Aims and objectives. To redefine the practice of rural nurses and describe a model that conceptualises the capabilities and characteristics required in the rural environment.

Background. The way in which the practice of rural nurses has been conceptualised is problematic. Definitions of rural nursing have been identified primarily through the functional context of rural health service delivery. The expert generalist term has provided a foundation theory for rural nurses with understandings informed by the scope of practice needed to meet service delivery requirements. However, authors exploring intrinsic characteristics of rural nurses have challenged this definition, as it does not adequately address the deeper, intangible complexities of practice required in the rural context. Despite this discourse, an alternative way to articulate the distinctive nature of rural nursing practice has eluded authors in Australia and internationally.

Design. A theoretical paper based on primary research.

Methods. The development of the model was informed by the findings of a study that explored the nursing practice of managing telephone presentations in rural health services in Victoria, Australia. The study involved policy review from State and Federal governments, nursing and medical professional bodies, and five rural health services; semi-structured interviews with eight Directors of Nursing, seven registered nurses and focus group interviews with eight registered nurses.

Results. An ambiguity tolerance model drawn from corporate global entrepreneurship theory was adapted to explain the findings of the study. The adapted model presents capabilities and characteristics used by nurses to successfully manage the ambiguity of providing care in the rural context.

Conclusions. Redefining the practice of rural nurses, through an adapted theory of ambiguity tolerance, highlights nursing characteristics and capabilities required in the rural context. This perspective offers new ways of thinking about the work of rural nurses, rural nurse policy, education, recruitment, retention and clinical governance.

Relevance to clinical practice. A greater understanding of rural nurse practice will assist in achieving positive care outcomes in an environment with competing stakeholder needs, and limited resources and options for care.

What does this paper contribute to the wider global clinical community?

• In this paper we present a model that can be used to identify cognitive and affective capabilities and characteristics required of nurses working in ambiguous practice contexts.
• In this paper we highlight the combination of evidence-based practice, past experience and present contextual knowledge as being significant to managing highly ambiguous practice contexts.
Introduction
Current definitions and descriptions of rural nursing are problematic. The term expert generalist has provided a foundational theory of rural nursing (Bushy 2002, Long & Weinert 2013). The term expert generalist is used to describe the practice of rural nurses within the boundaries of the age and disease spectrum of rural people and the functional context of rural care. This approach is unhelpful (Endacott & Westley 2006), as it fails to recognise the way in which rural practice shapes nurses’ unique approach to communication patterns, assessment and management of health care needs, and ethical decision-making (Scharff 2013). We support the contention of MacLeod et al. (2004) that traditional definitions and descriptions provide limited understanding of the rural nurse role.

The findings of our recent study, exploring rural nursing in Victoria, Australia prompted us to conceptualise the practice of the rural nurse in a different way. Drawing on our large multiphase research study, the reconceptualisation is based on an adapted model from successful corporate global entrepreneurship to capture the dimensional distinctiveness of rural nurse practice (Scharff 2013). The purpose of this article is to present our model, provoke discussion on a different way of conceptualising the practice of rural nurses and encourage debate on the usefulness of the model to inform the capabilities, characteristics, advanced thinking and logistical skills required for the rural practice environment.

Background

The study
The focus of our study was the practice of rural nurses providing unscheduled care via the telephone in rural health services in Victoria, Australia. The study was conducted in eight small rural health services, with practice explored at the policy, clinical governance and clinical levels. La Trobe University Faculty Human Ethics Committee approved this study. Data collection was in three stages: (1) review of documents sourced from State and Federal government, nursing and medical professional bodies and five rural health services; (2) semi-structured telephone interviews with eight rural Directors of Nursing and (3) semi-structured telephone interviews with seven rural nurses, and focus groups involving eight rural nurses.

The findings from our study indicated differentiation of the rural nurses’ use of the telephone to provide care from that of telephone triage, and confirmed the same rural factors that made in-person care complex, applied to providing care via the telephone. Factors that were most influential included: multiple and competing stakeholder needs; inadequate resources; misalignment of multilevel policy and clinical practice and inadequacies in clinical governance processes to support nursing practice (Knight et al. 2015a). The most significant findings were the nurses’ connectedness with the community and the ingenious thinking, advanced problem solving and sophisticated logistical skills they used to manage a highly complex and ambiguous practice context, to achieve the best outcome for the local community.

