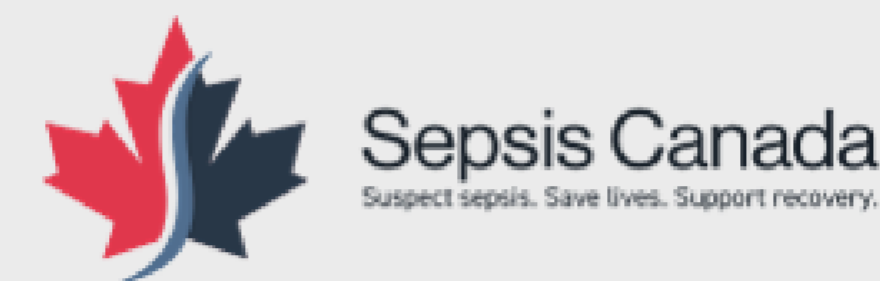


Sepsis Research in Canada: An Environmental Scan of Sepsis Investigators, Research, and Funding



INTRODUCTION



In Canada, sepsis accounted for 1 in 18 deaths & cost \$1.8 billion annually.^{1,2} The World Health Organization urges member states to invest in sepsis research.³

In response, CIHR funded Sepsis Canada to provide a collaborative research platform

Coordinating such efforts requires understanding the national landscape.

OBJECTIVES

- To understand the **scope of current research**, including the objectives and study populations.
- To identify research foci and **gaps** across Canada,
- To evaluate the **demographic diversity**.

METHOD

- Eligible researchers identified through PubMed & funding databases (n=155).
- Recruitment methods: email outreach, dissemination through knowledge user groups, promotion via Sepsis Canada Twitter & newsletter.
- Final cohort: **69 respondents**, yielding a **response rate of 46%**.



Figure 1 Provincial Distribution and Gender Identification of Respondents, n (men:women).

PARTICIPANT DEMOGRAPHICS: Key Findings



Gender: **67% Men**, 33% Women



Academic Position: **53% Full Professor**



Racial Background: **71% White/European**, 0% First Nations/Inuit/Métis



Institution: **17% University of British Columbia**

HEALTH SCIENCES

AUTHORS

Muhadisa Ali¹, Saad Y. Salim², Fatima Sheikh³, Alison E. Fox-Robichaud²;
On behalf of Sepsis Canada

¹Faculty of Health Science, McMaster University, Hamilton, Canada.

²Department of Medicine, McMaster University, Hamilton, Canada.

³Department of Health Research Methods, Evidence & Impact, McMaster University, Hamilton, Canada.

CONTACT INFORMATION

Muhadisa Ali
McMaster University, Faculty of Health Sciences
Email: ali95@mcmaster.ca
Phone: 289-242-6111

