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Converging Epistemologies: The Historical Evolution of
Inuit Childbirth in the Canadian Arctic

by

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Abstract

This research examines the historical evolution of Inuit childbirth and midwifery practices in the Canadian Arctic. It uses the theories of Michel Foucault, Ian Hacking and Bruno Latour to create a historical framework within which the development of Inuit childbirth can be understood and the possibilities and limitations for its future delineated. It incorporates five separate studies, each of which approaches the history of Inuit childbirth from a different perspective.

The first study is a comprehensive literature review of the state of clinical, anthropological and historical research on Inuit childbirth. The second paper examines the relevance of historical theory and methodology to understanding current issues in the Canadian Arctic. The third considers the critical issues in Inuit childbirth and determines their importance for political developments in the Canadian Arctic. The fourth study examines the conflict between Southern biomedicine and Inuit epistemology of health and explores the possibility of coexistence between them, using the community birthing centres in Nunavik, the Inuulitsivik Maternities, as a possible solution. Finally, the fifth paper evaluates the

success of the only other community birthing centre in the Canadian Arctic: the Rankin Inlet Birthing Centre in Nunavut.

Together these studies construct the history of Inuit childbirth as a concept closely allied with the Inuit epistemology of knowledge. Rather than existing as a static collection of practices and rituals, childbirth epitomises the Inuit world-view and is central to it. Ultimately it is what the Inuit define it as, which is why the epistemological authority of Southern biomedicine is explicitly rejected, while biomedical techniques are enthusiastically adopted. Understanding this is the key to creating an epistemological accommodation that will fulfil both the priorities of Southern governments and health authorities and of the Inuit themselves.

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Chapter One

Chapter One: Introduction and Overview

Background

Traditional Childbirth, then and now

A typical Western/Southern view of what traditional Inuit childbirth was can be summed up by two images. The first (Figure One) is a carving done in 1963 by Toona Erkoolik, a master carver from Baker Lake in Nunavut.



Figure One

Toona Erkoolik: Woman in Childbirth (1)

It represents a woman in labour, in the position that was noted by early ethnologists as typical of many Inuit

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women in labour. Its naturalistic pose fits in well with Canadian conceptions of the traditional life of the Inuit, leaving it open to romanticism and a certain sense of the untamed Arctic frontier. The other (Figure 2) is a photograph taken in 1948 by Frank Harrington in a camp of the Caribou Inuit in the Kivalliq.



Figure Two

Richard Harrington: Inuit woman in childbirth (2)

It suggests anything but romanticism. This woman, although in the same birthing position as the statue, is obviously experiencing extreme deprivation. The camp was, in fact, on the brink of mass starvation, and Harrington's photographs contributed to the decision on the part of the Canadian government to begin providing welfare to the Inuit, especially the Barren Land (or Caribou) Inuit and relocating them to government sponsored settlements.



Figure Three

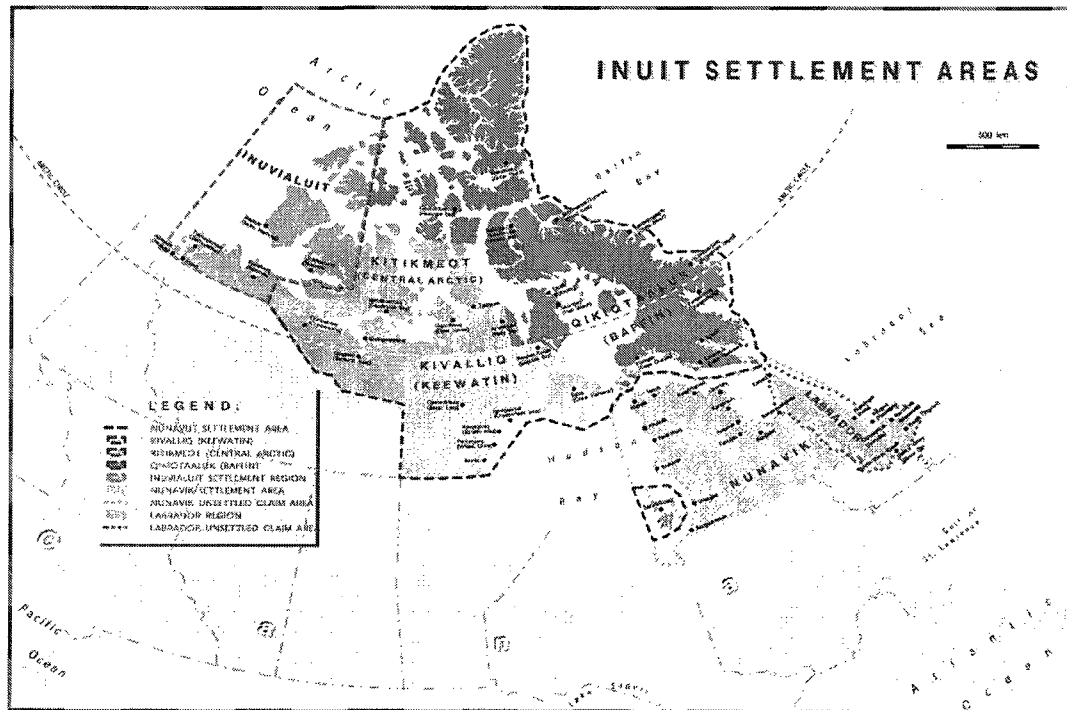
Vasiliki K. Douglas: Records Room, Puvurnituq¹

By contrast, Figure Three would probably not suggest a traditional birth to most viewers - it is an image of the records room in the Inuulitsivik Maternities in Puvurnituq, QC. Yet to the Inuit themselves, all of these images represent traditional childbirth. What connects them, what makes a records room that appears to be a normal part of a modern hospital traditional, is the question that this dissertation seeks to answer, and in doing so determine how traditional, pre-modern Inuit childbirth can survive within the modern biomedical system.

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Inuit Government, Land and Childbirth

The traditional lands of Canadian Inuit lie within two of Canada's territories and two of its provinces.



Map One: Inuit Settlement Areas in Canada²

Beyond Canada, the Canadian Inuit are members of a loose association of circumpolar indigenous peoples who share both ethnic ties and a common climatic zone. Relations vary from the very close (Greenlandic Inuit and Alaskan Eskimo share a common tongue with Canadian Inuit, although their written script often varies (3)) to

¹ Photograph taken by author. Reproduced with the permission of the Inuulitsivik Maternities

² Reproduced with the permission of the Makivik Corporation

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considerably more distant in the case of the Saami (Laplanders).



Map Two: Circumpolar Region³

Although Nunavut is identified in the public eye as the heartland of Canadian Inuit territory, significant numbers of Inuit live in the Nunavik Region of Northern Quebec, the Nunatsiavut region of northern Newfoundland and

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the Inuvialuit Settlement Region of the Northwest Territories (4). In all these jurisdictions the Inuit are rapidly achieving a considerable degree of autonomy, including regional legislatures in Quebec and Newfoundland, the territorial legislature in Nunavut, and administrative self-government in the Inuvialuit Settlement Region in the Northwest Territories (5). Remarkably, health care and specifically childbirth have been major factors in galvanising Inuit interest in self-government, particularly in Nunavik (6).

Childbirth is interesting because it is a topic that the Inuit consider fundamental to their identity as a traditional people (7), but to Southern eyes Inuit childbirth, as it exists today, is not traditional - it is thoroughly integrated into the biomedical system, whether conducted in a southern hospital obstetric ward or in a birthing centre in the Arctic itself (8). Nor do the Inuit themselves want to return to the techniques and technologies of traditional childbirth of their forebears (and the high mortality rates that accompanied it) (9).

This raises the question of what Inuit childbirth is - not so much from the Southern perspective, but from the Inuit perspective, and how it can be comprehended

³Reproduced with the permission of the Makivik Corporation

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historically in such a way as to render both the Inuit attachment to childbirth and their comprehension of it as traditional intelligible. By answering this question we also learn more about the ability of non-Western indigenous peoples to both retain and to adapt their traditional beliefs as they are put under pressure to become modern.

Childbirth is an important issue for the Inuit and a significant one for this study for several interrelated reasons. First, the Inuit do not conceive of either health or childbirth according to the same epistemological assumptions as Southern Canadians. Their definition of a healthy outcome differs in important ways from the Southern one (10). Second, in their view control over childbirth has been lost since evacuation for birth to regional or southern obstetric wards became standard medical policy in the 1970's (11). Regaining control is seen as a means of asserting Inuit autonomy and Inuit values (12). The catch is that the Inuit do not want to discard southern techniques or technology, they want to incorporate them into their own approach to childbirth (13).

Thus, childbirth has become, as I emphasise repeatedly in this dissertation, a vital topic in the Canadian Arctic. However, discussions of its present and its future need to be grounded in a solid understanding of its historical

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evolution. For Inuit, birth is ineluctably tied to their history. Attempts to introduce radical, ahistorical change have already proven to be failures (14), while an understanding of what the history of Inuit childbirth is will be much more likely to inform future developments with success. Ultimately that is the goal of this study, to suggest how Inuit childbirth can benefit from an understanding of its history and how that history could guide it into the future.

Design

This work was informed by an underlying intention to develop a historical framework that allows Inuit childbirth to be comprehended as an historical entity - one which has changed, but retains an ontological connection with its past. Such an historical entity is dependent on the existence of a distinct and evolving Inuit epistemology of knowledge - a way of knowing - that determines what Inuit childbirth is. Implicitly, Inuit childbirth has been considered as a human kind - the term Hacking (15) uses for a thing which is real, but is also human generated and thus subject to human definition. Thus, while childbirth is a biological process, *Inuit* childbirth is not. It is culturally mediated and dependent on the existence of an

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epistemologically distinct cultural entity - the Inuit - and their interest in maintaining it as a concept separate from the Southern biological model of childbirth. An important part of Hacking's definition of human kinds is that they do not possess stable definitions - they exist, but they exist in time, as historical entities that evolve as people change their definition of them and are changed by their definition of them in turn (15). Thus, how the Inuit define Inuit childbirth necessarily changes how the Inuit view themselves. As their perception of themselves changes, their definition of what constitutes normal or acceptable Inuit childbirth changes as well, which in turn influences their image of themselves, and so on. Using this concept as a guide to studying the changes to childbirth in the Arctic has caused three questions to inform the progression of this study:

1. How has Inuit childbirth evolved from contact with Europeans through to the present?
2. Does the application of historical methodology and theory explain the changes in Inuit society and culture caused by contact with Southern knowledge and institutions?
3. How do the Inuit reconcile their epistemology of knowledge with southern norms and what implications

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does this have for the relationship between modern and non-modern peoples?

This has led this doctoral dissertation to be composed of five separate studies. Chapter Two is a comprehensive review of the historical literature concerning Inuit childbirth in Nunavut and Nunavik. Chapter Three demonstrates the applicability of the historical methodologies of Hacking, Foucault and Latour to current issues in the Canadian Arctic. Chapter Four defines the importance of Inuit pregnancy and childbirth in the light of efforts to renew Inuit childbirth traditions. Chapter Five considers Inuit health as a viable alternative to the Southern epistemology of health and considers to what extent it remains viable among the Inuit. Chapter Six examines the establishment of the first community birthing centre in Nunavut, the Rankin Inlet Birthing Centre. Finally, Chapter Seven concludes the dissertation, linking the previous four studies into a coherent whole and examining the case for a new definition of Inuit childbirth as a human kind and its implications both for Inuit culture and the Inuit relationship with Southern healthcare.

Chapter Two: Childbirth among the Canadian Inuit: a review of the clinical and cultural literature

This study reviews the literature concerning Inuit

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childbirth from early narratives through to recent clinical and anthropological studies of the characteristics and health status of Inuit childbirth. Three main periods can be discerned, although each contains considerable historical evolution of its own. First, from pre-contact to the Second World War most Inuit remained relatively untouched by southern culture, even as contact led to the rapid adoption of Southern tools and technology. These still remained adjuncts to the traditional way of life - having little or no effect on childbirth practices and the basic life cycle (16). However, increasing military penetration of the Canadian Arctic, especially by the American military in the post-World War II period led the Canadian government to revise its traditional policy of neglect of the Inuit (17). High perinatal mortality, in fact very high mortality rates across all age groups combined with a sense that the well-being of the Canadian Inuit was both a public responsibility and an opportunity to demonstrate Canadian sovereignty over the Arctic (18, 19). The result was much higher levels of state intervention, which focussed on attempts to improve Inuit welfare by creating permanent settlements with access to modern nursing and medical care and encouraging the Inuit to move to them (16). The outpost nursing stations were

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staffed by trained nurse-midwives, who provided assistance with childbirth, preferably in the station itself (20). As air travel improved, high-risk births could be evacuated to regional or southern obstetric wards, still further reducing perinatal mortality and morbidity (21). By the 1970's, difficulties in recruiting nurses with midwifery training, coupled with medical concern to reduce risk as far as possible led to a policy of uniform evacuation to Southern hospital obstetric wards for all births in the Arctic (22). This led to the third phase in the history of childbirth in the Canadian Arctic, one that is ongoing. Inuit concern with evacuation, encouraged by both advocacy organisations, particularly Pauktuutit, the Inuit women's association (12) and some anthropologists (23), led to a movement to repatriate childbirth to the Arctic by creating community birthing centres that would combine southern techniques and technology with Inuit traditions (24). Although this movement has received numerous setbacks, it continues to receive significant support both from government and populace in the Arctic (25).

*Chapter Three: Arctic development and historical analysis:
The use of historical methodology in addressing current
issues in the Arctic*

This study applied the historical techniques of

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tracing epistemological change over time pioneered by Michel Foucault and further developed by Ian Hacking to the history of Canadian authority in the Arctic. This was linked with epistemological changes occurring throughout Western/Southern culture in this period. The applicability of this historical analysis to present issues in the region was then evaluated. This led to the conclusion that an epistemological shift in Western society has moved authority from traditional human actors in government, medicine and, increasingly science, to statistics, which is seen as both impartial and accurate (26). Human authorities now routinely appeal to statistical authority to validate policy decisions (27, 28). This change is as apparent in the Arctic as elsewhere, but has also opened a space for Inuit practices, rooted in traditional Inuit epistemology, to reassert themselves, provided they can satisfy demands for statistical validity (29, 30).

Chapter Four: Converging Epistemologies: Critical Issues in Canadian Inuit Pregnancy and Childbirth

This study analysed anthropological, historical, biomedical and first person narratives in order to determine Inuit beliefs concerning pregnancy and childbirth. These were compared with the risk factors for Inuit maternal and child health identified in the

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biomedical literature. This led to the conclusion that Inuit beliefs concerning pregnancy and childbirth are rooted in an epistemological framework that differs in important ways from Southern/biomedical theoretical norms. Evacuation to Southern hospitals for childbirth and the environmental contaminants discourse have both clashed in significant ways with Inuit beliefs, to the detriment of Inuit physical and social health. This has led to the final conclusion that Inuit beliefs concerning pregnancy and childbirth are incompatible with biomedical theory, but are not incompatible with biomedical practice. As long as researchers and practitioners become aware of Inuit concerns and adapt biomedical practices to accommodate Inuit cultural and social priorities, satisfactory clinical outcomes may be expected.

Chapter Five: Inuit Healing and Southern Health Care: Conflicting Paradigms or Nested Epistemologies?

This study approaches the question of Inuit epistemology of health from a different perspective, attempting to determine how the essential characteristics of premodern Inuit epistemology of health have been modified through contact with and participation in the Southern/biomedical health care system and how viable they remain among the Inuit population itself. The conclusion

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reached is that Inuit views on health have evolved to incorporate biomedical techniques, while rejecting important aspects of the modern, Southern world-view. Thus, a distinctly non-modern Inuit health paradigm continues to exist and engages at least a significant proportion of the Inuit populace.

Chapter Six: The Rankin Inlet Birthing Centre: Community midwifery in the Inuit context.

This study combined oral history interviews with current and former employees of the Birthing Centre, founding organisers and women who gave birth there, with a review of the literature using MEDLINE, Anthropology PLUS, CINAHL, and Historical Abstracts, and a search of the records of the Nunavut Government and the debates of the Nunavut Legislature and its predecessor, the NWT Legislature.

The analysis of the Rankin Inlet Birthing Centre interviews determines that it has been successful, but only marginally so. The majority of births still occur in Southern hospitals, either in Churchill or Winnipeg. Although the long term plan for the Centre is to train and employ Inuit midwives, thus far only two maternity care workers are employed at the Centre. All the midwives are from Southern Canada and rotate through the Centre on fixed

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terms (usually a year).

The Centre has been very successful at gaining and retaining support at the political level, with a strong official commitment to it from the Nunavut Legislature, and active support from the medical community in the Kivalliq and in Manitoba through the JA Hildes Northern Medical Unit at the University of Manitoba. Community support within Rankin Inlet is less apparent and has been slow to grow. Plans to extend the model of the Centre to other communities are long standing, but have been slow to come to fruition.

Summary

Among the Inuit of the Canadian Arctic, childbirth has come to embody many of their hopes and dreams for autonomy and cultural continuity. However, there is a very real danger that historically uninformed attempts to "fix" the problems with childbirth will simply add another layer of complications and frustrations to the existing dissatisfaction with the status quo of southern domination of health care, and especially of evacuation and its attendant social and cultural disruptions. It is possible for Inuit childbirth to coexist with southern biomedicine and health care, but it is also imperative that Inuit childbirth be treated as what it is, a human kind. As such

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it is as vital as the human beings who define it, and reflects their concerns and cultural preoccupations.

