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**Introduction**

Grounded Theory Method (GTM) is one of the most widely used qualitative research methodologies across a variety of disciplines.<sup>1</sup> The increasing use of GTM in nursing research has directed attention on the quality of studies using this approach and the credibility of subsequent study findings.<sup>2</sup> In order to provide safe and effective evidence-based care, clinicians must be able to access rigorous research in their related fields. Yet many researchers who claim to be using GTM fail to apply the core tenets of this methodology/methods package<sup>1,3</sup>, possibly due to an inadequate understanding of the approach.

Whilst GTM has been described extensively in the literature, less attention has been given to providing practical examples of the key methods and processes inherent to this research approach. In particular there are limited worked examples that track the development of initial and focused codes, through to the construction of tentative and major categories and emergence of the core category. The purpose of this paper is to offer a step-by-step example of how a grounded theory develops and is systematically constructed.

Grounded theory method (GTM) is a research methodology used to create substantive theories through inductive and abductive data analysis, rather than hypothetical deductions.<sup>3,4</sup> More specifically, GTM is a research/methods package which includes the cyclic application of ‘...data collection, coding and analysing through memoing, theoretical sampling and sorting to writing, using the constant comparative method.’<sup>5(p12)</sup> At its core, GTM aims to understand behaviour and meanings that participants give to their experiences in a particular setting.<sup>6</sup> Further, the aim is to generate conceptual theories that explain a phenomenon from the perspective and in the context of the people who experienced it<sup>7</sup> that can be applied to practical situations.<sup>4</sup>

Since its inception in the late 1960's GTM has evolved from positivist beginnings<sup>4</sup> to a constructivist paradigm.<sup>3</sup> Charmaz's constructivist approach adopts the methodological strategies developed by an objectivist Glaser, while also building on the social constructionism that underpinned Strauss's symbolic interactionist perspective.<sup>8,9</sup> Charmaz's approach also incorporates Strauss's emphasis on meaning and action inherent in pragmatist traditions.<sup>3</sup> As such, Charmaz's constructivist approach actively repositions the researcher as a co-constructor of experience and meaning.<sup>8,10</sup>

According to Charmaz<sup>3</sup>, researchers construct grounded theories through their past and present interactions with people, their personal perspectives and their research practices. A constructivist approach therefore allows a representation of experience rather than an exact replication of it<sup>3</sup> and sees the researcher as an interpreter during analysis rather than the ultimate authority in defining the data.<sup>1 (p52)</sup>

A constructivist approach to GTM starts with the lived experience, then asks how participants constructed that experience.<sup>8,11</sup> The researcher can then explore how and why participants constructed meanings and actions in certain situations, while keeping in mind that the resultant theory is itself an interpretation that is dependent on the researcher's view.<sup>8, 11-14</sup> Using this approach, what researchers see and hear will depend on their past experiences and interests, their prior interpretation of the phenomenon, the research context, the researcher-participant relationship, and the methods of generating and recording the data.<sup>8,10</sup> As such, the researcher should treat the research process itself as a social construction, and scrutinise all research decisions and directions.<sup>9</sup>

Charmaz's GTM comprises systematic yet flexible guidelines for collecting and analysing (primarily qualitative) data in order to construct theories that are grounded in the data.<sup>3,4</sup> A key feature of this method is the concurrent collection and analysis of data, with each informing and focusing the other; this allows analysis to become progressively more theoretical as the research progresses.<sup>3,4</sup> Other core tenets include theoretical sampling, constant comparison of data to theoretical

categories, writing theoretical memos and a focus on the development of theory through theoretical saturation of categories rather than through substantive verification.<sup>15</sup> Each of these core GTM tenets are discussed and exemplified within this paper.

Stern<sup>16</sup> believed GTMs are difficult to explain in writing because of the multitude of different methods used and because the analytical activity required is a primarily cerebral process. Many experts agree that the best way to learn GTM is by doing GTM<sup>16-18</sup>, and from our personal experience this is certainly true. Further, we believe that detailed worked examples from grounded theorists can help elucidate analysis, category development and theory building for novice researchers.

### **The study - a grounded theory of family presence during resuscitation**

This article details the data analysis phase of a constructivist grounded theory study that examined decision-making around family presence during cardiopulmonary resuscitation. Our initial research question was ‘what factors impact decision-making around family presence during resuscitation in an acute care setting.’ Our example depicts the methods and processes undertaken to construct the substantive grounded theory ‘*The Social Construction of Conditional Permission*.’ This article traces the construction of the core category ‘*Conditional Permission*’ from initial and focused codes, subcategories and properties, through to its position in the final substantive grounded theory.