RESULTS

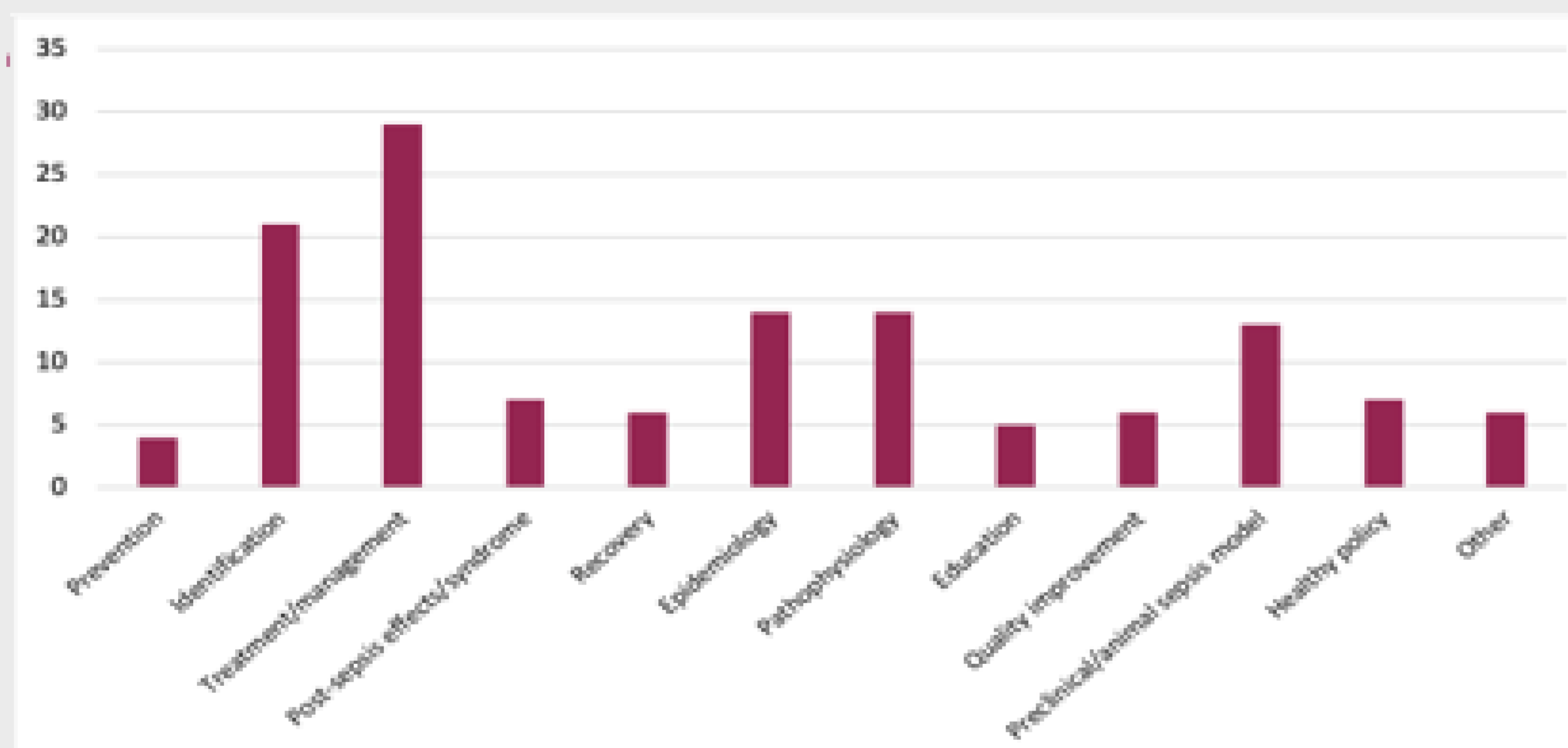


Figure 2 Primary Research Foci among Respondents.

- Research focused on **identification** (38%) & **treatment or management** of sepsis (53%). Population health, policy, **prevention**, & **post-sepsis syndrome** were **underrepresented**.
- Emphasis on studying individuals **over 65 years of age** (64%), **biological sex effects** (44%), **social determinants of health** (31%), & **children** (25%).

Research Team Composition

- BC**: highest median years of sepsis research involvement (15), number of publications in past 10 years (13), & largest research team size (16).
- 36%** of respondents reported **0 patient partners** in their research team, with **Alberta** having the least patient partner involvement on average.

Funding Allocation to Sepsis Research

Category	Number	Amount
Trainee awards (scholarships, fellowships)	54	\$4,126,000.00
Operating Grants (incl. COVID)	79	\$56,200,000.00
Foundation Grants	7	\$21,200,000.00
New Investigator Grants	2	\$300,000.00
CHRP	4	\$1,300,000.00
Others (dissemination, catalyst)	19	\$2,000,000.00
TOTAL	165	\$85,126,000.00
Team Grant (Sepsis Canada)	1	\$5,700,000.00

CONCLUSION

Heterogenic presentation of sepsis necessitates closing **gaps in population/health systems research** & expanding research scope to focus on **recovery & prevention**.

Gaps include a **need for research investment** in Saskatchewan, Newfoundland & Labrador, PEI, and the territories.

Need for increasing gender & racial **diversity**, with a focus on **First Nations/Inuit/Métis** involvement.

Funding should be directed towards **developing junior scientists**, as a higher number of responses from senior professors aligns with recent funding data.

ACKNOWLEDGEMENTS

Saad Y. Salim, Department of Medicine, McMaster University, Hamilton, Canada.

Fatima Sheikh, Department of Health Research Methods, Evidence & Impact, McMaster University, Hamilton, Canada.

Alison E. Fox-Robichaud, Department of Medicine, McMaster University, Hamilton, Canada.

On behalf of Sepsis Canada.

REFERENCES

1. Government of Canada SC. Deaths involving sepsis in Canada [Internet]. 2016 [cited 2023 Sep 9]. Available from: <https://www150.statcan.gc.ca/n1/pub/82-624-x/2016001/article/14308-eng.htm>

2. Farrah K, McIntyre L, Doig CJ, Talarico R, Taljaard M, Krahn M, et al. Sepsis-Associated Mortality, Resource Use, and Healthcare Costs: A Propensity-Matched Cohort Study*. Critical Care Medicine. 2021 Feb;49(2):215–27.

