

Appendixes

Appendix A: Calculation of estimated cancer rates for varying levels of smoking prevalence

The method used to estimate cancer rates for hypothetical levels of smoking prevalence uses aetiological fractions, or estimates of attributable risk of cancer due to smoking, and smoking prevalence estimates for the Australian population for the study period (1982–99). Smoking prevalence estimates were calculated by Ridolfo & Stevenson (2001), using a method proposed by Peto et al. (1992), and subsequently used in the Australian Burden of Disease Study (Mathers et al. 1999). These estimates of smoking prevalence take into account past exposure to tobacco rather than current exposure, and reflect the disease burden from the commencement of smoking.

Estimated cancer rates were calculated by separately deriving rates attributable to smoking and rates not attributable to smoking. The total rate was then calculated by weighting the rate attributable to smoking according to the hypothetical smoking prevalence in the population.

The formula is therefore:

$$DR_h = SR \cdot h + NR$$

where DR_h = derived cancer rate, assuming the hypothetical prevalence h applies

SR = cancer rate due to smoking

NR = cancer rate not due to smoking

h = the hypothetical smoking prevalence

To calculate the smoking rate, SR, it was necessary to first estimate the aetiological fraction, or attributable proportion of the cancer due to smoking. The formula for calculating the aetiological fraction, F is:

$$F = \frac{P \cdot (RR - 1)}{P \cdot (RR - 1) + 1}$$

where P is the actual smoking prevalence

RR is the ratio of the incidence rate of the cancer among those exposed to smoking to the incidence rate of those not exposed, or the relative risk of the cancer due to smoking.

The cancer rate due to smoking, SR, was then calculated using the formula:

$$SR = R \cdot F / P$$

where R is the actual cancer rate

The cancer rate not due to smoking is:

$$NR = R \cdot (1 - F)$$

Appendix B: Membership of the Study Consultative Committee

Chair

Major General J P Stevens AO
Repatriation Commissioner

Members

Commander K M Barnett
Australian Veterans and Defence Services Council

Rear Admiral I M Crawford AO
Regular Defence Force Welfare Association

Wing Commander R C Cresswell DFC
RAAF Association

Mr S Gellatly
Korea and South East Asia Forces Association of Australia

Mr D Gibson PSM
Central Army Records Office, Department of Defence

Mr N Goldspink MBE
Returned & Services League of Australia Limited

Dr J Henderson
Korea War Veterans Association, NSW Inc

Mr W Hindson MC MG
Australian Federation of Totally and Permanently Incapacitated Ex-Servicemen and Women

Major General J C Hughes AO DSO MC
RAR Association

Professor P Kincaid-Smith AC CBE
Chair, Study Scientific Advisory Committee

Mr G A H Lang
Association of Queensland Korean Veterans Inc

Mr J Manley OAM
Naval Association of Australia

Colonel A M McDonald
Korean Veterans Association of Australia Inc

Mr I Street
Korean Veterans Tasmania

Ms P Stevenson (from April 2003)
Acting Branch Head, Defence Links, Department of Veterans' Affairs

Mrs H Parry (to April 2003)
Branch Head, Defence Links, Department of Veterans' Affairs

Appendix C: Membership of the Study Scientific Advisory Committee

Chair

Professor P Kincaid-Smith AC CBE BSc (Hons) MBChB DipClinPath FRCP FRACP MD
FRCPA DSc HonDScMed HonLLD

Emeritus Professor, University of Melbourne, Melbourne, Vic

Members

Emeritus Professor A S Henderson AO MD Hon MD DSc FRACP FRCP FRANZCP
FRCPsych

Professor J McNeil MBBS MSc PhD FRACP FAFPHM

Professor and Head, Department of Epidemiology and Preventive Medicine, Monash
University, Alfred Hospital, Melbourne, Vic

Professor M Moore BSc (Hons) PhD DSc MACM

Director, Queensland Health Scientific Services, National Research Centre for
Environmental Toxicology, Brisbane, Qld

Professor J Zalberg MBBS PhD FRACP

Director, Division of Haematology and Medical Oncology, Peter MacCallum Cancer
Centre, Melbourne, Vic

Colonel A M McDonald psc (RL) GradDipAdmin ASAIM (Advisory Committee
representative)

Korean Veterans Association of Australia Inc

Appendix D: Study protocol

Cancer incidence of male Veterans of the Korean War, 1982–99

Study protocol

Purpose

To investigate the incidence of cancer for male veterans of the Korean War, compare their rates to those of the overall male population of Australia, and identify statistically significant risks for the veterans. These comparisons will be restricted to the period 1982-99 because complete data on cancer incidence in Australia are only available from 1982. The comparisons will include analyses by Service category.

Information from this study will be used to assist the Department of Veterans' Affairs (DVA) in policy and programs for veterans' health care.

