they are not always what you expect. Sometimes it's simply accepting their condition and making sense of what has happened" and "Changes in confidence/mobility/independence/mood/ ability to access home and community – normally all 'positive' but the word 'changes' could include for better or worse…".*

Change occurs as a process

Change during occupational therapy was described as a transitional process, either directly, or in descriptions which indicated multiple changes occurring on a pathway towards outcomes. The volume of data referring to processes of change is much less than that referring to the nature of change (142 distinct process of change statements compared with 421 nature of change statements), and there was less commonality in terminology and examples given. It should also be noted that respondents did not tend to state explicitly that a multistage transitional process occurred. Rather, numerous examples were given of situations where a range of different changes linked together to cause some effect, either an outcome or an identifiable point of transition during the process.

Two broad themes were identified. The first was that agency is a medium for positive change, and it was frequently linked to outcomes such as 'ownership', 'a feeling of being in charge' or 'control'. Change was also often referred to in terms which indicated it is thought about as an ongoing phenomenon. The language of 'growth' and 'building' was used to indicate this idea of continuing change and slow incremental development (along with suggestions that occupational therapists assist this growth to happen).

Specific examples indicating change processes included:

- Changes in the perception of difficulties faced can lead to a person becoming better able to cope with the same unchanged symptoms or causes of occupational disruption.
- Establishing or improving self-management skills is often founded on a demonstrated understanding of their condition and how it is affecting their life and ability to complete occupations.
- The point at which a person comes to realise that doing something (typically an activity as part of therapy) makes them feel better can lead to increased motivation and hope, which stimulates further engagement in occupation.
- Increased self-awareness, typically about functional performance, leads to an identification of strengths, which in turn positively influences how these are applied to daily life issues. This in turn can affect components at the level of occupational participation.
- Taking control and responsibility for choices/actions relating to lifestyle behaviours and attitudes can contribute to improved health and wellbeing.
- Simple personal pleasure in a meaningful activity can lead to feelings of achievement and/or fulfilment and purpose; this can lead to improvements in health and wellbeing and, on occasion, personal growth.
- Achievement can also be facilitated by improving an individual's physical, social and/or psychological skills.
- Improved function in activities of daily living (also termed improved occupational performance) can lead to increased confidence and enhanced wellbeing. Similarly, engagement in occupations or activities that people want to do, or value, can lead to a sense of increased wellbeing.
- Similar feedback loops can be seen when a person continually develops the skills and motivation to change through participation in occupation, with increases in each of these leading to changes in the others.
- Different examples had multiple change processes occurring at the same time: (a) developing new compensatory techniques or adapting to contexts; (b) changes to perception; (c) undertaking/re-engaging with valued occupations.
- The development of skills and understanding of a person's situation, along with success in finding solutions to difficulties (following and during work with a therapist), leads to a growth in confidence. This improved confidence alters how a person engages with their context, which allows greater opportunity for further positive change.

Influencers on change

Several factors that were considered to influence changes during occupational therapy were noted. These were identified in three categories as: influencers which could be identified as being primarily related to the occupational therapist and their context, influencers which could be identified as being primarily related to a person and their context, and influencers which were typically identified as only existing during the process of occupational therapy.

Influencers associated with the occupational therapist and their context:

- Joined-up working, effective team-working and inter-professional communication.
- Supervision and support from management to develop professional skills, including ongoing training.

- Positive professional role models and a supportive set of peers in the immediate professional context.
- Legislation, finances, service structures and external resources (typically quoted to be barriers to therapy). These were noted by several respondents to directly affect their own health and wellbeing.
- Local support by immediate team and local organisation.
- Ability to react to changing needs and presentations (also termed adaptability and positive adjustment).
- Personal values (compassion, strong work ethic, high professional standards and commitment).
- Lack of professional focus/structural requirements towards generic occupational therapy roles and the need to have an extremely broad knowledge base in some services.
- Service models based on named theories and methods can be detrimental and curtail the ability to take an occupation-focused approach.

Influencers associated with person(s) and their context:

- The nature of a person's social networks, including peer supports, which may occur as a result of therapy.
- A person's values and, at times, their family's values.
- Opportunities for participation in desired occupations, and the ability to access these.
- Physical environment, including geographic considerations such as physical and social isolation.
- Pre-existing lifestyle patterns.
- A person's financial status.
- Willingness and ability to take responsibility; readiness to engage; individual awareness and insights.

Influencers associated with specific intervention contexts:

- Client-centred, client-led approach; informed and empowered service users.
- Being able to adopt and maintain an holistic approach.
- Being able to respond and adapt to changes in circumstances as therapy progresses.
- Being able to pinpoint and capture change.
- Allowing engagement in meaningful activity.
- Exploring a person's history to generate an understanding of their occupations.
- Establishing relationships based on trust. At times this includes the therapist acting as an advocate.
- Retaining a focus on education so that a person can learn during the process (multiple focuses for learning including condition, ability, new ways of doing and so forth).
- Being able to implement a co-productive approach during therapy.

These influencers were often written about in terms of their interactions with each other. For instance, while a clear set of professional values and a wish to work in a person-centred way were associated with the therapist and their context, they were seen to be important in the context of providing occupational therapy, playing a key role in establishing relationships and ensuring that a person's needs remained in focus. Similarly, there were many responses indicating the negative influence of factors associated with the therapist's context on the therapist's ability to carry out actions and behaviours which they felt would be of direct benefit during occupational therapy.

How change is identified, quantified and qualified

Respondents reported a range of activities associated with how change was identified and evaluated. These were identifiable as fitting into three core themes:

i. Measurement

ii. Professional estimation

iii. First-hand accounts.

Again, while these approaches are listed in separate categories here, the picture provided in the open responses is of therapists using a range of techniques to identify change. Thematic analysis suggested two categories that could be used to order responses. The first related to a concept of observable or visible change and the approaches used to capture these, while the second related to changes that were harder to detect and more challenging to quantify.

Approaches to capturing the more visible changes included:

- Comparing observed and reported functional performance to baseline or pre-therapy levels using both professional estimation and standardised measures.
- Goal attainment, either formally established using goal-scaling methods or using simpler methods.
- First-hand feedback from people and their families.

Responses indicating attempts to capture changes that are harder to detect tended to focus mainly on explaining or reporting perceived inadequacies in currently available methods. The data suggest multiple potential reasons for this. Some responses indicated a mismatch between changes evaluated by currently available measures and actual impact. In these responses it appeared that tools designed to evaluate specific concepts related to occupation were useful, but failed to capture the impact of change on a person. Similarly, there were indications that some therapists could not find tools that would effectively capture change for all the people in their service user population. Several respondents noted a need to capture changes that do not feature as outcomes but are central to success, and suggested informal methods to achieve this.

A range of contextual factors were also noted as causing challenges to how these less visible changes were evaluated. These included a lack of agreement about what to record at strategic level, and a belief that individual professional opinion is more effective at capturing the nuances of change and its likely transferability to 'real life' than currently available measures.

Some respondents also noted a disconnect between the methods available for capturing change in occupational therapy and what wider health and social care professionals

might want to see, or be able to understand. At times, this was noted to lead to a focus on more discrete and reductionist approaches to evaluating change, typically associated with symptomology, physiological/psychological function or structural and process-related performance (bed days and care hours, for instance). These were seen to be of greater interest or professional relevance to more powerful/influential members of care teams. Consequently, identifying and noting changes associated with concepts around occupation were less consistent and less valued.

