Results. 160 Veterans were diagnosed with INF from December 1, 2017 to April 26, 2018. 106 had INF A, 54 INF B. Of the 160 cases, 15 were in DEC, 61 in JAN, 69 in FEB, 13 in MAR, 2 in APRIL 10 INF A isolates subtyped as: 9 H3N2, 1 H1N1pdm09. 5 INF B isolates subtyped as Yamagata lineage. Demographics: Median age: 63 years (23–93); Race: 79% Caucasian, 16% Black, 1% Asian, 1% Pacific Island, 3% Hispanic. 95% men. Medical History: 11% had history of CHF, 12% CAD, 19% HTN, 24% DM, and 12% COPD. The median BMI was 29 (17–51.5). 101 tested in ER; 36 in clinics, 5 in our related adult and nursing homes, and 17 during their hospitalization. 56 (35%) had received the INF vaccine this season. The median duration from vaccination to diagnosis was 100.5 days (2–175 days). 25 required hospitalization with 5 of them in ICU; 40% of the hospitalized patients had received the INF vaccine. The median length of stay was 4.5 days. 139 received oseltamivir (OSE), 13 supportive treatment, 8 antibiotics alone, and 7 OSE+antibiotics. 5 patients expired (3 INF A, 2 INF B) 3 were not vaccinated; one patient developed NSTEMI and survived. Hospitalized patients were older 73 vs. 60, P:0.018, more likely to have COPD ($P = 0.0009$), CHF ($P = 0.0066$), and history of lung cancer. There was no difference in risk for hospitalization between vaccinated and unvaccinated Veterans, $P = 0.649$.

Conclusion. The months of JAN and FEB had the highest flu activity, mirroring the INF activity in our nation as reported by the CDC. The majority of our patients were not vaccinated. 5 fatalities were noted. Not surprisingly, the vaccine was not as effective this season; also our INF B cases were Yamagata lineage (not part of this season's vaccine). Our data show need for improvement of both the efficacy of INF vaccination (universal) and vaccination rate for our Veterans.

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2518. The Role of Non-Influenza Viruses in the Seasonal Viral Respiratory Illness: A Epidemiologic Study From October 2016–March 2017

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Background. Influenza virus (IV) is a leading cause of morbidity and mortality worldwide; however, understanding the contribution of non-influenza viruses (NIV) to the annual burden of respiratory illnesses (RI) is evolving. Improvements in diagnostic techniques, including the increasing clinical use of respiratory viral PCR panels (vPCR), have markedly advanced our understanding of the contributions of NIV to the "influenza season."

Methods. A retrospective analysis of all vPCR results from one hospital system, collected between October 1, 2016 and March 7, 2017, including inpatient and outpatient samples was performed. 2,047 vPCR tests were reviewed; after removing those with undetermined results and internal control samples, 1,924 were analyzed. Data points abstracted included detection and identification of virus, and date of detection. We compared the total and monthly rates of NIV with IV, throughout the study period.

Results. Of 1,924 vPCR results, 985 (51%) were positive for a respiratory virus. Of these, 302 (31%) were IV, and 683 (69%) were NIV. For every month studied, the ratio of NIV to IV exceeded 50%, including the height of the season. The most commonly detected viruses were Influenza A (30%), Rhino/Enterovirus (24%), RSV (19%), Coronavirus OC43 (7%) and Metapneumovirus (5%). The peak influenza incidence temporally coincided with the national peak months of January and February. The NIV incidence paralleled the trend in IV incidence, dominated by Rhino/Enterovirus and RSV, but without a specific virus driving the trend.

Conclusion. Non-influenza respiratory viruses cause substantial viral RI during the winter months. Many viral syndromes during the height of influenza season have traditionally been attributed to IV, including influenza-like-illness (ILI); however, these can now be better characterized using patient-specific vPCR panels, leading to improved understanding of NIV epidemiology. Even during the period of highest IV incidence, NIV infections were more common than IV. Understanding the high prevalence of NIV infections may improve the judicious use of both antibiotics and antivirals. There may also be a role for refinement of ILI, including best practices for diagnosis and treatment.

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2519. The Prognostic Significance of Neutrophil-to-Lymphocyte Ratio in Patients With Crimean-Congo Haemorrhagic Fever

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Background. The neutrophil-to-lymphocyte ratio (NLR) has been shown to be associated with poor prognosis in both malign and benign disorders. However, the studies regarding NLR as a prognostic marker in Crimean-Congo hemorrhagic fever (CCHF) are limited. This study aimed to investigate the relationship between NLR and survival outcome in patients with CCHF.

Methods. The demographic and laboratory characteristics of 723 adult patients having a positive IgM and/or a positive PCR result for CCHF in the blood sample between 2007 and 2017 were reviewed. The patients were divided into two groups according to survival and fatal outcome. The area under an ROC curve was calculated to evaluate the relationship between NLR and survival outcome. The statistical significance was set at $P < 0.05$.