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Chapter Two

Chapter Two: Childbirth among the Canadian Inuit: a review of the clinical and cultural literature⁴

Introduction

The changes to childbirth in the Canadian Arctic over the last 60 years have been dramatic. The process of change, whereby birthing has moved from its traditional location on the land, assisted by midwives, to full integration in the biomedical system, followed by a gradual reassertion of traditional values and techniques, has only been incompletely documented. Although some extremely valuable regional studies have been made, overall this process of change remains understudied. Anthropological and historical studies of traditional birthing, using interviews and recollections of both Inuit themselves and Southern explorers to gain an understanding of Inuit perspectives on childbirth, do exist and provide valuable documentation of traditional birthing practices. Owing to the paucity of medical researchers in the Arctic, biomedical studies of traditional childbirth are much rarer, particularly of the period before the widespread

⁴A version of this chapter was published as: Douglas VK. Childbirth among the Canadian Inuit: a review of the clinical and cultural literature. Int J Circumpolar Health. 2006; 65(2):101-116.

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introduction of southern medical services. The early medical studies of J.A. Hildes and O. Schaefer (1) are an exception to this rule, although both Hildes and Schaefer largely restricted themselves to small-scale case studies or the clinical details of individual births. Their research was directed toward understanding Inuit biological and cultural adaptations to the Arctic environment and their influence on Inuit health, and to some extent on the impact of acculturation on Inuit health (2).

From the 1970's onward more quantitative studies of Inuit childbirth have been undertaken, most proceeding from a concern to reduce high levels of perinatal and infant mortality. Cultural studies have largely focussed on recording traditional childbirth practices, although some have also considered the revival of traditional midwifery that occurred in the 1980's. There have also been a number of epidemiological studies of Inuit childbirth. Most have stemmed from the Inuit reaction to medical policy favouring evacuation for all births, which was introduced in the early 1980's. Inuit groups, such as Pauktuutit/Inuit Women's Association, wish to balance preservation of their culture with perinatal outcomes. The move to re-establish community-birthing centres, which integrate traditional birthing practices with biomedical techniques is the result

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of this concern, and has also led to increased research.

There is, however, a lack of quantitative research on Inuit childbirth. Although a number of large-scale perinatal studies have been undertaken in various regions of the Canadian Arctic, all remained regional studies. In particular, there have been no attempts to link the epidemiological data for Nunavut and Nunavik (Northern Québec) despite the common cultural identity of their Inuit residents, the Nunavummiut and Nunavimmiut respectively. Thus the quantitative research remains fragmentary, and often hard to access. As Luo *et al* (3) and Baikie (4) have noted, the Canadian Perinatal Surveillance System, and other national epidemiological mechanisms, although providing useful data on the general population, do not discriminate Inuit from other populations resident in the Arctic, or distinguish Inuit children from others born in southern hospitals, save in Québec. Without both comprehensive and regionally distinctive epidemiological data it is difficult to determine the effect of regional differences in health policy upon perinatal outcomes and how they in turn compare with national results. This latter comparison is important, as health policy decisions are unlikely to be politically palatable unless their effect on perinatal outcomes compares favourably with those

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for Canada as a whole.

Most published research is the product of anthropological research in individual communities or small groups. However, Inuit customs vary across communities and regions. Therrien and Laugrand's informants (5) in Iqaluit came from different communities on Baffin Island and noted differences in traditional practices, often expressing surprise at their existence. Linking different anthropological studies together to compare their conclusions is an obvious means of gaining a sense of regional variation in traditional practices, as is an expanded version of the Memory and History in Nunavut project (5, 6, 7), in which Inuit elders discussed similarities and differences in their traditional beliefs together. The logistical obstacles of mounting such a study over a vast geographical area would, of course, have to be overcome.

The need for more qualitative and quantitative research is indicated by the widespread urge for change in birthing practices, which cuts across regional boundaries in the Arctic. Some regions, such as Nunavik, have successfully experimented with such changes, others desire to do so, while still others have encountered difficulties in implementing them. Although there is considerable

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cultural variation across the Canadian Arctic, there is also considerable cultural continuity, and institutions, such as the Inuit Tapiriit Kanatami and Pauktuutit, unite Inuit in pursuit of common goals.

Finally, populations in the Arctic are small. Regional epidemiological studies have thus tended to draw on limited populations. This has led to substantial margins of error when standard statistical methodology is followed. By drawing on a much larger population, Pan-Arctic epidemiological and qualitative research holds the potential to reduce statistical error, while linking the epidemiological data to cultural variations across the Inuit population in the Canadian Arctic.

Methods

Material for this review was gathered through a general library search, a specific search of the collections of the Circumpolar Library at the University of Alberta and both ANTHROPOLOGYplus, MEDLINE and CINAHL searches on the keywords INUIT, BIRTHING, MIDWIFERY and PREGNANCY. In addition, a search using similar subject terms was pursued through Science-Direct and a bibliographic search through the items gained from all of these avenues of inquiry elicited further documents. The

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documents obtained were limited to those articles found in scholarly or biomedical journals, books from scholarly publishers, the proceedings of academic conferences on the circumpolar region, unpublished graduate theses, published government reports and articles on birthing by Inuit themselves.

Results

Traditional Birthing

Inuit births traditionally occurred within the family group, with assistance from either an experienced midwife, or the husband, when no one else was available.

Anthropological studies by Saladin D'Anglure (8), the Traditional Medicine Research Project (9), Dufour's studies of Canadian Inuit birthing and midwifery in Northern Québec and Igloolik (Nunavut) (10, 11, 12) and the relevant volumes of the Memory and History in Nunavut series published by Nunavut Arctic College (5, 6, 7), have documented this process. Each derives slightly different conclusions, perhaps owing to the different dates of their studies, and possibly to geographical variations in birthing practices as well. The Traditional Medicine Research Project (9) describes certain prescribed positions for birthing, noting that women in labour would be required

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to assume a position, either squatting with hands braced on posts, or lying on their backs with their feet braced against a pad held by the midwife. The other studies disagree with this conclusion, noting that regional variations in birthing positions exist. The elders interviewed by Therrien and Laugrand (5) stated simply that the birthing position was chosen by the woman in labour. Both Saladin d'Anglure (8) and Dufour (12) noted that a traditional attendant known as the *sanaji* was responsible for cutting the infant's umbilical cord and thereafter assumed an important role in the child's life. Guemple (13) also recognised the role of this attendant among the Belcher Island Inuit, where the term used is *sanariak*. In addition to cutting the infant's umbilical cord, the *sanariak* was responsible for providing the first set of clothes for the child and maintained a close familial relationship thereafter. The *sanaji/sanariak* is a role distinct from that of the midwife, although midwives could also act as *sanaji* on occasion and Kootoo (14) does identify the *sanaji* with the midwife. According to Dufour (12), the role of men in birthing varied. In Igloolik men were excluded from the birthing process altogether, while in Nunavik men were only involved if no women were available. Laugrand, Öosten, Trudel and Kublu (15) noted

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that if spiritual interference in the pregnancy or birth was suspected, the shaman (usually male) would then also take on a role in the birth. However, birthing only concerned the shaman when supernatural interference was already suspected. The shaman's role was simply to restore normal birthing conditions by removing the interference from either a spirit or another, malicious shaman. Stern & Condon (16) concur with both of these conclusions in their study of the Western Arctic community on Holman Island. They also note that the traditional Inuit practice of giving birth while dispersed over the land in small groups was owing to the periodic lack of game leading to the need to maintain a low population density. In other words, Inuit birthing practices may have been determined by the survival economy. More resource rich and affluent areas, such as Northern Québec, may have maintained a more consistent and ritualistic set of birthing practices.

The elders interviewed by Öosten and Laugrand (6) agreed that among the Eastern Arctic Inuit the roles of attendants were very fluid. Although ideally both an experienced midwife and assistants would be present at the birth, often children were born while in transit, or in hunting camps. In such cases either men would undertake the duties of birth attendant or the birth would be

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accomplished without any assistance whatsoever. According to these elders, some of whom came from Igloolik themselves, women were free to assume any birthing position they wished, and the characteristics of any particular birth varied depending upon the circumstances. Thus, ideally, another woman experienced in midwifery would assist, along with one or more less experienced women and girls who would benefit from the experience. During travel, however, it was not uncommon for women to give birth with no one but their husbands to assist them.

Although these studies disagree on the details of childbirth practices, these variations may be ascribed to geographical and chronological distance from one another. All of these studies indicate that childbirth was traditionally a communal responsibility. That is, both midwifery and the birth itself were regarded as being under the authority of the elders, who were generally defined as the most experienced and respected members of the community. Birthing practices were mediated by the consensus of the community and the pregnant woman herself on what would be best for mother, child and community. This perspective is confirmed by interviews and articles by traditional Inuit midwives, which emphasise the community role in childbirth and the multiplicity of techniques that

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might be used to deliver a healthy child (17, 18). In this world-view, the only role for an expert in any way analogous to that of the biomedical doctor was that of the shaman, as Laugrand *et al* affirm (15). Therrien (5), Dufour (12) and Saladin D'Anglure (8) agree that his role was distinctly peripheral to the normal birthing process.

Anthropological studies by Borré (19, 20) have demonstrated the importance of "country food" (usually seal, but also caribou) to the Inuit sense of well being, particularly that of the pregnant woman. Therrien's (21) study of Inuit traditional health supports this conclusion, and further suggests that well being is dependent on community involvement, and, crucially, on the health of the community as a whole. Thus the individual's health, including that of the pregnant woman, is traditionally tied to communal health in Inuit society. The identification of individual health with community health has had important implications for the relationship between biomedicine and the Inuit community. It has led to resistance to medical authority through unreported pregnancies in order to allow community births. Where resistance has not occurred, medical intervention has led to a severe erosion of community self-confidence, with the attendant social problems (eg. alcoholism, abuse, suicide) that a loss of

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community morale entails.

Until the Second World War, however, Inuit remained largely self-sufficient in health. Duffy (22) has outlined the historical development of the Canadian government's involvement in the region in the context of its failure to adequately address inequities between the Inuit and southern Canadians. He notes that prior to the Second World War the only medical facilities available in the Eastern Arctic were two mission hospitals, one in Pangnirtung, the other in Chesterfield Inlet, and the physician who accompanied the yearly cruise of the Eastern Arctic Patrol. There were two more mission hospitals in Aklavik in the Mackenzie Delta that provided some obstetrical services to the Inuvialuit of the Western Arctic. Most Inuit, however, followed traditional methods of healing in general, and childbirth in particular, until at least the 1950's.

Medicalisation of Childbirth

The Second World War led to an enormous increase in Canadian government involvement in the Arctic. Smith (23) has pointed out that increased availability of southern health care was matched by intrusive attempts to extend political and administrative control over the Inuit populace. The excuse was the need to collect medical

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statistics on the Inuit population in order to identify risks to their health and efficiently deliver medical services to them. This was done through the creation of an identity disk system⁵ that functioned both as a means of keeping medical statistics and, ultimately, as a means of controlling access to the government services that were both becoming available and mandatory, such as schooling, medical services and hunting restrictions. It also became a means of enforcing the government policy of creating permanent Inuit settlements. Inuit health was perceived as being in crisis during this period, with dismal indicators in general, and very high perinatal mortality statistics in particular. Jasen (24) has suggested that perinatal mortality became symbolic of the Canadian government's responsibility toward the Inuit and reflective of the government's neo-colonial approach to the Inuit. The solution to improving perinatal outcomes was initially moving the Inuit into villages with access to some degree of medical treatment, even if only drugs dispensed by resident Southerners.

⁵The Inuit Disk List System was analogous to (and modelled after) the identity disk system used by the Canadian military. It was originally intended as a simple means of identifying individual Inuit for medical records keeping, but proved useful for controlling access to government services as well.

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This led to the creation of community health centres, also referred to as outpost nursing stations, in the villages that the government established and simultaneously insistently encouraged the Inuit to move to in the 1950's. Nurse-midwives staffed the community health centres and provided primary medical care, while physicians made regular visits to each community. Like Jasen (24), Kaufert *et al* (25, 26) have described the movement of birthing from the community to the nursing stations as a reflection of the process of colonisation that the Canadian government was imposing on the Inuit. By the late 1960's this process evolved into a medical policy that was formulated to discourage traditional birthing altogether in favour of either nursing station births or emergency evacuation to a southern hospital for delivery. This increasing imposition of dependence on southern obstetrical services has been documented by the same research group, particularly John O'Neil (27), who provided the anthropological component of a multidisciplinary investigation of childbirth in the Kivalliq (Keewatin) region.

By the late 1960's most Inuit had access to primary medical care through their community health centre. As well as the services of a resident nurse-midwife, medical staff, including specialists, visited each community

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periodically. During this period childbirth gradually shifted from the home and the purview of the community to that of the nursing station and the nurse-midwife. Community involvement in the pregnancy and birth remained significant, if less than before. Rajsigl (28) suggests that traditional midwives remained intimately involved in the birthing process and were even present in the delivery room in the Iqaluit hospital as late as the early 1980's. There is no documentation given for this claim, however, and it is not reflected in research conducted by Kaufert *et al* (25) in the Kivalliq region. The creation of an integrated medical system appears to have been completed by the 1970's. A major perinatal study (29) undertaken in 1973-4 by the Canadian government concluded that Canadian Inuit had better access to primary medical care than southern Canadians. There was undoubtedly resistance to the medicalisation of childbirth, including women who contrived to give birth outside the nursing stations, according to Kaufert *et al* (30). However, most deliveries occurred in a medical environment, limiting the scope of traditional childbirth practices.

O'Neil *et al* (31) used the results of the 1988 Childbirth Experience Survey of the Kivalliq Region to study the process of medicalisation there, although placing

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less emphasis on the role of nursing staff and more on that of the medical profession and government. Their survey was hampered by lack of data caused by the small population, incomplete participation and loss of some results.

Selection error, inasmuch as those Inuit who declined to participate had their views selected out, may have also played a role. However, it still provided a qualitative anthropological analysis of the experiences of childbirth of Inuit mothers, traditional midwives and nurse-midwives. Their survey also interviewed southern policy makers and medical staff and examined the medical records of the region dating from the 1950's. They pointed out the disruptive effects of the medicalisation of Inuit childbirth, beginning with the establishment of the outpost nursing stations in the 1950's, and the consequent disruption caused to traditional Inuit birthing patterns.

With the medicalisation of childbirth perinatal statistics became more exact and epidemiological studies became possible. The first attempt to mount a rigorous epidemiological study of childbirth was the Perinatal Mortality and Morbidity Study of the Northwest Territories (32). Rather than attempting a statistical sample, the study examined all births (Inuit, Indian and white) in the Northwest Territories over a two year period (1973-4) (33).

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Although the interim report of the Survey suggested that increased evacuation would improve perinatal morbidity and mortality rates (34), the final report presented radically different conclusions. The authors concluded that the primary health care system in the NWT was adequate and indeed superior to that available in southern Canada. They suggested that improved socio-economic status would be the greatest determining factor in improving perinatal health. They further raised a point not examined before or since, suggesting that increased evacuation to southern obstetric wards would lead to more surgical intervention, particularly caesarean sections (32). This, they pointed out, carried its own health risks for women in remote communities.

Two further quantitative studies of infant mortality were conducted in the late 1970's. The first, by Murdock (35) in the Eastern (Baffin) Region, found a very high incidence of birth abnormalities, but has had its methodology called into question by Robinson (36) on the grounds that it constituted a hospital based study, rather than a population study. A similar study of birth abnormalities among the Inuit of Keewatin, which gathered information on both births evacuated to southern hospitals and those occurring in the community (either in the nursing

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station or outside it) (37, 38), concluded that the mortality and morbidity incidence of community births was no higher than those evacuated to hospital.

In contrast, Rajsigl's (28) retrospective case-control analysis of infant mortality patterns in Iqaluit, Pangnirtung and Igloolik from 1950 to 1980 did conclude that evacuation significantly decreased infant mortality, and that evacuation to southern centres was preferable to evacuation to the regional hospital in Iqaluit. This study relied on relatively small birth cohorts from only three communities to reach these conclusions and did not provide a convincing level of statistical proof, in part because unspecified numbers of records were disregarded owing to missing data. This study indicates, however, that even with the presence of midwives in each of the nursing stations, evacuation for childbirth steadily increased over the course of the 1970's. By 1980, up to 98% of pregnant women were transferred to either Iqaluit or Montreal for birth, despite medical policy which officially favoured nursing station births (28, 32). At this time, as immigration policies changed, the supply of trained midwives for the community health centres began to decline. Concern with perinatal outcomes, coupled with increased availability of air transport, led to a policy of uniform

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evacuation to hospital obstetric wards for all births in the Canadian Arctic. O'Neil et al (27) discuss this process as the logical extension of the medicalisation of Inuit childbirth, and the stimulus to increased tension between Inuit culture and biomedicine.

Evacuation for Birth

As air transport improved in the 1960's and 70's more women were evacuated to regional hospitals or major southern hospitals for childbirth. However, as Kaufert et al (30) point out, official medical policy continued to favour community birthing, supervised by nurse-midwives, and community involvement in childbirth remained significant.