Despite access to dedicated urban-based 24/7 telephone triage services, we found rural nurses continue to receive telephone calls for unscheduled health care needs. Nurses in our study indicated a long history of providing care via the telephone, which was considered an expectation of the community. As an example of the authentic relationship between nurses and community members (Porter et al. 2011), rural nurses in our study prioritised community driven need over formal organisational processes. This finding provides support for earlier work of Endacott and Westley (2006) and Rosenthal (2010) who identified the ambiguous and uncertain nature of the rural context.

In the face of finite resources, competing stakeholder needs, community connections and inadequate organisational structures, the nurses in our study employed a brokerage role similar to that identified a decade ago by Bushy (2002). They practiced outside organisational policy and processes “...to make things work...” (Knight et al. 2015a). While these behaviours were clandestine in nature, they were known to nurse leaders within the health services (Knight et al. 2015b). The nursing practice of telephone management was not well-managed as a result of inadequate clinical governance processes. This inadequacy avoided attention being drawn to the practice and failings of the organisational processes, enabling the practices to
continue unchecked (Knight et al. 2015a,b). There were no opportunities for the nurses in our study to undertake practice review and reflective practice. The result was an expressed lack of confidence in the efficacy of their practice and an increase in the ambiguity of the practice context.

It has been contended that practicing outside of formal structures and crossing professional boundaries with the medical practitioner role is necessary for rural nurses to manage the complexities of rural health care (Kenny & Duckett 2004, Endacott & Westley 2006, Sullivan et al. 2008, Rosenthal 2010). However, in our study there was no evidence of professional boundary crossing to manage telephone presentations. The nurses worked intentionally to broker clinically conservative outcomes within their scope of practice. This finding, together with other research (Rosenthal 2010, Molanari et al. 2011), raises questions about rural nursing practice models that focus on functional elements of care and extending rural nurse practice boundaries, rather than the complex contextual factors that push rural nurses to work outside organisational and professional boundaries and processes. Extending rural nurse practice boundaries may not address underlying failings in organisational processes, and other factors, such as the role of the community and dual relationships, which are well recognised in the literature (Bushy 2002, Mills et al. 2010, Long & Weinert 2013). These factors created contextual ambiguity and contributed directly to the practices found in our study.

Contextual ambiguity

The rural nurses in our study were dealing with functionally complex roles, as found in previous studies exploring ambiguity in nursing (Purkis & Bjornsdottir 2006, Chen et al. 2007, Delgado et al. 2011). The role of context in rural nursing has been discussed previously (Mills et al. 2010, Bushy & Winters 2013), however, the way in which rural nurses manage the ambiguity of the context has not been fully explored. The findings from our study prompted us to consider the ambiguity of the context, rather than ambiguity of the role. Focusing on nurses’ ability to tolerate and negotiate ongoing contextual ambiguity opened new ways of thinking about the distinctive dimensions of rural nursing suggested by Scharff (2013). The notion that a dimensional distinctiveness of rural nurse practice may be explained in terms of managing ambiguity has not been previously suggested. Interpretation of the findings led us to explore the broader concept of ambiguity tolerance.

Ambiguity tolerance theory

While the concept of ambiguity tolerance has been discussed and studied extensively by social cognitive theorists since the 1940s, there is a lack of consensus in the way ambiguity tolerance has been defined and assessed (Furnam & Marks 2013). Predominant thinking relates ambiguity tolerance to personality traits in some way (McLain et al. 2015). The ambiguity tolerance concept has been explored in a broad range of contexts outside social cognition (Martin et al. 2006, Furnam & Marks 2013), including corporate global entrepreneurship (Lane & Klenke 2004), organisational decision-making (Endres et al. 2009), clinical decision-making in nursing (Smith 2010) and nurse education (Ironside et al. 2009).