3. World Health Organization.Sepsis[Internet].2017 [cited 2023 Sep 9]. Available from: <https://www.who.int/news-room/fact-sheets/detail/sepsis>

INTRODUCTION



Sepsis Canada
Suspect sepsis. Save lives. Support recovery.

In Canada, sepsis accounted for 1 in 18 deaths & cost \$1.8 billion annually.^{1,2} The World Health Organization urges member states to invest in sepsis research.³

In response, CIHR funded Sepsis Canada to provide a collaborative research platform

Coordinating such efforts requires understanding the national landscape.

OBJECTIVES

- To understand the **scope of current research**, including the objectives and study populations.
- To identify research foci and **gaps** across Canada,
- To evaluate the **demographic diversity**.

METHOD

- Eligible researchers identified through PubMed & funding databases (n=155).
- Recruitment methods: email outreach, dissemination through knowledge user groups, promotion via Sepsis Canada Twitter & newsletter.
- Final cohort: **69 respondents**, yielding a **response rate of 46%**.

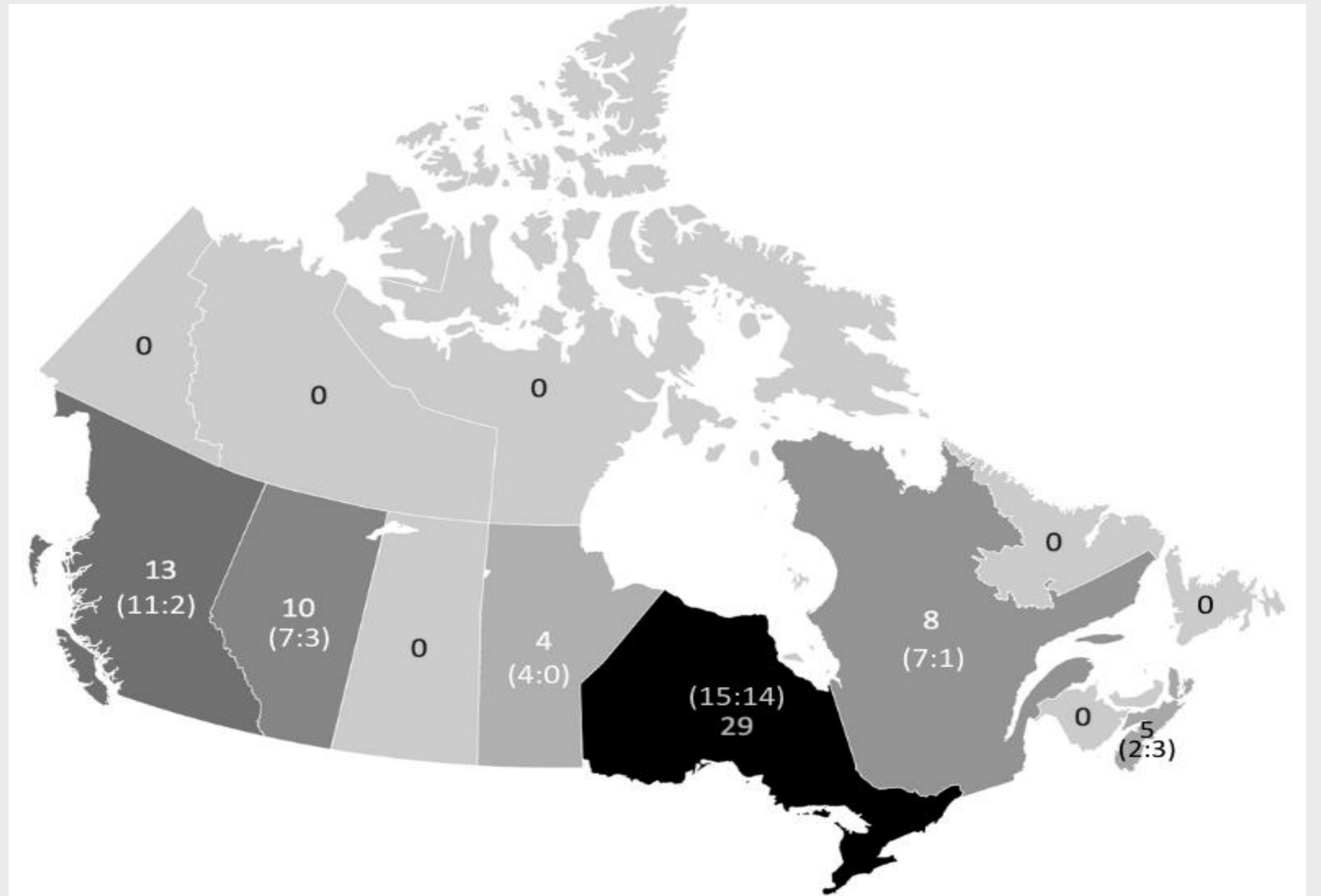


Figure 1 Provincial Distribution and Gender Identification of Respondents, n (men:women).

