Chapter VIII
Building Knowledge in Maternal and Infant Care

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ABSTRACT

Our ultimate goal as obstetric and neonatal care providers is to optimize care for mothers and their babies. As such, we need to identify practices that are associated with good outcomes. Although the randomized controlled trial is the gold standard for establishing the benefits of interventions, trials are very expensive and must be reserved for the most important of clinical questions. As an alternative, continuous quality improvement involves iterative cycles of practice change and audit of ongoing clinical care. An obvious prerequisite to this is ongoing data collection about interventions and outcomes, as well as demographics, pregnancy characteristics, and neonatal care that may affect the intervention-outcome relationship. In Canada (as in some other developed countries), much of the country is covered by regional reproductive care databases. These collect information on maternal demographics, pregnancy characteristics, labour and delivery, and basic information on maternal and perinatal

outcomes. The primary objective of these databases is to monitor geographical trends and disparities in health outcomes. As such, there is little information about interventions, especially outside the period of labour and delivery. Also, there is no standardization of definitions, and efforts to produce a "minimal dataset" have not yet yielded agreement, even after many years of work. A more comprehensive system is required. Moving in this direction would serve many purposes: efficiency, economy in the setting of shrinking budgets, standardization of definitions, collaboration, and creation of stable background data collection onto which researchers could "clip" extra data required for specific studies. These activities would lay the foundation for the electronic health record, which cannot build its foundation on the "Tower of Babel" that is our current definitional structure in women's health and obstetrics, in particular. Continuous quality improvement efforts and interaction with regional reproductive care programmes will facilitate translation and transfer of knowledge to care-givers and patients. These efforts raise concerns about privacy and security which remain major barriers to the EHR. However, security must be balanced with the need for health information.

OBSTETRICS: AN HISTORICAL LEADER IN KNOWLEDGE BROKERING

Over the past few decades, obstetrics has been a leader in medicine in the dissemination of medical knowledge. In 1979, when Archie Cochrane proposed, "a critical summary, adapted periodically, of all relevant randomized controlled trials"(1), it was obstetrics that first seized the call. A registry was developed of controlled trials of interventions during pregnancy and early infancy(2). Thus was born the Oxford Database of Perinatal Trials, otherwise known as the "Odd Pot" (ODPT). This served as a resource for reviews of interventions in maternal and neonatal care, and an important tool used by those involved in quality of care promotion(3). In 1993, with the influence of the worldwide web and advanced software, the ODPT became an electronic publication known as the Cochrane Collaboration Pregnancy and Childbirth Database (CCPC). Archie Cochrane urged specialty fields to arrange significant summaries of such data in the 1972 publication *Effectiveness and Efficiency: Random Reflections on Health Series* (1). Over the years it was obstetrics that again answered the call by publishing the first

edition of *A Guide to Effective Care in Pregnancy and Childbirth* (1989) (4) which summarizes randomized controlled trials regarding maternal and infant care in order to better understand health practices and set policies(5). *A Guide to Effective Care in Pregnancy and Childbirth* (6) is still used today as an effective resource among health care providers and their patients.

This type of RCT analysis, systematic reviews, extended into many other health and medical fields to later form the Cochrane Database of Systematic Reviews (CDSR) in 1994. The rest is, as they say, history as this accomplishment proved to be an enormous step forward not just for obstetrics but for the future of medicine. Having the CDSR available on delivery suites is considered to be an important quality of care criterion when assessments are made of academic obstetrics and gynaecology services and programmes. Today, no application for research funding can be made without reference to the relevant Cochrane review. Book was the first evidence based book, now onto third edition.

The CDSR is predicated on the idea that the randomized controlled trial is the least biased form of information about interventions that improve maternal and perinatal outcomes. However, the

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