

KEYNOTE



KEYNOTE OVERVIEW

Canadian Institute for Military and Veteran Health Research Forum 2025 Keynote Speaker: **Andrea Jones, PhD**

UNCOVERING CANCER TRENDS IN THE CANADIAN ARMED FORCES AND VETERAN POPULATION USING 40 YEARS OF LINKED HEALTH DATA

OVERVIEW

This keynote presented findings from the Canadian Forces Cancer and Mortality Study (CF CAMS), a long-standing, population-based research program examining cancer incidence and mortality among Canadian Armed Forces (CAF) personnel and Veterans. CF CAMS is a collaboration between the Department of National Defence (DND), Veterans Affairs Canada (VAC), and Statistics Canada, linking military service records with national health registries to examine health outcomes over more than four decades of follow-up. This research project which uses CF CAMS is led by Dr. Andrea Jones.

WHY IT MATTERS

Cancer is a leading cause of death in Canada, with approximately 40% of Canadians diagnosed during their lifetime. Military service may shape cancer risk differently than civilian life due to occupational exposures, service-related environments, and health behaviour patterns. Understanding these differences is essential for prevention, screening, and long-term health system planning for serving members and Veterans.

HOW THE RESEARCH WAS DONE

CF CAMS built a national cohort of Canadian Armed Forces personnel enrolled between 1976 and 2016, including over 245,000 individuals (over 210,000 males and nearly 35,000 females). Using internal Defence administrative data, the team collected service details like rank, occupation, and deployment history. This information was securely sent to Statistics Canada, where it was de-identified and linked to health databases, such as cancer and death records. The cohort has been updated regularly since 2010, allowing researchers to study health outcomes over more than 40 years. While the focus started on cancer and mortality, the study now also examines other health issues like injury and supports related research on Veterans' health.

The Canadian Institute for Military and Veteran Health Research (CIMVHR) works to engage academic and government researchers, facilitate new research, increase research capacity, and foster knowledge translation. CIMVHR hosts an annual Forum that brings together thought leaders to present new research, exchange ideas, share insights, learn and collaborate with the shared objective of serving military, Veteran, public safety personnel and family health needs.

KEYNOTE



WHAT WE LEARNED

Overall cancer rates among CAF personnel and Veterans were generally similar to or lower than those of the general population. However, elevated rates were identified for specific cancers in particular subgroups. Among male military personnel, the most common cancers were testicular cancer, melanoma, and prostate cancer, whereas among male Veterans the most common cancers were prostate, colorectal, and lung and bronchus cancer. Among female personnel, the most frequent cancers were breast cancer, thyroid cancer, and melanoma; among female Veterans, breast cancer remained the most common, followed by lung and bronchus cancer and colorectal cancer. These findings highlight the importance of stratified analyses, while also underscoring limitations related to unavailable data on ethnicity, smoking, and specific exposure histories.

HOW THE FINDINGS ARE BEING USED

Results from the initial cancer incidence study has informed a review of sun protection policies and practices in the Canadian Armed Forces. A senior medical officer who is both a dermatologist and skin oncologist will be working with the Strengthening the Forces health promotion team to determine whether additional information on skin cancer risk for Canadian Armed Forces personnel is warranted. At VAC, knowledge translation efforts have focused on sharing the results with health professionals and decision makers. For example, the results can support decision makers tasked with assessing the service-relatedness of cancers as a part of the adjudication process for benefits applications. The findings can also inform new research questions related to risk and protective factors in Canadian Armed Forces personnel and Veterans. Internationally, CF CAMS has catalyzed collaboration with allied nations exploring similar data-linkage approaches.

Key Messages for Leaders and Researchers

- Population-level data linkage enables powerful, long-term insights into military and Veteran health.
- Risk is not uniform: subgroup-specific findings matter for prevention, screening, and policy.
- Absence of detailed exposure data remains a critical limitation in occupational health research.
- Future missions should be accompanied by prospective exposure tracking to support evidence-informed decisions decades later.

This is a keynote summary of the plenary presentation, **UNCOVERING CANCER TRENDS IN THE CANADIAN ARMED FORCES AND VETERAN POPULATION USING 40 YEARS OF LINKED HEALTH DATA** at the Canadian Institute for Military and Veteran Health Research (CIMVHR) Forum on October 21, 2025, in Ottawa, Ontario

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Collaborators: Veterans Affairs Canada; Department of National Defence; Statistics Canada

See the video: <https://youtu.be/mDbtDbnkHzc>