Organisations

DVA has contracted the Australian Institute of Health and Welfare (AIHW) to undertake this study. DVA will supply the AIHW with an identified cohort of Korean veterans. The AIHW will match the cohort with the National Cancer Statistics Clearing House (NCSCH) which contains identified cancer incidence data for the years 1982-1998, except for South Australia where records for the same period do not include name. The NCSCH is housed at the AIHW under the supervision of the Australasian Association of Cancer Registries (AACR). The South Australian Cancer Registry will match the cohort with the South Australian cancer database.

Officers

The AIHW has nominated Mr John Harding as the Study Director, Dr Paul Jelfs as the Study Advisor, and Mr Phil Trickett, Dr Chris Stevenson, Dr Indrani Pieris-Caldwell and Ms Kate Leeds as study project officers. Each of the AIHW officers is bound by the confidentiality provisions of the AIHW Act (1987) and has signed an undertaking to that effect.

DVA has nominated Dr Keith Horsley as the Project Manager of the DVA project team.

Ethics Committee Review

Approvals are required from:

- I. The DVA Scientific Advisory Committee and DVA Ethics Committee.
- II. All state and territory Cancer Registries.
- III. The AIHW Ethics Committee.

Copies of approvals from the DVA Ethics Committee and AIHW Ethics Committee are attached and followed approval of this protocol by the Korean War Veterans Cancer Incidence Study Scientific Advisory Committee and Korean War Veterans Cancer Incidence Study Consultative Committee.

Study constraints

The main constraint of the study relates to the disclosure of identified information. No identified information will be passed on by the AIHW to third parties, including the Department of Veterans' Affairs, for any purpose. Aggregated results only will be published in the study report.

Study implementation

The study will comprise seven main components

- I. Study management and advice;
- II. Cohort preparation;
- III. Data matching;
- IV. Analysis of data;
- V. Independent checking of analysis calculations;
- VI. Reporting;
- VII. Preparation of an article for a journal.

Specific AIHW responsibilities

AIHW will be responsible for:

- I. Jointly managing the project to an agreed timetable.
- II. Obtaining approval of the state and territory Cancer Registries and the AIHW Ethics Committee.
- III. Data linkage with the National Cancer Statistics Clearing House.
- IV. Calculation of community norms.
- V. Calculation of the incidence of cancer in Korean War veterans.
- VI. Preparation of the cancer incidence components of a joint DVA-AIHW report on cancer incidence and mortality in Korean War veterans.
- VII. Preparation of a joint media release and distribution of the releases to the AIHW media contact list.
- VIII. Professional editing and printing of the report and putting a copy on the AIHW web site.
- IX. Working with the DVA Senior Medical Adviser to prepare an article for a recognised journal.

Specific DVA responsibilities

DVA will be responsible for:

- I. Jointly managing the project to an agreed timetable.
- II. Convening meetings of both the Scientific Advisory Committee and the Study Consultative Committee.
- III. Obtaining approval by the DVA Ethics Committee.
- IV. Provision of the Korean War veterans' Nominal Roll to AIHW to enable linkage with the National Cancer Statistics Clearing House.
- V. Providing advice as required to AIHW on veterans' issues.

- VI. Arranging refereeing of the draft report by the Scientific Advisory Committee and the Study Consultative Committee.
- VII. Producing the report cover.
- VIII. Arranging for Ministerial approval of release of the report.
- IX. Putting a copy of the report on the DVA web-site.
- X. Distribution of the report to stakeholders in the veterans community.
- XI. Submission of an article to a recognised journal.

Methodology for calculation of cancer incidence among veterans and comparisons with Australian community

Record linkage

AIHW will match the nominal Korean War veterans' Nominal Roll of 17,900 male veterans to the National Cancer Statistics Clearing House to identify cases of cancer among veterans since 1982. The National Cancer Statistics Clearing House database is maintained by AIHW and contains records of all cases of cancer registered in Australia since 1982. The South Australian Cancer Registry will match the cohort with the South Australian cancer database as named records for South Australia are not provided to the National Clearing House.

All personal descriptive information such as full name, date of birth and date of death (if applicable) will be used to identify matches. The matching strategy will allow for variations in dates, misspelled names, and transposed names and dates. The criteria set for accepting a match will be established so that the specificity will be high. Clerical reviews of non-exact matches will be guided by a set of pre-established rules.

The study report will tabulate the numbers of cases of all types of cancer found in Korean War veterans in the period 1982 to 1999. AIHW will consult with the Scientific Advisory Committee on which of the cancers among male Korean War veterans will then be tested for statistical significance in comparisons with the Australian community experience. In particular, decisions may be needed on types of cancer involving very small numbers, as to whether to aggregate cancer codes for the analysis.

Comparisons of cancer incidence among Korean War veterans with the expected incidence assuming Australian community rates

Once all cases of cancer among veterans since 1982 have been identified, comparisons will then be made with the expected number of cases had the veterans experienced the cancer incidence rates of the general Australian community. The expected number of cases of each cancer being studied will be calculated for each year by applying the age-specific incidence rates for each cancer to the numbers of living Korean veterans in each age-group in that year.