There were some responses that reported on alternative methods for evaluating change, beyond collecting combinations of data. These examples tended to focus either on reasoning activities undertaken by occupational therapists or on narrative and storytelling methods. Reasoning processes included examples such as reflecting on all interactions that took place between a person and an occupational therapist to evaluate a broad range of potential changes to mood, motivation, cognition, interpersonal skills and so forth. Similarly, one respondent indicated: *"We feel stories capture a richer, fuller, more qualitative picture of the true difference our services can make",* potentially suggesting that the range of measures currently available do not capture all of the impact associated with occupational therapy.

Ideas of individualisation and tailoring approaches to individuals came through in a number of responses.

- *"Depending on the client and their situation, different methods used to capture any changes, usually informal observations and specific outcome measures, would be used for everyone."*
- *"As an OT I look at everything, I spread it out and then synthesise it to hypothesise and project the best course of action. I do not look at one component. My clients are individuals with complex backgrounds and I must liaise with many different agencies to ensure the best possible intervention for my clients."*

What makes occupational therapy complex? 'People are complex'

Analysis indicated that the majority of respondents thought occupational therapy was complex. The open responses provided were developed into five distinct themes, which explain why this might be the case:

i. Complexity is associated with conditions and their impacts

ii. Influence of person's context

iii. The need to individualise therapy

iv. Influence of therapist's context

v. Complexity results from the interaction of the factors above.

1. Complexity is associated with conditions and their impacts

A common and straightforward explanation provided by respondents was that complex illness and conditions impacting on occupation were a source of complexity, summed up in one response*: "Complex symptoms = complex problems."* Attention was often drawn to this when the condition affected a range of body functions:

- *"Complex because customers have both physical and cognitive deficits and they are often referred due to crisis of family carer breakdown or complex hospital discharge."*

- *"Intervention is long and has to be carefully designed in order to simultaneously consider emotional, social, physical, cognitive and language needs, all of which impact on a client's ability to engage in their chosen occupations and roles."*
- *"Complex physical presentations, behaviour, mood and cognition."*

Although less frequently expressed, there were indications that the nature of illness or condition alone was not the cause of complexity. Rather, the interactions of these condition-related features, the ultimate aims of occupational therapy and the challenges associated with achieving these due to context, were reported.

2. Influence of person's context

The influence of a person's context was frequently and clearly identified as a cause of complexity. It was common for responses to identify components of a person's context that influenced them, their health and occupations, and how they engaged with therapy. The sources of these components of a person's context spanned from the immediate environment and circumstances through to issues identified at much broader macro or societal levels.

- "*We work with service users who have multiple problems – physical and mental illnesses, physical and learning disabilities, complex family situations, unsuitable home environments, varying financial circumstances."*
- *"Often people have a number of social circumstances/concerns (benefits, housing/ homelessness, addiction) that need to be addressed before they feel they can even begin to consider a more self-directed means of working/support."*
- *"I work in a poor socio-economic area, the project I am involved in aims to return individuals to work, my clients have multiple health conditions, many live in poverty, experience abuse, have criminal history, and come from households that do not value or have no experience of employment."*
- *"I work in a very deprived area … and our patients often have multiple physical and social difficulties along with their mental health problems. Chronic unemployment and poverty can often result in what I term 'occupational poverty' as patients are surviving doing what they must occupationally, but with a lack of pleasurable and leisure focus. The reasons for their difficulty engaging in occupations are also complex. It is easy to identify what a person does or does not do, but understanding the why is much more challenging and requires a strong therapeutic relationship and prolonged therapy."*

3. The need to individualise therapy

The final extract above also begins to draw attention to another way in which a person's context can lead to complexity. There were clear indications that variability in individual circumstances leads to perceived complexity in the process. For some respondents this variability in individual circumstances required an in-depth understanding of a person so that individual factors affecting occupation could be considered. Similarly, there was a clear idea that all instances of providing occupational therapy are unique and potentially complex because of this degree of individualisation.

- *"I have to consider a wide range of influences when I am working with service users. People are complex! Their lives are complex! Everyone is different and has their own unique circumstances and issues which influence their lives and the decisions that they make. I not only have to consider the person's physical function and cognitive function but also their social environment and their personal preferences along with their family's preferences.*

I also have to consider the organisation influences and to liaise with all health and social care staff involved."

- *"Each individual has their own way of carrying out their tasks so it can be complex in that everything is so different."*
- *"At times the 'cases' can be complex, but others are relatively straightforward. You just need to tackle every person and situation differently."*

4. Influence of therapist's context

The influence of context on occupational therapists, and how this added to complexity in practice, emerged clearly as the fourth theme. As with reports about a person's context, the ways in which a therapist's context were reported as adding to complexity spanned from factors immediate to a therapist to much broader influences. Often context was identified as an influencing factor that complicated or limited the ways in which therapists worked. This included additional layers of information that needed to be considered, factors that were felt to be restrictive in how therapy was delivered, and the additional complexity involved in balancing a range of different contextual factors with core concepts of occupational therapy.

Many respondents referenced the complicating influence of service structures, and the broader policies that drive these:

- *"Increasing financial restrictions mean that we limit our interventions to resolving issues which meet critical/substantial eligibility criteria. This means we're not able to do much preventative work, quality-of-life work, or any kind of wellbeing promotion."*
- *"Not only do we have to contend with government policy, local guidelines, finance, the human aspect of service users with long term health issues, more complex health issues as people are living longer and the stress placed on carers all adds to the need for the OT to juggle numerous issues at the same time as well as a large caseload."*

At times some of these factors were noted to impact on therapists' ability to develop expertise and skills:

- *"Demands on service also impact on the learning of junior staff to spend time with more experienced staff to promote future learning opportunities."*

Some respondents also noted that components of context relating to evidence and theory influenced their practice:

- *"I have to draw on a wide range of knowledge (both occupational therapy-based and psychological approaches, e.g. CBT* [Cognitive Behaviour Therapy]*) to provide support or treatment for that particular person."*
- *"Occupational therapy can appear simple, but it is a very complex process drawing on many theories and frameworks while keeping the SU* [service user] *at the centre of the process."*

5. Complexity results from the interaction of the factors above

The most dominant theme indicated that complexity in occupational therapy comes about when these various factors interact. Working with people with multiple conditions, recognising the extent of individual variability that comes from the influence of context on people, additional complications and restrictions associated with therapists' contexts,

and the range of different approaches that can be brought to bear, all featured repeatedly in descriptions of complexity:

- *"Complex because of numerous considerations during practice (needs of person, needs of service – financial and resource considerations)."*
- *"Working with individuals in the community is challenging and frustrating at times due to paperwork and systems that prevent fullness of role being realised."*
- *"Complex physical, cognitive and psychological impairments, having knowledge of the evidence base around interventions, challenging social situations, ensuring participation by challenging societal barriers."*
- *"Multiple interrelated factors to consider in every situation. There are often a number of different options for providing occupational therapy intervention and this adds complexity to an already complex situation."*
- *"Complex because I deal with high numbers of children with complex and profound difficulties, all of which are different. I am involved with children right across their lives – home, school, communication, short breaks. I participate in* [healthcare partnerships]*, Children in Need … the family, meeting to ensure children's complex needs are being met. I assess children with complex postural needs for complex equipment. I deal with complex major adaptations for hospital discharge and complex social circumstances where children with complex needs are living at more than one address."*
- *"Complex client group due to neurodevelopmental issues. Also, complex due to interface with other services such as mental health and learning disability, and a lack of resources."*
- *"Balance between wishes of client against service remit and budgets, while retaining core occupational therapy values."*
- *"There are so many factors to consider when working with thinking, feeling people who operate within a wider social system. We are thinking, feeling people operating within health and social care. There are so many interacting factors that, in order to be able to achieve a successful therapeutic interaction, the level of complexity in the 'everyday', taken-for-granted things in life must be acknowledged."*
- *"Working with people who have complex needs in a system that has many layers of management and legislation as well as liaising with different departments and organisations. There is simply too much bureaucracy."*
- *"Layers of psychological, mental health, physical and social issues in a complex funding situation."*
- *"In the community setting we are trying to keep service users with complex needs at home when it is very difficult to source care packages due to care staff shortages. We have to balance service user wishes, available resources and risk assessment to ensure needs are met in a safe manner."*
- *"Lots of intertwined factors: key is that occupational therapy is uniquely designed for each individual so complex reasoning skills, adaptability essential, underlying model of practice."*
- *"It can be complex in view of conditions and the needs associated with that, or complex in terms of communication needs of the client/their support network. Complex in view of family dynamic or systems that are working against the client's best interests. Complex in terms of environment and the limitations to what is reasonable and practical because of it."*

