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INFECTIOUS DISEASE OUTBREAKS IN THE AGE OF THE INTERNET: USE OF SOCIAL MEDIA AND PUBLIC DATA TO TRACK, MAP AND RESEARCH INFECTIOUS DISEASE OUTBREAKS USING ONLINE PLATFORM 'HEALTHMAP', CASE OF OUTBREAK OF NOVEL MERS-CORONA VIRUS

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Background HealthMap.org is an online platform that collects, filters and maps reports of infectious diseases globally through scanning the web, in particular social media, for infectious disease reports in multiple languages (currently English, Arabic, Vietnamese, Chinese and French). Middle East Respiratory Syndrome Corona virus (MERS-Cov) is a novel virus that was first identified in Saudi Arabia in mid-2012. Since then there have been over 1,000 cases (as of April 2015) in 22 countries (including the Philippines, Malaysia, UAE, UK and France). 974 of these cases have been in Saudi Arabia. However very little is understood about the epidemiologic profile of this virus.

Objectives To understand the epidemiologic spread and characteristics of the outbreak including, reproductive number, characteristics of primary and secondary infection cases. To demonstrate the use of publicly available data in identifying, tracking and studying emerging infectious diseases.

Methods Data curation, mining and verifying reports and outcome data for individual case reports of MERS infection in Saudi Arabia, from Saudi Ministry of Health, WHO and within the Arabic language social media. Data was curated for variable information including, report date, date of diagnosis, location, age, gender, contact with livestock (specifically camels), comorbidities and case outcomes. Currently using the data to conduct R0 analysis, univariate and survival analysis.

Result Data has yielded several exploratory results, particularly concerning demographics; currently MERS infection in Saudi Arabia yields a 43.8% case fatality, 28.3% of cases have been nosocomial infections and 65.1% of cases have been male. We have also observed a slight rise in the number of sporadic cases after an outbreak in the spring of 2014, as compared to before the outbreak.

However more detailed analysis has yet to be published.

Conclusion The use of online platforms presents a great opportunity for the accumulation of high resolution, publicly available data for the tracking and study of novel infectious diseases, ultimately to inform national and international efforts to contain and combat outbreaks.