In summary, the steps involved in these comparisons are:

- calculate age-specific incidence rates for the Australian population for each cancer being studied, for each year from 1982 to 1999.
- derive a population of living Korean War veterans by age for each year 1982 to 1999, from the Nominal Roll of Korean War veterans.
- for each year 1982 to 1999 calculate the expected number of cases of the cancer being studied had veterans experienced the cancer incidence rates of the general Australian

community. This is done by multiplying the corresponding age-specific incidence rates for the Australian population by the veteran population of that year.

- the expected number of cases of the cancer being studied among veterans can then be compared with the actual number of cases obtained from linking the veteran roll to the National Cancer Statistics Clearing House database and South Australian cancer registry database.

An illustration of the method used to compare the number of cases of a cancer with the expected number of cases in 1982 is provided in Table D1. Only dummy numbers, not real numbers, are used for this illustration.

Table D1. Comparison of incidence of cancer x between male Korean veterans and the total Australian male population, 1982

Age-group	Living Korean veteran population 1982	New cases of cancer x per 100,000 population, Australia, 1982	Expected cases of cancer x among Korean veterans, 1982	Actual cases of cancer x among Korean veterans, 1982
45–49	1,000	17.0	0.2	
50–54	2,000	29.0	0.6	
55–59	8,000	40.0	3.2	
60–64	4,000	67.0	2.7	
65–69	1,000	86.0	0.9	
70–74	500	107.0	0.5	
75 and over	100	97.0	0.1	
Total			8.2	15

Note: This table does not include real numbers. Dummy numbers are included for demonstration purposes.

In Table D1 there are 15 new cases of cancer x in 1982 which were identified by matching the living Korean veteran population in 1982 to the National Cancer Statistics Clearing House database. An expected number of cases of 8.2 in the 4th column is obtained by summing the expected number of cases for each age-group. The expected number of cases at each age group is derived by multiplying the number of living Korean veterans in that age-group by the rate of new cases among the total Australian population in the corresponding age-group.

The process illustrated in Table D1 will then be repeated for each year through to 1999. The number of living Korean veterans by age-group for each year will be derived from the date of birth of each veteran on the nominal roll and from information on the veterans who have died each year from 1982 to 1999. Hence the living veteran population in 1983 will be the living veteran population in 1982 minus deaths that occurred during 1982.

By summing the number of cases of cancer among Korean veterans and the expected number of cases for all years from 1982 to 1999, comparisons can then be made between the actual number of cases of a cancer and the expected number of cases for the entire period 1982 to 1999.

It is expected that the results of annual comparisons between the actual number of cancers and the expected number will vary considerably from year to year, due to random fluctuations caused by the small number of cases of many cancers which occur in any one year. It is therefore expected that comparisons will only be made for the entire period 1982–1999.

Analysis and independent checking

To ensure that all analyses of the data are correct, AIHW will:

- Write a chapter on methodology for the report so that methodology processes are transparent to AIHW and DVA staff, the Study Consultative Committee, referees and any external consultant engaged to check the validity of calculations;
- Have internal cross checking of:
 - data linkage programming
 - data linkage rules
 - incidence statistics of veterans
 - community norms calculated;
- Develop data linkage rules in consultation with DVA;
- Engage a consultant external to the Institute and agreed by DVA to check the calculations of incidence statistics and community norms.

Reporting

A joint AIHW-DVA report on the study will be produced for publication by AIHW as a printed publication and electronically on the Internet. DVA will contribute chapters on mortality and to the mortality aspects of the executive summary, methodology section, reference list, and other relevant parts of the report.

This report will be widely circulated to the veteran community after approval by DVA and the SAC.

The publication target is October 2003, with submission of a journal article in December 2003.

Retention of records

It is anticipated that the study will be repeated at some time in the future, and that this may occur in many years time. A study in the early 1980s of Australian Defence Force workers exposed to atomic testing is currently being considered for repeating, nearly 20 years later. Hence it is planned that records will be retained indefinitely by AIHW until it is agreed by the AIHW and DVA Ethics Committees that they should be destroyed. No repeat of the study will be undertaken without the approval of state and territory cancer registries and the DVA and AIHW Ethics Committees.

Appendix E: Project staff

Staff—Australian Institute of Health and Welfare

Project Directors	Dr Paul Jelfs
	Mr John Harding
Project Manager	Mr Phil Trickett
Project Officer	Dr Indrani Pieris-Caldwell
Other officers	Mr Robert van der Hoek
(Special tasks)	Ms Cathy Hotstone
	Ms Amanda Nobbs

Staff—Department of Veterans' Affairs

Dr Keith Horsley	Director of Research Studies
Dr Eileen Wilson	Epidemiologist
Dr Warren Harrex	Consultant
Mr Denis Murphy	Project Administrator

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