Family presence during resuscitation (FPDR) is the practice where family members or loved ones are in a location where they can see and sometimes touch the patient during active cardiopulmonary resuscitation.<sup>19-21</sup> FPDR is a contentious area of practice that has attracted widespread international debate.<sup>22</sup> Despite support for the practice from the Australian Resuscitation Council,<sup>23</sup> European Resuscitation Council,<sup>24</sup> the American Heart Association,<sup>25</sup> and increasingly from the public,<sup>26-28</sup> views among health care professionals remain divided - with support for the practice ranging from 3% to 98% in surveys.<sup>22,29</sup>

International research suggests there are multiple benefits for family members who are present during resuscitation of a loved one. Yet health professionals continue to report concerns and

anxieties about FPDR and many hospitals do not have written policies to guide this practice. Many of the reported barriers seem to be based on perceptions of negative outcomes rather than on actual events and the influence of personal values and preferences appear to be an important consideration in the decision to practice FPDR. The possibility that individual value systems may have a considerable impact on FPDR practices warranted further investigation in order to examine how decisions are influenced in relation to FPDR, and the rationales behind these decisions.

The aim of this study was to examine decision making by health care professionals and family members in relation to family presence during resuscitation in an acute care setting.

This doctoral study was conducted by the lead author, and supervised by the co-authors. The study was approved by the relevant Social and Behavioural Research Ethics Committee, conducted in accordance with the Australian Code for the Responsible Conduct of Research, and ethically reviewed and monitored in accordance with the National Statement on Ethical Conduct in Research.<sup>30</sup> Pseudonyms were allocated to promote confidentiality and any events and experiences that could potentially identify participants have been de-identified, including workplaces and specialties.

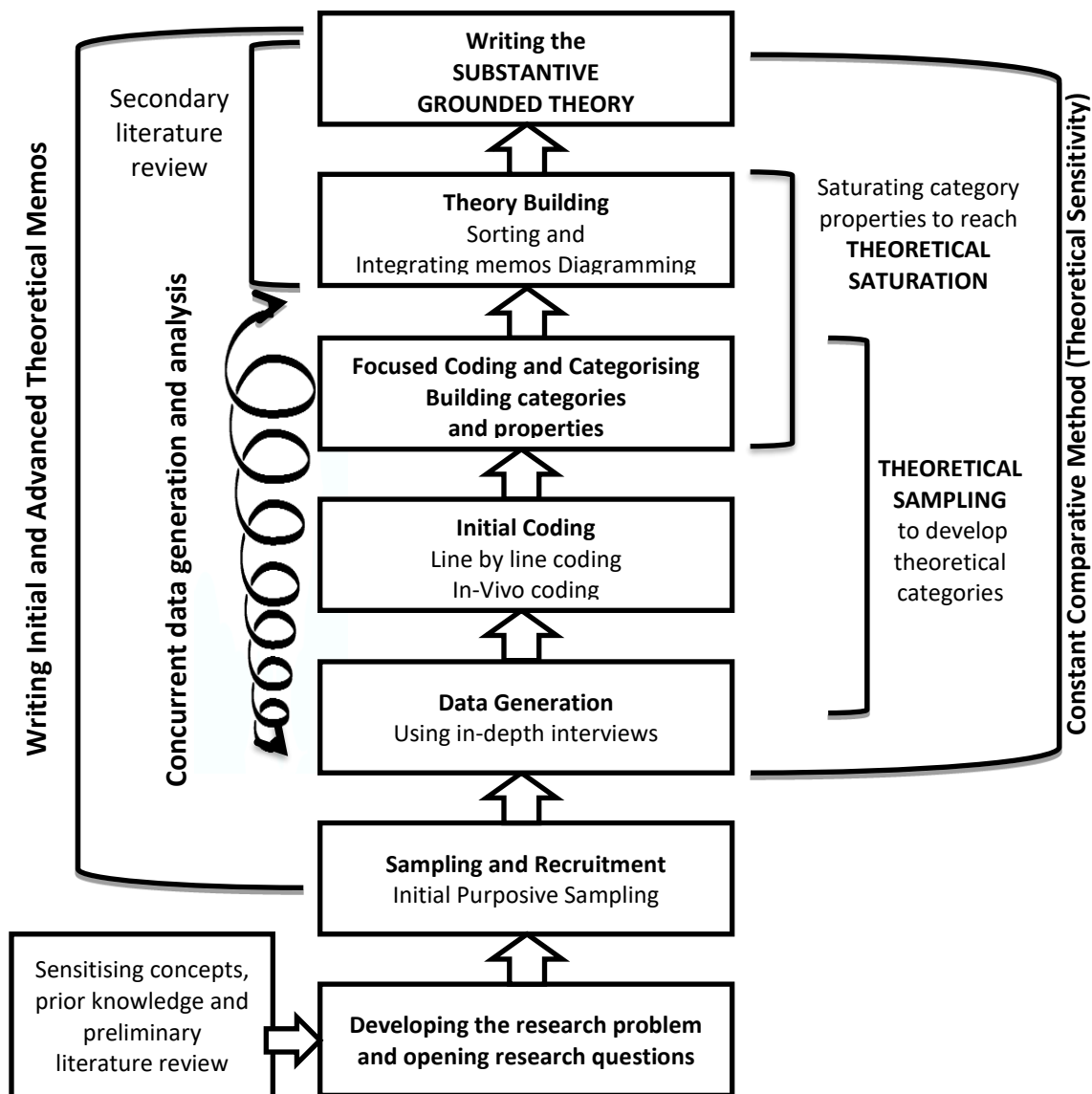
In the study, health care professionals (registered nurses, doctors and paramedics), family members and surviving resuscitation patients were interviewed by the lead author. A flexible interview guide was used to explore participant experiences.<sup>3</sup> Open ended questions included; Can you tell me about your experience of having/being a family member present or wanting to be present during an active resuscitation? Can you tell me your thoughts about whether family members should be given the option to be present during resuscitation of their loved one? As you look back on the resuscitation are there any events that stand out in your mind? As recommended by Charmaz,<sup>3</sup> questions were not asked in a linear fashion and in some cases not all questions within the guide were posed. Instead, questions were used to guide each interview in order to learn about individual participants' attitudes, beliefs, experiences and actions.<sup>8</sup>