A final theme that was clear in the survey responses was the need to be able to respond and adapt to individual scenarios as they arose. Variability in a person, their conditions,

their particular needs and their contexts leads to situations where an occupational therapist may be creating a bespoke intervention each time they work with someone. There were clear indications that much of this response or adaptation was grounded in the reasoning processes of occupational therapists and informed by their expertise and knowledge, rather than by the availability of discrete technical approaches. The influence of factors originating from the therapists' contexts was often identified in these descriptions as adding to complexity.

- *"The fact I cannot summarise this suggests the complex nature of the job. The wide range of variability – from condition, to family dynamics, to approaches used, joint approach with other professionals, organisational challenges and barriers, and the changing nature of all of the above – makes it consistently complex, and every day I learn something new or different. We are constantly evaluating, adjusting, reflecting on our practice, and rarely does one size fit all. We use our reasoning, judgement, compassion, experience and knowledge to inform an agreed outcome and, even then, this can change several times during one patient episode."*
- *"We work with service users who have multiple problems – physical and mental illnesses, physical and learning disabilities, complex family situations, unsuitable home environments, varying financial circumstances. We have to take all this into account, assess needs in line with the employer's eligibility criteria, and then balance this with service user and family preferences, available resources, priorities/interventions of other professionals, and our own professional opinions."*
- *"It's multifaceted – looking at opportunities, challenges, constraints, needs, and coping with fluctuations across all of these. Balancing them and figuring out methods to make it all work towards a desired outcome while valuing and focusing on the individual steps and coping with taking backward steps. Supporting the person's motivation, and your own, along the journey."*
- *"Working with patients will always be complex as humans are complex beings. We choose to work with people, therefore this must only be a positive attribute."*
- *"We have to reflect on our practice and make adjustments if necessary. We are constantly re-evaluating our practice with the patient and adapting, but also at a professional level. We have to work with other agencies, consider complex care packages, assess risk and risk management, etc."*
- *"I spend a lot of time testing out hypotheses and trying out approaches before I get it right. Very time-consuming and complex area of work for which there are often no definite solutions and where much time is spent trying to find acceptable ways for people to achieve what they need to achieve."*
- *"I think it's complex as all patients* [are] *different and you have to modify your approach for every individual patient."*
- *"People are complex, and each situation brings different challenges."*
- *"Everyone is different, they have a different deficit, different occupations normally engaged in, and often complicated social situations. These all combine with the pressures of ward-based working (patients not being available when you go to see them, discharge pressures/ plans, rigidly structured protected meal times) to make patients' therapy very different, challenging and rewarding the vast majority of the time!"*
- *"At times it can be challenging, but I don't consider this a negative. We embrace individuality and act to provide the most person-centred care while maintaining professional standards."*

One final extract provided an additional interesting insight into complexity in occupational therapy. It noted that complexity may arise because of the way in which a person is seen as an individual, and thus not necessarily likely to respond to interventions in a predictable or determined way:

- *"National Health Service demands are usually a "one for all" approach to care. The complexity of occupational therapy is that its focus is uniquely individual, and no two people are the same. The science of occupational therapy is relatively unknown among other hospital-based professions and what we do, rather than why we do it, is what is seen. However, when opportunities to demonstrate this happen it is usually appreciated once explained. Occupational therapists uniquely assess the person as a whole, trying to understand the individual's past and present and then help shape their future life."*

The survey achieved very useful responses with 783, primarily practising occupational therapists, participating. The extensive qualitative responses given were of particular note, providing an opportunity for in-depth analysis of key aspects of occupational therapy. These included perspectives on the way changes occur during therapy, key components of practice, and information about the varied influences and relationships between these.

9 Online focus groups

This chapter sets out the detailed methods and findings from a set of online discussion groups. These were conducted following the online survey so that initial findings and themes could be explored in more depth.

Asynchronous online focus groups – methods

Qualitative data for this project was generated through focus groups, which were populated with survey participants based on their response to certain survey questions. Four hundred and six survey respondents indicated their willingness to be considered for the online focus groups. Ninety-five potential occupational therapists were identified based on the quality of their responses to these survey questions. From these, 35 people were selected from this pool and invited to take part in online focus groups. The sample was chosen to include a range of experiences and was based on geographical location, type and area of practice or work, and years of experience. Seventeen people ultimately contributed to these discussions. The specialist interests of the selected occupational therapists included children's mental health, neuro-rehabilitation, paediatric physical rehabilitation, surgical and vascular conditions and general medicine as well as adult and older adult mental health. Participants were allocated into one of three groups, with each group led by one member of the research team, who posted one question on an online discussion board each week over three consecutive weeks and requested contributions.

The focus of the discussions was change. Change was identified as being central to the process and desired aims of occupational therapy, but initial analysis of the data from the survey and the literature review indicated that it was not often reported or considered. Each focus group was asked the following questions:

Q1. What do you identify as change, as the result of occupational therapy? How can you tell when change has happened?

Q2. What do you think are the 'active ingredients' which actually cause or contribute to a process of change to occur?

Q3. During the second week of our discussions, you were asked to comment on 'active ingredients' for change. Can you make a distinction on whether some of those are preconditions while others are contributors/facilitators? Please try to justify your answer. Also, what can impede change? Are there any potential 'barriers'?

No time or word restrictions were placed upon participants' responses, and participants were able to read the responses of others who had posted prior to themselves.

Findings

The transcripts of the three focus groups were analysed using NVivo software. The transcripts were coded into nodes and sub-nodes, and from these themes and descriptions of the themes were developed. The themes developed were:

1. Change as a complex, transitional process
2. The nature of change
3. Essential components of change
4. Facilitators of, and barriers to, change
5. The challenges of identifying change.

These themes and their descriptions are presented below, along with supporting quotes from the focus groups.

Change as a complex, transitional process

From the responses provided, it was clear that therapists considered change in occupational therapy as an ongoing process, rather than as one distinct change occurring at a certain point in time, and multiple elements were typically involved. One participant noted: *"I tend to describe OT as change – with us working with the client to change either the person, the environment or the task, or a combination of all or any of those."* Change was also seen to extend beyond the end of the named therapy process with one participant noting that "*change can be perceived by diverse perspectives (e.g. in terms of time). It can be an instant change (e.g. relaxation of children with spastic quadriplegia cerebral palsy, modulation-regulation of high arousal) or a long-term change (e.g. social participation, ADL independence). Some changes can be captured and measured while others not*."

These ongoing changes were also seen to be complex:

- The end point may be continually changing and therefore change is seen *"more as a journey than a destination"*.
- There are multiple possible points of intervention.
- Carers or family members might also become part of the change process.
- Multiple changes might occur, including momentary changes that are not maintained.
- Change is not permanent. Relapse might also occur. Change is not unidirectional.
- Change may result from unexpected and unplanned events.
- Change involved the person, occupation and environment in an ongoing dynamic and fluid process.

