

Civilian-military Collaboration: Department of Defense data in the BioSense Platform

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Objective

The Department of Defense data is available to National Syndromic Surveillance Program (NSSP) users to conduct syndromic surveillance. This report summarizes the demographic characteristics of DoD health encounter visits.

Introduction

The DoD provides daily outpatient and emergency room data feeds to the BioSense Platform within NSSP, maintained by the Centers for Disease Control and Prevention. This data includes demographic characteristics and diagnosis codes for health encounter visits of Military Health System beneficiaries, including active duty, active duty family members, retirees, and retiree family members. NSSP functions through collaboration with local, state, and federal public health partners utilizing the BioSense Platform, an electronic health information system.

Methods

DoD data was pulled from the BioSense Platform through a RStudio server on October 11, 2016, querying data from November 1, 2015 to September 30, 2016. Appointment type and beneficiary category data was not available in BioSense until November 1, 2015. Appointment type was categorized into clinic visits and telephone consults. Demographic characteristics (age group, gender, beneficiary category) are stratified by appointment type.

Results

During the time period of November 1, 2015 to September 30, 2016, data were received from 452 clinics. There is a military treatment facility located in 45 states and a military treatment facility may have one to 12 clinics. There were a total of 86,840,632 healthcare encounter records. The age group, 25-44 years, accounted for 39.4% of the medical encounters; the mean age was 33.9 (SD=19.1). Males accounted for 55.6% of the medical encounters. For the time period from November 1, 2015 to September 30, 2016, 78.9% of medical encounters were clinic visits. The remaining medical encounters were telephone consults. Of the clinic visits, 53.7% of the medical encounters were for active duty personnel.

Conclusions

This report highlights the DoD data available to NSSP users for collaborative syndromic surveillance efforts, promoting a community of practice. It is important to understand the population demographics and limitations to the DoD data when conducting syndromic surveillance.

Table 1. Medical encounters in the Military Health System, individuals affected, by appointment type and age group, gender, and beneficiary category, November 1, 2015– September 30, 2016

	Clinic Visits N=68,552,885	Telephone N=18,188,286	NA N=99,461	Total N=86,840,632
Age Group				
0 to 4	4,482,842 (6.5%)	1,204,066 (6.6%)	6,244 (6.3%)	5,693,152
5 to 17	4,323,601 (6.3%)	1,582,219 (8.7%)	7,655 (7.7%)	5,913,475
18-24	16,225,695 (23.7%)	2,121,965 (11.7%)	17,855 (18.0%)	18,365,515
25-44	27,710,643 (40.4%)	6,421,892 (35.3%)	41,833 (42.1%)	34,174,368
45-64	11,247,455 (16.4%)	4,983,231 (27.4%)	19,495 (19.6%)	16,250,181
65+	4,562,649 (6.7%)	1,874,913 (10.3%)	6,379 (6.4%)	6,443,941
Gender				
F	27,705,080 (40.4%)	9,812,947 (54.0%)	43,443 (43.7%)	37,561,470
M	40,847,674 (59.6%)	8,375,283 (46.0%)	56,017 (56.3%)	49,278,974
NA	131 (0.0%)	56 (0.0%)	1 (0.0%)	188
Beneficiary Category				
Active Duty	36,808,051 (53.7%)	5,403,024 (29.7%)	0 (0.0%)	42,211,075
Active Duty Family Member	16,222,110 (23.7%)	5,842,649 (32.1%)	0 (0.0%)	22,064,759
Retiree	6,470,412 (9.4%)	3,082,499 (16.9%)	0 (0.0%)	9,552,911
Retiree Family Member, Survivor, Other	9,052,312 (13.2%)	3,860,114 (21.2%)	0 (0.0%)	12,912,426
NA	0 (0.0%)	0 (0.0%)	99,461 (100.0%)	99,461

Table 2. Percentage of outpatient clinic and ED medical encounters, by demographic characteristics and state, November 1, 2015 - September 30, 2016

