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EDITORIAL

# The role of risk theory in rural maternity services planning

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The recent closure of rural health services in many developed countries has been a natural experiment as health planners strategically adopt regionalized systems of care to combat staggering healthcare system costs[1]. Regionalization is predicated on offering health services in selected discrete locations ('referral centers') as opposed to in every local community of reasonable size. Where complex, specialist-based care is required, this approach is fiscally sensible, professionally sustainable and leads to good patient outcomes[2]. When the dislocated service falls under the umbrella of 'primary care' (those services that in usual circumstances do not require specialist support but instead benefit from a generalist, wholistic model of care), the efficacy of care in referral communities is not as clear. Notions of 'risk', both of local care and care in a referral center, is at the heart of this discussion. This phenomenon is perhaps best illustrated with the case of rural maternity care. The purpose of this Editorial is to extrapolate contemporary theories of risk and apply them to a current and pressing health service delivery issue as a way of illuminating their usefulness in framing the discussion.

## The challenge of rural maternity care

During the past decade we have seen the precipitous closure of rural maternity services in Canada[3,4], the USA[5], Australia[6], New Zealand[6] and parts of Europe[6,7]. These closures have occurred due to a confluence of factors including the regionalization of health services delivery in many jurisdictions[4], physician recruitment and retention challenges[8], limited access to midwives[9,10] and diminished access to nurses trained in obstetrics[11]. Most communities that still offer local maternity services to parturient residents in the absence of surgical back-up are witnessing a high outflow of women leaving to give birth in larger centers in order to ensure immediate access to cesarean section

capabilities should they be needed. A minority of women choose to stay in their home communities to give birth in the absence of such access[12]. There is scant data on population health outcomes for women who must travel to access care or on the safety of services without local surgical back-up[13,14].

## The question of risk: a dichotomy of approaches

There has been a steadily growing body of literature on the social costs incurred by women who must leave their community to give birth[5,6,15]. The decision-making process of parturient women privileges social interpretations of risk while physician care-providers are more likely to privilege clinical interpretations[16]. These divergent risk perspectives lead to a parallel discussion marked by conceptual dissonance, often resulting in an impasse: disagreements about whether the parturient woman should leave the community or give birth locally[16].

Considered theoretically, this dissonance is not a new problem. For decades, scholars of risk have applied their resources to understand the break between social and scientific rationality and the relationship – or dissonance – between experts and laypersons' conceptualizations of risk. The clash of clinical and social risk in childbirth falls directly in this domain. The genesis of this literature emerged in the 1980s in response to growing public concern over accelerated developments in science and technology[17]. It was a short conceptual step for scholars to apply emerging theoretical domains to biomedicine, specifically pregnancy and childbirth, where clinical notions of risk have led to marginalizing other parts of the birthing experience[7,18,19]. Pregnancy, labor and delivery, as a microcosm of epistemological issues of risk, acutely point to the dilemma of increased technological solutions leading to better health outcomes with only a passing discussion of the potential morbidities that may result in applying such technology. Physicians may see leaving the community prior to the onset of labor to be the least risky course of care, but the birthing mother who must leave, for example, her other two children – and partner – behind, might not see it this way. The risk scholar Ulrich Beck illustrates such decision making as follows: '[W]hat becomes clear in risk discussions are the fissures and gaps between scientific and social rationality in dealing with the hazardous potential of civilization. [This leads to the] two sides talk[ing] … [from different, mutually exclusive frames of reference]'[20].

Alongside the emergence of risk-aversion is the problem of risk perception, namely determining what people mean when they say something is risky (and what influences the designation)[21-24]. A leading theorist in this area was Paul Slovic, who queried the relationship between experts and laypersons in conceptualizing risk. He noted that 'experts' judgments appear to be prone to many of the same biases as those of laypersons, particularly when experts are forced to go beyond the limits of available data and rely upon intuition'[21]. This notion that risk is subjective touches on the social construction of risk, including identifying who is defining the risks, under what circumstances and in whose interest[25,26].

Slovic notes that evidence suggests 'people apprehend reality in two fundamentally different ways, one variously labeled intuitive, automatic, natural, non-verbal, narrative and experiential, and the other analytical, deliberative, verbal and rational'[27]. What is remarkable in Slovic's dichotomy, however, is that neither approach is considered superior but instead both are required for a thorough assessment of risks[28,29].

### *Risk subjectivities*

Intuitively, individuals will make risk judgments not based on what they think about a particular activity but on how they feel about it, premised on previous life experiences. Beck summarizes this subjectivity when he says that assessments of risk are normative: 'Behind all the objectifications, sooner or later, the question of acceptance arises and with it anew the old question: how do we wish to live? What is the human quality of humankind, the natural quality of nature which is to be preserved?'[20]. These questions echo the lament of the

natural childbirth movement in the face of increasing technologization from what is believed to be an inherently natural practice[30]. It applies equally to rural women who prioritize the social aspects of birthing at home above considerations of clinical risk in the absence of cesarean section.

## Discussions of risk in childbirth

There has been a growing field of scholars who recognize dissonant interpretations of risk in childbirth. MacKenzie and Teijlingen critically analyze the preoccupation with risk[7], MacDorman and Singh examine maternity risks in relation to midwifery models[31] and Leonard and colleagues examine the link between medical risk factors and social risk factors[32]. Handwerker examines the relationship between poverty and the label 'high risk', how this relationship intersects with litigation and how these intersections affect care-seeking behavior[33].

In the context of shared decision making between a care provider and birthing woman, contemporary risk assessment combines the clinical judgment of care providers with policy guidelines and standardized risk assessment indices – tools that measure additive, quantifiable obstetrical risk factors that result in an overall score predicting adverse perinatal outcomes for a given patient[34,35]. This multi-dimensional approach allows the experiences of the parturient, who will ultimately bear the consequences, to be incorporated into the decision-making process. The highly subjective nature of the birth experience, however, leads many scholars to question who should have more influence over the definition of risk when it is a case of multiple-criteria decision making[36-38]. Further, it is not clear whether shared decision making in these situations reduces decisional conflict or enables clarity regarding the difficult balance of power between care providers and birthing women[39].

# Conclusion

The challenge of competing modalities of risk between clinicians and patients (in this instance, between physicians and child-bearing women) is worked through, with varying degrees of consensus, in every clinical encounter. Some of the frameworks and strategies reviewed here are intuitively employed without reference to or awareness of the theory that underpins them. However, perhaps a more nuanced understanding of the beliefs that guide our approach to risk, whether they be 'lay/social' or 'expert/rational', would be useful in the clinical encounter. Perhaps an understanding of the larger framework that sees risk as holistic, incorporating intuitive and analytic dimensions, will pave the way for productive discussions between providers and women or providers and any patients they provide care to. Ultimately, recognizing that risk is based on how we feel may go a long way to normalizing differences.

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