Comparisons of knowledge, truth and reality over time and across cultures make it quite clear that there have been and continue to be very different interpretations of the same phenomena.<sup>14</sup> For example, the meaning of 'marriage' has changed over time and differs significantly between countries and cultures. Relativism then is necessary to account for the fact that different people inhabit different worlds with diverse ways of knowing. As such, in keeping with a constructivist approach to GTM<sup>3</sup> narration and description of the in-depth interviews in this study was not seen as a straight forward representation of reality. Rather, when the researchers described something, they were reporting on (and therefore interpreting) how something was seen and reacted to and therefore meaningfully constructed within a particular community or society.<sup>14</sup>

Data analysis began after the first interview to facilitate simultaneous collection, coding and analysis of the data, and to provide the focus for subsequent data collection as per GTM requirements.<sup>3,4</sup>

### ***Constructing the core category***

The core category constructed in this study was '*Conditional Permission.*' This article does not present detailed findings from the study, but instead describes *how* the core category was constructed and traces how initial and then focused codes were elevated to tentative categories which were then refined into the final core category. The GTM process is not linear; so while the methods used are presented in a linear fashion within this article they were applied in a cyclical process (see Figure 1) in line with GTM tenets.<sup>3</sup>



**Figure 1: Grounded theory processes and methods used to guide the current study (Charmaz 2006 p 11 and Charmaz 2014, p 18).**

***Coding the data***

GTM coding allows researchers to define what is happening in the data and begin to understand its meaning.<sup>8</sup> A constructivist approach to GTM acknowledges that codes are *constructed* by the researcher because they are interpreting and naming what they see in the data based on their previous knowledge and experience.<sup>3</sup> Coding for processes, actions and meanings breaks the data up into their properties or components, and defines the actions that shape or support these data.<sup>31</sup>

Close attention to correct GTM coding methods in this study ensured implementation of a core grounded theory mandate - to study the emerging data.<sup>6</sup> Complete interview transcripts were coded by the lead author to provide a deep understanding of the phenomenon and to generate ideas that might otherwise have been missed.<sup>8</sup> The transcripts were typed into a word document table with two columns; one column contained the interview transcription while the other column was used to enter the codes. The initial and focused coding phases described by Charmaz<sup>3,8</sup> were employed during analysis.

### ***Initial coding***

Initial coding took place immediately after each interview to comply with a core GTM tenet – simultaneous data collection and analysis.<sup>3,4</sup> During initial coding, each line of the interview transcript was allocated a short label (code) that both summarised and accounted for each portion of data.<sup>3,4</sup> This initial coding was done quickly and spontaneously to prompt analytic thinking about the data, while at the same time engaging in reflexivity (detailed later in the article) to avoid forcing the data into preconceived codes.<sup>8</sup> Initial line by line coding kept the researcher studying the data in order to start to build ideas inductively while at the same time limiting the researcher from imposing existing theories or their own beliefs on the data.<sup>3,2</sup> This form of coding therefore helped the researcher remain attuned to participant's views of their own realities rather than assuming the researcher and participants shared the same views and worlds.

Examples of initial codes generated from the analysis are included in Table 1. In order to facilitate effective coding and to ensure the codes fit the data rather than forcing the data - initial codes were kept simple and precise, using gerunds (the verb form of nouns) to preserve actions while continually comparing data with data from subsequent interviews.<sup>8</sup> Initial codes assisted the separation of data into tentative categories and enabled the researcher to see processes and actions in the data.<sup>8</sup>



As depicted in Table 1, the initial codes allocated immediately after the first interview were too lengthy, too descriptive and lacked the analytical grab required in a grounded theory study. These initial codes were therefore treated as provisional and comparative in order to remain open to other analytic possibilities.<sup>3</sup>

While coding the first five interviews, the lead author gained confidence and skill in the initial coding process and thus re-coded the interview transcripts available to that time to improve the analytical fit of initial codes. The codes allocated during the second initial coding attempt demonstrated a higher level of conceptual abstraction and included codes from subsequent interviews as part of the constant comparative analysis process inherent to GTM research. Table 1 shows the difference between the first and second attempts at initial coding of the first interview.