	Age Group					Gender		Beneficiary Status				
	0 to 4	5 to 17	18-24	25-44	45-64	65+	Female	Male	Active Duty	Active Duty Family Member	Retiree	Retiree Family Member
AK	7.4%	6.6%	21.9%	43.9%	14.6%	5.7%	46.6%	53.4%	44.9%	33.1%	7.8%	14.0%
AL	6.4%	10.6%	8.6%	37.6%	35.6%	1.1%	45.8%	54.2%	35.5%	23.3%	14.7%	26.2%
AR	7.5%	6.4%	17.1%	50.6%	18.0%	0.4%	40.7%	59.3%	56.0%	24.6%	7.4%	11.7%
AZ	6.4%	7.9%	23.2%	38.7%	21.1%	2.6%	42.2%	57.8%	49.2%	25.5%	10.1%	14.9%
CA	6.7%	4.9%	26.8%	37.2%	14.9%	9.4%	40.7%	59.3%	52.7%	24.2%	10.6%	12.5%
CO	6.7%	8.8%	18.4%	40.9%	19.4%	5.7%	46.6%	53.4%	43.8%	29.3%	11.2%	15.5%
CT	8.1%	6.7%	20.9%	49.8%	12.8%	1.7%	32.0%	68.0%	60.3%	26.8%	6.5%	6.9%
DC	2.3%	2.1%	7.3%	54.6%	32.8%	1.0%	32.5%	67.5%	79.4%	9.2%	4.7%	6.5%
DE	6.6%	7.7%	18.0%	44.5%	23.1%	0.1%	43.5%	56.5%	49.6%	23.1%	10.9%	16.1%
FL	6.0%	7.0%	12.9%	37.1%	30.3%	6.7%	47.3%	52.7%	36.8%	21.0%	17.6%	24.3%
GA	6.0%	7.3%	21.9%	40.0%	19.0%	5.9%	40.3%	59.7%	50.2%	23.7%	10.9%	14.9%
GU	8.1%	9.0%	16.7%	41.2%	14.8%	10.3%	46.1%	53.9%	40.7%	30.1%	8.5%	20.7%
HI	8.3%	8.4%	17.3%	44.6%	14.0%	7.4%	43.8%	56.2%	45.8%	33.3%	6.2%	13.3%
ID	7.8%	5.4%	21.7%	46.1%	14.3%	4.8%	45.3%	54.7%	50.5%	26.1%	8.0%	15.3%
IL	5.8%	8.5%	16.6%	39.8%	24.3%	5.0%	48.6%	51.4%	44.8%	23.6%	13.1%	18.4%
IN	0.0%	0.3%	6.0%	39.6%	49.2%	4.9%	13.6%	86.4%	5.5%	0.1%	0.1%	98.5%
KS	7.3%	8.1%	21.9%	45.7%	15.6%	1.4%	42.7%	57.3%	51.3%	31.8%	5.5%	11.2%
KY	6.9%	8.0%	19.0%	42.4%	21.5%	2.1%	43.7%	56.3%	48.2%	29.5%	9.1%	12.8%
LA	8.9%	9.6%	19.7%	45.9%	15.2%	0.6%	45.0%	55.0%	49.2%	33.5%	6.5%	10.6%
MA	7.5%	8.8%	8.7%	51.7%	22.4%	1.0%	42.7%	57.3%	55.0%	26.3%	8.6%	10.1%
MD	4.3%	6.6%	10.7%	35.3%	28.1%	14.9%	46.1%	53.9%	40.8%	20.5%	18.5%	20.0%
MI	0.0%	0.0%	6.5%	61.1%	31.6%	0.8%	20.2%	79.8%	55.3%	0.4%	3.7%	40.4%
MO	5.7%	8.0%	32.0%	37.3%	13.8%	3.2%	42.6%	57.4%	58.5%	25.0%	6.7%	9.8%
MS	4.4%	5.8%	13.4%	30.6%	26.4%	19.3%	49.6%	50.4%	32.0%	18.2%	21.5%	28.3%
MT	11.3%	8.6%	23.1%	40.4%	16.2%	0.4%	45.2%	54.8%	48.7%	30.6%	7.4%	13.3%
NC	8.4%	6.7%	25.5%	42.4%	13.5%	3.4%	42.9%	57.1%	52.9%	33.6%	6.2%	7.3%
