Study Guide

In Our Midst

A Film by Richard Kahn

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I. Introduction

"When the staff of the NICU discharged our child, it was though they were waving goodbye at the dock. We had to make the voyage on our own."

— Mother of a NICU graduate

Each year, thousands of babies are born with conditions that threaten their life and health. Premature birth and low birth weight are major risk factors, but even full-term babies can experience congenital problems or inherited disorders. In the past, many of these children would have died, but today the great majority survive thanks to the care they receive in the neonatal intensive care nursery (NICU).

Books and films have documented the difficult and often agonizing decisions that parents and caregivers must make when a newborn's life is threatened. Far less studied, however, are the long-term outcomes of NICU care. How do these children develop over time? What special challenges do they face? How do their parents and siblings cope with the additional care they need? How are schools and communities affected by the growing number of children with special needs who owe their lives to NICU care?

These are some of the questions this film seeks to address. Using an unscripted *cinèma-vérité* approach that focuses on real people, it provides a series of glimpses into the life of one family, each of whose four children began his or her life with an extended stay in NICU. The children themselves, three boys and one girl, represent a range of NICU outcomes. The oldest boy, Alex, appears to be largely unaffected by his NICU experience. His younger brother Andrew experiences some developmental problems that affect his school performance. Their sister, Allison, experiences numerous medical and developmental problems associated with cerebral palsy related to her prematurity. The youngest boy, Aiden, was adopted into this family at eleven months of age after his birth parents proved unable to cope with his many medical problems. He is partially blind, and, like his sister, continues to experience eating problems that result from extended periods of tube feedings in the NICU. Through the film, you are able to spend about a year with this family, watching their daily regimen and sharing some of their challenges and joys.

It is important to bear in mind that *In Our Midst* does not answer many of the questions it raises. It is up to individual viewers to explore – and perhaps answer – these questions for themselves.

II. Issues

Historical background. *In Our Midst* focuses on the longer-term outcomes of babies who required medical care as newborns. In a sense, it takes us "off the dock" and permits us to travel, however briefly, with this family as it makes its voyage over the seas of living with the long-term consequences of NICU care.

While in the NICU, medical decision making focuses immediately on ensuring the child's survival and a return to normalcy. Most neonatal problems respond to treatment with rapid recovery, but some do not. Complex, prolonged, and uncertain clinical courses that are stressful for the baby and also stressful for parents, families, and health care providers are common.

The quality of life of NICU graduates is a complex and often emotional issue. Much of the discussion centers on neurodevelopmental concerns, including impaired motor and cognitive functioning and conditions such as cerebral palsy and compromised intelligence. Other problems, such as chronic lung disease, visual difficulties, or problems with eating or digesting, also arise.

Both inside the NICU and beyond, many decisions have to be made. Some of these decisions involve judgments about the quality of life afforded the child by different interventions. In some very extreme cases, when the child faces only prolonged pain and suffering or severe brain damage, care may be judged to be "futile" in terms of the goal of preserving life or restoring health. This is one reason why a better understanding of long-term outcomes is important for parents and caregivers faced with medical decisions. It is also important that the parents and families of NICU graduates understand clearly the challenges and opportunities that lie ahead.

The values and beliefs of parents and health care providers influence decision making in the NICU setting and beyond. These beliefs and values vary, however, and are not always based on appropriate data and information. Recent literature on longer-term outcomes has evidenced heated debate over "quality of life" issues. Some research has stressed the positive outcomes for many NICU graduates, even those with severe medical problems or developmental delays (see, for example, the articles in Section VIII by Saigal). In some instances, these reports have been sharply criticized as misrepresenting the actual experience of children and families (see the articles by Harrison). Behind these debates, different value perceptions and interpretations are at work. Further compounding the difficulty of assessing long-term outcomes is the fact that NICU graduates themselves, as some studies suggest, hold different perceptions of their status from those that parents or care providers may think they hold. Although *In Our Midst* does not directly explore how Alex, Andrew, Allison, or Aiden feel about their lives or

understand the decisions that led them to the present, it does afford a basis for understanding something about the lived experience of those who have received NICU care.