As initial coding progressed, codes that were interpreted by the lead researcher to most closely fit the data were compared with further data to explore and develop these codes.<sup>3</sup> Codes that most closely fit the data were those that explicated how people enacted or responded to FPDR, what meanings they held toward those events and the way in which those actions and meanings evolved.<sup>3</sup> Some codes were reworded later to improve their fit or the degree to which they captured and condensed participants meanings and actions.<sup>8</sup> For example, some codes from Table 1 (third column) were renamed as the study progressed. The initial code *'already being present'* was raised to a focused code in order to explore this process further as the analysis progressed. The focused code *'already being present'* was renamed later in the analysis to *'opportunistic presence'* (because it conceptualised a wider range of experiences, rather than merely describing an action or process) and became a sub-category of the core category *'conditional permission.'* Further and more detailed examples of focused coding are presented in the following section.

**Table 1: Initial codes allocated immediately after the first interview and initial codes allocated when the interview was re-coded after the first five interviews had taken place.**

<b>Interview Excerpt - Interview 1 with 'Jackie' Registered Nurse</b>	<b>Initial Codes immediately after the first interview</b>	<b>Initial codes after re-coding the interview</b>
...we would normally not allow the family member to come in but because they were there all along and we were trying to fix the problem quickly, we kind of forgot about them and they were there for most part of the resus...No-one really made the decision to let them stay, coz usually we never let them stay...They don't really have a choice... If anything is about to happen we say can you excuse us we are about to do a resus can you just step outside we'll come and get you when we're ready	Family members usually not permitted in room FM already present Staff focusing on saving the patient Staff forgetting about family members Excluding Family Members as standard practice Family members not being given a choice Asking FM to leave the room FMs waiting away from resus until staff ready	Practicing within setting norms Already being present Placing patient needs above Family Members Practicing within setting norms Delaying presence until staff ready

As the analysis progressed, line by line coding identified and defined significant actions/processes, as well as the role participants played within these processes and their beliefs concerning them.<sup>3,8</sup> Line by line coding also provided insight very early on in the research into the kind of data that needed to be collected next. For example, two initial codes from Table 1 '*already being present*' and '*delaying FPDR*' were both raised to the level of focused code in order to explore these processes further. This was accomplished in two ways – by looking for these processes in previous transcripts and by modifying interview questions in order to examine these (and other) processes in subsequent interviews as part of the theoretical sampling process.<sup>3,31</sup>

### ***Focused Coding***

As depicted previously in Figure 1, moving from initial coding to focused coding was not a linear process. During the coding process the lead researcher moved back and forth between initial and focused coding whenever new threads for analysis became apparent.<sup>3,8</sup> The codes developed during focused coding were more selective and conceptual than the initial coding examples presented in Table 1.

The purpose of focused coding was to synthesise and explain larger segments of the data.<sup>3,8</sup> This was achieved by identifying the most significant and/or frequent initial codes – raising them to the level of focused codes - then using those focused codes to sift through large amounts of data. Further data were then compared to these focused codes in order to refine them. Focused coding was used to move across interviews and compare people’s experiences, actions and interpretations. This process determined the adequacy of the earlier codes and some codes were subsequently re-named to improve their fit. This re-naming highlights initial and focused coding as emergent processes, which is consistent with the logic of GTM.<sup>3</sup>

During focused coding a decision was made (using theoretical sensitivity and reflexivity) about which of the initial codes made the most analytic sense to categorise the data incisively and completely.<sup>3</sup> For example, several initial codes previously presented in Table 1 were subsequently developed into focused codes as depicted in Table 2. The initial code *‘placing patient needs above family members’* to the focused code *‘prioritising preferences rights and needs’* and the initial code *‘delaying presence until staff ready’* was changed to the focused code *‘protecting others and self.’* Constant comparison of data with data, and codes with data, allowed the lead researcher to continually refine these codes and check to what extent they were able to account for other data. As a result the codes became more analytical and theoretical, which allowed the lead researcher to achieve a higher level of abstraction and conceptual analysis.

**Table 2: Focused codes constructed from initial codes during the grounded theory study**

<b>INITIAL CODE (Selected Examples)</b>	<b>FOCUSED CODE (Selected Examples)</b>
Placing patient needs above family members	Prioritising preferences rights and needs
Staff deciding 'what's best' for patient/families	
Respecting individual preferences	Supporting informed choices
Allowing family member to choose level of FPDR	
Personal preferences impacting staff practices	Staff preferences impacting practice
Staff prioritising staff preferences	
Deciding if prognosis suitable for family presence	Assessing prognoses
Delaying family presence until patient condition suitable	
Delaying family presence until staff are ready / in control	Protecting others and self
Determining FM coping abilities	
FM watching from a distance	Watching from a safe distance
Being aware of forensic or legal implications	
FM staying out of the way	Minimising disruptions
Being able to remove disruptive FMs	
Preparing and supporting FM	Informed supported presence
Having a dedicated support person available	

As focused codes were constructed during the analysis process, the lead author combed through interview transcripts looking for incidents in the data where these processes/actions were evident. If these processes/actions are not evident, Charmaz<sup>3</sup> recommends asking focused questions in subsequent interviews to determine whether those processes or actions could explain participant experiences. Using theoretical sensitivity, ongoing decisions were made about the suitability of each of the focused codes to adequately explain and categorise what was actually happening every time a decision was made about whether to practice family presence during resuscitation.