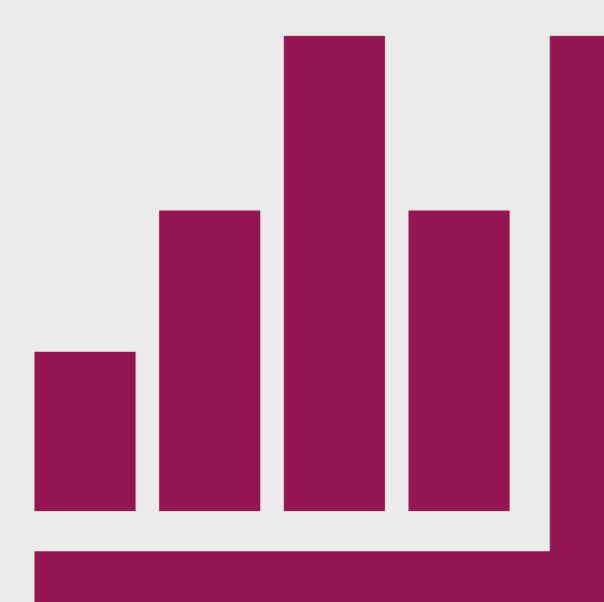
PARTICIPANT DEMOGRAPHICS: Key Findings



Gender: **67% Men**, 33% Women



Academic Position: **53% Full Professor**



Racial Background: **71% White/European**,
0% First Nations/Inuit/Métis



Institution: **17% University of British Columbia**

RESULTS

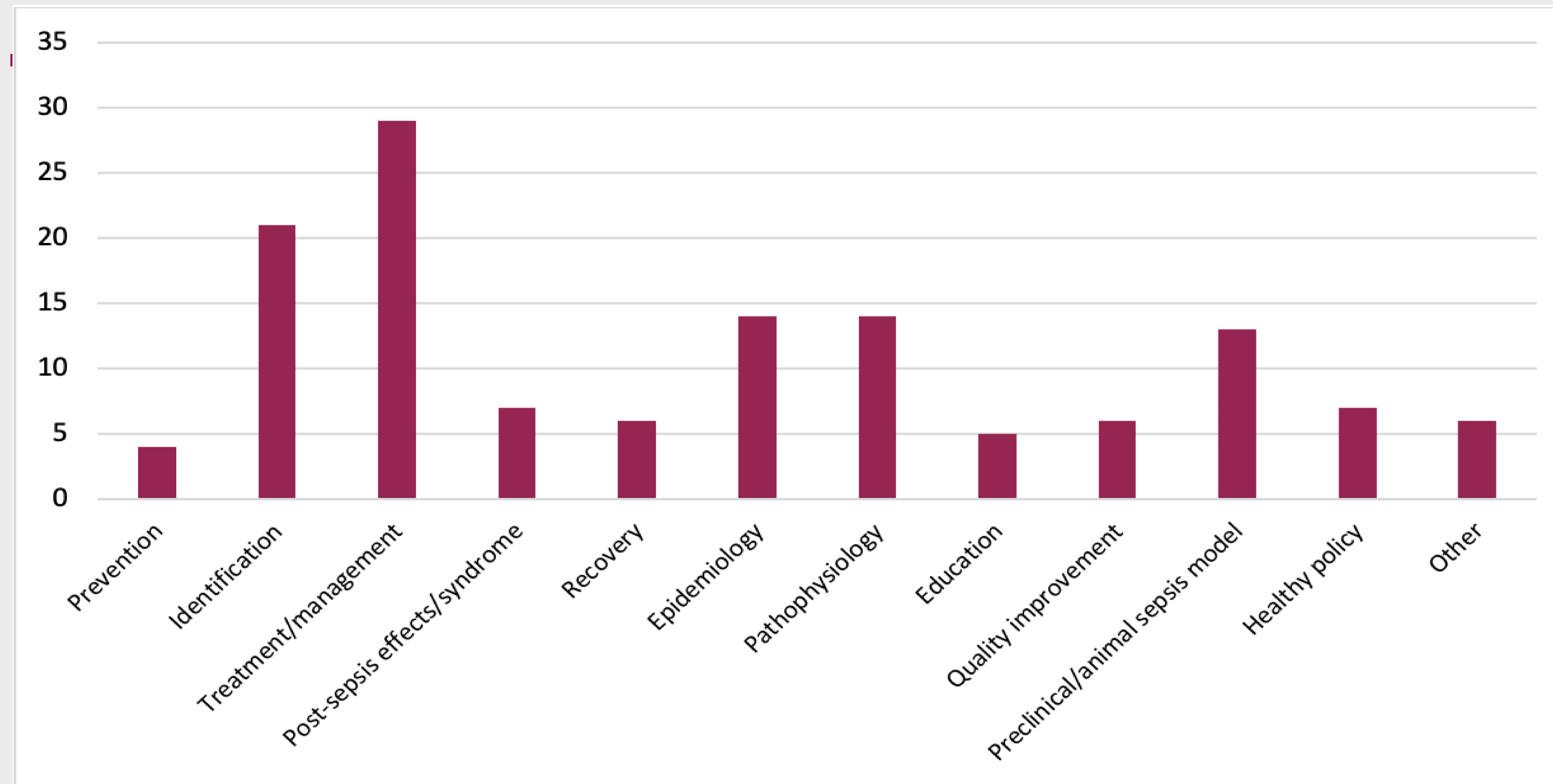


Figure 2 Primary Research Foci among Respondents.

- Research focused on **identification** (38%) & **treatment or management** of sepsis (53%). Population health, policy, **prevention**, & **post-sepsis syndrome** were **underrepresented**.
- Emphasis on studying individuals **over 65 years of age** (64%), **biological sex effects** (44%), **social determinants of health** (31%), & **children** (25%).

Research Team Composition

- BC**: highest median years of sepsis research involvement (15), number of publications in past 10 years (13), & largest research team size (16).
- 36%** of respondents reported **0 patient partners** in their research team, with **Alberta** having the least patient partner involvement on average.

Funding Allocation to Sepsis Research

Category	Number	Amount
Trainee awards (scholarships, fellowships)	54	\$4,126,000.00
Operating Grants (incl. COVID)	79	\$56,200,000.00
Foundation Grants	7	\$21,200,000.00
New Investigator Grants	2	\$300,000.00
CHRP	4	\$1,300,000.00
Others (dissemination, catalyst)	19	\$2,000,000.00
TOTAL	165	\$85,126,000.00
Team Grant (Sepsis Canada)	1	\$5,700,000.00

CONCLUSION