In Our Midst has a companion movie and study guide. *Dreams and Dilemmas, Parents and the Practice of Neo-natal Intensive Care*, a film by Richard Kahn, focuses on the process and nuances of decision making during a baby's stay in a NICU. The two films can be viewed and discussed individually but they also complement each other.

III. Objectives

The goal of this film is straightforward: to promote improved understanding of the long-term outcomes of neonatal intensive care. The film's more specific objectives include the following:

- Increased knowledge of the medical and developmental consequences of NICU care for the children themselves.
- Enhanced insight into the quality of life of NICU graduates, especially from their own perspective.
- Greater understanding of how parents cope with the demands of raising such children.
- Improved insight into how the care of specially challenged youngsters impacts parents and siblings.
- Better understanding of how the needs of such children affect relations between the family and community institutions, especially the schools.

The film should provoke more questions than it is able to answer. Individual viewers will have their own reactions to what they witness and will feel the need to talk about it, often from their own unique points of view. The study guide is designed to facilitate and focus discussion as we proceed to the common goal of improved understanding of long-term neonatal intensive care outcomes.

IV. How to Use this Film and Study Guide

In Our Midst is a tool for promoting thought and discussion about many issues raised by neonatal care and the experience of youngsters and families with special needs. If you are watching this film as an individual, the **Segment-by-Segment Discussion Questions** (Section VI) or **General Discussion Questions** (Section VII) can help you focus your reactions.

If you plan to teach with this film or lead a discussion of it, *In Our Midst* lends itself to different presentation/discussion formats. Preview the film yourself; then select the approach that suits your needs. Among your options in teaching with this film:

- A two-hour session in which the hour-long film is shown and followed by a discussion of some of the **General Discussion Questions**.
- One session devoted to viewing the film, followed by a series of discussion sessions focusing on specific segments and issues, guided by questions from the **Segment-by-Segment Discussion Questions**. In this format you might want to include supplemental readings (see Section VIII).

In choosing the **Segment-by-Segment** option, feel free to select those segments that strike you as posing questions of importance. In raising questions, it is helpful to keep in mind that people come to these issues with very different moral views and different background experiences. The purpose of discussion is not to arrive at *right answers*. Instead, the goal is to elicit the full variety of views present and to work together to develop and enrich, via a group process, each person's understanding of the issues.

To help you and your group pursue these matters more deeply, a guide to further reading has been prepared (Section VIII).

V. A Brief Overview of Each Child's Medical History

The children depicted in this film were all NICU patients. The following summaries provide viewers and discussants with general details about the hospital interval to further their understanding of the experiences of the individuals and family portrayed in the film. The children's parents have consented to the publication of the following paragraphs.

Alex was born at 28 weeks gestation (a normal pregnancy interval is 37 to 42 weeks) and with a birth weight of 1180 grams (2.6 pounds). His mother was transferred prior to birth to a regional center. His 1 and 5 minute Apgar scores were 8 and 9. (Apgar is a system for evaluating babies at birth; 5 parameters are given scores of 0, 1 or 2, with a maximum total of 10). His initial hospital course included respiratory distress syndrome (RDS), which was treated with mechanical ventilation for 24 hours and several days of constant positive airway pressure (CPAP). Subsequently, he gained weight slowly but steadily. His intensive care nursery stay was 1 month and 2 days; he was then transferred to the hospital in his home community for additional care.