Engaging in focused coding allowed the researcher to do two things; to determine the adequacy and conceptual strength of the initial codes allocated to the data, and to consider which focused codes could be raised to the level of tentative category to be tested against further data using the constant

comparative analysis method detailed in the following section.<sup>3</sup> Two of the focused codes in Table 2 that were treated as tentative categories - *'prioritising preferences rights and needs'* and *'protecting others and self'* - subsequently became sub-categories of the core category (discussed later in the article).

### ***Constant comparative analysis method***

One of the core tenets of GTM research is the constant comparative analysis method that was first described by Glaser and Strauss.<sup>4</sup> Charmaz<sup>8(p187)</sup> defined the constant comparative method as *'a method of analysis that generates successively more abstract concepts ... through inductive processes of comparing data with data, data with category, category with category and category with concept'*. Throughout the analytic process in this study, constant comparative analyses were used to; a) compare different people's beliefs, actions and experiences, b) compare data from the same individuals with themselves at different points in time, c) compare incident with incident, d) compare codes with categories, e) compare categories with other categories, and f) to compare categories with memos.<sup>33(p515)</sup>

An example of constant comparative analysis during the focused coding phase of this study involved using the focused code *'watching from a safe distance'* to compare different participant accounts in relation to this process. The interview excerpts presented in Table 3 demonstrate how the process *'watching from a safe distance'* was experienced and recounted by several different participants, and tracks the emergence of this focused code from initial codes.

The constant comparative method was used throughout all stages of analysis to recognise similarities and differences in the data, to refine emerging concepts,<sup>34</sup> to progress the emergence of conceptual data<sup>33</sup> and to compare the final analyses with relevant theoretical and research literature.<sup>31</sup> These constant comparisons were reflected upon when writing theoretical memos (detailed later in this article) which helped to develop interpretations of the data, focus further data collection as well as inform and refine the developing theoretical analysis.<sup>33(p509)</sup>

### ***Theoretical sensitivity and reflexivity***

Theoretical sensitivity relates to the researcher’s ability to have insight, to understand and give meaning to the data, and to separate what is relevant from what is irrelevant.<sup>35-37</sup> The lead author used professional knowledge and experience (both her own and her supervisors’) as sources of theoretical sensitivity throughout the study, while at the same time using reflexivity to avoid being blocked by these previous experiences.<sup>37</sup> A preliminary review of the literature was undertaken at the beginning of the study to gain and apply theoretical insight to the study phenomenon. The use of literature in GTM lies outside the scope of this particular article. However, the lead author published a detailed critique and discussion of their use of the literature in GTM that novice researchers may find useful.<sup>38</sup>

**Table 3: Constant comparisons of the same process between interview participants**

<b>EXCERPT (Selected examples)</b>	<b>INITIAL CODE</b>	<b>FOCUSED CODE</b>
<p>... they’re [FM] sort of asked to step back so that the care can be given and the resuscitation can take place. But they’re often, they’re often still in the unit. We just ask them to move, <i>if</i> we feel that they’re impeding the progress.</p> <p>(Dana: Registered Nurse/Midwife)</p>	<p>Staying out of the way</p> <p>Stepping back</p>	<p>Watching from a safe distance</p>
<p>The husband, we actually just popped him off to one side. I actually said to him, “If you want to stay that is fine. But we do need you to keep out of the way.” ... So basically we just popped him off to one side. He was out of the way of the actual action, and he just kept out of the way but he watched everything. (Mandy: Registered Nurse)</p>	<p>Staying out of the way</p> <p>Stepping back</p>	
<p>I have been cautious about how close family members get because there’s forensic implications. So there may be implications at the scene of assault, or of actual murder ... but I’ve never actually had a family member be removed.</p>	<p>Watching from a distance – forensic implications</p>	

(Darren: Nurse Practitioner)

... generally they'll stand towards the foot of the bed      Staying out of the  
near the scribe nurse ... um generally we'll bring a chair      way  
in, they can sit in a chair if they choose to, sort of out of  
the way at the back.

(Grace: Registered Nurse)

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The lead author was aware that what was seen and heard during data generation and analysis was dependent upon prior knowledge, past experiences, interests and prior interpretation of the phenomenon.<sup>8,10,39</sup> In order to learn the meaning that participants attributed to their beliefs, actions and experiences, and to minimise bias and to avoid imposing preconceived ideas on the data, the lead researcher was actively reflexive about her own meaning for those same beliefs, actions and experiences. This reflexivity was engaged through the systematic writing of analytic theoretical memos and through discussion between the lead author and PhD supervisors.

