Canadian Biomedical Technologists:
Exploring gender diversity to build inclusivity

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Abstract— The benefits of workplace diversity, including gender diversity, are well documented and range from improved creativity/innovation, decision-making, team satisfaction and quality of work[1]. Achieving these outcomes requires more than simply pursuing diverse staff demographics; it must also include harnessing the diversity through systemic change[1]. However, examining staff demographics provides a good first step for reflection and learning. In the field of health technology management, research shows strong representation of women-identifying students and staff in biomedical *engineering* roles[2,4,5], suggesting that the perception of a collaborative, multidisciplinary, high human impact, and “helping” profession draw in women-identifying engineers[2,3,5]. In contrast, less focus has been paid to the gender diversity in biomedical *technologist* roles, with anecdotes that women-identifying technologists are underrepresented. While biomedical technologists are similar to engineers (i.e., collaborative, multidisciplinary, high human impact, “helping” profession), there may be distinct barriers in attracting and retaining women-identifying technologists. Identifying gender demographics in the biomedical technologist pipeline – from student applications to colleges to staff hiring and retention – will help confirm if there is a lack of gender diversity and if so, provide a foundation to explore opportunities for targeted interventions and improve and harness gender diversity.

Analysis on gender diversity within the biomedical technologist career pipeline is being investigated. At the technical college level, British Columbia Institute of Technology reports an intake average of women-identifying biomedical technologist students of 32%, and a graduating average of women-identifying students of 33% from 2008 to 2021. Ontario’s Centennial College has a similar intake average of women-identifying biomedical technologist students of 35% between 2018-2023.

A Canada-wide survey was conducted in 2023 to better understand the gender diversity in hospital health technology management departments. From 14 departments that responded, the number of women-identifying healthcare technology management professionals is 27% of the full professional makeup. Staff in the biomedical technologist role are 16% women-identifying.

Preliminary data is confirming that there is insufficient gender diversity in both our colleges and workforce, with a potential reduction of women-identifying technologists during job recruitment and retention. To help inform further discussions and targeted interventions, data continues to be gathered.

Keywords— Gender diversity, BMET, Biomedical technologist, Recruitment, Retention.

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Conflict of Interest

The authors declare that they have no conflict of interest.

REFERENCES

1. R. J., Ely and D. A. Thomas, “Getting Serious About Diversity: Enough Already with the Business Case,” *Harvard Business Review*, November-December 2020 issue, November 2020, *accessed January 12th, 2024*. [Online]

Available: https://hbr.org/2020/11/getting-serious-about-diversity-enough-already-with-the-business-case

1. “2023 Multidisciplinary Research Program in Medicine Project”, ubc.ca. https://med-fom-faculty.sites.olt.ubc.ca/files/2023/02/2023-Student-Project-Details\_Project-7.pdf (accessed January 12, 2024).
2. A. Bannish, “Girls in STEM: Biomedical Engineering”, brainco.tech, May 14, 2020, https://brainco.tech/blog/2020/05/14/girls-in-stem-biomedical-engineering/, (accessed January 12, 2024).
3. “School of Biomedical Engineering nears student gender parity”, ubc.ca, May 14, 2024, https://www.med.ubc.ca/news/school-of-biomedical-engineering-nears-student-gender-parity/, (accessed January 12, 2024).
4. “Women Break an Engineering Barrier”, embs.org, June 16, 2024, https://www.embs.org/pulse/articles/women-break-an-engineering-barrier/, (accessed Jan 12, 2024).