Following extensive review of the literature, McLain et al. (2015) broadly defined ambiguity tolerance as ‘...an individual’s systematic, stable tendency to react to perceived ambiguity with greater or lesser intensity’. This definition does not align well with the findings of our study. The contextual ambiguity experienced by the rural nurses was not perceived, it was created by the complexity of the rural environment. While the capacity to tolerate ambiguity may or may not be a part of a rural nurse’s personality, this was not the topic of our study. It was the nurses’ ability to manage the ambiguity of the context that was evident in our findings, and was our main line of inquiry.

Lane and Klenke (2004) drew upon work from both social cognitive theory and corporate leadership to determine the components required to successfully manage the ambiguous environment of corporate global entrepreneurship. They developed a model called the Ambiguity Tolerance Interface (ATI) Cluster. This model aimed to capture cognitive and affective theories of leadership as they relate to managing ambiguity (Lane & Klenke 2004). With a focus on contextual ambiguity, this model became a point of interest in our study.

The ATI Cluster features four constructs and their interaction with what Lane and Klenke (2004) termed ambiguity tolerance: these are Spirituality, Creativity, Aesthetic Judgment and Mindfulness.

Spirituality

The intangible nature of spirituality is reflected in the description offered by Lane and Klenke (2004). Rather than a finite definition, spirituality was described in terms of having an understanding of a sense of being that may come from existential concepts, such as faith, hope and life purpose. Spirituality was identified as a high-level
structure in ambiguity tolerance that underpins the way in which the leader approaches life, both personally and professionally.

Creativity
Flexibility and innovation were identified as attributes of successful leaders in a highly competitive and uncertain global corporate environment. These attributes enable leaders to look beyond the known and generate new ideas, techniques and products to give a business the edge in a rapidly changing technological environment.

Aesthetic judgment
This construct relates to the ability of corporate leaders to be attuned to, reflect upon and learn from their lived experience, knowledge, preferences, approaches and decision-making, and use this learning when making judgments.

Mindfulness
Drawing heavily from the work of Langer (1989), this fourth component involves the ability of leaders to open themselves to new mindsets, new information and multiple perspectives that support creativity and problem-solving in the face of uncertainty.

Lane and Klenke (2004) suggested potential instruments to measure each of the model constructs. However, the model remains untested in that the authors stated it was designed as a map for further research into how these constructs interrelate and contribute to a global entrepreneur’s individual ability to manage uncertainty. Their suggested constructs and their interaction in the ATI Cluster were highly relatable to our study findings. The model offered us a way to articulate the cognitive and affective capabilities and characteristics underpinning nursing practices identified in our study.

Results

How rural nurses master ambiguity
The ATI Cluster model suggested by Lane and Klenke (2004) was used to inform the development of our model for application to the practice of rural nurses. This adaptation is depicted in Fig. 1, and described through the rural nurse behaviours evident in our study and supported by the findings of other research.

Ambiguity tolerance (AT)
Across the interviews, two key insights were revealed: the complex interplay of identified factors, and the participants’ ability to manage this interplay. The participants took into account multiple factors to broker the best outcome for the situation. Consistent with findings previously reported by Bushy (2002), nurses were often faced with the dilemma of finding a balance between two or more competing factors. Finding a balance was evident as they attempted to respond to the expectations of the caller who had clinical needs but at the same time manage limited local health care resources. A rural nurse described this situation:

It very much depends on the prior history of the condition. If it’s just a child with an earache then seeing the VMO [Visiting Medical officer] who is on call, for the anti’s [antibiotics], is quite fine. Every second weekend when we are not on call, chances are it is a VMO from [elsewhere] that doesn’t know them anyway, so if the

Figure 1 Adaptation of Lane and Klenke (2004) ATI cluster based on actions taken to manage telephone presentations in rural health services.
service is more appropriate to go to a major centre, they are not
going to know the doctors there. You’ve got to chip away at this
friendly business and you say “I know that you are not happy with
that but you really do need an x-ray”, [we] can’t do that. If he has
fallen off the horse and his arm is sore he is going to have to have
an x-ray. And people aren’t silly. They do have light globe
moments and say “well there is no point in going there if I can’t
get an x-ray.” (P6)

To manage this complex interplay, the rural nurses in our
study drew upon their clinical knowledge and experience,
together with their understanding of the community,
resource limitations and various stakeholder expectations to
achieve a best outcome among a multitude of possibilities.