### ***Memo writing***

Memo writing (memoing) is a core tenet of GTM research.<sup>3,4,37</sup> Memoing was undertaken throughout this study to actively interact with the data, speed analytic momentum, question and clarify what was emerging from the data, see data and codes in new ways and increase the level of abstraction.<sup>8,31</sup> Memoing was also used to demonstrate rigour and trustworthiness, providing an audit trail of the evolving theory and documenting the lead author's thinking and decision making throughout the study.<sup>7</sup>

Memos were written immediately after each interview to prompt reflection upon and critique of the interview process. Such writing prompted thinking about important recurring statements/concepts and allowed comparisons between participant experiences and views – all of which were necessary to help direct and focus further data collection.<sup>8</sup> Memoing also allowed the lead author to specify the conditions under which a process arose, persisted or changed and to ask various questions of the data such as who was involved, how, when, why, what they did and the consequences of their

actions.<sup>31</sup> The following memo (excerpt) was written immediately after the eighth interview with registered nurse 'Mandy.'

*This raised an issue that many participants, including Mandy, have mentioned – the importance of assessing the suitability of the FM to stay. According to participants, assessing FM's suitability is vital because some may not be able to cope with graphic resuscitation images, while others may become disruptive and hamper staff efforts. However, Mandy maintained throughout the interview that despite the potential disadvantages of having FMs there, the option to stay should be offered to all suitable Family Members.*

While writing this memo, an important focused code, 'assessing suitability,' was first constructed to explain a recurring process that was evident (but not yet named) in the first eight interviews. This code was then raised to a tentative category in order to explore the related processes further.<sup>3</sup>

Previous and subsequent interviews were examined with this tentative category in mind and multiple examples of 'assessing suitability' were found. For example:

*We dragged her off the bed; we moved the bed away so they had a nice open space to work with .... and the head paramedic said 'you OK with this?' and I said 'yeah.' (Trevor, Family Member (husband), Interview 3)*

*I would ask them, would you like to come in. And if they looked shocked and horrified and terrified at the very thought then that's fine, we'll just back away from that. If they look as though they're considering it then I'd go on and explain a bit more. So I guess I would assess their initial response. (Lauren, Doctor, Interview 11)*

*If they come in and they're a complete riot of emotions and distraught, usually what I'd try and do would be direct them out to a relative waiting area ... then go and see them in a couple of minutes and check on them and see how they're going, and then put it to them if they wanna come in. (Bella, Registered Nurse, Interview 17)*



As the study progressed, memos were written to describe how categories and sub-categories emerged, evolved and inter-related, and to refine conceptual categories.<sup>8(p81)</sup> For example, the following memo excerpt depicts how the lead author considered the relationship between ‘*assessing suitability*’ and other focused codes and tentative categories such as ‘*valuing family presence*.’

*The significance and ordering of each focused code and tentative category is becoming both more and less clear. I previously hypothesised that the value someone placed on FPDR would impact the extent to which they would overcome barriers to allow and even invite FPDR - the greater the value a person assigned to FPDR, the harder they would work to ensure it took place. For example, Darren valued FPDR so highly for its perceived benefits that he worked hard to overcome barriers such as staff attitudes, space limitations and staff shortages. He also assessed the context, setting and people involved to determine whether FPDR was suitable, and ensured that people who chose to accept the offer of presence were adequately prepared.*

### **Theoretical sampling**

In keeping with the logic and inherent requirements of GTM research, theoretical sampling was used to develop and refine the properties of the developing categories,<sup>3</sup> which in turn increased category precision and made the analysis more abstract.<sup>8</sup> Theoretical sampling was also used to demonstrate links between categories, and participants for whom particular concepts appeared significant were asked to add their experiences to the existing data set about a particular concept or category. For example during Interview 12 it first became apparent that ‘*valuing FPDR*’ was an important tentative category that required further exploration in subsequent interviews. After exploring this category with subsequent participants, the significance of ‘*valuing FPDR*’ to the emerging theory became apparent, as depicted in the previous memo.

As data generation and analysis progressed, the range of interview topics and questions became progressively narrower in order to gather specific data to develop the emerging theory.<sup>8</sup> For

example, questions were added to the interview guide relating to who FPDR is for and what drives different decision making and practices between clinical settings that do and do not allow FPDR.

### ***Category development and refinement***

The development of categories was made possible by making constant comparisons and writing theoretical memos about the analysis as described in the previous sections. After the first 10 interviews, five tentative categories had emerged; 1) valuing family presence, 2) protecting self and others, 3) holding decisional power, 4) practicing within setting norms and 5) claiming ownership.

All interviews to that point in time, as well as subsequent interviews, were re-coded against these tentative categories to determine their fit. Some tentative category names were subsequently changed to encompass the data more completely. For example, *'holding decisional power'* was re-named *'holding and relinquishing decisional power'* in order to fully account for the different experiences involving power differentials. One of these tentative categories *'practicing within setting norms'* later became a property/condition of a new category rather than being considered a category of its own. In other words, the tentative category *'practicing within setting norms'* became a property of the new category *'setting boundaries.'*

After 20 interviews, eight major categories had been constructed; 1) prioritising preferences, rights and needs, 2) assessing suitability, 3) protecting others and self, 4) claiming ownership, 5) being present by default, 6) setting boundaries, 7) experiencing power differentials and 8) valuing family presence.