Medical policy regarding childbirth in the Arctic changed in the 1980's. Kaufert and O'Neil (39) have pointed out that, historically, nurse-midwives in the Arctic were recruited from either the United Kingdom or New Zealand, since Canada possessed no domestic midwifery tradition. Physicians also tended to be non-Canadian, usually British or European. Changes in Canadian immigration policy in the late 1970's, however, restricted recruitment overseas. Although the Canadian nurses recruited to replace foreign nurse-midwives were technically trained in midwifery, they were seldom

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experienced, leading to an understandable reluctance to perform deliveries when evacuation was an option. At the same time, younger Canadian physicians taking up practice in the Arctic were uncomfortable with midwifery and pressed for evacuation to obstetric wards, where a physician could attend all deliveries. The result was a *de facto* medical policy of uniform evacuation for childbirth throughout the Arctic (30).

The regional hospitals in the North (Yellowknife, Iqaluit and Churchill) were the initial beneficiaries of this policy, but increasingly women were evacuated directly to teaching hospitals in southern Canada, as noted by Macaulay in his study of mortality in the Kivalliq Region (40). Kaufert and O'Neil (41) have pointed out that this shift was caused by both epidemiological and clinical reasoning: The initial premise is that reductions in perinatal mortality and morbidity are dependent on the sophistication of the obstetric services available. Lessard and Kinloch's (42) study of births in the Central Arctic validated the change in policy by noting a general decline in infant mortality in the mid 1980's, attributing this to increased evacuation to Stanton Regional Hospital in Yellowknife. In addition, as O'Neil *et al* (27) noted, increased evacuation for birth of women in the Kivalliq

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Region to both Churchill Regional Hospital and Health Sciences Hospital in Winnipeg was also associated with improved perinatal outcomes. Lessard and Kinloch's (42) study even concluded that pressure for community-birthing was likely to limit further improvements in obstetric care obtainable through evacuation to a regional or metropolitan hospital. Following the same reasoning, further evacuation to a more sophisticated obstetric ward in a southern hospital would produce further improvements in perinatal outcomes. Rajsigl recommended this move (28), while Kaufert and O'Neil (39) have also noted the tendency for evacuation to be increasingly directed beyond the regional hospitals to southern centres.

However, Finnemore (43) and Robinson (36) challenged the premise of this policy, that evacuation would (and did) improve perinatal outcomes. The former noted that improvements in infant mortality rates were difficult to attribute to evacuation. Rather, improvements in community prenatal care were more likely to have been a determining factor. Robinson criticized all quantitative studies of Inuit childbirth. In particular, she pointed out that studies of infant mortality and morbidity in the north suffer from a lack of data for statistically valid conclusions. She noted that both the populations and the

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statistical samples are simply too small in most cases. This problem has most recently been identified by Muggah, Way, Muirhead and Baskerville (44), whose study of perinatal outcomes of births in the Baffin Region (Nunavut) from 1998 to 2000 found high prematurity rates, but reached only tentative conclusions since the study population was too small for statistical validity.

This problem with numbers in Arctic health research has not yet been rectified. Two large-scale surveillance systems do exist: the Canadian Perinatal Surveillance System (CPSS) (45), which tracks childbirth statistics across the nation and the Northern Contaminants Programme (NCP) (46), which is part of the multinational Arctic Monitoring and Assessment Programme (AMAP) (47, 48). The CPSS, however, does not provide an adequate mechanism for distinguishing the ethnicity of women or their children anywhere outside of Québec. NCP and AMAP, on the other hand, are focussed on environmental contamination, including fetal and breast milk contamination, but do not track perinatal statistics in general.

The controversy over evacuation was driven by Inuit dissatisfaction with medical services in general and with evacuation for childbirth in particular. An essential component of traditional Inuit health is their connection

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with the land, which functions as an important part of Inuit identity. One of the most important components of this connection is birth within the community, and hence on the land itself. Thus, evacuation to centres hundreds or even thousands of kilometres away breaks this first connection between an Inuk and the land. Inuit women in the Kivalliq Region who had given birth to their first children in their communities and their later ones in Churchill or Winnipeg made this explicit when they told Kaufert and O'Neil (31, 26) that only their first children were real Inuit, not the later ones.

Other Inuit populations have proved to have a strong preference for childbirth within or close to their communities. In a comparison of Canadian and Greenlandic Inuit populations, Bjerregaard and Young (49) noted in 1998 that either community or regional birthing was preferred by 99% of the Greenlandic Inuit population, while virtually no Canadian Inuit women had the opportunity to choose the place of birth, as the overwhelming majority were evacuated to southern hospitals.

Traditional/Medical Hybrids

Inuit began pressing for the evacuation policy to be reversed shortly after it was introduced in the 1980's. In the Kivalliq Region this led to the Childbirth Experience

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Survey (27), which combined an epidemiological survey of perinatal outcomes in the Kivalliq Region since the establishment of the nursing stations through the evacuation period with an anthropological study of the experience of childbirth from traditional birthing to the inception of uniform evacuation for childbirth. Although, as noted, the Survey suffered from data collection problems, it concluded, on the basis of a partial survey of women evacuated for childbirth, that there was considerable support in the Kivalliq Region for a return to midwife-supported community birthing, although not for a regional birthing centre. In 1987 Bouchard (50) found that there was considerable Inuit interest in re-establishing traditional midwifery in Northern Quebec, and suggested that midwifery might reduce surgical interventions in delivery. In Labrador, Stevenson (51) found a similar evolution in maternity services toward evacuation, and resistance to it among Labrador Inuit.

Generally, Inuit objections to evacuation have centred on both the issue of family disruption and the medicalisation of childbirth, traditionally a social event in Inuit culture (52). Medical responses have emphasised means of reducing the period of evacuation, but not eliminating it (53), or have suggested that desire for

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community birthing is possibly overrated (54). Failure to reconcile Inuit and biomedical perspectives has led Grondin (55) to suggest that there is a fundamental conflict between Inuit culture and biomedicine, while Gagnon (56) notes that this seems to be the general attitude of Canadian physicians toward native healers. Pauktuutit (57), on the other hand, has suggested, through the medium of a video summarising and dramatising the progress of community birthing in Northern Québec and Nunavut, that this cultural and ethnic divide need not be insurmountable. By that time, as documented in the video, permanent birthing centres had been created in Nunavik in Northern Québec, Rankin Inlet in the Kivalliq Region and pilot projects had operated in several other communities in Nunavut.

The system of midwife-staffed community birthing centres, the Inuulitsivik Maternities, has been in existence in Nunavik (Northern Québec) since 1987. After a slow start, and some administrative setbacks, the Maternities now operate three community-birthing centres in which Inuit midwives, southern midwives and medical personnel co-operate. The Maternities also train Inuit midwives, who are then certified to work within Nunavik. The first birthing centre was opened in Puvurnituq,

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followed by centres in Inukjuak and Salluit. The demand for the Maternities' birthing centres appears to be high, with Kuujjuaq slated to receive a branch in the future (58). Another sign of the importance of the Maternities in Nunavik is that one of the major rationales behind creation of a regional government in Nunavik appears to be establishing autonomy over childbirth and thus fostering the growth of the Inuulitsivik Maternities (59).

The political and cultural circumstances that led to the creation of the Inuulitsivik Maternities have been noted in an anthropological study conducted by Lavoie (60) and in the report of the Royal Commission on Aboriginal Peoples (61). These may be summarised as the culmination of Inuit resistance to medical evacuation for birth combined with a high degree of political activism in Puvurnituq, represented by both resistance to provincial hydroelectric development and pressure for affordable and culturally appropriate housing (62). Statistics collected by the Maternities itself (63) indicated that the rate of complications and birth interventions actually decreased when the majority of births began occurring at the Maternities instead of in southern hospitals. This increase in births at the Maternities was the product of an unusual risk evaluation approach that has been an integral

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part of the Maternities' guiding philosophy since their inception (64).

In an epidemiological study conducted at McGill University, Chatwood (65) examined the risk evaluation approach used at the Inuulitsivik Maternity (now Inuulitsivik Maternities) and evaluated its success using both the birthing records kept at the maternity and provincial perinatal records. Rather than the usual risk scoring methods, the Maternity used a community-based model in which evaluating risk was the responsibility of a perinatal committee with equally weighted representation from midwives, medical staff and the community. The decision to evacuate was the sole responsibility of this committee, not of the physicians alone. Chatwood (65) determined that the Maternity's internal evaluation of its success in using a community-based risk assessment was substantially correct: That the perinatal outcomes at the Maternity were equivalent to those at obstetric wards, and the rates of birth interventions were substantially lower. A recent study of perinatal outcomes at the Inukjuak branch of the Maternities by Houd *et al* (66) has confirmed this conclusion for the first five years it operated there (1998-2002).

These conclusions confirmed the interim assessments of

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a study carried out at Laval University. That study was performed shortly after the original Puvurnituq branch of the Maternities was opened in order to assess its effectiveness. It was published in two parts: An epidemiological study by Meyer and Belanger (67) and a managerial analysis by Tourigny, Ross and Joubert (68). Both groups' assessments were generally favourable, even though there was insufficient data, since the birthing centre had been operating for only three years.

Support for community birthing in Nunavut is also evident in a variety of sources from the 1980's. Pauktuutit, the national Inuit women's organisation, gave submissions in support of community-birthing centres on the model of the one in Puvurnituq (69), as did the Inuit Tapirisat of Canada (70). Betty-Ann Daviss (71, 72, 73, 74), one of the first midwives at the Puvurnituq birthing centre, has argued for culturally appropriate birthing and praised the cultural effectiveness of the Inuulitsivik Maternities in particular. More recently, the Inuit midwives working at the Maternities have agreed that the organisation is a powerful tool to both preserve and regenerate Inuit birthing traditions and prove their compatibility with acceptable biomedical perinatal outcomes (75, 76).

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According to England (77), the first midwife employed in Rankin Inlet, the birthing centre there had a slow start. This birthing centre was studied by an NHRDP-funded team in 1996 (78, 79). Their conclusions indicated that the birthing centre was both economically feasible and medically safe. In their analysis, they noted that a traditional medical risk scoring approach was used at the Rankin Inlet Birthing Centre. Women were scored for risk based on a variety of factors, such as primipara delivery, smoking, drug use and high multipara. A high-risk score led to automatic evacuation. One result of this is that the Rankin Inlet Birthing Centre has been allowed to accept only second to fourth births that have been defined as very low-risk. All primipara and high multipara deliveries are automatically evacuated. In practice, as England (77) notes, this limits the number of births at the Centre to about 20% of the total in the Kivalliq Region. All others continue to be evacuated to either Churchill Regional Hospital or Health Sciences Centre in Winnipeg. There is no community involvement in this process on the model of the Inuulitsivik Maternities. The NHRDP study suffered obstacles in data collection as a result of this situation, as the small number of births at the Rankin Inlet Birthing Centre limited numbers for statistical sampling. This

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study (79) was also plagued by the refusal and/or inability of many Inuit women to participate in the study because of logistical and cultural factors and the loss of some records in a fire. As a result it has been difficult to reach firm conclusions regarding the perinatal outcomes of births at the Rankin Inlet Birthing Centre. As it shares a common goal with the Inuulitsivik Maternities, potentially the Rankin Inlet Birthing Centre could serve as a means of comparing the impact of cultural and political factors on birthing in Nunavut and Nunavik.

Discussion

Inuit birthing has undergone substantial changes over the last 25 years. The introduction of medical services to the Arctic in the post-war period undoubtedly began this process. However, full-scale evacuation for childbirth was more culturally disruptive than medicalised community-birthing and provoked resistance from the beginning. The results of this resistance - the Inuulitsivik Maternities in Nunavik and the Rankin Inlet Birthing Centre in Nunavut - are attempts to resolve the tension between Inuit culture and biomedicine by creating a hybrid form of health care. In this hybrid, Inuit use the tools of biomedicine, but within a framework of the traditional and communal

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authority that lies at the core of their culture. This experiment may succeed in moderating the consequences (80) of modernisation for the Inuit, and suggest solutions for other circumpolar peoples. For the birthing centres to flourish will require proof that Inuit birthing traditions work and can integrate biomedical techniques. In other words, that they are capable of producing perinatal outcomes that are at least as successful as those of hospital obstetric wards all the while retaining the communal approach to health that lies at the core of Inuit tradition. Reconciling Inuit traditions and biomedicine will require a careful balance between Inuit desires and biomedical interests.

Biomedical concerns focus on clinical outcomes and physical data, while neglecting social and cultural concerns. Currently, there is also considerable interest in the issue of environmental contamination, since both heavy metals (Hg, Pb, Cd) and persistent organic pollutants (PCB's and dioxins) reach high concentrations in Arctic sea mammals and fish, the basis of the traditional diet. The AMAP executive overview of human health concerns in the Arctic (48) has suggested dietary restrictions for pregnant women that are anathema to Inuit culture. Canadian studies have been reluctant to make such politically charged

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recommendations, since definite clinical effects have not yet been observed in the Inuit populace (81, 82, 83, 84, 85, 86, 87), while the traditional Inuit diet may actually counteract the effects of environmental contaminants (88).

Potentially this issue strikes at the heart of the Inuit connection to the land, since it suggests that the land itself is poisoned (89, 90), as well as the Inuit diet, which is the chief connection to it (20). As with evacuation for childbirth, balancing Inuit desire to maintain traditional culture with the biomedical interest in maintaining key indicators of health (eg. favourable perinatal outcomes, acceptable levels of environmental contaminants in cord blood and breast milk) will require excellent epidemiological data balanced with comprehensive anthropological research to account for cultural variations across regions.

Yet, there are currently no comprehensive epidemiological studies of the Canadian Arctic peoples. Health information on all aspects of Inuit birthing - infant mortality, morbidity, prenatal care and post-natal care - is both fragmentary and largely out of date. The most recent survey of childbirth is 17 years old, predates the establishment of birthing centres in the Kivalliq (Keewatin), and never considered other Inuit-populated

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regions of Nunavut, let alone the rest of the Canadian Inuit population in Quebec, the NWT and Labrador. The evaluations of the Inuulitsivik Maternities are similarly dated, while Houd, Qinuajuak and Epoo's (66) recent study evaluates only the Inukjuak branch. With the establishment of Nunavut, and recent proposals to create a Nunavik Assembly (59), and a Nunatsiavut Assembly in northern Labrador (91), most of the Inuit-speaking regions of Canada are in the process of gaining self-government.

Birthing has had a major influence on most of these developments, and changes to birthing are likely to occur rapidly as Inuit self-government progresses. Yet, there is little solid information on which to base decisions on policy development. There is a pressing need for comprehensive quantitative and qualitative research on Inuit childbirth to meet and inform these political developments and balance Inuit desire for a traditional model of childbirth with medical concern for perinatal outcomes and environmental health. This need is as apparent for recent developments as it is for those in the past.

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Chapter Three

Chapter Three: Arctic development and historical analysis: The use of historical methodology in addressing current issues in the Arctic.⁶

Introduction

The Canadian Arctic is facing a period of profound and rapid change in the twenty-first century, both physical, owing to climate change and resource development, and cultural, as the Canadian Inuit are increasingly drawn into southern society by the spread of modern communications and transportation technologies. The Inuit are faced with the prospect of integrating these developments, only the latest in a series of profound changes that have transported them from stone age hunter gatherers to a modern industrialised society in as little as 50 years. For the Inuit, the challenge is to find ways to meet these developments while still maintaining cultural continuity with the past and achieving the necessary flexibility to deal with the ongoing pace of change.

It seems a truism to state that current public policy and practice in the Arctic is the product of historical development. However, there is inherent in this statement

⁶A version of this chapter was published as: Douglas VK. Arctic development and historical analysis: The use of

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the possibility of a subtle and effective historical analysis of present policy, one that could offer an effective guide to how policy and practice in the Arctic not only might be changed, but just as importantly, how it might not. In the felicitous phrase used by Foucault(1) and Hacking(2), what is needed is a "history of the present"; not in Butterfield's (3) sense of a whiggish history of the inevitable progress of historical events, but rather one which separates the historically necessary from the historically contingent in order to illuminate our present predicament and suggest reasonable possibilities for change.

Methods

Epistemes, necessity and contingency.

Historical necessity and contingency refer to the relationship between policy and practice and the underlying theoretical frameworks that inform modern society and government. Some aspects of policy are rooted in the historical application of the epistemological foundations of modernism to the Arctic. Others are historically contingent. Their existence, while also undeniably modern,

historical methodology in addressing current issues in the Arctic. *Int J Circumpolar Health*. 2008;67(2-3):213-225.

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may only be incidental to the existence of modernism itself. This argument is not one sided. Inuit culture and society has itself changed since contact, not so much from the gross effect of physical and technological change, but from the impact of southern epistemology on Inuit self-definition. Both southern perception of the Inuit and Inuit perception of themselves have engaged in a subtle feedback loop, of the kind identified by Hacking (2). Thus historical analysis must consider what is historically necessary to Inuit epistemology, and what is historically contingent, in view of the evolving nature of Inuit epistemology itself.

This argument is crucially dependent on the theory of historical epistemology developed by Michel Foucault (4). According to his model, modern society and government has inherited a framework of epistemological assumptions, which Foucault called epistemes or systems of thought, that together constitute modern epistemology. These, Foucault pointed out, are historical entities. Their birth and development can be traced, and their influence on the institutional structure of modern society examined. By doing so, Foucault (5) stated, the possibility for evolutionary change can be identified and exploited. Applying historical methods to analyzing the interaction of

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modern epistemology with the Arctic offers the possibility of determining how public policy and practice represent it, what aspects are open to transformation and how the prospects for change may be evaluated.