Spirituality
Scharff (2010) expressed the importance of spirituality in
rural nursing when she described the rural nurse as having
‘…an ontological sense of being and an epistemological
sense of knowing that connect the nurse with the surround-
ing community…’ (p. 267). As a nurse leader aptly
reflected:

I personally just think it is their community and they want to be
able to help them. (PA)

Described by Lane and Klenke (2004) as a high-level scaf-
fold in ambiguity tolerance, this sense of knowing and con-
netedness with the community is seated in authentic
relationships (Porter et al. 2011). A nurse leader explained
this relationship from the community perspective:

Look, the community knows their local health service and it’s the
first place they want to ring. They know and they trust the nurses
that live and work in their community. (PC)

Creativity
In the face of uncertainty, rural nurses in our study
employed self-initiated and ingenious strategies that were
both risk averse and clinically conservative to achieve a
‘best outcome’. A rural nurse explained:

If I think there is a cognitive deficit or anything like that, or I know
the patient and I don’t think they are going to comply…then you
can be creative e.g., if they are a district nurse client I will say “I
will get the district nurse to see you today” or “Look I really think
you need to come up” and sort of over play it so that you know
they will have contact with that health care system. (P1)

A finding supported by Rosenthal (2010), the rural
nurses were creative in identifying alternatives within inade-
quate and competing processes when the policy did not fit
the situation. The reason is identified in this rural nurse’s
comment:

We are always going to have variations that we have to adjust to,
and that’s part of what we do in these small remote places. We
have to be flexible. (P6)

In the corporate sector, it has been suggested that cre-
vativity is lauded as innovation (Lane & Klenke 2004). However,
this type of innovation tends to be referred to as
risk-taking in the rural health care sector and becomes
clandestine in nature (Rosenthal 2010). Described by
MacKinnon (2011) as safeguarding, the behaviours
included taking calculated, tactical and moderated risks
that involved transient boundary crossing of organisation
policy to maintain therapeutic care (Rosenthal 2010). A
rural nurse working in a health service that promotes the
use of evidence-based telephone triage protocols to guide
practice stated:

I am more likely to want to see them more than the book [tele-
phone triage protocols] would say. (P4)

Purkis and Bjornsodttir (2006) contended this complex
decision-making and action sits within the ambiguous space
between evidence-based practice and intuitive nursing the-
ory. A rural nurse described this use of evidence, knowledge
and experience:

They may be ringing up to say they have got a sore leg. But you
know that they are diabetic because you have nursed them before,
or you know that they have got COPD because they have been in
your ward the week before and now they are saying that they are
having trouble breathing. (P3)

Within this space, rural nurses simultaneously draw upon
empirical evidence, knowledge of the context and under-
standing of the rural health consumer experience to guide
decision-making (Porter et al. 2011, Nelson 2014). As such,
the creativity of rural nursing practice is situated within the
realm of Intelligence nursing (Purkis & Bjornsodttir 2006).

Aesthetic judgment
The ability to develop expertise through lived experience is
a well-known phenomenon and the hallmark of an expert
nurse (Benner 1984). Based on an embodied relational
understanding (Galvin & Todres 2011), aesthetic judgment
was a high-level ambiguity tolerant behaviour of the rural
nurses in our study. This embodiment is reflected in the fol-
low comment:

It’s ingrained. It’s like managing a cardiac arrest, I don’t think of
it, but I do it. It’s hard to articulate. (P2)
The nurses used rural knowledge and experience to negotiate ethical complexities that frame the uniqueness of the rural context. Some authors contend this behaviour has been underestimated and misunderstood by the urban-centric perspective (Nelson et al. 2007). Researchers have argued this use of judgment relates to the nurses' ability to work as knowledgeable practitioners, using evidence-based practice, past experience and present knowledge of the practice context, to make decisions that are appropriate for the situation (Purkis & Bjornsdottir 2006, Porter et al. 2011, Nelson 2014). A rural nurse identified the importance of context knowledge:

