

# Atlantic Canada Needs a Human Milk Bank

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The creation of a human milk bank in Atlantic Canada is a public health imperative. The clinical value of pasteurized human donor milk (PHDM) as nutrition and prophylactic therapy to prevent necrotizing enterocolitis and other complications in the fragile neonatal population is well established. When a mother's own milk is unavailable, PHDM is the best alternative for medical supplementation for all infants. In North America, non-profit milk banks screen donors, pasteurize milk, and distribute donor human milk based on need and availability. In the past five years, human milk banking in Canada has grown significantly. There are now four non-profit banks in Canada: The Hema-Quebec Public Mother's Milk Bank in Montreal; the Rogers Hixon Ontario Human Donor Milk Bank in Toronto; the Northern Star Mother's Milk Bank (NSMMB) in Calgary; and the British Columbia (BC) Provincial Mother's Milk Bank in Vancouver. NSMMB is the only bank that will receive milk from lactating donor mothers outside of its "home" province and distribute milk beyond its provincial borders. The three hospitals in Atlantic Canada currently using PHDM purchase it from NSMMB and restrict use to low-birth weight, premature infants treated in neonatal intensive care units.

A milk bank in Atlantic Canada is necessary to build clinical and public understanding of the value of PHDM. Milk banking existed in Atlantic Canada prior to the HIV/AIDs crisis of the 1980s, which effectively halted banking for decades continent-wide. There is a complementary rise in demand and supply with greater access to milk banks. NSMMB was opened in spring 2012, and in its first year, the bank distributed 30,000 ounces. The volume doubled the next year, then tripled the following. It is likely that the presence of an Atlantic Canadian bank would encourage more hospitals in the region to provide PHDM at more expansive eligibility. After two years in operation, in March 2016, the Rogers Hixon Ontario Bank broadened eligibility criteria to all NICU infants <1800 g and continues to add hospitals to its distribution list. Both NSMMB and the BC bank provide donor milk to outpatients by prescription. Full-term, healthy babies may require PHDM if their mothers are unable to provide milk due to illness or separation.

A milk bank in Atlantic Canada could enhance breastfeeding culture by enhancing understanding of

the value of human milk and incentivizing breastfeeding initiation and extended duration. PHDM supports the WHO/UNICEF Baby-Friendly Initiative target of 75% breastfeeding exclusivity at the hospital discharge. Atlantic Canada experiences one of the lowest rates of exclusive breastfeeding to six months in the country. As a public health intervention, supporting milk banking supports breastfeeding. A regional milk bank will facilitate access to small amounts for broader criteria. A small amount of PHDM may be sufficient as a bridging food during delays or interruptions in lactation to support exclusive breastfeeding. A milk bank creates visibility and normalizes human milk as infants' first food. Improved access to PHDM may act as a tool toward reducing inequalities in breastfeeding and infant health.

There are lactating mothers in Atlantic Canada with milk to donate who, in the absence of a milk bank, may milk-share instead. Milk sharing is the private exchange of unpasteurized milk between individuals who usually find each other through social media. The lack of familiarity among clinicians and potential donors with the process to donate to the NSMMB and the distance the milk travels to Calgary may alienate potential donors from Atlantic Canada. Although most donors are likely healthy and altruistically donating, the practice puts infants at the risk of consuming diluted or contaminated milk, exposure to medications, and disease transmission. Families may be using shared milk, including within health centers, without feeling comfortable to share this information with their health care providers.

Purchasing donor milk from NSMMB makes what is the most "green" and "local" food, human milk, into an energy-intensive product. From Calgary to the east coast is approximately 5000 km of "food miles." Mileage doubles if the milk originates from Atlantic Canadian donors. Furthermore, Atlantic Canada has foul weather; fog and winter storms and remote destinations may cause delay in air travel and result in milk defrosting

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before arrival for use, causing waste. To reduce carbon footprint, bulk processing in Atlantic Canada and short-distance travel is the environmentally responsible way forward.

Atlantic Canada needs a human milk bank to ensure that our population has sustainable access to human milk. The three facilities in Atlantic Canada that currently purchase PHDM from NSMMB rely on the bank's generosity to extend distribution to the east coast and on donors predominantly based in the Prairie provinces. As demand and acceptance of PHDM continue to expand, that arrangement may become untenable.

Research into the impact on families in Atlantic Canada of current restrictions on access to PHDM is overdue. A human milk bank in the region could support

the development of a complex research platform for context-relevant knowledge generation in what is an emerging and important area for newborn health.

An investment in an Atlantic Canadian Milk Bank is an investment in our public health, our children, and our families.

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