Results. Plasma NLR, creatinine, AST, ALT, LDH and CK levels in fatal cases were significantly higher than those in survival ones ($P < 0.001$ for all parameters), while platelet count was significantly lower ($P < 0.001$). All population were re-evaluated according to NLR. Plasma ALT, AST, LDH, CK, and creatinine levels when NLR was ≤ 2 were significantly lower than those when NLR was > 2 ($P = 0.006$, $P = 0.017$, $P < 0.001$, $P < 0.001$, and $P < 0.001$, respectively) (Table 1). The area under an ROC curve for NLR was 72% ($P < 0.001$).

Table 1: Demographic and Laboratory Characteristics in the Patients With Crimean-Congo Hemorrhagic Fever

Characteristics	Survival Patients ($n = 693$)	Fatal Patients ($n = 30$)	*P*-Value	NLR ≤ 2 ($n = 384$)	NLR > 2 ($n = 339$)	P-Value
Age (%)	49.1 (17.5)	64.6 (14.3)	0.001	48.6 (17.0)	51 (18.3)	0.080
Gender (% Female)	46.6	40	0.477	51.3	40.7	0.004
Platelet count, ($\times 10^3$ platelets/mm^3)	49.8 (35.4)	17.8 (7.5)	0.001	49.9 (33.7)	46.7 (36.9)	0.032
ALT (U/L)	230.2 (429.4)	1386 (1295.6)	0.001	225.3(320.5)	338.1(715.5)	0.006
AST (U/L)	387.7 (529.1)	3327.1(3478.8)	0.001	406.7(801.2)	626.4(1262.3)	0.017
LDH (U/L)	857.3(1049.9)	5385.1(5404.3)	0.001	813.4(972.3)	1307.6(2303.4)	0.001
CK (U/L)	850.0(1173.3)	3171.5(5353.2)	0.001	743.5(1023.3)	1176.2(2109.3)	0.001
Creatinine (mg/dl)	0.9 (0.5)	2.7 (2.5)	0.001	0.9 (0.6)	1,1 (0.9)	0.001
NLR	2.9 (3.5)	4.5 (3.3)	0.001			
Dead (%)				1.6	7.1	0.001

Conclusion. NLR for clinicians may be an additional test as useful as platelet count and plasma creatinine, AST, ALT, LDH, and CK levels. Our study shows that NLR might be used as a prognostic marker to predict the severity of the disease in CCHF.

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2520. Epidemiology, Clinical Manifestations, and Outcomes of the 2017–2018 Influenza Season Among Hospitalized Patients at a Tertiary Care Center

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Background. 2017–2018 Influenza season showed widespread activity and is expected to be of "high severity."

Methods. Retrospective chart review of patients with Influenza admitted from September 1, 2017 to April 1, 2018. Diagnosis was confirmed by Rapid flu test (RIDT) or Target Enriched Multiplex PCR (TEM PCR). Demographic, clinical, lab, treatment, and outcomes data were obtained. Analysis included prevalence and relative risk (RR)

Results. 220 patients were identified (47% males, 73% White). Median age was 70 years (range 18–99). 65% had Flu A and 27% Flu B. 81% came from home, 17% from a facility (nursing home, assisted living). 49% had flu vaccination (Figure 1). Flu strain and vaccination status had no association RR 1.31 (95% CI 0.85–2.01, $P = 0.21$). Common comorbidities were lung disease 44%, obesity 41%, DM 36%, CAD 34%, CHF 31% (Figure 2). Common presentations were respiratory 79% and constitutional 53%. 68% were hypoxic and 4% hypotensive on arrival. 42% had new CXR/CT finding and 55% had pneumonia. Sensitivity of RIDT was 38%. 91% were treated with oseltamivir (21% within 48 hours of flu detection). Median treatment duration was 5 days. Hospitalizations peaked in January (Figure 3). Median length of hospital stay was 6 days. 23% had severe flu (needed NPPV 13%, intubation 12%, pressor 5%, ICU stay 16%) which showed significant association with arrival from facility RR 2.21 (95% CI 1.36–3.56, $P = 0.001$), lung disease RR 1.91 (95% CI 1.17–3.14, $P = 0.01$) and co-detection of respiratory pathogen (TEM PCR/sputum culture/serology) RR 2.65 (CI 1.60–4.38, $P = 0.0001$), but none with age >65 RR 1.46 (95% 0.83–2.56, $P = 0.18$), flu type RR 1.59 (95% CI 0.85–2.98, $P = 0.14$), active smoking RR 1.40 (95% CI 0.79–2.47, $P = 0.24$) or vaccination RR 1.21 (95% CI 0.70–2.12, $P = 0.48$). Fatality rate was 6% with significant association with arrival from facility RR 4.56 (95% CI 1.55–13.40, $P = 0.006$).

Conclusion. 2017–2018 Influenza season among hospitalized patients involved more elderly and peaked in January. Sensitivity of flu swab was 38% calling for better utilization of TEM PCR in hospitalized patients. Severe flu had significant association with arrival from facility, lung disease and co-detection of respiratory pathogen. Fatality had significant association with arrival from facility. Confounders not accounted.