Results

"Disenchantment", Natural History and European Expansion

The changes in the epistemological foundations of western civilisation begin in the 16th century. Foucault (4, 6) identifies this as the product of an epistemological shift in the 16th century, what Pickstone (7) refers to as the 'disenchantment of the world'. Latour (8) defines this as the separation of nature from society and thus the belief that nature can be comprehended directly and objectively through science, rather than through cultural representation. This, according to Latour (8), is the chief means by which 'modern' Europeans, from about the 17th century on, distinguished themselves from 'premodern' others. Premodern cultures conflate nature and society so that nature-culture remains whole. Modernism, on the other hand, creates hybrids of nature and culture (such as the study of the stars, which in premodern societies conflates astronomy and astrology), which are then 'purified' through dismemberment into natural and social entities. Thus,

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according to Latour (8) astronomy becomes a purely physical science, astrology declines into a fringe activity, and human sciences, such as psychology, take over its social role. Moderns profit from the hybrid nature-culture networks that are still unavoidably created, by translating and purifying them into natural or cultural entities. The process is enormously beneficial, as it allows modern societies to treat nature as an objective, manipulatable sphere separate and distinct from humanity.

This perspective underlies the approach toward the Canadian Arctic through much of the 19th century. After belief in the existence of a navigable Northwest Passage had subsided after Vancouver's expedition (9), much of the interest in the Arctic was linked to natural history. By mapping the Arctic the British Admiralty in particular hoped to strengthen British claims to the region, while also gaining information on the economic potential of the region through understanding its geography and resources. Popular images of the last Franklin Expedition notwithstanding (10, 11), most British (and later American) Arctic expeditions included a keen interest in the Inuit, both scientifically and as potential sources of supply, specimens and examples of how to survive in the harsh climate.

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The Esquimaux ... could travel easier than we, could house themselves with a hundredth part of the labour, could outdo us in killing the seal, could regale on abundant food where we would starve because we could not endure it ... (12) p. 10.

[We] could not well manage without aid of the natives and the assistance of their dogs" (12) p. 510.

This practical interest in the Inuit became explicit scientific policy in the 1851 Admiralty Manual of Scientific Enquiry (13), which was specifically written to guide Arctic expeditions (as well as those to other parts of the world), with considerable input from veterans of Arctic science (9). The Manual outlines a broad programme of scientific research in which the human sciences were accorded as much weight as the natural sciences, and occasionally conflated them, as in the section on zoology concerning the human race:

What is the average or general stature and weight of the individual and the extreme cases?

Does infanticide occur, and to what causes is it referred to?

What are the ceremonies and practices connected with marriage?

What is the general treatment of the sick, and the superstition, if any, connected with it?

How are the dead disposed of?

Note down any illustrative particulars of the government, policy, religion, superstitions, or sciences of the people; their mode of noting or dividing time, their mode of carrying on war, and favourite weapons (13) p. 397-8.

Other sections that emphasised research on human

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beings included those on geography (political geography) and ethnology. The Admiralty Manual of Scientific Enquiry (13) made an existing informal research tradition part of public policy. Since the British showed little inclination to exert more than titular sovereignty over the Arctic, their scientific expeditions and the information they gathered became the foundation of the British claim to Arctic sovereignty.

As Latour (14) has pointed out, this European programme of scientific investigation of non-European populations was intimately linked to extension of European power. Each expedition provided Europeans with more information, while the natives seldom gained much in return, leading to an increasing imbalance in knowledge in Europe's favour. As a result, Europeans could eventually disregard native knowledge and native skills, and in doing so increasingly disregard native concerns as well. Whereas scientific explorers in the 19th century needed to make use of Inuit knowledge and abilities, this need (and desire) declined as southern explorers gained confidence in their abilities.

Inuit marginalisation in public policy reached its zenith after the Canadian government assumed control over the Arctic Archipelago in 1880 (15). Canadian interest in

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the Arctic focussed on resource exploitation, and while the rhetoric of inclusion was occasionally deployed, interest in the Inuit was initially limited to their traditional role assisting scientific expeditions, and in their use as a labour force for the fur trading companies penetrating the Arctic in increasing numbers in the late 19th and early 20th centuries (16). Anthropological interest in the Inuit remained until at least the 1960's, although Balikci (17) has noted a distinct decline in anthropological fieldwork in the Arctic by the 1980's.

More recently, Traditional Environmental Knowledge (TEK) has become a focus of scientific interest, with suggestions that it has considerable relevance for the field sciences, such as zoology, botany, ecology and studies of climate change. Procter (18) notes, however, that the pattern of southern and scientific appropriation of Inuit knowledge still occurs.

Even so, there are still lessons to be learned from these interactions between southern and Inuit epistemologies. One of the more noteworthy examples of southern appropriation of Inuit knowledge is cartography. Inuit facility with cartography was much remarked on by early explorers, and continued to make a favourable impression on Arctic explorers well into the 20th century.

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Many of the early maps of the Arctic, according to Rundstrom (19) were in fact drawn by Inuit, and then transcribed by explorers. Modern epistemology considers maps to be artefacts, tools to guide exploration and eventually to establish political control. However, for the Inuit, according to Rundstrom (19) mapping was a mimetic act, a means of internalising the epistemological identity of Inuit and the land that is fundamental to Inuit identity (20, 21, 22). As such the act of mapping, of demonstrating knowledge of and identity with the land, was far more important than the map itself (which was usually an ephemeral artefact, drawn on snow or sand, in any case).

Science separated Inuit maps from their epistemological context, purifying them (to use Latour's (8) terminology) of their connection with their specific local, human meaning. Once this had been done Inuit maps became scientific knowledge, subject to verification and replication. It also led to a decline in interest in Inuit mapping skills, first by explorers and scientists, and finally by anthropologists (19).

This progression has another implication, however. Inuit mapping was derived from a fundamentally different epistemological foundation than that of southern explorers. However, because it satisfied the requirements of both

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epistemologies, both southern explorers and Inuit were able to recognise its value and both made use of Inuit mapping abilities, although for different reasons. This suggests that changes to policies and practices in the Arctic today must have value in the eyes of both Inuit and southern culture, even if those values are not actually the same.

II. Power, Government and Sovereignty.

Public policies and practices in the Canadian Arctic owe much to the emergence of modern governmentality in southern Canada and its application to the Arctic. Foucault (5) identifies the crucial episteme of modern governmentality as emerging after a second epistemological shift in the late 18th century, producing the modern system of state power.

Prior to this the state was responsible for maintaining order through the system of judicial power, in which malefactors, whether criminals or political opponents, were simply punished, usually publicly in order to serve as a lesson to others of the power of the state.

Judicial power remains an essential element of state control and was in fact the first to be extended to the Arctic, via the RCMP for punishment of serious infractions of Canadian law (23, 24). Foucault (1) traces the process by which European states in the late 18th century adopted

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many of the powers and responsibilities of the Christian Church, particularly an interest in the moral and physical health of the citizenry as a means of ensuring the moral and physical health of the nation. The spiritual health of the populace has largely remained under the purview of the Church. He identifies this as a particular type of power, which he refers to as "pastoral power" (5) in which both the welfare of the community and the state of each individual is equally important. In essence the state assumed the secular roles once occupied by the Church - such as running hospitals and social welfare schemes.

This power is manifested in a number of ways, but the models for its operation were originally the penal and health care systems. First, the penal system shifted from acting merely as an instrument of judicial power through punishing those who broke the law, to becoming a means of redeeming criminals, curing or healing them, through discipline and control (1). Health care changed in similar ways, but from a premodern system that saw the body as an extension of the natural world to one which focussed on the body as a locus of disease. The 18th century also saw the development of the "clinical gaze" or "regard" (6) and the invention of the concept of public health. Again Foucault suggests that this process also involved the application of

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pastoral power, in which the institutions of state power assumed responsibility for both the health of the nation and the health of the individual members of it.

Hacking (25) has developed this argument by pointing out that the rise of statistics (literally the "science of the state") provided the means by which state bureaucracies could apply this new form of power. Hacking (25) also identifies a change in the understanding of human nature in which, in the 19th century, the Enlightenment ideal of humanism was replaced by the ideal of the "normal" person: a statistical average that could be changed through the application of various social (or eugenic) reforms to populations. Hence normal, according to Hacking (2) leads to "normalisation", the conscious effort to force both populations and individuals to conform to desired standards, whether physical, social or cultural. It is important to remember that 19th century ideals of the "normal" still owed much to traditional Christian ideology, which was simply applied to the social problems revealed by population statistics. This is merely a translation of the Christian mission of converting all people into Christianity into a social mission of creating the kingdom of God on Earth (26). Since the state focussed on secular salvation, its mission became that of guiding the populace,

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and hence the nation, toward a cultural, physical and social norm.

British involvement in the Arctic never involved the extension of pastoral power as it was practiced within Britain itself. It was instead a classic extension of colonial power, as described by Said (27) in which the subject population is assigned a place as irrevocably alien. Canada, however, was already engaged in exerting pastoral power and policies of normalisation on its aboriginal population when it assumed sovereignty over the Arctic. From the late 18th century on unofficial and official policy toward the Indian population by both churches and state was to assimilate them into the white population (28). Although methods may have varied, the overall objective was definitely that of making aboriginals "normal" Canadians, mainly through education in either residential schools or industrial schools, usually under the supervision of a religious denomination, but ultimately under the control of the state (29, 28). In 1920 the Superintendent of Indian Affairs, Duncan Campbell Scott (30) enunciated the principle behind this ongoing policy as:

Our objective is to continue until there is not a single Indian in Canada that has not been absorbed into the body politic, and there is no

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Indian question...(p. 50)

The Inuit were not initially included in this process of normalisation. However, by the 1920's their significance for Canadian sovereignty over the Arctic was becoming apparent, as Diamond Jenness realised (31). This significance was both potentially positive and potentially negative. As Canadians, the Inuit constituted a Canadian population resident in the Arctic and a strong guarantor of sovereignty. However, as long as the Inuit remained nomadic hunter-gatherers with no social ties to Canada their identity remained suspect, and possibly malleable (23). Hence Canadian fear of Arctic exploration by both Danish and American expeditions (32) and worries that the Greenlandic Inuit constituted a threat to Canadian sovereignty because of their proximity to and potential influence over Canadian Inuit.

Thus, despite reservations over the necessity of assuming responsibility for the Inuit (15), the Canadian government did begin officially assuming more responsibility for the Inuit, transferring this responsibility for Inuit welfare to the Department of Indian Affairs in 1924 (although without applying Indian status to Inuit) and to the North-West Territories Branch of the Department of the Interior in 1930 (30). However,

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much of the rhetoric of pastoral power remained only rhetoric. The only sustained government presence in the Arctic was that of the RCMP, which administered judicial power: punishing serious infractions of Canadian law (23). The Anglican and Roman Catholic churches built hospitals using government money in Aklavik, Chesterfield Inlet and Pangnirtung, while the Grenfell Mission provided some nursing services in Northern Labrador. The Inuinnaït received the services of a government physician at Coppermine in 1929, but the position was terminated in 1931 (33). Vanast (33) has pointed out that considerable resources were spent on economic development, but far less on attempts to provide services to the Inuit. What minimal government presence was established was reduced even more by the financial economies of the Depression. Overall, throughout the first 40 years of the 20th century the Inuit were left largely free of both the benefits and the constraints of pastoral power; in effect to find their own way to negotiate the hazards of increasing penetration by southern commerce and disease.

This pattern changed dramatically during the Second World War and after. The American military began building bases throughout the Arctic during the War, and the pace of construction and size of the American presence increased

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when the Distant Early Warning Line was built in the 1950's. Canadian government concerns about sovereignty in the north and about the role of Canadian Inuit led to the implementation of a policy of normalisation. In essence, the Inuit were needed as Canada's representatives in the Arctic, as Diamond Jenness (31) had suggested two decades earlier. However, to be Canada's representatives they also had to be Canadians: to receive the services other Canadians received and (implicitly) to share a similar lifestyle, if modified for the Arctic environment.

The Inuit were increasingly encouraged to abandon their traditional way of life and settle in villages where government services, including welfare, health care and education could be provided (15). In addition the government began implementing mechanisms of surveillance and control. These included the Eskimo Disk List system (34) of identity disks issued to each Inuit entitling them to government services, including health care and welfare assistance. This proved difficult to administer to a nomadic population who were quite capable of using the disks as a form of informal currency. It was superseded by more effective instruments of social control, which focussed on limiting movement by restricting welfare and health services to Inuit with a place of residence (34).

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Other efforts by the government to normalise the Inuit included attempts to introduce a modern cash economy and find a useful niche for the Inuit within it. Thus the Inuit art industry was developed in the 1950's, while efforts were made to find work for Inuit in the resource extraction industries springing up in the Arctic (15). As part of efforts to make the Arctic "self sufficient" (in the modern economic sense) government officials also encouraged the growth of the cooperative movement in the Arctic (35).

Meanwhile, health care emerged as one of the most contentious issues. One of the most effective charges against Canadian public policy in the Arctic was (and is) the dismal health statistics in the region (36).

These became an effective means of measuring national differences in the standard of living in general after the War (37). In particular, infant mortality and morbidity statistics became the litmus test of a successfully modern nation (36). Critics of the government could (and did) point out that Inuit statistics were among the worst in the world and that infant mortality was particularly high. According to modern models of governmentality the Canadian government had a responsibility to care for its citizens. If it could not prove that it cared for the Inuit its

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authority over them and the Arctic could be questioned (34).

Thus, in order to normalise the Inuit their health statistics, particularly ones seen as amenable to medical intervention - such as infant mortality - had to meet, or even exceed Canadian norms. This led to significant reforms. Previous lackadaisical attitudes toward the health of the Inuit were replaced by a policy of providing primary health care through nursing stations staffed by nurse-midwives in each community, along with evacuation for severe cases (38). By the 1980's, as transportation technology improved, evacuation policies became more liberal and pregnant women, for instance, were routinely evacuated for childbirth across the Arctic (39). The result was a primary health care system (40) that has been described as one of the best in the world, better in fact than that available in southern Canada. It has also led to social disruption as the traditional Inuit way of life, with its own epistemological assumptions, was disrupted and replaced with an imported one.

These policies were applied with little concern for Inuit wishes. However, although often portrayed as colonial and exploitative (41) these measures in fact differ little from those used in southern Canada (or in

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most other modern states for that matter). Uniform public schooling, vital statistics registers, identity cards and a system of public health care are all common aspects of modern governmentality. If the primary health care system in the Canadian Arctic is one of the best in the world, the problem is that it is one imposed from outside, on a population that does not necessarily agree with its fundamental epistemological premises (42). As such, while the key indicator of infant mortality has reached Canadian norms, others, such as addiction, violence and suicide, remain very high (43). Attempts to improve this system through inclusiveness, including training Inuit doctors, nurses and administrators, is unlikely to succeed if it does not account for epistemological differences between the Inuit population and southern health care and governmentality.

Discussion

Statistics and Epistemological Authority

However, there has been another significant change in modernist epistemology in the 20th century, one which is, arguably, still underway. Although statistics became the measure of populations in the 19th century, their use in individual cases was emphatically rejected. This was done

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on the grounds that statistical averages could not be applied to individual variation (25). However, this too began to change in the 20th century. The development of modern significance testing by R.A. Fisher led to the application of statistics to experimental design. In 1946 the Randomised Clinical Trial was developed for drug testing. From 1962, after public confidence in the medical profession was shaken by the thalidomide scandal (44), evidence based practice - the application of the results of statistical analysis to health care practice - has become increasingly widespread. Porter (45) has identified the reliance on statistical evidence as the common means of publicly justifying the practices and, ultimately, the existence of a profession. Whereas previously modern institutions were assumed to possess an epistemological superiority stemming from their control of the natural world (8), this control has been shaken (by thalidomide and other medical scandals, global warming, etc...) and they are now turning to statistics, to numbers, in an effort to shore up their power and authority. To some extent this process may also be seen as the response by the organs of power in modern society to the increasing challenges to state and expert authority by what Foucault identified as "subjugated knowledges" (5). These are the local practices

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and epistemologies of particular groups, which have been challenging the "modern" consensus since about 1960. Statistics, by appealing to the disinterested authority of numbers, offers a means of suppressing revolts against the hegemony of modernism. As shall be demonstrated, however, it also offers a similar opportunity to subjugated knowledges to compete with modernism on its own terms. Both of these factors have significant implications for the future of public policy and practice in the Arctic.

Conclusion

Inuit Health, Statistical Validity and Policy Change

This may be seen in current issues in health care. Some aspects of health policy and practice, such as very low infant mortality rates, are crucial to southern epistemology, in particular to Canadian claims of effective governmentality (46, 47). Yet, owing to the epistemological shift that has given statistics authority over both governments and professions, especially the medical profession, a system of health care that provides a similar level of statistical "normality" carries equal validity, whatever its epistemological foundations. Thus, the Inuulitsivik Maternities in Nunavik have successfully argued that their model of communally based birthing is

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valid because its outcomes are superior to Canadian norms and hence normal in the modern definition of the term (48, 49, 50), even though the epistemological foundations of the Maternities are, as has been argued elsewhere, profoundly non-modern (51). Yet, since the Maternities provide excellent statistical evidence of their success, they are by definition also fulfilling the crucial test of modern epistemology as well. Such a compromise between Inuit and southern epistemologies is small and preserves the historical necessities in both epistemologies. However, it is the epistemological change itself that was responsible for the success of the Maternities. The interaction of modern systems of governmentality, statistical authority and Inuit epistemology created a space within which the Maternities could succeed. It is in identifying these spaces, the room for accommodation between epistemologies, and the practical need for them, that historical analysis has its place in shaping policy and practice.

