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Ongoing Research: A Study to Fill Key Epidemiological Gaps

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Background/Rationale

- The VA's Blue Ribbon Workgroup on Suicide Prevention noted significant limitations in the epidemiology of suicide¹
 - Ascertaining veteran status
 - Consideration of length of service
 - Misclassification biases of undetermined deaths
 - Unadjusted demographic differences or differences across years
- Recommendation: Establish an analysis and research plan in collaboration with other federal agencies to resolve conflicting study results
- To answer some of the key epidemiological questions about military suicide, a comprehensive approach is required that attempts to account for some of the Blue Ribbon Workgroup findings

BLUE RIBBON WORK GROUP ON SUICIDE PREVENTION IN THE VETERAN POPULATION

REPORT TO JAMES B. PEAKE, MD, SECRETARY OF VETERANS AFFAIRS

The Blue Ribbon Work Group on Suicide Prevention in the Veteran Population was chartered May 5, 2008, by Secretary of Veterans Affairs James B. Peake, MD, to provide advice and consultation to him on various matters relating to research, education, and program improvements relevant to the prevention of suicide in the veteran population. This report presents the findings of the Blue Ribbon Work Group on Suicide Prevention in the Veteran Population and its recommendations to improve relevant VA programs, with the primary objective of reducing the risk of suicide among veterans. As required in its charter, the report is submitted within 15 days of the Work Group's meeting.

I. Overview, Charter, Participants, and Process

The Blue Ribbon Work Group on Suicide Prevention in the Veteran Population includes five Executive Branch employees who are experts in public health mental health programs (including suicide prevention and education programs), research (including mental health epidemiology and suicidology), and clinical treatment programs for patients at risk for suicide:

- **Colonel (US Army) Charles Hoge, MD** – Director, Division of Psychiatry and Neuroscience, Walter Reed Army Institute of Research
- **Colonel (US Air Force) Robert Ireland, MD** – Chairman, Program Director for Mental Health Policy, Clinical and Program Policy, Office of the Assistant Secretary of Defense (Health Affairs)
- **Debra Karch, PhD** – Lead Behavioral Scientist, National Center for Injury Prevention and Control, Division of Violence Prevention, Centers for Disease Control and Prevention
- **Richard McKeon, PhD, MPH** – Public Health Advisor for Suicide Prevention, Center for Mental Health Services, Substance Abuse and Mental Health Services Administration
- **Jane Pearson, PhD** – Associate Director for Preventive Interventions, Division of Services and Intervention Research, National Institute of Mental Health

Meeting and Deliberations of the Blue Ribbon Work Group

The deliberations of the Work Group were informed by presentations and the counsel of a panel of nationally recognized experts (the "Expert Panel"), as well as by information provided by Veterans Affairs (VA) staff, at a meeting convened June 11-13, 2008, in Washington, DC (see Appendix A for a copy of the meeting agenda). The sessions were organized to allow for questions from the Work Group members and free-flowing discussion to assure that the Work Group members could gather the information they needed to make their recommendations.

Questions to Address

- What is the suicide rate for ALL post-deployed OIF/OEF Warriors (active duty, inactive, veteran, others), and how does that rate compare to those who never deployed?
- How do the deployed and non-deployed suicide rates compare to non-veterans?
- How do the suicide rates for ALL post-deployed Guard/Reservists (current and veteran) compare to the Regular Component and non-veterans?
- Does the rate of deaths with an “undetermined intent” (i.e. possible suicides) differ for Warriors/veterans compared to non-veterans?

Design and Methodology

- Sample will Include **ALL** US military personnel who have served between 01 January 2001 through 31 December 2007*
 - DMDC military “caseness” data will be linked to death data
 - Death caseness from the Social Security Administration (SSA) Death Master File (DMF; provisional)²
 - Confirmed deaths from the SSA DMF will be matched with the NDI-*Plus* to receive cause of death information (e.g., suicide and undetermined death caseness)
- Cases “followed” through 2009**
- Non-Veteran Civilian suicide data from CDC’s Web-Based Injury Statistics Query and Reporting System (WISQARS)

*Date of most current NDI data available at time of award

**Date of most current NDI data available at this time

Preliminary Data

These data represent preliminary results from early analyses. Results are not yet available to address the main hypotheses.