Andrew was born at 27 weeks gestation with a weight of 1110 grams (2.4 pounds) and Apgar scores of 5 and 7. His mother was again transferred prior to birth. He initially experienced moderate-to-severe RDS; he received ventilator support for 5 days, CPAP for 2 more days, and then supplemental oxygen. He also received exogenous surfactant, a medication for RDS. In addition, he was treated during the first week for a Patent Ductus Arteriosus (PDA). (The ductus arteriosus is a blood vessel that is open in fetal life but normally closes after birth). He developed Bronchopulmonary Dysplasia (BPD) with a need for oxygen supplementation, which was still present to a mild degree when he was transferred to his community hospital after a NICU stay of 2 months and 2 days.

continued…

Allison was born at 26 weeks gestation with a weight of 910 grams (2.0 pounds) and Apgar scores of 8 and 9. She developed severe RDS with complications. There were episodes of instability during the first week that included a PDA. On day 7 she became even more ill with an acute bowel perforation that required surgical intervention; she was then transferred to another hospital for surgery. After a recovery interval that included additional episodes of instability, she returned to her first hospital. A serious intracranial hemorrhage was documented on day 5 that later required reduction of pressure through use of external drains from the brain and then placement of a shunt between the head and the abdomen. She also developed retinopathy of prematurity (ROP, an abnormal condition of the back of the eye), and an opacity in one eye that required corneal transplant. She was discharged home for the first time at 3 months and 24 days, with a future course that would include numerous medications and many follow-up appointments.

Aiden, the adopted member of the family, was born at 27 weeks. He weighed 358 grams (0.8 pounds) and had Apgar scores of 4 and 9. He and his twin were born by cesarean section following a complicated pregnancy, during which it was determined that the fetuses were discordant (a term to describe an abnormal difference in size). It was Aiden who demonstrated severe intrauterine growth retardation. He required immediate and ongoing care for problems including RDS and PDA. He received ventilator support for 2.5 months, developing BPD that persisted beyond his initial hospitalization. He required surgery for perforation of his colon. He developed a severe manifestation of ROP that led to concern that he might be blind. He was discharged home for the first time at 4 months and 15 days. During his first year, Aiden was the focus of concern about many medical and social issues. A tube was inserted through his abdominal wall into his stomach to help with his nutritional intake. He then entered a foster home, and then was adopted by the family depicted in the film.

VI. Segment-by-Segment Discussion Questions

Once the film has been viewed in its entirety, you can return to the individual segments listed below. Play each segment from the indicated starting to stopping point. These questions could be printed out and distributed in advance.

Segment 1: Introduction to the Family

From	**00:00**	The beginning of the film (Andrew talking to the camera)
To	**10:16**	Andrew eating cereal

Questions for Discussion:

- What are your initial impressions of the mom? The dad? Andrew (the first child you see, who talks about his family)? Alex (the oldest boy)? Allison? Aiden (the adopted boy)? The family as a whole?
- What do you think the mom (Karen) means when she says, "Allison is completely another story"?
- What issues or questions does the brief account of Aiden's adoption offered by the mom raise for you?
- On the basis of these opening scenes, what special challenges do you think these children and this family face?
- On the basis of these opening scenes, what are some of the most important questions that come to your mind?

Segment 2: First Hospital Visit

From	**10:20**	Karen waiting
To	**15:10**	Wheeling Allison down the hallway

Questions for Discussion:

- How would you describe Allison's medical condition?
- What can medical professionals learn from these scenes?
- What can educational professionals learn from these scenes?
- How well are the various services available to the family (physicians, educators, OT/PT) working together?

Segment 3: Home Again – Medication & Food

From	**15:10**	Alex doing homework; Karen administering pills to Aiden
To	**20:04**	Karen administering tube feeding to Allison

Questions for Discussion:

- Children who start life with long periods in the NICU often develop abnormal feeding patterns (for example, they can have trouble swallowing). How do these patterns impact the life of this family?
- What role do medications play in this family's day-to-day life?
- In what other ways does the legacy of NICU care continue to affect the daily life of this family?

Segment 4: Second Hospital Visit

From	**20:04**	Young physician talking to Karen
To	**22:53**	Physician's question: "Are you fighting this?"