ND	9.5%	7.5%	26.3%	44.8%	10.7%	1.2%	42.1%	57.9%	56.1%	29.5%	5.3%	9.1%
NE	5.8%	7.9%	14.8%	41.3%	23.7%	6.5%	47.4%	52.6%	41.7%	23.3%	14.1%	20.9%
NH	4.2%	5.0%	12.6%	51.4%	25.6%	1.3%	26.9%	73.1%	38.6%	18.3%	7.0%	36.0%
NJ	5.6%	6.9%	16.0%	55.0%	16.2%	0.2%	38.5%	61.5%	63.3%	23.4%	4.8%	8.5%
NM	8.2%	6.5%	20.9%	45.9%	15.7%	2.9%	41.7%	58.3%	54.0%	24.6%	7.8%	13.6%
NV	6.3%	6.2%	10.1%	37.2%	23.6%	16.6%	48.1%	51.9%	34.4%	20.4%	19.1%	26.1%
NY	5.8%	6.1%	31.7%	45.3%	9.5%	1.6%	36.4%	63.6%	66.6%	27.0%	2.9%	3.4%
OH	4.7%	7.6%	7.7%	26.3%	30.8%	23.0%	51.5%	48.5%	22.2%	17.1%	25.0%	35.6%
OK	5.7%	7.2%	26.1%	40.0%	17.9%	3.1%	39.4%	60.6%	55.8%	20.7%	8.4%	15.1%
OR	0.0%	0.0%	20.3%	75.4%	4.3%	0.0%	18.3%	81.7%	100.0%	0.0%	0.0%	0.0%
PA	3.4%	11.5%	5.0%	26.3%	41.6%	12.3%	46.1%	53.9%	25.9%	13.7%	18.2%	31.8%
PR	0.4%	4.8%	5.7%	57.5%	30.9%	0.7%	29.3%	70.7%	80.8%	23.0%	2.2%	4.0%
RI	6.0%	7.4%	12.8%	47.1%	22.9%	3.8%	39.4%	60.6%	53.8%	27.6%	7.9%	10.6%
SC	4.0%	6.7%	37.6%	32.8%	16.8%	2.0%	42.5%	57.5%	63.7%	18.9%	7.5%	9.9%
SD	7.5%	7.3%	21.9%	43.0%	20.2%	0.1%	45.0%	55.0%	49.5%	25.1%	8.2%	17.2%
TN	17.8%	20.6%	8.0%	38.9%	14.5%	0.1%	60.0%	40.0%	19.4%	70.3%	4.1%	5.9%
TX	5.3%	6.9%	21.5%	37.3%	20.2%	8.7%	43.1%	56.9%	48.2%	20.9%	12.5%	18.4%
UT	6.7%	7.6%	13.0%	47.9%	23.8%	0.9%	39.1%	60.9%	43.9%	23.5%	10.1%	22.5%
VA	7.3%	8.9%	14.7%	38.0%	25.1%	5.9%	48.3%	51.7%	41.9%	30.5%	12.3%	15.3%
WA	7.1%	7.1%	15.4%	37.9%	19.9%	12.6%	46.8%	53.2%	37.5%	26.9%	14.9%	20.6%
WI	0.0%	0.4%	14.5%	59.1%	25.7%	0.4%	27.2%	72.8%	61.4%	1.3%	1.4%	34.8%
WY	10.9%	9.0%	22.0%	41.3%	14.5%	2.2%	44.3%	55.7%	49.2%	31.2%	6.8%	12.9%
Total	6.5%	6.7%	21.2%	38.7%	19.2%	7.7%	43.3%	56.7%	48.2%	25.0%	11.4%	15.3%



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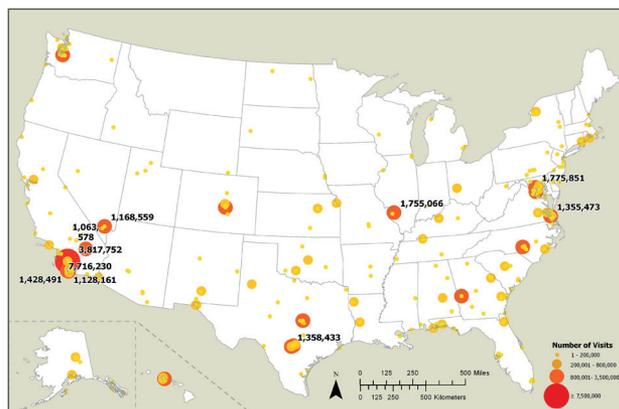


Figure 1. Heat map of counts of clinic visits by state, November 1, 2015 - September 30, 2016

Keywords

syndromic surveillance; NSSP; DoD; demographics

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