Much of this argument has been dependent on a theoretical foundation originally laid by Michel Foucault. As such it may be appropriate to allow him the last word on the application of historical methods to policy in the Arctic, as elsewhere:

I prefer the very specific transformations that

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have proved to be possible ... in ... our ways of being and thinking, relations to authority... I prefer even these partial transformations, which have been made in the correlation of historical analysis and the practical attitude, to the programmes for a new man that the worst political systems have repeated throughout the twentieth century (5) p. 54.

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Chapter Four: Converging Epistemologies: Critical Issues in Canadian Inuit Childbirth and Pregnancy⁷

Introduction

Pregnancy and birthing are hot issues in the Canadian Arctic and have been since the 1950's (1). During this period childbirth in the Arctic has undergone a profound epistemological shift. Southern techniques and technology, in combination with a modern concern with perinatal mortality and morbidity rates and, more recently, environmental contamination, as is evident in the most recent AMAP (2) assessment of human health in the Arctic, have forced southern concepts and priorities in pregnancy and birthing upon the Inuit.

The Inuit, however, have their own cultural beliefs and environmental concerns, which are not necessarily those of southern scientists or policy makers. The interaction of Inuit and southern perspectives defines the critical issues facing maternal and child health in the Inuit population.

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Material and Methods

This study analyzed anthropological, historical, biomedical and first person narratives in order to determine Inuit beliefs concerning pregnancy and childbirth. These beliefs were compared with the risk factors for Inuit maternal and child health identified in the biomedical literature. Sources for data were identified through a general review of the literature concerning Inuit childbirth.

Results

Southern Health Care in the Canadian Arctic

Forty years ago Canadian Inuit were almost all supervised by the Department of Indian Affairs and Northern Development (DIAND). However, in the 1970's and 80's a policy of devolution was gradually put into place (3). Today the Inuit are divided between four different political jurisdictions, the Northwest Territories, Nunavut, Quebec and Labrador.

Medical services are even more complicated, since each region of Nunavut has a different medical services arrangement with a provincial medical system: the Kitikmeot with the Northwest Territories and Alberta, the Kivalliq with Manitoba, while Baffin has its own general hospital at

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Iqaluit which handles most births. In Nunavik, health services are provided by the Régie Régional de la Santé et des Services Sociaux Nunavik/Nunavik Regional Board of Health and Social Services, one of Quebec's provincial network of regional health boards (4). According to Baikie (5), community health and non-insured health benefits are delivered to the Labrador Inuit by the Labrador Inuit Association. Medical services are the responsibility of the Grenfell Regional Health Services, the provincial successor to the Grenfell Mission.

This patchwork of jurisdictions is surprisingly recent. Until 1976 Inuit everywhere but Labrador were administered by the Department of Indian Affairs and Northern Development's Medical Services Branch. Quebec assumed responsibility for health in Nunavik in 1976 (4), while the various regions of the Northwest Territories also experienced considerable devolution. As a result of fragmentation there are considerable regional differences in health policy, particularly between Nunavik and the Inuit outside of Quebec. In contrast, traditional Inuit beliefs and practices regarding pregnancy and birth experience only minor regional variations.

Traditional Knowledge and Inuit Birth

Traditional Inuit culture bears few similarities to

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southern culture. First, traditional knowledge does not recognise the modern division between nature and society described by Latour (6). In common with other premodern peoples (including premodern Europeans), the Inuit conflated natural phenomena with society. It was common, for example, for a shaman to be asked to find an occult explanation for a natural event - such as a miscarriage, or other illness. This tendency is still present in Inuit culture, the immanence of spirits is still widely recognised, and even Christianised Inuit have transposed old beliefs into thriving cults of demonic and divine possession (7).

Beyond this characteristic, the harsh environment of the north led to an emphasis on survival, particularly group survival. Inuit society stresses co-operation and the avoidance of conflict. The most powerful members of the community were the elders, and yet, while their accumulated knowledge gave them considerable influence, decisions were ultimately based on consensus. It is important not to underestimate this. Inuit society was not hierarchical in the sense that most southern societies are. Elders were valued for their accumulated knowledge, but had no more temporal power than this conveyed.

Traditionally, there were few large settlements, and

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the standard living unit was the nuclear family, which engaged in a lifestyle centred around nomadic subsistence activities such as hunting, fishing and gathering useful and edible plants and herbs. Religion was animistic, with a vast pantheon of major and minor spirits associated with different environments and geographical locations.

Shamans, often self-trained, mediated between the spirit world and the other Inuit, but played only a minor role in pregnancy, unless supernatural interference was suspected (8).

Different camps were usually located in close enough proximity to allow frequent visits and assistance with pregnancy and birthing, creating a social support network potentially much greater than the family unit. In addition, families gathered together periodically for cultural and economic exchange. Generally the immediate family (grandparents, parents, children) remained the key resource for survival and transmission of traditional knowledge (9).

According to the Traditional Medicine Research Project (10), funded by the Avataq Cultural Institute in Nunavik there were some general prescriptions for a healthy pregnancy among the Inuit:

A pregnant woman should always get up and go

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outside as soon as she wakes. She shouldn't sleep during the daytime and should avoid stopping in and looking out through doorways. It is very important that she exercise and not stop doing her normal chores, otherwise the birth will be difficult. She should not urinate or defecate indoors. A miscarriage can be stopped in the second or third month through the application of a heated stone or sand to the lower stomach region. This should not be done later in the pregnancy.

During the actual childbirth a midwife assists. She is usually a woman who has attended many births from a young age and is carefully trained by older midwives. For a prolonged labour the woman is held from behind and supported on each side, with her hands holding ropes. If this continues for a few days, an adult would be chosen to run as fast as possible out of the tent, around it twice and back in - to encourage the baby to follow. If this didn't work, the baby would be given a name and would be called, until it answered and came out.

When about to deliver, the woman kneels, leaning forward and grasping two poles stuck in the ground. A flat piece of wood, wrapped in a cloth, is placed at the base of the spine. The midwife stands behind her, a knee on the board and her arms reaching around under the woman's breasts, lifting a little. Someone else places their fingers into the woman's mouth to make her cough - this helps push the baby out. So as not to embarrass the woman, the vagina is covered up, and if the baby is having difficulty coming out someone else washes their hands in seal oil and helps the baby emerge from the womb. An animal skin is placed for the baby to drop down on. The umbilical cord is tied near the baby's navel and cut with a bone, but if the sac has trouble coming out, the cord is first tied around the mother's knee and is very gently and slowly pulled. The baby's navel is covered with burnt moss or a mixture of arctic cotton grass and charcoal to heal the cut. The baby is picked up by the right hand for the first time, so it will be right-handed, and is fed a piece of raw meat for strength. (p. 10-12)

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Pre-contact infants were, of course, breast-fed - sometimes for over two years. Raw meat and fish were used to supplement the milk from a very early age. In general, the Inuit diet consisted largely of meat or fish products, supplemented by Labrador tea and berries. The practice of breast-feeding may have acted to restrict population growth - an epidemiologically important factor in an environment in which contagious diseases were rare. Anecdotal evidence suggests that infant mortality was low and that the resource base could not support a large population. This was also a compelling reason for the diffusion of the population over the land in small family units (11).

Within this marginal socio-economic matrix there were few clearly defined occupational roles. Even shamans had to hunt for a living like everyone else. An ideal pregnancy might involve the conditions listed but depending on the circumstances, midwifery might be undertaken by an experienced midwife, a shaman, the husband, or any other available individual. Midwives were culturally very important, second only to a mother in an Inuk's life, but all women possessed some knowledge of midwifery; so did many men. Usually the entire family would be present at a birth, as well as women experienced in midwifery and

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younger women learning by observing the experience themselves (12). However, there is also some evidence of birthing rituals. In Nunavik, both Saladin d'Anglure (13) and Dufour (14) noted that a traditional attendant known as the *sanaji* was responsible for cutting the infant's umbilical cord and thereafter assumed an important role in the child's life. Guemple (15) also recognised the role of this attendant among the Belcher Island Inuit, where the term used is *sanariak*. In addition to cutting the infant's umbilical cord, the *sanariak* was responsible for providing the first set of clothes for the child and maintained a close familial relationship thereafter. The *sanaji/sanariak* is a role distinct from that of the midwife, although midwives could also act as *sanaji* on occasion and Kootoo (16) does identify the *sanaji* with the midwife.

According to Dufour (17), the role of men in birthing varied. In Igloolik men were excluded from the birthing process altogether, while in Nunavik men were only involved if no women were available. Accounts by Inuit elders indicate that all of these practices were commonly modified for individual circumstances (8). Some of these regional variations may also have been caused by differences in resources and settlement patterns.

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Regional differences in birthing techniques aside, the Inuit tradition of pregnancy and childbirth, like other aspects of Inuit life, is subject to a high degree of community involvement. In their model of health care, healing is a process mediated between the individual (the mother) and the community. As this suggests, medical knowledge was immanent in Inuit society rather than being restricted to a small group of technical professionals, as in the biomedical model. Even the specialised abilities of the shamans had more to do with an innate talent for communication with the spirit world, than specialised knowledge or training. Thus, Inuit prescriptions for a healthy pregnancy and techniques for childbirth are subject to a wide degree of variation, depending on the knowledge available in each community, the community consensus on what was a healthy course of action, and the desires of the mother in question. In general, contemporary Inuit concerns with health care are more focussed on maintaining (or regaining) this community involvement, than with specific techniques, positions or prescriptions. The birthing positions mentioned were the most commonly used, but in interviews with former midwives they repeatedly stressed that each woman chose the position most comfortable for her, as it was not the midwife's role to

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choose the birthing position (Napayok, as cited in (18)).

Transition to Colonialism

Traditional Inuit culture and society began to come under attack from without shortly after contact with the first explorers, fur traders and missionaries in the 19th century. This process accelerated in the 20th century, as the Inuit increasingly became concentrated in settlements around trading posts. The introduction of epidemic disease changed the epidemiological environment dramatically, leading to a vastly increased mortality rate, and increasingly discrediting traditional forms of healing. The decline in traditional healing was encouraged by medical missionaries, who were interested in suppressing Inuit spirituality particularly shamanism (19). Inuit vulnerability to tuberculosis led to a programme of mass evacuations to southern sanatoria in the 1950's that further eroded the fabric of Inuit life (20).

From the Second World War on the Canadian government sought to extend its power over the Inuit through forms of state surveillance and control. The biomedical model of medicine was a major means of accomplishing this. According to Smith (21) the creation of the Eskimo Disk List system, in which all Inuit were assigned identity disks, ostensibly for medical identification purposes, was

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one of a number of exercises in the extension of state power over the Inuit. The disk list system was soon also used to distribute state benefits, control access to health care and provide a means of ethnic identification.

The concentration of Inuit population in settlements, coupled with a decline in breast-feeding caused by official policies discouraging the practice, led to an enormous increase in the birth rate. However, poor nutrition, crowded and unsanitary living conditions in the settlements, and epidemic disease led to a matching increase in the infant mortality rate. The federal government responded by building nursing stations in each Inuit settlement, beginning in 1960. These were initially staffed by trained nurse-midwives, often hired from Britain. As employees of the federal government, they were expected to carry out government health policy and maintain and improve the public health of the Inuit. As part of this programme, they were expected to apply the biomedical model to pregnancy and to assume control of childbirth by ensuring that birthing took place in the nursing station (22). High-risk cases were evacuated to southern hospitals for medical intervention (23). Yet, in practice, many births continued to take place in the community. Early nurse-midwives were often too overworked to handle

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pregnancies that the community seemed well equipped to care for anyway. Nonetheless, between 1950 and 1970, more and more children were born in nursing stations, often under the care of both the nurse-midwife and members of the community (24).

However, from about 1970, medical evacuations of pregnant women increased steadily everywhere in the Canadian Arctic as the number of trained nurse-midwives working in the nursing stations decreased (18, 25, 26). Community childbirth was also strongly discouraged, with the result that by 1980 almost all Inuit children were born in hospital obstetric wards (27). This process was probably caused by a number of factors, including the greater availability of transportation for evacuation, fewer trained nurse-midwives as overseas recruitment declined, and changing ideologies in the nursing profession itself (28). In the Kivalliq region, community and nursing station births were limited to cases identified too late for evacuation. O'Neil *et al* (18) identify these births as primarily caused by passive resistance by the Inuit to evacuation. In these cases pregnancies were concealed from medical and nursing personnel in order to allow a community birth to take place.

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Birthing Issues in the Arctic: Place of Birth

Resistance to medical evacuation for birth is strongly linked to traditional Inuit culture. Inuit identity is strongly tied to the land. This extends to childbirth. The place of birth is highly important to the Inuit sense of self-identity and moreover to the individual's place within Inuit society. Thus, place of birth is a particularly sensitive political issue. This can be seen in the Kivalliq where children, since the 1970's, have been born in Manitoba, even though the Kivalliq is politically a part of Nunavut. Those Kivalliq Inuit old enough to have been born in their communities now sometimes refer to themselves as 'Inumarik' - or 'real Inuit', while the younger Manitoban born Inuit are not (29). On the political level, these concerns have manifested themselves as fears that children born in Manitoba will be disadvantaged with respect to land claims agreements and benefits (29).

Although there have been attempts to institute community birthing in Nunavut by creating a midwifery centre in Rankin Inlet (30), the most interesting case of changes to birthing styles is in Nunavik, where community birthing is now thriving.

The first birthing centre in the Arctic was, in fact,

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the Inuulitsivik Maternity that was established in 1987 in Puvurnituq, QC. The community is unusual in having been the only Inuit community to reject the James Bay and Northern Quebec Agreement (JBNQA). As a result of this stance, Puvurnituq was chosen as the site for a regional hospital. However, initial plans to incorporate an obstetric ward into the hospital were opposed by the local Inuit women's society (4), which threatened to boycott the hospital unless it incorporated a maternity with both trained midwives, community involvement, and a training programme for Inuit midwives as well. The community has generally built on its initial resistance to the JBNQA to establish an unusual level of assertiveness with respect to southern authority (31).

The maternity initially hired southern midwives, who then established a training programme to provide Inuit women with midwifery training (32). The programme has been a resounding success. The midwives are now all Inuit, and the Inuulitsivik Maternity has now been renamed the Inuulitsivik Maternities, with branches in two other communities and aggressive plans for expansion throughout Nunavik, even to Kuujuaq, which already has an obstetric ward (33).

Although it could be argued that southern midwives

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simply trained Inuit successors in their modernist, biomedical paradigm, this is not how the Inuit themselves see their role in the Inuulitsivik Maternities. They readily agree that they gained knowledge from their teachers, but argue that they incorporated this knowledge into their culture: "we, as Inuit midwives, know our own people. We know things Qallunaaks (*sic.* southerners of European extraction) can't know" (Qumaluk, as cited in (32) p. 72). Another (anonymous) Inuit cited in Lavoie (4) reported a conversation with a southern health care professional: "Don't give us your theories, your philosophy: we don't need them. We don't need your culture, we need the facts. We get our information from other sources as well, from the elders, from other men and women" (p. 341). Obviously the Inuit themselves see their understanding of health care as different from biomedicine, whether in the form of hospital treatment or the gentler face of southern midwifery. This is not to say that they reject biomedical knowledge entirely. High-risk pregnancies are still evacuated to obstetric wards of major southern hospitals, and medical staff in the local hospitals, or clinics still examine expectant mothers (34). However, now it is the community, in consultation with the mother, the midwife and the doctor that makes the decision

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to evacuate expectant mothers. According to Chatwood's (35) epidemiological study of the Maternity, both the number of evacuations and the number of complications have fallen since this change in jurisdiction was established. Significantly, communal control of childbirth is the explicit goal of Inuit from other regions as well, as one of the elders interviewed by Therrien and Laugrand (8) stated:

I have been thinking that there could be a committee at the Health Centre that would decide whether a person should fly out to Iqaluit for medical attention ... Some pregnant women have no reason to go out ... Inuit should have more control over this (p. 107).

Birthing Issues in the Arctic: Environmental Contaminants

In the 1980's testing for environmental contaminants in the Canadian Arctic found that predation chains, prevailing wind patterns and sea currents all concentrated man-made toxins in the Arctic. Levels of heavy metals, such as lead and cadmium, and persistent organic pollutants (POP) such as PCB's and dioxins, are actually much higher in the Arctic than in southern Canada. These toxins are deposited in the fatty tissues and are subject to biomagnification at successively higher levels of the food chain. The Inuit, at the top of the food chain, are thus seen as exposed to higher risk from environmental toxins

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(36). By the 1990's significant levels of environmental contaminants were discovered in the breast milk and fetal blood supply of Inuit women - a direct result of their consumption of traditional country foods such as seal, Arctic char and caribou (2).