Questions for Discussion:

- How would you describe Aiden's medical condition?
- What can medical professionals learn from these scenes?
- What can educational professionals learn from these scenes?
- How do the parents seem to cope with the responsibilities of caring for their children?
- At the very end of the segment, the physician asks, "Are you fighting this?" The mom replies, "Yes," and the dad, off-camera, says, "Oh, yeah." What does this tell you about the status of these parents' relationship with the school system and their attitudes toward this part of their life?

Segment 5: Family Scenes

From	**22:53**	Andrew coming home from school
To	**25:19**	Alex putting on his socks and shoes

Questions for Discussion:

- What does this segment tell you about Andrew?
- Alex (the oldest boy) seems to be the least affected of his siblings by his prematurity and NICU stay. What do you perceive to be the effects of the family's situation on him?

Segment 6: Botox Procedure

From	**25:19**	Interview with nurse
To	**30:02**	Allison chewing on her blanket

Questions for Discussion:

- The physician asks, "Do you have any questions, Allison?" What is your estimate of this exchange?
- How would you compare the conduct of the doctor you see in this segment with that of other physicians you've encountered in the film?
- Based on the glimpse you get in this segment, how important is interaction between parents of premies?
- What, in your view, is the impact on the mom of this procedure?
- In general, how has Allison's medical situation affected the mom?
- One of the contested issues in neonatal care is the presence of parents at rounds and procedures. How does this segment shape your views of this issue?

Segment 7: Plymouth Rock Segment

From	**30:02**	Playing basketball
To	**34:53**	Discussion of Aiden's map

Questions for Discussion:

- Is the family being fair to the school system?
- How is your understanding of Aiden evolving as you see more of him? What is your estimate of his physical limitations, cognitive and relational skills, visual acuity, and ability to communicate?
- Is there anything about this segment that disturbs you?
- Following the exchange with Karen, the care coordinator says, "Mom's usually right." How does this remark strike you?

Segment 8: Third Hospital Visit

From	**34:53**	Sitting in the waiting room
To	**37:58**	Family wandering down the hallway

Questions for Discussion:

- How is the family coping with their children's needs?
- What do you make of Allison's sticking out her tongue?

Segment 9: Kitchen Scenes

From	**37:58**	Milk drinking contest
To	**46:34**	Karen feeding Aiden yogurt

Questions for Discussion:

- How is your understanding of Allison evolving as you learn more about her? What is your estimate of her physical limitations, cognitive and relational skills, and ability to communicate?
- What does this segment tell you about the roles of mothers (or parents) of NICU grads? Are they the same as, or different from, parents of other children?

Segment 10: Educational Issues

From	**46:34**	Discussion of Andrew's problems with the Massachusetts Comprehensive Assessment System (MCAS) test
To	**53:20**	End of the film

Questions for Discussion:

- What does the parents' discussions of the MCAS tell you about their relationship with the school system? What thoughts does this segment stimulate about standardized testing?
- On the basis of this and other segments, how would you assess the relationship between the mom and the dad? How well do they cope – individually and together – with their different children's needs?

VII. General Discussion Questions

- Does your view of this family and its individual members (mom? dad? Alex? Andrew? Allison? Aiden?) change from the beginning to the end of this film?
- What role do medications play in the life of this family?
- If you were an educator, how might seeing this film alter your response to your professional duties?
- What do you think the future holds for Alex? Andrew? Allison? Aiden? What will be this family's situation in two decades?
- What ethical questions does this film raise about NICU care? How might viewing this film affect your own medical decision making in the NICU (for example, your willingness to aggressively treat severely impaired infants in the NICU) if you were a parent or medical provider?
- What ethical questions does this film raise about society's response to the children and families who have been cared for in the NICU?
- In what ways is this family a success? Why? In what ways is it less than successful? In your view, what ingredients are necessary to maximize outcomes following a challenging start to life?
- What is your perception of each of these children's self-esteem, now and in the future?