The nature of change

As a complex, transitional process, identifying the nature of change, that is 'what changes' during occupational therapy, was difficult. Change was described in terms of long-term changes, and sometimes identified as the outcomes of therapy, as well as immediate and mid-term changes that contribute to these.

Long-term change was frequently discussed in terms of what is observable in people's occupation, and often measurable outcomes of the therapeutic process:

- making positive choices and using strategies for healthy living;
- greater independence and safety;
- achieving community participation in work, leisure, education and social situations;

- greater engagement in occupations that are meaningful and valuable;
- greater balance of occupations.

Mid-term change referred to strategies and skills, knowledge of occupation and improved function as well as psychological aspects such as feeling hopeful, being able to take control, change in the acceptance of a new or different state.

Immediate change during a session included sensory and motor change as well as changes in mood or eye contact; for example, "*It can be an instant change (e.g. relaxation of children with spastic quadriplegia cerebral palsy, modulation-regulation of high arousal)".*

It was also recognised that change might not be restricted to change in the person and their occupation, but may also be seen in the environment and in the therapist.

One clear example of this idea of multiple changes as immediate, mid- and long-term can be seen in the following extract:

> *"My hopes for our group are to: assist them to see the life worth living, away from mental health services through trying new or revisiting old meaningful activities in their local community; through participation in a co-produced service I hope that members would develop transferable skills such as communication, negotiation, taking responsibility, planning, organising, chairing meetings, minute taking and assertiveness; educating the group with regards to the health benefits of meaningful occupations and self-motivation so that they understand the need to pace, plan and participate in a range of activities to stay well in the future, as well as maintain a sense of self and identity."*

Essential components of change

Participants discussed what they considered to be the essential components of the change process in occupational therapy – what could be described as preconditions for change. These were also referred to as active ingredients or critical components.

It is important to note that there was only some consistency across participants in relation to what they understood to be essential components. For example, while most participants stated that acceptance of the diagnosis or situation and recognition of its impact, together with a person's motivation and desire for change, were essential components, one participant noted that change sometimes happened anyway due to changes in the person's environment.

There was also overlap with what were not seen as essential components but as facilitators of change (see below for more detail). This diversity would seem to again indicate the complexity of the process of change, where optimal change occurs due to an individualised combination of factors, relevant to the person and therapist, rather than due to a specific combination of components. However, it is useful to identify what were commonly seen as active ingredients of change:

- The acknowledgement that change is possible, the acceptance that change is required, the desire to make change, and that support for change is available (social, physical, economic). *"I think the first active ingredient in change is the acceptance that change is actually required and can be achieved. This then leads to the motivation to change and be actively involved in the change process."*
- The role of the therapist in assisting people to develop motivation, hope, empowerment and resilience. This was seen to be achieved both through the relationship established with the client (incorporating the personal characteristics of

the therapist and recognition of the person as an individual, described by one participant as the *"foundation of facilitated change"*) and through occupation (experiencing meaning, graded and adapted occupational opportunities, setting goals, experiencing achievement, feeling connected).

- The need for flexibility and responsiveness to change throughout the therapeutic process by the therapist, as well as their awareness that these key components must have subtle and sensitive application.

Facilitators of, and barriers to, change

As well as identifying what the perceived critical components of the process of change were, participants also identified a range of factors that acted to facilitate or hinder change. As already stated, there was some overlap here with what were regarded as essential components, and participants noted that the combination of components facilitating maximum positive change is unique to each individual situation. Factors identified as influencing change included:

- The person's resilience and recognition of failure as part of change.
- The therapist's knowledge, clinical experience, skills, training and continuing professional development. Their collaboration with professionals and significant others. The ability to work with others and not for them.
- A person-/child-/family-centred approach, ensuring intervention addresses their needs.
- Occupation-based interventions, considering the person's various environments.
- Family members', carers' and others' acceptance of the issues, and engagement with the process of change.
- Resources available (costs of therapy, equipment and technology required, space for therapy, post-intervention support and so forth) were frequently cited as barriers: *"The restrictive timeframe comes about from another active ingredient which is our organisation's pressure for patient flow through the hospital – goals change rapidly within an acute setting."*
- A supportive environment (policy-makers, legislation and laws, environment accessibility, adaptability).
- The recognition that environments can be severely limiting. Examples of non-supportive family environments identified by participants included *"parents with addiction problems, families in poverty, parents who want their children attached to them and they inhibit change, parents who cannot manage their child's disability, parents who prioritise other personal needs over their children's needs, parents in denial towards [their child's] disability, parents with a disability, etc.,".*
- *"Often occupational therapists have difficulties communicating with the client as well as the family to advocate for the needed support. These concepts are not always easy to explain to service users, so being able to explain transitional change to manage expectations assists greatly"* reported one participant.
- *"I sometimes feel that the power imbalance that I work with means that the expected outcome of therapy is often related to risk reduction and safety, not the goals that maybe the individual and their family would have selected for themselves – getting washed and dressed, money for the bus, tolerating the journey, managing the voices, dealing with difficult people, getting there on time, doing the shift, coming home, only to have their parent tell them that they'll never do it, or their drug dealer tell them I'm useless and they're better off."*

The challenges of identifying change

The complications of understanding and identifying change, expressed in the comment *"I think that change happens almost accidentally sometimes"*, also indicates difficulties in identifying and measuring change due to occupational therapy. One participant commented: *"We struggle as occupational therapists with being able to define what change looks like and whether that change really happened as a result of our intervention. How can we really know if that change would have happened anyway?"* While some of the changes identified were the outcomes of goal setting and intervention planning, other changes were unexpected. Participants also discussed how some change could not be easily identified or measured. One participant commented: *"Some changes can be captured and measured, while others not."*

Areas of change that were reported as being more visible and easier to capture included:

- reduced care packages;
- reduced carer strain;
- increased community engagement;
- change in engagement in occupation;
- improved skill performance;
- impact of change in occupations, such as changes in mood, anxiety level, physical condition and financial state.

Methods for capturing changes included:

- change in observed performance, or as reported in feedback or discussions;
- standardised assessments, self-report tools, checklists and videos;
- changes reported by family, friends and schools, or by colleagues;
- changes were noted and discussed with colleagues during supervision.

Typically, participants reported using multiple methods to capture change, including measurement, goal achievement, professional reasoning and qualitative feedback.

The reported problems in measuring change may be seen in the quotes below. The first highlights the difficulty of measuring the extent of change and the contributing factors due to the complexity of occupational therapy:

> *"I totally agree that occupational therapy is a complex intervention. Personally, I think it is not possible to know or measure the extent to which occupational therapy brings about changes. Therapists', clients' and environments' characteristics are comprised of many uncontrolled variables that realistically make the pure measurement of occupational therapy outcome impossible."*

The second quote refers to complexity, not only of the occupational therapy intervention but of the entire situation of which the client is part:

> *"Obviously very much a basic, noticeable way of seeing change is a therapist reviewing that person face to face and having a discussion. Agreeing what has been achieved and seeing that in its physical form is the most obvious way of noting change, but it can be difficult,*

certainly in the areas I have worked in, to put a numerical figure to prove the impact and effect of treatment specifically relating to occupational therapy."

The third quote recognises the intricacies of identifying change in clients with complex needs and in complex situations (in forensic mental health, in this case):

"I'd love to know how to describe how they would like to change, what that would look like, and be able to remember that feeling when something did change (even for a moment), so that we could isolate what would need to keep happening to sustain change and the motivation for change."