The Inuit Cohort Study in Canada has suggested that even high levels of contaminants pose less of a risk to Inuit health than a switch from country food to imported, processed foodstuffs (37). As Bjerregaard has pointed out in the AMAP scientific report on human health in the Arctic (2) concerning the effects of environmental contaminants to Inuit health: "Clinical overt damage to health, however, has not yet been demonstrated" (p. 9). Thus, initial suggestions that pregnant and nursing Inuit mothers should avoid country foods (38) have since been conditionally reversed on the grounds that levels of environmental contaminants are not high enough to outweigh the health benefits of country food consumption for Inuit mothers and babies. The difficulty is that, although contaminant levels are present and often exceed those recommended by national guideline, they, as Bjerregaard noted in the most recent AMAP Assessment Report (36), have had no obvious health effects. For example, the cohort study of Inuit in Nunavik (39) has documented only a marginal increase in

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otitis media in children with a high level of POP's, heavy metals and mercury.

Mercury, the contaminant whose adverse clinical effects are most documented (2), is known to be associated with high levels of selenium in the marine mammals that are central to the traditional Inuit diet. Yet, selenium may counter the effects on mercury on the bloodstream, suggesting that the physical effects of environmental contaminants are more complex than simple cause and effect relationships (40).

Official Inuit policy, as articulated by the Inuit Tapirisat Kanatami, has been to oppose any changes to the traditional diet, unless unequivocal evidence of harmful effects is proved:

So far as we are aware, the risks to public health from continuing to eat beluga and seal blubber are very small and are outweighed by the benefits to you of these foods. However, Inuit must judge for themselves what is acceptable risk for themselves and their families (Inuit Tapirisat Kanatami, as cited in (36), p. 95)

However, pressure for change can be both subtle and effective. Media reports, as documented by O'Neil, Elias and Yassi (41) are rarely as nuanced as the Northern Contaminants Programme. Its second Assessment Report (40) admits the presence of high levels of environmental contaminants in maternal cord blood and breast milk, but

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balances that against the nutritional benefits of a traditional diet and recommends no change in diet. The AMAP executive summary on Arctic Pollution (36), however, implicitly denigrates the Inuit position, by contrasting it to campaigns to modify traditional diets in Greenland and the Faroe Islands, which have reduced contaminants levels in infants and children.

For southern science the issue of environmental contaminants often boils down to numbers; physically measuring the levels of POP's and heavy metals in human tissues and then calculating their effects through analogy with animal studies whose methodology and results are questionable, as is their applicability to human biology (42).

The perception of environmental contaminants by the Inuit is considerably different. Country food is, as noted, central to Inuit self-definition. To suggest that it is "poisoned" is, as O'Neil, Elias and Yassi (41) have pointed out, perceived as an attack on the Inuit way of life. Effectively it challenges one of the central precepts of Inuit epistemology, since consumption of country food is also a means of maintaining the Inuit connection to the land and thus Inuit identity.

Inuit response to the scientific discourse on

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environmental contamination has varied from outright rejection to ill-advised attempts to modify traditional lifestyles to accommodate popular perceptions of scientific criticism (41). This response has in turn influenced the direction of Canadian scientific discourse on environmental contamination (40), without really attacking the fundamental issue; to the Inuit any claim that the traditional diet is unhealthy is tantamount to an allegation that the Inuit way of life is unhealthy, and by extension that the southern way of life is superior and should be adopted instead (43). This reaction is also pragmatic, since without any direct evidence that organic contaminants are affecting perinatal and postnatal health, Inuit see no compelling reason to alter their diet. POP's may indeed threaten perinatal and postnatal health, but southern science and the Inuit must find ways to express that threat in a manner that is acceptable and comprehensible to both Inuit epistemology and southern discourse and is based on an honest and balanced assessment of the risk of contaminants versus the undoubted health benefits of a traditional diet. Given Gold and Ames (42) criticisms of the scientific validity and political agenda of much environmental contaminants research, Inuit resistance to the dominant Southern discourse on the threat

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of POP contamination of traditional food may yet be vindicated by southern science, as well as by the Inuit themselves.

Discussion

The issues surrounding pregnancy and childbirth have two components, southern and Inuit. Southern priorities are physical perinatal and maternal health. The social determinants of health receive much less attention and are correspondingly more significant in affecting Inuit health. It is significant that across all the Inuit populations in the Arctic (Canadian or not) infant mortality rates look very different when divided into neonatal (0-28 days after birth) and post-neonatal (28 days to one year) components. In every case the neonatal rates are significantly lower and much closer to national norms. Reducing perinatal and neonatal mortality and morbidity rates has been a priority of southern medical care since it was introduced to the Arctic (22, 23). However, post-neonatal rates have received much less attention (23). This discrepancy in mortality rates is caused by poor living conditions, something that the governments of all the Arctic nations have problems addressing (44).

Inuit concerns are both rooted in their own

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epistemology and in a naturally more holistic attitude toward health, in which the health of the family and the community is as important as the health of the individual (45). Evacuation and environmental contamination are both issues of physical health and social health. Meeting their challenges will require compromise between the Inuit point of view and that of southern science and medicine.

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Chapter Five: Inuit Healing and Southern Health Care: Conflicting Paradigms or Nested Epistemologies?⁸

Southern biomedicine is ostensibly well established in the Canadian Arctic. Each Inuit community contains its nursing station, southern physicians make regular community visits, and Inuit with severe illnesses or, in most cases, pregnancies, are usually evacuated to southern hospitals for care. Inuit traditional medicine is largely invisible to southern biomedical practitioners, and generally either suppressed or subordinated when it is identified (1). This pattern of biomedical and metropolitan hegemony was established as early as the TB evacuations of the 1950's (2), and is only now being overtly challenged by the Inuit themselves (3).

This challenge to the authority of biomedicine is being mounted from the perspective of traditional medicine. It does not, however, seek to eliminate biomedical knowledge or biomedical training from Inuit health, it simply seeks to replace its dominance, to integrate it into the traditional Inuit model of health and healing (4).

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This in itself is a radical approach, one that challenges the absolute supremacy of the biomedical paradigm, subordinating it instead to a communal philosophy of health (5) that ultimately rejects the society/nature dualism of modernist biomedicine.

To fully comprehend the meaning of these changes and their implications for the Inuit, it would be useful to begin by defining what exactly we mean by these terms: modernism and biomedicine. The argument can then proceed to an examination of Inuit concepts of health and their evolving relationship with biomedicine.

'Modern' and 'modernism' are terms generally associated with the world-view that emerged from an epistemological shift that began in the 16th century. This has been referred to as the 'disenchantment of the world' (6) and refers to the separation of nature from society. That is, the belief that nature can be comprehended directly and objectively through science, rather than through cultural representation. Premodern epistemologies, on the other hand, did not perform this act of separation - their cosmos remained laden with significance for human affairs, and vice versa. Thus, in the Inuit case, human actions, such as breaking *pittilinaat* (taboos), would have a direct effect on nature (7). Similarly, natural events,

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such as stellar motions or positions, also had the potential to signify events on Earth (8). The world was, as it were, animated by occult correspondences and influences, which human beings had to navigate their way through. Foucault (9) suggests that this perception of the cosmos was replaced with the modernist one – in which nature is an objective, rationally defined entity quite separate from human society. Pickstone (6), on the other hand points out that premodern epistemologies continued to coexist with modernist epistemology of science, and in fact continue to do so, although he also implies that they remain incommensurable.

This interpretation is altered somewhat by Latour (10) who suggests instead that modernism, including scientific epistemology, is a cultural artefact of European society. While a useful tool for the generation and utilisation of knowledge, it does not reflect the fundamental relationship between human society and the natural world. In Latour's model, the fundamental difference between modern and nonmodern societies is one of power and knowledge, and has not always been to the modern advantage (11).

This suggests that modernism is largely an illusion, but instead Latour considers it to be a culturally shaped approach to the world that is

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differentiated from premodernism only by the enormous amount of knowledge it has generated, and hence the power it is able to accrue (10). He argues that premodern epistemologies are not necessarily incompatible with modern knowledge, even with scientific epistemology, as they simply deny it its totalitarian status, its claim to an exclusive understanding of nature. This approach receives some practical support from Latour's (12) analysis of the relationship between the French hygiene movement and Louis Pasteur's version of the germ theory of disease. The germ theory ultimately became the basis for modernist biomedicine, particularly in Anglo-Saxon nations (13). On the other hand, the hygiene movement, in France and elsewhere, was predicated on a premodern view of disease as rooted in cultural, economic and moral causes as much as physical ones. Its leaders seized on the germ theory as an *additional* causative agent, one that strengthened their own programme of social reform by solidifying their control over disease. Thus, in the short term, at least in France, the biomedical model of disease appears to have both coexisted and been incorporated into quite a different model, one which was essentially pre-modern in its identification of disease as a social, moral and physical phenomenon (12).

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Obviously then, 'biomedicine,' is a term that carries considerable cultural baggage. Traditionally it is defined as the application of scientific epistemology to medicine, a practice that became dominant in the second half of the 19th century. More specifically, it refers to a curative, technological model that focuses on the physical basis of illness - the microbe (14). Foucault (15) traces the cultural practices that shaped biomedicine to another epistemological shift in the late 18th century, one that produced a revolution in the nature and application of state power. It is a classic example of what he terms a 'totalitarian theory' - one that, by its exclusive claim to understand the world, refuses to accept the equality of any other (15).

The Inuit challenge to biomedicine is part of a general trend Foucault believed began in 1960. In his "Two Lectures" Foucault (16) identified a challenge to 'totalitarian theories' by subjugated knowledge, which he defined as knowledge that:

Falls below the required level of cognition or scientificity ... [knowledge] which involve(s) what...(I)... would call a popular knowledge (*savoir des gens*) ... being a particular local, regional knowledge (82).

This revolt, however, may also be subverted: when challenging modernism and biomedicine, can local knowledge

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practitioners resist being incorporated into this dominant paradigm? Does not modernism appropriate non-modern knowledge when it confronts such an epistemological challenge? This is certainly what happened to the premodern epistemology of the British hygiene movement when it was confronted by the emerging biomedical model. The biomedical model stridently rejected the moral and social causes of disease the hygiene movement espoused, all the while adopting its programme of public health (13).

In this outcome the Inuit challenge to the biomedical model could lead to their own inclusion in and absorption by its hierarchy. Political control of their health care might be won at the cost of becoming "little white men" culturally - a common colonial experience (17). This situation can be seen in the Nunavut government, where autonomy appears to be leading to replication of modern state culture among the Inuit. This is particularly apparent in the repeated appeals to the authority of biomedicine and statistics by the Minister of Health, Ed Picco, in his speeches to the first sitting of the Legislative Assembly of Nunavut (18).

This leads to the question of what exactly Inuit conceptions of health and healing are. First, it is important to place some distance from the southern tendency

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to associate epistemology with technology. Just as biomedical technologies and techniques vary widely across national and disciplinary boundaries, the Inuit had no uniform pharmacopoeia, no set prescriptions for achieving health and well being (19).

Nonetheless, Inuit treatments for illness do share some common characteristics, particularly the use of animal products - such as seal oil, polar bear oil and lemming or rabbit skin on a wide variety of ailments, from wounds to ear infections. Different groups used these in different ways and for different conditions. Whether a treatment or a substance would be used also depended on its availability. This simplified healing since most ailments would have been related to malnutrition, injury, or organic conditions. Food poisoning, particularly botulism, is mentioned by one elder, as is a cure devised from fish (19). Skin conditions, particularly boils, were also widely common (20). As well, repeated statements by elders indicate that infectious disease was virtually unknown until contact with *qallunaat* (southerners/Europeans):

It was only after the *qallunaat* came that there were contagious diseases. That was the first time we heard that illnesses could be contagious ((19) p. 19).

According to anthropological studies, Inuit views of

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health vary a great deal from community to community. In Clyde River, Borré determined that health was associated with the linkage of the soul (*tanniq*) and body (*tiimuit*). This connection was maintained through social actions. Consumption of country food, particularly seal, is seen as essential to maintaining the life of both the soul and the body (21). Transcripts of interviews with Inuit elders generally support this assumption: southern food, and even medicine are considered alien and possibly even harmful for the body (19). As well, a strong spiritual linkage between health and the land itself is expressed through the belief that consumption of country food strengthens Inuit and renews their ties to the land. Borré (21) notes that the act of hunting is fundamental to the identity of Clyde River Inuit, and equally important to their health. Hunting provides a source of seal meat, which in turn provides a diet that maintains strength and warmth in the consumer.

Therrien (22), on the other hand, identifies the existence of three forces that contribute not only to a conception of health among the Inuit of Puvurnituq, but also to their notion of being, without which any conceptualisation of health or illness would not be possible. To them, the body is an outcome/product of a

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correspondence between the actions of *anirniq* (the breath which confers vitality, energy and warmth), of *tarniq* (which comprises the immortal soul of a person), and of *atiq* (which is one's name, and thus the assurance of one's intellectual development and identity).

According to Therrien, this 'triple alliance' of the body's constituents remains in spite of the effects of Christianisation, as the Inuit continue to believe that the *anirniq* disappears upon death, the *tarniq* continues on to survive beyond the individual's passing, and the *atiq* remains a direct bond to their ancestors, the source of life. In bygone days, however, it was the *angakkuq*, or shaman, who was responsible for re-establishing the coherence of the body should the equilibrium be affected by either internal or external sources disrupting any one of these three constituents. The emphasis of the *angakkuq*'s intervention techniques was placed upon the individual as a total person, one who was made up of biological, social, cultural and religious elements. This 'triple alliance', which placed above all else an emphasis on these diverse dimensions of the individual, directed the activities of the *angakkuq*. The *angakkuq* mediated between the individual and the community, but also between the community and the greater animal world beyond it. This role as mediator

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between individual and, essentially, the cosmos, was structurally determined by the *angakkuq*'s need for spirit helpers (*Tuurngait*) to function in the supernatural world. Since *Tuurngait* were most often animal spirits, the individual and community were naturally linked to the animal world beyond the community through the *angakkuq*'s mediation (23).

The therapeutic techniques employed by the *angakkuq* would vary from engaging in individual gestures (such as touching, or breathing upon the individual), to one of collective action (involving everyone's observation of nutritive taboos, the forbiddance of hunting or fishing, etc.), and would often be accompanied by spoken words, songs, the drum and also dance. Furthermore, according to Therrien (22),

The cure had equally a dimension of power. Not the unilateral power of healing but of participatory power in a context known to all: the power of evil spirits possessing the body, or that of a theft of one of the constituents of the person; the power of the *angakkuq* to do away with the illness affecting the body's integrity through the intermediary of his spirit helper; the desire of the illness to submit to the cure and to his prescriptions; to engage not only the individual in the healing but also the participation of the family group and of the community as a whole in the cure; to call out to the animals and the participatory forces of the external world to man through an association of the illness to the excesses found in nature (p. 81). (Translation from the French and emphasis

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are my own.)

A dynamic equilibrium is maintained, therefore, between life-force, soul and identity, and can be seen as a continuum in the context of healing today. Healing cannot be limited to the context to visible therapy, whether that of the *angakkuq* or modern nurses and doctors. The specialist is not the vital force in Inuit health that it is in Southern biomedicine. Inuit health also includes a significant role for other people in maintaining health and even granting it. According to this paradigm, good health can be bestowed upon and be received from one individual to another, according to Therrien's (22) informant, Taamusi Qumaq,

Health can be retrieved like a lost or lent object, and this is the sense of the word *satujuq* that I like to use, but some others have the tendency to forget this because we live too closely to the *Qallunaat* and our language and our customs are being lost ... When I feel ill, I tell myself that I can be helped by the nurses or that I can take medications. I think instead that I should eat the (country) food that I like, as I will become healthy again more quickly. I tell myself that if my family were closer to me, I would become healthy. That's what happened, I became sick the moment that my family went off. I said *qailaurli, qailaurli, qailaurli* (would that someone from my family return). I do not have the habit of taking the medicine that the nurses and doctors give out. I prefer to use the fat of the marine mammals and the (goodness) of the plants (p. 81). (Translation from the French is my own.)

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All of these concepts of the body, of identity and of health share some common characteristics. First, they are all underlain by an empirical approach to healing (20). Seal oil might be a popular remedy, but generally almost any useful substance might be turned to and used in healing. One elder even mentioned making a paste of oatmeal, seal fat and Sunlight soap for boils (20). In this context, biomedicine ceases to look like an all-powerful paradigm, and instead becomes but one in a spectrum of possible therapeutic options.

Second, all of these concepts of health are mediated through the individual and the community, not through experts, biomedical or otherwise. As Borré (5) notes:

Politically, western medical models of health strip an individual's power to cure himself. The medical expert must provide a "treatment plan" in which the patient has little or no input; thus the patient will be "cured". In contrast, the Inuit concept of health and model of health maintenance places the power for health maintenance of the self, the family and the community within the individual community member. Health of the individual is dependent on the health of the community as a whole... (p. 13).

As might be expected, this approach to health leads Inuit to reject the absolute authority of biomedicine. One Inuit healthcare informant in Nunavik succinctly stated to Lavoie (4) what she interpreted as the dominant attitude in the community,

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Don't give us your theories, your philosophy: we don't need them. We don't need your culture, we need the facts. We get our information from other sources as well, from the elders, from other men and women (p. 341).

This is the most radical aspect of the Inuit conception of health. As a 'scientific' discipline biomedicine claims a privileged relationship with nature, and thus with truth. This gives its representatives complete power over all who acknowledge their epistemology, over all 'modern' people. However, the Inuit reject this - they adopt instead a profoundly democratic conception of health that conflates culture/society and nature together, by placing authority over health (in effect over nature) in the hands of the community. This 'nonmodern' relationship between modern knowledge and premodern epistemology has its parallel in the relationship between Pasteur and the hygiene movement in 19th century France. However, the Inuit relationship with biomedicine is ultimately more significant and more likely to endure, for it is profoundly bound up with the issue of their cultural survival and political autonomy.

