

An Illustration of the “Inverse Care Law”: A Commentary on *Giving Birth in Canada: Providers of Maternity and Infant Care*

Sue Ross, PhD

Department of Obstetrics and Gynaecology, Community Health Sciences and Family Medicine, University of Calgary, Calgary AB

Abstract

The recent Canadian Institute for Health Information (CIHI) report *Giving Birth in Canada: Providers of Maternity and Infant Care* highlights the limited availability of obstetrical resources. The efficient allocation of these resources is likely to disadvantage the rural and remote areas of Canada, where individual need may be greatest. This situation is a contemporary illustration of the “inverse care law” described by Julian Tudor Hart in 1971.

Résumé

Le récent rapport de l'Institut canadien d'information sur la santé (ICIS), intitulé « Donner naissance au Canada : Les dispensateurs de soins à la mère et à l'enfant », souligne le caractère limité des ressources en obstétrique. Il est probable que la répartition efficace de ces ressources en vienne à désavantager les régions rurales et éloignées du Canada, soit là où les besoins individuels peuvent s'avérer les plus pressants. Cette situation constitue une illustration contemporaine de la « loi inversement proportionnelle des soins » décrite par Dr Julian Tudor Hart en 1971.

J Obstet Gynaecol Can 2005;27(1):51–53

COMMENTARY

As highlighted in the recent Canadian Institute for Health Information (CIHI) report *Giving Birth in Canada: Providers of Maternity and Infant Care*, the availability of resources for obstetrics is limited and is expected to become more limited over time.¹ There is therefore a clear need for optimal allocation of these scarce resources. However, efficient allocation of resources may disadvantage the rural areas of Canada in particular.

In a seminal paper in 1971, Julian Tudor Hart defined what he called “the inverse care law,” stating that, “The availability of good medical care tends to vary inversely with the

need of the population served.”² Hart pointed out that medical services are not the main determinants of mortality and morbidity; they depend on the characteristics of the population and their standard of living. He stressed that market forces are a principal explanation for the inverse care law, because they influence the distribution of health services more strongly than population need. Services will be provided where they are efficient and profitable rather than on the basis of need alone.

In the 33 years since the publication of Hart's article, the inverse care law has become of increasing interest to clinicians, researchers, and policy-makers. A PubMed search shows that 36 papers applied the inverse care law. The papers were mainly from the UK (where equitable access to the National Health Service is highly regarded) but also from New Zealand, Australia, Spain, and Brazil. They comment on the availability of different services (primary, obstetrical, social, psychiatric, or cardiac) to various populations (pediatric, elderly, or general) and compare deprived versus affluent areas and rich versus poor countries. That is, the inverse care law appears to be universally applicable in those health care systems and populations studied and remains as relevant today as when it was first described.³

Two papers have investigated the inverse care law as it relates to obstetric populations. One paper, a satisfaction survey of women who gave birth in Victoria, Australia, found that women in poorer economic and social circumstances (who were more likely to need care) were more likely to be limited in their choice of caregiver and to be dissatisfied with their care.⁴ The other paper was a survey of attitudes toward Caesarean delivery by choice among health care providers and women in a UK hospital. The authors concluded that allowing childbirth priorities to be determined by the “vociferous and privileged” may divert crucial limited resources away from areas of greater clinical need.⁵ Both of these studies found the inverse care law to be

Key Words: Commentary, inverse care law, health services accessibility, delivery of health care, obstetrical services

Competing interests: None declared.

Received on August 11, 2004

Accepted on November 9, 2004

relevant to obstetrics; however, how the law pertains to the provision of obstetrical services in Canada has yet to be examined.

Giving Birth in Canada: Providers of Maternity and Infant Care describes the health of and health care for mothers and infants in Canada.¹ According to the report, the Canadian birth rate declined by 28% from 14.5 live births per 1000 population in 1990–1991 to 10.5 live births per 1000 population in 2001–2002, but the number of high-risk pregnancies increased (e.g., rising numbers of births to older women, multiple pregnancies, and Caesarean deliveries), placing higher demands on health care providers who require more specialized birthing skills and who must provide more frequent monitoring. Most births occur in hospital. In 2001, family physicians attended 39% of births (down from 44% in 1996), while obstetricians attended the remaining 61%. It is of concern that the number of family physicians offering obstetrical services seems likely to decrease as fewer young doctors enter family medicine,⁶ and among new family physicians, still fewer are willing to take on work they regard as both disruptive to their personal lives and risky (because of concern about maintaining obstetrical skills and the perceived threat of malpractice suits).¹ Any decrease in the availability of family physician obstetrics will further disadvantage remote areas. Most obstetricians practice in urban areas. More than 400 obstetricians are likely to retire over the next 5 years, but only 250 new physicians will enter obstetrics and gynaecology residency programs, and not all of these will provide obstetrical services when they qualify. Therefore, obstetrical services are generally under pressure, with particular concerns for remote areas.