The fourth quote recognises that change may happen in areas that the service was not targeting:

"We have used a variety of measures to help evaluate our service and were surprised to see that group members reported change in areas we were not specifically targeting – for example, addictive behaviours. From the evaluations it looked as though changes in other areas brought about changes elsewhere in the person's life. We also found the same with identity, trust and hope."

The final quote recognises that there are often differences between how change is estimated and valued between professionals and people receiving therapy:

"There are also changes that happen that may not be entirely perceived by either the therapist or the client, and people's view on the level of their ability/disability/pain/anxiety varies significantly depending on what they see as their 'norm'. I was discussing this with a group of stroke survivors last week. Although their level of disability (as perceived by therapists/support staff) was significant, they saw themselves as reasonably healthy, only slightly affected by their strokes – because they had got used to 'this is how it is'. We are looking at taking a 'patient perceived'/completed measure before and after intervention to try and demonstrate levels of change."

Findings from the three online focus groups provided further depth of understanding around the changes that occur at the core of occupational therapy. In particular, insights into the different pathways of change, and discussion about the components which participants felt were essential to change processes were explored in more detail. Change in occupational therapy was described as being a transitional process during which multiple changes and developments took place in different components of people and their contexts. Additional information about facilitators and barriers to change, and challenges associated with identifying and quantifying outcomes associated with change, points towards further aspects of complexity.

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Appendix A: Literature review reference tables

In the following tables references are numbered for ease of use. Please refer to Appendix B, p.193, for full references.

Table 1: Articles reviewed by type

Type of article	No. included	References
Peer-reviewed – systematic or literature review	13	1, 18, 28, 46, 95, 101, 122, 154, 175, 182, 218, 228, 242
Peer-reviewed – primary research	107	3, 4, 7, 9, 15, 19, 20, 22, 24, 25, 26, 29, 39, 40, 41, 47, 48, 49, 53, 54, 61, 62, 63, 64, 65, 67, 69, 70, 71, 72, 73, 75, 77, 79, 80, 82, 83, 84, 85, 87, 88, 92, 93, 99, 102, 103, 104, 106, 107, 109, 110, 111, 112, 113, 114, 116, 119, 121, 123, 125, 127, 128, 136, 138, 140, 147, 148, 149, 150, 152, 153, 159, 161, 163, 169, 172, 173, 176, 180, 185, 190, 191, 192, 193, 194, 195, 201, 202, 203, 205, 206, 208, 209, 217, 222, 224, 225, 227, 229, 236, 238, 244, 247, 248, 249, 250, 256
Peer-reviewed – other	3	130, 166, 179
Non-peer-reviewed – magazine	133	2, 5, 6, 8, 10, 11, 12, 13, 14, 16, 17, 21, 23, 27, 30, 31, 32, 33, 34, 35, 36, 37, 38, 42, 43, 44, 45, 50, 51, 52, 55, 56, 57, 58, 59, 60, 66, 68, 74, 76, 78, 81, 86, 89, 90, 91, 94, 96, 97, 98, 100, 105, 108, 115, 117, 118, 120, 124, 126, 129, 131, 132, 133, 134, 135, 137, 139, 141, 142, 143, 144, 145, 146, 151, 155, 156, 157, 158, 160, 162, 164, 165, 167, 168, 170, 171, 174, 177, 178, 181, 183, 184, 186, 187, 188, 189, 196, 197, 198, 199, 200, 204, 207, 210, 211, 212, 213, 214, 215, 216, 219, 220, 221, 223, 226, 230, 231, 232, 233, 234, 235, 237, 239, 240, 241, 243, 245, 246, 251, 252, 253, 254, 255

Table 2: Papers by geographic area

Geographic area	No. of papers	References
USA	73	5, 6, 7, 8, 11, 14, 19, 21, 24, 27, 31, 38, 39, 45, 54, 55, 56, 61, 63, 64, 66, 68, 71, 75, 82, 83, 86, 92, 100, 113, 117, 118, 120, 121, 127, 130, 136, 139, 142, 150, 151, 153, 159, 160, 169, 170, 171, 172, 173, 176, 179, 185, 191, 197, 202, 208, 210, 212, 221, 224, 231, 232, 233, 234, 238, 240, 247, 248, 249, 252, 254, 255, 256
UK and Ireland	99	2, 10, 12, 16, 17, 23, 30, 32, 33, 34, 35, 36, 37, 43, 44, 50, 51, 52, 57, 58, 60, 74, 76, 78, 80, 81, 88, 89, 90, 91, 94, 96, 97, 98, 105, 106, 108, 114, 115, 124, 129, 131, 132, 133, 134, 135, 137, 140, 141, 143, 144, 145, 146, 155, 156, 157, 158, 162, 164, 165, 166, 167, 168, 174, 177, 178, 181, 183, 184, 186, 187, 188, 189, 196, 198, 199, 200, 204, 207, 211, 213, 214, 215, 216, 219, 220, 223, 225, 226, 229, 230, 237, 239, 241, 243, 245, 246, 251, 253
South and Central America	2	59, 82
Middle East	4	26, 192, 195, 236
Europe	19	1, 9, 15, 20, 22, 62, 65, 72, 73, 85, 107, 110, 119, 152, 190, 207, 227, 250, 209
Canada	12	3, 41, 42, 67, 69, 102, 125, 170, 197, 201, 222, 235
Australia and New Zealand	30	4, 13, 25, 28, 40, 70, 75, 77, 79, 87, 93, 99, 104, 116, 126, 128, 138, 147, 149, 161, 162, 170, 180, 194, 193, 203, 205, 206, 217, 244
Asia	9	47, 48, 49, 84, 103, 112, 123, 163, 225
Africa	1	53

Table 3: Aims of settings

Aim of setting	No.	References
Occupational performance	50	1, 7, 8, 13, 18, 24, 27, 38, 39, 48, 58, 64, 66, 77, 79, 80, 83, 88, 103, 104, 105, 110, 111, 115, 118, 120, 121, 123, 130, 137, 138, 139, 143, 148, 173, 179, 181, 182, 185, 190, 193, 202, 205, 218, 224, 238, 246, 252, 253, 256
Mental health assessment and treatment	27	10, 17, 22, 23, 25, 43, 72, 87, 108, 135, 143, 145, 157, 158, 160, 162, 165, 187, 198, 199, 207, 210, 219, 223, 238, 245, 253
Life skills	24	37, 39, 49, 50, 56, 58, 66, 70, 107, 121, 122, 130, 133, 135, 137, 142, 143, 168, 173, 206, 221, 236, 239, 252
Physical rehab	22	38, 50, 61, 62, 89, 101, 106, 159, 178, 193, 216, 222, 225, 226, 227, 229, 236, 237, 242, 247, 249, 253
Social integration	21	7, 35, 38, 58, 86, 96, 97, 114, 115, 125, 133, 136, 142, 173, 174, 178, 218, 236, 239, 248, 253
Independent living	17	1, 32, 34, 39, 94, 100, 108, 127, 133, 137, 138, 151, 166, 231, 232, 235, 252
Education	17	8, 15, 26, 56, 68, 82, 99, 102, 107, 109, 126, 142, 161, 184, 254, 255
Participation in society	17	7, 8, 17, 24, 36, 51, 62, 75, 133, 155, 157, 175, 192, 202, 244, 252, 253
Long-term support	14	33, 57, 70, 81, 107, 133, 146, 169, 189, 206, 239, 241, 244, 252
Hand therapy	13	47, 54, 63, 73, 84, 92, 112, 113, 116, 119, 150, 152, 197
Supported discharge, intense rehab	11	21, 33, 49, 57, 94, 124, 131, 132, 206, 220, 243
Safety	11	41, 69, 140, 145, 153, 170, 171, 184, 203, 209, 250
Sensory processing	9	68, 86, 117, 128, 149, 180, 204, 213, 228
Home modifications service	9	4, 11, 41, 78, 90, 134, 151, 212, 235
Family support	8	3, 20, 83, 213, 216, 122, 172, 252
Paediatric service	7	38, 53, 55, 59, 183, 192, 240
Dementia care	6	52, 155, 177, 186, 196, 230
Home care	5	2, 25, 42, 163, 210
Autonomy	5	41, 67, 144, 253, 252
Feeding	4	6, 12, 19, 172
Driving	3	14, 31, 188
Pain management	3	1, 95, 156
Palliative care	2	44, 251