Preliminary Data: Death Determination Process

- 2001-2007 cohort comprises 4.2 million records obtained from the Defense Manpower Data Center (DMDC)
- NDI Algorithm (SAS program)
 - Partitions data into “true”, “false” and “questionable” matches based on a series of demographic matching criteria (e.g. precision of DOB, similarity of name, etc.)
 - Questionable matches are flagged for Manual Review:
 - Manual Review decision rules are applied using a customized template that further scrutinizes NDI results
- 7,170 “known deaths” in US from DMDC
 - NDI Found 7,025; sensitivity 0.98
- 29,983 “known deaths” in US from DMDC+SSA
 - NDI found 28,867; NDI sensitivity = .96

Preliminary Data: Top 10 Causes of Death in Cohort (US Deaths)

CDR, 2001 - 2009

ICD – 10 Codes	Cause of Death	Rank	<i>n</i>	%
V01-X59, Y85, Y86	Accidents	1	10,408	36.4
<i>U03, X60-X84, Y87.0</i>	<i>Intentional Self Harm (Suicide)</i>	<i>2</i>	<i>5,106</i>	<i>17.9</i>
C00-C97	Malignant Neoplasms	3	4,586	16.0
I00-I09, I11, I13, I20-I51	Diseases of the heart	4	2,921	10.2
U01-U02, X85-Y09, Y87.1	Assault (Homicide)	5	1,434	5.0
<i>Y10-Y34, Y87.2, Y89.9</i>	<i>Events of Undetermined Intent</i>	<i>6</i>	<i>361</i>	<i>1.3</i>
I60-I69	Cerebrovascular Diseases	7	330	1.2
K70, K73-K74	Liver Disease & Cirrhosis	8	272	1.0
E10-E14	Diabetes Mellitus	9	137	0.5
A40-A41	Septicemia	10	118	0.4

