



COMMENT

Early Career Investigator Highlight

Marc Beltempo¹*Pediatric Research* (2021) 90:236; <https://doi.org/10.1038/s41390-021-01581-9>

I grew up in Montreal and completed my medical school at l'Université de Montréal in 2009. From my first experience in neonatology as a medical student, I was captivated by the pathologies encountered and the special contact we have with families. I appreciated seeing newborns progress from the critical and stressful stages of intensive care towards the slower pace of intermediate care and then the joy of being discharged home.

During my residency in Pediatrics at l'Université Laval, I met Dr. Bruno Piedboeuf, a neonatologist and scientist who crucially influenced my career. During my fellowship in neonatology (Université Laval), we started from a simple question "does nursing overtime increase the risk of nosocomial infections" and conducted a study to address this. By demonstrating that higher nursing overtime correlated with higher nosocomial infection rates, we were able to lead important discussions with hospital administrators and clinicians to implement infection reduction measures. This project convinced me of the seminal role that research and data played in improving clinical outcomes.

With this in mind, I felt that pursuing a career as a clinician-scientist would enable me to be most impactful. I completed a Masters in Health Administration-Systems Analysis (Université de Montréal) during which we evaluated the impact of nurse to

patient ratios with outcomes of preterm infants. Wanting to pursue my training in data analysis and quality improvement to better implement change, I completed a research fellowship with the Canadian Neonatal Network under the mentorship of Dr. Prakesh Shah. His scientific rigour, curiosity and generosity continue to inspire me to be a better scientist and supervisor. With Dr. Shah, I used clinical datasets to evaluate the impacts of changing clinical practices on outcomes of preterm infants.

In 2018, I returned to Montreal as a clinician-scientist at the Montreal Children's Hospital. I established a research program that focuses on identifying care practices associated with better outcomes of preterm infants. An example of this is highlighted in this issue, where we were shown that the cumulative fluid balance is a simple non-invasive measure of fluid status that correlates with death or bronchopulmonary dysplasia in preterm infants.

Becoming a clinician-scientist is a challenging yet stimulating path in which I am privileged to continuously acquire and apply new knowledge to improve the experience and outcomes of newborns and their families during one of the most challenging time of their lives. The biggest lesson I learned is the importance of building support systems: your family is your foundation, your friends will cheer for you, your mentors will guide you, your collaborators will accompany you and your patients will motivate you to do better. It's the compound effect of these factors that help you persevere and succeed.

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