Further memoing and constant comparisons facilitated the continual refinement of categories, subcategories and properties, and helped determine which categories could be subsumed by others, which categories could stand alone, and how they all fit together. The following memo excerpt details the analytical thinking behind the construction and ordering of some of these new categories, subcategories and properties.

*I was initially unable to decide how the tentative category 'Valuing FPDR' fit with the sub-categories I had allocated to it; Attitudes, weighing benefits and risks, personal experiences and beliefs, prioritising preferences/rights/needs, and dealing with barriers. I realised the subcategories I had allocated to 'Valuing FPDR' were all related to the question 'under what circumstances do priorities change?'<sup>2</sup> I therefore made them properties of the category 'prioritising preferences, rights, needs.' I realised 'Valuing FPDR' now also fits within 'prioritising preferences, rights, needs' however this relationship requires further exploration.*

Diagramming and tabling were also used to re-order and refine the major categories. For example, during the construction of Table 4, it became apparent how the core categories/processes identified thus far (highlighted in capital letters in table 4) were related, and the order in which these processes occurred during a resuscitation event became clearer. It also became evident that some categories were properties rather than stand-alone categories. For example at this stage, '*experiencing power differentials*' was identified as a condition under which many of the other core processes (categories) took place and was therefore no longer considered to be a category.

The categories presented in Table 4 all impacted the decision to allow or deny family presence during resuscitation in an acute care setting. However at this point in the analysis, the core category had not yet emerged from the data and the properties of the study categories had not yet been saturated. Data generation and analysis therefore continued until theoretical saturation occurred.

### ***Theoretical saturation***

Data generation in GTM research continues until subsequent data is yielding scant/no new information and further generation would not add anything useful to the study.

**Table 4: Diagramming and tabling to redefine and reorder categories and subcategories**

<b>CATEGORY</b>	<b>EXPLANATION</b>
CLAIMING OWNERSHIP Experiencing power differentials	Claiming ownership of the space, the patient and the resuscitation act. Someone says who can and cannot be present; someone else complies or refuses. Claiming ownership is closely related to power and authority. Whoever is considered to have the most power successfully claims ownership.
Being present by default (*later re-named) OPPORTUNISTIC PRESENCE	If are already present, a person's chance of remaining in the resuscitation room increases. Once already present, that person is either permitted to stay or asked to leave. If asked to leave they either comply or refuse Or the person stays by default because no-one asked them to leave
PRIORITISING PREFERENCES, RIGHTS AND NEEDS ASSESSING SUITABILITY SETTING BOUNDARIES VALUING FAMILY PRESENCE	Assessing who and what situation is suitable, and then setting boundaries around permissions (PROVISIONAL PERMISSION) based on the priority placed on that person's preferences rights and needs. The value placed on family presence during resuscitation determines how this prioritisation is done and influences the assessment and boundaries set.
PROTECTING OTHERS AND SELF	Protecting family members from resuscitation scenes – whether they want this protection or not. Protecting staff from being observed and potentially judged. The level of protection judged to be required influences the other processes at play.

Theoretical saturation occurs when the category properties are saturated rather than the data itself.<sup>4,8</sup> After 24 interviews with 25 participants (a husband and wife team were interviewed together), a major/core process emerged that was subsequently developed into the core category. The lead author then re-interviewed three key participants (a registered nurse, doctor and family member) in order to fully saturate the properties of each major category. Existing transcripts were also re-coded against the major categories as part of the theoretical saturation process. As analysis progressed, the lead researcher continued to refine categories and re-order them as the final substantive theory was constructed.

### ***Emergence of the core category***

During the processes of refining the major categories (see Table 4), the lead author used the phrase *'provisional permission'* to explain four of the major categories; 1) prioritising preferences, rights and needs, 2) assessing suitability, 3) setting boundaries, and 4) valuing family presence. At the time, this term did not resonate with the lead author and further interviews were conducted. However, during the final interview and subsequent theoretical memo construction, the phrase *'conditional permission'* prompted further refinement of categories and sub-categories that led to the emergence of the core category, as evidenced in the following memo excerpt.

*I have used the term 'conditional permission' as a code/category previously when analysing data. However during this interview I suddenly realised my two previous categories of Setting Boundaries and Assessing suitability can both be subsumed by a higher category - Constructing Conditional Permission. Thus 'conditional permission' becomes the category and Setting Boundaries and Assessing suitability become the subcategories, along with the other already existing subcategory of prioritising preferences rights and needs.*

The systematic application of the grounded theory methods and processes detailed in this article thus facilitated the emergence of the core category *conditional permission*. Table 5 traces the evolution of this core category from related initial and focused codes, and depicts the relationship between this core category and its sub-categories. The core category - *conditional permission* - explained the major process at work when health care professionals and family members were involved in decision making around whether to allow or deny family presence during resuscitation.