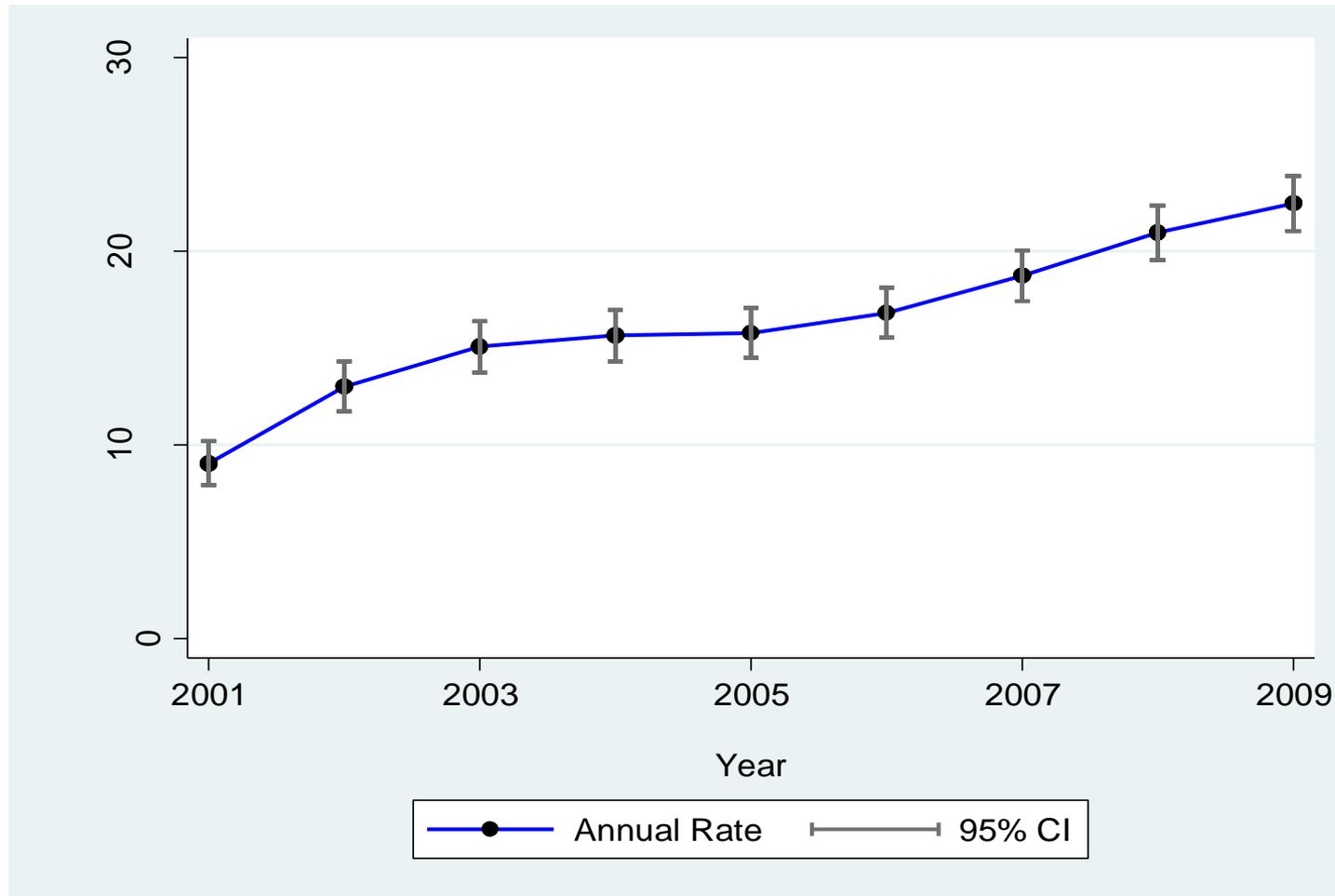
Preliminary Data: Mortality All Causes

Cause of Death Report for Deaths outside CONUS
 (not reported in the NDI)
 Years 2001 - 2009
 Source: DMDC Casualty File