Table 4: Papers listed by medical conditions and diagnosis

Developmental conditions and issues		
Developmental conditions – no other details	2	108, 236
Attention Deficit and Hyperactivity Disorder (ADHD)	4	40, 75, 86, 192
Autism	16	5, 7, 8, 12, 16, 39, 75, 86, 93, 122, 128, 149, 218, 221, 228, 252
Developmental Co-ordination Disorder (DCD)	4	27, 75, 89, 115
Down's syndrome	4	38, 75, 86, 228
Learning difficulties	6	16, 91, 126, 128, 228, 246
Psychiatric, psychological and mental health issues		
Mental illness – no other details	25	10, 17, 23, 49, 58, 72, 87, 99, 135, 145, 155, 157, 158, 160, 162, 167, 187, 189, 198, 200, 201, 207, 210, 245, 253
Affective disorders	3	99, 126, 151
Eating disorders	2	6, 126
Personality disorder	2	141, 223
Schizophrenia	3	22, 49, 207
Stress	2	111, 164
Tourette syndrome	1	66
Neurological condition and issues		
Neurological conditions – no other details	4	16, 216, 227, 237
Brain injuries – no other details	11	18, 19, 32, 49, 110, 133, 164, 175, 178, 193, 248
Cerebral palsy	8	59, 61, 73, 86, 104, 125, 126, 222
Cerebrovascular disease	1	163
Cognitive impairment	4	6, 52, 114, 155
Dementia	10	48, 114, 144, 154, 161, 166, 177, 186, 196, 230
Guillain-Barré syndrome	1	224
Motor neurone disease/ Amyotrophic lateral sclerosis	2	100, 341
Parkinson's disease	2	138, 241

Table 4: Continued

Spinal cord injury	3	98, 226, 229
Stroke	27	9, 14, 20, 24, 35, 50, 63, 84, 94, 101, 109, 111, 112, 113, 123, 138, 143, 147, 152, 154, 159, 174, 188, 241, 242, 247, 249
Physical conditions and medical issues		
Physical conditions – no other details	3	49, 165, 200
Identified as multiple or complex	3	3, 51, 251
Multimorbidity	3	80, 165, 208
Medical conditions – no other details	1	34
Arthritis	2	1, 138
Cancer	3	55, 62, 142
Cardiac	1	181
Cardiovascular	1	103
Dupuytren's contracture	1	92
Mobility restrictions	4	3, 53, 125, 233
Motor control issues	2	7, 113
Musculoskeletal injuries	7	19, 106, 107, 116, 150, 195, 220
Osteoarthritis	2	26, 106
Pre-eclampsia (obstetrics)	1	139
Repetitive strain injury	1	47
Spina bifida	1	125
Spinal injury	3	19, 98, 136
Sensory conditions		
Sensory conditions	1	118
Chronic pain	2	95, 156
Deaf/hearing impairment	2	137, 245
Glaucoma	1	130
Meares-Irlen syndrome or visual stress	1	88
Sensory modulation disorder	2	117, 228
Visual impairment	3	18, 130, 254

Table 5: Other population types by reference

Population	No. of papers	References
Adopted children and families	1	213
Carers	10	25, 42, 79, 94, 120, 122, 136, 142, 199, 241
Children foster care	1	120
Families	9	109, 111, 121, 122, 192, 203, 248, 254, 255
Homeless	1	97
Inappropriate sexual behaviour	1	184
Pre-school children	3	64, 75, 256
Migrants	1	15
New mothers	1	206
Palliative	1	44
Poor readers	1	83
Prison	7	81, 105, 124, 141, 153, 157, 246
Refugees	1	56
School children	7	59, 137, 146, 171, 183, 221, 255
Unemployed	2	116, 129
University students	1	146
Veterans	4	164, 238, 239, 248
Youth leaving foster care	1	169
Occupational therapists	8	28, 29, 41, 67, 140, 179, 180, 250
Other health professionals	3	131, 180, 219
Management team	1	160
Support workers	1	160
Teachers	1	102

Table 6: Objective themes by reference

Objective theme	No. of papers	References
Social integration	36	13, 27, 35, 40, 77, 86, 91, 97, 105, 114, 115, 122, 133, 136, 141, 142, 160, 164, 173, 174, 175, 177, 183, 189, 192, 202, 204, 218, 221, 224, 230, 231, 237, 240, 248, 251
Related to service processes (length of stay, etc.)	42	5, 17, 18, 21, 22, 25, 28, 29, 33, 41, 53, 67, 69, 76, 94, 98, 99, 106, 109, 111, 118, 126, 131, 132, 140, 142, 147, 160, 163, 170, 171, 173, 175, 176, 179, 183, 188, 201, 210, 227, 229, 250
Performance capacity and skill-related improvements	73	1, 9, 12, 13, 16, 26, 27, 28, 35, 36, 45, 50, 52, 54, 55, 63, 86, 89, 92, 95, 96, 97, 98, 104, 113, 115, 116, 117, 119, 124, 128, 139, 141, 142, 149, 150, 152, 153, 154, 160, 164, 165, 174, 178, 182, 186, 189, 192, 193, 196, 199, 200, 204, 205, 208, 210, 211, 216, 218, 221, 222, 223, 225, 228, 230, 235, 238, 240, 247, 249, 251, 251, 254
Independent living	49	9, 11, 13, 14, 19, 20, 21, 26, 31, 32, 39, 41, 44, 45, 48, 60, 70, 76, 81, 85, 97, 100, 108, 116, 130, 131, 132, 137, 138, 142, 145, 155, 159, 160, 166, 169, 174, 190, 201, 209, 210, 217, 221, 229, 232, 233, 235, 243, 251
Health, wellbeing, quality of life	17	8, 38, 70, 105, 114, 121, 130, 146, 165, 173, 176, 190, 198, 218, 230, 239, 241
Health promotion	14	2, 15, 42, 72, 82, 91, 107, 119, 130, 153, 155, 210, 251, 255
Environmental modification	25	3, 4, 10, 17, 30, 36, 59, 66, 78, 79, 80, 97, 100, 110, 118, 134, 151, 160, 165, 190, 198, 201, 203, 214, 240
Education and awareness	15	20, 42, 137, 142, 144, 166, 174, 176, 190, 199, 201, 210, 229, 230, 251
Occupation, activity and routine	85	3, 7, 9, 11, 13, 14, 19, 20, 21, 22, 23, 25, 26, 30, 31, 36, 37, 41, 42, 43, 44, 45, 49, 54, 55, 58, 62, 64, 70, 73, 75, 78, 81, 83, 88, 97, 100, 102, 104, 116, 120, 122, 125, 127, 129, 139, 141, 148, 149, 151, 153, 155, 159, 160, 164, 165, 168, 172, 173, 174, 176, 187, 188, 190, 194, 199, 200, 201, 202, 205, 206, 209, 213, 218, 223, 225, 229, 232, 234, 235, 240, 244, 251, 252, 256