This relationship exposes the intimate connection between power and knowledge. After all, the authority of the community over health is predicated on the secular power of the community. Without the ability to control

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biomedicine, to recruit its power, along with that of traditional knowledge, in the service of the community, community authority over health must become eroded. This leads inescapably to the conclusion that the fundamental premise for reviving Inuit conceptions of health within their communities must be political autonomy.

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Chapter Six

Chapter Six: The Rankin Inlet Birthing Centre: Community midwifery in the Inuit context.⁹

Introduction

There is ongoing pressure to return childbirth to the communities in the Canadian Arctic after decades in which most women have been evacuated to Southern hospitals for birth. This practice has been accused of damaging Inuit culture by disrupting the relationship between Inuit identity and place of birth. It has also been identified as traumatising Inuit families and society by removing women from their families for extended periods of time. Community childbirth seems both desirable and, based on the success of the Inuulitsivik Maternities in Nunavik in Northern Quebec, clinically feasible (1). In Nunavut, however, there is an ongoing debate over the form that community childbirth should take. The southern model of midwifery is confronting traditional midwifery, with the result that the growth and development of community childbirth in Nunavut seems to be, yet again, delayed (2). Yet, Nunavut has had a community birthing centre in Rankin Inlet since 1993 (3). By constructing the history of the

⁹ A version of this chapter was submitted for publication as: Douglas VK. The Rankin Inlet Birthing Centre: Community

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birthing centre, the origins of the present dispute in Nunavut and the possible paths for successful community childbirth may be explored.

Methods

This is an analytical historical study, which draws on material from fifteen oral history interviews conducted in the summer of 2007 in Rankin Inlet with current and former employees of the Rankin Inlet Birthing Centre, women who had given birth there and/or who were expecting to do so, and community members. Ethical approval was obtained from the Nunavut Research Institute, University of Alberta Health Research Ethics Board and the Hamlet of Rankin Inlet. Relevant documents were identified through database searches of MEDLINE, Anthropology Plus, POLARInfo, the Arctic Blue Books, Historical Abstracts and the Hansard of the Nunavut Territorial Legislature. This material has been used to construct a narrative history of the Rankin Inlet Birthing Centre, which is then analysed to determine the factors that have influenced its development, suggesting how they apply to community childbirth elsewhere in Nunavut.

midwifery in the Inuit context. *Int J Circumpolar Health*. Passed first reading with revisions 28/10/2008.

Results

The Rankin Inlet Birthing Centre was established in 1993 in order to return childbirth to the community after a generation of evacuations to southern hospitals for birth. Although it has been successful in doing so, its historical evolution indicates that this process has been both long and fraught with obstacles. Even today the issue of midwifery, its definition and its future evolution remains controversial in Nunavut, leading the Legislature to return the proposed Act defining midwifery for revisions on the grounds that it defines midwifery in Southern terms, relegating traditional midwifery to a subordinate and ultimately historical role (2, 4).

The Birthing Centre was established in the wake of a major clinical and anthropological study of childbirth in the Kivalliq Region in the late 1980's (5). The study concluded, on the basis of extensive interviews with Inuit women and their families, that the practice of evacuation for childbirth had caused cultural and social disruption that lay at the root of a spectrum of social problems plaguing both the Kivalliq and the Inuit across the Canadian Arctic. In particular, the study found that Inuit identity was closely tied with place of birth and that

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evacuation broke this essential tie, leading to cultural disruption, while the lengthy absences of women evacuated to give birth caused further social disruption within their families (6).

The Birthing Centre grew out of this process, and has been supported by many of the same individuals and groups that contributed to the original study - including prominent Inuit, nurses, medical staff, academics at the University of Manitoba and organisations such as Pauktuutit, the Northern Medical Unit and the Nunavut Department of Health and Social Services (since 2000). The Centre itself does not handle all the births in Rankin Inlet, let alone the Kivalliq Region. Only low-risk births occur at the Centre: low risk being determined through both a clinical risk evaluation tool and through advice from a OB-GYN consultant based in Winnipeg (3, 7). All other women are evacuated to Winnipeg for birth, although there was a brief attempt to create a birthing centre at Churchill some years ago. This failed since the Inuit perceived that evacuation to Churchill was still evacuation, and socially and clinically inferior to evacuation to Winnipeg. In the opinion of a senior midwife at the Birthing Centre, they were unwilling to settle for second best.

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Although recent statistics are lacking, historically less than half of all births have occurred at the Birthing Centre, the remainder being evaluated as high risk and evacuated (7). Periodic staff shortages, specifically of midwives, have at times required all women to be evacuated for birth (8, 9). Still, the Government of Nunavut has identified the Birthing Centre as the precursor to a system of community birthing centres to be established across Nunavut. Despite articulating this goal since its inception in 2000, so far it remains unfulfilled (10).

The delay in implementing this plan reflects the fundamental nature of the Rankin Inlet Birthing Centre from its inception through to the present day as a southern institution located in the Canadian Arctic. All the midwives are from Southern Canada, working on fixed term contracts in Rankin Inlet, and now its satellite birthing centre in Arviat, of approximately one year. Without community ties the midwives have had difficulty in gaining the trust of the local community, while dependence on southern staff has left the birthing Centre periodically unable to offer services when recruitment has flagged. While the Regional Co-ordinator, a trained maternity care worker who has worked at the Centre since its inception, is Inuit, as are the maternity care workers, their role is

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limited to pre-natal and post-natal counselling and translation at the birth itself. There is currently a midwifery programme offered jointly by Nunavut Arctic College and the University College of the North in Thompson, Manitoba, but as yet it has not graduated any Inuit midwives. At least 5 students are at various stages of this programme, which provides Maternity Care Worker certification as an interim step in the process of receiving midwifery certification (11). Although traditional midwives do exist in Nunavut, there do not appear to be any in Rankin Inlet, and currently their legal status is unclear, although there are, according to employees at the Birthing Centre, ongoing attempts to incorporate their knowledge and traditions into the midwifery curriculum.

Still, the Rankin Inlet Birthing Centre has become an integral part of the health care system in the Kivalliq, and an important part of the community in Rankin Inlet. Women there identify local childbirth as valuable, and regret the need to evacuate when required:

I really feel sorry for the women who have no choice but to leave because they're away from everyone ... I went from having a huge support in my home to going far away to Winnipeg, and just for the shock of it...not knowing the medical staff, and ... meeting them for the first time and immediately having to trust them was really hard

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for me. (Rankin Inlet, Inuk mother, July 2007)

On the other hand, the cultural issue of Inuit identity and its tie to place of birth that were highly important two decades ago, seem less urgent now, at least in Rankin Inlet. Most people of childbearing age in the Kivalliq have been born in Southern Canada, as have their parents. Place of birth as a component of cultural identity was never identified in interviews as significant, although Inuit interviewed in the region in the 1980's did stress that it was (5). That so few Inuit have been born in the region since then may have blunted the importance of place of birth in local identity, allowing other factors to gain greater prominence.

In fact, the social importance of local childbirth, of Inuit traditions, and of community authority over childbirth, were strongly stressed in interviews. Although support for the Rankin Inlet Birthing Centre was unanimously expressed by all interviewees, many also stressed the need for future birthing centres to use a different model:

If we're going to be setting up a Birthing Centre in any community it has to be supported by the community first. And it has to be supported by the front-line workers, I mean the nurses. And, we can

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only talk about what we have here and how we run it. (Rankin Inlet, Inuk health care professional, July 2007)

Discussion

Rankin Inlet is the administrative centre of the Kivalliq Region, which was the major reason for locating the Birthing Centre there. However, in the words of a local informant:

Rankin Inlet is very different from the rest of the Kivalliq communities only because it was a mining community. So, all kinds of people from this region and other regions tend to live in Rankin Inlet ... so there's a mixture of Inuit people here that if I went to Coral Harbour or Arviat they're a lot more traditional. (Rankin Inlet, Inuk health care professional, July 2007)

This has had both positive and negative influences on the Rankin Inlet Birthing Centre. As a syncretic industrial community, Rankin Inlet possessed few traditions of its own (which is not to say that Inuit there did not possess traditions, simply that the community did not). Residents there were thus more likely to adopt a southern midwifery model, once they were convinced of its safety:

When the Birthing Centre here first opened, people were very hesitant to deliver here. But, once there were a few births here, and hearing people going on the radio saying, "My daughter just delivered a baby girl this morning!" When they started hearing people doing that, then they start thinking, "Oh, she didn't even have to leave home! ... her husband was right there! The kids are there, they see their sister right

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away!" And, of course, there was always this talk, "Do the midwives know what they're doing? ... can we trust them?" (Rankin Inlet, Inuk administrator, July 2007)

On the other hand, the Rankin Inlet Birthing Centre model may not be easy to transfer to other communities with stronger community traditions, as informants recognised:

the Birthing Centre here in Rankin Inlet and the Birthing Centre in Arviat is going to be, they're going to be very, very different only because up there it's a lot more traditional than Rankin. (Rankin Inlet, Inuk health care professional, July 2007)

This corresponds with the Nunavut government's experience in implementing formal legislation to regulate midwifery in Nunavut, where interest groups have repeatedly objected to a southern-oriented model of training as leaving Inuit tradition surrounding childbirth unrecognised. Inuit childbirth is traditionally communal childbirth, in which the Inuit community collectively shares authority over birth (12), and in traditional communities, a Southern model founded upon the authority of expert, biomedical knowledge is unlikely to succeed. As such the Rankin Inlet Birthing Centre is an anomaly in Nunavut. Its success, however hard won, is unlikely to be replicated elsewhere if the centre itself is simply replicated. Not only will Inuit communities have to decide how to implement midwifery, but each community will have to

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do so individually, something staff at the Rankin Inlet Birthing Centre recognise:

Because if we're just going to do that then we don't have the input of the community. The community will never, never support it and it's not going to run properly. Everybody has to work together and if there's disagreements they have to negotiate, "O.K., how do we make this work better?" No, just cross-planting a whole Birthing Centre into another community is not going to work. The team has to work together, and the team and the community has to agree on what kind of services they want to offer. That's the only way it's going to succeed. (Rankin Inlet, Inuk health care professional, July 2007)

Conclusion

The Rankin Inlet Birthing Centre has become a qualified success. The Centre has succeeded through unwavering support from the individuals and organisations that fostered its creation in the first place and it has become an important part of the health care system in Rankin Inlet. Its limitations are those of a southern institution located in Nunavut and those limitations are clearly recognised by Inuit informants, less clearly so by non-Inuit informants. These limitations are such that simple replication of the Centre's model in other communities will likely fail, as Inuit informants recognise. In more traditional communities, the epistemological

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foundations of future birthing centres will have to accommodate Inuit approaches to both childbirth and to health in general, while still maintaining the clinical outcomes that southern healthcare has historically provided, and the population expects.

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Chapter Seven: Conclusion

Childbirth, Human Kinds and Feedback Loops

Attempts to define Inuit childbirth by adhering to a set of uniform techniques, practices or rituals is ultimately doomed to failure. There is historical interest in enumerating the practices that made up Inuit childbirth of the past and they certainly do provide a means of tracing the evolution of Inuit childbirth over time and the Arctic. However, Inuit childbirth is ultimately describable as one of Hacking's human kinds. As such, it has no stable technical identity, rather it is in constant evolution, changing as the Inuit themselves change. Yet, the protean nature of Inuit childbirth hides a solid core of identity. Ultimately Inuit childbirth is both as stable as the Inuit themselves are and in constant change, as they are. It cannot be otherwise since, as has been shown, childbirth is a fundamental part of Inuit identity. Thus, while the techniques, technology and rituals change, Inuit childbirth remains solidly Inuit.

The attempt to impose the biomedical model on Inuit childbirth in the Canadian Arctic has largely failed. Its failure is one that is expressed in Southern terms as

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opposition to medical evacuation on social (1), cultural (2) and epidemiological grounds (3). However, attempts to rectify this situation without integrating the Inuit approach to knowledge and recruiting popular Inuit support risks layering yet another level of bureaucracy and unwanted intervention upon an Inuit population already weary of having their lives dominated by Southern priorities and policies (4).

Historically Stable Definition of Inuit Childbirth

1. Ultimate authority over birth is vested in the community itself, not in biomedical expertise. Biomedical expertise is vital to the community, but on its own terms.

2. Techniques and technologies are irrelevant to the identity of Inuit childbirth. As it varied across the Arctic in the past, so it continues to evolve today.

3. It is Inuit. That is, Inuit childbirth is a practice or set of practices identified by the Inuit community itself.

Despite chronological and geographical variations in Inuit childbirth it can be traced across time as a coherent entity. It is not characterised by an unvarying set of practices or techniques. Even rituals have undergone dramatic changes as the Inuit have converted to Christianity and left, largely without regret, their old

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rituals and taboos behind (5). Inuit childbirth is characterised by a consistent approach, one that reflects the Inuit world-view - their epistemology of knowledge. In effect, rather than dividing nature and culture into different spheres, the Inuit still consider the human and natural world as intimately linked. Thus, perinatal risk factors are only important to the Inuit within the context of overall social harmony and cultural continuity. Rather than viewing birth as a biological function to be managed and manipulated to produce the best possible biological outcome, the Inuit consider it a significant social and cultural event without denying its biological nature. As such, the biological outcome - a successful birth - is weighed directly against the cultural and social implications of the birth. This approach, one profoundly alien to the biological reductionism of Southern epistemology of knowledge, continues to inform Inuit childbirth and is the vital link between traditional Inuit childbirth of the precontact and early contact period and its future evolution. Understanding this link is necessary to understanding the nature of Inuit childbirth, and hence to the success of interventions intended to fulfil Inuit desires for reform.

This is what has separated the experiences of the

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Inuulitsivik Maternities in Nunavik from that of the Rankin Inlet Birthing Centre in Nunavut. Although superficially similar, the Maternities were created in response to community demand, admittedly in Puvurnituq, one of the most activist communities in Nunavik and, arguably, in the entire Arctic (6, 7). It has been, since its inception, dominated by the community, personified by its Inuit midwives and their membership in the perinatal committee (8). As such, the Inuulitsivik Maternities conforms with the tradition of Inuit childbirth and has been successful in gathering significant community support within Nunavik (9, 10).

The Rankin Inlet Birthing Centre was created to fulfil the same function as the Maternities, but was imposed on the community from above, as interviews in Rankin Inlet testified. As a consequence, it has struggled to rouse community interest. Although the opportunity to give birth in the community is welcomed, authority over births remains biomedical, symbolised by the standard risk scoring method used to determine whether women will give birth in the Birthing Centre or be evacuated to Winnipeg (11).

Arguments that this system should be modified to allow more births in Rankin Inlet elide the real issue: control over childbirth itself. As long as Southern actors,

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whether human actors, such as Southern midwives, physicians, or administrators, or non-human actors such as risk scoring forms, continue to exert hegemony over birth in Rankin Inlet, the Birthing Centre will continue to lack support from Inuit who see it as a convenience - even a community resource - but not a vital part of their patrimony.

Inuit Childbirth, Nursing and Epistemological Accommodation

Nursing has, historically, played an ambiguous role in the Canadian Arctic. The nurse-midwives stationed in the outpost nursing stations from the 1950's to the 1970's played an important role in improving perinatal outcomes, while still preserving community childbirth and often informally integrating Inuit rituals and the assistance of local midwives into childbirth (12). However, with the advent of uniform evacuation for birth, nursing has acted as an adjunct to the new birthing regime (13, 14), even though individual nurses, such as Rose Brown in Rankin Inlet (15) and Jennifer Stonier in Puvurnituq (16), played an important role in establishing the community birthing centres in both communities.

Maintaining the social determinants of health has been one of the central roles of nursing ever since Florence

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Nightingale first formulated the idea of what nursing as a profession and a calling is (17, 18). Nurses do not, *pace* medicine, cure diseases or treat illnesses; rather they place the individual in the best possible position to allow healing to occur. Nursing has a responsibility to consider individuals holistically, and to strip away fundamental aspects of an individual's culture and community identity in the name of efficient treatment is to disregard the basic tenets of nursing (18). Thus, the challenge to nursing is to recognise that the integrity of Inuit childbirth is both fundamental to Inuit population health and integral to Inuit self-identity.

Beyond this, Inuit childbirth has implications for nursing practice and the nursing profession that transcend its specific details. Nursing itself is in many ways a profession that bridges two worlds. It is both a science and an art (19), both part of the biomedical system and, as a gendered profession, still reflective of the traditional, premodern European conception of the role of women in maintaining both physical and social health that inspired Nightingale (17, 20).

Nursing is therefore well positioned to mediate between Southern biomedicine and the human kinds fostered by nonmodern epistemologies because it is a cultural hybrid

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itself. Thus, Inuit childbirth offers nursing a distant mirror of its own development, one that may allow the profession to examine its own history and future prospects from the perspective of the nonmodern gaze of the Inuit. By understanding the epistemological foundations of Inuit culture and society, along with the ontological nature of Inuit childbirth, nurses as researchers, students and practitioners, will learn where the professions' own epistemological position is. They will also learn where the profession stands both with respect to the gamut of premodern and nonmodern cultures that nurses come into contact with and the biomedical environment that nursing practices within. Some transcultural nursing theorists already believe that nursing, as a profession focussed on facilitating healing rather than treating ailments, is in a position to mediate between both state authority and biomedicine on one hand and patients on the other (21). Identifying where nursing stands with respect to nonmodern epistemologies such as that of the Inuit will help nursing define its epistemological position with respect to Southern biomedicine as well and further enhance its position as mediator between patient and biomedicine.