Heterogenic presentation of sepsis necessitates closing **gaps in population/health systems research** & expanding research scope to focus on **recovery & prevention**.

Gaps include a **need for research investment in Saskatchewan, Newfoundland & Labrador, PEI, and the territories**.

Need for increasing gender & racial **diversity**, with a focus on **First Nations/Inuit/Métis** involvement.

Funding should be directed towards **developing junior scientists**, as a higher number of responses from senior professors aligns with recent funding data.

ACKNOWLEDGEMENTS

Saad Y. Salim, Department of Medicine, McMaster University, Hamilton, Canada.

Fatima Sheikh, Department of Health Research Methods, Evidence & Impact, McMaster University, Hamilton, Canada.

Alison E. Fox-Robichaud, Department of Medicine, McMaster University, Hamilton, Canada.

On behalf of Sepsis Canada.

REFERENCES

1. Government of Canada SC. Deaths involving sepsis in Canada [Internet]. 2016 [cited 2023 Sep 9]. Available from: <https://www150.statcan.gc.ca/n1/pub/82-624-x/2016001/article/14308-eng.htm>
2. Farrah K, McIntyre L, Doig CJ, Talarico R, Taljaard M, Krahn M, et al. Sepsis-Associated Mortality, Resource Use, and Healthcare Costs: A Propensity-Matched Cohort Study*. *Critical Care Medicine*. 2021 Feb;49(2):215–27.
3. World Health Organization. Sepsis [Internet]. 2017 [cited 2023 Sep 9]. Available from: <https://www.who.int/news-room/fact-sheets/detail/sepsis>

CONTACT INFORMATION



Muhadisa Ali

McMaster University, Faculty of
Health Sciences

Email: ali95@mcmaster.ca

Phone: 289-242-6111