Table 7: Frequency and duration of interventions by reference

Intervention reported by frequency	
2× day or more	176
Daily	61, 179
4× per week	89, 146
3× per week	52
2× per week	50, 103, 142
Once a week	17, 32, 37, 115, 174, 178, 192, 202, 223, 240
Fortnightly, 8 contacts over 4 months	237, 248
12 sessions over 5 months	133, 155
Intervention reported by number of sessions	
20 sessions	195
13 sessions	192
10 sessions	82, 135, 154
7 sessions	96
6 sessions	23
5 sessions	133, 139, 152, 208
1 session	86
Intervention reported by overall timescale	
19 months	224
12 months	247
7 months	55
20 weeks	104
4 months or 16 weeks	71, 107, 161, 247
Up to 3 months or 12 weeks	3, 52, 88, 125, 154, 173, 246
10 weeks	30
9 weeks	93
8 weeks	22, 24, 27, 48, 75, 84, 241
7 weeks	40, 83
6 weeks	26, 38, 80, 97, 112, 113, 121, 193, 238, 239
5 weeks	117, 252
4 weeks	61, 119, 123, 195, 205, 221

Table 7: Continued

2 weeks	222
2 days	31
Interventions reported as variable timeframes	
Variable timeframe	14, 49, 85, 101, 102, 104, 110, 122, 171, 173, 201, 210, 225, 227

Table 8: Intervention content types

Intervention type	References
Specific named programmes comprising multiple techniques	7, 9, 13, 18, 23, 36, 85, 86, 89, 98, 102, 117, 144, 155, 161, 172, 190, 198, 207, 241, 248, 249, 251, 252, 255
Health promotion	97, 107, 121, 135, 142, 146, 154, 162, 207, 211
Virtual environment and information communication technologies	32, 46, 52, 79, 104, 123, 151, 190, 221, 224
Alterations to environments	3, 4, 6, 7, 9, 11, 18, 19, 21, 26, 28, 36, 39, 44, 45, 50, 59, 66, 67, 69, 78, 90, 95, 100, 106, 108, 110, 118, 125, 130, 134, 154, 160, 165, 174, 176, 229, 231, 233, 235, 236,240, 242, 245, 251
Use of and facilitation of engagement with occupation and activity	1, 3, 9, 13, 22, 23, 26, 27, 35, 36, 37, 38, 46, 49, 52, 55, 56, 62, 64, 66, 75, 83, 86, 92, 93, 95, 97, 99, 100, 102, 107, 108, 110, 116, 126, 129, 133, 138, 145, 157, 158, 159, 160, 162, 164, 176, 178, 189, 190, 200, 208, 209, 210, 211, 218, 222, 226, 229, 233, 239, 240, 253, 256
Group-based interventions	2, 17, 25, 30, 31, 37, 51, 57, 59, 96, 97, 99, 105, 114, 115, 119, 133, 135, 136, 141, 145, 160, 162, 174, 176, 186, 189, 190, 210, 211, 216, 218, 221, 223, 226, 238, 239, 240241, 246, 254
Education, coaching and methods to increase knowledge and understanding	3, 7, 9, 14, 18, 22, 24, 25, 26, 31, 39, 40, 47, 48, 55, 64, 66, 70, 75, 82, 89, 93, 95, 99, 106, 110, 111, 113, 116, 125, 137, 142, 148, 173, 176, 190, 219, 221, 224, 229
Skill training and development	2, 10, 24, 27, 36, 37, 43, 49, 50, 54, 55, 56, 64, 73, 80, 91, 93, 95, 98, 99, 100, 102, 105, 109, 110, 112, 127, 135, 142, 143, 160, 176, 184, 189, 190, 195, 198, 207, 210, 229, 241, 251, 256
Training and strategies for cognitive, physical and sensory function	1, 3, 7, 9, 13, 18, 26, 27, 29, 32, 46, 48, 52, 54, 55, 57, 59, 61, 66, 73, 84, 92, 99, 100, 110, 113, 116, 124, 150, 152, 159, 163, 182,190, 210, 213, 229, 230, 247
Collaboration with client's family, carer, teachers, support, education	25, 31, 32, 115, 119, 165, 176, 189, 190, 192, 199, 204, 207, 210, 213, 241, 243, 254
Collaboration with other agencies and staff	3, 6, 7, 8, 14, 28, 75, 81, 99, 131, 239

Table 9: Theories and frameworks

Category	Specific theory or framework	References
Client-/person-/family-centred	No other details	15, 22, 25, 31, 69, 72, 167
	Canadian Model of Client-Centered Enablement	22
	Family-centred practice	111, 170, 173
	Person/client-centred practice	25, 67, 69, 72, 143, 172, 198, 251
Non-occupation-specific models	Allen cognitive disabilities model	153, 160
	International Classification of Functioning, Disability and Health	62, 214, 222
	Individual Placement Support	162, 244
	Neuro-sequential model	120
	Recovery model	97, 153, 155
Non-occupation-specific theories	Ageing theories	70, 103
	Behaviourism	66, 122, 192
	Motivational theory	256
	Relational Frame Theory	139
	Cognitive theories	75, 82, 153, 256
	Lewin's person–environment fit concept	248
	Neurological and neuropsychological theories	12, 68, 112, 117, 120, 146, 207, 219, 256
	Sensory integration	12, 68, 117, 146, 180,207, 219
	Human rights	25, 69
Occupation models	Occupational Therapy Practice Framework	24, 27, 31, 75, 175, 176, 208, 218, 238
	CMOP-E	67, 153, 206, 222
	MOHO	17, 31, 43, 91, 141, 153, 160, 165, 238
	Occupational adaptation model	153
	PEO model	153, 172, 224, 243
	PEOP model	153, 240
Occupational therapy theory	Occupational adaptation	28, 83, 107
	Occupational analysis	25, 121
	Occupation-focused	25, 28, 31, 38, 54, 58, 70, 111, 229
	Occupational therapist competencies	25, 62, 86

Table 10: Facilitators of practice

Category	Specific issue	References
Factors related to therapists and their context	Occupational therapist's attitudes, knowledge and skill	25, 28, 56, 62, 96, 138, 140, 155, 158, 183, 206, 209, 227, 245, 254
	Professional artistry	52, 87, 96, 205, 235
	Occupational therapist's management strategies	52, 54
	Occupational therapist's behaviour	22, 24, 52, 67, 81, 96, 107, 136, 201,
	Occupation-based approaches	54, 96, 110, 114
	Occupational outcomes	114
	Achieving occupational goals	54, 70, 227
	Occupational adaptation	52, 107, 170,
	Occupational engagement	87, 114, 134, 172
	Engagement in activities	3, 16, 22, 27, 54, 56, 72, 113, 225,
	Holism	54
	Collaborative practice	25, 28, 33, 52, 62, 70, 72, 75, 82, 116, 125, 138, 160, 187, 210, 244
	Volunteers	86, 145
	Pragmatics	26, 35, 254
	Timing of referral	28, 62, 164
	Policy	25
	Donation	35
	Attitudes, knowledge and skills	155, 96, 158, 183, 25, 28, 56, 62, 138, 140, 206, 209, 227, 254
	Professional artistry and behaviours	22, 24, 52, 52, 67, 81, 87, 96, 96, 107, 136, 201, 205, 235
	Occupation-based approaches	54, 96, 110, 114
	Occupational outcomes	54, 70, 114, 227
	Occupational adaptation	52, 107, 170
	Occupational engagement	87, 114, 134, 172
	Engagement in activities	16, 22, 54, 72, 114, 225, 239
	Holism	54
	Value of group process and interactions with peers	52, 82, 96, 107, 155, 158, 162, 189, 241
	Timing of referral	28, 62, 164
	Policy and governance	23, 25