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Nursing Curricula and Cultural Sensitivity

Inculcating greater cultural awareness in nursing as a profession and in individual nurses will require significant changes to nursing education. These will have to occur on both the theoretical and practical level, involving both a move away from and a return to the roots of nursing education.

Nursing as envisaged by Nightingale was a holistic calling, in which women with a well-rounded basic education would then undergo nursing training designed to develop and discipline what Nightingale saw as the moral characteristics innate in women's nature and create nurses focussed on population health (20). Nightingale herself supported a number of feminist organisations which promoted women's education and rights in general. However, shortly after the first Nightingale nursing school was established at St. Thomas' Hospital in London, the nursing curriculum established by Nightingale was radically revised in order to emphasise practical education and preparation for careers as hospital nurses instead - quite contrary to Nightingale's original moral and public health focussed vision (20, 22).

This latter model became the template for future nursing education - originally through hospital schools of

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nursing (20). When nursing education began its transformation from diploma training to degree education after the Second World War it entered the universities during a historic shift in which emphasis from the original academic ideal of a liberal education (23) to specialist education in single subjects, and in particular a broad separation between the sciences, social sciences and humanities, was underway (24). As a consequence, nursing education has remained a largely specialist affair, focussed on practical, technical education, and theories and priorities deemed unique to nursing, with non-specialist knowledge often dismissed as irrelevant (25).

Ironically, however, cultural sensitivity and awareness needs the broad exposure to systems of thought and analysis common to the humanities and social sciences. History, Anthropology and Sociology as disciplines deal with other cultures, even if only with the "other" that is Western society's own past or the variations within its' own present. This is not to claim that nursing students need a prior baccalaureate in the arts, but that the humanities and social sciences do need to be integrated into nursing curricula, and taught by faculty with a recognised ability to teach and perform research in these fields - indeed, recognised by competent authorities in the

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relevant fields themselves. The 2000 British and Canadian conference on history of nursing in the British nursing curriculum, "Developing the History of Nursing: An agenda for the future" (26), pointed the way by noting the broad benefits of history for both individual nurses' professional competence, the self-identity of the profession as a whole and the need for faculty to comply with academic standards in the field of history itself.

However, theory can only go so far; practical experience is still important. Currently nursing education contains exposure to non-western cultures only accidentally, when students on clinical practicum or during lectures may encounter Inuit, First Nations or other non-Western fellow students or patients. Within these essentially biomedical pedagogical settings, cultural differences are trivialised. As a consequence most nursing students are likely to complete their education without a great deal of exposure to different epistemologies, to different world-views - they will be told that these perspectives exist in both courses and textbooks (18) but they, themselves, will have little visceral, face to face exposure to people from other cultural and social backgrounds, whose values and beliefs are non-Western and thus will gain no experience in handling future

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professional encounters with such people.

This is a curious phenomenon as few, if any, of Canada's nursing programmes are located too far from significant non-Western populations for pedagogical access to be arranged. Most major Canadian metropolitan areas have both significant urban aboriginal populations and significant immigrant populations with existing specialised health clinics that offer some degree of 'traditional' health care. Schools of nursing located in more remote centres have resident aboriginal populations that are even more likely to retain traditional cultures.

Incorporating clinical instruction in an aboriginal or non-Western immigrant health care setting would do much to ground the theoretical benefits of humanities and social sciences education in practical experience of other cultures and their values, while doing so in a pedagogical setting that would allow the experience to be shaped and guided to the immediate professional benefit of the nursing student, and ultimately both of nursing itself as a coherent profession and the non-Western populations and patients nurses encounter as well.

Much is predicated on the ability of nursing as a profession, and nurses as individuals, to understand the nature of a nonmodern epistemology and gain sensitivity to

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the existence of culturally mediated human kinds, such as Inuit childbirth. By accepting the existence of Inuit childbirth as a continually evolving human kind and recognising that their role as nurses is to support its autonomy from the biomedical system, while still integrating it as closely with biomedical techniques and technologies as the Inuit wish, nurses and nursing as a profession will undertake a positive role as intermediaries between Inuit epistemology and the strictures of Southern biomedicine and state authority. Only by introducing nurses to the concepts elaborated here and exposing them to other epistemologies during their education, is nursing as a profession likely to gain the confidence and ability to undertake this role on more than a piecemeal, individual basis. If nursing and nurses do not, it is unclear who, if anyone, will.

Conclusion

This dissertation has ultimately led to the following conclusions:

1. Inuit childbirth is ultimately what the Inuit themselves - as a community - wish it to be. Attempts to impose an external set of qualifications, however rooted in research in past practices defining "traditional" childbirth, are

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unlikely to succeed.

2. As a community defined entity, Inuit childbirth falls neatly into the category Hacking defines as a 'human kind' (27). It exists as a culturally mediated and community defined concept that is dependent on the Inuit themselves for its existence. Thus, as the Inuit definition of childbirth changes, Inuit childbirth itself will change. In changing it will continue to modify its own definition, in what Hacking refers to as a 'looping effect' (and which scientists refer to as feedback loops). Thus, the particular characteristics of Inuit childbirth at any point in time are historically relevant to its origins and future development, but only as a reference. They cannot be used to judge the validity of either the past or future characteristics of Inuit childbirth. As long as Inuit childbirth is judged, by the Inuit themselves, as corresponding to their epistemology of health, its particular practices at any point in time serve only to locate it in that point in time. Ultimately, only contemporary community approval bestows validity on Inuit childbirth at any time.

By understanding this it is possible to create an epistemological accommodation between Inuit childbirth and southern biomedicine, as the Inuulitsivik Maternities have

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demonstrated. The Inuit community, or its representatives, retain the final authority over childbirth, while using the techniques and technology of biomedicine as tools to improve birthing outcomes. This approach produces the clinical outcomes that both Southern biomedicine and the Inuit value, while preserving the place of Inuit childbirth within the epistemology of Inuit health. Nursing, through its dual role in promoting Inuit health and representing southern biomedical authority in much of the Arctic, can play an important part in mediating the accommodation between Inuit epistemology and southern biomedicine.

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Appendices

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Appendix I: Information and consent form

Information and Invitation Letter for Participation

You are invited to participate in a study entitled:

"Childbirth in the Canadian Arctic: The Evolution of Traditional Inuit Midwifery. A Comparative Historical Analysis of Social and Clinical Factors Influencing Childbirth among Canadian Inuit, 1850-2004"

Please read this form carefully and feel free to ask any questions you might have.

Principal Investigator: Dr. Janet Ross-Kerr, Faculty of Nursing, University of Alberta.
Researcher: Vasiliki Douglas, Faculty of Nursing, University of Alberta.

Purpose and Procedure:

This study is being undertaken to learn as much as it can about how women have experienced birthing and how they would like to experience birthing. Its aim is to discover what the Inuit experience of birthing is, both in the past and today. Therefore, I would like to interview you about your experience of childbirth and your feelings about health services.

The interviews will take about 1 1/2 hours, and with your permission I will tape-record them. This will allow me to be certain I understand what you are telling me. However, if you do not wish to be tape-recorded that is fine and I can write notes as you talk.

Potential Risks: The potential risks of your participation are extremely low, but should the interviews result in any distress for you, the health centre staff can be called upon to assist you.

Potential Benefits: This research will allow you to express, in your own words, how you view your experiences regarding childbirth, either as an Inuit, midwife, health care professional or administrator. What we will learn about Inuit childbirth will allow us to understand traditional childbirth better and to improve the birthing experience of Inuit women.

Storage of Data: The consent forms, questionnaires, the tapes of the interviews, and the written transcripts, will be stored in a locked filing cabinet in a locked restricted office at the University of Alberta for a minimum of five years. At the end of the five-year period, they will be destroyed.

Confidentiality: The researcher undertakes to protect your confidentiality and identity. No names will appear on the tapes, or transcripts, and consent forms will be kept secure in a separate location. Any information, such as your name or the names of others, which would identify individuals that appear on the recorded tapes, will be erased.

The information from this study will be in written form in a doctoral dissertation, and perhaps in separate reports or articles, and presented at conferences. However, your

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identity will be kept confidential. Although I will report direct quotations from the interview, I will change your identity, and no identifying information that you may have offered during the interviews will be used.

After the tapes have been transcribed, you will be given the opportunity to read the transcripts of our interviews, or have them read to you, and change anything you wish, or have all of your material withdrawn from the study and destroyed. You may choose not to receive or review the transcripts.

Right to Withdraw: You may withdraw from the study for any reason, at any time, without penalty of any sort. If you withdraw from the study at any time, you may request that any data that you have contributed be destroyed. In addition, you are not obliged to answer each and every question. As we move through the questions, please tell me if there is any that you do not wish to answer.

Questions: If you have any questions concerning the study, please feel free to ask me at any point. You are also free to contact the researcher at the number below if you have questions at a later time. This study was approved on ethical grounds by the Ethical Review Board of the University of Alberta, by the review ethics board of the Nunavut Research Institute (NRI) and the Nunavik Health and Nutrition Committee. Any questions regarding your rights as a participant may be addressed to Dr. Kathy Kovacs-Burns at (780) 492- 3769. If you wish to receive a report of the results of the research, please contact the researcher at the telephone number or email address below.

Contact information:

Vasiliki Douglas, PhD. (c.)
Faculty of Nursing
4th Fl. Clinical Sciences Bldg.
University of Alberta
Edmonton AB T6G 2G3
780-492-6251
FAX: 780-492-2551
e-mail address: vasiliki@ualberta.ca

Please keep this information for your records. Thank-you.

CONSENT FORM

Part 1 (to be completed by the Principal Investigator):

Title of Project: Childbirth in the Canadian Arctic: The Evolution of Traditional Inuit Midwifery. A Comparative Historical Analysis of Social and Clinical Factors Influencing Childbirth among Canadian Inuit, 1850-2004

Principal Investigator(s):
Dr. Janet Ross-Kerr, PhD.

Phone Number(s):

Co-Investigator(s):
Vasiliki Douglas

Contact Names:
Vasiliki Douglas

Phone Number(s):
780-492-6251

Part 2 (to be completed by the research subject):

	<u>Yes</u>	<u>No</u>
Do you understand that you have been asked to be in a research study?	☐	☐
Have you read and received a copy of the attached Information Sheet?	☐	☐
Do you understand the benefits and risks involved in taking part in this research study?	☐	☐
Have you had an opportunity to ask questions and discuss this study?	☐	☐
Do you understand that you are free to withdraw from the study at any time, without having to give a reason and without affecting your future medical care?	☐	☐
Has the issue of confidentiality been explained to you?	☐	☐
Do you understand who will have access to your records, including personally identifiable health information?	☐	☐
Do you want the investigator(s) to inform your family doctor that you are participating in this research study? If so, give his/her name _____	☐	☐

Who explained this study to you? _____

I agree to take part in this study: YES ☐ NO ☐

Signature of Research Subject _____

(Printed Name) _____

Date: _____

Signature of Witness _____

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator or Designee _____ Date _____

THE INFORMATION SHEET MUST BE ATTACHED TO THIS CONSENT FORM AND A COPY GIVEN TO THE RESEARCH SUBJECT

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Appendix II: Interview Questions

Oral History Interview Guides

Participants: Midwives and Health Care Personnel

A semi-structured interview approach will be taken for the interviews. The following open-ended questions will be used as guidelines.

- 1) What is your role in the provision of maternity care to women in your community?
- 2) How long have you been working in this role?
- 3) What is your experience of providing care?
- 4) How do you feel about midwifery training in your community?
- 5) Tell me about the personnel and physical resources available to you?
- 6) How would you describe the support provided to you in carrying out your role?
- 7) How safe is it for more women to give birth in your community?
- 8) How safe would it have been for the women who were sent out to give birth to remain in the community?
- 9) What would positively affect your ability to provide a high level of maternity care to the women in your community?
- 10) Where would women like to give birth?
- 11) What are the perceived risks, if any, to women who stay in the community to give birth?
- 12) How do women feel about leaving their community to give birth? How do their families feel? How do their communities view this?
- 13) How do you think the opportunity for community birthing has affected the women's decisions about where to give birth? Their families? The community?
- 14) What kind of maternity services do you think would be best for your community?
- 15) What needs to happen to facilitate such services?
- 16) Have you noticed other needs for your community? If yes, what are they? Do you think they are related to the provision of maternity services?

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Participants: Inuit women and their families

A semi-structured interview approach will be taken for the interviews. The following open-ended questions will be used as guidelines

- 1) Tell me about the maternity care you received before and after childbirth?
- 2) What were your experiences?
- 3) How did the maternity care you received meet your practical and emotional needs?
- 4) What resources in your community promote the health of mothers and their families?
- 5) How satisfied are you with the maternity care available for women in your community?
- 6) What do you consider is the most important part of maternity care?
- 7) How do you believe maternity care could be improved in your community?
- 8) Who taught you what to expect during labour and delivery?
- 9) Who were the experts you had access to during your pregnancy? Would they also include elders?
- 10) Do you think your maternity care providers knew what was important to you?
- 11) How important is it to you to have a trained Inuit midwife provide care during all or most of your maternal care?
- 12) How safe is it to give birth in your community?
- 13) Where would you like your baby to be born?
- 14) How do you feel about leaving the community to give birth? How does your family feel? How do you believe your community feels about this?
- 15) What decision would you make if you had the opportunity to give birth in your community, rather than be sent away? What decision would your family make?
- 16) What kind of maternity services do you think would be best for your community?
- 17) What needs to happen to facilitate such services?
- 18) Have you noticed other needs for your community? If yes, what are they? Do you think they are related to the provision of maternity services?

Appendix III: Ethical Approval

Health Research Ethics Board

333 Heritage Medical Research Center
University of Alberta, Edmonton, Alberta T6G 2S2
p.780.492.9124 (Biomedical Panel)
p.780.492.0302 (Health Panel)
p.780.492.0459
p.780.492.0899
f.780.492.2008

April 27, 2006

Dr. Janet Ross-Kerr
Faculty of Nursing
3rd Floor CSB

File# B-110306

Dear Dr. Ross-Kerr:

**Re: Childbirth in the Canadian Arctic: The Evolution of Traditional Inuit Midwifery.
A Comparative Historical Analysis of Social and Clinical Factors Influencing
Childbirth among Canadian Inuit, 1850-2004**

Thank you for Ms. Vasiliki Douglas' email correspondence dated April 26, 2006, which addressed the requested revisions to the above-mentioned study. These changes have been reviewed and approved on behalf of the Research Ethics Board. Your approval letter is attached.

Next year, a few weeks prior to the expiration of your approval, a Progress Report will be sent to you for completion. If there have been no major changes in the protocol, your approval will be renewed for another year. All protocols may be subject to re-evaluation after three years.

For studies where investigators must obtain informed consent, signed copies of the consent form must be retained, and be available on request. They should be kept for the duration of the project and for a full calendar year following its completion.

Approval by the Health Research Ethics Board does not encompass authorization to access the patients, staff or resources of Capital Health or other local health care institutions for the purposes of research. Enquiries regarding Capital Health administrative approval, and operational approval for areas impacted by research, should be directed to the Capital Health Regional Research Administration office, #1800 College Plaza, phone 407-6041.

Sincerely,

Charmaine N. Kibutort
Administrative Coordinator
Health Research Ethics Board (Panel B)

OK
6/3

Health Research Ethics Board

2-11 Hargett Medical Research Centre
University of Alberta, Edmonton, Alberta T6C 2G9
p. 780.492.9724 (Biomedical Panel)
p. 780.492.0392 (Health Panel)
p. 780.492.0459
p. 780.492.0399
t. 780.492.7308

HEALTH RESEARCH ETHICS RE-APPROVAL FORM HEALTH PANEL B

Date: April 2008

Name of Applicant: Dr. Janet Ross Kerr

Department: Faculty of Nursing

File Number: B-310306

Project Title: Childbirth in the Canadian Arctic: the evolution of traditional Inuit midwifery. A comparative historical analysis of social and clinical factors influencing childbirth among Canadian Inuit, 1850-2004.

The Health Research Ethics Board has reviewed the progress report and file for this project and found it to be acceptable within the limitations of human experimentation

The re-approval for the study as presented is valid for one year. It may be extended following completion of the annual progress report, which will be sent to you in your renewal month. Alternatively, you may access the progress report at www.hreb.ualberta.ca. This form may also be used to notify the REB of project completion. Any proposed changes to the study must be submitted to the HREB for approval prior to implementation

For studies where investigators must obtain informed consent signed copies of the consent form must be retained, as should all study related documents, so as to be available to the HREB upon request. They should be kept for the duration of the project and for at least seven years following study completion.

Dr. Graham Shepherd, FRCPC
Chair of the Health Research Ethics Board
(B: Health Research)



University of Alberta

Library Release Form

Name of Author: Vasiliki Kravariotis Douglas

Title of Thesis: Converging Epistemologies: The Historical Evolution of Inuit Childbirth in the Canadian Arctic

Degree: Doctor of Philosophy

Year this Degree Granted: 2009

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Signature

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