**Table 5: Development of the major category – ‘Conditional Permission’**

<b>INITIAL CODE EXAMPLES</b>	<b>FOCUSED CODE EXAMPLES</b>	<b>SUBCATEGORY (Properties)</b>	<b>CATEGORY</b>
Placing patient needs above FMs	Making value judgments	<b>Prioritising preferences, rights, needs</b>	<b>Conditional Permission</b>
Staff deciding ‘what’s best’ for patient/FM			
Respecting individual preferences	Supporting informed choices		
Allowing FM to choose level of FPDR			
Personal preferences impacting staff practices	Staff preferences impacting practice		
Staff prioritising staff preferences			
Deciding if prognosis suitable for FP	Assessing prognosis	<b>Assessing Suitability (context, setting, people)</b>	
Delaying FP until patient condition suitable			
Delaying FP until staff are ready / in control	Delaying presence	<b>Protecting others and self</b>	
Determining FM coping abilities			
FM watching from a distance	Watching from a safe distance	<b>Setting Boundaries (physical, emotional, theoretical)</b>	
Being aware of forensic implications			
FM staying out of the way	Minimising disruptions		
Being able to remove disruptive FMs			
Preparing and supporting FM	Informed supported presence		
Having a dedicated support person available			

FM, Family Members; FPDR, family presence during resuscitation; FP, family present

As mentioned previously, the aim of this article was not to present detailed findings from the study; but instead to describe *how* the core category was constructed. However, a brief explanation of the substantive grounded theory is presented below to further elucidate the relationship between the grounded theory, the core category and its properties.

### ***Conditional Permission: A Grounded Theory of Family Presence during Resuscitation***

According to Charmaz<sup>3(p344)</sup> a substantive grounded theory is a '*theoretical interpretation or explanation of a delimited problem in a particular area.*' Charmaz's definition of theory emphasises a theoretical understanding that is abstract and interpretivist, where the understanding from the theory relies on the theorist's interpretation of the studied phenomenon.

The systematic application of the grounded theory methods and process detailed throughout this paper facilitated the emergence of a core category (process) and substantive grounded theory which created an abstract understanding of the data.<sup>3</sup> The grounded theory developed in this study accounted for most of the relevant behaviour when people were deciding to practice or participate in FPDR. As such, this grounded theory meets the requirements of theory construction outlined by Charmaz<sup>3,8</sup> and Glaser and Strauss.<sup>4</sup> During the final stages of analysis and writing of the theory as part of the doctoral thesis, existing literature was accessed by the lead author to support the emerging theory,<sup>3,4,37</sup> to situate the theory within the body of related literature and to demonstrate how the current study built upon this body of evidence.<sup>3,11,16</sup>

The substantive theory developed during this study was *The Social Construction of Conditional Permission*. This theory captured the patterns of meanings and actions that reflected participant experiences, and explained the major social processes at work when people were faced with a decision to practice or participate in FPDR. The core category, *conditional permission*, comprised several major processes. These processes were enacted by participants in a cyclic and interconnected manner in order to determine the level of *conditional permission* for each FPDR event.

In the absence of formal policies or guidelines, the *value* placed on family presence by health care professionals and family members had a significant impact on decision making - demonstrated by particular groups claiming ownership of the patient, the setting and the resuscitation act. Groups who claimed ownership were then able to determine or construct '*conditional permission*' for FPDR by prioritising individual preferences, rights and needs, assessing suitability of the setting and the people involved, and setting physical, emotional and theoretical boundaries around that presence, while at the same time protecting others and self from potential risks.

FPDR always required some form of permission (inadvertent or implied), and was always conditional, continually reassessed, and subject to retraction if the established boundaries of conditional permission were breached. Established boundaries varied widely and were influenced by the subjective attitudes and beliefs of the people setting these boundaries. Health professionals and family members who valued FPDR placed fewer conditions on presence, and were more likely to ensure those conditions could be met in order to ensure FPDR was implemented. Conversely, health professionals and family members who did not value FPDR placed multiple conditions on the practice; sometimes to the extent where meeting them became impossible. Often, the conditions placed on FPDR were used as rationales to justify denying the practice. In essence, *conditional permission* was impacted most by the extent to which FPDR was valued by individuals and groups who claimed control of permissions.

Our research indicates a strong need for formal protocols and associated education to ensure that clinical practice is guided by evidence and standards for consumer safety and welfare rather than by personal values and preferences of the individuals 'in charge' of permissions.

## **Conclusion**

GTM research is being increasingly employed to contribute to the current body of nursing knowledge due to its ability to explain behaviour and facilitate the advancement of conceptual theories that can be applied in practical situations. As such, attention to study rigour is imperative to



ensure subsequent clinical practice is safe, effective and based on the best available empirical evidence. Appropriate rigour and enhanced transferability of findings can be strengthened by the systematic application of the core GTM methods and procedures that have been detailed and exemplified in this article. Researchers using grounded theory methods can also strengthen the knowledge claims of their research if they are explicit about the way in which they employed core methods to construct their grounded theory. This article provides a worked example of the systematic application of grounded theory methods and processes and traced the construction of the core category '*Conditional Permission*' from initial and focused codes, subcategories and properties, through to its position in the final substantive grounded theory. Such elucidation of data from initial codes to substantive category can assist novice researchers to develop rigorous analytic techniques in order to strengthen their study outcomes.

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