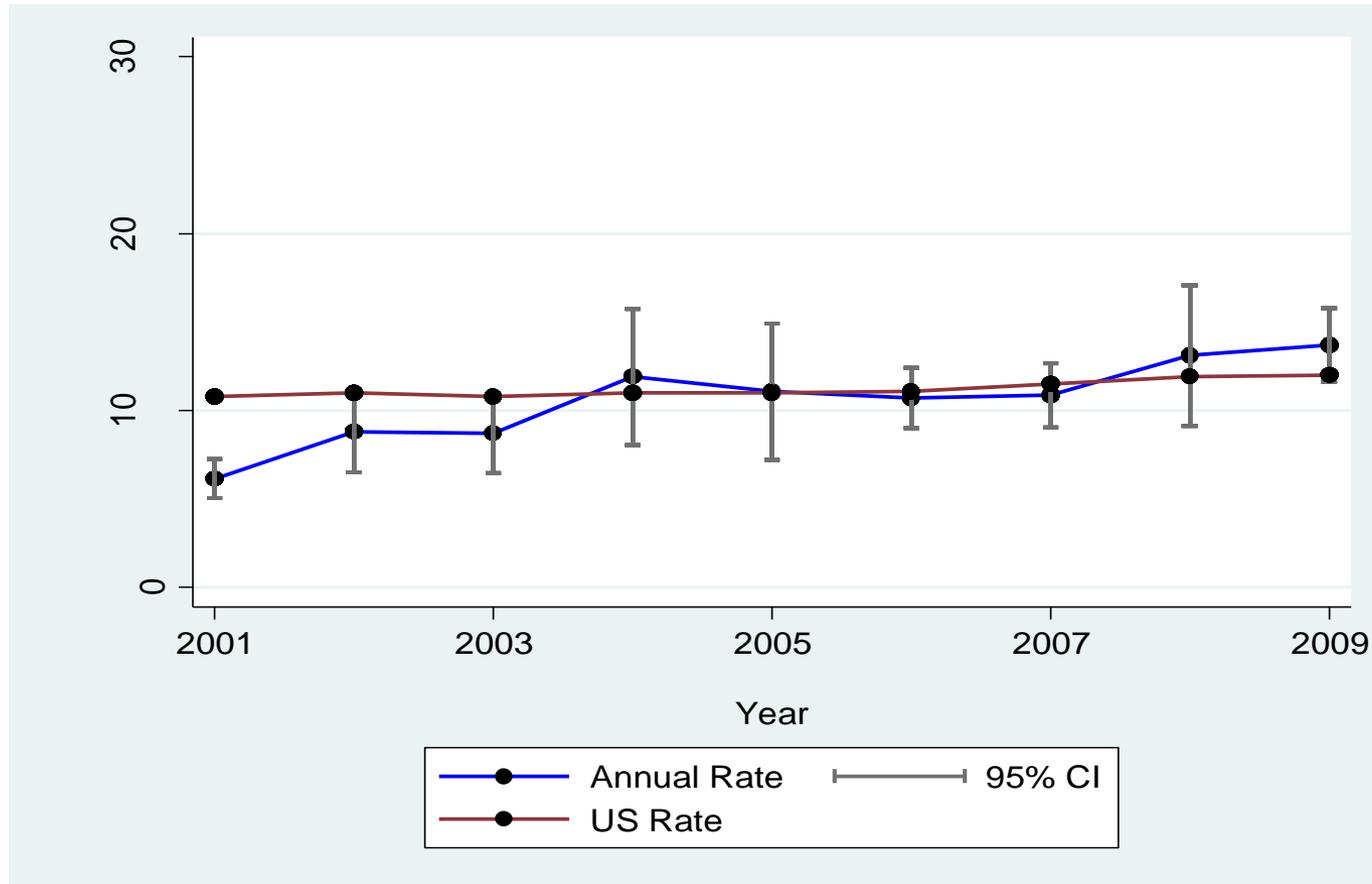
Decedent
 Population: 5753

DMDC Code	Description	Frequency	Percent Decedent Population
HDK	HOSTILE, DECEASED, KILLED IN ACTION	3167	55.05%
NDA	NON-HOSTILE, DECEASED, ACCIDENT	1095	19.03%
HDR	HOSTILE, DECEASED, DIED OF WOUNDS	809	14.06%
NDS	NON-HOSTILE, DECEASED, SELF-INFLICTED	340	5.91%
NDI	NON-HOSTILE, DECEASED, ILLNESS	215	3.74%
NDH	NON-HOSTILE, DECEASED, HOMICIDE	60	1.04%
NDU	NON-HOSTILE, DECEASED, UNDETERMINED	55	0.96%
HDC	HOSTILE, DECEASED, FROM CAPTURED	5	0.09%
HDG	HOSTILE, DECEASED, FROM MIA	4	0.07%
NDP	NON-HOSTILE, DECEASED, PENDING	2	0.03%
NDD	NON-HOSTILE, DECEASED, FROM DETAINED	1	0.02%
Total DMDC identified population		5753	100.00%

Annual incidence of suicide



Age- & sex-adjusted annual incidence of suicide compared to the US population



Adjusted using the 2009 Census-estimated population. US rates provided from National Vital Statistics Report, 2009. <http://www.cdc.gov/nchs/products/nvsr.htm>

Phase 3: Transition

- This study was praised in the Center for a New American Security policy brief, *Losing the Battle: The Challenge of Military Suicide* (2011)
 - Author: Margaret C. Harrell, PhD, Director of Joining Forces Initiative
 - Testified before the House Committee on Veterans' Affairs Subcommittee on Health (2Dec2011)
- Grant provided a foundation for DoD/VA Suicide Repository
 - Joint Executive Council (JEC) Workgroup developing a longitudinal Repository plan (including NDI data) based on requirements in the Joint Strategic Plan. Now led by new Defense Suicide Prevention Office.

Questions