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minutes. The developed stabilized ELISA was found to be suitable for all the three sample matrices (serum, citrate plasma and EDTA plasma) tested. The overall positivity rate in the developed ELISA was 97.92% (95%CI: 88.93%-99.95%) and 100.00% (95%CI: 75.29%-100%) for febrile adult and pediatric population respectively when cross-referenced with Bio-Rad ELISA. Additionally, four samples from pediatric and 21 samples from the adult sera panel scored positive in the developed NS1 ELISA but were negative in Bio-Rad ELISA. These discrepant samples were suggestive of DENV infection based on DENV IgM/ DENV IgG capture positivity and clinical findings. The developed immunoassay was found to be 100% (95% CI: 96.38%-100.00%) specific.

**Conclusion:** The large mAb repertoire, generated against DENV NS1, and extensive characterization studies, allowed us to generate a stabilized ELISA to detect DENV NS1 antigen with sensitivity higher than well-established commercial ELISA.

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**Successful Reversal of the 2020 Covid-19 Response Induced Collateral Damage on Malaria Control in Saudi Arabia**

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**Purpose:** Saudi Arabia is committed to malaria elimination by 2025 and its National Malaria Program (NMP) has made enormous progress so far. However, in 2020, the COVID-19 pandemic response induced a collateral damage on the NMP: an unprecedented outbreak in Jazan, where malaria importation/transmission remains a challenge. Can a multisectoral, multidisciplinary response to this outbreak rapidly reverse the damage?

**Methods & Materials:** This observational study, nested within the NMP surveillance system, analyzed indicators recorded in Jazan (Indoor Residual Spraying [IRS] coverage; confirmed patients and larval source management [LSM]) temporally for the period between 2019 to 2021.

**Results:** By September 2021, only January to June 2021 data was available. In 2020, the COVID-19 movement restrictions and reassignment of NMP staff to pandemic response precipitated an unprecedented epidemic in Jazan with 3022 confirmed cases: comparing with 2019 figures (818), this represented a 27-fold increase. Limiting comparison to between January and June for the 3 years, patients treated were 543, 2212 and 1261, respectively. The obvious effect of the lockdown and reassigned officers is also reflected in the IRS coverage for 2019, 2020 and 2021 (till June), being 90%, 77% and 89%, respectively. The low 2020 IRS coverage (WHO minimum recommended level: 80%) supports the observed increased transmission. The 1261 cases in 2021, a 43% reduction from 2020, correlated with the 89% IRS coverage indicative of post intervention reversal. All patients were treated according to WHO protocol. Additionally, the poor indices of *Anopheles arabiensis* LSM (7040 for 2020, more than 2-fold increase from the 2019 figure of 3257) indicated pandemic disruption of larviciding activities. The 2021 midyear figure of 8471 suggests intensified LSM is needed to achieve further reductions in transmission. The Ministries of Health and Environment, Water and Agriculture coordinated IRS and LSM interventions.

**Conclusion:** The pandemic response engendered an unprecedented malaria epidemic and threatened years of malaria con-

trol progress. However, the improved, post-intervention and post-lockdown data provided suggests that positive rebounds can be achieved when responses are coordinated using a multi-sectoral, One Health platform.

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**A Preliminary Survey for Filarial Parasites among Dogs and Cats in Mahawewa, Puttalam and their Vector Identification**

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**Purpose:** This study investigated the prevalence of zoonotic filarial parasites within the canine and feline population in Mahawewa, Puttalam, and their vectors based on a brugian filariasis positive human case reported to the Anti-filariasis Campaign in January 2021.

**Methods & Materials:** All reachable dogs and cats, both stray and domestic, within a 500m radius of the index human case of brugian filariasis were screened for microfilaria using Giemsa stained thick blood smears prepared from capillary blood, obtained from an ear-lobe prick. Mosquito collection was done using a dog-baited trap, two window traps and a B.G. Sentinel trap from the same study site and identified using morphological keys. The head and the thorax regions of randomly selected mosquito specimens were dissected for morphological identification of larval filaria parasites via microscopy.

**Results:** A total of nine dogs and three cats were surveyed, of which seven dogs and one cat had filarial infections. All the infected animals harbored *B.malayi* microfilariae, while four dogs and one cat were co-infected with *Dirofilaria repens* and two dogs with an unidentified species. A total of 119 mosquitoes were caught and identified by taxonomic keys using a dog-baited trap, two window traps and a B.G. Sentinel trap from the study site. Dissection of heads and thoraces of randomly selected 12 *Mansonia annulifera*, 18 *Mansonia indiana* 20 *Mansonia uniformis* and 8 *Culex* spp. revealed filarial larvae in *M.annulifera* (n=4, 33.33%), *M. indiana* (n=14, 77.78%), *M. uniformis* (n=10, 50.00%) and *Culex* spp.(n=5, 62.5%) via microscopy.

**Conclusion:** *M.indiana* was incriminated as a potential vector of filarial parasites for the first time in Sri Lanka. Preliminary evidence generated indicate a high prevalence of *B.malayi* and *D.repens* among dogs and cats in Mahawewa, Puttalam with an abundance of mosquito vectors mostly of *Mansonia* and *Culex* spp. This warrants further studies with a larger sample size and molecular identification of the filarial larvae within mosquito and animal samples, especially as re-emergence of brugian filariasis in humans is being reported after four decades of quiescence, and a zoonotic