Table 10: Continued

Category	Specific issue	References
Wider environments and contexts	Family involvement	125, 240, 248
	Donations	35
	Context	15, 125
	School environment	156, 183
	Natural or close to natural environments	54, 125, 155, 156, 170, 175, 200, 211
	Home environment	50, 170, 248
	Clinic environment	135, 145, 171
Experiences of the person during therapy	Trust	82, 97, 170, 184, 227, 234
	Prior experience	79
	Patient-selected activities/ choices	112, 125, 170
	Patient-led goals	97, 143, 157, 170, 234
	Recognising new opportunities	87
	Inclusion	87, 175, 240
	Enjoyment	52, 79, 82, 125
	Contact with other families	100, 156

Table 11: Obstacles to practice

Category	Specific Issue	References
Client issues	No more specific info	174, 194, 195, 238
	Adherence to therapy	113, 202, 238
	Administration for clients	62
	Client knowledge of diagnosis	2, 213, 170
	Client motivation and concentration	112, 115, 119, 124, 162, 173, 178, 187, 202, 221, 238
	Financial limitations	98, 172, 222, 234
	Family or carer issues	89, 170, 172, 173, 217
Cultural issues	No more specific info	26, 69, 170, 190
	Language discordance	136, 170
Environments	No more specific info	110, 125, 170, 202
	Access to technology	79, 170
	Geographical location	79, 116, 162, 170, 222, 234
Limited research		32, 57, 54, 63, 99, 119, 149, 175, 180, 182, 192, 194, 202, 206, 217, 218, 221, 225, 227, 228, 244
Practice or settings issues	Documentation	41, 170, 227
	Financial accountability	28, 62, 98, 160
	Focus of service	28, 41, 69
	Focus on deficits and functional autonomy	41, 69
	Lack of integrated care	62
	Limitations to client-centred practice	140, 170
	Occupational therapist identity in multidisciplinary teams	28, 29, 41
	Policy	41, 138, 212
	Role incompatibility	28
	Staff resistance to change	35

Table 11: Continued

Category	Specific Issue	References
Pragmatic issues	Limited resources	32, 35, 41, 42, 59, 76, 78, 98, 115, 116, 124, 166, 170, 182, 192, 205, 217, 222, 225, 234, 247
	Time	28, 54, 57, 58, 69, 82, 97, 135, 140, 170, 180, 183, 190, 222
Therapist issues	Alternative models and frameworks	54, 69, 170, 214
	Lack of experience	98, 116, 170, 229
	Occupational therapist's thinking	140
	Power/influence	41, 62, 138

Table 14: Word frequency analysis – nature of change

Word	Number of uses	Similar Words (included in count)
changing	392	change, changed, changes, changing
client	324	client, clients, clients'
improving	265	improve, improved, improvement, improvements, improves, improving
occupations	255	occup, occupation, occupational, occupationally, occupations, occupations'
skills	207	skill, skilled, skills
increased	202	increase, increased, increases, increasing
self	191	self
confidence	177	confidence, confident
function	171	function, functional, functionality, functioning, functions
independently	168	independence, independent, independently
activity	153	active, actively, activities, activity
ability	140	abilities, ability
engaging	132	engage, engaged, engagement, engages, engaging
patient	130	patient, patients, patients'
support	106	support, supported, supporting, supportive, supports
develops	100	develop, developed, developing, development, develops
physical	97	physical, physically
life	96	life
participation	90	participant, participants, participate, participates, participating, participation, participative
learning	83	learn, learning, learns
understanding	82	understand, understanding
individual	81	individual, individuals, individuals'
new	80	new
health	79	health
performance	79	perform, performance, performing
persons	76	person, personal, personalise, personally, persons
enable	74	enable, enabled, enablement, enables, enabling
goals	74	goal, goals

Table 14: Continued

Word	Number of uses	Similar Words (included in count)
motivational	73	motivate, motivated, motivates, motivating, motivation, motivational
able	72	able
socially	72	social, socialise, socialised, socially
living	71	live, lived, lives, living
environment	71	environment, environments
adapt	70	adapt, adaptation, adaptations, adapted, adapting, adaption, adaptive, adapts
manage	69	manage, manageable, managed, management, manages, managing
use	69	use, used, uses, using
works	68	work, worked, working, works
become	63	become, becomes, becoming
level	63	level, levels
meaningful	63	meaningful
achieving	62	achievable, achieve, achieved, achievement, achievements, achieves, achieving
help	62	help, helped, helpful, helping, helps
sense	61	sense
mental	60	mental, mentally
family	59	families, family
tasks	58	task, tasks
way	58	way, ways
wellbeing	55	wellbeing
therapist	53	therapist, therapists, therapists’
needs	52	need, needed, needing, needs
condition	49	condition, conditions
people	49	people
roles	49	role, roles
awareness	48	aware, awareness
well	48	well
maintain	48	maintain, maintained, maintenance, maintaining, maintains

Table 14: Continued

Word	Number of uses	Similar Words (included in count)
may	47	may
feel	46	feel, feeling, feelings, feels
esteem	46	esteem
service	45	service, services
community	44	communicate, communication, community
daily	44	daily
empowered	44	empower, empowered, empowering, empowers
make	43	make, makes, making
therapy	43	therapy
hope	43	hope, hoped, hopeful, hopefully, hopefulness, hoping
better	42	better
identify	42	identified, identifies, identify, identifying
often	42	often
relationship	42	relationship, relationships
interventions	40	intervention, interventions
positively	40	positive, positively, positivity
accepting	39	accept, acceptable, acceptance, accepted, accepting, accepts
setting	38	set, sets, setting, settings
process	37	process, processes, processing
regain	37	regain, regained, regaining, regains
equipment	37	equipment, equipped, equipping
gain	36	gain, gained, gaining, gains
techniques	36	technique, techniques
control	33	control
care	33	care, cared, caring
education	32	educate, educated, educating, education
important	32	importance, important, importantly
mood	32	mood, moods
possibly	32	possibilities, possibility, possible, possibly
therapeutic	32	therapeutic
routines	31	routine, routines

Table 14: Continued

Word	Number of uses	Similar Words (included in count)
building	31	build, building, builds
facilitate	31	facilitate, facilitated, facilitates, facilitating, facilitation, facilitators
take	30	take, takes, taking
depends	30	depend, dependence, dependency, dependent, depending, depends
different	30	difference, differences, different, differently
etc.	30	etc
quality	29	quality
reduced	29	reduce, reduced, reduces, reducing
behaviours	29	behaviour, behavioural, behaviours
knowledge	29	knowledgeable, knowledge
moving	29	move, moved, moves, moving
think	29	think, thinking, thinks
carers	28	carer, carers

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Notes

Occupational therapy and complexity: defining and describing practice

This publication aims to describe and define contemporary occupational therapy, and explores, expands and illustrates the unique complexity of the profession. It is clearly based upon, but goes beyond previous work in this area and sets this within contemporary health and social care contexts. It describes current occupational therapy based on data drawn from reports of, and reflections on, occupational therapy practices; generates a model of contemporary occupational therapy that describes and explains the components; and identifies and explains how occupational therapy aligns with the concept of complex interventions. It also considers and suggests terminology and language to aid with practice, research and other work involving consideration of occupational therapy.

Occupational therapy and complexity: defining and describing practice is an essential reference point for all occupational therapists and students, and provides useful guidance for all working in partnership with occupational therapy.

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