VIII. Guide to Further Reading

Debate on Neonatal Outcomes

Clinical Management Guidelines for Obstetrician-Gynecologists.
2002. ***ACOG Practice Bulletin*** **No. 38 100 (3): 617-24.**
This document describes the potential consequences of, and articulates clinical management guidelines for, the care of extremely preterm or extremely-low-birth-weight (ELBW) infants born at 25 or fewer weeks of gestation. Survival rates for these newborns improved in the early 1990s, largely as a result of medical advances. However, this improvement in survival has not been associated with an improvement in morbidity: the incidence of chronic lung disease, sepsis, and poor growth is still high and may have increased. The treatment of extremely preterm and ELBW newborns may result in unforeseen effects that persist into adulthood; namely, their neurodevelopmental outcomes and cognitive functioning may be suboptimal.

Hack, M. Flannery DJ. Schluchter M. Cartar L. Borawski E. Klein N. 2002.
Outcomes in Young Adulthood for Very-Low-Birth-Weight Infants.
New England Journal of Medicine **346(3): 149-57.**
This study shows us the impact of a neonatal intensive care unit (NICU) stay on young adults' educational experiences. Hack et al. have published a series of studies on a cohort of very-low-birth-weight (VLBW) infants (those weighing less than 1500 g). In this study, they compare 242 survivors (who have a mean birth weight of 1179 g and a mean gestational age at birth of 29.7 weeks) with 233 controls from the same population who were of normal birth weights. At age 20, 74% of young adults who were VLBW, as compared to 83% of normal-birth-weight young adults, had graduated from high school. VLBW men, but not women, were significantly less likely than their normal-birth-weight peers to be enrolled in postsecondary study (30% versus 53%). In addition, the group of NICU survivors had a lower mean IQ (87 vs. 92) and lower academic achievement.

There is some good news, though: just over half of the VLBW cohort had IQ scores within the normal range, three quarters of them completed high school, and 41% of them pursued further education. Furthermore, risk-taking behavior like alcohol and drug use is no more common among these adolescents than their peers.

Taylor HG, Klein N, Minich NM, Hack M. 2001. Long-term Family
Outcomes for Children with Very Low Birth Weights. ***Archives of***
Pediatrics & Adolescent Medicine **155(2): 155-61.**
This study found that families of children with birth weights less than 750 g experience more long-term adversity than families of full-term children. It showed that family sequelae affect children with very low birth weight who are at high neonatal medical risk. Ongoing child health and behavior problems may be the major source of these sequelae; sociodemographic status is also an important consideration.

Outcomes in Young Adulthood for Very-Low-Birth-Weight Infants:
Letters to the Editor. 2002. ***New England Journal of Medicine*** **347(2): 141-43.**
This series of letters to the editor responds to Hack et. al's 2002 study. In one letter, Harrison argues that, far from an achievement to be celebrated, the finding about

former NICU grads steering clear of risk-taking behavior reflects their isolation from their peers. Another letter (by Conley and Bennett) claims that the measures of academic achievement that Hack et al. used, namely, a general equivalency diploma or high school diploma, are not in fact equivalent standards of success. They point out that using only the latter criterion would show that an adolescent who was of low birth weight is more like 74% less likely to complete high school than his or her peers. Hack et al. respond to these and other letters, citing evidence to show, for instance, that most VLBW adults will be able to work, socialize, and live independently.

Saigal S. Lambert M. Russ C. Hoult L. 2002. Self-Esteem of Adolescents Who Were Born Prematurely. *Pediatrics* 109(3): 429-33.
This study finds that, on the whole, adolescents who were ELBW infants do not differ significantly from their peers on most measures of self-esteem. This conclusion conflicts with that of the single other study that has addressed the issue of self-concept. The latter found that 13- to 14-year old adolescents who were born prematurely have lower scores on a evaluation tool for self-concept, and that behavioral disturbances were more common among these young people than their peers.