I do think with telephone triage you need, especially in rural hospitals, to have a background in your rural community. What’s the availability of what you can provide and the skill level you’ve got at the hospital. (P7)

Mindfulness
The rural nurses in our study were aware of a multiplicity of perspectives, and their management provided an example of their mindfulness in achieving clinical care outcomes. This mindfulness included the psychosocial needs of rural people, as reflected by this rural nurse:

And some don’t have petrol money and all those sorts of things and so there are those issues with the calls as well. It’s not just a matter of hopping in their car and going anywhere, they don’t have sometimes the resources to get to medical attention easily. (FG1B)

The rural nurses were mindful of unwritten expectations to manage limited resources, especially after-hours workloads of the general practitioners. This situation was identified by many of the nurses in our study, and summarised by one rural nurse:

[The health service administration] are expecting us to help the [triage category] 4s and 5s particularly, so that the doctors don’t have to come in after-hours, which means our triaging needs to be spot on. It’s an expectation that may not be written, but it is a given. (P3)

A key premise of Langer (1989) was awareness of mindlessness, where an individual's thinking becomes fixed and may subvert their capacity for creative thinking and aesthetic judgment. The long history of denying the practice of providing care via the telephone and past experiences of ineffective policy and processes created a mindset that policy-practice gaps had to be worked around, which limited opportunities to change processes for the better. The following comment reflects this point:

You just have to deal with it. (FG1a)

Discussion
Lane and Klenke (2004) contended that a successful global corporate entrepreneur requires creativity, adaptability and flexibility. These qualities were evident in our study and are enduring features of rural nurses (Bushy 2002, Rosenthal 2010). The capacity of rural nurses to act purposively as resource brokers and anticipatory decision-makers, prioritising the needs of multiple stakeholders within a highly ambiguous and uncertain practice context was indicative of their ability to manage contextual ambiguity.

How rural nurses master ambiguity: a modified ambiguity tolerance model
By applying the ATI Cluster (Lane & Klenke 2004) to rural nursing practice, a modified model emerged. Depicted in Fig. 2, this modified model illustrates the capabilities and characteristics required of rural nurses to master ambiguity. It is purposefully descriptive to ensure the model is pragmatic, accessible and readily applicable.

In this model, How rural nurses master ambiguity sits in the middle of the construct and the four components interact, enabling the rural nurse to master ambiguity using ambiguity-tolerant behaviours. The notion of Spirituality has been retitled Knowing the rural community. This title

Figure 2 How rural nurses master ambiguity, modified from Lane and Klenke (2004).
reflects the rural nurses’ deep sense of being and purpose and sits at the top of this model. Mindfulness becomes \textit{Mindful negotiation of multiple perspectives, factors \& possibilities} placed at the top right. The placement of the first two components represents their high-level scaffolding for managing ambiguity in the rural health context. Aesthetic judgment is titled \textit{Aesthetic judgment to make intelligent decisions}, and is indicative of the simultaneous use of evidence-based practice, rural experience and local knowledge. Creativity becomes \textit{Creativity to find a best outcome}. While the notion of creativity can bring preconceptions of risky behaviour, the findings of our study suggested otherwise. In this model, we use the notion of creativity to embraces the innovative thought and inventiveness to find safe and situational appropriate alternatives.

All components are purposefully presented as open spaces to illustrate the conceptual depth and fluidity of the behaviours.

\textbf{Model description}

\textbf{Knowing the rural community}

This component encompasses the sense of being and knowing that underpins the connectedness of the rural nurse to the community and is a core component for mastering ambiguity.

\textbf{Mindful negotiation of multiple perspectives, factors \& possibilities}

Mindfulness is an awareness of multiple perspectives and the ability of the rural nurse to negotiate a multiplicity of perspectives, factors and possibilities to achieve a best outcome for the situation, and a conscious awareness of one’s mindset when making decisions.

\textbf{Aesthetic judgment to make intelligent decisions}

Aesthetic judgment is the ability of the rural nurse to use evidence-based practice, past experience and present knowledge of the practice context to make intelligent decisions about care provision that is appropriate for the situation. Aesthetic judgment includes the opportunity to reflect on practice to enhance effectiveness of care and self-efficacy.