The concerns for rural and remote communities are further compounded by the following problems: distance from facilities and specialized equipment, lack of peer support for providers and coverage for their practice, and the need for providers with expanded skills. The CIHI report stated that specific challenges to the sustainability of rural maternity practice include the limited number of physicians available for on-call services, lack of Caesarean delivery capability, lack of anaesthetists, and the small number of births in rural areas.¹

The situation in Nunavut provides the most extreme Canadian example: 10 family physicians (no obstetricians) offer care to a population of 27 000 living in 28 communities (with more than 5000 people in the capital city of Iqaluit) in a territory of approximately 2 000 000 km². In contrast to the situation in Canada as a whole, the birth rate is increasing in Nunavut: there was a 2.5% increase from 25.4 live births per 1000 population in 2001–2002 to 25.8 live births per 1000 population in 2003–2004.⁷ Outcome data for

pregnancies demonstrate that Nunavut mothers are at greater risk of preterm birth, and their infants are at greater risk of neonatal and infant death than are mothers in Canada as a whole.⁸ In addition, stillbirths are underreported for Inuit mothers.⁹ Thus Nunavut offers particular challenges of geography, with its dispersed population and unique culture, and the likelihood of increased morbidity.

As described in *Giving Birth in Canada: Providers of Maternity and Infant Care*,¹ the solution to providing health care for women in remote areas has generally been to fly women to tertiary or secondary care facilities 4 weeks prior to their expected delivery date. This provides health care but deprives them of their partner, family, and social support; causes them to be isolated in a distant and unknown environment; upsets the family structure at home; and involves a considerable financial burden (for example, if the father is unable to hunt for food during the time his wife is away, the family needs to buy food).¹⁰ As a solution, birthing centres have been proposed that are staffed by midwives and local maternity workers who speak the native language, to provide childbirth facilities closer to the community for women with uncomplicated pregnancies. To date, only one such centre has been established in Nunavut. It has proved popular with women,¹⁰ but staffing remains a problem, with no midwifery training program available in Nunavut.

Applying the inverse care law to obstetrical service for remote areas leads us to consider whether sending women from their communities to distant urban centres to give birth is indeed meeting their needs. The optimal allocation of limited obstetrical services in Canada dictates that services are concentrated in areas with the largest populations. This appears to be in conflict with the Canada Health Act, which states that health care should be comprehensive, universal, and accessible.¹¹ The current service undoubtedly disadvantages women from remote areas and their families and may even contribute to increases in mortality and morbidity, because high-risk women refuse to leave their communities to give birth.¹⁰ However, the provision of equitable care will involve a strong political will to establish well-resourced birthing centres, local training programs for midwives and birth attendants, and further incentives for family physicians to provide obstetrical care in rural and remote areas. Canada could undoubtedly fund these initiatives if there was a social commitment to providing obstetrical care that was truly available on uniform terms and conditions unimpeded by financial or other barriers.¹¹ The inverse care law clearly applies to obstetrical care in Canada today.

ACKNOWLEDGEMENTS

Thanks to Dr Neil Drummond, University of Calgary Department of Family Medicine, for his comments on previous drafts of this commentary.

REFERENCES

1. Canadian Institute for Health Information. *Giving birth in Canada: providers of maternity and infant care*. Ottawa: Canadian Institute for Health Information; 2004.
2. Hart JT. The inverse care law. *Lancet* 1971;1:405–12.
3. Watt G. The inverse care law today. *Lancet* 2002;360:252–4.
4. Brown S, Lumley J. Antenatal care: a case of the inverse care law? *Aust J Public Health* 1993;17(2):95–103.
5. Johanson RB, El-Timini S, Rigby C, Young P, Jones P. Caesarean section by choice could fulfil the inverse care law. *Eur J Obstet Gynecol Reprod Biol* 2001;97(1):20–2.
6. Canadian Institute for Health Information. From perceived surplus to perceived shortage: what happened to Canada's physician workforce in the 1990s? Ottawa: Canadian Institute for Health Information; 2002.
7. Statistics Canada [website]. Ottawa: Statistics Canada. Available at: <http://www.statcan.ca/english/Pgdb/>. Accessed September 7, 2004.
8. Health Canada. *Canadian Perinatal Health Report, 2003*. Ottawa: Minister of Public Works and Government Services Canada; 2003.
9. Luo ZC, Wilkins R, Platt RW, Kramer MS. For the Fetal and Infant Health Study Group of the Canadian Perinatal Surveillance System. Risks of adverse pregnancy outcomes among Inuit and North American Indian women in Quebec, 1985–97. *Paediatr Perinat Epidemiol* 2004;18(1):40–50.
10. Chamberlain M, Barclay K. Psychosocial costs of transferring indigenous women from their community for birth. *Midwifery* 2000;16(2):116–22.
11. Canada Health Act [website]. Available at: <http://www.hc-sc.gc.ca/medicare/home.htm>. Accessed September 7, 2004.