Saigal S. Stoskopf BL. Feeny D. Furlong W. Burrows E. Rosenbaum PL. Hoult L. 1999 Differences in Preferences for Neonatal Outcomes Among Health Care Professionals, Parents, and Adolescents. *Journal of the American Medical Association* 281(21): 1991-97.
Interviews with neonatologists, neonatal nurses, adolescents, and parents involved rating the health-related quality of life for the hypothetical conditions of children. The study found that parents and adolescents were more accepting of severely disabled health states than were health care professionals.

Saigal S. Feeny D. Rosenbaum P. Furlong W. Burrows E. Stoskopf B. 1996. Self-perceived Health Status and Health-related Quality of Life of Extremely-low-birth-weight Infants at Adolescence. *Journal of the American Medical Association* 276(6): 453-59.
Motivated by the question of how healthy adolescents who were born prematurely judge the quality of their own lives, Saigal and colleagues interviewed 141 12- to 16-year-olds who had extremely low birth weights. They found statistically significant differences in these teenagers' health-related quality of life as compared to their peers. For example, these teens reported more deficits in cognition, sensation, mobility, and self-care. However, most of them view their health-related quality of life as satisfactory and are difficult to distinguish from their peers on this measure.

Harrison H. 2001. Making Lemonade: A Parent's View of "Quality of Life" Studies. *The Journal of Clinical Ethics* 12(3): 239-50.
The parent of a newborn who was discharged from the NICU with severe morbidities, Harrison claims that studies like those described above make lemonade out of lemons by perpetuating a lie that unpalatable realities may be overcome through parental shifts in attitude and medical therapies or interventions. She points out that quality of life is a subjective concept, one easily shaped by health care professionals' and parents' perhaps subconscious but very real desperation to report successful outcomes. In other words, moral attitudes like the desire to show stalwartness in the face of adversity may impact the way in which these parents and adolescents respond to researchers' questions. Harrison's central claim is that "to assess people's actual 'utilities' or 'preferences,' it may be more instructive to observe what they do, not what they say".

Harrison H. 2001. The Principles for Family-Centered Neonatal Care. *Pediatrics* 92(5): 643-50.
This article includes a list of ten principles, with discussion, gleaned from a 1992 conference that included families of NICU graduates and physicians. These principles articulate concrete ways in which medical professionals and parents can work together in the neonatal setting so that decision-making and the provision of care may be respectful, informed, and compassionate.

Stinson, R. Stinson P. 1983. The Long Dying of Baby Andrew (New York: Little, Brown & Company).
In this classic book, the Stinsons reflect on the pained life of their son, Andrew, who was born in a severely compromised condition at 24 weeks gestation and then resuscitated against their wishes. Their own journal entries are juxtaposed against excerpts from Andrew's medical records, providing a stark picture of the miscommunication and failures of understanding that characterized the interaction between Andrew's parents and the NICU personnel. This book raises difficult ethical questions about the differing sets of values and motivations that undergird decision making in the NICU.

Social, Political, and Ethical Perspectives

Campbell AGM. Kuhse H. 1995. Quality of Life as a Decision-making Criterion. In *Ethics and Perinatalogy*, ed. Goldworth A. Silverman W. Stevenson DK. Young EWD. New York: Oxford University Press, 82-119.
Campbell first explores the meaning of quality of life as a decision-making strategy. What does this criterion entail? What are the ethical, legal, and other issues relevant to this kind of decision-making? Reflecting on these and other questions, Kuhse highlights the connection between quality of life and a patient-centered treatment perspective.