\textbf{Creativity to find a best outcome}

This is the ability of the rural nurse to think creatively and find alternatives within inadequate and competing processes to achieve the best outcome by simultaneously using evidence, experience, knowledge of local context and understanding of the rural health consumer experience to guide decisions. Rural nurses incorporate anticipatory safeguarding strategies in response to the uncertainty that comes with the lack of resources and inadequate health service systems.

The aim of presenting this adapted model is to propose new ways of thinking about the practice of rural nurses. This model has not been tested in practice, which could be considered a limitation. Further research into the applicability of this theory to the practice of rural nurses is required. The notion of ambiguity tolerance, as a personal characteristic of rural nurses, is worthy of further consideration. However, the applicability of existing ambiguity tolerance measurement tools requires testing.

\textbf{Implications for nursing}

The model described offers a new perspective on what makes the practice of rural nurses distinctive. Viewing the rural nurse role as \textit{ambiguity master}, rather than \textit{expert generalist}, represents a shift in thinking and challenges current models underpinning policy, practice, preparation, support and leadership in rural nursing. The implications of this shift are profound.

As ambiguity master, the practice of the rural nurse is described through cognitive and affective capabilities and characteristics, rather than the functional context of rural health care delivery. While these functional factors are central to the rural health context, the notion of the rural nurse as ambiguity master highlights the opportunity for rural nurses to develop capabilities that will enable them to adapt to the changing needs, functions and challenges of rural health care. Greater awareness of the capabilities and characteristics required in practice provides new options for rural nurse policy development that extends beyond strategies involving clinical scope of practice of the nurse.

Although the rural nurses in our study were aware of multiple perspectives, the practices were default behaviours with the intention to get things done. These default behaviours are at risk of being heavily influenced by preconceived mindsets, based on past experience and cultural understanding (Langer 1989), including a history of organizational policies and processes that do not fit the complexities of rural healthcare. This mindset needs to be challenged to engage mindfulness in its complete form. Three things need to happen to enact change. First, rural nurses need to reflect on how their current behaviours and reasoning reinforces this history and be open to new ideas regarding how things could be different. Second, rural nurses need to engage aesthetic judgment to bring their practices into their conscious awareness, identifying where they are crossing policy and professional boundaries, the factors contributing to this behaviour and finding alternatives to minimise the
need to cross boundaries. Third, organisational leaders must challenge their own mindsets by identifying how mindlessness (Langer 1989), at all levels of the organisation, could be contributing to contextual ambiguity. Leaders must engage local consumers, community and professional stakeholders and rural nurses in candid re-examination of organisational policies and processes, local health seeking behaviours and expectations for care. Reform of policy, process and practice can then be based on an understanding, and acceptance of, the complexities of the local context.

The adapted model can be used to think differently about curriculum development in rural nurse preparation and continued professional development. In order for rural nurses to develop the required capabilities and characteristics to master ambiguity, programmes of learning need to focus on enhancing rural nurses’ self-awareness, advanced logistical thinking, rural-specific bioethics and political awareness, mindfulness, creativity and assertive communication.

Nurse leaders may use the model to better inform recruitment, performance management and professional development strategies. A greater understanding of the specific capabilities and characteristics required in the rural context may assist in attracting, supporting and retaining rural nurses. The model could assist health service nurse leaders to lead local policy and practice reform.

The purpose of this article has been to generate discussion and debate about how rural nursing practice is defined and conceptualised. Further research into the link between practice theory, cognition, capabilities and behaviours, and the interconnection between practice and context is important future work.

Finally, the notion of mastering ambiguity may have relevance to other areas of nursing practice where the context creates a high level of uncertainty and ambiguity.

Conclusion

By examining the practice of rural nurses providing unscheduled care via the telephone, in this study we revealed a similar, yet more complex and ambiguous environment to that when providing in-person care. Adapting an ambiguity tolerance model has enabled intangible concepts related to rural nursing practice to be presented using language that is theoretically, philosophically and practically familiar to nursing.

Contributions

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References


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