

Supplementary Material

Table 1: Primary search terms used for the development of the tools.

Search term	Comments
join*	
enlist*	
conscript*	
demob*	
discharge*	Mainly used in context “discharged from ward”, etc
serv*	eg served, service
mobil*	Mainly occurs as “mobility”. One observed use: “mobilised for military service”
army	
armed force*	
airforce	“air force” or “airforce”
marine*	
military	
navy	
naval	
RAF	“RAF”, “R A F”, “R.A.F.” or “R. A. F.”
RN	“RN”, “R N”, “R.N.” or “R. N.”
TA	
ATS	“ATS” or “Auxiliary Territorial Service”
WRAF	
WAAF	
WREN*	WRNS. Exclude “wrench”
WRNS	
WRAC	
H4H	“H4H” or “Help for Heroes”
combat stress	
squadron	
veteran	

Table 2: Secondary search terms used for the development of tools.

Include	Exclude	Exclude (family member)
<p>British Army Territorial Army</p> <p>Royal Navy Royal Marines Royal Air Force</p> <p>active service army service ex-service veteran military service national service naval service serviceman servicewoman submarine service veterans service</p>	<p>Salvation Army Church Army Land Army British Army Schools</p> <p>army fatigues</p> <p>Merchant Navy Mercantile Marine</p> <p>military boarding school</p> <p>joiner* joint* wrench observed reserved deserved</p> <p>served & prison served & custodial</p> <p>Iranian Air Force US Army US Marine Corps Sri Lankan army Sri Lankain army Polish military</p> <p>Idi Amin refugee</p>	<p>father mother parent brother sister uncle aunt dad</p> <p>husband partner spouse</p>

Table 3: Additional edge-case terms used for the development of the rule-based tool to identify veterans.

Search term	Comments
squad	RAF squadron (leader) x5 death squad x1
soldier	19/33 related to military service
sailor	2/6 related to military service
airman	7/8 not related to military service (eg chairman, repairman)
active duty	2/2 related to military service
infantry	16/16 related to military service
posted	27/36 related to military service
deploy*	10/14 related to military service
peace keeping	No records found
Afghan*	8/21 relate to military service
Iraq	11/20 relate to military service
Falklands	6/7 relate to military service
Northern Ireland	30/50 related to military service
Bosnia	9/9 related to military service
Kosovo	1/5 related to military service
Korea	5/10 related to military service
Gulf War	5/7 related to military service
WW2	5/11 related to military service
WWII	10/21 related to military service
World War	81 records returned
called up	28/28 related to military service
fought in	4/4 related to military service
served in	80/81 related to military service (exclude "observed in")
Regiments	<p>Royal Artillery Royal Engineers Women's Royal Army Corps Royal Fusiliers Royal Army Service Corps Royal Green Jackets Royal Military Police Army Education Corps Royal Army Pay Corps Royal Electrical and Mechanical Engineers</p> <p>Exceptions Royal Bank of Scotland Royal Bethlem Hospital "Joined the Royal Army for short period"?</p>

Table 4: Aggregated results for leave-one-out validation methodology applied to the final machine learning classifier reported with 95% Confidence Interval.

	Military Service Identification Tool	
	Veteran	Civilian
Veteran	803	48
Civilian	62	3287
Positive predictive value	0.94 (CI: 0.91-0.95)	
Negative predictive value	0.98 (CI: 0.92-0.98)	
Sensitivity	0.92 (CI: 0.89-0.93)	
F1 score	0.93 (CI: 0.91-0.93)	
Youden Index	0.97 (CI: 0.94-0.98)	