Fost N. 1999. Decisions Regarding Treatment of Seriously Ill Newborns. *Journal of the American Medical Association* 281(21): 2041-43.
In this brief piece, Fost signals the implications that Saigal's research might have on decision-making in the NICU. He acknowledges that, in the absence of more accurate information, we often look to the views of older children or adults (like those suffering from Huntington's disease, for instance) for guidance on the values of an infant who is unable to communicate his or her wishes. However, he argues that any quality of life calculus based on one person's highly personal - and situational - scale of measurement is unhelpful to those who cannot share the concerns or perspectives of those who are at radically different life stages. In the face of such ambiguity, Fost says, "the best approach...is to be sure that the process is as good as it can be".

Lantos JD. Tyson JE. Allen A. Frader J. Hack M. et al. 1994. Withholding and Withdrawing Life Sustaining Treatment in Neonatal Intensive Care: Issues for the 1990s. *Archives of Disease in Childhood Fetal & Neonatal Edition* 71(3): F218-F223.
Lantos et al. acknowledge an emerging consensus that the interests of the neonate are central, but nonetheless express their concern that the concept of "best interest" is open to too many interpretations to get us very far.

Longo DR. Kruse RL. LeFevre ML. Schramm WF. et al. 1999. An Investigation of Social and Class Differences in Very-low-birth-weight Outcomes: A Continuing Public Health Concern. *Journal of Health Care Finance* 25(3): 75-89.
This study found that social and class factors, like socioeconomic status, social class, education, race, and social support, are more predictive of low birth weight than medical factors alone for women without health problems.

Muraskas J. Marshall PA. Tomich P. Myers TF. Gianopoulos JG. Thomasma DC. 1999. Neonatal Viability in the 1990s: Held Hostage by Technology. *Cambridge Quarterly of Healthcare Ethics* 8: 160-72.
This article links the long-term outcomes of low-birth-weight infants to early decisions in the NICU. How, exactly, should the chance of long-term impairment impact decisions made with regard to aggressive life-sustaining treatment early on in the process? Does the philosophical concept of futility really matter, or are these children simply "in our midst"?

Economic Factors

Currie J. Hyson R. 1999. Is the Impact of Health Shocks Cushioned by Socioeconomic Status? The Case of Low Birthweight. *The American Economic Review* 89(2): 245-50.
This study finds that low birth weight has significant long-term effects on self-reported health status, educational attainment, and labor market outcomes. High socioeconomic status was shown to mitigate the effects of low birth weight on female health status.

Rogowski J. 1998. Cost-effectiveness of Care for Very Low Birth Weight Infants. *Pediatrics*. 102(1 Pt 1): 35-43.
Average treatment costs per first-year survivor for VLBW infants weighing less than 1500 g was $93,800 (in 1987 constant dollars). Treatment costs per survivor were twice as high for infants weighing less than 750 g ($273,900) as for the next highest birth weight group, who weighed 750 to 999 g ($138,800), which was itself almost twice as high as for the 1000 to 1249 g group ($75,100). The gradient in cost-effectiveness with birth weight then drops off to $58,000 per survivor for infants with birth weights between 1250 and 1499 g.

International Lens

Gorski PA. 1998. Perinatal Outcome and the Social Contract--Interrelationships between Health and Humanity. *Journal of Perinatology* 18(4): 297-301.
International comparisons suggest that nations with the greatest inequality of income and social opportunity also have the most adverse perinatal and child outcomes. Furthermore, the data indicate that health status differs by social class and race, even among the most affluent sectors of the population. In other words, all social classes, even the wealthiest, suffer the health consequences of social inequalities.

Grupo Colaborativo Neocosur. 2002. Very-low-birth-weight Infant Outcomes in 11 South American NICUs. *Journal of Perinatology*. 22(1): 2-7.
This study described and analyzed outcomes in very-low-birth-weight (VLBW) infants treated in 11 NICUs from 4 South American countries. Among 385 VLBW infants enrolled, mortality rate was 27%, with a range from 11% to 51% among NICUs. Mortality rate variability among NICUs may be explained by differences in population and resources, but also by inconsistent implementation of proven beneficial therapies.